PUB. 162

SAILING DIRECTIONS (ENROUTE)

★

PHILIPPINE ISLANDS

★

Prepared and published by the
NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY
Springfield, Virginia

2022

THIRTEENTH EDITION

Preface

Pub. 162, Sailing Directions (Enroute) Philippine Islands, Thirteenth Edition, 2022, is issued for use in conjunction with Pub. 120, Sailing Directions (Planning Guide) Pacific Ocean and Southeast Asia. Companion volumes are Pubs. 161, 162, 163, and 164.

Digital Nautical Charts 11 and 23 provide electronic chart coverage for the area covered by this publication.

This publication has been corrected to 2 April 2022, including Notice to Mariners No. 14 of 2022. Subsequent updates have corrected this publication to 28 October 2023, including Notice to Mariners No. 43 of 2023.

Explanatory Remarks

Sailing Directions are published by the National Geospatial-Intelligence Agency (NGA) under the authority of Department of Defense Directive 5105.60, dated 29 July 2009, and pursuant to the authority contained in U. S. Code Title 10, Chapter 22, Section 451 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 the initial letters of the 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.

Charts.—Reference to charts made throughout this publication refers to hard copy paper charts and electronic charts.

As the maritime community moves towards electronic navigation, the Maritime Safety Office will begin reducing NGA's Standard Nautical Chart portfolio. Further information can be found in the "What's New" section of the NGA Maritime Safety Information web site (https://msi.nga.mil).

Corrective Information.—Users should refer corrections, additions, and comments to NGA's Maritime Operations Desk or the Maritime Safety Office, as follows:

NGA Maritime—Contact Information	
Maritime Operations Desk	
Toll free	1-800-362-6289
Commercial	571-557-5455
DSN	547-5455
E-mail	navsafety@nga.mil

NGA Maritime—Contact Information	
Maritime Safety Office	
DNC web site	https://dnc.nga.mil
Maritime Domain web site	https://msi.nga.mil
E-mail	MarHelp@nga.mil
Maritime Quality Feedback System (MQFS)	https://marhelp.nga.mil
Mailing address	Maritime Safety Office National Geospatial-Intelligence Agency Mail Stop N64-SFH 7500 Geoint Drive Springfield VA 22150-7500

New editions of Sailing Directions are corrected through the date of publication shown above. Important information to amend material in the publication is available is updated as needed and available as a downloadable corrected publication from the NGA Maritime Domain web site.

NGA Maritime Safety Office Web Site
https://msi.nga.mil

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 for every influence tending to cause deviation from such track, and navigate so that the designated course is continuously being made good.

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

Distances.—Distances are expressed in nautical miles of 1 minute of latitude. Distances of less than 1 mile are expressed in meters, or tenths of miles.

Geographic Names.—Geographic names are generally those used by the nation having sovereignty. Names in parentheses following another name are alternate names that may appear on some charts. In general, alternate names are quoted only in the principal description of the place. 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.

Wherever possible, names used on NGA charts and in NGA publications are in the form approved by the United States Board on Geographic Names (BGN). Generally, local official

spellings are used for those features entirely within a single sovereignty, names of countries and those features which are common to two or more countries or which lie beyond a single sovereignty may carry Board-approved conventional spellings (i.e., names in common English language usage). When alternate names would be of value to the user, they may be shown for information purposes within parentheses. Important individual name changes are made to all revised charts as the opportunity permits.

Geographic names or their spellings do not necessarily reflect recognition of the political status of an area by the United States Government.

BGN approved names may be found at https://geonames.nga.mil/geonames/GNSHome/welcome.html.

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

Internet Links.—This publication provides Internet links to web sites concerned with maritime navigational safety, including but not limited to, Federal government sites, foreign Hydrographic Offices, and foreign public/private port facilities. NGA makes no claims, promises, or guarantees concerning the accuracy, completeness, or adequacy of the contents of these web sites and expressly disclaims any liability for errors and omissions in the contents of these web sites.

International Ship and Port Facility Security (ISPS) Code.—The ISPS Code is a comprehensive set of measures to enhance the security of ships and port facilities developed in response to the perceived threats to ships and port facilities in the wake of the 9/11 attacks in the United States. Information on the ISPS Code can be found at the International Maritime Organization web site:

International Maritime Organization Home Page
http://www.imo.org

Lights 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.

National Ocean Claims.—Information on national ocean claims and maritime boundary disputes, which have been compiled from the best available sources, is provided solely in the interest of the navigational safety of shipping and in no way constitutes legal recognition by the United States. These non-recognized claims and requirements may include, but are not limited to:

1. A requirement by a state for advance permission or notification for innocent passage of warships in the territorial sea.
2. Straight baseline, internal waters, or historic waters claims.
3. The establishment of a security zone, where a state claims to control activity beyond its territorial sea for security reasons unrelated to that state's police powers in its territory, including its territorial sea.

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

Soundings.—Soundings are referred to the datum of the charts and are expressed in meters.

Telephone and Facsimile Numbers.—Within this publication, the international telephone and facsimile numbers provided as contact information contain the minimum digits necessary to dial. Please note that these contact numbers do not include additional digits or special characters, such as (0) or (+), which may be required when dialing. The necessity of such digits and characters depend upon numerous factors and conditions, such as the user's geolocation and service provider. Mariners are advised to consult their communications equipment and service provider user manuals for guidance.

Time.—Time is normally expressed as local time unless specifically designated as Universal Coordinated Time (UTC).

Time Zone.—The Time Zone description(s), as well as information concerning the use of Daylight Savings Time, are included. The World Time Zone Chart is available on the Internet at the web site given below.

Standard Time Zone of the World Chart
https://www.cia.gov/maps/the-world-factbook/world-regional

U.S. Maritime Advisory System.—The U.S. Maritime Advisory System is a streamlined inter-agency approach to identifying and promulgating maritime security threats. The system replaces Special Warnings to Mariners (State Department), MARAD Advisories (Maritime Administration), and Marine Safety Information Bulletins (U.S. Coast Guard) and consists of the following items:

1. U.S. Maritime Alert—Provides basic information (location, incident, type, date/time) on reported maritime security threats to U.S. maritime industry interests. U.S. Maritime alerts do not contain policy or recommendations for specific courses of information.
2. U.S. Maritime Advisory—Provides more detailed information, when appropriate, through a "whole-of-government" response to an identified maritime threat.

Maritime Administration (MARAD)—U.S. Maritime Advisory System
https://www.maritime.dot.gov/msci-advisories

Winds.—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.

National Mapping and Resource Information Authority, Philippines.

Various port handbooks.

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

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

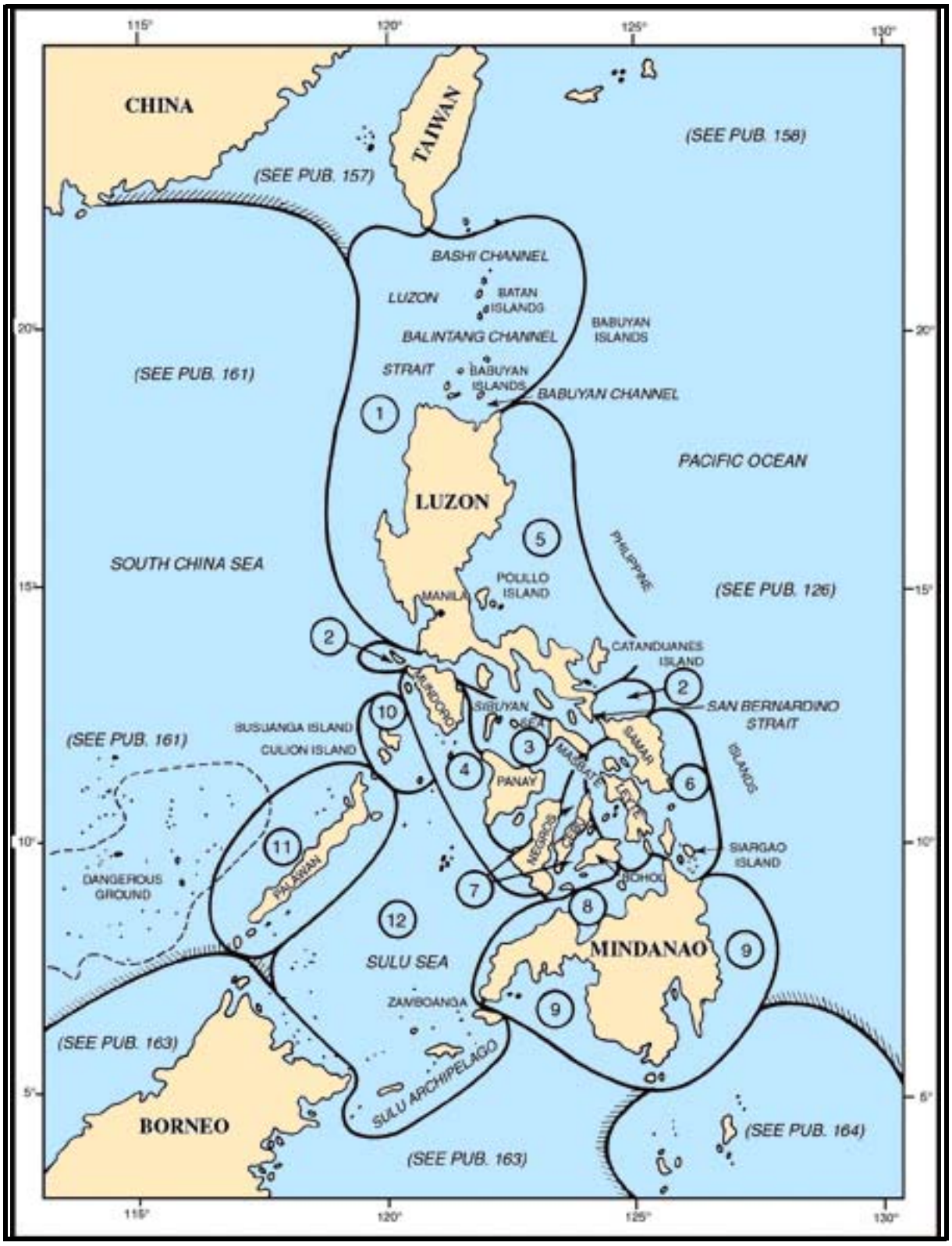
Charts, light lists, tide and current tables, and other documents in possession of the Agency.

Date of Change: 28 October 2023	
Notice to Mariners: 43/2023	
Sector	**Paragraphs**
Sector 1	Paragraph 1.6
Sector 7	Paragraphs 7.30 and 7.46
Sector 11	Paragraph 11.73

Date of Change: 29 July 2023	
Notice to Mariners: 30/2023	
Sector	**Paragraphs**
Sector 1	Paragraph 1.75
Sector 2	Paragraphs 2.19 and 2.86
Sector 3	Paragraph 3.51
Sector 7	Paragraph 7.40
Sector 9	Paragraph 9.55

Date of Change: 1 April 2023	
Notice to Mariners: 13/2023	
Sector	**Paragraphs**
Sector 1	Paragraphs 1.84 and 1.86
Sector 3	Paragraph 3.9
Sector 5	Paragraph 5.62
Sector 7	Paragraph 7.40
Sector 11	Paragraph 11.73

Date of Change: 10 September 2022	
Notice to Mariners: 37/2022	
Sector	**Paragraphs**
Sector 1	Paragraphs 1.55 and 1.68
Sector 2	Paragraph 2.19
Sector 3	Paragraphs 3.48, 3.50, 3.51 and 3.67
Sector 6	Paragraph 6.123
Sector 7	Paragraphs 7.4, 7.9 and 7.50
Sector 8	Paragraphs 8.24, 8.29 and 8.43
Sector 9	Paragraphs 9.36 and 9.46
Sector 11	Paragraph 11.73



SECTOR LIMITS—**PUB. 162**

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

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)
gt	gross tons	nt	net tons
kHz	kilohertz	TEU	twenty-foot equivalent units

Directions

N	north	S	south
NNE	northnortheast	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	VLOC	Very Large Ore Carrier
Lo-lo	Lift-on Lift-off	FSO	Floating Storage and Offloading
NGL	Natural Gas Liquids	FSU	Floating Storage Unit
FSRU	Floating Storage and Regasification Unit	FPSO	Floating Production Storage and Offloading

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	TFW	Tropical Fresh Water
HWS	high water springs	HAT	highest astronomical tide
LWN	low water neaps	LAT	lowest astronomical tide

Communications

D/F	direction finder	MF	medium frequency
R/T	radiotelephone	HF	high frequency
GMDSS	Global Maritime Distress and Safety System	VHF	very high frequency
LF	low frequency	UHF	ultra high frequency

Navigation

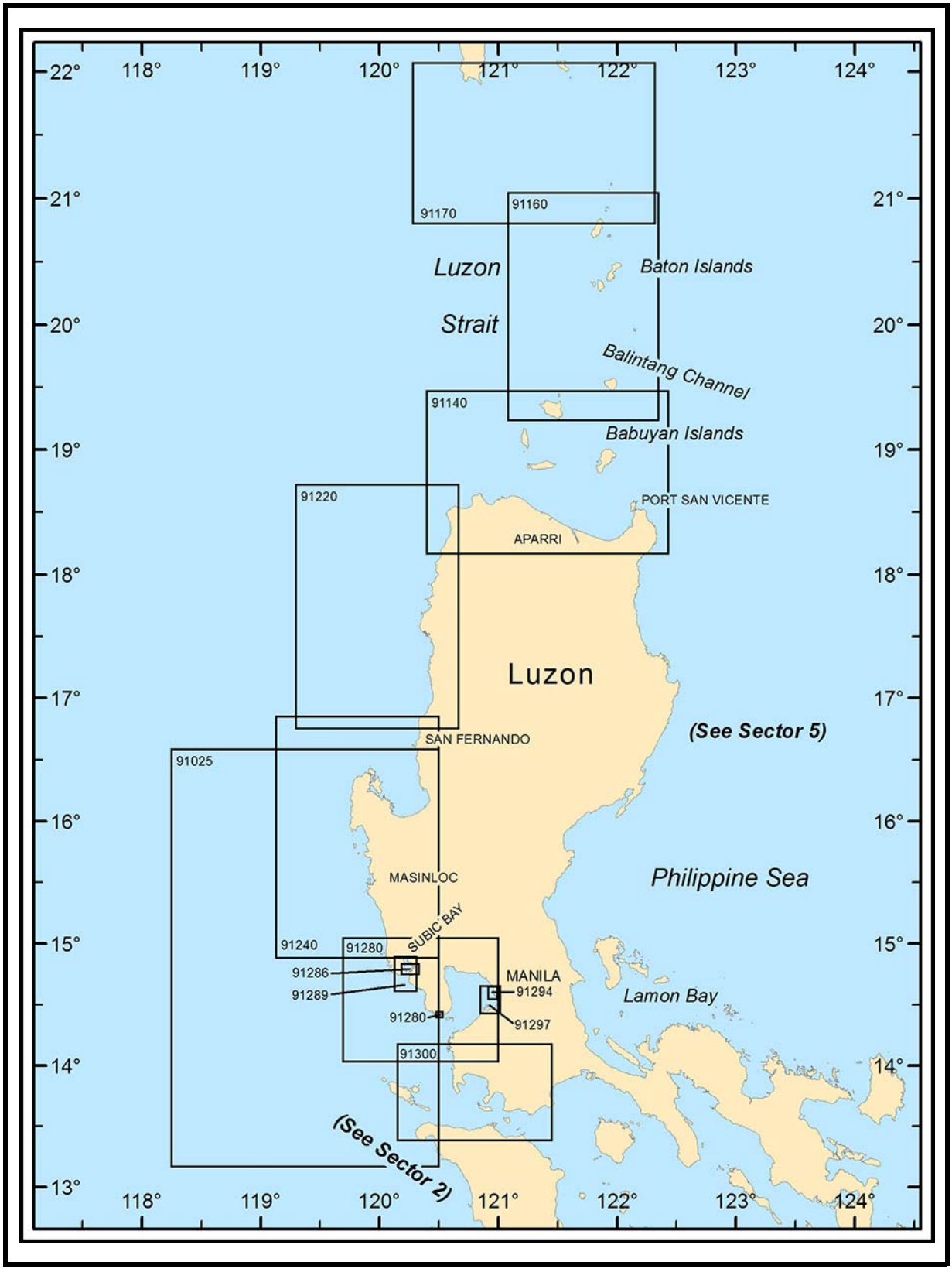
LANBY	Large Automatic Navigation Buoy	SBM	Single Buoy Mooring
NAVSAT	Navigation Satellite	SPM	Single Point Mooring
ODAS	Ocean Data Acquisition System	TSS	Traffic Separation Scheme
CBM	Conventional Buoy Mooring System	VTC	Vessel Traffic Center
MBM	Multi-Buoy Mooring System	VTS	Vessel Traffic Service
CALM	Catenary Anchor Leg Mooring		

The following abbreviations may be used in the text:

Miscellaneous

AIS	Automatic Identification System	MMSI	Maritime Mobile Service Identity Code
COLREGS	Collision Regulations	No./Nos.	Number/Numbers
IALA	International Association of Lighthouse Authorities	PA	Position approximate
		PD	Position doubtful
IHO	International Hydrographic Organization	Pub.	Publication
IMO	International Maritime Organization	SOLAS	International Convention for Safety of Life at Sea
IMDG	International Maritime Dangerous Goods Code		
LOA	length overall	St./Ste.	Saint/Sainte
UKC	Under keel clearance	ISPS	International Ship and Port facility Security
ITC	International Convention on the Tonnage Measurement of Ships (1969)	ECDIS	Electronic Chart Display and Information System

Contents



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

SECTOR **1** — CHART INFORMATION

SECTOR 1

LUZON—NORTH AND WEST COASTS, INCLUDING LUZON STRAIT

Plan.—This sector describes the islands, channels, and dangers of the Luzon Strait lying between the S extremity of Taiwan and the N coast of Luzon. This is followed by a description of the N and W coasts of Luzon and off-lying dangers from Escarpada Point to Cape Santiago including Lingayen Gulf, Subic Bay, and Manila Bay. The arrangement of the sector is from N to S and E to W.

General Remarks

1.1 The channels leading through Luzon Strait are wide and deep and may be used by all classes of vessels. The Luzon Strait contains two groups of islands, the Batan Islands and the Babuyan Islands. The Batan Islands group is separated from the S extremity of Taiwan by Bashi Channel and from the Babuyan Islands by Balintang Channel. Babuyan Channel separates the Babuyan Islands from the N coast of Luzon.

The N coast of Luzon between Escarpada Point and Cape Bojeador, about 96 miles W, is high and rugged at its NE and NW ends. The Cagayan River flows into the sea about 37 miles WSW of Escarpada Point. The port of Aparri is located on the E side of the mouth of the Cagayan River. The coast on either side of the mouth of the river is low and sandy for distances up to 30 miles.

The W coast of Luzon consists of irregular masses of hills and mountains and is prominently indented by Lingayen Gulf, Subic Bay, and Manila Bay. Volcanoes are the most conspicuous features of the landscape, but there is little volcanic activity.

Winds—Weather.—On the N coasts of Luzon, the winter monsoon is experienced from about October to March. During this time the winds blow from N to NE, but occasionally they blow from the NW. As a rule, NW winds are stronger and are often accompanied by cloudy weather and rain.

In April, land and sea breezes are well marked, and from June to September, S winds prevail. Squalls, accompanied by thunder and lightning are frequent in summer.

On the W coast of Luzon N winds predominate during November to January, and E winds February to April. Southeast winds are nearly as prevalent as E winds.

Under the land, during the regular course of the wind, calms are frequent and often a light wind blows from the W, while in the front of the open channel it blows hard, especially off Cape Calavite.

For the six months from May to October, the prevailing wind is SW. May is the month in which the winds veer from E to SW, while October is the month of change from SW to the N.

The NE gales off the W coast of Luzon are generally associated with a rise of the barometer and bright clear weather. Cloudier skies are often found farther to the N.

The Northeast Monsoon decreases in strength from February to April, and the winds tend to become more to the E. During this monsoon the wind usually backs to the NNE or N during the day under the influence of the sea breeze, but sometimes calms or W breezes are experienced between 1000 and sunset.

During May, the wind is mostly light and variable, but strong S or SW winds may occur in Manila Bay.

The Southwest Monsoon is deviated by the land and sea breezes even more than is in the Northeast Monsoon.

Tides—Currents.—Tidal currents through Luzon Strait set in a general W direction on the rising tide, and E on the falling tide. They attain a maximum rate of 5.5 knots at the NE and SW ends of the Batan Islands group.

Tidal currents among the islands are greatly confused. Inshore and offshore tidal currents are frequently opposite in direction under similar tide and weather conditions. Strong eddies and races are found near the islands and shoals.

During the Southwest Monsoon, a N current, with a rate of 1 to 3 knots in open areas, is reported to prevail in Luzon Strait. Near the islands this current is diverted, and in the channels between the islands it becomes erratic. During this period the current can be expected to flow in a NE direction, but it is not constant and should the wind be light or moderate, it is liable to set in various directions.

During the Northeast Monsoon, the current sets in a general W direction through Luzon Strait.

Caution.—The Philippine Hydrographic Authority reports that caution should be exercised in all navigable waters of the Philippine Islands to avoid scientific data-collecting buoys that may be encountered. The floats are part of a project conducted by the World Meteorological Organization (WMO) and may be encountered drifting freely for a period of 3 years, commencing in January, 2008.

1.2 **O-luan Pi** (21°54'N., 120°51'E.), the S extremity of Taiwan, is the usual landfall for vessels bound N from the Philippine Islands. It is a low headland and shows a light. A rock, 11m high, lies close off the E extremity of the headland. An exposed wreck is reported to lie 1 mile SW of the point.

Ch'i-hsing Yen (Ch'i-hsing Chiao) (21°46'N., 120°49'E.), about 8 miles S of O-luan Pi, are a group of rocks about 1 mile in extent, lying above and below-water. The sea breaks heavily over these rocks in bad weather. The channel between O-luan Pi and these rocks is clear of dangers, but heavy rips and swirls are often experienced throughout the channel.

There are numerous shoals within a radius of 8 miles centered about 40 miles S of O-luan Pi. The area includes two banks with depths of less than 92m, one with a least charted depth of 41m and the other with a least charted depth of 75m.

Bashi Channel (21°30'N., 121°45'E.), frequently used as a main shipping route, is a wide and deep channel between **Hsiao-lan Yu** (21°57'N., 121°36'E.) and the Batan Islands, 53 miles SSE.

Kao-t'ai Shih (21°44'N., 121°37'E.), 0.1 mile in diameter and steep-to, with a least depth of 2.7m, lies about 13.5 miles S of Hsiao-lan Yu.

At LW, the sea probably breaks on the rock, but the vicinity is generally covered by violent tide rips and swirls, which extend about 45 miles W. As these indications are not always present, Kao-t'ai Shih should be given a wide berth. A dangerous wreck lies on the N side of the rock.

A narrow bank, with a least charted depth of 22m, lies between 8 miles SW and 12.5 miles S of Kao-t'ai Shih. This bank is sometimes marked by discolored water. Breakers have been reported in the vicinity of the NW part of this bank.

The Batan Islands

1.3 The **Batan Islands** (20°55'N., 121°55'E.), situated in the middle of Luzon Strait, form a chain of islands and islets extending 52 miles in a N to S direction. The larger islands are high and of volcanic origin. The smaller islands are generally low and of coral formation. Earthquakes are frequent and typhoons are extremely severe in this area.

It should be noted that the tidal currents in the vicinity of the islands are both strong and confused. Their direction is affected by the configuration of the channels as well as by the changing monsoons. The islands should be given a wide berth.

Amianan Island (21°07'N., 121°57'E.) is the N island of the Batan group. Tide rips and breakers occur off the NE side of the island. A light is shown on the N side of the island. It is visible only between the bearings of 200° W through 310°. An islet lies about 0.4 mile W of the S extremity of the island and another islet lies close E off its NE side.

Detached shoals, with depths of 22 and 41m, lie, respectively, about 5.5 and 2 miles NNW of Amianan Island.

North Island (21°04'N., 121°56'E.) lies about 2 miles SSW of Amianan Island. The island is high and steep, except off its E side where three rocks, one of them 41m high, lie within 0.2 mile off the shore. An above-water rock lies off the W extremity of the island and a rock, 1.8m high, lies about 0.2 mile off the NE extremity of the island. The channel between the two islands is free of dangers and has a least depth of 48m in the fairway. The currents are strong in the vicinity of the two islands.

1.4 **Mabudis Island** (20°56'N., 121°55'E.) lies 8 miles S of North Island. It is high and steep, with a reef containing some above-water rocks extending nearly 0.5 mile NE from the N side of the island. The channel between the two islands is wide and deep, except for a 10.5m shoal area lying nearly in mid-channel. This shoal is a narrow ridge of sand that lies about 4.5 miles NNW of the N extremity of Mabudis Island. Except at slack water, heavy tide rips occur near the edge of the bank. Tidal currents over the bank occasionally reach 5 knots.

Stayan Island (20°54'N., 121°54'E.) is joined to Mabudis Island by a ridge of detached rocks and foul ground. Stayan is surrounded by tide rips, and the S and SE sides of the island are foul to a distance of about 0.5 mile. A shoal, with a depth of 24m, lies about 1.5 miles SE of the island.

Itbayat Island (20°46'N., 121°50'E.), the largest island of the group, lies 4.5 miles SSW of Siayan Island.

Mount Santa Rosa, the highest peak on the island, stands near the N end of the island. It rises to a height of 277m.

Mount Riposet rises to 229m, standing on the SE part of the island. The coasts of the island are formed by steep rugged cliffs. There are no protected anchorages.

There are four places where landings can be made in good weather. On the E coast, a landing can be made about one mile NE of Mount Riposet. On the SW coast, landings may be made at Mauyen, close W of the S tip of the island. In the NW part of the island, landings can be made at Mayan, 3 miles SSW of the N end of the island and at a position about 0.75 mile farther S.

Diogo Island (20°42'N., 121°56'E.) lies about 4 miles E of Itbayat Island; the island is of volcanic origin. A reef fringes the island up to a little over 0.25 mile offshore.

There are several islets and rocks off the coasts of the island. A small bank, with a least depth 16.5m, lies about 5.5 miles SE of Diogo Island. The channel between Diogo Island and Itbayat Island is deep and clear of dangers, but the currents are reported to be strong.

1.5 **Batan Island** (20°57'N., 121°57'E.) lies about 16 miles SE of Itbayat Island. The island is the second largest of the group and the most important. The island is mountainous and has several broad cultivated spots.

Mount Irada, which appears to be an inactive volcano, stands at the NE end of the island. It rises to a height of 1,009m.

Tumaruk Rock lies about 0.2 mile off the NE coast of the island. A radar conspicuous wreck lies 1 mile NW of the rock. A light is shown from the SE side of Batan Island.

The W side of the island is indented by Baluarte Bay, which is small in area and open to the W. A reef, with depths of less than 5.5m, lies 0.15 mile offshore in places.

The E side of the island is indented by Balugan Bay (Mangauory Bay), which is open to the E. The S entrance point to the bay consists of a prominent black bluff.

Anchorage.—Vessels with local knowledge can take anchorage in Baluarte Bay off the town of Basco, in a depth of about 24m, coral and sand. Smaller vessels can anchor further in, in a depth of 10m, fine sand. The holding ground is good, but the bay gives protection only from the Northeast Monsoon.

Mahatao Boat Shelter

Unprotected anchorage can be taken off the settlement of Mahatao. The church tower in the settlement is prominent from

the anchorage.

Vessels with local knowledge can take temporary anchorage off San Vicente (Pugo Moro), and off a settlement which lies about 0.75 mile SSW of San Vicente.

These anchorages are confined and unsafe, except during E winds.

With local knowledge, open anchorage can be obtained off Uyugan (San Antonio), in a depth of 14.6m, with the church which is partly obscured by trees, bearing 045°. Some of the bays on the E side of Batan Island are reported to afford protection during the Southwest Monsoon.

Balugan Bay affords sheltered anchorage during the Southwest Monsoon. Vessels anchor here when it is too rough to call at Basco.

1.6 Basco (20°27'N., 121°58'E.) (World Port Index No. 57970), the principal town on Batan Island, is located at the head of Baluarte Bay, 2.5 miles WSW of the summit of Mount Irada. The church and government buildings, with white walls and red roofs, are prominent.

It was reported (2016) that a naval base was being built in Basco, Batanes. When complete, the naval base will include a logistics facility, wharf, beaching areas and a small craft facility. The Philippine Ports Authority (PPA) has proposed for a second extension of 70m to enable three to four cargo vessels to dock simultaneously.

A pier projecting from the NE side of Baluarte Bay has a berthing space of 20m at its head and alongside depths of 3 to 4m. A light is shown from the cliff close NW of the root of the pier. There are no pilots, but persons with local knowledge may be employed as pilots.

Off-lying banks, with least depths of 46 and 125m, lie 6 miles W and WNW, respectively, of Batan Island. Banks, with least depths of 91 and 137m, lie 29 and 23 miles W, respectively, of Batan Island.

Anchorage.—Anchorage can be obtained, with local knowledge, in Baluarte Bay in a depth of 24.0, fine coral sand. There is anchorage closer in for small vessels, in a depth of 10.0m, fine sand. The holding ground is good, but bay affords protection only from the NE monsoon.

Sabtang Island (20°18'N., 121°52'E.) lies about 2.5 miles SW of the SW extremity of Batan Island. A coral reef closely fringes the island, except at a few locations where the cliffs are at the water's edge. A detached rocky ledge, with a depth of 1.8m, lies about 1.25 miles N of **Natao Point** (20°21'N., 121°51'E.), the N extremity of the island. Another detached rocky ledge, with a depth of 3m, lies about 1 mile N of Natao Point. A light is shown from Sabtang Island.

It was reported that a shoal, with a depth of 17m, lies about 4 miles SW of the S end of the island. A bank, with a depth of 123m, lies about 3 miles SE of Sabtang Island.

The principal settlement stands on the NE side of the island. The coastal reef extends nearly 0.1 mile offshore from the settlement. The church and some buildings with red roofs stand in the settlement and are conspicuous from offshore.

During the Southwest Monsoon, good sheltered anchorage can be found off the settlement, in depths of 18 to 22m, sand, with the church bearing 225°. A light is shown from the town.

Ibuhos Island (20°19'N., 121°49'E.) lies about 1.25 miles W of the W side of Sabtang Island. The island is small and low, with a hill on its S end. A stranded wreck lies on the NW side of the island.

Sabtang Light

Port of Basco

The channel between the island and Sabtang Island is about 0.75 mile wide at its narrowest part between the reefs on each side, and has depths of 18 to 40m in the fairway.

The flood current sets S through the channel at a maximum rate of 3 to 4 knots, and the ebb sets N at the same rate.

1.7 Dequey Island (20°20'N., 121°47'E.) lies 0.5 mile W of the NW extremity of Ibuhos Island. The channel between the two islands is about 0.25 mile wide. Depths of 20 to 26m are found in the fairway. Strong rips set N along the SW side of Dequey Island.

Balintang Channel (19°55'N., 121°50'E.), frequently used

as a main shipping route, is a wide, deep channel between the Batan Islands and the Babuyun Islands, 42 miles S.

Unusual sets have been experienced in the channel in the vicinity of the islands. An isolated depth of 11.6m was reported to lie in the W approach to the channel, in position 20°12'N, 120°44'E.

Balintang Islets (19°58'N., 122°09'E.) are an isolated group of several small, sharp peaked, rocky islets that lie in the E part of Balintang Channel. The westernmost islet is the largest of the group. Within a distance of about 0.75 mile SE of this islet are three islets or rocks, 13, 23, and 36m high, respectively.

Two islets, 85 and 103m high, lie, respectively, 1 and 0.75 mile E of the larger islet and in bad weather the sea breaks heavily against them. These islets may be passed on either side at a distance of 2 to 3 miles, but it should be noted that surveys within the area are incomplete.

An outlying bank, with a least depth of 66m, lies about 20 miles WNW of Balintang Islets.

Calayan Bank (19°40'N., 121°29'E.) lies near the W side of Balintang Channel, about 13 miles NNW of Panuitan Island. The sea breaks heavily over the bank in rough weather.

A shoal, with a depth of 11m, was reported on the bank about 12.5 miles NNW of the N extremity of Panuitan Island. A 13.7m depth lies about 4 miles further NNW.

The Babuyan Islands

1.8 The **Babuyan Islands** (19°10'N., 121°47'E.), a group of five islands and their adjacent islets and dangers, lie between Balintang Channel and Babuyan Channel. The islands are high, mountainous, and steep-to.

Babuyan Island (19°32'N., 121°57'E.), the northeasternmost and highest island of the group, is steep-to and wooded.

Mount Pangasun, the highest peak, is located in the middle of the island and is often obscured by clouds. Last erupted 1994.

Pan de Azucar Island, a slender pinnacle rock, lies at the outer end of a reef that extends 0.5 mile SE from the S end of the island. A village stands on the SW side of the island. San Dionisio, the largest settlement, is a small village situated at the mouth of a stream on the SW side of Babuyan Island.

A reef, with two rocks awash, extends almost 0.25 mile N from the N extremity of the island. A stranded wreck lies close SE of the rocks. The best landing place is at Barugan Cove on the N coast, but there is no protected anchorage. There are no sheltered anchorages off the island. Heavy tide rips occur from 1 to 3 miles off various points of the island.

Calayan Island (19°20'N., 121°28'E.) appears as a long ridge with mountain peaks at each end. Mount Calayan, the highest peak, stands in the middle of the island. The island is reported to be a good radar target for up to 16 miles. The coast of the island consists mostly of rocky cliffs, undermined by the sea, and fringed by a narrow coral reef which is marked by breakers.

A small steep-to reef, on which lies a rock, is located 1.75 miles W of the SE extremity of the island. Catanapan Point, the W extremity of the island, is a good radar target for up to 11 miles. A shoal, with a depth of 16.5m, lies about 1 mile NW of the point.

The tidal currents are quite strong in the vicinity of the island and are reported to set in an opposite direction to those encountered farther offshore. Heavy tide rips occur off several of the salient points which should be given a berth of at least 1 mile when rounding them.

1.9 **Calayan** (19°16'N., 121°28'E.), a small town, lies near the middle of a 4 mile strip of sandy beach on the S side of Calayan Island. A large schoolhouse with a galvanized iron roof, and the white stone building of the Weather Bureau Station, are both prominent. Storm signals are displayed from the station.

The best anchorage is S of the town, about 0.5 mile offshore, in a depth of 37m. Small vessels anchor in **Cibang Cove** (19°15'N., 121°32'E.).

Panuitan Island (19°26'N., 121°30'E.) rises abruptly from the shore on all sides to a long, even ridge, which is slightly higher at the N end. A number of above and below-water dangers closely fringe the island.

The shore reef extends about 0.15 mile N and NE of the island, with rocks awash, near their outer edges. Several pinnacle rocks are on the shore reef on the NE side of the island.

The top and sides of the island are covered with grass and the W slope, with small bushes.

Wyllie Rocks (19°30'N., 121°31'E.), 2.5 miles N of Panuitan Island, consists of a large black rock and two small rocks, awash, about 0.1 mile NE of the large rock.

Numerous shoals and coral heads lie within 0.5 mile of the large rock. Violent rips and swirls occur over this bank even in calm weather. The rocks should be given a wide berth.

Camiguin Island (18°55'N., 121°55'E.) lies about 26 miles SE of Calayan Island. The island is wooded and mountainous with its highest peak in the NE section of the island. The higher peaks are frequently obscured by clouds. Mount Camiguin is an active volcano that lies at the SW end of the island. There are deep valleys between the volcano and the lesser peaks around it, so that when first sighted from S they appear as separate islands.

A stranded wreck lies 1 mile S of Nagayaman Point (Nanggabao Point), the NE extremity of the island.

On the SE side of the island several high rocks lie on or close to the narrow steep-to coral reef which fringes its shores. Camiguin Bank, the center of which lies about 6 miles NW of the NW side of Camiguin Island, has a least depth of 20m, coral, and is marked by tide rips.

1.10 **Port San Pio Quinto** (18°54'N., 121°52'E.) lies on the W coast of Camiguin Island. A prominent yellow and red cliff situated S of the port affords good shelter with NE winds, and it is the only place in the Babuyan Islands where a large vessel can lie in reasonable safety.

Balutubat is a village that stands on the NE side of the harbor. The village is obscured by trees, but the schoolhouse near the beach is partly visible from the anchorage.

Depths—Limitations.—Inside the harbor there are depths of 22 to 55m, which lie about 0.25 to 0.75 mile offshore from Camiguin. There are a number of detached dangers closer offshore, and it shoals abruptly to the fringing reef. A shoal, with a depth of 4.9m, lies about 0.5 mile offshore and 1.75 miles ENE of Magasasut Point.

Aspect.—Pamoctan Island lies in the middle of the entrance

to Port San Pio Quinto. The island is a good landmark, appearing as a single cone from N and S, but from the W shows two distinct peaks, the N one being the higher.

The N entrance channel to Port San Pio Quinto lies between Pamoctan Island and a reef that extends about 0.25 mile SSW from Nagpalbosan Point. A reef, with a depth of 10.3m, lies in mid-channel. In heavy weather the sea breaks over this reef.

The S channel to the port lies between Pamoctan Island and Magasasut Point (Magasasuc Point). This channel is deep and clear of dangers. Pinon Island lies about 0.5 mile W of Magasasut Point; a reef extends about 0.15 mile N and S from the island, and a detached rock, 4.6m high, lies about 0.5 mile S of the islet.

Anchorage.—The best anchorage for Port San Pio Quinto is about 1 mile E of the SE point of Pamoctan Island, in a depth of about 27.4m, sand and broken coral. The port is exposed to W winds, but some protection can be obtained by anchoring close E of Pamoctan Island, in 29m. The harbor affords good shelter from the Northeast Monsoon.

Caution.—Avoid the reefs fringing the NE entrance point, and dangerous wrecks lying off the NE shore of the port.

Guinapac Rocks (18°59'N., 122°06'E.), 6 miles E of the N end of Camiguin Island, consist of two tower-like rocks, 96m and 66m high. Another rock, 6m high, lies close N. Foul ground extends 0.5 mile further N.

A submerged rock, marked by breakers, lies about 2 miles N of Guinapac Rocks and a stranded wreck lies about 1.5 miles N. There is a safe channel between the rocks and Camiguin Island.

Didicas Rock (19°04'N., 122°12'E.), 8.5 miles NE of Guinapac Rocks, is a conical volcanic islet about 244m high. Its last eruption was in 1978. Formerly there was a group of high rocks in this position. There are heavy tide rips in this vicinity.

1.11 Fuga Island (18°53'N., 121°23'E.) lies about 20 miles W of Camiguin Island. The island is steep-to and fringed by reefs. Any fringing dangers lie within 0.75 mile offshore. A stranded wreck lies off Kiking Point, the E extremity of the island. The irregular depths off the S side of the island permits vessels to take temporary anchorage in some locations during calm weather.

Barit Island (18°52'N., 121°15'E.) is a wooded islet lying about 0.75 mile W of the W extremity of Fuga Island. A detached shoal of 3m lies about 1.25 miles W of the N end of the island. Mabaag Island (Maybag Island) lies about 0.5 mile NNE of Barit Island. The island is low and wooded and has a steep-to fringing reef and shoal water which lie as far as 0.15 mile offshore, except that it lies up to about 0.25 and 0.5 mile, respectively, off the SE and NW ends.

Musa Bay (18°53'N., 121°16'E.) lies between the W end of Fuga Island and the E sides of Barit Island and Mabaag Island. The best entrance to the bay is from the S between Barit Island and Fuga Island.

The W entrance, between Barit Island and Mabaag Island, is deep and narrow. The N entrance, between Mabaag Island and Fuga Island, has a depth of 7.3m, but it is encumbered with a rock awash in the middle. The sea usually breaks over it.

This entrance should not be used except in a case of necessity. Tidal currents in the channels and in the vicinity of the islands of Musa Bay are strong.

Mabaag Island (Maybag Island) (18°53'N., 121°15'E.) is a low, wooded islet, lying 0.5 mile W of the NW extremity of Fuga Island. A reef extends about 0.5 mile NE from the NE extremity of the island. A small detached reef, with a rock awash, lies about 0.1 mile farther NE. These dangers, which are usually marked by breakers, almost block the narrow channel between Mabaag Island and Fuga Island.

A reef extends 0.15 mile NW from Mabaag Island and a shoal, with a least depth of 5.5m, extends about 0.75 WNW from NW extremity of Mabaag Island.

The best anchorage is near the NE side of Barit Island, in depths of 24 to 29m, coral and sand. The bottom near Fuga Island is very rocky.

Dalupiri Island (19°05'N., 121°14'E.) lies about 8.25 miles N of Barit Island. The island consists of a hilly ridge which reaches its maximum height in its S end. A narrow steep-to reef fringes the island up to 0.75 mile offshore.

Visita, the largest settlement, stands on a small plain on the E side of the island, 3 miles from its S end. A detached shoal, with a depth of 9m, lies about 0.75 mile E of Visita. A shoal, with a depth of 0.9m, lies about 0.5 mile offshore, 4 miles NW of the S extremity of the island.

Vessels with local knowledge can anchor off Banoa (Banua), a settlement on the SW part of the island. Depths exceed 37m 0.5 mile offshore. Landing can be effected through a break in the reef 0.5 SE of Banoa. The island is reported to be a good radar target up to 20 miles.

Irao Islet (18°59'N., 121°13'E.) lies about 2 miles SW of the S end of Dalupiri Island. The island is fringed by shoals as far as 0.5 mile offshore.

1.12 Babuyan Channel (18°45'N., 121°35'E.), a main shipping route, lies between the N coast of Luzon and the Babuyan Islands. The W entrance to the channel is about 15 miles wide between Fuga Island and Pata Point. The E entrance to the channel is about 20 miles wide between Camiguin Island and Cape Engano.

The tidal currents in the channel appear to set in from both ends on the rising tide, though their precise meeting place is unknown. Eddies and tidal races are numerous.

A plainly-marked tide rip has been observed between Cape Bojeador and Fuga Island.

Luzon—North Coast

1.13 Escarpada Point (Siniguian Point) (18°31'N., 122°14'E.), the NE extremity of Luzon, is a gray rocky promontory with a serrated summit. A prominent sandy beach fronts the S end of the promontory. Tide rips are often encountered E of the point. A bank, with depths of 9 to 18m, sand and rock, on which tide rips occur, extends 3 miles N of Escarpada Point. The coast between Escarpada Point and the NE entrance to Port San Vicente (Pugo Moro), about 4.5 miles W, is high and bordered by reefs with detached rocks.

Palaui Island (18°33'N., 122°08'E.) lies about 5 miles WNW of Escarpada Point. The island is high, rugged, and wooded. The W shore of the island is bold and rocky with narrow sandy beaches in some of the bights. A reef, which dries, extends about 1.5 miles E from the E side of the island.

Escucha Islet, 18m high and wooded, and Cent Islet, 3m

Cape Engano Light—Palaui Island

high, lie near the outer edge of this reef. A rock, awash, lies about 1 mile N of Puerto Point, a high wooded bluff forming the SW extremity of Palaui.

The depths are somewhat irregular in the area lying between a position 3.5 miles E of the N end of Palaui Island and a position about the same distance N of Escarpada Point.

Cape Engano (18°35'N., 122°08'E.), part of the N side of Palaui Island, is the seaward end of a peninsula projecting 0.5 mile WNW and enclosing a cove on its SW side. The peninsula is mostly wooded with some part of the hills on the NW side covered with grass.

A light is shown near the cape. A shoal, with a depth of less than 11m, extends about 0.5 mile NW from Cape Engano.

Anchorage can be taken by small vessels with local knowledge in a cove on the SW side of Cape Engano, in a depth of 35m. The reefs fringing the cove lie as far as 0.1 mile offshore.

Small vessels wishing to anchor in the cove should enter with the beacon, located at the head of the cove, bearing 114°, and anchor when about 0.5 mile from the beacon. The anchorage is small in extent but offers protection from all winds except those from the W and NW.

Dos Hermanos (18°35'N., 122°08'E.) are two islets lying close NE of Cape Engano. Several above-water rocks lie 0.75 mile E of the islets. Gran Laja, 1 mile NE of the NE point of Palaui Island, is a low rock on which the sea breaks. The sea bed is very irregular for 2.5 miles E of the rock.

1.14 Port San Vicente (Pugo Moro) (18°31'N., 122°08'E.) (World Port Index No. 57995) lies between the S side of Palaui Island and the coast of Luzon. The NE approach to the harbor is encumbered with reefs and dangers and should not be attempted.

Port San Vicente (Pugo Moro) is the only thoroughly protected harbor in northern Luzon available as a refuge during typhoon weather, but the holding ground is poor. The port consists of an inner and outer harbor.

The outer harbor lies S of San Vicente Island, and between Puerto Point, and the coast of Luzon, S of Nulton Point. A light marks a reef off the E side of San Vicente Island.

A light is shown on the coast of Luzon, 2.75 miles S of the above light, at a place called Palawig. New Orleans Point, the S extremity of San Vicente Island, is a prominent green bluff.

The W side of the island is connected to the S side of Palaui Island by a drying reef. The fairway to the inner harbor, which has a width of about 0.1 mile, lies between two shoals.

At the entrance to the inner harbor the flood current sets NE and the ebb SW. Currents of 3 to 4 knots can be expected in the SE approach to the inner harbor between Nulton Point and Port San Vicente Light (Pugo Moro Light).

The inner harbor, a small cove between the NE side of San Vicente Island (Pugo Moro Island) and the S side of Palaui Island, is practically landlocked and serves as a harbor of refuge for small vessels during typhoon weather. The shores of the inner harbor are fringed with reefs as far as about 0.1 to 0.3 mile offshore, which greatly restricts the space available. A shoal, with a depth of 4.1m, lies about 0.4 mile NE of the N extremity of San Vicente Island.

Facilities include a pier, with a length of 20m and a width of 10m; a wharf, with a length of 28m and a width of 9m; and a partially-destroyed causeway 315m in length. The L-shaped pier that extends N from a position close E of Nulton Point has been extended, making the alongside berth 222m long.

Directions.—To approach the outer harbor from the W pass 0.75 mile S of Puerto Point and steer E until Rona and Escuha Islets are in range 037°. Then steer for this range which will lead to the anchorage. To enter the inner harbor from the anchorage in the outer harbor, a vessel should steer for Port San Vicente Light. This light should be rounded at a distance of 137 to 183m and anchorage can be taken about 0.25 mile NNW of it.

1.15 Rona Islet (18°32'N., 122°09'E.), 7.6m high and

wooded, lies on a drying reef in the middle of the fairway about 1 mile NE of Morgan Point.

Anchorage can be taken in the outer harbor, with Rona Islet and Escucha Islet in line bearing 037° and the extremity of Puerto Point bearing 277°, in a depth of about 13m, mud.

Small vessels can anchor in the middle of the inner harbor, in 7 to 8m, mud, about 0.25 mile NNW of Port San Vicente Light. The outer anchorage is exposed to W and SW winds. A detached reef, marked by a buoy, has a depth of 0.9m, and lies 0.25 mile WSW of Nulton Point.

Batulinao Point (Matara Point) (18°23'N., 122°06'E.) lies about 8 miles S of Puerto Point. The point is fringed by reefs and foul ground to a distance of about 1 mile N. The tidal currents off the point have a rate of about 0.5 knot, with a slight tidal race near the reef line.

Port Irene (18°23'N., 122°07'E.) is located in Casambalangan, close to the mouth of Cagayan River on the NW coast of Luzon. It was reported that the port is to be developed and is expected to serve as a transshipment point.

Depths—Limitations.—The harbor has an area of 40,000 square meters. There is a T-shaped jetty, 60m long, extending SE from an area of reclaimed land on the NE side of the bay. It was reported that the port has handled vessels of 15,000 gt with a draft of 7.7m.

Aerial view of Port Irene Harbor

Port Irene

Vessels with local knowledge may approach Casambalangan Bay from the N in order to avoid the shoal extending N from Batulinao Point.

Anchorage.—Anchorage can be taken, in 12.2 to 13.7m, mud, good holding ground and protection from S winds, about 0.5 mile offshore, with Puerto Point bearing 356° and Batulinao Point bearing 248°.

Pilotage.—Pilotage is compulsory.

Buguey (18°17'N., 121°50'E.), a coastal town, lies about 16 miles WSW of Batulinao Point. The town stands on the N bank of a river which enters the sea 4 miles farther ESE. The school which has a white metal roof, and the old stone church are prominent. The river entrance can be identified by the village of Minanga, which stands on its W entrance point.

1.16 Aparri (18°22'N., 121°38'E.) (World Port Index No. 58000), the principal port in N Luzon, lies on the E entrance point of the Cagayan River about 12 miles WNW of Buguey.

Depths—Limitations.—The channel over the bar usually has depths of 4 to 5m, but the depth is continually changing. Shoaling is reported to have taken place. During the Northeast Monsoon, the entrance bar is sometimes impassable and ships are obliged to seek shelter in Port San Vicente (Pugo Moro). The channel should be entered in the daytime only. Vessels usually anchor outside the bar, but small vessels can proceed upriver as far as Camalaniugan. Due to the various silting problems, there is a planned closure of the port in the future.

There is a sea berth between two mooring buoys lying at the seaward end of a submarine pipeline which extends 0.75 mile NNE from the prominent oil tank at Aparri.

Aspect.—The town of Aparri is very prominent when approaching the port. The charted tank farm and silo in town are conspicuous. A prominent aluminum oil tank stands at the NW end of the town. Linao Light is shown about 0.75 mile WNW of the W entrance point of the Cagayan River.

The town of Linao stands on Linao Point, the W entrance point of the Cagayan River. Camalaniugan, a small village, stands on the E bank of the river in a position about 6 miles SSE of the river mouth. Lal-lo, another small village, stands on the E bank 4.5 miles farther SSW.

Pilotage.—Pilotage is compulsory for vessels over 40 gt. Advance notice of 24 hours is required by the Harbor Pilots Association, Aparri. Pilots are always in attendance when it is possible for vessels to cross the bar. Vessels awaiting a pilot should keep 1 or 2 miles N of the church at Aparri. ETA should be sent to Aparri Pilotage Station. The pilot boat is a motorized launch.

Anchorage.—The best anchorage outside the bar is in a depth of 18 to 22m, with Aparri church bearing 180° and Linao Light bearing 247°. The anchorage is exposed to N winds.

At times freshets occur causing the river to rise rapidly. Vessels should take precautions against the strong current which reaches 6 knots, and the debris bought down with it at such times. Heavy rips occur off the entrance to the river.

1.17 The **Abulug River** (18°25'N., 121°26'E.) enters the sea 11 miles NW of Aparri. A town with the same name stands on the E bank of the river, close within its entrance. It is reported that there is a depth of 3m over a sand bar and mud flats, which encumber the entrance of the river. The ebb tidal current is

strong and causes a confused sea off the mouth of the river.

The **Pamplona River** (18°29'N., 121°22'E.) enters the sea about 6 miles WNW of the mouth of the Abulug River. A sand bar and mudflats encumber the entrance to the river.

The depth over the bar is reported to be 1.8m. Between the Abulug River and the Pamplona River the sea breaks heavily on a sandbank extending 0.5 mile from the coast, and the river can only be entered during good weather.

Good anchorage can be obtained about 1 mile N of the end of a long low sandpit, at the mouth of the river, in a depth of 18m. Vessels should not proceed into lesser depths than this, or anchor E of the extremity of the sandspit.

Tidal currents in the anchorage are strong and the ebb current from the river causes a confused sea at its mouth; vessels are advised to use an adequate scope of chain.

Logs are loaded at this anchorage from March through mid-June. Since this is an open roadstead, weather conditions during the Northeast Monsoon makes this place impracticable during the remainder of the year. The town of Pamplona stands on the W bank of the river about 2.5 miles from the entrance.

Pata Point (18°38'N., 121°09'E.) is a knoll 55m high; it stands about 14 miles NW of the mouth of the Pamplona River. A small river, with a reported depth of 1.5m over the bar, enters the sea close E of the point. A wreck lies about 1 mile WNW of the light.

1.18 Claveria Bay (18°37'N., 121°04'E.) lies about 4 miles W of Pata Point and is entered between Centinela Point and Lacaylacay Point, 2.5 miles WSW.

Taggat (18°37'N., 121°03'E.), on the W side of the bay, has a pier 100m in length, at the root of which are two large and prominent oil tanks.

Anchorage is available about 0.2 mile ENE of Taggat Pier, in a depth of 37m. During the monsoon, it is advisable to anchor about 0.5 mile from the pier head, in about 65m.

The Cabicungan River flows into the E part of Claveria Bay. It has a bar which usually breaks. Tide rips form off its entrance.

The town of **Claveria** (18°37'N., 121°05'E.) (World Port Index No. 57990) stands on the W side of the Cabicungan River and can be identified by the metal roof of the school.

Depths—Limitations.—There is reported to be 868m of quayage supporting eleven berths. The north 80m of quay has a depth alongside of 13m and has a RoRo facility; the remaining berths have depths alongside of 8.5m to 10.5m. Six of these are container berths, each having a length of 104m.

There is a privately owned wharf with a depth alongside of 6.1m and a small pier.

Pilotage.—Pilotage is compulsory for vessels over 40 gt. Advance notice of 24 hours is required by the Harbor Pilots Association, Apparri.

Anchorage.—Vessels may take anchorage in Claveria Bay, in depths of 18 to 27m, sand, about 0.4 mile N of Claveria. Another anchorage is available about 0.2 mile ENE of Taggat Pier, in a depth of 37m. A daylight approach is recommended.

Baket-Baket Point (18°37'N., 121°02'E.) lies about 1 mile W of Lacay-lacay Point. The point is bold and heavily wooded. It lies at the NE end of the Caraballo Mountains. A pinnacle rock, with a depth of 4.6m, lies 0.5 mile N of the point and heavy tide rips occur in this vicinity.

Pasaleng Bay (18°35'N., 120°56'E.) lies about 5 miles SW of Baket-Baket Point. The bay is deep and affords little shelter, except at its head, where the village of Pasaleng stands on the shore of the bay. A ridge of mountains rise steeply from the shore of the bay.

Madamba Rock lies about 0.5 mile W of Puac Point, the E entrance point of Pasaleng Bay. The area between the rock and the shore is foul with above and below-water rocks.

Strong tidal currents have been observed in the vicinity of the rock, sometimes attaining a rate of 2 to 3 knots at springs.

Baugan Bay (18°37'N., 120°52'E.) lies close NW of Pasaleng Bay. The bay is small and open to the E.

Anchorage is afforded to small vessels, in a depth of 16.5m, protected from SW winds.

Dos Hermanos, two prominent above water rocks, lie 0.75 mile N of Baugan Bay. Strong tide rips occur in the vicinity of these rocks.

1.19 Mayraira Point (18°39'N., 120°51'E.), the N extremity of Luzon, is fringed by a reef as far as 0.1 to 0.15 mile offshore. A rocky spit, with a depth of 3m at its outer end, extends 0.75 mile NE from the point.

Heavy tide rips occur off the spit which should be given a wide berth.

Dialao Point (18°37'N., 120°47'E.) lies about 4 miles SW of Mayraira Point. The point is low, wooded, and fringed by a narrow coral reef. A light is shown from the point. The point is backed by a prominent reddish-colored ridge, 183m high, running parallel to the coast and almost bare of trees. This is the only reddish-colored ridge in the vicinity. Strong currents, along with eddies and whirlpools, are found 1 to 1.5 miles off the point.

Bangui Bay (18°33'N., 120°45'E.) lies about 3 miles SSW of Dialao Point, which is the N entrance point of the bay. The village of Bangui, situated at the head of the bay, is hidden by trees but the red roof of the school is visible above them from most directions. The bay affords anchorage sheltered from S winds. A small cove on the N side of the bay offers shelter for small craft in NE weather.

A prominent group of white rocks lie close off **Blanca Point** (18°22'N., 120°39'E.). The shore, from 1 mile E and 1.5 mile W of the point, is marked by rapidly eroding cliffs and a few coastal boulders.

Negra Point, the W entrance point of Bangui Bay, is a black, rocky point with a shoal extending almost 0.25 mile offshore. A large black rock, 1.5m high, lies about 91m NE of the point.

Luzon—West Coast

1.20 Cape Bojeador (18°30'N., 120°34'E.), the NW extremity of Luzon, lies about 5 miles SW of Negra Point.

It is low near the coast and rises gently to broken and bare ridges about 2.5 miles E. The N limit of the cape is marked by overhanging, black, coral cliffs, with a grass-covered top, 15m high. There is a sharp indentation in the reefs S of this point where landings are possible except during NW winds.

Between this indentation and the W extremity of the cape, a reef extends about 0.35 mile offshore. Detached coral heads and sunken boulders extend as far as 0.5 mile NW from the outer edge of this reef. Cape Bojeador should be given a berth

Cape Bojeador Light (Burgos Light)

of at least 1 mile.

A submerged rock, position doubtful, is reported to lie about 0.5 mile W of the W extremity of Cape Bojeador.

Cape Bojeador Light stands on the summit of a prominent hill located 1 mile E of the N extremity of Cape Bojeador. The lighthouse is a white octagonal, stone tower, rising 20m, with an attached dwelling. The shore of the cape is marked by breakers.

A radar conspicuous stranded wreck lies 1.5 miles WSW of the lighthouse.

Nagabungan Bay (18°29'N., 120°34'E.) indents the coast about 0.5 mile S of the W extremity of Cape Bojeador. It is a narrow inlet entered only by small vessels with local knowledge.

Drying coral reefs extend about 0.1 mile from the S side of the bay, and about 91m from the N entrance of Nagabungan. The entrance is made further difficult by banks, with depths of less than 6m, extending from either shore, leaving a navigable channel less than 91m wide. A 7.6m shoal lies 0.3 mile WNW of the S entrance point.

1.21 Dirique Inlet (18°28'N., 120°35'E.) (World Port Index No. 58530), about 1.75 miles SSE of Nagabungan Bay, affords good anchorage to small craft with local knowledge, in a depth of 18m, during the Northeast Monsoon, sheltered from all winds except those from the SW.

Drying coral reefs and a shoal, with depths of less than 9m, extend about 0.25 mile W from the S side of the entrance and about 0.25 mile S from the N entrance point, restricting the entrance channel between the 9m curves to about 0.1 mile.

Two conspicuous aluminum domes, marked by white and red lights, stand about 5.75 miles SE of Dirique Inlet.

Laoag (18°12'N., 120°35'E.) is a town of some importance, situated 4.5 miles within the entrance to the Laoag River. A radio tower stands in Laoag.

The mouth of the river is blocked by a bar over which small craft can navigate. A landing place is convenient about 0.5 mile within the entrance.

Mount Cauit (18°13'N., 120°32'E.), a grassy sand hill, 92m high, with some trees on its summit, lies near the coast on the N side of the entrance to the Laoag River. The summit rises as a nipple and is a prominent landmark on this otherwise low coast.

There is open anchorage SW of the mouth of the Laoag River. With local knowledge, a vessel can obtain anchorage, in a depth of 16m, sand, with Mount Cauit bearing 045° and Culili Point bearing 202°.

Caution.—The approach to the anchorage can become difficult due to shoaling in the river entrance.

A bank, with a depth of 44m, lies about 12 miles WNW of the Laoag River mouth.

1.22 Culili Point (18°05'N., 120°28'E.), about 6 miles S of the Laoag River entrance, is prominent from the distance. It is a rocky bluff, bare of trees, 35m high, rising from a series of sand dunes. This part of the coast is fringed by a bank, with depths of less than 5.5m, which extends up to 0.3 mile offshore.

Submarine cables lie 2.25 miles S of Culili Point. The chart best depicts where anchoring and fishing is prohibited.

Arboledan Point (18°01'N., 120°29'E.) is 4 to 6m high. It is fringed by a reef, about 0.1 mile wide, partly bare at LW. The point is marked by a light situated on a prominent ridge. The S end of this ridge is covered with bushes and a few trees that rise to an elevation of 41m.

Arboledan Point Light, stands 10m high and consists of a white concrete tower.

The mouth of the Currimao River lies close to Arboledan Point. With the exception of a narrow beach at the mouth of this river, the entire shoreline of the point is fringed with reefs extending as far as 0.1 mile offshore.

The reef dries at LW, but the outer limits are always submerged and rise sharply from deep water.

Prominent from the S is a large stone church, converted to a

warehouse, which stands about 0.2 mile ENE of Arboledan Point. The church is partly obscured by coconut trees.

North Fort, a white tower, lies about midway between Arboledan Point and the stone church. South Fort, a dark stone tower, stands on the S side of the entrance to the cove.

The town of Currimao lies close E of the stone church and spreads out on both sides of the river; only part of the town can be seen from seaward.

Anchorage is available with South Fort bearing 105° and the old church bearing 032°, in a depth of 20m, soft mud. Small vessels find anchorage NE of this position, in a depth of 17m.

Port Currimao (18°01'N., 120°29'E.) is located at the NW coast of Luzon Island. It is a cove entered between Arboledan Point and the N entrance point of Gan Bay, about 0.5 mile SE. It is an international port of entry and cargo is handled by lighters at the anchorage. This indentation in the coast provides the nearest anchorage to Laoag City.

Port Currimao

It affords a restricted shelter to vessels with local knowledge during the Northeast Monsoon (October to March) and also provides a haven when weather does not permit vessels to lie off the mouth of the Laoag River. Cargoes previously sent to Claveria, which is now closed, are received at Currimao.

Currimao berth is 388m in length with a depth of 8m at the far end.

The port is being developed to become a major port in the NW of Luzon. Additional quay is being constructed and have handled vessels of 7,500gt with 7m draft.

Pilotage.—Pilotage is provided 24 hours from San Fernando Harbor (see paragraph 1.36). and is compulsory for vessels over 40gt. The pilot board at the entrance of the bay (16°38.4'N 120°17.72'E). Pilots and the port can be contacted 24 hours on VHF channel 16.

Regulations.—Berthing operations is during daytime only and permit must be secured from PPA, San Fernando, La Union.

Anchorage.—There are two anchorage areas, as follows:

1. Gaang Bay—On the S side of the entrance NE of the shoal. It has depths of 11 to 18m.

2. Off Currimao—About 0.4 mile WNW of South Fort, a dark stone tower standing on the S entrance point of the cove. The depth is 20m, soft mud. Small vessels can anchor NE of this position, in a depth of 16.5m.

Caution.—A coral spit, with depths from 2 to 9m, extends 0.75 miles SW from the S entrance point to Port Currimao.

1.23 Gan Bay (Gaang Bay) (17°59'N., 120°29'E.) is entered between the S entrance point of Port Currimao and Gabot Point, about 2.75 miles SSW.

From the shoreline, a drying reef extends up to 0.35 mile seaward, from a point 0.75 mile NE of Gabot Point.

The coast to the NE of this reef is composed of sandy beaches with rocky ledges between them. Depths of less than 6m extend up to 0.4 mile offshore.

Buoys mark a shoal on its N and E sides, with depths from 0.5 to 3.6m, which extends about 0.75 mile N from the drying reef. A reef, with a depth of less than 2m, lies 1.25 miles NNE of Gabot Point.

Gabot Island (17°58'N., 120°28'E.) is located on a drying reef which extends 0.25 mile NW from Gabot Point. A rock, 3m high, lies near the N extremity of this reef. There are numerous boulders scattered over the reef.

A bank, with depths of less than 6m, extends out 0.25 mile N from the prominent rock.

There is good landing on either side of Gabot Island, but wind direction and tide must be taken into account.

Muglavis, a village, stands on the S shore of the bay about 1 mile NE of Gabot Point.

A concrete pier with a rock causeway, extending about 0.25 mile from shore with 7.3m at its head, is situated 0.4 mile NE of Muglavis. A prominent red warehouse stands near the root of the pier.

Anchorage.—Vessels with local knowledge can take anchorage, in 11 to 18m, sand and mud, NE of the shoal on the S side of the entrance to Gan Bay. The channel leading to the anchorage, between the 5.5m curve on either side, is about 0.25 mile wide and has a fairway depth of 22 to 28m.

Small vessels with local knowledge will find anchorage when strong N winds are in evidence, off the mouth of a cove formed in the reef 1.25 miles SSE of Solot Point, in a depth of 20m.

Solot Point (17°55'N., 120°26'E.) rises to 20m and projects out from the coast considerably. It lies about 3.75 miles SW of Gabot Point.

Badoc Island (17°55'N., 120°25'E.) lies about 0.75 mile W of Solot Point. The island and the point are separated by a fairway with a depth of 36m. The island is conspicuous on its W side, and covered with grass and a few trees. The N and W sides of Badoc Island are fringed by a below-water reef that extends about 0.25 mile offshore.

Two shoals are located 2 miles and 3.75 miles SSW of Badoc Island with depths of 12.8m.

There is anchorage between the island and the mainland, in W or moderate N winds, in a depth of 37m.

1.24 Cabugao Bay (17°50'N., 120°26'E.) is entered between a point 3 miles SSE of Solot Point and a point E of **Salomague Island** (17°48'N., 120°23'E.). This bay provides some protection from S winds.

There are a number of shoals in the bay area and caution is advised. A shoal, with a least depth of 6.4m near its outer end, extends about 1 mile NW from the N entrance of Cabugao Bay.

Another shoal, with a least depth of 8.2m, extends about 0.45 mile NNW of **Cabugao Point** (17°49'N., 120°26'E.).

Cabugao Shoal (17°50'N., 120°25'E.), with a depth of 5.5m, lies approximately 1.25 miles NW of this point. A shoal, with depths of less than 9m, extends about 1 mile NNW of the S entrance point of the bay.

Anchorage.—There is anchorage available to vessels with local knowledge in the SW part of the bay, W of Cabugao Point, in a depth of 12.8m.

Anchorage is also available, in depths of 10.9 to 12.8m, in a small cove close NE of Cabugao Point, but care must be taken in order to avoid a 2.7m shoal patch lying near the head of the cove.

1.25 Salomague Point (17°47'N., 120°24'E.) is a bluff table, 31m high. A drying reef extends 0.3 mile from the point.

Salomague Island (17°48'N., 120°23'E.), covered with grass and brushwood, lies in the N approach to the harbor about 0.5 mile offshore and serves as a good landmark from the N or S; it is fringed by a narrow coral reef, the inner part of which dries.

The channel between Salomague Island and the mainland is used by small craft with local knowledge. The fairway is 0.5 mile wide and has a least depth of 8.2m.

Salomague Harbor (17°47'N., 120°25'E.), known as the Port of Cabuago, offers protection from all but W and SW winds and is entered between Salomague Point and Darrena Point. The harbor is of increasing commercial importance. During the Southwest Monsoon (May to September), coasting vessels have unloaded here when it is too rough at Pandan or off the Laoag River Cruise ships call here on a regular basis.

The harbor is fringed with reefs along the shore, reaching out as far as 0.15 mile from its N side and 0.1 mile from the S side. Two small coves become evident by the breaks in the reef. There is a beach in each cove.

1.26 Salomague (17°47'N., 120°25'E.) stands at the head of the N cove. A concrete pier, with a depth of 4.9m at its head, also lies in the N cove. There is a stranded wreck on the W side of the pier. The ruins of an old stone church lie near the foot of the pier.

The approach to the pier is foul and the pier is not fully operational; however, it is used by vessels seeking shelter from typhoons.

North Shoal, steep-to, drying 0.6m, and on which the sea generally breaks, lies off the N side of the harbor entrance, about 0.3 mile SSE of Salomague Point. Middle Shoal, with a depth of 0.9m near its center, lies near the middle of the harbor about 0.51 mile NE of Darrena Point. Both shoals are marked by buoys.

Anchorage—Good anchorage lies about 0.75 mile W of the light structure, with the old tower at the village of Salomague bearing 349°, in a depth of 14.6m. Small vessels can find improved shelter E of North Shoal, in a depth of 12.8m.

Directions.—Vessels approaching Salomague Harbor from N should pass at least 2 miles W of Salomague Island, and when the light structure at Dardarrat bears 090°, it should be steered for on that bearing to the anchorage.

Vessels approaching from S should keep Pinget Island bearing less than 180° until the light structure bears 090°, then the previous directions should be followed.

1.27 Darrena Point (17°46'N., 120°24'E.) is low, covered with brushwood, and fringed with a drying reef which extends as far as 0.3 mile from its S side. A spit, with depths of less than 11m, extends considerably WNW from Darrena Point; a detached 11m patch lies 1.4 miles W of the point.

Southwest Shoal (17°46'N., 120°22'E.), with a least depth of 3.6m, lies 2 miles W of Darrena Point. A 7.3m coral patch lies 1.25 miles W of Darrena Point.

Masbate Shoal (Masbete Shoal) (17°45'N., 120°23'E.), with a depth of 7.6m, lies 1.25 miles WSW of Darrena Point.

Lapog Shoal (17°45'N., 120°24'E.) lies about 1 mile S of Darrena Point and is located near the center of the entrance of Lapog Bay. A channel about 0.25 mile in width, and with depths of 11 to 18m, separates the N side of this shoal from the coastal reef extending S from Darrena Point.

Another channel, about 0.75 mile wide and with depths of 13 to 18m, separates the S side of this shoal from the reef and shoals fringing Lapog Point.

Lapog Bay (17°44'N., 120°26'E.), entered between Darrena Point and Lapog Point, about 2 miles further SSE, affords a degree of safety to small craft but is not used by larger vessels as Salomague Harbor has better protection and holding ground.

The head of the bay consists of a sandy beach through which the Lapog River and some small streams discharge.

The S shore of the bay E of Lapog Point is fringed with drying reefs which extend as far as 0.15 mile offshore. To the E of Lapog Point, at a distance of 0.5 mile, a break in the reef leads to a sandy beach near the village of Saoang.

This village is the port for the town of San Juan.

A detached reef, which dries, lies in the NE corner of the bay in a position about 0.3 mile offshore.

Lapog Point (17°44'N., 120°25'E.), the S entrance point of the bay, is low and has a small inlet close S of it.

A spit, with depths of less than 6m, extends 0.6 mile WSW from Lapog Point. A shoal, with a depth of 3.9m, lies 1.5 miles W of Lapog Point. A dangerous wreck lies about 1 mile SW of the shoal.

The coast from Lapog Point to Pinget Island, 4 miles SW, is fringed by above and below-water reefs extending 0.5 mile offshore in places.

1.28 Pinget Island (17°41'N., 120°21'E.) is about 6m high at its S end and is sandy, and covered with brushwood. A drying reef surrounds the island and is joined to the mainland 0.5 mile E by a low sandy isthmus.

Anchorage.—With local knowledge of the island area, vessels can take anchorage either N or S of Pinget Island, taking into account the monsoon. The anchorage on the N side of the isthmus is in 12.8m, about 0.3 mile E of the N end of the island. Small vessels can anchor closer in to the isthmus. The anchorage on the S side of the isthmus is in 10.9m, about 0.5 mile SE of the S extremity of Pinget Island.

San Ildefonso Harbor (17°39'N., 120°21'E.) is 2 miles S of Pinget Island. A concrete pier, reported destroyed, extends 0.5 mile NW from the coast. A prominent concrete tank, 3m high, stands close N of the pier. The tank has been reported (2006) missing.

A shoal, with a least depth of 1.5m, lies about 0.4 mile NW of the pier head. A partly constructed breakwater, reported destroyed, extends N across the middle of the shoal.

Drying reefs extend 91m offshore, almost 1 mile SE of the S extremity of Pinget Island. A reef extends 0.25 mile NW from a point located about 0.5 mile SSW of the base of the pier.

Dile Point (17°34'N., 120°20'E.), lying 6.25 miles S of Pinget Island, is low and inconspicuous. Discolored water, due to the discharge from the Abra River, is often seen from this point.

The 10m curve fronts the coast at a distance of up to 0.75 mile. Two shoals, each with a depth of 8.2m and lying about 1 mile offshore, are located, respectively, about 2.25 miles and 3 miles SSE of Dile Point.

1.29 Pandan (17°32'N., 120°22'E.) stands on the N side of the delta of the Abra River. It is the landing place for the town of Vigan which stands about 2.5 miles NNE.

Close SW of the town, standing on a hill, is a prominent white cylindrical water tank. It makes a good mark as does the white belfry of the church in Caoayan, a village about 1 mile NE of Pandan.

There is a light shown from a white concrete tower, 8m high, standing on the beach close S of Pandan.

The channels leading through the delta of the Abra River are constantly changing in position and depth, especially during the rainy season and during the Southwest Monsoon. A depth of 1.5m can sometimes exist over the bar at the mouth of the river and local knowledge is necessary for entering.

Anchorage.—Vessels with local knowledge can take anchorage off Pandan, where some shelter is afforded from E and NE winds. During strong N winds, the ground swell sets in round Dile Point causing a heavy surf.

Vessels can anchor, in 10.9m, sand, about 0.75 mile SW of the light at Pandan, with the prominent church at Caoayan bearing 041° and **Solvec Rock** (17°27'N., 120°26'E.) bearing 140°.

1.30 Solvec Cove (17°27'N., 120°27'E.) is entered between Solvec Point and a point about 1 mile SE. The cove is only about 0.5 mile in extent, but affords some shelter from N and E winds. A village is located about 0.25 mile inland from the NE corner of the bay.

The cove can be identified by Mount Narvacan, 259m high, located about 0.5 mile E of the S entrance point. A long range of hills extends 5 miles NNE from Solvec Point to the Tetas de Santa, prominent twin peaks, 650m high. An old tower stands close to the shore almost 0.5 mile E of Solvec Point.

Solvec Rock (17°27'N., 120°26'E.), 9.1m high and square shaped, lies close offshore SW of Solvec Point. A group of above and below-water rocks connect the rock with the point. A rock, awash, lies close W of Solvec Rock.

A drying reef and foul ground extend up to 0.15 mile from the N shore of the cove, as well as a drying reef that extends 0.25 mile NW from the S entrance point of the cove. A group of rocks, with depths of less than 2m, lie about 0.15 mile WNW of the outer extremity of this reef.

A destroyed pier extends about 0.1 mile WNW from a position on the E shore of the cove, over 0.25 mile SE of the old tower.

Anchorage can be taken about 0.45 mile SE of Solvec Rock, in depths of 18 to 22m. Vessels should anchor when Solvec Rock bears 315°, and the old tower on the N shore of the cove bears 023°.

Small vessels can anchor within the cove, but the holding ground is not good. Depths over 9m are found in the center of the cove.

There is a range of mountains that extends 24 miles NNE from Solvec Point, terminating in Mount Nagapu, 1,272m high and flat-topped. The highest level of this mountain cannot be seen as it is mostly obscured by a high ridge closer to the coast.

Mount Bulagao (17°39'N., 120°30'E.) is dark colored and prominent because of its comparative isolation. As viewed from the N it appears as a rounded summit, but from the S two summits are visible, the N of which attains an elevation of 1,121m.

Vigan Gap (17°33'N., 120°30'E.), located about 7 miles NNE of Solvec Point, is a prominent divide in the mountain range; the Abra River flows through the gap.

Nalvo Bay (17°22'N., 120°27'E.) is a small cove.The bay gives some shelter during the Northeast Monsoon (October to March), but it is open to the Southwest Monsoon.

A reef extends about 0.15 mile WSW from the N entrance point. This reef is fringed by a shoal, with a depth at its outer edge of 6.4m, extending about 0.15 mile WSW beyond the edge of the reef.

The E shore of the cove has a sandy beach which is backed by a single, pointed hill, 76m high. The S entrance point of the bay is fringed by a narrow drying reef.

The 10m curve fronts the beach about 0.5 mile offshore.

Anchorage.—Anchorage can be taken, in depths of 9 to 11m, hard sand.

Directions.—Vessels should approach the cove with the pointed hill bearing about 079°. Santa Maria Church, located 1.5 miles ENE of the pointed hill, will be seen in range with the lower part of the N slope of the hill.

Anchorage is taken when the point of land N of the N entrance point comes into range, bearing 349°, with Solvec Rock.

1.31 Port San Esteban (17°20'N., 120°26'E.) is entered between **Suso Point** (17°21'N., 120°27'E.) and San Esteban Point, about 1.5 miles SW. It serves as a harbor of refuge for small vessels during the Southwest Monsoon, but it is dangerous under the effect of a Northeast Monsoon, because of a very heavy swell.

A prominent quarry, located about 0.45 mile SSE of Suso Point, appears as a prominent bare spot on the hillside. A stone tower is clearly visible on the SW side of the entrance, about 0.75 mile ENE of San Esteban Point.

An elevated water tank is located close NE of the beach at the head of the port. An additional quay and pier have been constructed on the N side of San Esteban Point.

Suso Shoal, with a least depth of 6.4m, coral, lies on the N side of the approach to Port San Esteban. Two detached 8.5m patches lie close together about 0.5 mile N of the stone tower. Drying reefs extend as far as 0.15 mile offshore from either side of the cove.

Through these dangers a narrow channel cuts between the reefs, tapering from 0.4 to 0.1 mile in width, and breaks through to a sandy beach at the head of the cove.

Moderate-sized vessels can obtain anchorage, in depths of 15 to 16m, about 0.4 mile N of the stone tower, or about 0.1 mile farther E, with the elevate water tower bearing 169°, distant 0.6 mile.

Small vessels with local knowledge can anchor between the reefs near the head of the cove. Vessels should approach the outer anchorage with the quarry bearing 090°.

1.32 Santiago Cove (17°17'N., 120°26'E.), about 4 miles S of Port San Esteban, provides fair shelter from the Northeast Monsoon (October to March), but is open to the SW. Reefs, which dry in parts and are visible, surround the cove on all sides as far as 0.1 mile offshore. The head of the cove consists of a sandy beach with a small river discharging near its S end.

The village of Sabangan stands on a spit between the river and the head of the cove. The town of Santiago is situated 0.5 mile NE of the head of the cove; only the church and a monastery are visible from seaward. There are depths of 11 to 18m in the outer part of the cove.

Anchorage is available, in about 12m, sand and mud, with the N entrance point bearing 320°, distant 0.2 mile.

Vessels entering Santiago Cove should keep the church at Santiago bearing 067° and anchor as above.

Caution.—A bank, with a least depth of 19.2m lying about 14 miles W of San Esteban Point, extends about 10 miles in a N to S direction.

1.33 Tamurung Point (17°15'N., 120°25'E.), 31m high, lies about 1.75 miles S of Santiago Cove. A range of hills rises to an elevation of 199m, about 0.75 mile E of the point.

Candon Point (17°13'N., 120°24'E.), with a light standing about 1 mile SE of the point, is low, heavily wooded, and fringed by a narrow reef. The village of Candon is situated about 2.75 miles SE of the point.

Anchorage is available, in depths of not less than 16m, with the extremity of Candon Point bearing 000°. Smaller vessels find anchorage, in depths of 9 to 11m, WSW of a stone house, located on the beach, about 1 mile SE of the extremity of Candon Point.

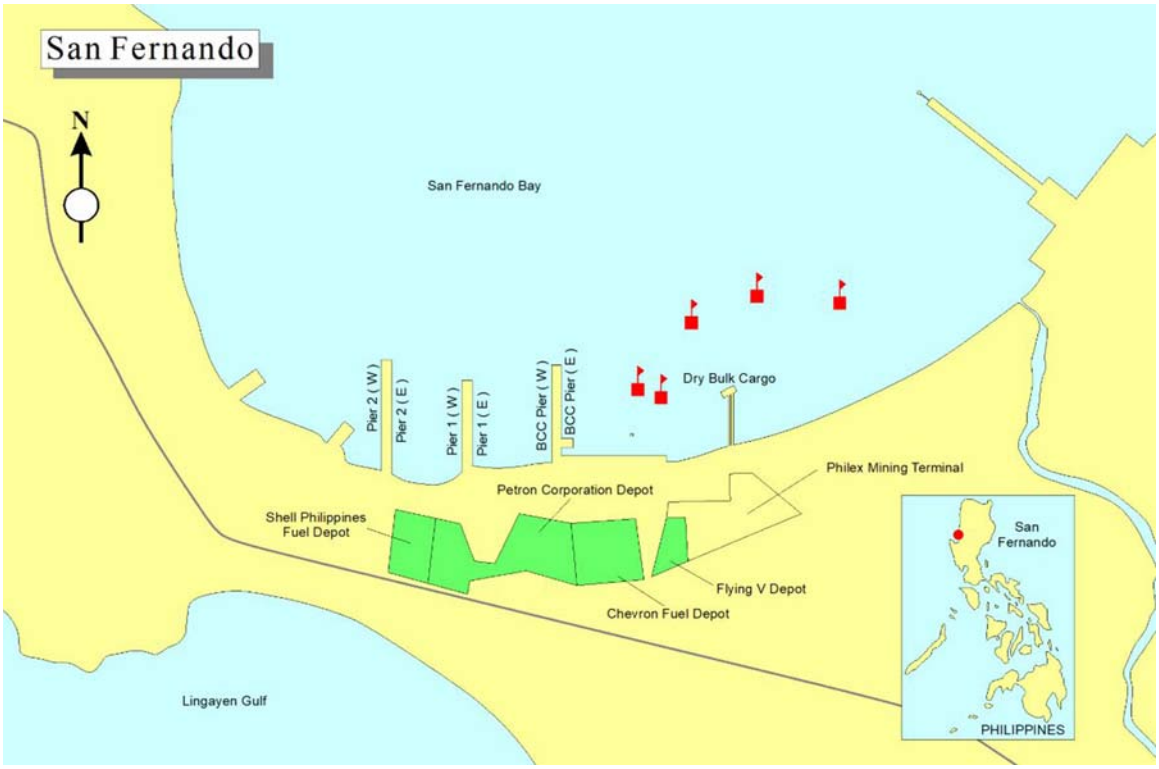
These anchorages, are partially protected from N and E winds, but, during strong N winds, the swell rolls in around the point.

Caution.—It was reported that a number of Fish Aggregating Devices were moored about 30 miles offshore N from San Fernando. They normally consist of unlit steel pontoons with fishing topmarks and may constitute a danger to navigation, being difficult to detect by eye and radar.

There is no indication that hazards and obstructed positions off this coast are promulgated, or that the areas used are patrolled.

1.34 Santa Lucia (17°07'N., 120°27'E.), 6.5 miles SSE of Candon Point, is a small town on the coast which will be recognized by a large church with a conspicuous dome.

A light is shown from the coast near **Dardarat** (16°57'N., 120°26'E.). There is a pier extending NW from the coast about 0.5 mile NE of the light. From the pier head two concrete dolphins have been established, and three mooring buoys. There is a yellow water tank that is located near the root of the pier.



San Fernando—Facilities and Berths

Anchorage is found, in a depth of 15m, sand and mud, about 0.1 mile NW of the light.

San Fernando (Port Poro)

Luna (16°51'N., 120°22'E.) is a small town on this part of the coast identified by an old tower and a church with three towers. Two towns, Bangar and Tagudin, are 3.5 and 6 miles, respectively, NE of Luna. Mount Lusong, 271m high and grass-covered, is located 2.5 miles SE of Bangar.

1.35 Darigayos Point (16°50'N., 120°21'E.), 3.5 miles S of Luna, is low, covered with trees, and fringed by a narrow drying reef.

Darigayos Inlet, 1 mile S of the point, is a slight indentation into which the Darigayos River flows.

Darigayos Light is shown from the N entrance point of the inlet.

The inlet has irregular depths from 3 to 18m. Reefs, parts of which dry, extend about 0.325 mile W from the N entrance point and 0.25 mile WNW from the S entrance point. Pin Rock, 0.6m high, lies near the S edge of the reef.

The entrance channel is 0.1 mile wide, with depths of more than 6m. Depths of less than 6m extend 0.2 mile from the head of the inlet.

An old fort stands on the S entrance point of the inlet. There is a 26m high bluff 0.2 mile E of the fort. A village stands on the N side of the inlet. A prominent schoolhouse with a metal roof stands on the N side of the entrance close ENE of the old fort. It is reported to be a good landmark.

Anchorage for small craft may be taken, in a depth of 3m, sand, about 0.1 mile from the head of the inlet. The anchorage is open to the W and affords little protection.

The **Maragaya River** (16°46'N., 120°20'E.) discharges about 3.5 miles S of Darigayos Inlet. The river entrance is restricted by a stranded wreck.

A factory, with two conspicuous chimneys, and a large concrete silo, 38m high, stands near to the shore close N of the river entrance.

A shoal, with a least depth of 1.8m, lies about 0.2 mile offshore, about 4.5 miles S of the Maragaya River.

San Fernando—Berth Information			
Berth	**Length**	**Depth**	**Remarks**
Multipurpose Terminals			
BCC Pier (E)	163m	—	—

San Fernando—Berth Information			
Berth	**Length**	**Depth**	**Remarks**
BCC Pier (W)	200m	—	Cargo Handled- Coal, Break bulk.
Pier 1 (E)	160m	4m-15.1m	—
Pier 1 (W)	160m	4m-15.1m	—
Pier 2 (E)	200m	4m-14.3m	Max Size- LOA: 160m, 6,500DWT
Pier 2 (W)	200m	4m-14.3m	Max Size- LOA: 160m, 6,500DWT

1.36 San Fernando Harbor (16°37'N., 120°18'E.) (World Port Index No. 58460) is entered between San Fernando Point and the mainland, 1.75 miles ENE. It is a port of entry and the terminus of the railroad from Manila.

All berthing and shipping facilities are located at **Poro** (16°37'N., 120°18'E.) on the SW side of the harbor.

Winds—Weather.—The harbor and piers are protected from both the Northeast Monsoon and the Southwest Monsoon, but during strong winds from the N and NW a heavy swell has a tendency to roll into the harbor.

Depths—Limitations.—The harbor is about 1.5 miles in extent, but the entrance between the reefs extending from both sides is less than 0.5 mile wide. The reef, defined by about the 20m curve, extends about 1 mile NE from the E side of San Fernando Point.

As a result of the 1995 earthquake, alterations have been made to the arrangement of the piers located at Port Poro; these changes are best seen on the chart.

There are four mooring buoys to assist warping while loading ore.

Vessels of 10,000 dwt can be accommodated at the piers. Vessels of 30,000 dwt can use the anchorage.

Aspect.—San Fernando Point (16°37'N., 120°17'E.) is the NW extremity of a peninsula, 24m high on its W side, where there are some prominent white cliffs.

San Fernando Point Light, a round metal tower and dwelling, 8m high, stands 0.6 mile S of San Fernando Point.

Two conspicuous radar domes stand about 775m N of the light. Numerous radio masts stand on the peninsula, E of the lighthouse.

Pilotage.—Pilotage is compulsory for all foreign vessels and coastal vessels of 100 gross tons and over. Pilotage waters are comprised of the area 3 miles from the front range light structure. Pilots board at the entrance to the bay in position 16°38.4'N, 120°17.7'E. The vessel's ETA must be sent to San Fernando 48 hours and 24 hours prior to arrival. If the pilot cannot board due to bad weather vessels should proceed to the quarantine anchorage.

Contact Information—The port can be contacted, as follows:

San Fernando—Contact Information	
Pilotage	
Telephone	63-72-6078913
	63-72-8882348

San Fernando—Contact Information	
Facsimile	63-72-6078913
	63-72-8882348
E-mail	pilot_sflu@yahoo.com
Port Control	
VHF	VHF channel 16
Telephone	63-72-8880323
Facsimile	63-72-8880325

Anchorage.—Mooring buoys B1 to B4 have been laid up N of Port Poro. A designated Quarantine Anchorage, with depths from 6.7m to 20.1m, can be found in vicinity of position 16°37.6'N, 120°18.2'E. General anchorage may be found W of the Quarantine Anchorage in depths of 22m.

Caution.—Numerous wrecks lie within the charted 20 meter depth contour, especially on the S and E sides of the harbor, and there is a large amount of flotsam on the beaches. During heavy weather the wrecks may break up and form new obstructions, and, especially at high water with a S wind, the flotsam may float off the beaches, becoming dangerous to navigation.

Carlatan (16°38'N., 120°19'E.), a small village, stands at the entrance to Carlatan Lagoon, 0.5 mile SE of the E entrance point of the harbor.

Several radio masts with fixed obstruction lights stand 0.75 mile SSE of the water tower.

Range lights in line, bearing 144.5°, lead into the harbor, but it is reported that upon making the approach to the harbor there is considerable difficulty encountered in locating the harbor range markers at night among the shore lights, and that by day the structures do not stand out until well inside the harbor due to the early morning mist.

A conspicuous radio mast stands close SE of the front range light.

Pilotage.—Pilotage is compulsory for all foreign vessels and coastal vessels of 100 gross tons and over. The pilot boards at the entrance to the bay in position 16°38.4'N, 120°17.7'E; the pilot boat flies a red flag with the letter "P" in white. If the pilot cannot board due to bad weather, the vessel should proceed to the Quarantine Anchorage. Pilots should be requested from the San Fernando Pilot Association 24 hours prior to arrival.

Provides pilotage for Port Currimao (see paragraph 1.22)

Regulations.—Philippine Coast Guard requires all foreign vessels to send their ETA 48 hours prior to arrival to include crew and cargo manifests.

Contact Information—For detailed contact information,

see the table titled, **San Fernando—Contact Information**

Anchorage.—A charted designated anchorage lies about 1 mile SW of the Carlaton water tower, in a depth of 22m. The holding ground is good.

During the Northeast Monsoon, the swell reaches this anchorage and is particularly heavy in the afternoon. When winds are strong out of the N, vessels can take anchorage off Poro and ride easier than off San Fernando. A prohibited anchorage area lies in the S part of the harbor.

The recommended anchorage is located about 0.8 mile N of the BCC Pier, in about 22m, mud, good holding ground.

Directions.—Vessels from N should bring San Fernando Point Light to bear 180°, and steer for it until the San Fernando range lights are in line.

It is reported that the range lights are difficult to distinguish from the shore lights, and during the day the structure do not stand out until well inside the harbor. In the early morning the range lights are usually obscured by mist.

Vessels are cautioned to give the reef on the W side of the entrance channel a wide berth, as the reef is reported to have had a NE growth.

The center of the group of tanks about 320m WSW of the root of the BCC Pier at Poro, bearing 198°30', leads from the range line to the piers at Poro.

Caution.—Fagg Reef (16°39'N., 120°15'E.), composed of rock and sand, with a least depth of 7.5m, lies in a position about 2 miles NW of San Fernando Point.

The sea breaks over this danger in the event of heavy weather.

Two rocks, each with a depth of 1.8m, lie about 0.14 mile SE and 0.15 mile S of the S extremity of the peninsula.

An obstruction is reported to lie 1 mile S of San Fernando Light.

There are numerous unmarked dangerous sunken wrecks and obstructions in the harbor. These wrecks, although clear of the channel, may break up in heavy weather and form new obstructions. There is a great deal of flotsam in the harbor, especially during S winds at the height of the tide, which constitutes a serious threat to navigation.

Pilings and dolphins around the piers are in poor condition and may in time break up and become navigational hazards.

Lingayen Gulf

1.37 **Lingayen Gulf** (16°15'N., 120°10'E.), entered between San Fernando Point and Santiago Island, about 23 miles SSW, indents the coast in a WSW direction for a distance of 30 miles and is open to the NNW.

Winds—Weather.—The prevailing wind in Lingayen Gulf is SE. During the Northeast Monsoon, land and sea breezes become regular and blow freshly, but are interrupted by strong N and NE gales. The atmosphere is clear at this time. A bank of clouds seen in the N, accompanied by a clear sky and a high barometer, is a sign of the commencement of a gale. In June, the wind blows from a SE direction in the morning, with squalls blowing down from Mount Santo Tomas and from Mount San Isidro.

Toward the evening, the wind dies down with heavy rain and thunder showers, and towards midnight the weather clears leaving a light S wind which changes to SE at dawn.

From July to October, gales from SW to W are prevalent, lasting from 3 to 15 days, and are accompanied by heavy rain. The worst season in Lingayen Gulf is from the middle of September until the end of October, when typhoons are likely to occur.

Tides—Currents.—In Lingayen Gulf currents are variable and depend to a great extent on the strength and direction of the wind. During the rainy season, the freshets from the rivers at the head of the gulf cause a N set in the gulf.

Directions.—When entering or leaving Lingayen Gulf, do not approach **Silagui Island** (16°27'N., 119°55'E.) within a distance of 8 miles and care must be taken to avoid the 11.9m patch located 10.5 miles NE of that island.

Caution.—It has been reported that due to earthquake activity, the shoreline and depths along the S coast of Lingayen Gulf may differ from what is charted.

A shoal bank, with depths of less than 18.3m, extends 8 miles NE from the NE side of Santiago Island. Detached shoals, with depths of 11.6 and 14.6m, respectively, lie about 10.75 miles NE of **Silaqui Islet** (16°27'N., 119°55'E.). The shallowest spot, with a least depth of 6.4m, lies 4 miles ENE of **Dos Hermanos Rocks** (16°26'N., 119°56'E.).

A clear channel about 13 miles wide lies W of San Fernando Point; there are no known dangers in the central part of Lingayen Gulf; a depth of over 37m is found throughout.

Lingayen Gulf—East Side

1.38 The E side of Lingayen Gulf between San Fernando Point and the W entrance of Santo Thomas, 23 miles S, consists of a continuous sandy beach with foothills only a short distance inland.

Along this stretch of coast **Research Reef** (16°35'N., 120°17'E.), with a least depth of 4.5m, lies 0.85 mile offshore and about 2.5 miles S of San Fernando Point. A detached shoal, with a least depth of 5m, lies about 3.25 miles S of San Fernando Point.

A depth of 11m was reported just inside the 20m curve, about 13.5 miles S of San Fernando Point Light.

Santa Rita Light stands 16.25 miles SSE of San Fernando Point Light.

Santo Tomas Anchorage (16°15'N., 120°22'E.) has little commercial importance and is mainly used by fishing vessels. It lies E of a sand spit, with depths of 3 to 6m. The entrance to the anchorage is about 2.5 miles S and gradually narrows to a width of 1 mile inside.

The S and E sides of the spit are steep-to, but the W side shoals gradually. Due to the depths, the spit offers little protection. The head of the anchorage is shallow.

Damortis Light (16°16'N., 120°23'E.) stands 1 mile SE of Santo Tomas town.

The best anchorage is 1 mile SE of the extremity of the W entrance point, in 13m, mud.

San Fabian (16°07'N., 120°24'E.) is located 9.5 miles S of Santo Tomas; the coast between consists mostly of a sandy beach backed by sparsely wooded hills about 90m high, and is

Port Sual Power Plant

fringed by a bank with depths of less than 9m which extends from 0.75 to 1.25 miles offshore. There is anchorage abreast the town, in depths of more than 9m.

The coast between San Fabian and the mouth of the Dagupan River, 6 miles SW, is quite low and is fronted by a bank, with depths of less than 9m, which extends 1 mile offshore.

1.39 Dagupan City (16°03'N., 120°20'E.), located 2 miles S of the Dagupan River, is a port of entry. The bar at the mouth of the river shifts frequently, but generally has a least depth of 1.8m.

Above the bar there are depths of 2 to 4m in the fairway of the river.

A light marks Guecet Point, on the E side of the river mouth.

Pilotage.—Pilotage is compulsory for all merchant vessels entering the river. This service is obtained through soundings of a whistle or by advance notice.

Anchorage.—Vessels will find anchorage off the mouth of the Dagupan River, 1.25 miles NW of the light, in a depth of 11m, mud.

The S shore of Lingayen Gulf, from the entrance of the Dagupan River to the mouth of the **Agno River** (16°03'N., 120°08'E.), 11 miles W, is formed by the delta of the Agno River and other small rivers. The shore is low and sandy.

Mount San Isidro, a wooded conical mountain, 800m high, stands about 3.5 miles SSW of the mouth of the Agno River.

The Agno River entrance is of good size and drains a considerable area, but has a shallow and difficult bar, with a least depth of 1.1m. Depths of less than 6m extend 1 mile N and 0.75 mile E from the W entrance point of the river.

Small vessels, with local knowledge, can reach the town of **Labrador** (16°02'N., 120°09'E.) located on the W bank of the river, 1.5 miles from its mouth.

Lingayan (Lingayen) (16°01'N., 120°13'E.) is located about 5 miles E of Labrador. The provincial building in the town provides an excellent landmark.

Lingayen Gulf—West Side

1.40 Mangas Point (16°04'N., 120°07'E.), about 2.5 miles WNW of the mouth of the Agno River, is 40m high and wooded. It is fringed by a reef extending as far as 230m offshore. A group of above-water rocks lie on the N part of the reef, 274m NE of the point.

A white house close SW of Mangas Point and a white stone municipal building are prominent landmarks when approaching from the N. A small stone pier, 274m SW of the point, is partly destroyed.

Adela Rock, with a depth of 2.7m, lies about 0.75 mile E of Mangas Point. The sea breaks on this rock in heavy weather. The reef is usually marked by a fish trap.

Port Sual—Berth Information			
Berth	**Length**	**Depth**	**Remarks**
Team Energy Sual Power Station			

Port Sual—Berth Information			
Berth	**Length**	**Depth**	**Remarks**
Coal Berth	255m	13.3m	Max Size- LOA: 225m, Private Pier

Portuguese Point (16°05'N., 120°07'E.), located about 0.75 mile N of Mangas Point, is 73m high and wooded. It can be identified by a small tower which is part of an old fort. From a distance of more than 7 miles the land in the vicinity of the point appears like an island.

Port Sual Light is shown from a concrete mast, 10m high, on the SE extremity of Portuguese Point.

A reef with a depth of 5.2m over its outer end, on which the sea only breaks in strong onshore winds, extends about 0.25 mile S from Portuguese Point.

A shoal, with a depth of 11.6m, lies about 0.5 mile ESE of Portuguese Point.

Port Sual (16°04'N., 120°06'E.) is entered between Mangas Point and Portuguese Point. A stone church, partly destroyed, stands 183m NW of the remains of a pier and there is also a metal water tank on a trestle situated 0.15 mile NNW of the pier.

There is a causeway that extends about 165m seaward close S of the town.

The pier for the power plant can accommodate vessels with a maximum draft of 18m.

Pilotage.—Pilotage is provided from Masinloc. Pilots board in position 16°08'25.8"N, 120°08'00.0"E.

Anchorage.—Good anchorage can be taken with the SW extremity of Portuguese Point bearing 046°, and the N extremity of Mangas Point bearing 158°, in depths of 9 to 11m, mud.

Small vessels may anchor in the N arm of the port, 0.4 mile WNW of the old fort, in a depth of 9m.

Directions.—When approaching Port Sual from N, pass about 0.25 mile E of Portuguese Point and continue S until the small stone pier at the town bears 264°, when it should be steered for on that bearing. When the rocks off Mangas Point are abeam, the vessel should be hauled NW to the anchorage.

When approaching from the S or E, the N rock off Mangas Point should be brought to bear less than 270°, so as to clear **Adela Rock** (16°04'N., 120°07'E.).

Contact Information—The port can be contacted, as follows:

Port Sual—Contact Information	
Pilotage	
Facsimile	63-47-8211808
E-mail	masinloc_harborpilot@yahoo.com
	vinarr0724@gmail.com

1.41 Cabalitian Island (16°07'N., 120°07'E.), 3 miles NE of Port Saul, is wooded and about 1 mile in extent.

The island is fringed by a reef, with depths of less than 6m, extending 0.3 mile offshore, on which there are some islets. A shoal, with depths of less than 9m, extends 0.4 mile NE from the island.

Calpay Shoal extends about 0.5 mile S from the S extremity of Cabalitian Island. The shallowest part of the reef, which is awash, lies about 0.5 mile S of the S extremity of Cabalitian Island. The N side of the shoal is separated from the reef fringing the S side of Cabalitian Island by a deep channel about 183m wide.

Cabalitian Bay (16°06'N., 120°06'E.) may be entered by passing either N or S of Cabalitian Island, but vessels are recommended to use the S entrance channel to the bay, which lies between the steep-to S edge of Calpay Shoal and the reef fringing the coast, about 0.75 mile SW.

The W shore of the bay is fringed by a reef, with depths of less than 6m, which extends up to 0.75 mile offshore. Poro Island and a small islet lie on this shore reef 0.25 mile NNW and 0.8 mile, respectively, NW of the S entrance of the bay.

Anchorage.—Cabalitian Bay affords good anchorage, in 18 to 24m, with protection from NE winds. The recommended anchorage is 0.25 mile S of the SW extremity of Cabalitian Island, in a depth of 24m.

Directions.—Vessels entering the bay via the S channel, from a position 1.5 miles SE of the SE extremity of Cabalitian Island, should steer a course of 270° until the SW extremity of the same island bears 350°. This course leads about 0.25 mile S of the steep-to S edge of Calpay Shoal. From the last position a course of 350° leads to the anchorage off the SW extremity of the island, passing 0.25 mile W of the W side of Calpay Shoal.

1.42 Bangayao Point (16°07'N., 120°06'E.), about 0.75 mile NW of Cabilitian Island, rises steeply to a hill 53m high. The point is fringed by a reef as far as 0.15 mile offshore. Shoals, with depths of 4.9 and 10.7m lie, respectively, 0.25 mile and 0.15 mile SSW of the point.

Pao Bay (16°09'N., 120°06'E.) is entered between Bangayao Point and Bangar Point, about 0.6 mile SSW. A narrow reef, with depths of less than 4m, extends about 0.25 mile S from Bangar Point. A shoal, with a least depth of 1.8m, lies in midchannel in a position 0.3 mile WSW of Bangar Point.

Anchorage.—Small vessels with local knowledge can take anchorage in the middle of the bay, in depths of 7 to 9m, about 0.4 mile W of Bangar Point.

Comas Island (16°09'N., 120°07'E.), small in extent, lies about 0.25 mile offshore in a position about 0.6 mile NE of Bangar Point. A drying reef connects this island to the shore. An above-water rock, lies close SE of the island.

1.43 The **Hundred Islands** (16°13'N., 120°03'E.) are a large group of small wooded islets extending 2.25 miles NNE from a point on the mainland about 2.75 miles SE of **Toritori Point** (16°13'N., 120°00'E.). The bases of these islands are greatly undermined by the action of the sea, and landing on them is difficult.

A shoal, with a depth of 10.1m, lies about 1 mile ENE of the N islet of the group.

Anchorage.—Vessels with local knowledge can take anchorage close W of the Hundred Islands, in depths of 11 to

The Hundred Islands

15m.

1.44 Lucap Bay (16°11'N., 120°01'E.), 2 miles S of Toritori Point, has a pier extending 0.2 mile offshore from the W side of the bay. There are depths of 4m and more in the approach to the pier, but its immediate vicinity has not been examined. A light is shown on the pier head.

Cabarruya (16°18'N., 119°58'E.), wooded and of moderate elevation, lies close E of Cape Bolinao. Caquiputan Strait, narrow and shoal, separates the W extremity of the island from the E side of Cape Bolinao.

The island is fringed by a reef which extends about 2 miles offshore from the N and E sides. Shoals, with depths of less than 11m, extend as far as 2.75 miles offshore.

Siapar Island and Narra Island, small in extent, lie about 2.5 and 2.25 miles, respectively, W of **Carot Point** (16°21'N., 119°59'E.). The waters between Cabarruyan Island and Santiago Island to the N are shoal and mostly foul.

Cangaluyan Island (16°22'N., 119°59'E.), narrow and small in area, lies about 0.25 mile N of Carot Point.

Tandoyong Island and Panacalan Island, two small islets, lie on the fringing reef off the E side of the island, 0.25 mile ENE and 2.75 miles S, respectively, of **Tondol Point** (16°19'N., 120°01'E.).

Santiago Island (16°24'N., 119°56'E.), separated from the NE side of Cape Bolinao by Bolinao Harbor, is high and wooded. The N and E sides of the island are fringed by a drying reef extending as far as 1.75 miles offshore.

Silaqui Island, 22m high, lies on the fringing reef 1 mile NNW of the 20m bluff at the N extremity of Santiago Island. The island appears wedge-shaped when viewed from W. Vessels entering or leaving the gulf should not approach this small island within a distance of 11 miles.

The Dos Hermanos Islands are three rocks, the N and the highest is 17m high and lies close W of the 20m bluff.

Tagaporo Island, small in extent and wooded, lies on the fringing reef close off the E side of Santiago Island in a position about 1.75 miles N of the SE extremity of the island.

1.45 Bolinao Harbor (16°24'N., 119°54'E.) is located between Santiago Island and the NE side of Cape Bolinao. Although the port has little commercial importance, it does provide shelter to moderate sized vessels from the effect of all winds.

Trinchera Point (16°24'N., 119°54'E.), located 1 mile E of Balingasay Point, is the W entry point. The coast between these points consists of a drying coastal reef which extends 0.5 mile from the shore. Several shoals, with depths of less than 9m, extend as far as 0.5 mile N from the N edge of the shore reef.

The W coast of Santiago Island, between the village of Ducoy which stands on the W side of Santiago Island and **Binabalian Point** (16°23'N., 119°55'E.), located about 1.25 miles S, is fringed by a reef which extends 0.25 mile W from abreast the village to 91m abreast the point. A drying rock lies on the reef 0.25 mile SW of Ducoy.

1.46 Bolinao (16°23'N., 119°54'E.), a small and unimportant town, stands close SW of Trinchera Point. Very little of the town is visible from seaward.

Bolinao Harbor Light is shown from a concrete column, with a square topmark, 13m high, standing on the S shore of the harbor, 0.4 mile SSE of Binabalian Point. The light was reported unreliable. A disused light was reported standing close SE.

Anchorage.—There is anchorage in mid-channel W of Binabalian Point, in depths of 16 to 18m, but it is exposed to N winds. A more protected anchorage is provided in mid-channel E or W of Kiripayen Point, located on the S shore, about 0.5 mile E of Binabilian Point.

Directions.—Vessels approaching Bolinao Harbor from the N should keep the extremity of Cape Bolinao bearing less than 220° until Bolinao Harbor Light bears 153°, when it should be steered for on that bearing. This range leads in mid-channel between the reefs on either side, in a least depth of 16.5m.

A shoal, with a least depth of 9.7m, lies about 91m NE of this track, in a position about 1.5 miles W of the NW point of Santiago Island. Also, a spot depth of 18.3m lies 183m SW of the track, 0.2 mile SW of the 9.7m patch.

When Trinchera Point bears 243°, a mid-channel course should be steered to the anchorage off Binabalian Point.

From seaward, Bolinao Harbor Light is obscured from W by Trinchera Point and from N by Binabalian Point.

Vessels proceeding to the anchorages E of Binabalian Point should round that point at a distance of about 0.2 mile in order to avoid the shoal extending S from it. When the point is cleared, vessels should steer a mid-channel course and anchor as convenient.

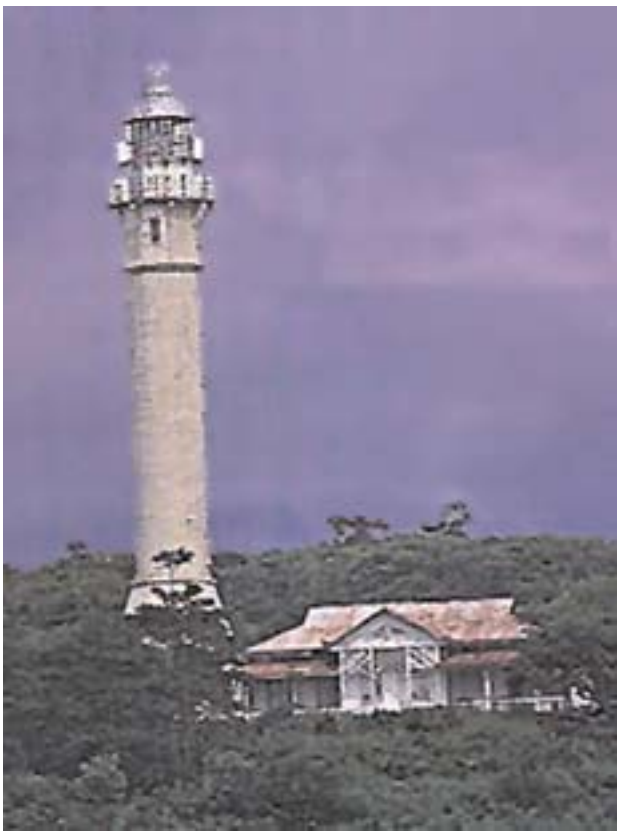
Caution.—Numerous wrecks of fishing vessels line both shores of the inner anchorages between Binabalian Point and **Tambac Point** (16°23'N., 119°56'E.), and between the light and a position 0.5 mile SSE of Kiripayan Point.

1.47 Cape Bolinao (16°22'N., 119°50'E.) is the N part of the peninsula which forms the W side of Lingayen Gulf. It is of moderate height, thickly wooded, and slopes gently toward the sea.

Piedra Point (16°19'N., 119°47'E.), the W extremity of Cape Bolinao, is located 9 miles NNE of Rena Point and is rocky and wooded nearly to the beach. It attains a height of 73m, 0.75 mile inland.

Cape Bolinao Light (Piedra Point Light), a round concrete tower with a lantern, 27m high, stands on Piedra Point.

Olanin Bay (16°15'N., 119°47'E.) is located 4.5 miles S of Piedra Point at the mouth of the Olanin River. There is anchorage in the middle of the bay, in a depth of 12.8m, but local knowledge is necessary.



Cape Bolinao Light

The anchorage is open to the W, but affords some protection from the Northeast Monsoon. A conspicuous tree stands 2.25 miles N of Olanin Bay.

Agno Bay (16°08'N., 119°47'E.), entered between Rena Point, which is reported to give a good radar return up to a distance of 17 miles, and Saoit Point, 3 miles further S, is an open roadstead located about 6.5 miles S of Olanin Bay.

The Balincaguin River discharges into the S part of the bay, about 1 mile NE of Saoit Point. The bar at the mouth of the river has depths of 1.5m.

A drying reef extends 0.3 mile offshore about 1 mile NNW of the entrance to the Balincaguin River. A shoal, with depths of less than 6m, extends 0.2 mile from the edge of the reef.

A reef, with a depth of 4.5m near its outer end, on which the sea breaks, extends about 0.3 mile N from Saoit Point.

Anchorage.—With knowledge of this particular area, vessels can find anchorage SE of Rena Point or off the mouth of the Balincaguin River. These anchorages afford some protection from the Northeast Monsoon.

1.48 Tambobo Point (15°58'N., 119°45'E.), about 9 miles S of Saoit Point, is a small projection from the coast, and is reported to give a good radar return at distances of up to 12 miles.

Caiman Point (15°55'N., 119°46'E.), about 3.25 miles SSE of Tambobo Point, is rocky and has two detached rocks close SE of it. The outer rock is about 4.5m high and steep-to. Caiman Point is fringed by a narrow reef. A shoal, with depths of less than 9m, extends 0.6 mile SSE from the edge of the reef.

Dasol Bay (15°52'N., 119°50'E.) is entered between Caiman Point and Santa Cruz Point, about 12 miles SSE. The bay is encumbered with islets and shoals. The shores are low and intersected by several small rivers.

There are several small towns and villages standing along the shores of the bay.

Culebra Island (15°53'N., 119°47'E.), although small in extent, low, and covered with bushes, gives a good radar return up to 15 miles. A sandy beach fronts the island and foul ground, with depths of less than 9m, extends 1.25 miles SSE, 1.75 miles SSW, and 0.75 mile NW from the island.

The channel between Caiman Point and Culebra Island is deep and clear of dangers in the fairway, but detached shoals, with depths of less than 9m, are found to the E.

This channel leads to the anchorages in Caiman Cove and in Tambove Roads in the N part of Dasol Bay.

Anchorage.—Caiman Cove affords good anchorage to vessels with local knowledge, in a depth of 29m, during the Northeast Monsoon.

Tambove Roads affords good anchorage to vessels with local knowledge, in depths of 11 to 24m. The anchorage at Tambove Roads is open to the SW, and the entrance is restricted by several dangers.

1.49 Hermana Mayor Island (15°48'N., 119°48'E.), the largest island in the approach to Dasol Bay, is partly wooded. The island lies on a bank, with depths of less than 18m, which extends about 5 miles N and 1.75 miles S from it.

The least depth on the S part of this bank is a shoal, with a depth of 5.5m, located about 0.75 mile SSE of the S extremity of the island.

A reef, parts of which dry, lies about 1.5 miles N of the island. Several shoals, with depths of less than 6m, lie between the reef and the island.

A shoal, with a least depth of 2.7m near its outer end, extends about 0.5 mile E from the NE extremity of the island. A shoal, with a least depth of 0.9m, lies about 1 mile N of the island.

Hermana Mayor Light, a concrete tower and dwelling, 9m high, stands on the summit of the island.

Hermana Menor Island (15°44'N., 119°49'E.) is 16.5m high, has sandy beaches, and is wooded.

A shoal, with depths of less than 11m, extends about 1 mile from the NE and SE sides of the island. A rock, awash, lies 0.4 mile off the SE side of the island. A rock, 3m high, lies on the fringing reef on the N side.

A shoal, with a depth of 8.2m, lies about 1 mile WSW of the S extremity of the island. Several shoals, with depths of 7 to 12m, lie between the S end of the island and **Sabalay Reef** (15°39'N., 119°51'E.).

An unmarked channel, about 0.5 mile wide with depths of

more than 5m, lies between Hermana Menor Island and Santa Cruz Point. The channel should not be used without local knowledge.

Infanta (15°50'N., 119°54'E.) is a small town on the S shore of a cove about 2.5 miles ENE of **Raton Island** (15°49'N., 119°52'E.). The cove affords good anchorage to vessels with local knowledge, in a depth of 13m, mud.

The entrance channel is deep but narrow, with dangerous reefs on either side. The channel is unmarked, but under favorable conditions the reef on the N side of the channel can be distinguished by its discoloration.

1.50 Santa Cruz Harbor (15°45'N., 119°53'E.) is entered between Santa Cruz Point and a point 2.5 miles NE. The harbor affords shelter to vessels with local knowledge from all except W winds.

A shoal, with depths of less than 9m, with several rocks awash on its inner part, extends about 1.5 miles NW from the N side of Santa Cruz Point. A shoal, with a depth of 5m, lies at the outer end of this shoal.

The S and E shores of the harbor are fronted by a shoal which extends up to 0.5 mile from shore.

Three beacons mark the N edge of the S shoal. Shoals, with depths of 4.1 and 9.1m, lie 0.75 mile and 0.9 mile, respectively, N of Santa Cruz Point.

A beacon marks a shoal, with a depth of 4.1m, lying about 1.5 mile NE of Santa Cruz Point. A shoal, with a depth of 3.2m, lies about 0.5 mile W of this beacon. A reef, with a depth of 1.2m, lies 0.25 mile SE of the beacon. The waters N and NW of the beacon generally shoal.

Santa Cruz (15°46'N., 119°54'E.) stands on the E shore of the harbor and is of little importance. There is a bell tower that stands in the S part of the town.

1.51 Baluante (Baluarte) (15°45'N., 119°54'E.) (World Port Index No. 58420), 1.25 miles SW of Santa Cruz, has a privately owned T-shaped pier that is reported to be in poor condition. The face of the pier is 52m long, with depths of 10.1 to 10.7m alongside. It has been reported (2011) the pier is no longer there.

Pilotage.—Pilotage is compulsory for all foreign vessels entering or leaving the harbor or berthing or unberthing at the pier and is arranged through Mansinloc Pilots Association.

The pilot boards in position 15°45'56.6'N, 119°52'32.7"E.

Anchorage.—Anchorage can be taken in the outer part of the harbor, in depths of more than 18m, but care must be taken to avoid the numerous shoals. The recommended anchorage is located about 0.5 mile NW of the head of the pier at Baluante, in a depth of 16.5m, mud.

Smaller vessels can anchor 0.75 mile W of the S end of the town of Santa Cruz, in depths of 9 to 11m.

During bad weather the anchorage may become untenable in both the Northeast Monsoon and Southwest Monsoon.

Directions.—Entrance to Santa Cruz Harbor should be made only during daylight hours and under favorable conditions.

Vessels approaching the Santa Cruz Harbor from the N or S should leave the coastal track when Hermana Mayor Island light structure bears 025°, at a distance of 4.5 miles. From this position the course should be altered to 060°, steering for the highest part of a flat-topped mountain near the beach N of Santa Cruz, bearing 060°.

This landmark can be further identified by a mountain behind it showing four distinct knobs. This course leads between the dangers lying between Hermana Mayor Island and Hermana Menor Island, in a least depth of 26m.

When the range beacons at Baluante come into line, bearing 123°, steer for them on that bearing. This course leads about 137m SW of the recommended anchorage.

Caution.—When approaching from the N, Culebra Island and Hermana Mayor Island should be given a berth of at least 2 miles. When approaching from the S, Hermana Menor Island should be given a berth of 3.25 miles.

1.52 Santa Cruz Point (15°44'N., 119°52'E.) is low and covered with mangroves.

Naulo Point (15°42'N., 119°54'E.), lying 3 miles SE of Santa Cruz Point, is 46m high, thickly wooded, and prominent. A disused loran transmitting tower is located about 0.5 mile NW of Naulo Point.

Reefs, with depths of less than 6m, extend 0.75 mile offshore between Santa Cruz Point and Naulo Point.

Pulipo Island (15°41'N., 119°55'E.), small in extent, low, and wooded, lies in the center of a shallow bay about 1.5 miles SE of Naulo Point. It is inconspicuous from seaward.

Arenas Point (15°37'N., 119°54'E.) is low, sandy, and surrounded by shoals which extend 0.5 mile W.

The town of Candelaria is located about 1.5 miles E of Arenas Point.

A shoal, with a depth of 3.6m near its outer end, extends about 0.75 mile W from the mouth of the Laius River (Tambugan River). A detached shoal, with a depth of 4.1m, lies about 1 mile W of the mouth of the river. A shoal, with a depth of less than 1.8m, extends about 0.4 mile NW from Arenas Point.

Bani Point (15°34'N., 119°55'E.) has several rounded hills near its S extremity and a 29m high knoll almost 0.5 mile N.

A reef, with a depth of 2.7m near its outer end, extends about 0.75 mile WNW from the N side of Bani Point.

Bani Point is fringed by reefs which extend about 0.5 mile W and 1.5 miles SSE.

1.53 Sabalay Reef (15°39'N., 119°51'E.), rather extensive and somewhat irregular, lies off the entrance of the shallow bay NW of Arenas Point. A sand cay stands on its E part in a position about 2.75 miles NW of Arenas Point.

Shoals, with depths of less than 9m, extend about 1.5 miles S and 2.5 miles NW from the cay.

Several shoals, with depths of 4 to 12m, lie between Sabalay Reef and Naulo Point. Shoals, with depths of 3 to 11m, lie between Sabalay Reef and Santa Cruz Point.

These dangers can best be seen on the chart.

Tortuga Reef (15°36'N., 119°53'E.) is narrow and extends about 2 miles WSW from a position 1.5 miles SW of Arenas Point. There is a least depth of 5m. The N end of the reef lies about 1 mile S of the S extremity of Sabalay Reef. A detached shoal, with a depth of 6m, lies about 1 mile W of Arenas Point.

Caution.—Vessels should not attempt to pass between Sabalay Reef and Tortuga Reef, nor between these reefs and the coast. Dangers exist even under the most favorable conditions

when the reefs are plainly visible.

The W tangent of Hermana Menor Island, bearing 000°, leads W of all the above reefs.

1.54 Salvador Island (San Salvador Island) (15°31'N., 119°55'E.) is thickly wooded and rises to a height of 40m near its NE end.

Alupihing Point is a prominent steep head about 30m high and covered with bamboo. The island slopes gradually from the N ridge to the S side.

The N side of the island is fringed by a reef which extends about 450m offshore.

A shoal, with depths of less than 6m, extends as far as 0.25 mile off the N shore.

A shoal, with depths of less than 11m, extends about 0.75 mile N from a position about 0.5 mile NE of Alupihing Point. The N edge of this shoal practically joins the shoal extending S from Bani Point.

A detached reef lies near the middle of this shoal in a position about 0.75 mile NNE of Alupihing Point. A group of rocks, some of which are awash, stand on the S edge of this reef.

A reef, parts of which dry, extends 0.6 mile NNW from Alupihing Point. A buoy marks the N side of this reef. A detached shoal, with a least depth of 10m, lies about 1 mile NW of the same point.

A shoal, with a depth of 8.5m, lies about 1.75 miles N of Alupihing Point.

A beacon, 5m high, stands on the N side of Salvador Island 0.5 mile E of Alupihing Point. Bearing 136° leads through the entrance.

Oyon Bay (15°34'N., 119°56'E.) is entered between Bani Point and Oyon Point, about 1 mile SE. The shores of the bay are fringed by reefs which extend as far as 0.4 mile offshore.

Oyon Point (15°33'N., 119°56'E.) is 38m high and prominent. The shore between Oyon Point and Tagapolo Point, about 1.5 miles SSE, is fringed by a reef as far as 0.4 mile offshore.

Tagapolo Point (15°32'N., 119°57'E.), which lies on the S side of the entrance to the Masinloc River, is low and not very prominent. Reefs, parts of which are awash, extend about 0.75 mile W from the point. The shore between Tagapolo Point and the SE arm of the harbor are fringed by reefs as far as 0.75 mile offshore.

A shoal, with depths of less than 6m, extends 0.2 mile NW from the S entrance point of the harbor.

1.55 Masinloc (15°33'N., 119°57'E.) (World Port Index No. 58410) is a small town located on the S side of the entrance to the Masinloc River.

Port Masinloc provides good shelter from all but W winds. The port is entered between Bani Point and Alupihung Point, the NW extremity of Salvador Island, about 2 miles SSW. It is a safe loading port except during the Southwest Monsoon.

Masinloc Harbor, just to the SE of town, is small in extent and quite s hallow. Depths of 11 to 13m are found in the outer part and in the narrow entrance to the harbor.

BC-MCO is a government wharf which handle mainly chrome ore. The ports of Oyon, Petron, Santos, and the NPC/ Mani Pier are private facilities which are also under the Port Authority of Masinloc.

Masinloc Harbor

Depths—Limitations.—A prominent T-headed concrete pier lies 0.6 mile NNW of Masinloc. The face of the pier is 60m long, with wood-pile clusters at each end.

The depth alongside is reported to be 12m. There are two mooring buoys for making fast and hauling off. A red conveyor tower, 9.1m high, is located at the root of the pier. Santos Wharf has an alongside of 6m; Petron Pier is 24m long, with an alongside depth of 10m.

Aspect.—Prominent in the approach is a church, a large stone building with a corrugated iron gabled roof that rises to 16.9m, and the long, low white convent situated close N of the church.

Pilotage.—Pilotage is compulsory for all foreign vessels entering the port and docking at the pier, or undocking and clearing. Pilotage is available during daylight hours only and only in good weather.

The pilot boards about 1.5 miles NW of Alupihing Point on Salvador Island in position 15°33'N, 119°53'E.

Masinloc Harbor—Berth Information

Berth	Length	Depth	Remarks
Dry Cargo			
NPC Pier	240m	—	Panamax vessels up to 13m draught.
BC-MCO	60m	12.0m	—
Santos Wharf	—	—	Fish cargoes. Draught 6.0m.

Masinloc Harbor—Berth Information			
Berth	**Length**	**Depth**	**Remarks**
Bani			
Oyon Wharf	—	—	Barge loading/discharge concert ramp, C-Square cargoes only
Masinloc Coal Power Plant			
Coal Jetty	285m	—	Coal.
Pier 2 (W)	24m	—	Oil products, gasoline and diesel w/receiving pipelines, dt 10m

It is recommended that a vessel steam offshore rather than anchor if awaiting a pilot. Pilots state that anchors have been fouled and lost in the rugged coral bottom. Pilotage is arranged through Masinloc Pilotage Association.

Pilotage is also provided for Port Sual (see paragraph 1.40) and Baluante (see paragraph 1.51).

Regulations.—Philippine Coast Guard requires all foreign vessels to send their ETA 48 hours prior to arrival to include crew and cargo manifests.

Contact Information.—The port can be contacted, as follows:

Masinloc—Contact Information	
Pilotage	
Facsimile	63-47-82-1808
E-mail	masinloc_harborpilot@yahoo.com
	vinarr0724@gmail.com
Port Agent	
VHF	VHF channel 16
Telephone	63-28-16-7666
Facsimile	63-28-15-0199

Anchorage.—Vessels with local knowledge can anchor, while awaiting a pilot, in a depth of 38m, soft coral, about 1.25 miles NW of the beacon on the N shore of San Salvador Island. A tree trunk near the beacon has been painted white to aid identification.

Anchorage is also available 0.8 mile W of Masinloc, in depths of 20 to 24m, sand. The best anchorage is reported to lie 1.1 miles W of Tangapolo Point, in a depth of 27m.

Directions.—Port Masinloc should only be entered during daylight hours and in good weather.

When bound for Port Masinloc, the beacon on Salvador Island, 0.5 mile E of Alupihing Point, should be brought ahead, bearing 136°, before approaching within 2 miles of the island.

Vessels must follow the course closely and pass NE of the buoy marking the N end of the shoal that extends about 0.6 mile NNW from Alupihing Point, on the W side of the channel. Continue on course 136° until the NE tangent of Salvador Island bears 102°.

Steer that course for about 0.1 mile until the buoy marking the S end of the shoal on the NE side of the channel bears 000°.

From this point, steer course 072° and pass about midway between the buoys marking the shoals. Vessels bound for the pier located NW of Masinloc, change course to 050° when the E extremity of Salvador Island bears 180°, and continue to the pier.

If the vessel is bound for Mansiloc Harbor, change course to 121° when the E extremity of Salvador Island bears 166°, about 0.6 mile distant, and steer a mid-channel course to the harbor; the SE part of this track becomes sinuous.

Caution.—The buoys in Port Masinloc cannot be relied on.

1.56 Port Matalvi (15°29'N., 119°55'E.) has little commercial importance but it serves as an excellent typhoon harbor. It is the only typhoon harbor between Bolinao Harbor and Port Olongapo.

There is a pier on the S shore of the port about 0.6 mile SSW of the E extremity of Matalvi Island. There is a depth of 13m off the head of the pier.

Magalawa Island (15°30'N., 119°53'E.) is about 0.5 mile in extent, low, flat, and wooded, with a sandy beach except on its W side. Some huts stand on a sand spit near the E end of the island.

Reefs, which are above water in places, extend about 0.6 mile N and 0.6 mile S from the island and about 0.25 mile W from its W side. A shoal, with depths of less than 9m, extends 0.7 mile S and SW of the island.

Luan Island (15°30'N., 119°54'E.), 36m high near its N end, lies on the reef which extends about 1 mile N from **Matalvi Point** (15°29'N., 119°54'E.). The island is separated from the point by a very narrow channel.

A reef, with a depth of less than 2m, extends about 0.5 mile NNE from Luan Point, the N extremity of the island.

A detached shoal, with a least depth of 8.2m, lies on the W side of the entrance fairway about 0.4 mile NE of Luan Point.

1.57 Matalvi Island (15°29'N., 119°55'E.), about 30m high and wooded, lies 0.5 mile E of Luan Island. Close E of Matalvi Island, and connected to it by a drying reef, is another wooded island, 27m high. These two islands form the N side of Port Matalvi.

A shoal, with a depth of 4.5m, lies on the N side of the fairway about 0.1 mile SSW of the SW extremity of Matalvi Island. Reefs extend up to 0.1 mile from the N shore of the port.

A reef, which dries in places, extends about 0.6 mile N from the N side of Matalvi Island. Iagat Island, a low mangrove islet, lies on the E part of this reef.

A beacon, 8m high, stands on the reef extending N from Matalvi Island 0.15 mile W of Iagat Island.

The S shore of Port Matalvi rises 0.2 mile inland to hills about 75m high, and is fringed by a reef which extends 183m offshore. A reef, with a least depth of 2.3m, extends 0.2 mile N

from a position about 1.25 miles ESE of Matalvi Point.

Anchorage.—There is anchorage in the channel midway between Luan Island and Matalvi Island, in a depth of 27m, mud. There is also anchorage S of the SE end of Matalvi Island, in depths of 15 to 18m, mud. There is also anchorage S of the SE end of Matalvi Island, in depths of 15 to 18m. Small craft can anchor near the E end of the port.

Directions.—When entering Port Matalvi from a position with Alupihing Point bearing 064° and the 36m hill on Luan Island bearing 141°, steer for the concrete beacon on the reef, about 0.2 mile W of Iagat Island, on a bearing of 120°. This course leads clear of the reefs projecting from Salvador Island and Magalawa Island.

Depths of 20 to 22m were reported to lie about 0.3 mile SSW and 0.6 mile W, respectively, of the SW point of Salvador Island. These depths lie in the fairway.

When the 36m hill on Luan Island bears 225°, steer 195° until the same hill bears 285°; then keep in mid-channel to the anchorages.

Vessels anchoring S of Matalvi Island must proceed with caution, taking into account the 4.5m shoal SSW of the SW extremity of Matalvi Island, and a 2.3m shoal extending from the S shore of the harbor.

1.58 Palauig Bay (15°27'N., 119°54'E.), 1 mile long and mostly shoal, is entered between a point 1.75 miles S of Matalvi Point and the N extremity of Palauig Point, about 1 mile SSW. The bay affords good shelter from S and E winds, but is open to the NW.

The coast, between Matalvi Point and the N entrance point of Palauig Bay, is fringed by a reef which dries in places, extending from 183 to 732m offshore.

The Salasa River flows into the bay in a position about 0.5 mile E of its S entrance point. A narrow sandspit, which forms the SE side of the bay, separates the river and bay for about 0.75 mile from its mouth.

A reef, with a depth of 5.5m, on which the sea breaks, lies 1.25 miles NW of the N extremity of Palauig Point.

Reefs, awash in places, extend 0.25 mile SW from the N entrance point and 0.7 mile N from the S entrance point.

The entrance channel, between the reefs on either side, is about 0.4 mile wide. Inside the entrance the bay opens out slightly, but is obstructed by shoals. Depths of less than 5.5m extend 0.5 mile from the E and S shores of the bay. The town of Palauig is located on the S shore of the bay. It is of little commercial importance.

Anchorage is available in the middle of the bay about 0.7 mile N of the town and about 0.3 mile E of the reef, forming the S side of the entrance, in depths of 13 to 15m, sand.

Palauig Point (15°26'N., 119°53'E.) is marked by a light on its summit. Palauig Point Light, a metal framework tower, 9m high, is surrounded by trees and is difficult to distinguish by day. The point is low and wooded, with a detached knoll, 14.6m high, about 0.75 mile inland. It is reported that Palauig Point gives a good radar return up to of 12 miles.

Palauig Reef (15°26'N., 119°52'E.) lies with its NE end about 1.25 miles W of Palauig Point. The reef is awash and the seas break heavily.

Kinabakbagan Reef (15°21'N., 119°55'E.) lies from 1.75 to 2.75 miles offshore in a position about 4.5 miles SSE of Palauig Point. The shallowest part, with a least depth of 0.5m, lies 2.75 miles WNW of Iba Point.

Several detached shoals, with depths of 4 to 9m, lie between Palauig Reef and Kinabakbagan Reef. A shoal, with a least depth of 0.9m, lies about 0.75 mile offshore in a position about 3.25 miles SSE of Palauig Point. Several detached shoals, with depths of 9 to 13m, lie as far as 2.5 miles SW of Kinabakbagan Reef.

1.59 Iba Point (15°20'N., 119°58'E.), about 7.5 miles SE of Palauig Point, is low and projects slightly from a sandy beach. The point is fringed by a drying reef which extends 0.25 mile offshore. A shoal, with a least depth of 6.4m, lies about 1 mile SSW of Iba Point.

Two detached shoals, with depths of 8.7m and 12.3m, lie about 3.25 miles WSW and 3.5 miles SW respectively, of Iba Point.

Aspect.—A white tank, 13.1m high, stands on Iba Point. It has been reported that the point gives a good radar return up to 10 miles. The small town of Iba has little commercial importance. It is located about 1 mile E of the point where it is partially obscured by groves of coconut and banana trees, but an iron roof of a large building is prominent from seaward.

Anchorage.—Anchorage can be taken by vessels with local knowledge S of Iba Point and about 0.75 mile from the landing place, with the extremity of the point bearing 001°, in a depth of 18m.

Directions.—Vessels approaching the anchorage should steer for the canyon N of **Mount Botolan** (15°14'N., 120°02'E.), bearing 091°, until the iron roof at Iba bears 046°. The iron roof should be steered for on this bearing until Iba Point bears 001°, when courses should be altered for the point.

Caution.—Vessels are cautioned to avoid the 6.4m shoal SSW of the point and the coastal bank SE of the landing place.

1.60 Botolan Point (15°14'N., 120°01'E.), low and sandy, is situated about 6 miles S of Iba Point. The coast between the two points is low and sandy. It is fringed by a reef which extends up to 0.6 mile offshore in places, with depths of less than 6m.

Mount Botolan (15°14'N., 120°02'E.), 564m high, prominent, and thickly wooded, lies 2 miles E of Botolan Point at the N end of a range of mountains. A spur from Mount Botolan terminates in a 46m high bluff point close N of Botolan Point.

Two detached shoals, with depths of 6.8 and 3.9m, lie 0.7 mile NNW and 0.5 mile SW, respectively, from Botolan Point.

A bank, on which there are several detached shoals with depths of 6 to 13m, extends about 5.5 miles offshore between Botolan Point and the town of **San Felipe** (15°04'N., 120°04'E.). The outer danger on this bank is a shoal, with a depth of 9.1m, lying about 5.25 miles SW of Botolan Point.

A detached shoal, with a depth of 8.2m, lies about 0.5 mile offshore W of the town of **San Narciso** (15°01'N., 120°05'E.).

1.61 The **Capones Islands** (14°55'N., 120°01'E.) consists of a group of three small islands lying about 2 miles WNW of Capones Point.

Capones Point (14°54'N., 120°03'E.), about 21 miles S of Botolan Point, is a bare reddish headland rising to a hill, 332m high, 0.75 mile SE of its extremity, which when first seen from

Capon Grande Island Light

NW appears as an island.

Capon Grande Island is the largest of the Capones. The summit of the island is near the E end. The island, fringed by a reef, is reported to give a good radar return up to 23 miles. A rock, with a depth of 6.6m, lies about 0.7 mile SW of the E extremity of the island.

Depths of less than 6m extend from 183 to 457m offshore.

Capon Grande Island Light (14°55'N., 120°01'E.), a square brick tower on a dwelling, 21m high, stands near the W end of Capon Grande.

The two remaining small islands of the group lie close together on the reef, about 1 mile NE of the E extremity of Capon Grande. A deep channel separates these islands from the larger island.

Regulations.—A reporting system, operated by the Philippine navy, applies to all vessels, including pleasure craft and seaplanes on the water, transiting the area within 20 miles of the Capones Islands. Vessels should establish contact on VHF channel 9, 10, or 16 with Capones Coast Watch Station (call sign: Coast Watch Capones) when 20 miles off the Capones Islands.

Vessels should report the following information:

1. Vessel name.
2. Call sign.
3. Course and speed.
4. Port of registry and nationality.
5. Type of vessel.
6. Type of cargo on board.
7. Port of destination and ETA.
8. Last port of call.
9. Number of crew on board.
10. Master's name.

Between Capones Point and the N entrance point of Port Silanguin, about 7.25 miles SSE, the coast is high, rocky, and indented by Calaguaguin Bay, Talisain Bay, and Nazasa Bay. These small bays afford some protection from the Northeast Monsoon. Foul ground extends about 0.2 mile offshore from the points separating these bays.

A rock, 46m high, lies near the outer edge of a spit extending about 0.2 mile SW from the N entrance point of Calaguaguin Bay. A rock lies awash close SW of the NW entrance point of Talisain Bay. A rock, 1m high, lies about 0.3 mile SW of the N entrance point of Nazasa Bay.

The **Tabones Islets** (Tabones Islands) (14°49'N., 120°04'E.), about 5.75 miles NW of the N entrance point of Nazasa Bay, consists of two rocky islets, the higher of which has an elevation of 39m.

Port Silanguin (14°46'N., 120°07'E.), about 10 miles SE of Nazasa Bay, is entered between the N extremity of Silanguin Island and a point on the mainland about 1 mile NW.

The harbor indents the coast for 2 miles in an ESE direction and provides fair shelter from all but W and SW winds, but reefs and dangers front the shores of the harbor as close as 0.25 mile.

Anchorage.—Vessels with local knowledge can find anchorage off the sandy beach E of the extremity on the mainland on the S side of the port, in depths of 31 to 37m.

1.62 Silanguin Island (14°46'N., 120°06'E.) is bare, rounded, and 215m high. It is joined to the mainland by a reef on which stands two islets. The coast, between Sueste Point and Silanguin Island, is high and steep-to.

Los Frailes (14°45'N., 120°05'E.) are a group of six small, rocky, and steep-to islets lying about 0.75 mile SW of Silanguin Island. The SW islet, 27m high, is the largest of the group; the NE islet is 11m high.

The channel between Los Frailes and Silanguin Island is deep.

Sampaloc Point (14°44'N., 120°10'E.), the S extremity of

New Subic Bay Harbor and Facilities Locator

the mountainous peninsula forming the W side of Subic Bay, is 3.5 miles ESE of the S extremity of Silanguin Island.

A shoal, with a least depth of 15m, was reported about 6.25 miles S of Sampaloc Point. A depth of 33m was reported about 7.75 miles SW of the same point.

Aspect.—Cinco Picos are five peaks, the highest is 929m high, situated 3.25 miles N of Sampaloc Point.

Rounded Peak, 935m high, stands 4.5 miles NNW of the same point. Pointed Peak, 1,071m high, is 3.5 miles NNW of Rounded Peak.

Mount Agudo, 1,006m high, and Mount Maubanban, 1,035m high, are located 2.25 and 2.75 miles; respectively, NNW of Pointed Peak.

Biniptican Point (14°45'N., 120°11'E.) is located about 1 mile E of Sampaloc Point.

Sueste Point (14°45'N., 120°11'E.), 0.75 mile NE of Biniptican Point, is high, steep-to, and marked by a light. Sueste Point Light, 9m high, is a white rounded metal dwelling with a red roof.

Shark Point (14°46'N., 120°11'E.) lies 0.4 mile NE of Sueste Point. An islet lies close off this point.

Subic Bay Harbor

Subic Bay (14°50'N., 120°14'E.)

World Port Index No. 58395

1.63 Subic Bay is entered between Sueste Point and **Binanga Point** (Minang Point) (14°45'N., 120°15'E.), about 0.75 miles E. The seaward limit of the bay lies between Sampaloc Point and Mayagao Point, almost 6 miles ESE. The bay indents the coast about 8 miles in a general N direction, with a width of about 3.5 miles.

Winds—Weather.—During the months of October through April, Subic Bay is under the influence of the Northeast Monsoon. Winds are predominantly from the ENE with the wind velocity varying from light (5 to 10 knots) during night hours, to moderate (15 to 20 knots) during daylight hours. Skies are generally fair with variable upper level cloudiness.

Occasionally, the remnants of a mid-latitudes cold front (shearline) will pass through the area producing mostly cloudy skies with light intermittent precipitation. For 24 to 48 hours following passage of these shearlines, Subic Bay experiences a surge of the Northeast Monsoon with NE winds of small craft force.

Ships entering at the mouth of the bay often report substantially higher sustained winds than those being reported further up the bay. Apparently, this effect is due to the mountainous terrain surrounding the bay which produces a funneling of winds at the mouth of the bay.

During the month of May until the latter part of June, the winds veer around to the SSE and S, gradually becoming WSW to SW. These SW winds continue until the latter part of September or early October. Frequent squalls and thunderstorms occur with maximum gusts of wind to as much as 50 knots or more.

From a lighted buoy NW of Grande Island, where squalls are usually first visible, to the entrance to Port Olongapo, a distance of approximately 3 miles, an approaching squall can overtake a ship in a short time.

Although typhoons can occur at any time of the year, the majority of those which threaten Subic Bay occur in the months of June through December.

Tides—Currents.—Tidal currents are variable and mostly negligible in the bay; however, during the Southwest Monsoon, heavy rains draining into the **Binictican River** (14°49'N., 120°18'E.) create a strong S current in the vicinity of Rivera Point.

A set of 170° at 1.5 knots was reported (2014) on an ebb tide early in the Northeast Monsoon season.

Depths—Limitations.—Depths in Subic Bay decrease regularly from 60m in the entrance to 13.7m near the head. The greater part of the bay has been swept to depths of 14.9m.

The entrance channel across Subic Bay and into Port Olongapo is about 0.4 mile wide, and has generally decreasing depths of 55 to 28m.

Aspect.—The control tower of the former Naval Air Station at Cubi Point and the former Naval Signal Tower at Port Olongapo are both visible from a good distance to seaward.

Subic Bay is reported to have excellent radar landfall which makes for reliable radar fixes of up to 20 miles.

Caution.—Several naval operating areas front the coast of Subic Bay.

As a result of completed mining and mine recovery exercises, some mines remain unrecovered in the area bound by lines joining the following points:

a. 14°47'34"N, 120°14'45"E.
b. 14°46'54"N, 120°14'45"E.
c. 14°46'54"N, 120°13'44"E.
d. 14°47'22"N, 120°13'44"E.
e.14°47'34"N, 120°14'01"E

Mariners are requested to give this area a wide berth.

Subic Bay—Approaches

1.64 Grande Island (14°46'N., 120°14'E.), 51m high, divides the entrance to Subic Bay into two channels. The main channel, lying W of Grande Island, is wide, deep, and clear of dangers. The channel lying E of Grande Island is closed to navigation.

Two towers situated near the NW extremity of the island. A prominent radar mast situated about 0.3 mile S of these towers. A signal station is situated on Grande Island.

Caution.—The island is fringed by a reef, with depths of less than 6m, that extends 0.5 mile S. Chiquita Island lies on this reef, 0.1 mile S of Grande Island.

A mine-laying practice area, about 732m square, lies with its center about 1,280m SE of Grande Island; its W side lies close E of the charted 015°/195° track.

Twenty Four-foot Shoal (14°45'N., 120°13'E.), marked by a buoy on its W side, is a coral patch, with a least depth of 7.3m, that lies 0.7 mile S of Chiquita Island. However, this buoy was reported missing (2014).

Caution.—Grande Island, Chiquita Island, and the waters within 460m of them, constitute a restricted area at night. Vessels should not enter these areas except in an emergency. It was reported the red/white safe water and red cardinal buoys around Grande Island are extinguished at night.

Subic Bay—West Side

1.65 Sampaloc Point, the W entrance point of Subic Bay and Biniptican Point, about 1 mile E, are high prominent points projecting southward.

Generally, the W shore, backed by high land and generally steep-to, curves N from Sueste Point for about 7.5 miles.

Macmany Point (14°47'N., 120°12'E.) is located 1.5 miles NNE of Sueste Point. A shoal, with depths of 11m or less, extends 0.2 mile E from the point.

Agusuhin Point (14°49'N., 120°13'E.) is located 2.5 miles NNE of Macmany Point. The entrance to the Agusuhin River lies 0.25 mile S of the point.

A detached coral shoal, with a depth of 1.8m, lies 0.2 mile SE of the river entrance. A buoy marks the S side of the shoal.

Two wrecks, with swept depths of less than 11m, lie 0.2 mile S of the buoy.

Manisbaso Point (14°51'N., 120°13'E.) is located 1.75 miles N of Agusuhin Point. It is reported that the ruins of two piers, with some dolphins close inshore between them, stand 0.5 mile NW of Manisbaso Point.

Subic Bay/Port Olongapo Harbor and Facilities

Subic Bay—East Side

1.66 Camayan Point (14°46'N., 120°14'E.), 0.75 mile NW of Binanga Point, is fringed by a reef that extends about 0.25 mile offshore. A shoal, with depths of less than 6m, extends nearly 0.5 mile W from the edge of the reef fronting the point.

When navigating off this part of the coast a good landmark is the conspicuous, white, cylindrical tower located on the 485m summit of Mount Santa Rita, which is about 8 miles ENE of Camayan Point. Red obstruction lights are shown from the tower.

The coast between Binanga Point and Camayan Point is fringed by a drying reef which extends up to 0.25 mile offshore.

Ilanin Bay (14°46'N., 120°15'E.) is entered between Camayan Point and Nabasan Point, about 1 mile ENE.

Camayan Ammunition Wharf, 140m long, with a depth of 9.1m alongside, is situated on the S shore of the bay, about 0.5 mile ENE of Camayan Point.

Two beacons are located about 0.7 mile E of Camayan Point and when in range, bearing 140.5°, lead to Camayan Wharf.

A shoal, as defined by the 5.5m curve, extends about 0.35 mile W and 0.15 mile S of Nabasan Point. Buoys mark the S and SW sides of the shoal.

Triboa Bay (14°47'N., 120°16'E.) is entered between Nabasan Point and Pamocan Point, about 1 mile NNE.

Nabasan Ammunition Wharf, 183m long, with a depth of 12.8m alongside, is located in the SW corner of the bay, about 0.25 mile NE of Nabasan Point. Explosives are handled at this wharf.

Caution.—At the two explosives wharfs, there is a 0.5 to 1.5 knot current that normally sets on the piers regardless of the tide or wind. It is strongest on the W end of each pier, caused in part by the **Triboa River** (14°47'N., 120°17'E.) draining into Triboa Bay.

Pamocan Point (14°47'N., 120°16'E.) stands on the S side of an area of reclaimed land on which stands part of the Naval Air Station. Pamocan Shoal, with depths of less than 6m, extends 0.3 mile NW of the W extremity of the reclaimed land.

Sixteen-foot Shoal (14°48'N., 120°15'E.), a detached 4.9m patch, lies 0.3 mile farther NW. An isolated 4.9m patch lies about 0.4 mile further NW from the shallowest part of Sixteen foot Shoal.

Caution.—The holding ground in Triboa Bay is poor. Caution should be exercised when anchored here in bad weather.

A mooring buoy is located in Triboa Bay. A submarine cable crosses Ilanin Bay and Triboa Bay.

1.67 Cubi Point (14°48'N., 120°15'E.), 2.5 miles N of Pamocan Point, is the S entrance point to Port Olongapo. It is also the site of the Naval Air Station. Two towers stand near the aviation light.

The control tower on this complex, which is situated about 0.45 mile SSE of the aviation light, is visible from a good distance seaward.

Cubi Shoal, with depths of less than 6m, extends 0.5 mile NW and 0.75 mile W of Cubi Point. It is marked by a buoy on its NW side.

Leyte Wharf (Carrier Wharf), 305m long with a depth of

11.9m alongside, is located about 0.2 mile NE of Cubi Point.

1.68 Port Olongapo (14°49'N., 120°16'E.) (World Port Index No. 58400), entered between Cubi Point and Kalaklan Point, 1.5 miles N, recedes about 1.5 miles to the E. Port Olongapo consists of an outer harbor and an inner harbor.

The N shore of the port, between Kalaklan Point and Rivera Point, about 1.25 miles ESE, is low and sandy with low marshy ground inland.

A shoal, with depths of less than 6m, extends as far as 0.2 mile offshore between these points, except in the vicinity of the main wharves.

Caiman Shoal (14°48.5'N., 120°16.5'E.), with a least depth of 11m, lies 0.6 mile NE of the N extremity of Cubi Point. Carrasco Shoal, with a least depth of 12m, lies 0.25 mile S of Caiman Shoal.

The inner harbor is entered between Rivera Point and **Nagcaban Point** (14°48'N., 120°17'E.), about 1 mile S of Rivera Point. A bank, with a depth of 4.2m at its outer end, extends 0.15 mile E of Nagcaban Point. Other shoal areas, with depths of less than 18m and as little as 9m, lie up to 0.6 mile NNW of Nagcaban Point.

Depths—Limitations.—Berthing details are shown in the accompanying table titled **Subic Bay—Berthing Information**.

Subic Bay—Berthing Information		
Name	**Length**	**Depth**
Bravo Wharf	411m	6.0m
Leyte Wharf	338m	14.0m
Nabasan Wharf	180m	14.0m
Pol Pier	253m	12.8m
Alava Wharf		
Original	520m	12.0m
Extension	181m	12.0m
Boston Wharf		
East side/C2 and C3	411m	10.2m
West side/C1	237m	4.6m
Marine Terminal		
East Bulkhead	237m	5.0m
West Bulkhead	237m	12.9m
MT-9	97m	12.9m
Rivera Wharf		
North/RP 16-20	294.4m	5.0m
East/RP 11-15	300.0m	9.0m
South/RP 9-10	126.0m	9.0m
West/RP 3-7	115.0m	6.0m
Sattler Pier		
East side	187m	12.0m

Subic Bay—Berthing Information		
Name	**Length**	**Depth**
West side	187m	12.0m
New Container Terminal		
NCT-1	280m	13.7m
NCT-2	280m	13.7m

It has been reported (2014) that depths alongside Rivera RP-10 were 12.8 to 14.6m.

Delong Pier, 175m in length and 18m wide, is situated 0.25 mile NE of Rivera Point.

Osir Basin, N of Inner Basin, is situated 0.3 mile NNE of Rivera Point. There are a number of moorings in Osir Basin.

A fueling pier extends 253m WSW from **Maritan Point** (14°49'N., 120°18'E.). There are depths of 11.5m on the N side of the pier and 13.7m on the S side of the pier.

Alpha pier, 0.4 mile SSW of Rivera Point, had multiple reports that the charted mooring dolphins in vicinity are not observed.

Aspect.— The Port Control Office is situated 0.9 mile SE of the Kalaklan Point Light.

Kalaklan Point Light

A tower, from which \white lights are shown, stands on the W entrance point of the Inner Basin.

The buildings of the naval station, which occupy this part of the coast, are prominent.

Pilotage.—Pilotage is compulsory for vessels of 500 gt or more. Pilotage should be confirmed 2 hours prior to arrival. Vessels ETA should be sent 72 hours and 24 hours in advance.

Pilots board, as follows:

1. Nabasan and Camayan Wharves—0.6 mile W. of Grande Island.
2. Leyte Wharf—1.4 miles WNW of Subic Bay Interna-

tional Airport Light.

3. Inner Harbor—1 mile NW of Subic Bay International Airport Light.

Vessels may not shift from the berth allocated to them.

Contact Information.—The port can be contacted, as follows:

Subic Bay—Contact Information	
Pilotage	
Call sign	Subic Port Control
VHF	VHF channels 16 and 68
Telephone	6347-252-7245
Port Authority	
VHF	VHF channels 16 and 74
Telephone	63-47-252-4381
Facsimile	6347-252-3014
Web site	http://www.sbma.com

Anchorage.—The greater part of Subic Bay has been designated as anchorage areas for all classes of vessels.

Directions.—When entering Subic Bay from a position about 3 miles S of Sueste Point, vessels should steer through the entrance on a course of 015° so as to pass midway between Grande Island and Macmany Point, about 1.25 miles W.

Vessels proceeding to Port Olongapo should continue on this course until the NW extremity of Grande Island bears about 132°, distant 0.6 mile. The course should then be altered to 048°.

The established Traffic Separation Scheme (TSS) consists of a pair of traffic lanes leading NE/SW for about 3.2 miles from the fairway light buoy (14°46.6'N., 120°12.2'E) to the vicinity of the inner harbor pilot boarding position. The scheme is not IMO adopted. Port Olongapo is entered by turning E after exiting the TSS. It was reported the TSS is well marked and there is a sector light on Kalaklan Point to guide vessels in the inbound lane. Each lane is about 730 yards wide.

1.69 Kalaklan Point (14°50'N., 120°16'E.) is low, but rises steeply to a height of 131m, about 0.45 mile N. The W mouth of the Kalaklan River enters the bay close E of the point.

Kalaklan Point Directional Light is shown from a concrete tower, 10m high, at the extremity of the point. It marks the center of the inbound lane of the Traffic Separation Scheme on a bearing of 048°.

Mayanga Island (14°50'N., 120°14'E.), a small islet 12m high, lies near the middle of Subic Bay in a position about 2 miles WNW of Kalaklan Point. A shoal, with depths of less than 6m, extends 0.35 mile S and 0.5 mile N from the islet.

A buoy is moored on the SW side of the shoal that extends S from the islet. A conspicuous white disused lighthouse stands on the islet, with the light reported to be extinguished (2021).

Gaviota Rock (14°51'N., 120°15'E.), 2.4m high, lies near the S end of a shoal with depths of less than 6m. This shoal extends 0.5 mile S from the coast in a position about 1.5 miles NW of Kalaklan Point. A conspicuous house stands on the rock.

Pequena Island (14°51'N., 120°14'E.), 58m high, lies about 1.25 miles N of Mayanga Island in a position about 0.5 mile offshore. A shoal, with depths of less than 6m, extends 0.5 mile S, and 0.25 mile E and W from the island. Foul ground and shoals join the N side of the island to the shore NE.

A rock, 1.5m high, and a small islet, 2.7m high, lie within 0.12 mile of the S extremity of the island.

A wreck, with a depth of 9.5m, marked by a buoy, lies about 0.5 mile WSW of the S end of Pequena Island.

Cangrejo Rock, 1m high, lies about 0.12 mile NE of the N extremity of Pequena Island.

Subic (14°53'N., 120°14'E.) is a small town located at the head of Subic Bay. Important here is the huge Subic Ship Repair Yard at Cabangan Point.

Facilities include a drydock for vessels up to 300,000 dwt. There are three repair berths with lengths of 300m, 255m, and 205m. All have an alongside depth of 9m.

Luzon—West Coast (continued)

1.70 Port Binanga (14°44'N., 120°15'E.) lies on the E side of the outer entrance to Subic Bay. It is entered between Binanga Point, the E entrance point of Subic Bay, and Buiong Point, about 1 mile SSE. Requests to enter Port Binanga should be made as for Subic Bay.

Port Binanga indents the coast for a distance of about 1.5 miles in an E direction. The N and S shores of the bay are fringed by reefs which extend as far as 0.1 mile offshore.

The 10.9m curve fronts the head of the bay as far as 0.75 mile. Two sandy beaches, separated by **Dapua Point** (14°44'N., 120°16'E.), stand at the head of the bay. The point is prominent, with vertical cliffs from 18 to 21m high.

A shoal, with depths of less than 11m, extends about 0.5 mile WSW from Binanga Point. Detached shoals, with depths of 11 to 8m, lie 0.6 mile W and 0.45 mile, respectively, WSW of Binanga Point.

Detached shoals, with depths of 12.8m, lie on the S side of the approach to the bay in positions about 1 mile and 1.25 miles SSW of Binanga Point. A detached shoal, with a depth of 9.1m, lies about 0.52 mile SW of the same point.

Urdanetta Shoal, narrow, with a least depth of 3.5m, extends about 0.25 mile E from a position 0.25 mile S of Binanga Point.

Anchorage.—Vessels with prior authorization can take anchorage, in 7 to 11m, mud, in the center of Port Binanga, sheltered from all but W winds. When entering the bay a vessel should keep Dapua Point bearing 090°, which leads clear of the shoals off the entrance.

1.71 Buiong Point (14°44'N., 120°15'E.) is the S entrance point of Port Binanga.

A detached shoal, with a depth of 11.9m, lies about 0.3 mile offshore in a position about 0.8 mile SW of Buiong Point.

Two detached shoals, with depths of 7.3 and 10m, lie about 1 mile and 1.5 miles SSW, respectively, of Buiong Point.

Mayagao Point (14°42'N., 120°15'E.), 2.5 miles S of Buiong Point, is low and marshy. Extensive shoals, with depths of 2.7 to 9.1m, extend 0.5 mile W and 1 mile S of Mayagao Point.

The coast between Buiong Point and Mayagao Point, about 2.5 miles N, is fronted by a reef which extends 400 to 0.5 mile offshore in places.

Illinin Point (14°44'N., 120°15'E.) is located 2 miles N of Mayagao Point. A shoal sounding of 15m was reported to lie 7.5 miles SW of Mayagao Point.

Morong Shoal (14°40'N., 120°15'E.), with a least depth of 9.7m, lies 1.25 miles S of Mayagao Point. A channel about 0.5 mile wide lies between this shoal and the coastal shoal NE.

Panibatujan Point (14°40'N., 120°16'E.), lying 1.75 miles SE of Mayagao Point, is fronted by a reef which extends as far as 0.15 mile offshore. A conveyor pier extends 235m SE from the S side of Panibatuhan Point. A mooring buoy lies about 0.3 mile SE of the pier head. A sandy beach extends 3 miles SE from Panibatuhan Point.

A shoal, with depths of less than 9m, extends 0.75 mile SW from the point. A detached shoal, with a depth of 11.6m, lies about 1.1 mile SW of Panibatujan Point.

1.72 Napo Point (14°38'N., 120°19'E.) is located 3.75 miles SE of Planibatujan Point. A large cylindrical tank and a building with a prominent dome that is part of a nuclear power station stand on Napo Point.

Pandil Islet, 13m high, lies close S of Napo Point. The islet is joined to the point by a reef. Foul ground extends almost 0.5 mile S from the islet. Several buoys are situated in the small bay entered NW of Napo Point.

Bagac Bay (14°36'N., 120°23'E.) is entered between Napo Point and Saysain Point, about 5.5 miles SE. It is a large exposed bay open to the SW. Several streams enter this bay.

Mapalan Point, located about 2 miles E of Napo Point, is fringed by foul ground to a distance of 0.5 mile SSW.

An islet, 37m high, lies close offshore about 0.5 mile NW of Mapalan Point.

Cabayoc Point (14°37'N., 120°22'E.), located 1.25 miles E of Mapalan Point, is fringed by foul ground which extends 0.25 mile SW. A light is shown close S of Cabayoc Point.

The town of Bagac, which is of little commercial importance, is located 2 miles SSE of Cabayoc Point.

Foul ground extends 0.5 mile W from **Saysain Point** (14°34'N., 120°23'E.). A detached shoal, with a depth of 5.5m, lies about 1.25 miles NNW of Saysain Point.

Anchorage.—Anchorage is available off the town of Bagac, in depths of 9 to 18m. The anchorage is an open roadstead and is exposed to strong winds that blow down from the Mariveles Mountains and Mount Silanganan.

The Northeast Monsoon reaches the bay through the valley between these mountains.

An explosives dumping area lies centered about 12 miles W of **Caibobo Point** (14°30'N., 120°22'E.).

1.73 Luzon Point (14°28'N., 120°23'E.), located 6.75 miles to the S of Saysain Point, is high and rocky. There are tide rips W of the point. Dumping grounds for chemicals and explosives lie 22.5 miles W and 13 miles WNW; respectively, of Luzon Point.

Guay Point (14°27'N., 120°24'E.) is located about 0.75 mile ESE of Luzon Point. A drying rock lies about 0.2 mile SW of Guay Point.

Guay Bay is entered between Guay Point and Vigia Point, about 1.5 miles ESE. Anchorage, sheltered from NE winds, may be obtained.

Hornos Point (14°25'N., 120°28'E.), narrow and projecting, extends about 0.5 mile SW from a position 6 miles SE of Luzon Point.

1.74 Cochinos Point (14°25'N., 120°30'E.), about 1.25 miles E of Hornos Point, is the point marking the N side of the outer limit of Manila Bay. The SE extremity of this peninsula is 108m high and connected to the mainland NW by a narrow isthmus.

Los Cochinos are a group of five rocks, 6 to 19m high, which stand on a shoal extending about 0.4 mile S of Cochinos Point. This shoal, with depths of less than 6m, is connected to the point by a drying reef.

Guardia Shoal (14°24'N., 120°30'E.), small in extent and with a depth of 1.8m, lies 0.5 mile SSE of Cochinos Point. The SE side of the shoal was reported no longer marked by a buoy.

Palomonti Rocks, 5m high, are located 0.4 mile SE of Cochinos Point. A shoal, with a depth of 4m, extends about 0.1 mile SW from the rocks, and a shoal, with a depth of 0.9m, extends the same distance N.

Manila Bay

1.75 Manila Bay (14°35'N., 120°45'E.) is entered between Cochinos Point and Limit Point, about 12 miles SSE. The bay is about 30 miles long and 22 miles wide.

The entrance is divided into two channels, North Channel and South Channel, by Corregidor Island and Caballo Island. These channels are deep and clear of dangers in the fairway.

The South Channel has been dredged to 11m.

In general, the channel providing the shortest route may be used, but the entrance by South Channel is not recommended after dark or in poor visibility. The depths in the entrance range from over 55m in the entrance to about 28m in the center of the bay.

Manila Harbor is reported to give a good radar return up to 25 miles.

Manila Bay is undergoing major port development.

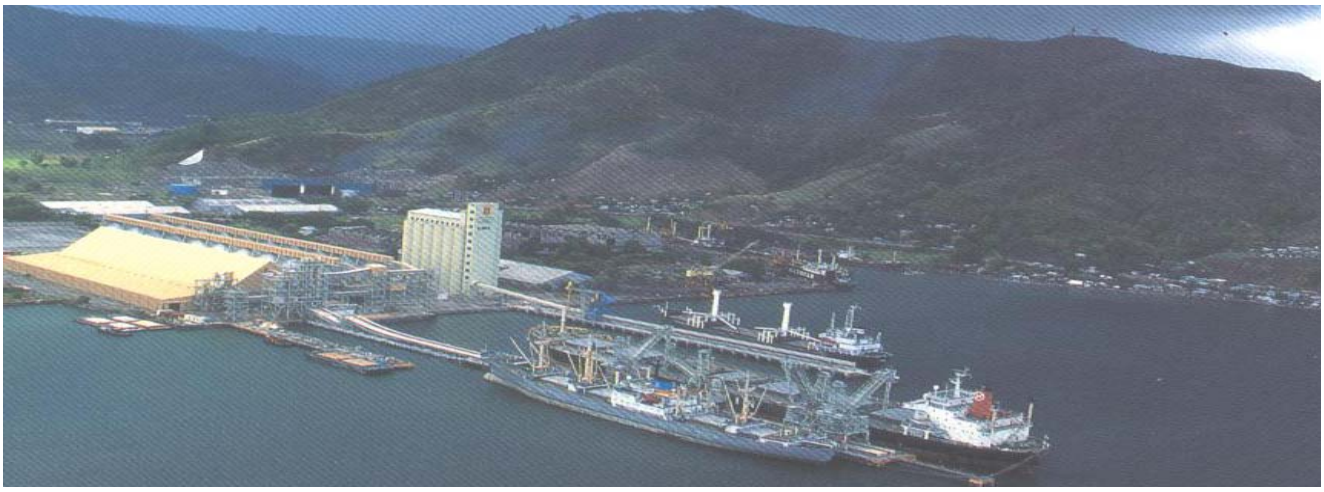
Winds—Weather.—The Northeast Monsoon blows strongly out of Manila Bay, at times accompanied by a smoke-like cloud which is driven out of the bay southwestward and forms an arch on the SW horizon; the sky is otherwise clear.

Occasionally, sea breezes from the SW blow into the bay in the Northeast Monsoon after midday, increasing in strength toward the head of the bay.

During the strength of the Northeast Monsoon, although the wind may be fresh in the entrance, it will frequently be moderate within the bay.

When the Northeast Monsoon begins to weaken in February, SE and E winds become more frequent in the Manila Bay area. These winds are the prevailing winds in March and April, but they gradually become less frequent in the next 4 months. In May SW winds increase, and in August about 70 per cent of all winds blow from between S and W.

During the Southwest Monsoon, storms, known locally as Collas, blow from SW to the W and are accompanied by violent squalls and a great deal of rain. Collas occur most



Mariveles Harbor—San Miguel Corporation Bulk Handling Terminal

frequently in June or July and they often last for several days. When strong N or NW winds are prevalent, there are no land winds.

Tides—Currents.—The tidal currents in South Channel are always semidiurnal and may attain a rate of 1 knot at springs. The ebb sets in a 240° direction. The maximum rate occurs 2 hours after HW and LW at Cebu.

The current velocities in North Channel are greater than those in South Channel and may attain a rate of 1.5 to 1.75 knots.

Tidal currents are negligible in the greater part of Manila Bay. During the rainy season, the Pasig River flows out with great velocity and affects the water movement in the bay.

Depths—Limitations.—Depths in Manila Bay range from more than 30m in the entrance to more than 20m in the central part of the bay, the 10m depth contour being mostly confined to within 3 miles of the shore with the main exception being in the vicinity of San Nicolas Shoals.

Pilotage.—Pilotage is compulsory and available 24 hours. Requests for pilotage should be made through the Manila Vessel Traffic Management System Center. The VTMS may be contacted via VHF channels 16 and 19, or by telephone (63-47-2446461).

The pilotage contact information and boarding stations are, as follows:

1. South Harbor pilots may be contacted on VHF channels 16 and 13. Pilots board in position 14°34'N, 120°53'E.
2. Manila International Container Terminal (MICT) pilots may be contacted on VHF channels 16 and 80A. Pilots board in position 14°36'N, 120°54'E.
3. Harbor Center pilots may be contacted on VHF channels 12 and 16. Pilots board in position 14°36'N, 120°53'E.
4. North Harbor pilots board at the lighted buoy near the breakwater (14°37'N., 120°56'E.).

Regulations.—All vessels entering Manila Bay are prohibited from stopping or anchoring between the entrance to Manila Bay and the anchorages off Manila harbor without having previously obtained the permission of the Commissioner of Customs. The same applies to vessels leaving Manila Harbor.

There are restricted areas located within Manila Bay and approaches. In the entrance to Manila Bay, La Monja Island, Corregidor Island, Caballo Island, El Fraile Island, Carabao Island, Limbones Island, the surrounding waters and the detached rocks of each, have been declared National Defense Zones by the Philippines government. Vessels should not approach closer than 1 mile, except as noted below. Vessels are not permitted to pass between La Monja Island and Corregidor Island. Vessels using North Channel should pass between La Monja Island and Guardia Shoal while remaining within the TSS until clear.

When entering Manila Bay through North or South Channel, vessels using the TSS or approaches may pass through the restricted areas, but should not stop or anchor without prior authorization from the armed forces of the Philippines.

A designated lane for tanker traffic, spans the bay, and can best be seen on the chart.

Vessel Traffic Management System.—Participation in the Manila Vessel Traffic Management System (VTMS) is compulsory in Manila Bay. The VTMS applies to all vessels bound for ports within the bay or transiting the approaches within a distance of 20 miles of Corregidor Island (14°23'N., 120°35'E.). VTMS Manila Control Center may be contacted (call sign: VTMS Manila) on VHF channels 16 and 19. Reports to the control center should be communicated, as follows:

1. **Inbound vessels.—**Vessels approaching Corregidor Island from any direction intending to enter Manila and the port of Mariveles shall, when 20 miles distant from the island, report the following:
   a. Vessel name and call sign or IMO Number.
   b. Position.
   c. Last port of call.
   d. Course and speed.
   e. Destination.
   f. Description of dangerous cargo, if carried.
   g. Type of vessel.
   h. Draft.
   i. Number of crew and passenger.

Inbound vessels should additionally contact the VTMS prior to entering or leaving the TSS to report the following:

a. Vessel name.
b. Time.
c. Position and speed.

Vessels approaching the quarantine anchorage and pilot boarding area should contact the VTMS 1 hour prior to arrival to report the following:

a. Vessel name.
b. ETA.

Upon arrival at the quarantine anchorage or pilot boarding area, vessels should report the following information:

a. Vessel name.
b. Arrival draft.
c. Air draft.
d. Arrival or anchored time.
e. Anchored position.

2. **Vessels navigating within the port.—**Vessels moving from the quarantine anchorage or pilot boarding area to a pier or to anchorage berths should report the following information to the VTMS:

a. Vessel name.
b. Position.
c. Time.
d. Name of harbor pilot on board.
e. Assigned berth.

After berthing, mooring or anchoring as assigned, vessels should report the following information:

a. Vessel name.
b. Docking or anchorage time.

A shift of berth, permitted only by authorization of the port authority, requires the following reporting protocols prior to departing the berth or anchorage and after docking, mooring, or anchoring at the new berth:

a. Vessel name.
b. Time of last line or anchor aweigh.
c. Time berthed or anchored at subsequent position.
d. Name of harbor pilot on board.

3. **Outbound vessels.—**Vessels departing the berth should report the following:

a. Vessel name and call sign,
b. Name of harbor pilot on board.
c. Position.
d. Time of passing the pilot boarding area.

Vessels leaving the pilot boarding area should report the following:

a. Vessel name.
b. Time.
c. Position.

Vessels inside and outside the Traffic Separation Scheme (TSS) should report the following:

a. Vessel name.
b. Time.
c. Position.
d. Speed.

4. **Vessels navigating only within Manila Bay.—**Vessels should report the following information when departing a port, 30 minutes after departing, and upon anchoring or mooring at the next port of call:

a. Vessel name.
b. Time.

Vessels passing through the VTMS area.—Vessels transiting the reporting area, but not entering Manila Bay or calling at ports with Manila Bay, are required to report to the control center the following:

a. Vessel name and call sign.
b. Destination.

5. **Deep-draft vessels intending to lighten their cargo**.—Vessels should report the following to the VTMS control center when within 2 miles of the anchorage at which the vessel will lighten:

a. Vessel name.
b. Intention to proceed to operational area.
c. Time.

Vessels should notify the VTMS of their intention to leave the lightering area.

6. **Emergency situations.—**Vessels must report the following to the VTMS control center as expediently as possible:

a. Any emergency or unusual event, such as fire, collision, grounding, pollution, suspicion of piracy, or any incidents similar to those previously stated.
b. Any condition of the vessel that may impair its navigation, reduce its capabilities, or affect the safety of other vessels due to defective propulsion, defective steering, inoperative navigation lights, unusual handling characteristics, impaired maneuverability, inoperative whistle or horn, unreliable navigation equipment, or similar conditions.
c. Any difficulty or inability in towing.
d. Any other unusual conditions which restrict or inhibit total compliance with the requirements of the VTMS.
e. Poor visibility.

Any vessel reporting an emergency situation or unusual event must report:

a. Vessel name and call sign.
b. Name and position of the person making the report.

Any vessel may deviate from the provisions of the regulations to the extent necessary to avoid endangering persons, property, or the environment. When, for reasons of safety or emergency, vessels must deviate from the regulations, notification must be reported as soon as possible.

Vessels must maintain a continuous listening watch on VHF channels 16 and 19 at all times.

All reports shall be made in either Filipino or English.

All times are expressed in local time.

Caution.—It has been reported (2019) heavy small fishing vessel traffic may be encountered in the approaches.

1.76 Mariveles (14°26'N., 120°29'E.) (World Port Index No. 58390) is a small town located near the NW shore of the bay. Close SW of the town, there are a number of prominent buildings which house the former quarantine station for Manila. Vessels can enter the harbor with the T-shaped quarantine pier bearing 300°. A light is shown from a concrete tower, 11m high, situated 0.1 mile NNE of the Quarantine Pier.

Mariveles Harbor (14°26'N., 120°29'E.), entered between Cochinos Point and Gorda Point, about 1.5 miles NE, provides good anchorage sheltered from all winds except those from SE. The NW portion of the harbor is the best typhoon anchorage in the Manila Bay area, but the anchorage is quite small and will

Manila Bay—Corregidor Island—Caballo Island (front) and Mariveles Harbor (rear)

not accommodate more than one or two large vessels.

Even with this haven from typhoons, Mariveles Harbor can prove dangerous because of the rotational qualities of the direction of this type of wind blowing into the entrance of the harbor.

The harbor is the quarantine station for Manila and a first port of entry. Storm signals are displayed at the quarantine station in Mariveles Harbor.

A reef, with a depth of 4m, lies about 0.2 mile ENE of Cochinos Point. A bank, with depths of less than 9m, extends 0.25 mile from the head of the harbor.

Depths—Limitations.—Herma Port Shipyard consists of a wharf, 385m long, with a depth alongside of 7.5m**.**

The SMC-Battan Maly Terminal has a concrete finger pier, 217m long and 15m wide, with a depth alongside of 14.5m.

The ATI-Mariveles Grain Terminal has a finger pier, 156m long and 10m wide, with a depth alongside of 14.5m.

Pilotage.—Pilotage is compulsory for all vessels with a 24 hour advance notice given to the Philippine Ports Authority office at Mariveles.

Anchorage.—Vessels may anchor, in an area of good holding ground, in a depth of 25m, with the Quarantine Pier bearing 308°, or vessels may proceed farther into the bay if necessary. Near the harbor there are numerous wrecks, quarantine anchorages, and submarine cables.

1.77 Sisiman Bay (14°26'N., 120°31'E.), close E of Mariveles Harbor, is entered between Gorda Point and Aguawan Point, about 0.52 mile E.

A number of drying rocks lie close S of **Aguawan Point** (14°25'N., 120°32'E.). A shoal, with depths of less than 11m, extends 0.15 mile SSW from the point.

On the W side of Sisiman Bay there is a concrete wharf, 69m long, with a depth of 4.5m at the N end of it.

Two ruined piers are situated at Sisiman village in the NW corner of the bay.

Corregidor Island Light

1.78 Corregidor Island (14°23'N., 120°35'E.) is situated with Cape Corregidor, its W extremity, about 3 miles SE of Aguawan Point and is marked by a light on its summit. There is a signal station near the light. The W end of the island has three

distinct peaks, the southernmost of which is 179m high. The E end of Corregidor is narrow and curves to the SE. The island is reported to give a good radar return up to 24 miles.

A reef on which stand some above and below-water rocks, with a depth of 5m over its outer edge, extends about 0.5 mile S from the E extremity of Corregidor Island. A dangerous wreck lies 1.25 miles NNE of Corregidor Island Light.

Caution.—Two prominent rocks, about 20 and 30m high, have been reported 0.2 mile W of Cape Corregidor.

1.79 La Monja Island (14°23'N., 120°31'E.), a rock, 37m high, lies 2.25 miles WSW of Cape Corregidor. A light is shown from a wooden platform on the summit of La Monja Island. An obstruction is charted about 1.25 miles SE of this rock.

Caballo Island (14°22'N., 120°37'E.), narrow, rocky, and 116m high, lies about 1 mile S of the E extremity of Corregidor Island. A conspicuous radio tower stands about 0.1 mile E of the W end of the island.

The island is fringed with reefs, with depths of less than 6m, that extend about 0.75 mile WSW and 0.3 mile E of the island. A shoal, with a depth of 9.6m, lies 1.25 miles W of Caballo Island.

A channel between the reefs extending from the E extremity of Corregidor and Caballo Island is about 0.3 mile wide, with a least depth of 5.6m. The channel is buoyed, but not recommended for navigation.

San Jose Bay is located between Corregidor Island and Caballo Island. A ruined L-shaped pier stands in the NW corner of the bay. Caballo Island is reported to give a good radar return up to 14 miles.

Corregidor Island, Caballo Island, and La Monja Island, including their surrounding waters and adjacent detached rocks, have been declared a military zone by the Philippine government.

Vessels should not approach these islands closer than 1 mile, and vessels are not permitted to pass between La Monja Island and Corregidor Island.

Lamao Port

1.80 Alasasin Point (14°25'N., 120°34'E.) is located 2.5 miles E of Gorda Point. The chart depicts two dangerous wrecks, with swept depths of 19.1m, lying about 1.25 miles and 2.75 miles E of Alasasin Point.

Lokanin Point (14°29'N., 120°36'E.) is located 4 miles NE of Alasasin Point. The intervening coast is composed of steep, rocky bluffs of moderate elevation, and fringed by a bank, with depths of less than 6m, extending 0.25 mile offshore. The 20m curve lies about 0.5 mile off the point.

A pier extends from the coast about 0.5 mile N of Lokanin Point. Two oil tanks are located close inland from the root of the pier. Range lights, in line bearing about 285.25°, are occasionally shown from the top of the oil tanks.

Lamao Point (14°31'N., 120°37'E.), the N entrance point of the Lamao River, lies 2 miles N of Lokanin Point.

A stone causeway, 0.2 mile long, is located close N of Lamao Point. A T-head pier, reported to have a depth of 13.7m at its head, extends about 0.375 mile ENE from a position about 0.6 mile NNW of Lamao Point. A prominent gantry stands at the head of the pier.

A lighted mooring buoy, which marks the seaward end of a submarine oil pipeline, lies about 1.25 miles E of the head of the pier.

Caution.—Do not confuse the above pier with the L-shaped pier, about 0.5 mile long, located close S of Tobang Point, about 0.6 miles S of Lamao Point.

1.81 Luzon Point (14°32'N., 120°36'E.) lies about 1.5 miles N of Lamao Point. The Bataan Oil Refinery (Petron-PNOC Refinery) Pier, with alongside depths of 7 to 10.1m, extends about 0.3 mile E from Luzon Point.

Limay (Petron-PNOC) Bataan Refinery.

A submarine pipeline extends about 0.4 mile from the end of the pier. Tankers with drafts of up to 15.8m can be accepted.

Depths—Limitations.—The refinery jetty is of open concrete pile construction extending 256m E from a solid causeway connection to shore. It provides berths on both sides, with a narrow basin dredged to 10.6m, for tankers up to 30,000 dwt.

A small basin, enclosed by breakwaters, lies on the S side of the root of the causeway. An LPG berth lying N/S, is situated on the seaward side of the S breakwater and has reported depths of 5.5m in the approach and at the berth. Vessels up to 24m in length and 700 dwt can be accepted.

An SBM (flashing light) is moored in a depth of 28.6m, 1.5 miles ESE of the jetty of Bataan Oil Refinery. A submarine oil pipeline runs W from the buoy to the shore.

Vessels up to 300,000 dwt can be accommodated.

Pilotage.—Pilotage is compulsory; the pilot, who comes

from Limay, boards from a tug 2 miles ENE of Lokanin Point.

Tugs of up to 3,500 horsepower come from Manila; small tugs are available locally to assist with berthing.

The vessel's ETA should be sent 4 days in advance and confirmed 24 hours before arrival and should state any requirements. Bunker fuel and fresh water can be supplied by barge from Manila.

A conspicuous flare is occasionally visible at the refinery, about 0.4 mile W of the root of the jetty. There are many prominent oil tanks in the area between the T-headed jetty N of Lamao Point and the refinery.

Anchorage.—Anchorage is prohibited in the vicinity of the pipeline and tanker berth, but ships may anchor anywhere clear of the berth. Eight mooring buoys are grouped around the seaward end of the pipeline and form a mooring berth. Ships berth heading N.

1.82 Quitang Point (14°33'N., 120°36'E.) lies about 0.75 mile NNW of Luzon Point. A T-head pier close N of the point has a least depth of 11m. A number of oil tanks and a prominent industrial building with two tall chimneys are located W of Quitang Point.

A concrete pole, 9.7m high, stands on the N side of the entrance of the Limay River in a position about 1.25 miles NNW of Quitang Point.

Pandan Point (14°36'N., 120°35'E.) is located 3.25 miles N of Quitang Point. The coast is rather low and is fringed by a shoal, with depths of less than 6m, which extends from 0.4 mile offshore at Pandan Point to 1.75 miles offshore near the mouth of the Tiawir River, about 6 miles farther N.

Several wrecks lie between 0.75 mile and 1.75 miles off Pandan Point.

Pampanga Bay (14°47'N., 120°35'E.), which occupies the NW corner of Manila Bay, has depths of less than 6m. The Orani River and the Pasag River discharge into this bay.

The N and NE shores of Manila Bay are formed by the delta of the Pampanga River and the deltas of other large rivers. The shore is low and marshy. A shoal, with depths of less than 9m, extends 2 to 4 miles offshore.

Manila Bay—East Side

1.83 Limit Point (14°14'N., 120°35'E.) marks the S side of the outer limit of Manila Bay. The point is rocky, steep-to, and about 67m high.

Limbones Island, 98m high, small and rocky, lies close N of Limit Point.

Limbones Cove (14°14'N., 120°37'E.) is entered between Limbones Island and Carabao Island. The cove indents the coast as far as 2 miles in a SSE direction. The cove is open to the NW and clear of dangers.

Calungpang Point (14°16'N., 120°38'E.), marked by a light, lies 3.5 miles NE of Limit Point. The coast between these points is high and cliffy. A 2.4m patch lies 0.25 mile N of the point.

Restinga Point (14°17'N., 120°39'E.) is located 2.5 miles ENE of Calungpang point. The coast between is high and cliffy. A light is shown from the E entrance point of a bay, 1.5 miles E of Restinga Point. Two mooring buoys are situated 0.4 mile NW of the light.

Carabao Island (14°16'N., 120°37'E.), 56m high and rocky, lies 0.4 mile offshore about 1 mile W of Calungpang Point.

A dumping ground for metals is situated 4 miles W of Carabao Island.

El Fraile Island (14°18'N., 120°38'E.), a rock on which stands a fort and other buildings, lies about 2 miles N of Calungpang Point. A light is shown from the fort. A coral patch, with a depth of 12.8m, lies 0.25 mile E of the rock.

El Fraile Island, Carabao Island, and Limbones Island, including their surrounding waters and adjacent detached rocks, have been declared a military zone by the Philippine Government. Vessels should not approach these islands closer than 1 mile.

El Fraile Island

1.84 Maragondon Point (14°19'N., 120°44'E.) is located about 6.5 miles ENE of Calungpang Point. A detached shoal, with a depth of 5.5m, lies 2 miles N of Maragondon Point.

The Maragondon River entrance, about 2 miles S of Maragondon Point, is the E limit of the high land on the S side of Manila Bay. The shore between the river entrance and Sangley Point, about 17 miles NE, is low and marshy.

A shoal, with depths of less than 6m, extends up to 1.5 miles offshore along this stretch of coast.

San Nicolas Shoals (14°26'N., 120°46'E.) extend 4.5 miles offshore from a position about midway between Marangondon Point and Sangley Point. The shoals' NW extremity is marked by a red buoy with topmark. The outer shoal, with a least depth of 3.1m, lies about 7.5 miles NNE of Maragondon Point. It is steep-to on its W and N sides.

A shoal, with depths of less than 6m, extends between the outer shoal and the coast to the SE.

A number of charted wrecks and obstructions lie within 3.5 miles and 7 miles NE of the light. A dangerous wreck lies 3 miles WNW of the light.

Rosario (14°25'N., 120°51'E.) is located about 9 miles NE of Maragondon Point. The Filoil Refinery Sea Berth is located in a position about 2 miles off the shore of Rosario, Province of Cavite. The sea berth tanker mooring is situated in a depth of 13.7m. It is connected with a submarine pipeline to the refinery; there is communications from the sea berth with the refin-

ery.

Vessels using the terminal should send their ETA 72 hours after leaving the port of loading and again at least 48 hours prior to arrival. Tugs should also be ordered at least 48 hours in advance.

When mooring at Filoil Refinery Sea Berth, both anchors are required to be ready, but normally only the starboard is used. The vessel approaches the mooring heading due S, and when secured is heading WSW, with the starboard anchor laid out, and the vessel moored to one buoy on the port bow and four or five buoys astern.

Mooring is carried out in daylight only, and should begin not later than 1200; unmooring can take place at anytime. Three tugs are available for mooring; two are available for unmooring.

Pilotage.—Pilotage is compulsory and ETA should be sent at least 72 hours in advance. The pilot boards at the **Manila Quarantine Anchorage** (14°33'N., 120°56'E.).

Filoil operates a private port radio station.

It is imperative that vessels moored at the berth be in good condition to clear the berth immediately in case of an emergency. Vessel's engines and gears must be ready with full power for immediate use. Ships personnel should be at their stations at all times during mooring, unmooring, and cargo unloading operations.

The port can be contacted on VHF channel 16 and by telephone (63-2-479551 or 63-2-479553).

1.85 Cavite (14°29'N., 120°54'E.) is located on the lower N part of the peninsula extending in a NE direction from the S shore of Manila Bay.

Sangley Point (14°30'N., 120°55'E.) is the NE extremity of the peninsula. It is marked by a 15 mile light which can best be seen on the chart. The point, which is reported to be radar prominent, can also be identified by two 35m red and white checked water towers. A conspicuous church with twin white spires stands near the coast 2.5 miles SW of Sangley Point.

A conspicuous white monument stands near the root of the peninsula, 1.25 miles SW of Sangley Point.

The former US Naval Station in Cavite City was located at Sangley Point surrounded by Manila Bay about 8 miles SW of Manila. The facility was urned over to the Armed Forces of the Philippines in 1971 and was renamed Danilo Atienza Air and Naval Base.

Sangley Point

Sangley Point

Cavite Harbor is located S of a line extending in a 090° direction from a position 0.5 mile N of Sangley Point to the coast close N of **Paranaque** (14°30'N., 121°00'E.).

Cavite, a low peninsula located about 0.75 mile S of Sangley Point, extends about 1 mile E from the main peninsula.

Canacao Bay lies between the S side of Sangley Point and the N side of Cavite.

A shoal, with a depth of 3m, lies close SE of Sangley Point. Another shoal, with a least depth of 4.2m, lies about 1.1 miles NE of Sangley Point.

Several mooring buoys, numerous other buoys, dolphins, obstructions, and wrecks lies off Sangley Point and in Canacao Bay as can best be seen on the chart.

The deepest portion of Canacao Bay is near the N side, just S of Sangley Point, with depths of 5.2 to 7.2m.

Bacoor Bay, entered between the E end of Cavite and the mouth of the Imus River, about 1.25 miles S, is shallow.

Numerous fish traps have been reported between Sangley Point and Pasay City.

Anchorage.—An unrestricted anchorage area lies from 0.9 to 2.8 miles E of Sangley Point.

Designated anchorage may be obtained within the 5m sounding line with Sangley Point bearing 352°, distant 0.95 mile.

Directions.—Ships bound for Cavite Harbor should steer a course of about 141.5° for a distance of about 1 mile, from the position 1.5 miles N of Sangley Point Aeronautical Light, to a position with that structure bearing 222°, distant 0.9 mile. Then a course of 192° for 0.75 mile leads to a position about 0.3 mile E of Sangley Point. Vessels then can proceed on a WSW course to the assigned berths.

Caution.—Vessels are not permitted to berth within the limits of Cavite Harbor without prior permission, except through stress of weather or other urgent necessity.

In this case, vessels should anchor temporarily in an open berth, but are required to maintain power on the engines and be ready to move until such anchorage is confirmed or the vessel is directed to another berth.

Manila (14°35'N., 120°58'E.)

World Port Index No. 58370

1.86 Manila Harbor, located at the E end of Manila Bay, consists of North Harbor and South Harbor, both of which are protected by breakwaters. The two harbors are separated by the Pasig River.

The city of Manila, located on both sides of the Pasig River, is the principal port of the Philippines and a port of entry. Quezon City, NE of Manila, is the official capital.

Manila South Harbor

Harbor Center Port Terminal (HCPT)

Manila Port

Winds—Weather.—From August to December, during the Southwest Monsoon, frequent sudden squalls occur in the afternoon.

Tides—Currents.—Tidal currents in Manila Harbor are negligible. The ebb current from the Pasig River may flow with considerable velocity, especially during freshets.

Depths—Limitations.—A bank, with depths of less than 5m, extends 1.25 miles W of the mouth of the Pasig River. West of this bank the depths increase gradually to about 10m, about 2 miles offshore.

The channel between the quarantine anchorage and the entrance to South Harbor is dredged to 11m. The N and S edges of the channel are defined by the light on the head of West Breakwater and the light on the N head of South Breakwater, each in line with the Customs House. 0.4 miles E of the South Breakwall lies a wreck which can best be seen on the chart.

South Harbor is the part of Manila Harbor that has an area of about 145 acres encompassing five finger piers (numbered 3, 5, 9, 13, and 15 from N). They have a total berthing length of over 4331m, providing docking.

An additional 27 vessels can be accommodated at the anchorage. A barge point, capable of accommodating 30 barges or lighters, is also situated in the area a few meters across from Pier 3.

Greater depths alongside the South Harbor berths have been reported. Mariners are advised to consult the port authorities for confirmation.

Between the entrance to South Harbor and the piers, dredged depths of 10.5m have been reported. The obstructions in the approaches to the piers have all been reported to have been cleared.

An obstruction, with a swept depth of 7.6m, lies close to the N side of Pier 3. Another obstruction, with a swept depth of 7.9m, lies between Pier 9 and Pier 13, and a further obstruction, with a swept depth of 10.6m, lies close to the N side of Pier 15.

Manila North Harbor

The North Harbor is the part of Manila Harbor that is located N of the entrance to the Pasig River. There are 8 main piers, with a total pier length of 4,000m, used mainly by coastal cargo and passenger vessels.

Eight piers, numbered 2 to 16 (even numbers only), project from the coast in North Harbor.

The area around Pier 12, Pier 14, and Pier 16 is foul. All eight piers are used for domestic traffic only. The controlling depths at the other five piers range from 1.2 to 6.7m.

The International Port Basin facility is situated on the W side of North Harbor and has been designed and developed to handle container traffic, breakbulk, and Ro-Ro vessels.

It is protected on its SE side by a breakwater extending 0.6 mile WNW from the NW corner of the reclaimed area S of Marginal Wharf, and on its NW side by a detached breakwater 0.5 mile in length. The entrance between the breakwater heads is 0.2 mile wide, and is marked on each side by a lighted beacon.

Port of Manila—Berthing Information

Name	Length	Depth	Remarks
Harbor Center Port Terminal (HCPT)			
North No. 1	95m	10.5m	Cargo handled- Multipurpose; Status- Closed.
North No. 2	222m	10.5m	Cargo handled- Multipurpose; Status- Closed.
North No. 3	—	10.5m	Cargo handled- Multipurpose; Status- Closed.
North No. 4	—	11.5m	Grain, Project/Heavy, Steel Products. LOA: 180m
North No. 5	—	11.5m	Project/Heavy, Steel Products, Breakbulk. LOA: 180m
North No. 6	—	11.5m	Grain, Sugar, Steel Products, Breakbulk. LOA: 180m
North No. 7	—	11.5m	Project/Heavy, Steel Products, Breakbulk. LOA: 180m
North No. 8	—	10.5m	Project/Heavy, Steel Products, Breakbulk. LOA: 180m
South	250m	8.7m	Cement, Breakbulk. Max Size-25,000DWT.
Manila International Container Terminal (MICT)			
No. 1	250m	13.0m	Container, Reefer. Max Draught:10.8m LOA:200m
No. 2	250m	13.0m	Container, Reefer. Max Draught:11m LOA:200m
No. 3	250m	13.0m	Container, Reefer. Max Draught:11m LOA:200m
No. 4	250m	13.0m	Container, Reefer. Max Draught:11.3m LOA:200m
No. 5	250m	13.0m	Container, Reefer. Max Draught:10m LOA:200m
No. 6	450m	13.5m	Container, Reefer. Max Draught:12m 85,000DWT.
North Harbor			
Pier 2 N	420m	6.0m	Fast ferry, Ro-Ro/Lo-Lo, Container. General cargo.
Pier 4 N	270m	10.0m	Cruise, Fast ferry, Container. General cargo.
Pier 4 S	270m	—	Cruise, Ro-Rax, Container, Breakbulk. General cargo.
Pier 4 Head	95m	—	Container, Transhipment, Breakbulk, General cargo.
Pier 6 N	210m	—	Grain, Container, Breakbulk, General cargo.
Pier 6 S	210m	—	Ro-Rax, General cargo.
Pier 6 Head	80m	—	Grain, Container, Breakbulk, General cargo.
Pier 8 N	220m	—	Container, Transhipment, General cargo.
Pier 8 S	220m	—	Container, Transhipment, General cargo.

Port of Manila—Berthing Information			
Name	**Length**	**Depth**	**Remarks**
Pier 8 Head	80m	—	Container, Transhipment, General cargo.
Pier 10 N	220m	—	Container, Transhipment, General cargo.
Pier 10 S	220m	—	Container, Transhipment, Breakbulk, General cargo.
Pier 10 Head	80m	—	Ro-Ro/Lo-Lo, Containers, General cargo.
Pier 12 N	220m	—	Ro-Rax, Container, Transhipment, General cargo.
Pier 12 S	220m	—	Ro-Rax, Container, Transhipment, General cargo.
Pier 12 Head	80m	—	Ro-Rax, Container, Transhipment, General cargo.
Pier 14 N	180m	—	Container, Transhipment, General cargo.
Pier 14 S	—	—	Container, Transhipment, General cargo.
Pier 14 Head	—	—	Container, Transhipment, General cargo.
Pier 16	665m	10.0m	Ro-Rax, Container, Breakbulk, General cargo.
Pier 18 W	315m	—	Coal, Ro-Rax, General cargo.
Pier 18 NE	330m	—	Ro-Rax, Container, Breakbulk, General cargo.
South Harbor International Container Terminal Pier 3			
No. 1	183m	1.0m	Container, Transhipment, Reefer.
No. 2	165m	8.8m	Container, Transhipment, Reefer.
No. 3	163m	12.0m	Container, Transhipment, Reefer. Berth length- 375m.
No. 4	163m	12.0m	Container, Transhipment, Reefer. Berth length- 375m.
South Harbor International Container Terminal Pier 5			
No. 1	163m	7.6m	Container, Transhipment, Reefer. Berth length- 365m.
No. 2	183m	9.5m	Container, Transhipment, Reefer. Berth length- 365m.
No. 3	127m	9.5m	Container, Transhipment, Reefer. Berth length- 255m.
No. 4	127m	11.3m	Container, Transhipment, Reefer. Berth length- 255m.
No. 5	51m	11.4m	Container, Transhipment, Reefer.
No. 6	192m	12.0m	Container, Transhipment, Reefer. Berth length- 615m.
No. 7	192m	12.0m	Container, Transhipment, Reefer. Berth length- 615m.
No. 8	192m	12.0m	Container, Transhipment, Reefer. Berth length- 615m.
South Harbor Pier 9			
No. 1	167m	10.0m	Container, Transhipment, Berth length- 360m.
No. 2	167m	10.0m	Container, Transhipment, Berth length- 360m.
No. 3	103m	10.0m	Container, Transhipment,
No. 4	167m	10.0m	Container, Transhipment, Berth length- 360m.
No. 5	167m	10.0m	Container, Transhipment, Berth length- 360m.
South Harbor Pier 13			
No. 1	127m	9.6m	Ro-Ro/Lo-Lo, Coastal. Max Size-Beam: 25.0m.
No. 2	127m	10.0m	Ro-Ro/Lo-Lo, Coastal.
No. 3	127m	6.7m	Ro-Ro/Lo-Lo, Coastal.
No. 4	82m	8.0m	Ro-Ro/Lo-Lo, Coastal.
No. 5	127m	10.9m	Ro-Ro/Lo-Lo, Coastal.

Port of Manila—Berthing Information			
Name	**Length**	**Depth**	**Remarks**
No. 6	127m	10.0m	Ro-Ro/Lo-Lo, Coastal.
No. 7	127m	7.9m	Ro-Ro/Lo-Lo, Coastal.
South Harbor Pier 15			
No. 1	163m	11.5m	Ro/Pax, PCC, Naval. General/bulk cargo.
No. 2	163m	11.9m	Cruise, Ro-Ro/Lo-Lo, Naval. General/bulk cargo.
No. 3	103m	8.8m	Ro/Pax, Ro-Ro/Lo-Lo, Naval. General cargo.
No. 4	178m	10.1m	Ro/Pax, Ro-Ro/Lo-Lo, Naval. General cargo.
No. 5	148m	8.5m	Cruise, Ro-Ro/Lo-Lo, Naval. General/bulk cargo.

The basin provides four berths, each 250m long, at Marginal Wharf for container vessels, with full facilities including three 35-ton container cranes, and depths of 12.5 to 13m alongside.

Berth No. 5 has an alongside depth of 14.5m, is 300m long, and is deeper than any of the existing berths. A tanker terminal available at the Port Basin has only one berth, with a length of 213.4m.

Night berthing is possible.

Aspect.—South Harbor is formed by West Breakwater and South Breakwater. West Breakwater extends about 1.25 miles SSW from the W side of **Engineer Island** (14°36'N., 120°58'E.), a small artificial island lying on the S side of the entrance to the Pasig River.

South Breakwater lies with its NW extremity about 0.125 mile SE of the S extremity of West Breakwater and extends about 0.5 mile in a SE direction.

The S entrance to South Harbor is about 1 mile wide between the SE extremity of South Breakwater and the N end of the W breakwater enclosing the Yacht Basin.

Numerous obstructions lie between the S entrance to South Harbor and the piers. The greater part of the bottom of South Harbor is foul.

Lights are shown from each end of South Breakwater, but are reported difficult to identify against the lights of Manila.

It has been reported that both N and S breakwater of South Harbor make good radar targets.

The **Pasig River** (14°36'N., 120°57'E.), which connects Manila with Laguna de Bay, a large fresh water lake lying SE of Manila, is entered N of a breakwater which curves about 1 mile SW from Engineer Island.

Marginal Wharf is the N face of a broad strip of reclaimed land extending 1 mile W from the N entrance point of the Pasig River.

Numerous wrecks and obstructions lie in the seaward approaches to the Pasig River.

Pasig River Light is shown from reclaimed land on the N bank of the river entrance, 0.1 mile NNW of Engineer Island.

North Harbor, located N of the entrance to the Pasig River, is protected from the W by North Breakwater. This breakwater, which is submerged at its outer end, extends about 1 mile NNW from the root of **Marginal Wharf** (14°36'N., 120°57'E.). A buoy is moored 0.35 mile NW of the NW extremity of North Breakwater. A light is shown from the head of North Breakwater.

A prominent tower, with a large white clock, stands on the Customs House, located about 1.1 miles NE of the head of West Breakwater.

The dome of Manila Cathedral, located about 0.45 mile NE of the Customs House is prominent.

A conspicuous tank, 28m high, and two radio towers, are situated 3.5 miles N of the Customs House.

Pasig River Light, the first lighthouse erected in the Philippines, was opened in at the mouth of Pasig River. It was rebuilt in 1992. A white conical 14.02m concrete tower. The Philippine Coast Guard Manila Station is located within the compound, which is known locally as Parola.

Pilotage.—Pilotage is compulsory for all merchant vessels anchoring or securing to a mooring buoy within the breakwaters, or when proceeding to and from the piers in the harbor or in the Pasig River.

All vessels should await the representative of the Immigration Authority in the quarantine anchorage. The pilot boards at the completion of the inspection, if vessels are proceeding to one of the 26 anchorages inside the breakwater or to one of the piers.

Agents or owners of vessels calling at the port of Manila shall inform the pilot of their vessel's arrival. Agents can contact the Pilots Association 24 hours on VHF channel 16, including Sundays and holidays. Pilots are available 24 hours.

Pilots board, as follows:

1. For South Harbor—In position 14°33'15.0"N, 120°56'00.0"E.
2. For Harbor Center—In position 14°36'12.6"N, 120°53'10.8"E.
3. Manila International Container Terminal—In position 14°36'15.0"N, 120°53'49.2"E.
4. North Harbor—In the vicinity of Entrance Lighted Buoy.

Regulations.—Traffic Separation Schemes (TSS), best seen on the chart, are established in the entrances to Manila. The schemes are not IMO adopted, but the Philippine authorities advise that the principles for their use, as defined in Rule 10 of the International Regulations for Preventing Collisions at Sea (1972), apply.

The Vessel Traffic Management System for Manila Bay and all ports therein is compulsory. Its use is also mandated for all shipping within 20 miles of Corregidor Island. For further information, see paragraph 1.75.

Signals.—A vessel should display its official number or letters when approaching the quarantine anchorage in daylight. A

Port of Manila—Pasig River entrance from Manila Bay including North Harbor, MICT and South Harbor

vessel arriving at night must display its call letters at daylight in addition to the "Q" flag. If the vessel is carrying mail, the "Y" flag should be displayed until delivery is effected.

Contact Information.—The port can be contacted, as follows:

Manila—Contact Information	
Pilotage—Control Center	
Call Sign	VTMS Manila
VHF	VHF channels 16 and 19
Telephone	63-47-244-6461
South Harbor Pilots	
VHF	VHF channels 16 and 13
Manila Bay Harbor Pilot Partnership Inc.	
Telephone	6325-237-411
	63-47-244-6461
Manila International Container Terminal (MICT) Pilots	
VHF	VHF channels 16 and 80A
Telephone	6322-454-101
Facsimile	6322-452-245
Web site	http://www.mictweb.com
E-mail	operations@ictsi.com
Harbor Center Pilots	
VHF	VHF channels 16 and 12
Hours	72 hours and 24 hours prior to arrival via VHS
Contact Details	
VHF	VHF channels 16 and 19

Manila—Contact Information	
Telephone	6325-278-356
	6325-278-375
Facsimile	6325-274-855
Web site	http://www.ppa.com.ph

Anchorage.—Manila Bay, with an area of 770 square miles, provides sheltered anchorage for an unlimited number of vessels of all classes, in depths of 15 to 40m, good holding ground.

Loading or discharging of cargo in the anchorages outside the breakwater of Manila Harbor is impracticable during strong S winds.

Within an area enclosed by the breakwaters, there are numerous anchorage berths (Anchorage A), with depths of 5 to 11.5m. There are also a number of mooring buoys available. Berths are assigned by the harbor master and permission must be obtained before anchoring or mooring.

A quarantine anchorage, mainly for the use of vessels entering South Harbor, is situated 2 miles SW of South Breakwater.

Several obstructions lie close W of the W limit of this anchorage. Pilots will board at this anchorage.

Naval anchorages (Anchorage B) are located about 1 mile WSW of the S end of South Breakwater.

Fuel anchorages (Anchorage C) lie about 0.7 mile WNW of West Breakwater Head.

An explosive anchorage, with a radius of 0.5 mile, is situated about 3 miles WNW of West Breakwater head. Anchorage, due to the existence of submarine cables extending WSW from the Manila Yacht Basin South Breakwater, and from the shore about 1.25 miles S, is prohibited. The prohibited area broadens WSW to its W limit, which lies on the meridian of San Nicolas Light.

Anchorage is prohibited in an area S and SE of Corregidor Island and Caballo Island.

Vessels entering or leaving the port of Manila are prohibited from remaining or anchoring at any place between the entrances to Manila Bay and the anchorages in Manila Harbor.

Directions.—Vessels entering Manila Bay from S, upon arriving off Limbones Island, shall not bring **Caballo Island Summit** (14°22'N., 120°37'E.) to bear more than 056°, and in passing through South Channel shall keep the bearing of the summit less than 056°. The coast and all islands should not be approached within a distance of 1 mile. The same directions shall be followed by vessels leaving Manila Bay via South Channel.

Vessels entering Manila Bay from N via South Channel, upon arrival off **Hornos Point** (14°25'N., 120°28'E.), shall not bring El Fraile Island to bear more than 116°, until Caballo Island summit bears 056°, then the directions for South Channel should be followed.

Vessels entering through North Channel shall pass between La Monja Island and Guardia Shoal, and proceed through the middle of the channel between Corregidor Island and the mainland to the N. The same directions shall be followed by vessels leaving Manila Bay via this channel.

Caution.—There are a number of sunken wrecks and other obstructions which lie in the immediate approaches to and within the harbor of Manila. It is best that vessels consult local authorities on depths in the harbor.

Several vessels have touched the bottom in recent years at the anchorage and in the approaches to the various piers.

Luzon—West Coast

1.87 Campanario Island (14°12'N., 120°35'E.), which is about 2 miles SSW of Limit Point, is small, 34m high, and lies close offshore. Another island, Cutad (Kutad), 29m high, lies about 0.5 mile S of Campanario Island, about 0.2 mile offshore.

Hamilo Point (14°10'N., 120°34'E.), 110m high, lies about 1 mile SSW of Cutad Island. Hamilo Cove is entered between Cutad Island and Hamilo Point.

A detached shoal, with a depth of 10.1m, lies about 0.4 mile N of Hamilo Point. A narrow spit, with some prominent pinnacle rocks at its outer end, extends about 0.2 mile N from a position on the S shore of the cove about 0.75 mile ENE of the W extremity of Hamilo Point.

A small basin lies about 1 mile E of the entrance to the cove. The basin is 0.5 mile wide at the entrance and 0.75 mile in extent. The shores of the basin are fringed with reefs. The head of the basin is shoal and fringed with mangroves. The central portion of the basin is deep and free of dangers.

Vessels, with local knowledge, can take anchorage in the N part of the basin, in a depth of 10.9, mud.

Looc Cove (14°09'N., 120°35'E.) is the middle of three bays lying between Hamilo Point and Fuego Point. It indents the coast to a distance of about 1.5 miles in an E direction. It is about 0.75 mile wide. The shores of the cove are fairly steep-to, except at its head, where there is a sandy beach backed by trees. Depths of 9 to 16m are found about 0.4 to 0.3 mile from its head.

Two small islets, each about 27m high, lie off the entrance to Looc Cove, about 1.25 miles S of Hamilo Point. Foul ground lies between these islands and the point forming the S side of the entrance to Looc Cove.

1.88 Fuego Point (14°08'N., 120°34'E.) is high and rocky. Two small islets, the outer of which is 28m high, lie close N of the point. A depth of 5.5m lies about 0.1 mile W of this outer islet.

Two small islets, covered with grass and about 27m high, lie about 1.25 miles SSE of Fuego Point. A reef, with a least depth of 0.6m, connects the two islets, and some rocks, awash, lie about 0.25 mile NE of the larger islet. A shoal, with a depth of 8.2m, lies about 0.2 mile S of the S islet.

Fortune Island (14°04'N., 120°29'E.), marked by a light on its summit, is small and narrow, but rises to 113m. The island is reported to give a good radar return up to 19 miles.

A small white sandy beach lies on the SE side of the island and a stranded wreck lies off this end of the island.

Simo Banks (14°05'N., 120°21'E.) are located from 5 miles NW to 12.5 miles W of Fortune Island. The W bank has a least depth of 11m. A small bank, with a least depth of 12.2m, lies about 8.75 miles WNW of Fortune Island.

The two E banks, lying 4 miles NW and 5.5 miles WNW of Fortune Island, have a depth of 27m.

Nasugbu Bay (14°04'N., 120°36'E.) is entered between Fuego Point and San Diego Point, 6.75 miles further SSE.

The coast between Fuego Point and Nasugbu Point, which is 3.75 miles S of Fuego Point, is high and wooded.

The remaining coast of the bay, between Nasugbu Point and San Diego Point, is low, sandy, wooded, and steep-to.

Submarine cables run W off Nasugbu Point.

The Wawa River and the Lian River, each of which has a bar with depths of less than 0.6m, flow into the bay close E of Nasugbu Point and 1.75 miles NNE of San Diego Point.

Twin prominent white chimneys stand 2 miles ESE of the entrance to the Lian River.

Pillar Rock, 8m high, is a prominent pinnacle rock, lying about 0.1 mile W of Nasugbu Point. A rocky shoal, with a least depth of 0.5m, coral, and marked by a buoy, lies 0.4 mile SSW of Pillar Rock. A rock, awash, stands about 0.3 mile NNW of Pillar Rock.

1.89 Nasugbu (14°05'N., 120°37'E.) (World Port Index No. 58350) is a small town standing about 0.25 mile inland between the mouths of the Wawa and Lian rivers. It is important as a sugar-loading port.

Anchorage.—Vessels can take anchorage during the Northeast Monsoon, in 11 to 13m, about 0.5 mile offshore and S of the 0.5m shoal lying 0.4 mile SSW of Pillar Rock.

Small vessels with local knowledge can anchor between the reef and Nasugbu Point.

Vessels calling to load sugar sometimes anchor about 1.5 miles S of Nasugbu Point, in a depth of 9.1m. These anchorages are not considered safe during the Southwest Monsoon.

Talin Bay (13°59'N., 120°37'E.) is entered between San Diego Point and Talin Point, about 3.25 miles SSW. The bay indents the coast about 1.5 miles in a SE direction.

Talin Bay is open to the NW and is for the most part foul. The shores consist of alternate rocky cliffs and sandy beaches.

Talin Point (13°59'N., 120°36'E.) is about 85m high, and rocky. The point is the N termination of a small peninsula which extends about 1.25 miles NNW from the coast. Some sparsely-wooded pyramidal hills rise to a height of 85m, about 0.75 mile SSE of the point.

Talin Point is fringed by a reef about 0.1 mile wide. A narrow shoal, with depths of less than 6m, extends about 0.5 mile NNW from the point.

Cape Santiago Light

Mount San Pedrino (13°55'N., 120°41'E.), 360m high, is located about 5.75 miles SE of Talin Point.

Caution.—It has been reported that from the NW, Talin Point gives the appearance of being an island, both visually and on radar.

1.90 Calatagan Point (13°49'N., 120°37'E.) is located about 10 miles S of Talin Point. The coast between is fringed by a drying reef, which extends in places as far as 1.5 miles offshore. There are numerous shoals lying up to 2.5 miles offshore along this stretch of coast which is low, sandy, and covered with mangroves.

A lighted beacon stands on the edge of the shore reef about 2.25 miles NNW of Calatagan Point.

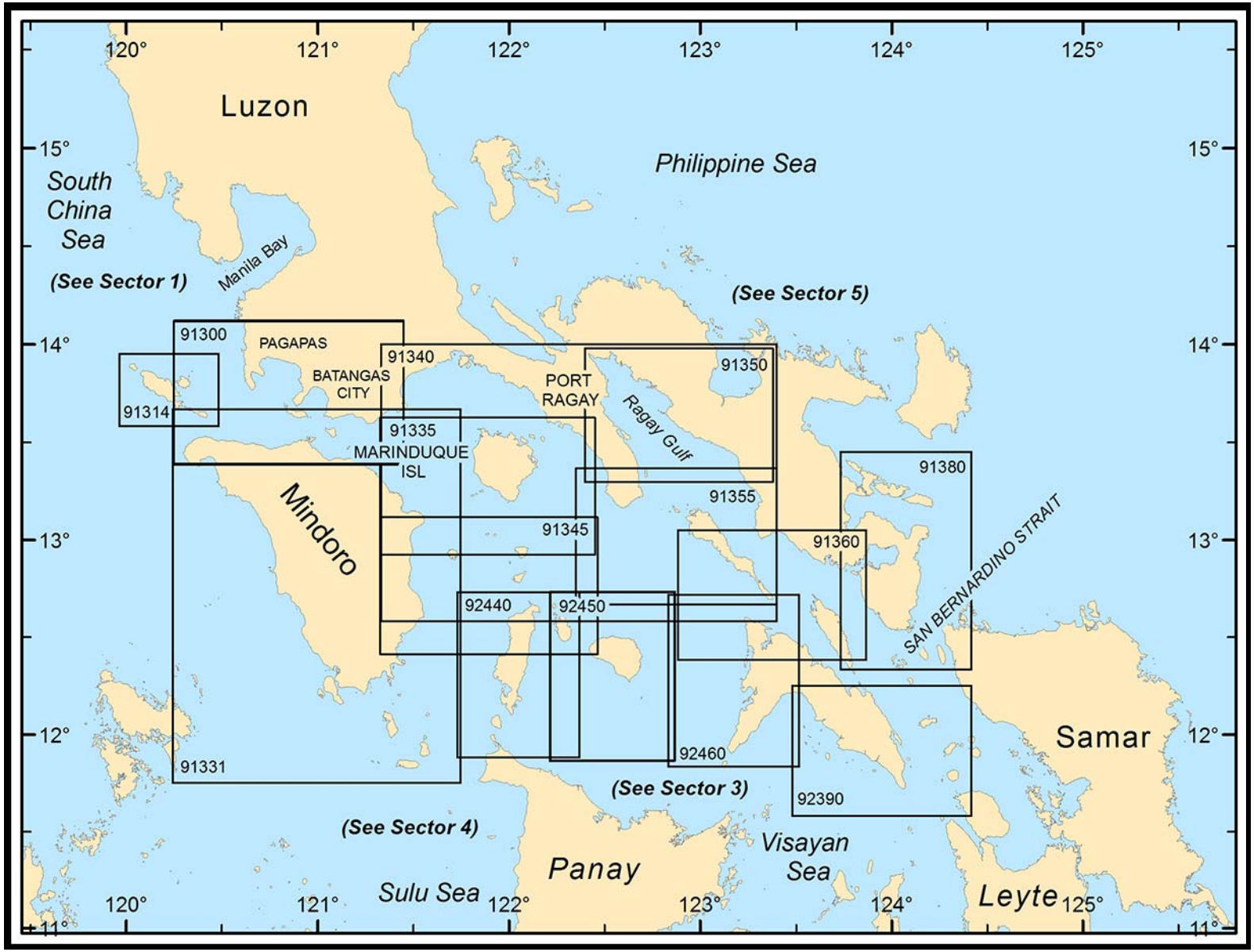
A strong NE set has been reported about 5.5 miles WNW of Calatagan Point.

Calatagan Inlet (13°49'N., 120°38'E.) is entered close N of Calatagan Point. It is about 0.1 mile wide between the drying reefs extending from the shore. Depths of 7m are found in the entrance and 2m near its head.

Cape Santiago (13°46'N., 120°39'E.), the SW extremity of Luzon, is 3.25 miles SE of Clalatagan Point and is reported to give a good radar return up to 15 miles. A light marks a low rocky promontory about 0.5 mile WNW of the S extremity of the cape. A conspicuous windmill stands about 0.4 mile ESE of the lighthouse.

Cape Santiago is 91 to 116m high, wooded, and fringed by a drying reef extending 0.1 mile offshore. There are depths of 7 to 9m at the edge of the reef, increasing steeply to more than 91m about 0.5 mile offshore.

Caution.—Heavy offshore squalls occur in the channel between the SW coast of Luzon and the **Lubang Islands** (13°47'N., 120°10'E.), primarily during the night and early morning.



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

SECTOR **2** — CHART INFORMATION

SECTOR 2

LUZON—SOUTH COAST

Plan.—This sector describes the coasts, islands, and dangers along the recommended route from Verde Island Passage through San Bernardino Strait.

This description includes the Lubang Islands, the N and NE coasts of Mindoro, the S coast of Luzon, Marinduque, Burias Island, Ticao Island, the NE side of Masbate, and the N coast of Samar. The arrangement is from W to E.

General Remarks

2.1 Winds—Weather.—The climate of Batangas is subtropical. The directions of the prevailing winds are NE from October through April, SE in May, and W changing to SW from April through September. The average wind velocity is about 3 knots.

Batangas Bay is affected by about 16 per cent of the typhoons passing over the Philippine Islands. The typhoon season is usually from August to December, although occasional strong typhoons pass over this area in May and June.

In general, the winds in Ragay Gulf follow the monsoons, and the monsoons draw strongly up and down the gulf. The land breezes are often very squally in Ragay Gulf.

The wind off Marinduque follows the monsoons generally, and the Northeast Monsoon blows strongly down toward the N coast of Marinduque. The land breezes are often squally in the vicinity of Marinduque.

The N coast of Samar is exposed to the full force of the Northeast Monsoon which often blows at gale force, accompanied by torrential rain and a very heavy swell.

The channel between the Lubang Islands and the SW coast of Luzon is the subject at times to heavy offshore squalls between 0400 and 1000.

Rough seas are encountered in Calavite Passage during the Northeast Monsoon, which, although interrupted to the NE by the high land of Luzon, strikes the heights of N Mindoro and blows hard through the pass and off Cape Calavite. Strong winds also draw through Calavite Passage during the Southwest Monsoon.

Fog and rain, although encountered at all seasons of the year, are particularly prevalent during July, August, and September.

Tides—Currents.—The Verde Island tidal current passes S along the W coast of Luzon and deflects some of its water into Manila Bay. It continues along the coast as far as Punas Point and then divides into two branches.

One branch sets NE around Tayabas Bay and N and E of Marinduque and through Mompog Pass. It then reunites with the other branch.

This branch passes SE along the Mindoro coast as far as **Dumali Point** (13°07'N., 121°33'E.), then continues E and S of Marinduque as far as the Bondoc Peninsula.

It then meets the flood current from the Pacific entering through San Bernardino Strait. It has been observed that upon arrival off Bondoc Point with a fair current a reverse current has been experienced in passing its meridian.

The N part of the Verde Island current, which follows round Balayan and Batangas Bays, reunites with the main current in the vicinity of Verde Island.

It produces violent rips and eddies in that part of the channel between Malabrigo Point and Escarco Point.

Strong tidal currents, rips and whirlpools are found in San Bernardino Strait and in its approaches. The tidal currents attain a rate of 4 to 8 knots in the narrow part of the strait between Calintaan Island and Capul Island and cause strong eddies and whirlpools.

The tidal currents in the wider part of the strait spread out and lose some of their force. The tidal currents in Biri Channel, Ticlin Strait, and in the passes connecting San Bernardino Strait with Samar to the SE, namely Naranjo Pass and Dalupiri Pass, are described with the particular pass.

2.2 Verde Island Passage (13°35'N., 121°00'E.), described beginning in paragraph 2.10 (N side) and paragraph 2.22 (S side), lies between the SW side of Luzon and the N side of Mindoro. The passage connects the South China Sea with the deep channels off the S side of Luzon. The passage is divided by Verde Island. These navigable passages are known as North Pass and South Pass.

The channels between Verde Island Passage and the strait of San Bernardino are for the most part deep and clear of dangers in the fairway. The islands in the vicinity are mostly high, rugged, and steep-to.

There is insufficient information pertaining to the set of the current through Verde Island Passage. The currents are variable and often indefinite and depend to a great extent on the variation of the wind.

The current is generally W from November to May; E from July to October.

A Traffic Separation Scheme, best seen on the chart, has been established in Verde Island Passage; this TSS is not IMO-approved. Rule 10 of the International Regulations for Preventing Collisions at Sea apply.

San Bernardino Strait (12°35'N., 124°12'E.), described beginning in paragraph 2.111 lies between the SE extremity of Luzon and the NW part of Samar. The strait is wide, deep, and free from dangers in the fairway. It connects the Pacific Ocean with the deep channels leading to Manila, via Verde Island Passage, and to Cebu.

The usual route taken by vessels bound from Manila or W Luzon ports to San Bernardino Strait is through Verde Island Passage, then S of the Tres Reyes Islands, SW of Marinduque, then between Burias Island to the N and Masbate Island and Ticao Island to the S.

The route continues round the SE end of Luzon, and between it and the NW extremity of Samar.

The Lubang Islands

2.3 A group of eight islands lies off the NW end of Mind-

Verde Island Passage

oro and the SW end of Luzon.

Cabra Island (13°53'N., 120°02'E.) is marked by a light on its W extremity. The light is reported to give a good radar return up to 21 miles.

The W island of the Lubang Island group is flat-topped, wooded, steep-to on the SE side and about 61m high. The N and NE sides are reef fringed, extending out for a distance of 91m.

A stranded wreck, conspicuous on radar, lies 1 mile SE of the light.

Lubang Island (13°48'N., 120°10'E.), the largest and most important of the group, attains an elevation of 600m near the middle, but is low at each extremity. When the island is approached from S, the NW extremity of the high land just mentioned may be mistaken for the end of the island.

A vessel has reported that when approaching Lubang Island from the SW, there are a number of bright lights from a small town near the NW end of the high side of the island. Lights were visible at a distance of 45 miles.

Lubang Island was reported to give a radar return in excess of 40 miles.

The channel between Cabra Isla and Lubang Island is 1.5 miles wide; it is deep and clear of dangers. The flood current sets N and the ebb current S in the channel.

Two conspicuous domes are located on a mountain in approximate position 13°47.3'N, 120°08.7'E.

Cabra Island Light

The coasts of Lubang Island are fringed by a reef which extends up to 0.5 mile offshore in some places. The SW side of the island is rocky, and indented by Tagbac Cove, Gontin Bay, and Tabafin Bay, serving some protection from the Northeast Monsoon as opposed to the several bays on the NE and E side of Lubang Island which are difficult to enter due to the many reefs and shoals.

Lubang (13°52'N., 120°07'E.), the principal town, is situated on the N side of the island. It stands on the edge of a fertile plain.

A shoal, with depths less than 6m, extends about 0.5 mile offshore abreast the town.

Landing is difficult in front of the town because of the coral reef that fringes the coast. The reef breaks close W of the town, allowing small boats to pass in good weather at certain stages of the tide. Vessels proceeding to Lubang should steer for the town, bearing about 166°, until the SW point of Ambil Island is in range with the first point E of Port Tilic, bearing 122°, at which time the vessel should heave-to, about 1.5 miles offshore.

2.4 **Afuera Shoal** (13°52'N., 120°11'E.), with depths of 2.1 to 18.3m, lies in a position about 3.75 miles E of Lubang.

A detached coral patch, with a least depth of 6.7m, lies about 2.75 miles ESE of Lubang.

Port Tilic (13°49'N., 120°12'E.) is entered about 5 miles SE of Lubang, sheltered from all winds, and is completely protected from the sea. The holding ground within Port Tilic is good, but the small anchorage area is restricted to small vessels with local knowledge.

A light marks the W side of the entrance to the port.

The narrow entrance, between the reefs on either side, is open to the NNW and has depths of 18 to 26m.

A drying reef divides the head of the port into two small, but good anchorages. The W shore of the port can be approached until the anchorage off the W entrance point is reached, where there are depths of 6 to 9m, mud and sand. A stranded wreck lies on the E side of the anchorage and can best be seen on the chart.

2.5 **Tilic** (13°49'N., 120°12'E.), a small settlement on the W side of the port, is of some importance since most of the trade between Lubang Island and the mainland passes through the town.

Tagbanan Point (13°48'N., 120°15'E.) is located about 3 miles SE of the E entrance point to Port Tilic. Balakias Bay (Baliquias Bay) is entered immediately N of Tagbanan Point.

Tumbaga Point (13°44'N., 120°17'E.) lies about 4 miles SSE of Tagbanan Point. A bank, with depths of less than 11m, extends 0.8 mile NE from Tumbaga Point.

Another spit, with a depth of 8.2m over its outer end, extends 0.3 mile SE from the same point.

Looc Bay (13°43'N., 120°16'E.) is entered between Tumbaga Point and Pauican Point, about 1.5 miles S. The head of the bay is encumbered with reefs and shoals, which prevent direct access to the shores. Looc, a small village, stands on the W shore of the bay.

Vessels with local knowledge will find anchorage just inside the entrance to the bay, in depths of 18 to 37m, good holding ground. Small vessels in the inner anchorage, near the head of the bay, are protected from the seas in E winds by the reefs in the middle of the bay.

Shoal banks extend 0.6 mile N and 0.45 mile NE from Pauican Point.

Talinas Island (13°42'N., 120°18'E.) lies on foul ground which extends 0.35 mile E from the point.

A shoal, with a depth of 6.4m, lies 4 miles E of Pauican Point. Two 12.8m patches lie 2 miles ENE and ESE, respectively, of the same point.

2.6 **Manog Point** (13°40'N., 120°16'E.) is the S extremity of Lubang Island.

Tabajin Bay (13°42'N., 120°14'E.), open to the W and SW, is entered between **Yapusan Point** (13°43'N., 120°13'E.) and a point about 2.5 miles ESE. The latter point, which is fronted by a reef as far as 0.5 mile W, is located about 2 miles NNW of Manog Point.

There is anchorage for small vessels, sheltered from the Northeast Monsoon, about 0.25 mile offshore in the N part of Tabajin Bay, in a depth of 18m.

Detached shoals, with depths of 8.2m and 12.4m, lie in the NW part of the bay, about 0.5 mile offshore and about 1 mile SE of Yapusan Point. Landings can be made on a sandy beach at the head of the bay.

Gontin Bay (13°44'N., 120°12'E.), an open roadstead, is entered between Yapusan Point and **Gontin Point** (13°44'N., 120°10'E.), about 2.75 miles NW. The bay is open to all but N and E winds and provides only fair weather anchorage, in 18.3m or less, about 0.25 mile from the shore.

A detached shoal, with a depth of 10.9m, lies 0.75 mile SE of Gontin Point.

Tagbac Cove (13°50'N., 120°05'E.), open to the SW, is located about 1.25 miles SE of **Palapag Point** (13°51'N., 120°05'E.), the W extremity of the island. Vessels with local knowledge can take anchorage, sheltered from the Northeast Monsoon, on the SW side of the cove in a break in the coastal reef, in a depth of 28m.

Nosoque Point (13°45'N., 120°09'E.) is located 1.25 miles WNW of Gontin Point. Pinagdagatan Point lies 1.75 miles further WNW.

The land in the vicinity is low and there are no prominent landmarks. The reefs show plainly and no difficulty should be experienced in finding a convenient anchorage.

The village of Tagbac is located on the N side of the cove.

Sala Point (13°52'N., 120°05'E.), the N extremity of the island, lies 1.25 miles NE of Palapag Point.

2.7 **Ambil Island** (13°48'N., 120°18'E.), separated from Tagbanan Point, on the NE side of Lubang Island, by Ambil Pass, about 1 mile wide, is about 755m high and conical in shape.

The shores are irregular and several open bays lie between the projecting points. The NE side of the island is high and rocky. An open bay, with depths of 18 to 22m, shoaling to 9.1m near the fringing reef, lies on the coast.

The W side of the island has a narrow peninsula extending about 1 mile W, with an open bay lying on each side of it. The bay on the N side is fronted by shoals and has irregular depths.

The bay on the S side is restricted by reefs which extend about 0.3 mile offshore.

A shoal, with a depth of 4.5m, lies in mid-channel between

the reefs, thereby limiting the space available for anchorage.

The shores of the remainder of the island are steep-to and are generally inaccessible.

Anchorage can be taken near the head of the bay on the NE side of the island, about 0.5 mile offshore, in a depth of 14.6m.

Ambil Pass (13°47'N., 120°16'E.), the channel between the E side of Lubang Island and the W side of Ambil Island, is about 1 mile wide. There is a least depth of 7.3m in the fairway. The fringing reefs on either side contract the channel to a width of about 0.65 mile.

A shoal, with a least depth of 13.6m, lies in the S entrance of the channel in a position about 1.5 miles WSW of **Antucao Point** (13°47'N., 120°19'E.).

In the passage, the flood current sets S and the ebb N.

Antucao Point (13°47'N., 120°19'E.) is the S extremity of Ambil Island. A shoal, with depths of 8.8 to 14.8m lies 1.5 to 2 miles E of the point.

Colasi Point (13°47'N., 120°20'E.) lies about 1.5 miles ENE of Antucao Point. Detached shoals, coral, with charted depths of 14.6m, are located about 0.75 mile SE of the point.

Tambo Point (13°48'N., 120°20'E.) lies about 1.25 miles N of Colasi Point. Detached shoals, with depths of 13 to 18m, lie about 0.75 mile ENE of the point.

2.8 Mandaui Island (13°50'N., 120°20'E.), 84m high, lies about 0.75 mile NNE of Mahaba Point, the NE extremity of Ambil Island.

The NE side of the island is steep-to. A reef extends about 183m S from SW side of the island, with depths of less than 6m extending about 0.15 mile farther SW.

The channel between Mandaui Island and Ambil Island is about 0.3 mile wide, with a least depth of 9m in the fairway.

Malavatuan Island (13°52'N., 120°21'E.), 76m high, covered with brushwood, lies about 1.5 miles NNE of Mandaui Island. The channel between the two islands is about 1.5 miles wide, with depths of 28 to 42m in the fairway.

A shoal, with a depth of 10.9m at its outer end, extends about 0.5 mile NW from the island. A shoal, with a depth of 11.5m, lies about 1 mile NW of Malavatuan Island.

Two shoals, each with a least depth of 12.8m, lie about 1.8 miles ENE and 3.75 miles NNE, respectively, of the island. A shoal, with a depth of 11.5m, lies about 0.25 mile NW of the S extremity of the island.

A shoal, about 4 miles long and with depths of 8.5 to 14.6m, lies about 2.5 miles NNW to 4.5 miles N of the N extremity of Ambil Island.

Detached shoals, with depths of 12.8 to 18.3m, extend from 1 mile NNE to 2.25 miles ENE of the N extremity of Ambil Island.

Ambil Shoal (13°50'N., 120°15'E.), with a least depth of 6.4m, coral, lies 1 miles N of the W extremity of Ambil Island.

Detached shoals, with depths of 6.7m, lie about 0.5 mile WNW and N, respectively, of the W extremity of the island.

An isolated patch, with a depth of 7.3m, lies 0.85 mile WNW of the W extremity of Ambil Island.

Caution.—Vessels drawing more than 5.5m should not attempt to pass between Ambil Shoal and the NW coast of Ambil Island.

2.9 Golo Pass (13°41'N., 120°18'E.), the channel between the SE extremity of Lubang Island and Salangan Point, the NW extremity of Golo Island, is 0.8 mile wide. A reef, with some rocks awash, lies in mid-channel and divides the pass into two separate channels.

These channels are only about 183m wide and their use is not recommended because of the strong currents and tide rips in their vicinity.

Golo Island (13°39'N., 120°23'E.) is 292m high and is separated from the SE extremity of Lubang Island by Golo Pass. The N and S sides of the island are fringed by a narrow reef and depths of less than 18m extend as far as 0.5 mile offshore.

The E end of the island is fronted by reefs and shoals as far as 0.5 mile. A shoal, with depths of less than 18m, extends 0.75 mile S from Tanawan Point, the SE extremity of the island.

Tanawan Point Light, a concrete tower, 11m high, stands on the point.

Talaotao village is situated 1 mile N of Tanawan Point.

Verde Island Passage—North Side (Luzon)

2.10 Vessel Traffic Management System.—The Vessel Traffic Management System (VTMS) area comprises those sectors in Batangas Bay and Balayan Bays and their approaches and Verde Islands Passage, that are within the range of the radar tracking system and visible to the radar monitor.The following procedures are in effect for the VTMS:

1. All vessels approaching Batangas Bay or Balayan Bay intending to call at Batangas shall report to the VTMS on VHF channel 16 and via AIS when 5 miles off the said bays. The report (which may be in Filipino or English) shall contain the following information:
   a. Vessel's name and call sign or IMO number.
   b. Position.
   c. Last port of call.
   d. Course and speed.
   e. Destination
   f. General description of dangerous cargo on board (if any).
   g. Type of vessel.
   h. Draft.
   i. Number of crew and passengers.
2. Vessels approaching the TSS off Batangas Bay, even if not bound for or departing from the port, shall report to the VTMS on VHF channel 16 when 3 miles from the entrance to the TSS. The report shall contain the following information:
   a. Vessel's name.
   b. Time.
   c. Position and speed.
3. Vessels shifting berth shall report to the VTMS before departure from the berth and after docking, mooring, or anchoring at the new berth. The report shall contain the following information:
   a. Vessel's name.
   b. Time berthed (last line cast or anchor up) from previous position/berth.
   c. Time berthed (first line made fast or anchored time) to new position/berth.
   d. Name of the harbor pilot onboard.
4. No vessel shall move to another berth without receiv-

ing authority from the VTMS

5. Vessel's departing from the port of Batangas or terminals within the port shall report to the VTMS, as follows:
   a. On departure: Vessel name, time, pilot.
   b. On leaving the pilot boarding position: Vessel name, time, location.
6. Vessel's navigating within Batangas Bay or Balayan Bay shall report to the VTMS, stating vessel's name and time, as follows:
   a. When departing the port.
   b. 30 mins after departure.
   c. Upon anchoring or mooring at the next port of call.
7. Vessels passing through the VTMS area on innocent passage without calling at any ports or entering Batangas Bay or Balayan Bay shall report to the VTMS, stating:
   a. Vessel's name and call sign.
   b. Destination.
8. Vessels shall report the following to the VTMS as soon as possible:
   a. Any emergency or unusual event such as a fire, collision, grounding, pollution, suspicion of piracy and other similar incidents. In these cases, the reports should state: Vessel name and call sign, position and person reporting.
   b. Any condition on the vessel that may impair navigation, reduce its capabilities, or affect the safety of other vessels due to defective propulsion, defective steering, inoperative navigation running lights, unusual handling, impaired maneuverability, inoperative whistle or horn, navigation equipment and other similar conditions.
   c. Any towing vessel when unable to control or can control with difficulty.
   d. Any other unusual condition which restricts or prohibits total compliance with the requirements of the VTMS.
   e. Poor visibility.
9. Vessels should maintain a continuous listening watch on VHF channel 16 when in the VTMS area.

All times should be given in local time.

The VTMS can be contacted, as follows:

1. Call sign: VTMS Batangas
2. VHF: VHF channel 16

2.11 Balayan Bay (13°50'N., 120°48'E.) is entered between Cape Santiago and Bagalangit Point, about 13 miles ESE. The bay indents the SW coast of Luzon about 11 miles in a N direction. Balayan Bay, which is very deep with a mud and sand bottom, is clear of dangers.

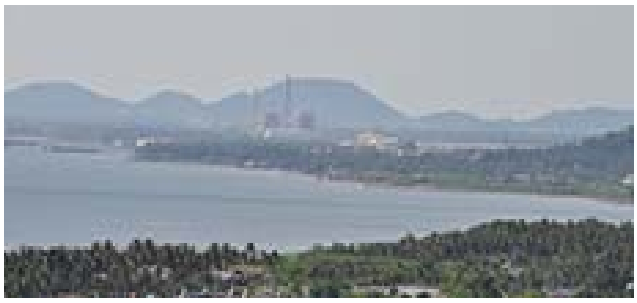
The shores are so steep-to that a vessel must approach very close to get within a depth of 22m.

The flood current sets N and the ebb S in Balayan Bay.

Caution.—A dangerous wreck was reported (2000) to lie 6.6 miles SSW of Cape Santiago Light.

2.12 Pagapas Bay (13°50'N., 120°40'E.) is entered between the NE face of Cape Santiago and San Pedrino Point, about 3.5 miles NE. The bay indents the SW side of Balayan Bay to a distance of about 3.5 miles in a NW direction. The Santiago River empties into the head of the bay.

The bay is very deep and its shores are fringed by a narrow reef. There are two small openings in the fringing reef at the head of the bay, each about 0.1 mile wide, where small vessels with local knowledge can obtain sheltered anchorage.



Balayan Bay—Power Plant Tower

Anchorage can be taken by vessels with local knowledge, in a depth of about 27m, SE of the reef off the mouth of the Santiago River. This anchorage is more or less restricted and becomes rough in NE winds.

San Pedrino Point (13°51'N., 120°43'E.), the N extremity of Pagapas Bay, is 224m high and is densely wooded. It is fringed by a reef which extends 91m from the shore.

2.13 Balayan (13°56'N., 120°44'E.), a small town at the mouth of a small river, stands on the N shore of Balayan Bay about 5 miles N of the E extremity of San Pedrino Point.

The diurnal range of the tide at Balayan is about 1.2m.

A coral reef extends about 0.25 mile offshore in front of the town, on the outer edge of which are several shoal spots that bare at low tide.

Carabao Rock, with a depth of 0.6m, and Balaong Rock, with a depth of 2.7m, lie respectively, 0.7 mile ESE and 0.6 mile SE of the prominent yellow church tower in the town. The 20m curve fronts the town at a distance of about 0.4 mile.

A light is shown in a position about 0.6 mile E of the church tower. The light has been reported obscured from seaward by trees and houses.

Vessels with local knowledge can take anchorage in a position about 0.3 mile offshore, with the light structure bearing 329° and the dome of the church bearing 295°, in depths of 15 to 18m.

Smaller vessels can take anchorage close to the reef in a position with the light structure bearing 329°, distant about 0.35 mile, in depths of 9 to 13m.

A harbor was under construction about 3 miles E of Balayan. When completed, this harbor will provide berthing facilities for vessels up to 50,000 dwt, supplying fuel to the nearby coal-fired power station.

2.14 Lemery (13°53'N., 120°55'E.) and Taal are towns located on the W and E banks, respectively, of the Pansipit River, which empties on the E shore of Balayan Bay about 10 miles N of Bagalangit Point. The church at Taal, standing on a hill behind the town, and the church at Lemery, with twin metal-domed towers, are prominent.

A light is shown from the beach at Lemery, in a position about 0.2 mile N of the N side of the river mouth.

The light is partly obscured by houses and is difficult to dis-

tinguish from seaward.

There are no dangers outside the 20m curve, which fronts the mouth of the river and Lemery at a distance of about 0.3 mile. The Pansipit River has a depth of 2.1m over its bar at HW.

Vessels can take anchorage about 0.4 mile W of the light, in 18.3 to 29m. Smaller vessels can anchor closer in, according to their draft, anywhere off the town of Lemery.

Bagalangit Point (13°43'N., 120°52'E.), the W extremity of the Calumpan Peninsula, is a rocky bluff, 135m high. The point is fringed by a narrow reef, which extends around the SW part of the peninsula nearly to Cazador Point, the S extremity of the Calumpan Peninsula.

2.15 Maricaban Island (13°39'N., 120°53'E.), lying about 1.5 miles S of Cazador Point, is separated from it by Maricaban Strait. Mount Casapao, 447m high and covered with tall grass, stands near the E end of the island. A prominent peak, 306m high, stands near the W end.

The coast of Maricaban Island is bordered by rocks, islets, and dangers.

Two rocky islets, Caban and Sombrero, lie off the NW end of the island.

Caban Island (13°41'N., 120°50'E.) is 87m high and covered with bushes. Layaglayag Shoal, with a depth of 3.5m, lies about 0.25 mile N of Caban Island.

Sombrero Islet (13°42'N., 120°50'E.), 43m high, lies about 0.75 mile NW of Caban Island. This oval shaped island is covered with low bushes and is very prominent.

It is surrounded by a reef, on which lies some above and below-water rocks.

Sepoc Point (13°41'N., 120°50'E.), the NW extremity of the island, is a steep, rocky headland, 36m high. The point appears as an island from a distance, but it is connected with the main part of the island by a narrow rocky isthmus about 1.5m high.

A rock, with a least depth of 1.5m, lies about 1 mile SW of Sepoc Point. A channel, about 0.75 mile wide and with a depth of 11.9m in the fairway, lies between this shoal and the W extremity of Maricaban Island.

2.16 Port Maricaban (13°41'N., 120°50'E.) is formed by the narrow strait between Maricaban Island and Caban Island.

The port can be entered either from the N or from the E, but the passage from the N is preferable. The harbor is about 0.5 mile wide in its N entrance between the shoals fronting the shore on either side, but narrows to a least width of about 45m in its S part.

Great depths are found in its wider part, and depths of over 37m are found in the fairway in its narrower part. It is sometimes used as a harbor of refuge for small vessels which anchor off the small village of Maricaban, and moor to the shore and to each other to prevent swinging.

The village stands on Maricaban Island in a position about 0.1 mile W of the S extremity of Caban Island.

Maricaban Strait (13°41'N., 120°53'E.) lies between the S side of the Calumpan Peninsula and the N side of Maricaban Island. It is deep in the fairway and clear of dangers, but the tidal currents set strongly through it.

Caution.—A reef, with rocky heads awash, extends about 0.15 mile N from the middle of the N side of Maricaban Island, about 1.5 miles S of Cazador Point.

2.17 Culebra Islet (13°38'N., 120°57'E.) lies about 0.25 mile SE of the SE side of Maricaban Island. The islet is covered with trees, the tops of which are about 29m high.

The shore is rocky, with boulders and corals, except at the N extremity, which is coral sand. The channel between the islet and Maricaban Island is about 183m wide and has a depth of 11m in the fairway.

Malajibomanoc Islet (13°38'N., 120°58'E.), locally known as Pulong Balahibo, lies about 0.75 mile E of Culebra Islet. It is low and covered with trees, the tops of which are about 10.6m high.

Shoal water extends from the W side of this islet and from the E side of Culebra Islet, leaving a clear passage about 0.2 mile wide, with depths of 20 to 35m.

The islet is marked by a light which is shown from a 12m concrete tower. A wreck was reported about 1 mile E of the islet.

2.18 Batangas Bay (13°43'N., 121°00'E.), entered between Cazador Point and Matoco Point, about 9 miles ESE, is deep and clear of dangers. The bay indents the coast up to a distance of 7.5 miles.

Some rocks lie close off Cazador Point and a steep-to reef extends about 183m E from its E side. The coast between this point and the entrance to Mainaga Cove, about 6 miles NE, is steep, rocky, and wooded. It can safely be passed at a distance of 0.5 mile.

Mainaga Cove (13°46'N., 120°57'E.) provides anchorage for small craft seeking shelter from strong SW winds, in depths of 18 to 29m, mud.

Mainaga Cove Light is shown from a concrete beacon, 3m high, standing near the head of the cove.

Four anchor berths, in depths greater than 37m, are reported to have been established in Mainaga Cove. These are situated about 1 mile ENE, 1.25 miles E, 0.75 mile E, and 1 mile SSE of Mainaga Cove Light.

A concrete pier, with a depth of 6m at its head, lies at the head of the cove. A new wharf and fish processing plant are under construction.

The Batangas Bay Terminal Pier lies 2.5 miles NE of Mainaga Cove. The head consists of three breast dolphins each 80m apart and two mooring dolphins.

Vessels up to 213m in length, with a draft of 11.9m, can be accepted. The pier extends 290m from the shore.

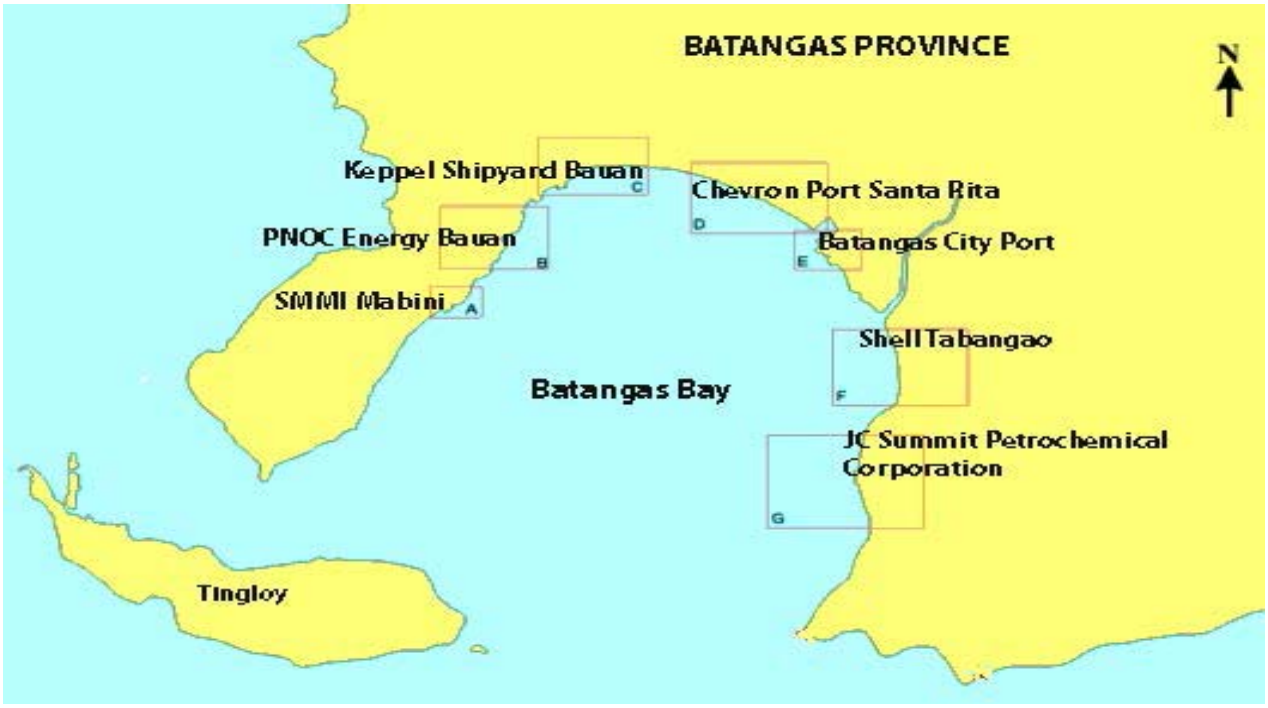
Pilotage is reported to be compulsory. Pilots board off Batangas.

Bauan (13°48'N., 121°00'E.), a small town at the head of Batangas Bay, is located about 3.5 miles ENE of Mainaga Cove. A conspicuous white church with a dome stands in the town. The town is connected by railroad with Manila.

It was reported that a copra loading platform was located off Bauan. Vessels of 12.2m draft and 40,000 dwt could berth at the mooring dolphins in front of the platform.

The platform is connected to the shore by a conveyor belt with a loading capacity of 500 tons per hour. Fresh water is available at the berth. Pilots are embarked off Batangas.

There is anchorage for small vessels within 0.2 mile of the N shore of Batangas Bay, between Cota village, S of Bauan, and Santa Clara Pier, Batangas.



Batangas Bay—Port Facilities

Batangas VTMS Radar Station

2.19 Batangas (13°45'N., 121°03'E.) (World Port Index No. 58320), the principal town in the bay, is located on the W bank of the Calumpan River, about 0.75 mile inland. The port area is known as Santa Clara.

The port is the base port of the Port District of Batangas; therefore, pratique and customs clearance may be granted locally.

Quarantine officers will normally board with the pilot, or off the oil wharf. Customs Inspectors are provided through the Manila Customs Bureau.

Port of Batangas—Berthing Information			
Name	**Length**	**Depth**	**Remarks**
Batangas Port			
Domestic General Cargo (East)	130m	7.3m	Ro/Pax, Ro-Ro/Lo-Lo. General cargo.
Domestic General Cargo (South)	160m	7.3m	Ro/Pax, PCC, Container, Reefer, General cargo.
Domestic General Cargo (West)	180m	7.3m	PCC, General cargo.
Ferry Ro-Ro 1 (East)	98m	6.0m	Fast ferry, Ro-Pax.
Ferry Ro-Ro 1 (West)	108m	6.0m	Fast ferry, Ro-Pax.
Ferry Ro-Ro 2	110m	6.0m	Fast ferry, Ro-Pax.

Port of Batangas—Berthing Information			
Name	**Length**	**Depth**	**Remarks**
Ferry Ro-Ro 3	110m	6.0m	Fast ferry, Ro-Pax.
Ferry Ro-Ro 4 (East)	110m	6.0m	Fast ferry, Ro-Pax.
Ferry Ro-Ro 4 (West)	110m	6.0m	Fast ferry, Ro-Pax.
General Cargo (multi-use)	220m	10.0m	PCC. General cargo.
Bauan International Port			
Main Wharf	225m	10.0m	PCC, Container, Project/Heavy, Steel products, Breakbulk.
EEI Terminal			
Wharf (and Slipway)	37m	—	Offshore, Project/Heavy, Steel products.
General Milling Corporation (GMC) (Pacific Flour Mills)			
North East Berth	30m	—	Chemicals, Grain.
South West Berth	95m	—	Grain.
Batangas Container Terminal			
01	335m	13.0m	PCC, Container, Reefer. Berth Length: 670m.
02	335m	13.0m	PCC, Container, Reefer. Berth Length: 670m.
APO Cement Terminal			
Cement Berth	11m	—	Cement.
San Miguel Pure Foods			
Golden Bay Grain Terminal	252m	—	Aggregates, Grain. LOA: 300.0m. 80,000DWT.
Grain Jetty (North East)	30m	—	Aggregates, Grain.
Holcim Philippines Inc- Mabini			
Cement Wharf	242m	12.0m	Cement, Clicker. LOA: 245.0m.
PNOC Energy Supply Base			
LPG	5m	—	Crude oil, Draught:21.3m, LOA: 341.0m. Berth Length: 560m.
North Berth	62m	—	Offshore, Project/Heavy, Steel, Breakbulk, Draught: 11.0m. Bulk.
South Berth	60m	—	Offshore, Project/Heavy, Steel, Breakbulk, Bulk.
Shell Tabangao Terminal (Malampaya Natural Gas)			
No. 1	32m	13.1m	CPP, DPP, LPG, Draught:11.6m, LOA: 240.0m. 12,000DWT.15,700t
No. 2	54m	15.3m	CPP, DPP, Draught:13.8m, LOA: 280.0m. 100,000DWT. 134,300t
No. 3	30m	9.0m	Crude, CPP, Draught:7.5m, LOA: 200.0m. 20,000DWT. 25,400t
No. 4	—	23.5m	Crude, LPG, Draught:22.0m, LOA: 348.0m. 320,000DWT. 362,900t
Batangas Bay Tanker Terminal			
Batangas Bay Berth	9m	—	Chemical gases. Chemicals, CPP. Draught:12.2m, LOA: 213.4m.
JG Summit Petrochemical Terminal			
JG Summit Petrochemical Berth	230m	—	Chemical gases. LPG. Draught:15.7m. 54,000DWT. Berth Lg: 120m.
LPG Berth	42m	—	LPG. Berth Length: 224m.
Chevron Tanker Terminal			
Chevron Sea Island	—	24.3m	Crude oil, Draught:21.3m, LOA: 341.0m. Berth Length: 560m.
No. 2	45m	—	CPP, Draught: 10.7m, LOA: 86.9m. 4,000DWT.
No. 3	—	13.2m	CPP, DPP, Draught: 12.2m, LOA: 109.3m. 6,000DWT.

Port of Batangas—Berthing Information			
Name	**Length**	**Depth**	**Remarks**
No. 5	—	—	CPP, Draught: 10.2m, LOA: 109.7m. 6,000DWT.
No. 5A	200m	13.2m	Aviation Fuel, CPP, DPP, Draught:12.2m, LOA: 243.8m. 60,000DWT.
No. 6	136m	—	CPP, Draught: 10.6m, LOA: 109.7m. 6,000DWT.
Global Marine Systems (Bauan)			
Global Marine Pier	52m	—	CPP, Project/Heavy, Berth Length: 185m.
Bauan Terminal			
Coco Chemical Berth	50m	14.0m	Chemicals. Draught:21.3m, LOA: 341.0m.
Pinamucan Bulk Chemical Terminal			
LMG Chemicalphil Berth	12m	12.0m	Chemicals, CPP. Draught: 11.5m, LOA: 215.0m. 40,000DWT.
Santa Rita Power Plant and Santa Rita Project			
Santa Rita Power Plant Jetty	25m	—	CPP. Berth Length: 300m.
Himmel Industries Inc.			
Himmel Pier	33m	—	CPP. Draught: 12.0m. Berth Length: 110m. 25,000DWT.
Seaoil Petroleum Terminal			
Seaoil Berth	20m	—	CPP. Berth Length: 150m 15,000DWT.

There are no dangers in the immediate approach to Batangas or in the vicinity of the anchorages off the pier at Santa Clara. The 20m curve fronts the shore in the vicinity of the port area at a distance of a little over 0.75 mile. The bar of the Columpan River is about 0.15 mile wide and shallow.

Port of Batangas—Mabini Batangas Bay

Winds—Weather.—The climate is marine tropical and is characterized by gentle winds. The prevailing winds are from the S and SE from June through September.

Tides—Currents.—The tidal range varies from 2.7 to 7.5m. The tidal currents set parallel to the shore, the flood current setting SE and the ebb current setting NW, but the rate is mostly weak.

Depths—Limitations.—The Caltex Cargo Wharf, 2 miles NW of Batangas, is 305m in length, with a T-head 84m long, and a reported depth of 14m alongside.

The Caltex Oil Wharf, situated 0.4 mile WNW of the cargo wharf, lies in a 126°-306° direction. The wharf extends 305m S into the bay and ends in a "T," with its S face 83m long. The Main S berth has 12.1m alongside and a mooring buoy 79m from each end.

Batangas Oil Refinery

Night berthing is possible. It is reported that tankers up to 300,000 dwt, 230m in length, can be accommodated.

A jetty for coastal vessels lies 0.2 mile SE of the Caltex Cargo Wharf. The jetty extends 130m SSW from the shore.

The root of the Santa Clara Pier, a three-fingered pier extending 0.15 mile from the shore, lies about 1.25 miles SW of the coastal vessel jetty. Pier 1 is 127m long and 15m wide, with depths from 5 to 15m. Pier 2 is 105m long and 15m wide, with depths from 5 to 9.5m. Pier 3 is 84m long and 15m wide, with depths ranging from 4 to 7m. The piers are protected by timber-pile fendering. Depths shoal rapidly along the sides of the piers.

The Shell Refinery Wharf, 2.5 miles SSE of the Santa Clara Pier, consists of three jetties for the berthing of large tankers. It extends seaward for a distance of 0.2 mile. The depth alongside No. 1 Jetty is 11.6m; the depth alongside No. 2 Jetty is reported to be14m. Tankers up to 15,700 dwt and 9.3m draft can be ac-

Batangas—Ferry and Ro-Ro Terminal

commodated at Jetty No. 1; vessels of up to 120,000 dwt with a 14m draft are accepted at Jetty No. 2.

The LPG Terminal is at No. 2 Jetty. Jetty No. 3 can accommodate vessels up to 25,400 dwt, with a maximum draft of 7.5m and a maximum length of 165m. Jetty No. 4 can accommodate vessels up to 363,000 dwt, with a maximum draft of 23m and a maximum length of 348m.

The Pacific Flour Mill Pier lie close S of Shell Refinery Wharf. There are two piers extending about 250m SW from the shore, with a berthing face of 160m at the S pier and of 93m at the N pier. Vessels up to 30,000 dwt, with a maximum beam of 30m and a maximum draft of 10.9m, can be accommodated.

Purefoods Flour Milling Corporation has constructed a 40m long pier head at the seaward end of a causeway, two breasting dolphins, and two mooring dolphins, with an overall length of 120m. Vessels up to 40,000 gt, with a maximum draft of 11.5m, can be accommodated. Dry docks can accommodate vessels up to 200m in length, 38m wide and 40,000DWT.

Aspect.—The dome of the Batangas Church is very prominent, as are the Shell Oil and Caltex Oil refineries.

A prominent aluminum-painted water tank stands 2.25 miles NNW of Batangas. A radio mast stands 1 mile ESE of Santa Clara Pier.

The buildings at Caltex Refinery are prominent and include a chimney 95m high, and a conspicuous flare, 15m high, about 0.45 mile W of the chimney.

Pilotage.—Pilots are available at Batangas. Pilotage is compulsory for all vessels engaged in foreign trade. The pilots must be advised 48 hours, 24 hours, and 12 hours prior to arrival.

Masters should give at least 48 hours advance notice to their local agents to permit the dispatch of a pilot from Manila, if necessary, in time to meet the vessel.

Various craft are used to bring the pilot alongside of a position about 1.25 miles WSW of the Shell Oil wharf. Pilots for Batangas may be boarded in the anchorage area W of the city. The pilot boarding area lies 1.9 miles S of the refinery.

Batangas Pilots also provide pilotage for Mainaga (see paragraph 2.18).

The pilots can be contacted, as follows:

Regulations.—The use of a tug for berthing and unberthing is required, although a tug will normally be available at Batangas.

Masters should advise their agents of their tug requirements by prior notice, as it may be necessary to dispatch a tug from Manila.

Vessels proceeding to the oil wharf at the Caltex Refinery should radio "Caltex Manila" their ETA as early as possible, but not less than 96 hours before arrival. The ETA should be amended subsequently if it varies more than 2 hours from the original estimate.

Vessels using the Shell Refinery Wharf should send their ETA, via their agent, 72 hours, 48 hours, and 24 hours in advance. Vessels should contact the following upon arrival at the port limits:

1. Their agent on VHF channel 71 for pilotage and tugs.
2. The Shell Terminal (call sign: Shell Tabangao) on VHF channel 71 to arrange for berthing.

For information on the Vessel Traffic Management System, see paragraph 2.10.

Contact Information.—The port can be contacted, as follows:

Batangas—Contact Information	
Pilotage	
Call sign	Batangas Pilots
VHF	VHF channels 16 and 69
Telephone	63-43-7233994
	63-43-7231507
	63-43-9805134
Facsimile	63-43-7233994
E-mail	batangas_harborpilots@yahoo.com
Web site	http://www.ppa.com.ph/batangas/about.html
Vessel Traffic Management	
VHF	VHF channel 16
Port Authority	
Telephone	63-43-7233426
Facsimile	63-43-7230164
E-mail	ppabatangas@yahoo.com
Web site	http://www.ppa.com.ph/batangas/about.html
Bauan Container Terminal	

Batangas—Contact Information	
Telephone	63-43-7274992
	63-43-7274993
	63-43-7274994
Facsimile	63-43-7274994
E-mail	bipi@pldtdsl.net
Web site	http://www.ictsi.com
Caltex Refinery	
Call sign	Luzsteveco
VHF	VHF channels 11 and 16

Anchorage.—Four anchorage areas, lettered A through D and best seen on the chart, are located W through SW from the pier. During the height of the Southwest Monsoon, vessels can anchor off the N side of Maricaban Island along Maricaban Strait.

Small vessels can anchor within 0.2 mile of the shore between Bauan and Batangas, in depths of 22 to 26m, good holding ground.

Directions.—Vessels coming from the W may pass either N or S of Maricaban Island. Vessels, using the latter route, which is recommended, should pass about 2 miles S of that island and round Malajibomanoc Island at a distance of 1 mile. A direct approach can then be made to the pier.

Vessels approaching from the E can use either N Pass or South Pass of Verde Island Passage. After having passed Verde Island they should steer in mid-channel between Malajibomanoc Island and Matoc Point and then proceed directly to the pier.

Caution.—A restricted area, in which anchoring and fishing are prohibited, lies 0.75 mile off the Shell Refinery Wharves. A prohibited area lies 0.3 mile off the wharves.

Vessels must maintain a good lookout for small craft and fish traps when navigating the bay at night.

2.20 Matoco Point (13°38'N., 121°02'E.) is high, wooded, and precipitous. From Naboled Point, 1.75 miles NNE to Matoco Point, the coast is fringed with rocks, and a narrow, steep-to reef. The 9.1m curve lies close seaward of the reef, and there are depths of over 183m less than 0.5 mile off Matoco Point. The point is marked by a light.

The coast between Matoco Point and Malabrigo Point, about 13.5 miles E, is, for the greater part, high, rugged, and steep-to.

Arenas Point (13°37'N., 121°05'E.), about 2.5 miles ESE of Matoco Point, consists of sand and stones, by which it may be identified. The point is low and clear of dangers, and is marked by a light.

Rosario Point (13°38'N., 121°12'E.), about 7 miles E of Arenas Point, can be identified by the Rosario River, which flows out close NW of the point. A bar, with a depth of 0.9m, fronts the mouth of the river.

The town of Lobo is located about 1 mile NE of Rosario Point. A prominent white warehouse stands about 0.5 mile NNW of the point. A stone jetty, reported missing 1991, near the warehouse had a depth of 1.8m at its head. It is exposed to SW weather and at such times landing cannot be made.

Vessels with local knowledge can take anchorage about 0.15 mile offshore, with Malabrigo Point Light showing over Rosario Point, bearing 118°, and the prominent white warehouse bearing 036°, in a depth of 22m. Vessels should approach this anchorage cautiously as the water shoals rapidly.

Vessels with local knowledge can take anchorage during N winds anywhere between Matoco Point and Malabrigo Point, about 13.5 miles E. The shore is steep-to; less than 0.2 mile offshore the depths are from 15 to 24m, coarse sand and gravel bottom.

2.21 Malabrigo Point (13°36'N., 121°15'E.), marked by a light, is the SW extremity of the broad headland formed by the spurs of Mount Lobo, about 3.5 miles NE. Punas Point is the central point, and Malagundi Point, the E point of the headland.

The coast of the headland is of moderate height and well wooded. It is rocky between Malabrigo Point and Punas Point, and bordered by a sandy beach with rocks from there to Malagundi Point.

Locoloco Point (13°39'N., 121°25'E.) is about 6.75 miles NE of Malagundi Point. The coast is high and slightly indented in its E part by Sigayan Bay.

Vessels with local knowledge can take anchorage between Malagundi Point and Sigayan Bay, close offshore, as the coast is very steep-to. The bottom is generally coarse sand and gravel.

Sigayan Bay (13°40'N., 121°24'E.) lies close W of Locoloco Point. The NE shore of the bay is fringed by a narrow reef, which is covered at HW. Anchorage can be taken in the W part of the bay, fairly close to the shore.

Verde Island Passage—South Side (Mindoro)

2.22 Calavite Passage (13°34'N., 120°24'E.), which separates the NW end of Mindoro from the Lubang Islands, is deep and clear of dangers in the fairway. It should be understood that vessels using the passage must give the NW coast of Mindoro a berth of at least 2 miles.

The flood current sets NE and the ebb SW through this passage.

Cape Calavite (13°27'N., 120°18'E.), a low headland on the NW extremity of Mindoro Island, is described in paragraph 4.2. This part of the coast is marked by some offshore rocks.

Itbu Point (13°29'N., 120°19'E.), located 2 miles NNE of Cape Calavite is high, rugged, and steep-to. Vessels with local knowledge can take anchorage during the Northeast Monsoon in a small bay S of Itbu Point, in a depth of 10m, sand, about 0.15 mile from the beach at the head of the bay.

From the offing, **Mount Calavite** (13°29'N., 120°24'E.), a large promontory occupying the NW extremity of Mindoro, rises to 1,521m. The summit of the mountain appears dome-shaped from the W, but from N or S it appears as a long ridge, fairly level, and highest at its W end.

Del Monte Point (13°32'N., 120°25'E.) is sandy and steep-to. A conspicuous stranded wreck lies close to the shore in a position about 1 mile W of Del Monte Point.

Bagalayag Point (13°31'N., 120°34'E.), about 9 miles E of Del Monte Point, is a rocky bluff about 10.6m high.

Malabrigo Point Light

The coast between this point and Bogio Point, about 9.25 miles E, is backed by densely wooded mountains about 610 to 1,067m high.

The shore between the two points is steep-to, especially between Baeto Point, located 5.5 miles E of Bagalayag Point, and Bogio Point, where it is almost precipitous.

2.23 Bogio Point (13°29'N., 120°43'E.) is at the end of the E slope of the 1,017m mountain, located about 2.5 miles SW of the point. The slope drops to a height of about 609m and is covered by a greenish-yellow grass.

The coast between Bogio Point and a point about 3.5 miles E is bordered by a wide sandy beach. The Cervantes River and the Matabang River, two small rivers, flow out through this sandy beach. The low land extends a considerable distance inland in the vicinity of these rivers.

A shoal, with a depth of 5.5m over its outer edge, extends about 0.125 mile N from the mouths of the Cervantes River and the Matabang River.

Vessels can take anchorage in a small bight off the mouths of the Cervantes River and the Matabang River, fairly close to the shore. This anchorage is an open roadstead and is known as Ilog Anchorage.

Eastward of the mouths of the two small rivers, as far as the mouth of the Camerong River, about 7.5 miles E of Bogio Point, there are numerous hills, partially wooded, that rise abruptly from the rocky coast to heights of 91 to 122m. Sandy beaches lie between the hills.

The coast is bold and almost precipitous between the mouth of the Camerong River and Talipanan Point, about 2.75 miles ENE.

Mount Talipanan, located about 0.75 mile SSW of **Talipanan Point** (13°30'N., 120°53'E.), is very conspicuous with a sharp prominent peak, 1,185m high.

Minolo Point (13°31'N., 120°54'E.), about 1.5 miles ENE of Talipanan Point, is covered with trees and on its E side is a beach. The shore is steep, and depths of 8 to 9m are found about 0.3 mile offshore in the vicinity of Minolo Point.

A cove is located about 0.5 mile E of Minolo Point and can be used as an anchorage by small vessels. The reefs fronting the shores of the cove reduce the anchorage area to a diameter of about 0.1 mile. A depth of 10.9m can be carried through the fairway of the entrance channel; inside there are depths of 15 to 22m.

2.24 Balateros Cove (13°31'N., 120°56'E.), located about 1.5 miles E of Minolo Point, is a small bight lying between two coral reefs. It is a haven where small vessels can take anchorage, in 29m, protected from winds of both monsoons.

Port Galera (13°31'N., 120°57'E.), which is practically landlocked, lies between Medio Island on the N, Paniquian Island on the W, and the W side of the projecting promontory on the S and E. The available space is greatly restricted by the shoals extending from the projecting points along its shore. There are two passages into the port, Northwest Channel and North Channel, on the SW and E sides, respectively, of Medio Island.

Northwest Channel is the recommended passage into Port Galera. The N entrance is only about 137m wide between the reefs and shoals on either side, but it widens inside to 0.15 mile.

A least depth of 9.6m is found in mid-channel along the entrance range. A rock, 18.9m high, lies on the edge of the reef

fringing the SW side of Medio Island, at the outer entrance to the channel.

The flood current which enters Northwest Channel flows out through North Channel and then sets E, the reverse taking place with the ebb current. There is a strong race off North Point, the N extremity of Medio Island.

Medio Island (13°32'N., 120°57'E.) is 80m high and wooded. The NE side of the island is fringed by a reef which extends about 0.125 mile NE, with the 5.5m curve lying about 91m farther in the same direction.

A shoal, with a least depth of 2.7m, lies about 183m W of North Point, the bare and rocky N extremity of the island. A shoal, as defined by the 5.5m curve, extends as far as 183m from the NW side of the island.

2.25 Paniquian Island (13°31'N., 120°57'E.) is 61m high and wooded. The NW shore of the island is high and rugged. The S end of the island terminates in a narrow, sandy neck of land which connects the island with the N coast of Mindoro.

The island is fringed by a reef, except for a short distance on its N and W sides. A shoal, with depths of less than 6m, extends 137m offshore in places. Two sunken rocks lie near the outer end of a shoal extending about 0.3 mile N from a point located about 0.4 mile S of the W extremity of the island.

Telegraph Point, the NW extremity of the promontory extending NE from the N side of Mindoro, can be identified by a prominent white patch having the appearance of a sail on the side of the point.

The N side of the promontory between Telegraph Point and Escarceo Point, about 2 miles E, has a uniform appearance and is slightly indented.

A shoal, as defined by the 5.5m curve, extends about 0.125 mile N from the N side of the promontory. A detached shoal, with a least depth of 2.7m, lies about 0.3 mile NNE of Telegraph Point.

A light situated on the bluff of the promontory about 0.25 mile SE of the S extremity of Medio Island. A similar but unlighted beacon situated close SE of the lighted beacon. These beacons in range, bearing 125°, lead through Northwest Channel, but caution is necessary as the range is not very sensitive.

Northwest Channel lies between the E side of Medio Island and the W face of the projecting promontory. The channel is about 137m wide between the 5.5m curve on either side. A least depth of 9.4m lies in the fairway. The E side of Medio Island is low and bordered by a narrow sand bank. A shoal, with a depth of 1.4m, lies in the middle of the S entrance to North Channel.

The channel on either side of this shoal has a width of about 91m. This channel is not recommended for large vessels.

Depths—Limitations.—A shoal, with depths of 0.3 to 1.2m, extends almost 0.25 mile N from a point on the S shore located about 0.3 mile N of Puerto Galera Light.

Another shoal, with a least depth of 0.3m near its outer edge, extends about the same distance NW from the above point. A shoal, with a depth of 10m, lies about 0.3 mile N of this point. Another shoal, with a least depth of 6.4m, lies about 0.4 mile N of the same point.

A reef extends about 0.15 mile W from a position close W of the entrance beacons on the E shore of the harbor.

The 10m curve fronts the remainder of the harbor as far as 0.15 mile, and depths of less than 9.1m are found in the coves to the E of the entrance beacons.

Anchorage.—The principal anchorage lies in the N part of the port, in a position E of Paniquian Island, in depths of 18 to 22m. Exercise caution as the swinging room is considerably reduced by shoals extending from all sides.

Smaller vessels can take anchorage in a small bight in the S part of the port, in a position N of the town of **Puerto Galera** (13°30'N., 120°57'E.), in a depth of 10.9m. Small vessels can also anchor in a space about 0.2 mile wide, in a position E of the S extremity of Paniquian Island, in a depth of 16m.

There is also anchorage for small vessels in Little Balateros Cove, situated SW of the W extremity of Paniquain Island. The cove is formed between two coral reefs and two high wooded points, and is protected from winds of both monsoons.

Directions.—Vessels entering the port by Northwest Channel should bring the range beacons to bear 125°, until abreast of the NE point of Paniquian Island, when the course should be gradually altered to the S for the anchorage in the middle of the N part of the harbor.

Small vessels with a need to use North Channel should round North Point at a distance of about 0.5 mile and then alter the course to the S and pass in mid-channel through North Channel.

Caution is advised in avoiding the shoal in the middle of the S entrance to the channel.

2.26 Escarceo Point (13°31'N., 120°59'E.), the NE extremity of the promontory extending NE from the N side of Mindoro, is rocky and covered with trees. The tidal currents set strongly off the point and tide rips are found in the vicinity. A light marks the E side of the point.

It is shown from a concrete house, 14m high.

Boaya Point (13°30'N., 120°58'E.), lying about 2 miles SW of Escarceo Point, is bold on its W side and is clear of dangers, with the 9.1m curve fronting it at about 137m.

Varadero Bay (13°29'N., 120°58'E.), entered between Boaya Point and Varadero Point, about 0.5 mile SW, affords sheltered anchorage during both monsoons, especially during the season of the Southwest Monsoon when the heavy squalls pass to the N. It is reported to afford better shelter than Port Galera, especially during bad weather.

A shoal, with a least depth of 2.7m, extends about 0.25 mile S from the N shore. Shoals, with depths of less than 9m, extend up to 0.2 mile E from the W shore of the bay.

Varadero Point is fringed by rocks, some of which dry, extending about 0.125 mile N of the point. The 9.1m curve fronts the point as far as 0.15 mile offshore.

Puerto Galera, a small village with a prominent church, stands on a narrow neck of land separating Port Galera from Varadero Bay. A light is shown from a hill at Puerto Galera.

Anchorage.—Vessels can take anchorage in the middle of the bay with Puerto Galera Light bearing 310°, distant 0.4 mile, in a depth of 18.3m. Navigators are cautioned that during fresh NE weather the wind sometimes veers well E, causing a considerable swell at this anchorage.

Small vessels can take sheltered anchorage in the bight close W of Boaya Point, in a position about 183m offshore, in depths of 20m. Care must be taken to avoid the previously mentioned shoal in the N part of the bay.

2.27 Subaang Bay (13°26'N., 121°02'E.) is an open bight on the S side of South Pass. The shore is low and wooded with several small rivers flowing into the bay.

A shoal, with a depth of 6.4m over its outer end, extends about 0.25 mile NE, from a position about 4.5 miles SE of Varadero Point.

In windy weather, the bay becomes a dark red color due to the stirring up of the silt from the rivers along the coast.

A shoal, with a least depth of 3.5m near its outer edge, extends about 0.75 mile NE from the SW shore of the bay.

San Teodoro (13°26'N., 121°01'E.) is a small town located in Subaang Bay, about 4.5 miles SE of Varadero Point. The town can be identified by San Teodoro Hill, 198m high, close SW of the town and a hill, 286m high, 1.5 miles W of the town. Both hills are prominent.

Logs are shipped from this port during good weather, particularly between March to November.

Vessels can take anchorage, about 0.5 to 1 mile offshore, midway between the town and the Subaang River, located about 0.75 mile SE of San Teodoro, in depths of 18 to 37m. This anchorage is open and is not safe during the period from November to February, when the Northeast Monsoon is in full force.

Balete Point (13°25'N., 121°10'E.) is 36m high and well wooded. A shoal of coral and sand, bare at LW, lies with its N edge about 0.5 mile W of Balete Point.

Calapan Bay (13°25'N., 121°11'E.) is entered between Balete Point and Calapan Point, about 2.5 miles ENE.

The 20m curve fronts the shores of the bay at a distance of about 0.75 mile. Within this curve the depths for the most part are shoal and suitable only for small craft.

2.28 Calapan (13°25'N., 121°11'E.) (World Port Index No. 58540) stands close to the shore at the head of Calapan Bay. A prominent church is located in Calapan.

Calapan Bay, which is exposed to all winds from N through W, is not considered a safe port during the Northeast Monsoon. The recommended anchorage is in 13 to 18m, rocky bottom, with the church bearing 177°, and the N extremity of Calapan Point, bearing 063°. The holding ground is poor.

Navigators are cautioned to use extreme care in approaching this anchorage, as the edge of the shore reef is steep-to and the bottom very irregular.

Calapan

Vessels must be prepared to get underway immediately when strong winds from N through W occur, as the anchorage is unsafe at this time. Vessels with local knowledge can anchor close off the W face of Calapan Point during the Northeast Monsoon, but the coast is steep-to and great depths are found close offshore.

Government Wharf, on the W side of Calapan Point, is T-headed and extends about 45m from the shore. The T-head is 33m long, with 3 to 5.5m alongside. The N end is broadened and provides a berth 30m long with a controlling depth of 3.6m alongside. A strong earthquake off of Baco Island in 1995 resulted in a tsunami that severely damaged the Calapan Pier.

It is advisable to approach the pier from the N and berth port side-to. Improvements were planned to the port.

Tidal currents along the face of the pier run N on the ebb and S on the flood.

2.29 Calapan Point (13°26'N., 121°12'E.) is 88m high and wooded. The W and N sides of the point are clear of dangers, but the E side is fringed by a narrow steep-to reef. Some white storage tanks stand on the E side of the point.

The **Baco Islands** (13°29'N., 121°10'E.) are three islands which extend about 2 miles in a NE direction from a position about 2.75 miles N of Balete Point. The southwesternmost and largest island of the group is 90m high; the middle island is 79m high; and Baco Chico Island, the northeasternmost of the group, is 39m high.

A shoal, with depths of less than 3m, extends about 0.1 mile NE from the E extremity of the southwesternmost island. A reef, which dries, extends about 0.25 mile E from E side of the middle island. A shoal, as defined by about the 20m curve, extends about 0.3 mile SW from the SW side of Baco Chico Island.

The unmarked channels between the islands have sufficient depths in the fairway, but the strong tidal currents that prevail make it dangerous for a vessel to attempt transit.

Steep-to 2.4m and 25m shoals lie 0.8 mile W and 0.65 mile WSW, respectively, of the S extremity of the SW island. The 25m shoal could not be confirmed by a 1990 Philippine Survey.

Silonay Island (13°27'N., 121°13'E.), 106m high, narrow and wooded, extends a little over 0.5 mile NNE from a position about 1 mile E of Calapan Point.

The NE side of the island is fringed by rocks which extend about 91m SE. A shoal, with depths of less than 6m, extends about 0.125 mile S from the SW end of the island.

2.30 Anaganahao Island (13°26'N., 121°13'E.), 30m high and wooded, lies about 0.5 mile S of Silonay Island. The island is fringed by rocks which extend 0.15 mile N from its N side, and 0.25 mile SW from its S side.

The channel between Anaganahao Island and Silonay Island is about 0.25 mile wide between about the 10m curves on either side, and has a least depth of 12.5m in the fairway.

The tidal currents set strongly through this channel.

The channel between Anaganahao Island and Mindoro is about 0.2 mile wide between about the 10m curves on either side, and has a least depth of 10.3m in the fairway.

A depth of 11.6m lies about 0.4 mile SE of the N extremity of Calapan Point. Another patch, swept to a depth of 10.5m, lies 0.4 mile S of Anaganahao Island.

Verde Island (13°33'N., 121°04'E.), located about 4 miles NE of Escarceo Point, is steep-to and wooded, with a few sandy beaches. There are two prominent peaks on the island. The higher and farthest N has an elevation of 417m.

Rocks, which dry, extend about 183m SE from the SE extremity of the island. Two reefs, with depths of 92m, lie 1 mile and 1.5 miles NW of the NW end of Verde Island.

The NE extremity of the island is marked by a light.

Vessels, with local knowledge, can take anchorage during S winds, in a bay on the N side of the island, in depths of 13 to 18m, close offshore.

Strong tide rips have been reported on the SE side of the island.

The current on the N part of the Verde Island Passage, which flows round Balayan and Batangas Bays, reunites with the principal current near Verde Island, producing violent tide rips and eddies in that part of the channel between Malabrigo Point and Escarceo Point.

2.31 North Pass (13°36'N., 121°04'E.) lies between the N side of Verde Island and the S coast of Luzon between Matoco Point and Punus Point, about 15 miles E. North Pass has a least width of 2.75 miles and is deep and clear of dangers in the fairway.

Vessels bound for S Luzon ports, or for San Bernardino Strait, sometimes use the pass in preference to the recommended South Pass.

A traffic separation scheme has been established in Verde Island Passage. A traffic lane for E bound traffic passes S of Verde Island and the lane for W bound traffic passes N of Verde Island. In the vicinity of Verde Island the width of each traffic lane is reduced to about 2 miles. The separation scheme is not IMO-approved.

South Pass (13°30'N., 121°04'E.) lies between the steep-to S side of Verde Island and the N coast of Mindoro between Escarceo Point and Calapan Point.

South Pass has a least width of almost 4 miles and is deep and clear of dangers in the fairway. In the E approach of South Pass, the principal dangers are the three small wooded Baco Islands previously described in paragraph 2.29.

Most of the inter-island maritime traffic uses the South Pass in transiting.

Mindoro—Northeast Coast

2.32 Naujan (13°19'N., 121°18'E.), a town located about 9 miles SE of Calapan Point, is on the W bank of the Baluagan River, about 1 mile inland. Only small boats can cross the bar at the river mouth.

The village of Estrella, the port for Naujan, is on the beach about 0.5 mile NE of the town. A large warehouse located on the beach is conspicuous from seaward.

Vessels with local knowledge can take anchorage, exposed to NE winds, about 0.5 mile NE of Estrella, in depths of 27m, mud.

Between Calapan Point and the mouth of the Lumangbayan River, about 13 miles SE, the coast is low, heavily wooded, intersected by several small streams, and fringed by a gray sandy beach.

This sector of the coast is clear of dangers, with the 20m curve lying about 0.75 mile offshore.

Anchorage can be taken almost anywhere close off this section of the coast, in depths of 27m, mud. The depths decrease gradually toward the shore, except at the bar, which extends about 0.5 mile off the mouths of the Kawayan River and the Buluagan River, where the depth decreases from 18.3 to 1.8m in a distance of about 91m. A light is exhibited about 2.8 miles SE of the mouth of the Kawayan River on a pipe, 8m high.

The **Lumangbayan River** (13°17'N., 121°21'E.), one of the largest rivers in N Mindoro, discharges about 4 miles SE of the town of Estrella. It forms the dividing line between the low land and the mountainous area to the SE. The small town of Lumangbayan is located on the coast N of the mouth of the river.

Vessels can take anchorage off the mouth of the Lumangbayan River, in a depth of 37m. The anchorage is marked by a log float with a white flag.

Mount Naujan (13°15'N., 121°21'E.), a prominent peak, is 420m high, and densely wooded. It lies about 1.5 miles S of the mouth of the Lumangbayan River, and about 1 mile inland. The summit lies at the W extremity of a flat ridge which slopes toward the N.

Another prominent peak, Dome Hill, which is shaped like a rounded dome and rising to 257m and densely wooded, is located about 2 miles NW of Mount Naujan.

Tujud Island (13°15'N., 121°25'E.), 45m high and wooded, lies about 0.25 mile offshore and 1 mile NW of Balingawan Point. Its coasts are formed by brown cliffs, except on its SW side. It is bold and steep-to on its seaward side.

A drying reef connects the SW side of the island to the coast of Mindoro. A detached rock, 4.5m high and surrounded by rocks awash, lies about 91m SW of the island.

2.33 Balingawan Point (13°14'N., 121°26'E.) offers a contrast to the other points in the vicinity, which rise gradually and continuously from the cliffs toward the interior. This point slopes down, forming a saddle which extends across in an E and W direction at a very slight elevation.

Anahauan Point (13°11'N., 121°27'E.), densely wooded and bordered by low cliffs and rocks, lies about 2.25 miles S of Balingawan Point. The coast between Tujud Island and Anahauan Point is very rugged and indented. The mountains close to the coast in this vicinity are densely wooded and attain an elevation of over 425m.

Pola Bay (13°10'N., 121°28'E.), entered between Anahauan Point and Dayup Point, about 4.25 miles SE, indents the coast to a distance of about 2.5 miles in a SW direction. The bay is reported to be deep and clear of dangers and the shores are generally steep-to.

Dayap Point (13°09'N., 121°30'E.), which is formed by the N extremity of a spur, is bordered by cliffs and large boulders. The spur extends N from a sharp and wooded peak, 426m high, located about 1.25 miles inland.

Tiguihan Cove is located about 2 miles SSW of Anahauan Point. The shores of the cove are fringed with reefs, leaving a small area near the entrance where small craft with local knowledge can take sheltered anchorage.

Tuntung Point, the rocky projection forming the S side of the cove, is located at the head of the bay in a position about 4

miles W of Dayap Point.

A prominent rock, 5.5m high, is located about137m SE of Tuntung Point. About 23m E of the above rock is a smaller rock about 0.9m high.

The Pola River and the Pula River flow into the head of the bay SE of Tuntung Point, and between their mouths is a gray sandy beach. The bar of the Pola River has a least depth of 0.6m, and the bar of the Pula River dries. A valley covered with light timber and mangroves lies between the two rivers and extends several miles S.

Pola, a small village, stands on the W side of the entrance to the Pola River. A large storehouse with a metal roof is prominent.

Depths of 37 to 55m are found in the middle part of Pola Bay. The 20m curve lies close to the shores of the bay, except at its head where it lies close to 0.75 mile offshore in places.

A reef, on which there are several rocks from 0.6 to 0.9m high, and others awash, extends about 137m E from Anahauan Point and is visible from N or S.

This reef, which mostly dries, extends about 0.5 mile S from the point, and as far as 0.25 mile offshore. Dayap Point is clear of dangers, with the 20m curve lying close offshore.

Anchorage.—Large vessels can anchor about 0.5 mile offshore, in 27m, mud, with the storehouse at Pola bearing 230°, and the prominent 5.5m rock bearing 282°.

Small vessels can anchor closer inshore, in 18.3m, mud, with the storehouse bearing 248°, and the prominent 5.5m rock bearing 302°. These anchorages are open to the E and NE and are untenable during the Northeast Monsoon (October to March).

2.34 Dumali Point (13°07'N., 121°33'E.), located about 3.25 miles SE of Dayap Point, is bold, steep-to, and 73m high.

The coast between Dayap Point and Dumali Point is fringed by a narrow, coral reef which partly dries. This portion of the coast is steep-to and may be safely approached up to a distance of 0.5 mile. Dumali Point is marked by a light.

Mount Dumali, 761m high and densely wooded to its summit, is prominent. It lies 2.5 miles W of Dumali Point.

Magnetic disturbances are reported to exist offshore between Dumali Point and Calapan Point. Variations of 4°W have been observed between Dumali Point and Calapan Point.

Luzon—Bantigui Point to Bondoc Point

2.35 Bantigui Point (13°41'N., 121°28'E.), a wooded headland 108m high, is a prominent landmark when entering Tayabas Bay. It is steep-to on its S and E sides, but its N side is fringed by a coral reef which gradually widens as it approaches Coloconto Bay.

Mount Banahao (14°04'N., 121°28'E.) is located about 23 miles N of Bantigui Point and 12 miles from the head of Tayabas Bay. It is a prominent landmark, 2,177m high, and conspicuous when not obscured by clouds.

Tayabas Bay (13°50'N., 121°40'E.) is deep and clear of dangers in its middle part and in its approach from the SW. It is generally exposed to S winds and offers no protection during the typhoon season.

Numerous shoals and dangers front the shores of the bay and the W face of the Bondoc Peninsula.

These dangers all lie within the 37m curve which fronts the W side of the bay as far as 2.25 miles, the head of the bay as far as 7.5 miles, and the W face of the Bondoc Peninsula as far as 3.5 miles.

Coloconto Bay (13°42'N., 121°27'E.) is entered between the N side of Bantigui Point and Subuquin Point, about 2.25 miles NW. The bay is small in area and is predominantly foul. Just within the bay there is a small wooded islet.

The coast between Subuquin Point and the mouth of the **Malaquing Ilog River** (Nayon River) (13°49'N., 121°27'E.), about 5.5 miles N, and then to the mouth of the Tayabas River, about 10 miles further NE, is low and wooded. The shore consists of sandy beaches which are intersected by small rivers. San Juan, a small village, is situated about 4 miles W of the mouth of the Malaquing Ilog River. The W part of Tayabas Bay contains a number of shoals which lie 0.5 to 1.75 miles offshore.

The shore bank, which is steep-to and which has a least depth of 2.1m at its outer edge, extends about 0.75 mile offshore and 3 miles N from Subuquin Point.

Anchorage.—Vessels with local knowledge can take anchorage about 0.5 mile outside the entrance to Coloconto Bay where some protection from SW winds is afforded.

Vessels with local knowledge can take anchorage between Coloconto Bay and the mouth of the Tayabas River, in a position about 1 mile offshore, in 22m, mud.

Caution.—Reefs, with depths of 2.7 and 0.9m lie, about 1 mile SSE and 2.75 miles NE, respectively, of the S entrance point of the Malaquing Ilog River. The reefs and dangers are not visible because of the muddy water in their vicinity.

2.36 Castanas (13°53'N., 121°33'E.), a loading port for copra, lies about 12 miles NNE of Bantigui Point. The port can be identified by two warehouses on the beach and by three wooden loading jetties.

No fresh water, stores, or repairs are available. The nearest postal and telegraph office is at the Bucal Railroad Station, about 2.75 miles NE of Castanas. The nearest hospital and medical facilities are located at Lucena.

The 20m curve fronts the port as far as 0.5 mile offshore. A reef, which is not visible in the muddy water, extends about 91m from the coast.

Anchorage.—Vessels can take anchorage about 0.6 mile offshore, with Mount Mayabobo, 8.25 miles NW of Castanas, bearing 315°, Sariaya, a conspicuous village 4.25 miles E of Mount Mayabobo, bearing 339.5°, and Bantiqui Point bearing 206.5°, in depths of 22 to 26m.

This anchorage is well protected during the Northeast Monsoon, but during the Southwest Monsoon it is advisable to anchor two or more ship lengths to seaward.

Caution.—Vessels should approach the port only during daylight hours and during periods of good visibility. Vessels are cautioned not to approach the coast closer than 0.5 mile as the water is muddy and the sunken dangers are not visible.

2.37 Tayabas Point (13°54'N., 121°37'E.) is low and lies on the E side of the entrance to the Tayabas River.

The Tayabas River, which is about 0.5 mile wide at its entrance, is shoal and only used by small craft with local knowledge.

Tayabas River Entrance Light (13°54'N., 121°36'E.), reported (1995) extinguished, is shown from a concrete tower, 9m high, standing at Pisingi on the W side of the entrance to the river. A shoal, with depths of 5 to 9m, lies from 1 to 1.75 miles SSW of Tayabas Point.

Lucena (13°56'N., 121°37'E.), a town of considerable importance, is located between two small rivers in a position about 2.5 miles N of the coast. These rivers unite at their mouths and form the Tayabas River. Lucena is connected to Manila by railroad and bus. It is also connected to the general telegraph system.

Anchorage.—Vessels can take anchorage in a position S of the mouth of the Tayabas River, in a depth of about 12.8m, mud and sand, with Tayabas Point bearing 061°.

Smaller vessels can anchor closer in on the same bearing. This anchorage is protected from NE winds by Tayabas Point, and by a reef on which there are several rocks above water, extending about 1 mile SE from the point. New piers and breakwaters have been constructed close E of the mouth of the Taybas River. Additional lights have been installed in conjunction with these works.

2.38 Between Tayabas Point and Bocboc Point (Bokbok Point), about 5.5 miles ENE, an extensive reef, which dries in places, extends as far as 3.75 miles S.

Pagbilao Bay (13°56'N., 121°43'E.) is entered between Bocboc Point and the W coast of Pagbilao Grande Island, about 2 miles E. The available anchorage area within the bay is reduced by reefs and shoals to a space about 1 mile in extent.

Angas Point, located about 2.25 miles N of Bocboc Point, is about 7.6m high, bare, and prominent. Pagbilao Church, located about 1.25 miles NW of Angas Point, is prominent and may be seen for a considerable distance.

Patayan Island, about 27m high and prominent, lies about 0.75 mile SE of Angas Point.

Pagbilao Grande Island extends about 3.5 miles N and 4 miles NE from its S extremity, which is located about 4 miles SE of Bocboc Point. Its S extremity is steep-to at a distance of about 0.15 mile.

Mud flats, passable by boats at HW, separate the N side of the island from the S coast of Luzon. Mount Mitra, the 161m summit of the island, stands on the NE side of the island.

Pagbilao Chica Island is joined, at its NW end, to the middle part of the E side of Pagbilao Grande Island by a narrow ridge of sand. The island extends about 2 miles S from its NW extremity. Mount Lipata, located near the S end of the island, is 182m high, and prominent.

A narrow but deep channel, with a least width of about 0.4 mile, passes between the E edge of the reef extending 3.75 miles SSE from Bocboc Point and the W edge of the reef fringing Pagbilao Grande Island.

Depths of 17 to 26m are found in the entrance channel, and depths of 9 to 15m are found in the S part of the bay.

The N part of the navigable portion of the bay, S of Patayan Island, has depths of over 6m.

Anchorage.—Vessels can take anchorage with the summit of Patayan Island bearing 347°, and Bocboc Point bearing 230°, in a depth of 8m, good holding ground.

Smaller vessels can anchor further W where there is more shelter during SW winds.

Vessels approaching Pagbilao Bay should steer for the S extremity of Pagbilao Grande Island and then give the SW side of that island a berth of about 0.25 mile. Angas Point bearing 335°, and open W of Patayan Island, leads through the entrance channel to the recommended anchorage. Care must be taken to avoid the reefs on both sides of the channel.

Caution.—It has been reported (1994) that the reefs to the W of Pagbilao Grande Island are not visible except at LW and with the morning sun. No buoys or lights mark shoal water.

2.39 Pagbilao Power Station (13°53'N., 121°47'E.) is on the SW coast of Pagbilao Grande Island; anchorage may be obtained at the pilot station close E. Two coal berths, 300m long, can accommodate a draft of 14m. A conspicuous chimney lies close E of the berth.

Pagbilao Power Station—Coal Berth

2.40 Capulaan Bay (13°53'N., 121°47'E.) is entered between the S extremity of Pagbilao Grande Island and Lipata Point, the SW extremity of Pagbilao Chica Island about 1.5 miles E. The narrow head of the bay is fringed by reefs to a distance of nearly 1 mile.

Vessels can take anchorage during the Northeast Monsoon, in 9 to 22m, in the middle part of Capulaan Bay. Vessels should make the approach by steering for the S extremity of Pagbilao Grande Island, and then pass in mid-channel between that extremity and Lipata Point to the desired anchorage.

Port Laguimanoc (13°53'N., 121°49'E.), lying E of the Pagbilao Islands, is reduced by reefs and islets on both sides and at its head to a channel about 0.5 mile wide and 2 miles long.

The SE side of Pagbilao Chica Island is fringed by reefs as far as 0.5 mile E. Shoals, with depths of 3.6 and 2.7m lie, respectively, about 1 mile SSE and 0.75 mile SSE of Nang Point, the E extremity of Pagbilao Chica Island.

Mangayao Island is a small wooded island lying on the E side of the entrance to Port Laguimanoc, in a position about 1.25 miles E of Nang Point. It is surrounded by drying mud flats which connect it to the coast of Luzon at LW. The N side of the island is fringed by mangroves and its S side consists of a sandy beach. Tubig Point, the SW extremity of the island, is a low bluff surrounded by rocks.

A reef, which partly dries, extends 1.25 miles S from the S side of the island. Some above and below-water rocks stand on this reef.

High Islet, the first islet on the E side of the entrance, is small and 19.8m high. The islet is steep-to on its W side and is located in a position about 0.75 mile E of Nang Point and 0.75

mile NW off Tubig Point.

A reef extends about 0.25 mile S from the S side of the islet.

Calaba Islet, 12.2m high, lies about 0.35 mile N of High Islet. It is connected to the coast E and to Laguimanoc Point to the N by foul ground. The 5.5m curve fronts the W side of the islet at a distance of about 0.125 mile.

Talaban Islet, 11.9m high, narrow, and wooded, lies inside the navigable portion of the harbor in a position about 1 mile NNW of Calaba Islet.

Laguimanoc Point, the W extremity of the land on the E side of the harbor, is composed of low bluffs, which are fringed by rocks.

The point, which is 41m high and wooded, is located about 1 mile E of Restinga Point, the N extremity of Pagbilao Chica Island.

Padre Burgos is a small town on Laguimanoc Point.

Anchorage.—Vessels can anchor in the middle of the outer part of the harbor, in depths of 13 to 15m, in a position about 0.5 mile S of High Islet. Small vessels can anchor closer inshore, in depths of 6 to 9m, between Nang Point and High Islet.

Directions.—Vessels entering the port should bring Calaba Islet in range with Laguimanoc Point, bearing 357°.

This range leads into the outer part of the harbor where anchorage can be taken as convenient. Smaller vessels wishing to anchor farther in should stay on the above range until Tubig Point is abeam to starboard, at which time the course should be altered to 338°, with the W extremity of Talaban Islet lying dead ahead. Anchorage can be taken as convenient, according to the draft.

2.41 The E side of Tayabas Bay, between the entrance to Port Laguimanoc and Tuquian Point, about 29 miles SE, is low with a flat sandy beach fringed with reefs of varying width, and interspersed with mangroves.

Dangerous reefs and detached shoals lie as far as 2.5 miles off this stretch of coast. Vessels with local knowledge can take anchorage nearly anywhere along this coast, but the principal places are Unisan, Pitogo, and Macalelon.

Vessels not intending to call at these small loading ports should keep at least 3 miles offshore. A prominent bare red bluff marks a point located about 2 miles E of Mangayao Island.

Malatandan Point (13°51'N., 121°58'E.), about 9 miles SE of the E entrance point of Port Laguimanoc, is 54m high, bold, rocky, and wooded. The land in the vicinity is low and level. The W side of the point is steep-to, but from the S side, a coral reef extends about 0.5 mile S.

A dangerous reef, which is partly awash, extends about 1 mile SW from its NE extremity, which is located about 0.75 mile SW of Malatandan Point.

Detached shoals, with a least depth of 4.5m, lie about 2.5 miles WSW of the same point.

Calaylayan Bay (13°50'N., 121°58'E.) is entered between Malatandan Point and an unnamed point 1.5 miles SE.

The head of the bay is shallow, and there is a wide sandy beach which dries.

2.42 **Unisan** (13°50'N., 121°59'E.), a small town, stands at the head of the bay. A small river flows out into the bay in the vicinity of the port, but the depths over its bar are very shoal. A light is shown at Unisan.

Vessels with local knowledge can take anchorage during the Northeast Monsoon, in a depth of 7m, soft mud. To approach this anchorage, vessels should bring the town to bear 035° and steer for it, anchoring as above, when Malatandan Point bears 332°.

Silancapo Point (13°48'N., 121°59'E.), about 2.5 miles SSE of Malatandan Point, rises to a height of 90m at a distance of about 1 mile inland. The point is low and fringed with mangroves at its extremity.

Shoals, with least depths of 12.8 and 11.9m, lie, 3.5 miles WSW and 1.5 miles S, respectively, of Silancapo Point.

Mabio Point (13°47'N., 122°03'E.), about 4.75 miles ESE of Silancapo Point, is low and covered with mangroves. A small river discharges about midway between the two points, and near its mouth are some prominent black rocks about 2.4m high.

A reef, with a depth of 7.3m, lies about 1.75 miles SW of Mabio Point. A shoal, with a least depth of 4.1m, lies about 2 miles W of the point and about 1.25 miles offshore. Shoals and foul ground lie between this shoal and the shore.

2.43 **Pitogo** (13°47'N., 122°05'E.), a regular port of call for coastwise shipping, stands at the head of a bight between Mabio Point and Pagbabaugnan Point, about 2.75 miles E.

The town stands on a point of land between the mouths of the small Lagalag River and the Mayuboc River. The church at Pitogo is a prominent stone building with a tower on its E side. A small stone mole extend SE from the town.

A light is shown from a concrete tower, 10m high, standing in the town.

Pitogo Bay Light

The 10m curve fronts the town as far as 0.75 mile offshore. Within the curve are numerous shoals and reefs.

An extensive reef, which dries, lies about 1.25 miles SSW of Pagbabaugnan Point. A reef, with a least depth of 2.7m, lies 0.25 mile S of the W extremity of this reef.

Anchorage.—Vessels with local knowledge can take anchorage with the church at Pitogo bearing 045°, distant about 0.75 mile, in a depth of 9m. Small vessels can anchor closer in, but care must be taken to avoid the shoals in the inner part of the harbor.

Caution.—An uncharted coral reef was reported (1992) to lie between position 13°45'N, 122°03'E and position 13°42'N, 122°07'E.

2.44 Macalelon (13°45'N., 122°08'E.), a regular port of call for coastwise shipping, stands at the mouth of the small river of the same name, about 3.5 miles SE of Pitogo.

The coastal bank, which dries abreast the town, extends 1.25 miles offshore.

Macalelon Light is shown from a concrete tower, 9m high, on the N side of the entrance to the Macalelon River.

Several detached reefs lie within 2 miles of the coast in this vicinity. A reef, with a depth of 3.9m, lies about 2.5 miles SSW of Macalelon. A shoal, with a least depth of 2.7m, lies about 2 miles SSW of the town.

Vessels with local knowledge can take anchorage with the light structure bearing 046°, distant 1.75 miles, in a depth of 12.8m.

Caution.—A depth of 6.4m lies about 2.75 miles SW of Macalelon.

2.45 General Luna (Hingoso) (13°41'N., 122°10'E.), a regular port of call for coastal shipping, stands on the coast about 4.25 miles SSE of Macalelon. General Luna Light is shown at an elevation of 15m. The 10m curve fronts this coast as far as 0.75 mile offshore.

A detached reef, with a least depth of 10m, lies about 2 miles WSW of General Luna. A chain of narrow reefs extends about 2.25 miles SE from a position about 1.5 miles SW of General Luna. A rock awash, stands near the SE end of this chain about 1 mile from the coast.

A channel, from 0.5 to 0.75 mile wide and with depths of over 9m, lies between this chain and the coastal bank.

Vessels with local knowledge can take anchorage about 1 mile W of General Luna Light, in a depth of 9m.

2.46 Tuquian Point (13°36'N., 122°12'E.), the SE entrance point of Tayabas Bay, is located about 5.5 miles SSE of General Luna. The point is low, covered with mangroves, and fringed by a reef which extends about 0.35 mile W and 0.65 mile S.

Tagabas Bay (13°36'N., 122°16'E.), a small and sheltered bay, is entered between Tuquian Point and Sandoval Point, about 3.5 miles ESE. The entrance to the bay is reduced to a width of about 0.5 mile by Puting Buhangin Shoal and the reefs extending about 0.75 mile S from a position about 1.75 miles E of Tuquian Point.

The bay has a depth of 12.8m in its entrance, and shoals gradually toward the head. The 5.5m curve fronts the head of the bay at a distance of about 1 mile.

Puting Buhangin Shoal, a narrow detached reef which dries, extends about 1.5 miles WSW from a position about 0.75 mile WSW of the W extremity of Sandoval Point.

A shifting sand bank on the E side of the reef dries to about 0.6m. A least depth of 5.5m lies at the W end of the reef, about 2 miles WSW of the W extremity of Sandoval Point. A narrow channel for small vessels separates the E side of this reef from the reef fringing Sandoval Point.

These shoals partially protect Tagabas Bay from SW seas.

Anchorage.—Tagabas Bay affords the safest anchorage for vessels with local knowledge on the Luzon coast between Port Laguimanoc and Ragay Gulf.

Directions.—Vessels entering Tagabas Bay should bring the N side of the W extremity of Sandoval Point to bear 090°, before Tuquian Point bears 000°. When the drying part of Puting Buhangin Shoal is abeam, the course should be altered to the NE and anchor according to draft.

2.47 Sandoval Point (13°35'N., 122°16'E.) is low, densely wooded, and fringed with mangroves. It is bordered by drying reefs which extend as far as 0.5 mile SW. The point is joined to the mainland by an isthmus which is less than 0.5 mile wide.

Catanauan Bay (13°35'N., 122°18'E.) is entered between the E extremity of Sandoval Point and Pala Point.

Except for the reefs fringing the shores, there are no dangers in the bay. Depths of 13 to 15m are found in the entrance to the bay. The 10m curve fronts the head of the bay at a distance of about 1 mile.

A reef, containing several rocks which dry to about 0.6m, extends about 0.35 mile SE from the E extremity of Sandoval Point. A conspicuous boulder lies E of Sandoval Point on this reef.

A reef extends about 0.5 mile SW from the W face of Pala Point. The bay widens slightly and the reef narrows inside the entrance points, leaving a sandy beach along the shores of the bay.

2.48 Catanauan (13°36'N., 122°19'E.) (World Port Index No. 58270) is a large town situated on the E side of the mouth of the Catanauan River, at the head of the bay. A drying sandbar restricts the mouth of the river. A good landmark in the town is a church of gray stone with a small dome.

There is a small pier located close inside Pala Point, but it is reported to be partially destroyed and unusable.

Catanaunan is a port of call for local mail vessels. Catanauan Light is shown from a tower, 10m high, at the town.

Anchorage.—Catanaunan Bay is protected from the effects of the Northeast Monsoon, but is open to the Southwest Monsoon. Vessels may approach the bay with the light in the town bearing 023°, and anchor, in a depth of 9.1m, sand, about 1 mile distant. Small vessels can anchor closer in on the same bearing in accordance with their draft.

2.49 Between Pala Point and Ajus Point, about 2 miles SE, the coast is fringed by a reef as far as 0.5 mile offshore. A detached reef, which dries, lies about 0.5 mile SW of Ajus Point.

Mulanay (13°31'N., 122°24'E.), a small town, stands at the mouth of the Mulanay River, which indents the coast about 3 miles SE of Ajus Point.

Mount Maclayao, a broad, flat-topped, and heavily-wooded peak, is located about 2 miles E of the town. It is 378m high and rises slightly above the other hills in the vicinity.

Vessels with knowledge of the area can take anchorage protected from the Northeast Monsoon, with the church bearing 070°, in a depth of 9m, sand, about 0.4 mile from the shore. Vessels should approach the anchorage on this bearing, and anchor when a large rock on the shore reef is abeam to port.

Lipata Point (13°29'N., 122°25'E.), located about 2 miles SSE of Mulanay, can be identified by its prominent white cliffs.

Ayoni Bay is a small open roadstead, located 6.5 miles SE of Lipata Point. A reef extends about 0.5 mile SW.

The water is reported to shoal gradually from 28m, mud, about 1 mile offshore, to a depth of 9.1m, sand, about 0.5 mile

offshore.

Anchorage can be taken, sheltered from the Northeast Monsoon, about 0.5 mile offshore of this bight.

The coast from this bay, for about 6 miles S, is fringed by reefs, extending in places more than 0.5 mile offshore. Dangers, comprised of detached reefs with depths of 0.9 to 9.1m, lie 0.5 to 1.5 miles offshore.

2.50 Aurora (13°21'N., 122°31'E.), a small village partially obscured by trees, is located about 10 miles SE of Lipata Point. A prominent church is located in the N part of the village.

Two reefs, with depths of 8.7 and 9.1m lie, 1.25 and 1.75 miles, respectively, W of Aurora church. The 10m curve lies about 0.75 mile W of the village. The depths decrease sharply toward the shore.

Vessels with local knowledge can take anchorage, during the Northeast Monsoon, about 0.75 mile offshore abreast the village, in depths of 16 to 18m, mud and sand.

Small craft may anchor closer in by following the narrow channel through the coastal reef.

Vessels approaching from the N should keep at least 1 mile offshore until the church at the village bears 100°. This bearing leads to the anchorage.

Vessels approaching Aurora from the W should pass S and E of Subunguin Reef, located about 3.25 miles WSW, and then approach the anchorage with the church bearing 068°.

Subunguin Reef (13°20'N., 122°28'E.) is marked by a stranded wreck. The reef is about 1 mile wide and is steep-to on its W side. The wreck was reported not visible at a distance of 1 mile.

2.51 Subunguin Point (13°18'N., 122°30'E.), about 3 miles S of Aurora, is quite prominent and 76m high. Mangroves fringe the point and a reef extends out almost 1 mile N and a short distance W.

Almost directly S of Subunguin Point, Aguasa Bay indents the peninsula. The head of the bay is fringed by a wide drying reef.

A detached reef, with a depth of 2.1m, lies off the entrance of the bay, about 0.9 mile SSW of a steep cliff. This cliff, which is nearly 30m high, stands on the SW side of Subunguin Point.

Small vessels can anchor in the middle of the bay, in depths of 5 to 9m.

Pinamuntangan Bay (13°15'N., 122°30'E.) lies close N of Pinamuntangan Point, located 3 miles S of Subunguin Point. Several detached shoals lie in the N part of the bay about 0.35 mile offshore. A sandy beach lies at the head of the bay.

Pinamuntangan Point (13°15'N., 122°30'E.) is densely wooded, fringed with mangroves, and surrounded by a very narrow coral reef.

Bondoc Point (13°10'N., 122°36'E.), the S extremity of the Bondoc Peninsula, is a prominent formation of limestone, with a bluff about 15.2m high, rising from a base of old coral; it is surrounded by a narrow reef.

The point is very bold, gray in color, and appears as a masonry structure. It is clear of dangers and steep-to.

Bondoc Head, about 405m high and prominent, is located about 1.5 miles NNW of the point.

Marinduque Island

2.52 Marinduque Island (13°23'N., 121°58'E.), which is separated from the Bondoc Peninsula by Mompog Pass, lies E of the E entrance to Verde Island Passage.

The island is mountainous and well wooded. There are several prominent peaks on the island, but Mount Marlanga, 1,179m high is the highest; it is located in the S part of Marinduque.

There are five towns, all of which are settled, on the island's coast or near the coast and serve as sheltered anchorage according to the season.

The three harbors of refuge are Port Balanacan, Santa Cruz, and Masagasi Bay.

The coasts of Marinduque, with the exception of the NE, are for the most part steep-to, with the 20m curve lying as far as 1 mile offshore.

2.53 Mompog Pass (13°33'N., 122°12'E.) lies between Tuquian Point and Maniuayan Island and Mompog Island. The channel has a least width of about 4 miles in the fairway between Mompog Island and Puting Buhangin Shoal, mentioned earlier.

In Mompog Pass the flood current sets SE and the ebb NW, but caution is advised when navigating in this area because there are strong and irregular currents both in the pass and between it and Bondoc Point.

Marinduque Island—North Side

2.54 San Andres Island (13°34'N., 121°51'E.) and Natangco Island, two small islands, are 45m and 40m high respectively, extending about 1 mile W from Silangan Point, the NW extremity of Marinduque Island. There is no channel between the islands, and at very low tides the reef which connects them with the point, dries. There are tide-rips immediately to the W of the islands.

San Andres Point (13°34'N., 121°52'E.), the N extremity of Marinduque Island, is a small steep-to peninsula, 270m high.

The N coast of Marinduque between San Andres Point and Santa Cruz Point, about 8.2 miles ESE, is rugged and very irregular. This section of the coast is divided into two bays by Trapichihan Point, located about midway between the two above points.

Sayao Bay, the W bay, indents the coast to a distance of about 1.5 miles in a S direction. A narrow reef fringes its shores, but the bay is deep and clear of dangers in its middle part.

Calancan Bay, the E bay, is fringed with reefs and is foul inside a line joining Trapichihan Point and Santa Cruz Point. The Banot Islands extend 2 miles E and 1 mile NE from Trapichihan Point.

Hakupan Island, which is the outer island of this group, lies about 1 mile NE of Trapichihan Point. It is high and bold but not prominent.

A shoal, with a depth of 7.6m, lies about 0.25 mile NNW of Hakupan Island. Lusok, a small village, stands near the SE cor-

ner of Calancan Bay.

Santa Cruz Point (13°33'N., 122°00'E.), the W point of the N entrance to Santa Cruz Harbor, is over 30m high, and prominent. The N side of the point is fringed by a narrow reef.

A shoal, with a depth of 4.6m, lies about 0.5 mile NW of the point. Reefs and foul ground, parts of which dry, extend about 3 miles ESE from Santa Cruz Point.

The E edge of this foul ground forms the W side of the N channel leading into Santa Cruz Harbor.

2.55 Santa Cruz Harbor (13°30'N., 122°04'E.) (World Port Index No. 58315) lies between the NE coast of Marinduque Island and the W and S coasts of Santa Cruz Island (described in paragraph 2.57). The harbor, which is deep and clear of dangers in the fairway, serves as a port of refuge and a port of call for coastal shipping.

Some copra is loaded at the port. Two shallow rivers, the Santa Cruz River and the Tagum River, discharge into the SW part of the harbor.

The town of Santa Cruz is located about 0.75 mile SW of the mouth of the Santa Cruz River.

Depths—Limitations.—Port Buyabud, which can be identified by its lengthy pier, is located on the S side of the mouth of the Santa Cruz River, in a position about 0.5 mile S of Tabignan Point, the new entrance point of the river. It is the loading place for the village of Santa Cruz.

The N entrance channel lies between the E edge of the foul ground and reefs extending 3 miles ESE from Santa Cruz Point, and the W side of the reef extending 0.5 mile N from the NW side of Santa Cruz Island. The channel is about 0.5 mile wide with depths of 24 to 50m in the fairway. Within the entrance the shore reefs are narrow and fairly steep-to on either side of the channel.

The E entrance channel lies between the S edge of the reef extending 0.35 mile SE from the SE end of Santa Cruz Island, and the N edge of a detached reef with depths of 4.6m, located about 1.25 miles E of Mango Point.

The entrance is about 0.25 mile wide, with a least depth of about 14.6m in the fairway. Within the entrance the shore reefs are narrow and fairly steep-to on either side of the channel.

During the rising tide a weak current sets in through the N channel and out through the E channel. The reverse occurs during the falling tide.

A light is located on the fringing reef on the W side of Santa Cruz Harbor, in a position about 4 miles SE of Santa Cruz Point. It has been reported that the light structure may be difficult to distinguish during the day.

The N entrance channel is marked by a pair of buoys moored on the edge of the fringing reefs 1.75 miles N of the light.

There is an ore pier at Balogo, about 0.4 mile N of the light structure. The T-shaped pier, 55.8m long, 13.8m wide with a depth alongside of 10.1m, can take vessels with a draft of 9m. The pier lies in a 317°-137° direction at the head of a causeway 387m long, built out from the shore.

Pier No. 2 is 39m long and 12.6m wide. Concrete dolphins are provided off each end of the pier to take mooring lines.

Pilotage.—Pilotage is not compulsory. A pilot can be obtained from Manila if required.

Anchorage.—Vessels can take anchorage in the S part of the harbor, in a depth of 16.5m, soft mud, with the S extremity of Santa Cruz Island bearing 091° and the SW extremity of the same island bearing 335°.

The usual anchorage for small craft desirous of communicating with Santa Cruz is SE of Tabignan Point.

Vessels awaiting a berth at the ore pier can anchor in midchannel, abreast the pier, in depths of 27 to 29m, mud. The ore pier can accommodate vessels with drafts up to 9m in a berthing space of 55.5m.

Directions.—Entrance into Santa Cruz Harbor should be attempted only during daytime.

Vessels entering via the N channel should not bring Santa Cruz Point to bear more than 270° until the E extremity of that island, bearing 130°, in order to give the foul ground on the W side of the entrance a good berth.

When the light on the W side bears 189° steer for that, passing between the buoys marking each side of the reefs at the entrance until well inside, when a mid-channel course may be kept to the anchorage.

Ships bound for the ore pier can steer a course of 180° from a position a little over 2 miles N by W of the N end of Santa Cruz Light bears 186° at this position. Steer 180° for Tabignan Point until abeam or due W of the N end of Santa Cruz Island. Then steer 190° until abreast the 8.2m shoal off the W coast of that island. After that, a course can be shaped for the pier, docking port side-to.

Vessels entering Santa Cruz Harbor via the E channel should steer for the light on the W side of the harbor bearing 282° until Mango Point on the S side of the channel is abeam. The course should then be altered directly for the recommended anchorage.

Caution.—Care must be taken to avoid the detached reef, with a depth of 4.6m, on the S side of the entrance to the channel.

A dangerous sunken wreck lies off the E entrance, about 1.5 miles E of Mango Point.

2.56 Tagum Point (13°27'N., 122°08'E.), about 3.5 miles SE of Mango Point, is high and rugged. Conspicuous are the Tagum Peaks that rise within Tagum Point in a steep slope.

The E and higher peak, located 0.75 mile NNW of Tagum Point, is 178m high, well defined from the offing and wooded. The W peak, located about 0.5 mile NW of the E peak, is 162m high, and covered with grass. These peaks appear sharp when viewed from the N.

Several shoals, with depths of 6 to 9m, lie within 0.6 mile E and SE of the point. The 20m curve fronts the point at a distance of about 1 mile.

Marinduque Island—Off-lying Islands

2.57 Santa Cruz Island (13°31'N., 122°05'E.) is low, flat, and fringed by reefs which extend about 0.5 mile N from the NW point, and about 0.35 mile SE from the SE point. The SW part of the island is a mangrove swamp, and the remainder is cultivated land.

A concrete causeway extends 90m SSW, 0.75 mile W of the SE extremity of the island.

Maniuayan Island (13°32'N., 122°07'E.) is low, flat and wooded with coconut groves, and surrounded by extensive

reefs. A detached reef is awash and lies about 0.5 mile NE of the NE extremity of the island. The channel between this island and Santa Cruz Island, which was just discussed, is 0.5 mile wide and has depths of 14.6m near the north and south channel entrances.

A detached shoal, with a reef that dries on its SE side, lies on the W side of the channel in a position about 1 mile NNW of the E extremity of Santa Cruz Island.

Tagum Point, in range with the summit of the easternmost hill on Salomague Island, bearing 159°, will carry a vessel through this channel. In following this range S, when the S tangent of Santa Cruz bears 270°, change to 142° so as to provide a wide berth off the dangerous sunken wreck 0.9 mile SE of the SE point of Santa Cruz Island.

2.58 Mompog Island (13°31'N., 122°11'E.), the outer danger off the NE coast of Marinduque, lies about 9.5 miles E of Santa Cruz Point, the NE extremity of Marinduque. The island is 99m high, and is steep-to on its E side. Mompog is fringed on its N, E, and S sides by narrow steep-to reefs. On the W side the reef is wider.

The channel between Mompog Island and Maniuayan Island is about 1.2 miles wide between the 10m curves fronting the islands. A least depth of 8.2m is found in the fairway.

The bottom is very rocky and irregular. The E extremity of Salomague Island in range, bearing 184°, with the third knoll on Salomague Point, the E extremity of Marinduque, leads through the channel between the two islands in a least depth of 11.9m.

Vessels are cautioned to keep closely on this range in order to pass E of the above-mentioned 8.2m patch.

Marinduque Island—East Side

2.59 Salomague Island (13°25'N., 122°08'E.) extends about 2 miles SSE from a position about 1.5 miles S of Tagum Point. The NW and SE extremities of the island are low, and fringed by reefs as far as 0.25 mile offshore.

The summit of the island, 74m high, is near the center of the island. On the SE side of the island is a brown, rocky cliff about 36m high.

The NE or seaward side of the island is fringed with reefs which extend about 0.3 mile offshore at the N end, tapering to the rocky cliff mentioned above.

Masagasai Bay (13°25'N., 122°07'E.), a port of refuge for small vessels, is formed by a large, irregular indentation in the coast of Marinduque, between Tagum Point and Salomague Point, about 5 miles SSE. The bay is almost entirely occupied by Salomague Island.

The channel between the island and the coast of Marinduque is narrow and shallow in the middle, W of the center of the island, but expands at either end into irregularly shaped basins of moderate size and depth.

Anchorage.—Small vessels can take anchorage in the northern end of the bay, W of the N end of Salomague Island, in depths of 7 to 9m.

Directions.—To enter Masagasai Bay a vessel should steer for the conical hill, 98m high, located about 2 miles W of the N extremity of Salomague Island, bearing 260°. When Tagum Point bears 017°, the course should be altered to 197° with the point directly astern, until the conical hill bears 284°, then a direct course may be steered for the anchorage.

Caution.—Entering through the S end is not recommended because of the narrow, intricate channel leading between the reefs.

2.60 Salomague Point (13°22'N., 122°09'E.), the E extremity of Marinduque, located about 1.5 miles S of the SE extremity of Salomague Island, is formed by low cliffs. The 20m curve fronts the point at a distance of less than 0.25 mile.

Torrijos Bay (13°19'N., 122°05'E.), a small bay, is entered about 4.25 miles SW of Salomague Point. It indents the coast to a distance of about 0.2 mile in a NW direction.

The bay affords shelter to small vessels, except from S and E winds. Torrijos, a small town, stands on the high ground on the W side of the bay. The school buildings in the town are visible from most directions.

The entrance points and the sides of the bay are fringed with coral, narrowing the entrance to a width of 0.15 mile, and contracting the inner part to a width of about 0.125 mile.

Small vessels can take anchorage in the middle of the bay, in a depth of 12.8m.

Marlanga Bay (13°16'N., 122°03'E.), an open bight, is entered about 4 miles SSW of Torrijos Bay. It indents the coast to a distance of about 1 mile in a W direction and is entered between Cabuyo Point and Panique Point, about 2 miles SSW. The bay is fully exposed to E winds and for the most part is very deep. Anchorage can be taken, in 22 to 27m, sand, about 0.4 mile from the S shore of the bay.

Marlanga Point (13°13'N., 122°02'E.), the SE extremity of Marinduque and located about 2.5 miles SSW of Panique Point, is a bold headland rising to a height of 280m about 0.2 mile inland.

Marinduque Island—South Side

2.61 Suban Point (13°12'N., 122°00'E.), the S extremity of Marinduque, is bold and steep-to. The land within the point rises steeply to Mount Marlanga, about 2.5 miles N.

Elefante Island, small round and rocky, is located about 0.6 mile SSW of Suban Point. The island is 118m high, sparsely wooded, and steep-to on all sides. The mariner will find this a very prominent landmark, particularly when viewed from E or W.

Tidal currents set strongly through the channel between Elefante Island and the S coast of Marinduque.

Anchorage is available on a small shelf extending N from the islet, in 24m, sandy bottom, with the E extremity of the island bearing 180°.

The **Tres Reyes Islands** (13°14'N., 121°50'E.) are a group of three small densely-wooded uninhabited islands lying about 1.75 miles from the SW side of Marinduque.

2.62 Baltasar Island (13°14'N., 121°49'E.), the outermost and highest island, is 111m high and lies about 4.75 miles SW of Catala Point. This point is located on the SW side of Marinduque about 10 miles NW of the S end of the island.

A light marks Baltasar Island. It is shown from a round metal tower, 19m high, standing on the summit of the island. Melchor, the middle island, is 88m high, and lies about 3.6 miles SW of the same point.

Gaspar, the inner island, is 94m high and lies about 2 miles SSW of the above point. The coasts of these islands are bordered by precipitous cliffs greatly underworn by the sea.

These cliffs are highest on the SW side of each island, where they reach a height of about 61m.

The two outer islands are steep-to, but a reef and rocks extend about 0.125 mile NE from the NE side of Gaspar Island.

The channels between the three islands are deep and clear of dangers. Shoals, with least depths of 7.5m and 9.2m, lie between Gaspar Island and the SW coast Marinduque, about 1.5 miles and 0.9 mile, respectively, off Catala Point.

2.63 Gasan (13°20'N., 121°51'E.) is located on a low bluff, from 6 to 15m high, about 2 miles SE of **Obung Point** (13°21'N., 121°49'E.).

The most prominent building in the town is a white warehouse, with an iron roof, standing near the beach in the N part of the town. A hill, with a ruined fort, is located behind the town and is reported to be conspicuous.

Gasan Light is shown from a concrete tower, 10m high, in the town. The light is obscured by the Tres Reyes Islands.

Anchorage.—There is anchorage about 0.5 mile W of Gasan, in depths of 13 to 15m, sand, but it is only protected from the Northeast Monsoon. Smaller vessels may anchor closer in.

It is reported that there is better anchorage available, in a depth of 27m, with the conspicuous warehouse bearing 035°, Gasan Light bearing 114° and Baltasar Light bearing about 191°.

These anchorages are untenable during the Southwest Monsoon.

2.64 Boac (13°27'N., 121°50'E.), situated about 1.5 miles in from the coast, is the principal town on Marinduque Island, and the capital of the Province.

The Boac River divides about 1 mile from the sea, with the main stream flowing W and reaching the sea just S of **Lupac Point** (13°27'N., 121°49'E.).

This point, which is the W extremity of the island, is low, flat and sandy, and bordered by coconut palms.

The Laylay River, the smaller branch, flows SW and reaches the sea at the village of Laylay about 0.5 mile SE of the mouth of the Boac River.

The small village of Laylay is the usual landing place for Boac, and copra is loaded at the anchorage off the town.

Boac Light is shown from a concrete tower, 7m high, standing on the beach at the mouth of the Laylay River.

Postal, radio, and telegraph services are available at Boac but there are no repair services, stores, dry provisions, water, or fuel oil. Medical facilities are located at the Public Health Center at Boac, but only emergency cases will be treated.

The 20m curve fronts the coast at a distance of less than 0.5 mile in the vicinity of the mouths of the two rivers, but within this curve the water shoals rapidly.

The Boac River is reported to be continually shifting its bed, and to vary greatly in the amount of its discharge.

The usual anchorage for Boac is from about 0.25 to 0.35 mile W of Laylay Light, in depths of 22 to 27m. The anchorage, which is exposed to the Northeast Monsoon and the Southwest Monsoon, must be approached with caution as the water shoals very rapidly.

Ulan Point (13°30'N., 121°51'E.) is located about 4 miles NE of Lupac Point. It is fringed by a coral reef which extends about 0.35 mile offshore.

Ulan Bay, encumbered by reefs, is of no value to navigation. A good landmark is a prominent white tank which stands at the head of the bay.

Pamuntangan Point (13°31'N., 121°51'E.), lying about 1 mile NNE of Ulan Point, is 97m high 0.25 mile within its extremity and is well-wooded.

2.65 Port Balanacan (13°32'N., 121°52'E.) is made up of two small but perfectly-protected anchorages which can accommodate moderate-sized vessels. The harbor is backed by high hills and, except for one reef in the entrance, is free from dangers.

Port Balanacan

Directions.—To enter Port Balanacan an E course should be steered so as to pass about 0.3 mile N of Pamuntangan Point. When the light on the E shore bears 060°, the course should be altered to that bearing until the W extremity of Salvaria Islet is in range 019° with Pig Point, about 0.25 mile NNE.

This range leads to the outer anchorage. Vessels proceeding to the inner basin should continue on this range for a short distance and then pass fairly close W of Salvaria Islet and then NE to the recommended anchorage.

A narrow reef extends about 0.5 mile SSW from a position about 0.25 mile SSW of Tactacan Point. Agpisan Island and Ataa Island are found on this reef lying 0.3 mile and 0.5 mile SSW, respectively, off Tactacan Point.

Both islands are dome-shaped, about 15.2m high, and wooded at their summits. Pinnacle Rock, 2.4m high, lies near the outer edge of the reef about 137m SW of Ataa Island.

Magdumug Islet, lying on the outer edge of a reef which extends about 0.2 mile S from a position about 0.5 mile SSE of Tactacan Point, is 44m high and wooded.

A light brown cliff, about 27m high, is located on the W side of the islet.

A detached reef, defined by the 5.5m curve, lies from 0.15 to 0.3 mile SW of the W extremity of Magdumug Islet. A rock, which dries, lies on its E edge. This reef does not show well. The S edge of the reef and the S side of the islet form the N side of the channel leading to the outer anchorage.

Bacood Bay, which slightly indents the SW shore of the entrance, lies between Pamuntangan Point and Bacood Point, about 0.5 mile ENE.

A ruined pier extends NW from Bacood Point. A rock, with a depth of 0.9m, lies about 91m NW of Bacood Point.

A pier extends N from the same point, and several mooring buoys are laid in this area of Port Balanacan.

Two dangerous sunken wrecks are reported to lie in this bay in positions about 0.2 mile and 0.3 mile WSW, respectively, of Bacood Point; these positions are also reported doubtful.

The E shore of the outer harbor between Bacood Point and Salvaria Point, about 0.75 mile NNE, is indented and fronted by shoals as far as 0.15 mile offshore.

The village of Balanacan stands on the E shore of the port, about 0.6 mile ENE of Bacood Point. A yellow bluff, about 7.6m high, stands about 0.15 mile N of the village.

Port Balanacan Light is shown from a tower, 8m high, standing close N of the prominent yellow bluff.

Salvaria Point (13°32'N., 121°52'E.) is located about 0.375 mile NNW of the village of Balanacan. A pier extends from the W side of Salvaria Point with a depth of 3.4m at its head. A stranded wreck lies about 183m SSW of Salvaria Point.

Salvaria Islet, small, rocky, and nearly awash, lies on the E side of the entrance to the inner basin in a position about 91m NW of Salvaria Point. Shoals and foul ground connect the islet to the shore E and S.

The narrow channel connecting the outer anchorage with the inner basin is about 54m wide and has a least depth of 11.5m in the fairway. The inner basin is contracted to a width of about 183m and a length of 0.3 mile by shoals fronting its shore as far as 0.3 mile offshore.

Anchorage.—Vessels can take anchorage about 0.15 mile E of Magdumug Islet, in a depth of 20m, mud.

Anchorage can also be taken in the somewhat restricted inner basin in a position about 0.2 mile NE of Salvaria Islet, in a depth of 12.8m, mud.

Ragay Gulf

2.66 Ragay Gulf (13°30'N., 122°45'E.) indents the coast of Luzon in a NNW direction for about 60 miles and then narrows down to a width of about 6 miles at the navigable portion of its head. Ragay Gulf is generally deep and clear of dangers.

The shores are fringed by narrow coral reefs interspersed with sand and gravel beaches. The hills rise abruptly from the shore and are generally wooded.

At the head of the gulf the land slopes more gradually from 0.25 to 0.5 mile inland, and then rises steeply in ridges and valleys to the higher hills inland.

The gulf, with the Vinas River discharging into its head, nearly separates the SE part of Luzon from the main portion of the island.

The 20m curve, which fronts the head of the gulf as far as 2 miles, lies quite close to the W and E shores of the gulf. The outer coastal dangers, on the W side of the gulf, lie about 3 miles offshore, and those on the E side, about 2.5 miles offshore.

Caution.—A submarine cable, best seen on the chart, is laid between Guinayangan and Carinan.

Ragay Gulf—West Side

2.67 Pagsanhan Point (13°11'N., 122°38'E.), located about 3 miles NE of Bondoc Point, is low, wooded, and fringed by a narrow reef. Two small detached reefs lie off the point. The outer reef is awash. The Pagsanhan River discharges close N of the point, with a depth of 1.2m on its bar.

Arena Point (13°14'N., 122°42'E.) lies 4.25 miles ENE of Pagsanhan Point. Mount San Andres, 257m high, about 6 miles NNW of the point, and another peak about 1.75 miles farther N, are prominent due to their summits being covered with tall grass. The tidal currents are strong off Arena Point.

Sombocogon Bay (13°16'N., 122°41'E.), small in extent and mostly foul, slightly indents the coast about 2.75 miles N of Arena Point.

Alibijaban Island (13°21'N., 122°43'E.), 24m high, is a narrow island lying 2 miles off the coast about 6 miles N of Arena Point.

The middle of the island, which is low and bordered with mangroves, causes the island to appear as two islands when viewed from seaward. The E and W sides of the island are fairly steep-to. The island is fringed with a coral reef which extends 0.75 mile S and 0.25 mile N.

Several detached shoals, with depths of 2.0 to 7.3m, lie about 1 mile off the coast in an area 2 miles long and 0.25 mile wide, with the S extremity about 2.75 miles NW of the N extremity of Alibijaban Island.

Palad Reef (13°27'N., 122°42'E.) is located 4.75 miles N of Alibijaban Island and extends about 2 miles NNW. A small cay, with a least depth of 0.3m, stands near the middle of the reef. The channel between the reef and the coast to the W is about 2 miles wide and there are some shoals, with depths of 10 to 18m. A shoal, with a depth of 11.4m, lies about 2.5 miles NW of the cay.

Pusgo Reef (13°30'N., 122°38'E.), which dries, lies about 1.25 miles SSE of Pusgo Point, the SE extremity of the peninsula which forms the NE side of Port Pusgo.

2.68 Port Pusgo (13°32'N., 122°36'E.) is entered between the N entrance point of the Bigol River and Pusgo Point, about 2 miles NNE. The narrow inlet extends about 5 miles NW into the E side of the Bondoc Peninsula. The W shore of the inlet and part of the E shore is fronted with mangroves.

Bunhangin, a small village, stands on the NE side of the inner entrance to the port about 1.75 miles NW of Pusgo Point. The town of San Narciso stands at the head of the inlet.

The 5.5m curve fronts the W shore of the outer entrance to a distance of about 0.75 mile. The channel between this curve and the reef fringing the S and SW sides of the peninsula forming the E side of the inlet has a least depth of 6.4m. It passes along the SW side of the peninsula, narrowing to a width of about 91m in the vicinity of Buhangin, and continues narrow to a position about 1 mile NW of the town. The inner part of the inlet N and W of this channel is very shoal.

Small vessels with local knowledge can take protected anchorage in the inner part of the inlet, about 0.5 mile NW of Buhangin, in a depth of 7.3m, mud.

2.69 Gorda Point (13°32'N., 122°38'E.), located 1.25 miles NNW of Pusgo Point, is high and steep. The reef which

fringes Port Pusgo continues around Gorda Point to the NW, extending 91 to 360m from shore.

Two detached shoals, with depths of 4.5m and 0.9m lie 4.5 miles and 5 miles, respectively, NW of Gorda Point.

Guinhalinan Point (13°40'N., 122°30'E.), about 11 miles NW of Gorda Point, is low and forms the S side of the entrance to the Guinhalinan River.

A shoal, with a least depth of 10m, lies about 5.75 miles E of Guinhalinan Point.

Peris Bay (13°42'N., 122°30'E.) is entered between Guinhalinan Point and Lian Point, about 4.5 miles NNE. The bay indents the coast to a distance of about 2 miles in a W direction and is fully exposed to E winds.

Lian Point (13°44'N., 122°31'E.) stands out on this part of the coast and rises to a height of 91m less than 0.5 mile from shore. The Peris River is a small stream discharging into the bay at a point 2.5 miles W of Lian Point.

A coral reef, which extends about 0.25 mile S from Lian Point, fringes the N side of the bay. The head of the bay is fronted by a mudbank to a distance of about 1 mile which considerably reduces the available space.

Vessels, with local knowledge, can take anchorage in the NW part of the bay, in depths of 7 to 11m, mud.

A shoal, with a least depth of 3.7m, lies 2 miles N of Lian Point.

2.70 Capuluan Point (13°49'N., 122°31'E.), located 5 miles N of Lian Point, is low and bordered by mangroves. A prominent rock, which dries except at the highest tide, marks the outer end of a reef which extends 0.2 mile E from the point. A shoal depth of 0.3m lies 1 mile E of the point. The small coves on either side of the point are shoal and of no importance to navigation.

Capuluan Reef (13°49'N., 122°34'E.), which dries 1.5m, lies about 2 miles E of Capuluan Point. The channel between the reef and the dangers off the point is 1 mile wide, deep, and clear of dangers in the fairway.

Guinayangan (13°54'N., 122°27'E.), about 6.5 miles NW of Capuluan Point, is the largest town in Ragay Gulf. Small vessels can obtain anchorage about 1 mile ESE of the town, in a depth of 5.5m, mud.

The **Vinas River** (13°55'N., 122°27'E.) is entered between Guinayangan and Sibalun Islet, about 2.5 miles ENE. The river, which has a depth of 2.4m over its outer bar, extends about 4 miles NW to its narrow inner entrance.

The channel leading into the river is very narrow and lies between extensive mudbanks which extend from both shores and partially dry. Local knowledge is necessary when entering the river.

The 9.1m curve extends across the mouth of the Vinas River, at the head of the gulf, from a position about 3 miles SE of Guinayangan. Within the curve the depths decrease gradually and are very shallow in the vicinity of the town.

Acha Reef, with a depth of 0.6m, lies about 3.25 miles E of Guinayangan. The reef is steep-to. A shoal extends over 1 mile S from the shore to the N, with a depth of 0.3m at its outer end.

Caution must be exercised when navigating in this vicinity, as the water is often muddy and the shoals cannot be distinguished.

Sibalun Islet (13°55'N., 122°30'E.) is located about 2.5 miles ENE of Guinayangan. The islet is a coral reef overgrown with trees, some of which are from 12 to 15m high. At half tide, the islet is connected to the shore by a long narrow sand bar.

Tagkawayan Bay (13°56'N., 122°33'E.) is entered between Awasan Point and Mambulao Point, about 1.5 miles E. The bay indents the NE corner of the gulf about 2.5 miles. The greater part of bay is shoal.

Tagkawayan (Tagcawayan), a small lumber port, stands at the head of the bay. It is connected by rail with other Luzon towns. Lumber is rafted out to ships in the anchorage. There is a telegraph station, and the sawmill maintains direct radio communications with Manila.

Vessels with local knowledge can take anchorage just inside the entrance points, in depths of 9 to 13m, mud. The anchorage is protected from all but SW winds by the surrounding high hills.

Ragay Gulf—East Side

2.71 Catabangan Bay (13°52'N., 122°37'E.), indenting the coast about 6 miles SE of Tagkawayan Bay, is entered between Kilbay Point and Bagutayoc Point. The shores of the bay are fringed with coral.

Between the entrance points of the bay, approximately in the middle, is a shoal with a depth of 12.3m. Throughout the greater part of Catabangan Bay, there are depths of over 18.3m.

Catabangan (13°53'N., 122°38'E.) is a small loading port located on the S side of the Catabangan River about 2.5 miles NE of Bagutayoc Point. The port is reported to be the site of a sawmill.

The S entrance point of the Catabangan River is marked by a concrete pole, 9.7m high.

Vessels with local knowledge can take anchorage off the mouth of the river, in depths of 11 to 15m.

Port Ragay (13°51'N., 122°39'E.) is situated about 5 miles NW of Ragay Bay. It is a small loading port exporting logs and some copra.

Omon Point (13°48'N., 122°41'E.), SE of Catabangan Bay, is quite high, clear, and steep-to. When entering Ragay Bay from N this point can be safely rounded within 183m.

Ragay Bay (13°48'N., 122°42'E.) indents the coast about 1.75 miles in a NE and E direction, and is entered between Omon Point and Otoc Point, about 3 miles ESE of Omon Point.

Four small rivers flow out into the bay but are all shallow and nearly closed by sand bars at LW.

The town of Ragay, which is connected to the general telegraph system, is located about 2.5 miles inland from the head of the bay.

Vessels with local knowledge can take anchorage on the E side of the bay, in depths of 11 to 18m.

2.72 Otoc Point (13°47'N., 122°43'E.), is the W extremity of Saboon Island, which is separated from the mainland by a narrow channel which dries. Foul ground, with a rock awash near its outer end, extends about 0.75 mile W from the point.

Caima Bay (13°43'N., 122°49'E.), entered between Otoc Point and Bantuin Point, about 9 miles SE, is open to the W and indents the coast about 4 miles. The shores of the bay are fringed by coral, and a narrow strip of mangroves extends

along the beach. The village of Bibahaan is located about 4.5 miles NE of Bantuin Point.

Anchorage.—Vessels with local knowledge can take anchorage, in a depth of 14.5m, NE of Bantuin Point. This anchorage is protected by the point and by Carabang Island and Galvaney Island during the Southwest Monsoon. Anchorage can also be taken SW of Binahaan, about 1 mile offshore, in depths of 9 to 15m, mud.

Bantuin Point (13°39'N., 122°48'E.), 100m high, extends about 1.5 miles from the coast. It has a conspicuous sharp peak near its extremity which is steep-to on its seaward side and looks like an island from a distance.

A prominent peak, 510m high, is located about 4 miles SE of Bantuin Point. It is reported that a white scar on its side is conspicuous, and the peak is visible from nearly all parts of the gulf.

Carabang Island, 59m high, lies on a narrow reef which extends 0.5 mile SE toward Bantuin Point. The island is steep-to on its seaward side.

Galvaney Island, 73m high, and a large rock 12.2m high NW of it, lie on the reef extending from Bantuin Point.

These dangers are steep-to on the gulf side, but there is foul ground between them and the point.

Tanuan Point (13°31'N., 122°58'E.) lies about 13 miles SE of the prominent point of Bantuin Point. The town of Dalopaon lies about 2.5 miles WNW of Tanuan Point. Vessels can take anchorage off Dalopaon, but rather close in because of the great depths.

2.73 Pasacao Anchorage (13°30'N., 123°03'E.), a loading area for logs and copra, lies between Pasacao Point, about 4 miles ESE of Tanuan Point, and Refugio Island, about 1.5 miles further ESE. The shore of the cove is fringed by a reef with sand and mud covering it.

Pasacao, a small town, stands on the N side of the bight about 0.75 mile N of Pasacao Point. A 117m pier, with a warehouse, has a depth of 1.5m alongside. A government wharf, 116m long with a depth of 4m, lies 0.2 mile S of the above pier. No fresh water, stores, or provisions are obtainable. A resident government health officer is in attendance. A telegraph station is in the town.

Pasacao Pier

Refugio Island, 17m high, is fringed by a steep-to reef that extends about 137m S from its S side. The channel between the island and the coast NE of it is deep and clear of dangers, but is reduced to a width of about 0.2 mile by a reef extending about 0.25 mile SW from the shore. Fish traps NW of the island further reduce the channel width.

Vessels with local knowledge can take anchorage, in depths of 5 to 9m, mud, but is open to the SW. At times a choppy sea sets in and makes cargo-handling operations extremely difficult.

Jamuraon Bay (13°26'N., 123°10'E.) is located about 8.5 miles SE of Refugio Island. This open bight is entered between Sibono Point and Tongon Point. The town of Jamuraon stands at the head of the bay. Sibono Point is quite easy to identify as it has two peaks contrasting sharply against the higher ground inland. A light stands at Bagoboso close ENE of Sibono Point.

Vessels with local knowledge can take anchorage off the small town of Jamuraon, in depths of 5 to 11m, but it should be noted that outside the coastal bank the bottom drops off steeply.

Tongon Point (13°23'N., 123°12'E.) can be identified by the precipitous bluff, about 61m high, on its S side. The N side of the point is low.

Caurusan Point (Kaurusan Point) (13°21'N., 123°12'E.), about 2.5 miles SSE of Tongon Point, can be identified by its pyramidal shape, the tall grass on the S side of its extremity, and the steep valley S of it.

A light stands close SE of Caurusan Point, with another light 1.5 miles further SE at Balatan (Siramag).

Coguit Point (13°18'N., 123°14'E.), about 3.5 miles SSE of Courusan Point, is low and covered with brushwood. It is bordered by a sandy beach and fringed by a reef extending about 0.25 mile offshore. A conspicuous grass-covered hill lies between the point and the higher ridge inland.

Bedal Point (13°16'N., 123°16'E.), about 2.5 miles SE of Coguit Point, is fringed by a narrow reef. A detached reef, awash, lies about 0.25 mile S of the point.

2.74 Pantao Bay (13°12'N., 123°19'E.), small in area and which indents the coast in a SE direction, lies immediately NE of Caunbalan Point. The bay affords good anchorage for small vessels with local knowledge, but is exposed to the NW. A light red-colored cliff, 36m high, stands on the top of a grass covered ridge about 2.5 miles N of Pantao Bay. It is a good landmark.

Caunbalan Point (13°11'N., 123°18'E.) serves as a good landmark for vessels in this area as it is quite high with a number of large rocks at the foot of the cliffs.

The point is fringed by a coral reef. Mount Pantao, 460m high, is located about 3.25 miles ESE of Caunbalan Point and is easily identifiable.

Apud Reef (13°09'N., 123°17'E.) stands on a shoal, as defined by the 9.1m curve, which extends about 1.5 miles NW from a position close NW of Apud Point. Apud Reef is an extensive reef that bares over an area about 1 mile long and 0.5 mile wide. A rock, awash at LW, lies about 0.75 mile NW of the main reef.

The channel between the reef and the point is about 0.3 mile wide. A shoal, with a depth of 4.9m, lies in mid-channel NW of

Apud Point to which it is connected by a ridge covered by somewhat deeper water. The narrow channel lying to the W of the 4.9m shoal has a depth of 14.6m.

Vessels with local knowledge can take fairly good protection in Mabato Bay eastward of Apud Reef, but vessels should anchor well toward the point.

Apud Point (13°09'N., 123°17'E.), located about 2.75 miles SSW of Caunbalan Point, is low and covered with mangroves, brushwood, and scattered coconut palms.

Macoto Point (13°03'N., 123°17'E.), located about 5.5 miles S of Apud Point, is bold and prominent. Three wooded hills on the point, the highest 73m, and the low land between them, give the point the appearance of an island from N or S.

Bagadamolag Islet, very small in extent, lies 0.25 mile SE of the point close off the fringing reef. A shoal, with a depth of 4m, lies nearly 1 mile NW of Macoto Point.

Cagmanaba Bay (13°03'N., 123°17'E.), a slight indentation in the coast close S of Macoto Point, affords shelter for small vessels, with local knowledge, from all winds except from S. A hill, 32m high, is close to the shore near the head of the bay, and Mount Caburauan, 473m high, about 2 miles inland, serves as useful marks for vessels in this vicinity.

Cabarian Point (13°01'N., 123°19'E.), the E entrance point of Ragay Gulf, is low and wooded. It is fringed by a reef about 183m wide. The point may be identified by a 93m high hill located about 0.5 mile N of the point. A shoal, with a least depth of 18.3m, lies 1 mile W of the point.

The coast continuing E of Cabarian Point is described beginning in paragraph 2.83.

Burias Island, Burias Pass, and Off-lying Islands

2.75 Burias Island (13°00'N., 123°06'E.) lies in the entrance to Ragay Gulf. The island is predominately mountainous, thinly wooded, and has a steep coast. The shores are bordered by coral reefs, and there are a few stretches of sandy beaches.

The slope of **Mount Enganoso** (12°52'N., 123°14'E.) may be mistaken for the extremity of the island, a misunderstanding which has caused the loss of several vessels. Mount Enganoso, the highest point on Burias Island, is 428m high.

Burias Pass (13°00'N., 123°15'E.), a wide and deep channel, connects Ticao Pass with Ragay Gulf and separates the E side of Burias Island from the S coast of Luzon.

The least width in the pass is between **Cabarian Point** (13°01'N., 123°19'E.) and Siargao Point, located about 7.5 miles SW.

Caution.—Navigators must exercise caution when approaching Burias Island from the W during periods of low visibility, such as often occurs with the Southwest Monsoon, because the SE end of the island may not always be visible.

2.76 Templo Island (13°09'N., 122°52'E.), 74m high, extends about 3 miles NNW from a position 2.5 miles NW of Cueva Point, the NW extremity of Burias Island.

There are some detached rocks on the reef which fringes the S shore of the island and also on the reef which extends 0.5 mile NE from the N end.

The **Sombrero Islets** (13°09'N., 122°50'E.) consist of two small islets lying close together on a narrow reef, which extends 1.75 miles NNW from a position about 1.5 miles WSW of the SW extremity of Templo Island. The N and smaller islet is 39m high and the larger islet is low and covered with brushwood.

Arena Islet (13°09'N., 122°48'E.) lies on a circular reef, about 0.5 mile in diameter, in a position about 2.5 miles WNW of the Sombrero Islets. A narrow shoal, as defined by the 5.5m curve, extends 0.5 mile NE from the islet. A shoal, with a depth of 14.6m at its outer end, extends 1 mile N from the islet.

Inaguaran Shoal (13°11'N., 122°48'E.) constitutes the northwesternmost danger in this area. The shoal is located about 1.75 miles N of Arena Islet and has a least depth of 5.8m.

A clear and deep channel, about 0.75 mile wide, lies between this shoal and the N edge of the shoal bank extending N from Arena Islet.

The **Tinalisayan Islets** (13°09'N., 122°56'E.), which are low and sandy, lie on a reef located about 2.5 miles N of Cueva Point, the NW extremity of Burias Island.

A channel, about 0.5 mile wide, with a least depth of 12.8m in the fairway, lies between the Tinalisayan Islets and the W extremity of Busing Island, about 1.25 miles SE.

Tanguingui Island (13°11'N., 122°56'E.), fringed by a reef, is located about 1.25 miles NNE of the Tinalisayan Islets. The channel between this islet and Tinalisayan Islets has several shoals, the least depth being 4.5m.

A steep-to shoal, with a depth of 6.4m, lies about 0.75 mile N of Tanguingui Islet, with a deep passage between.

A detached shoal, with a least depth of 2.7m, lies about 2.25 miles N of Colorada Point, the N extremity of Burias Island.

Anima Sola Islet (13°13'N., 123°03'E.) is a small islet, 35m high, located about 5 miles NE of Colorada Point.

Burias Island—West Side

2.77 Port Busin (San Pascual) (13°08'N., 122°58'E.), important as being a typhoon anchorage, lies between the NW side of Burias Island and the S side of Busin Island (Busing Island).

Busin Island, 80m high and wooded, is fringed by a reef which dries in places. Shoal water, as defined by the 5.5m curve, extends over 0.5 mile W and NW from the W side of the island.

The coast of Burias Island that forms the S side of the port is indented by several coves. These coves are for the most part foul, but deep water lies close off their entrance points.

The W entrance to the port, which is narrow and tortuous, lies between partially drying reefs extending from both shores. A least depth of 9.6m is found in the fairway.

The recommended N entrance to the port, which is also narrow, lies between the rather steep E side of Busin Island and the coast of Burias Island. Depths of over 18.3m are found in the fairway. This entrance can be identified by Colorada Point, the N cape of Burias Island, which shows yellow patches among the trees that cover it.

The massive bluffs near the entrance are also prominent.

San Pascual is used by small inter-island vessels. There is a pier close N of the town, 146m in length. There is a depth of 2.4m at its head.

Anchorage.—Vessels with local knowledge can take an-

chorage NW of the town of San Pascual, in depths of 13 to 18m, mud.

Directions.—Vessels entering Port Busing, via the recommended N channel, should round Colorada Point at a distance of 0.3 mile and keep in mid-channel between Burias Island and Busin Island to the anchorage.

Small vessels entering Port Busin via the W channel should bring the conspicuous white cliff on the W end of Busin Island to bear 070° and make the approach on that bearing.

This course leads clear of the reef fringing the N face of Cueva Point. When about 0.5 mile from the cliff, the course should be altered to the SE and a mid-channel course should be steered up the narrow and crooked channel to the anchorage.

2.78 The coast between Cueva Point (13°07'N., 122°56'E.) and Guinduganan Point, about 5 miles S, is indented in its N part by Alimango Bay, a small cove. A shoal, with a depth of 2.1m, and a rock, awash, lie in the entrance to the bay. A shoal, with a least depth of 4.9m, lies about 0.5 mile SW of Cueva Point.

Guinduganan Bay (13°02'N., 122°58'E.), a small cove, indents the coast close E of Guinduganan Point.

Ilog Bay (13°00'N., 123°04'E.), a small cove about 6 miles ESE of Guinduganan Bay, indents the coast about 1 mile SE of Mangrove Point.

Malapingan Point (12°51'N., 123°12'E.) is located 12.5 miles SE of Mangrove Point.

Nabasagan Bay (12°51'N., 123°13'E.), a small cove, lies close E of Malapingan Point. The village of Nabasagan stands at the head of the bay.

A rock, awash, with several other shoals as defined by the 5.5m curve, extends about 1.5 miles SW from the coast from a position about 1.5 miles NW of Malapingan Point.

Caution.—Vessels are advised to keep well offshore in this vicinity.

2.79 **Mount Enganoso** (12°52'N., 123°14'E.), 428m high, is 1.5 miles E of Nabasagan and is the only good landmark on the coast.

Gorrion Islet (12°49'N., 123°16'E.), located about 4.75 miles SE of Nabasagan Bay, lies on a coastal reef about 0.25 mile offshore.

The coastal reef extends for 4 miles SE of the islet and a bank, with depths of less than 9m, extends 1 mile offshore.

The coast between Malapingan Point to Aguja Point, with about 14 miles between, is fringed by reefs, with the exception of the last 5 miles, which is bold and steep-to.

The 10m curve lies about 1 mile offshore along this stretch of coast.

Aguja Point (12°42'N., 123°23'E.), the SE extremity of Burias Island, is bold and steep-to. The land within the point gradually slopes down from Mount Sagurum, which has an elevation of 239m.

Burias Island—East Side

2.80 The NE extremity of Burias Island, between Colorada Point and the entrance to Port Busainga, about 3.5 miles SE, is indented by Laorente Bay. This bay, which is open to the N and E, is mostly foul.

Shoals extend 0.75 mile offshore in the E part of the bay. Several reefs lie awash in this shoal area.

Port Busainga (13°07'N., 123°02'E.), an excellent typhoon anchorage for small vessels, is entered between Piedras Point, 3.75 miles SE of Colorada Point, and Boca Point, 0.15 mile further S.

The shore on either side of the narrow entrance channel is fringed by reefs and indented by several small coves which dry at LW. The channel leading into the inner anchorage is about 91m wide at its narrowest point. About 1 mile within the entrance points the harbor opens out to a width of over 1 mile, but is very shallow.

The diurnal range of the tide is 1.7m.

The Boca Islets lie on the outer edge of a reef which extends about 0.35 mile E from the coast N of Piedras Point. The N and larger islet is 18m high and wooded. The smaller one is 13.7m high and covered with tall grass.

A reef, which dries, extends nearly 137m N from Medio Point, located on the SE shore of the port, in a position about 0.5 mile SW of Boca Point.

Anchorage.—Vessels with local knowledge can take anchorage about midway between Esterio Point, located about 0.35 mile SSW of Boca Point, and a point on the opposite shore about 0.15 mile NNW, in a depth of 22m, mud. Small vessels, with local knowledge, can anchor, in 3.6m, in the inner part of the port.

Port Busainga is suitable only for small vessels, as the swinging room and turning room is extremely limited.

The channel leading to the inner anchorage is 91m wide at its narrowest part.

2.81 **Dampalan Bay** (13°02'N., 123°06'E.), which is encumbered by reefs, is entered immediately W of Casameyon Point, located about 6.5 miles SE of Port Busainga. The bay can be identified by the junction of the wooded hills N of Bagabarco Point, located about 2 miles NW of Casameyon Point, and the lower grass-covered hills S.

Nonoc Bay (12°56'N., 123°11'E.), entered between San Pinetan Point, about 5.25 miles SE of Casameyon Point, and Siargao Point, 5.75 miles further SE, is mostly foul, and is formed by a slight indentation in the coast. A reef, which dries, extends 2 miles NW from Siargao Point, and a reef, parts of which dry, extends 2 miles SE from San Pinetan Point.

The entrance between the extremities of these reefs is foul, with detached reefs and shoals, but small vessels with local knowledge can find shelter inshore of these dangers in 24 to 26m, mud.

2.82 **Port Boca Engano (12°47'N., 123°19'E.)**, a small cove which indents the coast about 1 mile, is entered between Castillo Point, located about 7.75 miles SE of Siargao Point, and Tres Marias Point, about 0.6 mile ESE. There is an extensive shoal, parts of which dry, in the middle of the entrance.

The entrance to the E channel is about 91m wide, with a least depth of 8.7m. The W channel is deep and about 183m wide at its entrance, narrowing to a least width of 137m inside.

An extensive reef, covered with mud, extends about 0.5 mile NW from the head of the cove.

Anchorage.—This port is not recommended as an anchor-

age. The depths are considerable; the bottom is hard and there is little swinging room.

The land around the inlet is low offering little protection from the wind during the monsoons.

Small vessels, with local knowledge, can take anchorage with the NW tangent of Tres Marias Point, bearing 038° distant 0.35 mile, in depths of 29m, hard mud.

Vessels should make the approach to the port with the bold bluff of Castillo Point bearing 235°, until the tangent to Tres Marias Point bears 118°, then steer 156°, taking care to avoid the shoal at the entrance and anchor in the position given above.

Luzon—Cabarian Point to Tagiran Point

2.83 Solitario Islet (13°01'N., 123°21'E.) is located about 2 miles E of Cabarian Point, previously described in paragraph 2.74, and 0.5 mile offshore. A shallow reef connects the islet with the shore. The 20m curve fronts the shore in the vicinity as far as 1.25 miles offshore. Vessels are advised to stay well S of this 10.3m islet to avoid the shoal water extending off this coast.

Panganiran Bay (13°02'N., 123°25'E.) is a large bay indenting the coast and open to the S, located 5 miles E of Cabarian Point, Bagalayog Point, located about 4.75 miles ENE of Cabarian Point, is prominent, and affords some protection to a vessel anchoring close E or W of it.

Several small villages are scattered along this coast, of which Magradongdong, about 1.5 miles E of Bagalayog Point, is the most important. It is distinguished by a metal roof building.

Catundulan Point (12°56'N., 123°32'E.), 10 miles SE of Bagalayog Point, consists of bright sand cliffs varying in height from 18 to 33m. The point is wooded with the exception of one small patch of tall grass near the cliff on the SW side. Sunken coral heads and a reef, which dries, extend nearly 0.125 mile SW and S from the point.

Tinanogan Bay (12°56'N., 123°33'E.), which indents the coast to a distance of about 1 mile, is entered between Catundulan Point and Pampang Point, about 2.5 miles ESE. The bay has a flat sandy beach which dries for a distance of about 0.5 mile from its head. There are no dangers in the outer part of the bay, and the 20m curve fronts the shore as far as 0.75 mile.

Pampang Point is composed of light-colored cliffs about 12m high, but is not prominent.

Donsol (12°54'N., 123°35'E.), a small loading port for copra, stands on the E side of the mouth of the Donsol River, about 1.75 miles SE of Pampang Point.

The port is an open roadstead, as the river is navigable only by small vessels.

Several galvanized iron-roofed buildings identify the town. The mouth of the river is fronted by sand banks and fish traps extending about 0.5 mile offshore.

The depth over the bar at the mouth of the river is about 0.6m.

Donsol Light is shown from a wooden framework tower, 10m high, standing on the SE side of the river entrance.

A rock, awash, lies about 0.25 mile SW of Donsol Light.

Anchorage.—Vessels can anchor about 1 mile SSW of the light, in a depth of 35m. The anchorage is exposed to both the Northeast Monsoon and the Southwest Monsoon.

2.84 Dumaquit Point (12°52'N., 123°39'E.), located about 4 miles ESE of Donsol, is covered with tall grass and small trees, and shows a level profile almost to the 9m vertical cliffs at its extremity. A shoal, with a depth of 8.5m,lies about 1 mile SSW of the point.

Port Putiao (12°53'N., 123°40'E.) is entered between Dumaquit Point and Cutcut Point, about 2.5 miles E. The N part of the port is known as Pilar Bay. The Malbug River discharges into the head of the bay. Pilar, located 3.5 miles NNE of Dumaquit Point, is the most important town on the bay.

A reef, which dries, extends nearly 0.5 mile SE from Dumaquit Point. The shores of the port are foul and the entire bay is shallow. A narrow unmarked channel, with a least depth of 2.4m, leads to the anchorage off the town of Pilar. A light is shown from the W entrance point.

Small vessels with local knowledge can take anchorage with the church at Pilar bearing 030° and Punahuan Island, 0.5 mile S of Pilar, bearing 080°.

2.85 Port Panlatuan (12°52'N., 123°42'E.), a shallow bay, is entered between Cutcut Point and Bantigui Point, about 2.75 miles SE. The bay is largely encumbered with shoals and reefs. Mecapiot Bay, the NW arm of the port, is an excellent typhoon anchorage for small vessels drawing less than 3.7m.

The N arm of the port is narrow and of little importance. The small town of Panlatuan stands on Panlatuan Point, on the W side of the port, in a position about 1 mile NE of Cutcut Point.

A shoal, with two rocks lying awash on its outer end, extends nearly 0.75 mile SSE from Cutcut Point. A reef, which dries, extends 1.25 miles W from the E shore, just inside the outer entrance. Bantigui Point is low, rocky, and wooded. It terminates in clay cliffs and a gravel beach. Bantigui Point is fringed by a reef extending about 0.2 mile S.

Small vessels with local knowledge can take anchorage, in a depth of 3.6m, mud, about 0.25 mile NW of Panlatuan Point.

Sorsogon Bay (12°55'N., 123°55'E.), the largest and best harbor in S Luzon, is entered between Bantigui Point and Magallanes, a small port about 5.5 miles ESE.

The bay indents the coast as far as 17 miles in an ENE direction.

The entrance to the bay is divided into three channels by Malaumauan Island and Bagatao Island. The main channel, which is about 1.25 miles wide, lies between the two islands.

Caution.—The channels between these islands and the coast of Luzon are narrow and encumbered with shoals.

The navigable channel, which has depths of over 12.8m in the fairway, is reduced to a width of about 0.6 mile between the 9.1m curve on either side. The 9.1m curve fronts the head of the bay as far as 7.5 miles, and the 5.5m curve fronts the head of the bay as far as 3.75 miles.

The channel sides of the islets on the N side of the channel within the outer entrance are steep-to, vessels have only to keep in mid-channel to be clear of all dangers.

2.86 Malaumauan Island (Malauvan Island) (12°51'N., 123°46'E.) is low, flat, wooded, fronted by white sandy beaches, and located on the W side of the entrance to the bay in a position about 1.5 miles E of Bantigui Point.

A narrow spit extends about 0.8 mile N from the N extremity of the island, leaving only the very narrow channel between it

Bagatao Island Light (Reported to be extinguished 2020)

and the coast to the N. A ledge, which dries in places, extends 1.25 miles SW from the island.

A depth of 8m is found on the outer edge of the shoal ground extending 1 mile S from the island.

Bagatao Island (12°50'N., 123°48'E.) lies on the E side of the entrance to the bay in a position about 3.25 miles ESE of Bantigui Point. The island is 126m high and wooded. The coasts of the island are clear of dangers, except on the SE side, where it is connected to the coast of Luzon by shoals and foul ground. A shoal, with a depth of 5.5m, lies about 0.5 mile SSE of the W extremity of the island.

Two navigational aids mark the W extremity of the island. Bagatao Island Lighthouse, a round metal tower and dwelling, 17m high, stands on the S point of the W extremity of the island, although this light is reported to be extinguished (2020). Sorsogon Bay Light is shown from a concrete tower, 10m high, standing on the N point of the W extremity of the island.

Tinacos Islet (12°50'N., 123°50'E.), 12m high, lies 0.25 mile N of the NE extremity of Bagatao Island.

Anchorage.—There is temporary anchorage over a bank of fine, black sand which extends 3 miles SW from Bagatao Island, in depths of 18 to 29m. There is also good sheltered anchorage N of Bagatao Island, off a small sandy beach close W of Tinacos Island.

2.87 Tomalaytay Islet (12°52'N., 123°49'E.) lies about 0.5 mile off the N side of the channel leading to Sorsogon Bay and about 2.75 miles ENE of Malaumauan Island.

It is the W islet of a group of small islets and dangers which are separated from the coast of Luzon by a narrow and foul channel. Foul ground connects the islet to the shore N. A shoal, with a depth of 3.5m, lies about 0.6 mile SW of the islet.

Maririg Islet (Maririgi Islet) (12°52'N., 123°50'E.), another islet of the group, is 22m high and lies about 1 mile ENE of Tomalaytay Islet. Lavampa Islet, 35m high, lies about 0.3 mile NE of Maririg Islet, and Matagdac Islet, 57m high, lies about the same distance N of Lavampa Islet.

Rocks and dangers lie close off the coasts of these islets.

A shoal, with a depth of 8.7m, lies about 0.5 mile NE of Matagdac Islet.

Dibughan Islet (12°54'N., 123°51'E.) lies close off Palinauan Point on the N side of the inner entrance to the wide part of the bay. The point is located about 7.75 miles ENE of Bantigui Point.

Magallanes Rock (12°53'N., 123°51'E.), the outer danger on this side of the channel, lies awash in a position about 0.15 mile N of Macuhil Point, located on the S side of the channel, about 3.25 miles NE of Magallanes.

2.88 Sablayan Island (12°53'N., 123°53'E.), 130m high and wooded, is located about 1.5 miles E of Macuhil Point. The island is separated from the coast to the SW by a narrow and shoal channel. There are numerous fish traps and stakes in Sorsogon Bay.

Castilla (12°57'N., 123°53'E.) is a small town on a low bluff on the NW shore of Sorsogon Bay, about 10.5 miles NE of Bantigui Point.

A light is shown at Castilla on the N entrance of the river from a concrete tower, 10m high.

Sorsogon (12°58'N., 124°00'E.) (World Port Index No. 58205), a town of considerable importance, stands on the N shore near the head of the bay in a position about 17.5 miles ENE of Bantigui Point.

The church tower in the town is prominent. There are two small piers which dry at LW, and a stone causeway, of considerable length, which has a depth of 1.2m.

2.89 Casiguran (12°53'N., 124°00'E.) lies on the S shore of the bay near its head, about 16.25 miles E of Bantigui Point. There is a concrete causeway at the waterfront. Vessels anchor a little more than 1 mile NW of the town. Casiguran Light is shown from a concrete tower, 10m high, standing in the town.

Anchorage.—Large vessels can anchor anywhere in Sorsogon Bay, according to their draft, except in the vicinity of the submarine cable.

Small vessels can anchor SW of Sablayan, which should be made with Palinauan Point bearing 316° astern; anchorage can be taken anywhere off the W face of the island. This channel carries a depth of about 2.7m.

Directions.—Vessels entering Sorsogon Bay should pass about 1 mile E of the buoy moored SW of Malaumauan Island, on a course of 017°, until Bagatao Island Light bears 112°, then steer 064° with Macuhil Point ahead.

This course is run for a distance of 4 miles until the E tangent of Lavampa Islet bears 338°, distance 0.5 mile. Then steer 038° until Macuhil Point bears about 168°, distant 0.6 mile. From this position a course of 066° leads to the anchorage off Sorsogon.

2.90 Magallanes (12°50'N., 123°50'E.) lies on the S side of the entrance to Sorsogon Bay. A narrow channel, with a least depth of 10.9m, leads to the port from N, but only drafts of 2.4m can be carried at LW across the bar in the S approach. It is a regular port of call for inter-island vessels.

Bulan (12°40'N., 123°52'E.), the most important town in this

vicinity, stands on the N side of the entrance to the Sabang River, close N of Sabang Point.

The town can be identified by Verde Hill, 146m high and covered with tall grass, located about 3.5 miles E of Bulan. Bulan Church is not visible from seaward.

Bulan Light is shown from a concrete tower, 8m high, standing on the shore near the middle of the town. It has been reported that in daylight the tower was obscured by buildings when approaching from NW.

The 20m curve fronts the shore, in the vicinity of the town, as far as 0.75 mile offshore.

Storm warning signals are displayed in the town.

The anchorage off Bulan is an open roadstead. Vessels can take anchorage with the light structure, bearing 075°, distant about 0.75 mile, in a depth of 18m.

The anchorage is safe during normal weather conditions, but currents of up to 3 knots set parallel with the coast in this vicinity.

Two small wooden piers, 75m in length, are situated 0.15 mile N and S, respectively, of Bulan Light.

The principal pier, situated S of the two wooden piers, is a 100m long pier at the end of a rock causeway, 247m in length, with depths of 4.1m alongside its head.

Bulan—Principal Pier

2.91 Agnas Point (12°37'N., 123°55'E.) lies about 3.25 miles SE of Sabang Point. It is a well defined flat-topped bluff, 36m high, covered with tall grass, and with vertical sides which are nearly bare. Trees extend to within a short distance of the bluff.

Utabe Bay (Otabi Bay) (12°38'N., 123°54'E.) lies close NW of Agnas Point. The 20m curve fronts the head of the bay at a distance of about 1 mile. The bay is fully exposed to the W, but temporary anchorage can be taken about 0.5 mile from the head of the bay, in depths of over 9m.

Butag Bay (12°37'N., 123°56'E.), entered E of Agnas Point, is about 0.75 mile wide and indents the coast to about the same distance in a N direction.

The shores are wooded, and the head of the bay is shoal. Butag, a small village, stands at the head of the bay on the N side of the Butag River.

Vessels can take anchorage in a very limited area in the center of the bay, in depths of 13 to 18m.

Tagiran Point (12°33'N., 123°58'E.), lying about 5 miles SE of Agnas Point, is the termination of a flat-topped peninsula about 9.1m high. It is covered with tall grass. This part of Luzon is mountainous and densely wooded.

The summits of the main ridge are from about 304 to 500m high. Mount Calomutan, 591m high, and Mount Sujac, 501m high are located 2 miles NNE and 2.5 miles NE, respectively, of Tagiran Point and are prominent summits.

Masbate—Northeast Coast

2.92 Masbate Island (12°20'N., 123°30'E.) is mountainous, there being a central chain which follows a semicircular direction and terminates at the SW and SE points of the island. The island is sparsely inhabited.

The highest point is located 19 miles SE of Bugui Point where there is an elevation of 696m. The towns are small and of little commercial importance.

Bugui Point (12°36'N., 123°14'E.), the N extremity of Masbate, is moderately high, rugged, and steep-to. The point is marked by a light which is shown from a round masonry tower, 15m high, attached to a dwelling.

The NE coast of Masbate between Bugui Point and Colorada Point, about 9 miles ESE, is rugged and steep-to. The shore reef extends from 91m to about 0.25 mile offshore. Diablo Islet lies on the coastal reef about 4 miles ESE of Bugui Point.

Colorada Point (12°33'N., 123°23'E.), marked by a light, is the termination of a group of small hills that rise from about 61 to 91m high, ending in a bluff about 15.2m high. The point is fringed by a drying coral reef extending as far as 200m NE. A shoal spot, as defined by the 9.1m curve, extends about 0.5 mile E from the point.

2.93 Port Barrera (12°31'N., 123°23'E.) is entered between Colorada Point and Catbatan Point, about 2 miles SE. It is a good harbor of refuge and indents the coast as far as 7 miles in a SSW direction. The surrounding land is mountainous, and of a reddish color. The shores are fringed with mangroves.

The N shore of the outer part is generally steep-to. A narrow shoal spot, with a least depth of 3m at its outer end, extends about 0.25 mile SSE from a position about 1.75 miles W of Colorada Point.

The W shore of the outer part of the port between the Mailaba River, located 2.25 miles W of Colorada Point, and Matalan Point, about 1.5 miles SSW, is fronted by drying reefs as far as 0.5 mile offshore. Matalan Point is fronted by a drying reef which extends about 0.4 mile NE.

The SE shore of the outer part of the port between Catbatan Point and Amoron Point, about 2.25 miles WSW, is fronted by a drying reef.

This reef, which is broken only off the town of Aroroy, extends 0.25 mile N from Catbatan Point and 0.4 mile NNE and 0.15 mile W from Amoron Point.

A reef, with a least depth of 0.9m, lies on the W side of the channel leading to the inner anchorage in a position about 0.65 mile E of Matalan Point. Another reef, with a least depth of 1.8m, lies on the E side of the channel in a position about 0.3 mile W of Amoron Point.

Two shoals, with depths of 5.5m, lie on the W side of the fairway in positions about 0.5 mile WSW and 0.65 mile SW of

Amoron Point. The channel S of these shoals is very narrow.

The head of the port S and SW of Macatul Point, located 1.25 miles S of Amoron Point, is shallow and encumbered with mud flats. The Lanang River and several smaller rivers flow into the head of the port. These rivers cause a strong N current during the falling tide in the inner anchorage, with practically no current during the rising tide.

Mount Canatonatoan, 224m high, and Mount Bagadila, 321m high and marked by a large grassy patch on its W slope, are located about 0.75 mile and 1.75 miles, respectively, S of the town of Aroroy. They are conical in shape, in contrast to the irregular-shaped and higher mountains inland, and serve as useful marks when approaching the port.

Aroroy (Aroro), a small town, is located on the E shore of the harbor in a position about 0.75 mile SW of Catbatan Point. An 8m long pier stands at the end of a 90m causeway extending from the village. The town has a post office and telegraph communication facilities.

Depths of over 18.3m are found in the wide outer part of the harbor as far as 1.5 miles within the entrance points. A narrow channel, with a least depth of 6m, leads S from the wide outer part of the harbor to the inner anchorage, located about 3.25 miles SSW of Colorada Point. The continuation of the channel S is extremely narrow and leads to the shallow head of the port.

Anchorage.—Vessels can take anchorage off the inner side of the sandy beach S of Colorada Point, in depths of 40m, coarse sand and mud. They can also anchor in the entrance to the port with Colorada Point bearing 000°.

Small vessels, with local knowledge, can find secure anchorage in the inner part of the port, SW of the mouth of the Guinobatan River, or NW of Magaguilan Islet, which lies about 0.15 mile SW of Macatul Point, in depths of 8 to 11m.

Directions.—Small vessels proceeding to the inner part of the port, from a position about 1 mile S of Colorada Point, should steer 225° for a white spot on Cliff Point, until Magaguilan Island bears 153°, then head for it on this bearing. When the center of Mount Canatonatoan bears 090°, alter course to 176°. When Magaguilan Island bears 145°, anchor in the specified anchorage.

Caution.—The waters of Port Barrera are not buoyed. Vessels are advised not to enter the inner harbor.

2.94 Catbatan Point (12°31'N., 123°24'E.) is hilly and wooded. Catbatan Rock, which is prominent, lies on the outer edge of the coastal reef which extends about 0.25 mile N from the point.

Pasil Bay (12°27'N., 123°32'E.), entered 9 miles SE of Catbatan Point, is very small and indents the coast as far as 0.5 mile in a SSW direction. The town of Magdalena, in which there is a church, stands on the E side of the bay.

Small vessels, with local knowledge, can take anchorage between a prominent sand spit on the NW side and the church in Magdalena, in depths of 13 to 15m, mud. Good protection may be found nearer the head of the bay in depths of 5.5m.

Bagubaut Point (12°28'N., 123°33'E.), located close NE of Pasil Bay, is a bold headland and the only prominent feature on this stretch of coast. The coast between this point and the entrance to Masbate Harbor is steep-to with no reported off-lying dangers.

2.95 Masbate (12°22'N., 123°37'E.) (World Port Index No. 58620), the capital of Masbate Province, stands on the E side of the harbor, just within the entrance. The capitol building and the provincial hospital are prominent. The school, which has a metal roof, stands at the E end of the town and is also prominent.

Masbate Harbor (12°22'N., 123°36'E.) is entered between Northwest Point, located about 6 miles SE of Bagubaut Point, and an unnamed point about 0.6 mile SE.

Depths of over 49m are found in the middle of the entrance channel, and depths of over 20m are found in the middle of the harbor. A depth of 17m lies about 0.8 mile SW of Masbate Harbor Light.

The entrance channel is reduced to a width of about 0.15 mile by steep-to reefs extending from both sides of the entrance, and can usually be distinguished by their light color.

Passage should be attempted only during daylight hours and under favorable conditions.

The harbor is well protected from all winds and has sufficient room for maneuvering.

A reef, which partly dries and is steep-to, extends about 0.2 mile offshore between Bantigue Point and Northwest Point.

A spit, marked by a buoy, extends 225 meters E from the extremity of the drying reef.

The head of the harbor is shallow. Several rivers discharge into the harbor through the mangrove swamps which border its shores. Steep-to reefs, extending 0.4 mile in places, are along the N and W sides of the harbor.

Depths—Limitations.—The main pier for ocean vessels is 210m long, with an alongside depth of 12.1m and a width of 10m. Present port facilities can only accommodate 1 vessel at a time due to draft limitation and physical length of wharf.

The largest vessel that can be accommodated is 300m in length, with a maximum draft of 12m.

Pilotage.—Pilotage is compulsory and should be requested from the Harbor Pilot Association, Legazpi City, at least 36 hours before arrival. The pilot will board the vessel 1.5 miles NE of the harbor entrance and be aboard a boat displaying a pilot's flag.

Signals.—Typhoon signals are shown from the branch office of the Philippine Weather Bureau.

Anchorage.—Anchorage is available close NE of the harbor entrance, in 69m, sand, with the light bearing 225°, distant 1 mile. Anchorage is also available within the harbor, but this is restricted to emergency or typhoon use.

Directions.—When approaching the entrance to Masbate Harbor, steer for the light bearing 226°.

When 0.5 mile from it, steer for **Bagalejo Point** (12°22'N., 123°36'E.), which is prominent and located on the S side of the harbor about 1 mile SSW of the light, on a course of 207°. When clear of the entrance, alter course for the pier.

When berthing alongside, it is recommended to berth starboard side-to during the flood current, especially during the Southwest Monsoon (May to September). During the ebb current, vessels should berth port side-to.

2.96 Mobo Bay (12°21'N., 123°39'E.), close SE of Masbate Harbor, is entered between Baybay Point, about 1.75 miles ESE of Northwest Point, and Sagausauan Point, about 2.25 miles SE. It is foul and of little importance to navigation.

Baybay Point is fronted by a reef extending as far as 0.25 mile N and NE. Buntud Reef lies in the middle of the entrance to the bay about 0.75 mile ESE of Baybay Point.

Shoal water, extends 0.5 mile NE and E from the E side of Buntud Reef and constitutes a danger to vessels proceeding NW along the coast of Masbate.

Tacu Shoal and Mobo Shoal, with depths of 0.9m and 1.4m, lie about 0.35 mile NNW and 0.5 mile W, respectively, of Sagausauan Point.

Shoals and dangers front the S and W sides of the bay as far as 0.5 mile offshore. The Mobo River discharges into the SE part of the bay. Mobo, a small town of little importance, stands on the W side of the river at its mouth.

Small vessels, with local knowledge, can take anchorage in the SE part of the bay, between Mobo Shoal and the mouth of the Mobo River.

Gorda Point (12°20'N., 123°42'E.), about 2 miles SE of Sagausauan Point, is composed of large boulders from which wooded land rises steeply about 75m to a bench and then another 61m to the top of the hills near the shore.

It is prominent from both N and S.

2.97 Uson Bay (12°14'N., 123°47'E.) is entered between Paniqui Point, about 6 miles SSE of Gorda Point, and Tabunan Point, about 2.75 miles E of Paniqui Point.

This small inlet, which is fully exposed to the N, is very narrow in its inner part, but offers some protection to small vessels with local knowledge during the Southwest Monsoon.

Uson, a small village, stands on the E shore of the bay in a position about 2.25 miles SE of Paniqui Point. No supplies of any kind are obtainable. The shores of the bay are bordered by mangroves.

A narrow spit, as defined by the 5.5m curve, extends about 0.75 mile W from Tabunan Point. There is a least depth of 3m at its outer end. A shoal, with a least depth of 8.5m, lies about 1 mile W of Tabunan Point.

The W shore of the bay is fairly steep-to, but the 5.5m curve fronts its head to a distance of about 1.5 miles.

Naro Bay (12°13'N., 123°51'E.), entered between Tabunan Point and Cadulan Point, about 4.5 miles ESE, is clear of dangers and deep in the middle. The bay affords good protection except from the NW.

The town of Dimasalang is on the beach at the head of the bay. No supplies are obtainable. It is connected to the general telegraph system, and there is regular sea communication with other ports.

Cudao (Kudao) Islet is a low rock, 20m high, lying on the edge of a shoal which extends 0.75 mile WSW from Cadulan Point. It is steep-to on its W side.

Vessels can take anchorage almost anywhere in the bay, depending on the direction of the wind. The E side of the outer part of the bay and the head of the bay is to be preferred as the depths are less steep.

2.98 Cadulan Point (12°13'N., 123°52'E.) is an eroded bluff, covered with jungle, with a narrow ledge at its base.

Magcaragit Island (12°16'N., 123°50'E.), 83m high at its S extremity, lies with its N end about 4 miles NW of Cadulan Point.

A shoal, with a depth of 8.5m, was reported to lie about 1 mile N of the N extremity of Magcaragit Island. A shoal, with a depth of 4.5m at its outer end, extends about 0.5 mile E of the E side of the island. Shoals and broken ground extend 1.25 miles NE, E, and 0.5 mile N from the island. A shoal, with a depth of 10.5m, lies about 1 mile NNE of the island.

Deagan Island (12°15'N., 123°51'E.), 30m high, lies about 0.75 mile NW of Cadulan Point. The island is fringed by a narrow reef, and a shoal, as defined by the 10m curve, extends 1.25 miles E from Ponduhan Point, the E extremity of the island.

Dakit Islet, 73m high, and Hamoraon Islet, 61m high, lie in mid-channel between Magcaragit Island and Deagan Island. These islands are very small in extent.

The passage between Deagan Island and Cadulan Point is about 0.75 mile wide, with a least depth of 14.6m in the fairway, but there are shoals on either side which contract the channel to a width of 0.25 mile between the 9.1m line.

Directions.—Vessels bound E through the above passage should give the S extremity of Deagan Island a berth of about 0.25 mile and then steer a course of 068° for 2 miles. The course should then be set as desired for destination.

Vessels bound W through the passage should steer a course of 248° in mid-channel, passing about 0.25 mile S of the S extremity of the island. The course should then be altered gradually to the NW, passing in mid-channel between the W sides of the islands that extend about 4 miles NW from Cadulan Point and the coast of Masbate.

2.99 Port Cataingan (11°57'N., 124°02'E.) is entered between Dumurug Point, about 20 miles SE of Cadulan Point, and Lumbuhan Point, about 1.25 miles SW.

Dumurug Point is fringed by a reef which extends about 0.2 mile S, with depths of less than 5.5m. The W side of the entrance is rather steep-to, with the 20m curve lying close offshore. Baslay Islet lies about 0.75 mile SSE of Dumurug Point.

A shoal spit extends about 1.25 miles SSE from the islet. The N and E sides of the islet are fronted by shoals as far as 0.15 mile offshore.

Baslay Reef, with a least depth of 1.8m, lies on this spit in a position about 0.5 mile S of the islet.

Ordonez Bank, with a least depth of 16.5m, lies in the middle of the entrance in a position about 0.8 mile SW of Dumurug Point.

There are depths of over 18.3m in the approaches to the port and in its outer part. It is 1.25 miles wide at the entrance, deep and clear of dangers in the middle part, open SE, and has good holding ground.

The shores of the port are fringed with reefs and shoals which extend from 0.125 mile to 0.3 mile offshore.

A detached shoal, with a least depth of 0.3m, lies on the E side of the fairway about 0.65 mile WNW of Dumurug Point.

A detached shoal, with a least depth of 0.3m, and a detached shoal, with a rock awash, lie about 0.25 mile off the E shore about 1.5 miles NW and 2.25 miles NW, respectively, of Dumurug Point.

Cataingan, a small town, stands on the W side of the inlet, near its head. The town has a post office and radio communications.

The head of the port is fronted by drying mud flats extending about 0.4 mile offshore.

The 10m curve fronts the head of the port at a distance of

about 1 mile; the 20m curve fronts its head at a distance of 2.5 miles.

The Tetas de Cataingan, two rounded hills, 280m and 284m high, are the most prominent landmarks for vessels entering the port. They lie close together about 3 miles NW of Cataingan.

Anchorage.—Vessels can take protected anchorage near the head of the port about 0.5 mile SE of the town of Cataingan, in depths of 7 to 9m.

Another recommended anchorage is in the bight on the W side of the port, about 0.25 mile NW of Mintac Point, located about 1.75 miles WNW of Dumurug Point.

2.100 Bugtung Island (11°53'N., 124°05'E.), 104m high, lies about 4.5 miles SSE of Dumurug Point. It is fringed by a narrow reef. A prominent hill, 100m high, stands at the SE extremity of the island. A small village is on the W shore.

Shoals extend 0.5 mile N and 1 mile S from the island. A stranded wreck lies off the coast of Masbate, 3.5 miles S of Dumurug Point.

Balanguingue Island (11°50'N., 124°06'E.), 33m high, lies about 7.5 miles SSE of Dumurug Point. Shoal water extends about 0.25 mile NW from its N side.

The channel between these islands and Masbate is deep and clear. A shoal, with a depth of 6.4m, lies about 1 mile NNW of Balanguingue Island.

Caduruan Point (11°43'N., 124°04'E.), the SE extremity of Masbate, consists of rocky bluffs, separated by short stretches of sandy beach. The hills within the point rise to a height of about 91m and are covered with trees and brushwood, with occasional clearings near the coast. Shoal water extends about 0.3 mile S from the point, outside of which it is clear, with a depth of 14.6m close-to. The point is marked by a light.

Masbate Pass (12°30'N., 123°35'E.) is very deep in mid-channel and has great depths lying close off the projecting points of Masbate and Ticao Island, on either side of the pass.

The various channels, which connect the S part of Masbate Pass with the SW part of Ticao Pass, are for the most part narrow and deep in the fairway, but the currents run strongly through them.

Of these, Black Rock Pass, with depths of over 18.3m in the fairway, is recommended.

Vessels should keep in mid-channel when passing through Masbate Pass. Vessels proceeding eastbound into Ticao Pass may use either of the channels of Black Rock Pass or the channel between Deagan Island and Cadulan Point.

Ticao Island

2.101 Ticao Island (12°30'N., 123°43'E.), separated from Luzon by Ticao Pass, is mountainous and thinly populated. The W coast is steep and rugged with the 20m curve lying close offshore.

Ticao Island—West Coast

2.102 Bagababoy Island (12°42'N., 123°36'E.), 51m high, wooded, and steep-to, extends about 1.25 miles NW from a position close NW of Nunun Point. The E side of the island is irregular and there are several high vertical cliffs on the W side. A shoal, with a least depth of 5.9m, lies about 0.4 mile ENE of the N extremity of the island.

Marcos Pass lies between the SE extremity of Bagababoy Island and Nunun Point. The pass is very narrow, with a least depth of 12.8m in the fairway. A shoal spit extending 1.25 miles N from Nunun Point has depths of 9 to 13m.

San Miguel Island (12°43'N., 123°36'E.), 67m high, lies about 0.25 mile NW of Bagababoy Island. The island is nearly divided into two parts by a low sand spit. A small islet, 43m high, lies in mid-channel between San Miguel Island and Bagababoy Island. A light marks the NW extremity of San Miguel Island.

A shoal, with a least depth of 10.7m, lies about 0.3 mile NW of San Miguel Island.

Vessels should give these islands a good berth as the tidal currents are very strong in their vicinity.

2.103 Port San Miguel (12°40'N., 123°35'E.) is entered between Tabunan Point, located 1.5 miles SW of Nunun Point, and Northwest Point, about 2.25 miles farther SW.

Faltaban Island, 54m high, lies about 0.25 mile W of Tabunan Point. The shores of the island are steep-to with a vertical cliff on its NW side. It is separated from the coast of Ticao Island by a deep channel about 0.25 mile wide.

Yeso Island, 58m high, lies about 0.5 mile S of Tabunan Point and close off the E shore. It is covered with brush and has very jagged underworn shores. The W side of the island is steep-to. A reef connects the E side to the coast of Ticao Island.

Catpatin Island, narrow, densely wooded, and 87m high, lies about 0.15 mile N of Northwest Point. Its channel side is steep-to and its W side is fringed by shoals to a distance of about 91m. The W side has bold, vertical cliffs about 45m high.

Mount Pandan, 233m high and oval shaped, is on the peninsula S of Northwest Point and forms an excellent landmark.

Foul ground extends about 1 mile N and NE from a position about 1 mile SSE of Northwest Point. The very small Puro Islets, reefs that bare, and sunken rocks lie on this foul ground. A narrow channel, with a least depth of 9.6m, leads between the SE edge of this foul ground and the reef fringing the NW side of the peninsula extending about 0.75 mile N from the head of the port.

Pilar Bay, the SW arm of the port, is entered between the E slope of Mount Pandan and the W side of the peninsula. The shores of the bay are fringed with mangroves. The bay is shoal, with the exception of the above mentioned channel, which leads into its outer part.

The SE arm of the port, which lies E of the peninsula, is irregular in shape and narrow. The channel abreast Mapusa Point, the NE extremity of the peninsula, is only about 183m wide between the reef extending 0.15 mile off the point and about 183m off the shore on the E side of the entrance.

The channel, with a least depth of 10.5m, is about 91m wide off the village of Pandan, located about 0.3 mile SE of Mapusa Point. The shores of the port are fringed with reef and shoals.

Small vessels with local knowledge can take excellent typhoon anchorage in mid-channel SE of Pandan, in a depth of 10.9m, mud. There is very little swinging room, but lines can be made fast ashore on both sides. The reefs in the head of the bay are hard to see on account of muddy water, and vessels should not go S of the recommended anchorage.

2.104 Togoron Bay (12°36'N., 123°36'E.), entered about 3.5 miles SSE of Northwest Point, indents the coast to a distance of about 1 mile in a NE direction. The bay is fringed with shoals and is fully exposed to S or W winds.

There is very little swinging room, and the bay is not recommended as an anchorage. A shoal, with a least depth of 8.5m, lies about 0.2 mile S of the W entrance point.

Bujo Island, 33m high, lies about 1.25 miles S of the entrance to Togoron Bay. A channel, with a depth of 4.1m, lies between the island and the coast of Ticao.

The remainder of the W coast of Ticao Island, between the S entrance point of Togoron Bay and San Rafael Point, about 18 miles SE, is steep and rugged, with the 20m curve lying close offshore. A building, located about 7 miles NW of San Rafael Point, is a conspicuous mark on this shore.

Tatus Island, 24m high, lies about 0.5 mile W of San Rafael Point. A channel, with a depth of 20m, lies between the island and the point.

Ticao Island—East Coast

2.105 Taclogan Bay (12°37'N., 123°43'E.) is entered between an unnamed point, located about 7 miles SE of Nunun Point, and Tasiran Point, about 0.75 mile ESE. The bay is open to the NE, but the reefs protect it from the sea.

A reef, with a least depth of 0.9m, lies in the middle of the entrance to the bay about 0.5 mile NW of Tasiran Point.

The entrance channel, which is about 0.125 mile wide, with depths of over 18.3m in the fairway, lies between the SE side of the above reef and the NW side of a shoal, with depths of less than 5.5m, extending about 0.25 mile N from Tasiran Point.

A secondary channel, about 183m wide with a least depth of 6.7m, lies between the W side of the mid-channel reef and the shoal spit extending 0.2 mile E from the W entrance point.

The W side of the bay is fronted by reefs, which bare at LW, as far as 0.125 mile E. The 10m curve lies about 91m E of the outer edge of the reefs.

The S shore of the bay is fringed by reefs as far as 0.15 mile N. A shoal, with a depth of 2.1m at its outer end, extends about 0.25 mile NNW, from a position about 0.5 mile WSW of Tasiran Point.

A very narrow channel leads W from the head of the bay into a basin in a shallow lagoon.

The lagoon extends about 1 mile S, but there is only a very small area near the entrance which provides secure anchorage for small craft.

2.106 Rizal (12°37'N., 123°43'E.), a small village, stands on the S shore of the bay in a position about 1 mile WSW of Tasiran Point.

Anchorage.—Small vessels with local knowledge can take anchorage in the middle of the bay about 0.4 mile N of the village of Rizal, in depths of 18 to 22m, mud.

The holding ground is good, but the swinging room is very limited. The channel leading to the anchorage area is unmarked and vessels should attempt entry only under favorable conditions.

Caution.—A 14m patch lies about 3.25 miles NNE of Tasiran Point.

2.107 Port San Jacinto (12°34'N., 123°44'E.) is entered between San Cosme Point, located about 2.25 miles S of Tasiran Point, and San Jose Point, about 0.5 mile SSE.

San Jacinto, located on the S side of the entrance to the bay, is the most important town on the island of Ticao. It may be identified by several prominent, grass covered hills, from 61 to 122m high, located behind the town.

The town is connected to the general telegraph system by radio. San Jacinto Light is shown from a concrete tower, 8m high, standing on San Jose Point.

There are depths of over 18.3m in the fairway of the entrance channel and depths of over 9.1m in the middle of the outer part of the port.

Shoal water, as defined by the 9.1m curve, extends 183m S and 0.5 mile E from San Cosme Point, and 0.15 mile N and 0.35 mile ESE from San Jose Point. The entrance channel, between the above curves, has a least width of about 0.2 mile.

The N shore of the bay W of San Cosme Point, is fronted by shoal water extending as far as 0.25 mile offshore.

The S shore of the bay, for about 0.6 mile W of San Jose Point, is fronted by shoals, as defined by the 9.1m curve, extending as far as 0.15 mile N. The head of the bay is shallow. Drying mud flats, with reefs at their outer end, front the head of the bay as far as 0.25 mile offshore.

Anchorage.—The port affords secure anchorage, well protected from all but E winds. The holding ground is good and the swinging room is ample for small vessels.

Vessels can take anchorage in a position about 0.15 mile NW of San Jose Point, in depths of 7 to 18m.

Vessels intending to anchor inside the bay should enter midway between San Cosme Point and the town on a 262° course, and anchor, in 13 to 18m, with San Cosme Point bearing about 000°.

Caution.—A 12.8m patch lies about 0.8 mile SE of San Jacinto Light.

2.108 Ticao Bay (12°29'N., 123°46'E.), a small cove, is entered between Lagan Point, located about 5 miles SSE of San Jose Point, and the N side of a small rounded peninsula about 0.75 mile S.

The town of San Fernando stands at the head of the bay in a position about 0.5 mile SW of Lagan Point. The town has a post office and telegraph facilities.

Vessels should approach the bay with the town bearing 258° and anchor, in 11 to 22m, when about 0.5 mile from the head of the bay. This anchorage is practically an open roadstead, as it is protected only to the W.

Batuan Bay (12°25'N., 123°47'E.), a narrow cove, is entered between Aricomo Point, about 4 miles S of Ticao Bay, and an unnamed point about 0.5 mile SSE. Batuan, a small town, stands on the N side of the entrance.

A reef extends about 0.3 mile E from Aricomo Point. Another reef extends about 0.25 mile NE from the S entrance point of the bay. The edge of this reef is usually marked by stakes.

Small vessels with local knowledge can take protected anchorage in Batuan Bay. Vessels should keep from 50 to 91m N of the stakes, and anchor, in 6 to 7m, mud, S of Batuan. In case the stakes are not in place, vessels should steer 225° for a conical hill on the S shore, and alter course to 270° when a

San Bernardino Islands Light

depth of 9.1m is obtained.

2.109 Biton Bay (12°23'N., 123°47'E.), entered about 1.75 miles S of Batuan Bay, is foul and encumbered with reefs and shoals.

A shoal extends over 1 mile E from the coast between Biton Bay and San Rafael Point, the S extremity of Ticao Island. A shoal, with a depth of 4.9m, lies about 1.25 miles NE of San Rafael Point.

Ticao Pass (12°40'N., 123°45'E.), lying between Ticao Island and the coast of Luzon, is very deep and clear of dangers with the exception of the 14m shoal which lies approximate position 12°40'N, 123°45'E. This shoal lies about 3.25 miles NE of Tasiran Point. Strong currents are present in Ticao Pass.

2.110 Matabao Island (12°19'N., 123°48'E.), 53m high, extends a little over 1.5 miles SSE from a position about 0.5 mile SSE of San Rafael Point. The S and W sides of the island are steep-to, but a shoal extends about 1.5 miles NE from its NE side.

Matabao Pass, a narrow channel with a least depth of 20m in the fairway, lies between the shoals extending E from San Rafael Point and the shoal extending NE from Matabao Island. The passage is less than 0.25 mile wide and is not recommended. A light marks Argos Point, the S extremity of Matabao Island.

Black Rock Pass (12°18'N., 123°49'E.), lying between Matabao Island and Magcaragit Island, about 2.75 miles SSE, is divided into two channels by Black Rock and its surrounding shoals. The rock, which dries about 1.5m, is located about 1.25 miles SSE of Argos Point. A beacon marks Black Rock.

It is difficult to identify and appears as a black log from a short distance off. Both channels are deep. The tidal currents in this pass set E and W reaching about 5 knots.

Cross channel currents cause dangerous tide rips in the E approach.

The tidal currents are reported to be somewhat weaker in the channel between Deagan Island and Cadulan Point.

A shoal, with a depth of 7.3m, extends about 0.25 mile SE from the S extremity of Matabao Island.

A shoal, with a depth of 8.7m, was reported to lie in the S channel about 1 mile N of the N extremity of Magcaragit Island.

Directions.—Vessels bound E, passing between Matabao Island and Black Rock, should make the approach with the light on Argos Point bearing 070°.

When not more than 1 mile from the light structure on the above bearing, the course should be altered so as to make good a course of 090°, making due allowance for the tidal current which has a strong tendency to set onto Black Rock during the ebb current. This course should be held until **Dakit Islet** (12°15'N., 123°50'E.), which is conspicuous, bears 180°, at which time all dangers will have been passed and the course may be set for destination.

Vessels bound W, through the above mentioned N channel of Black Rock Pass, should make the approach with the light on Argos Point bearing 280°.

This course should be held until Dakit Islet bears 180°, at which time the course should be altered to 270°. This course should be held until the light on Argos Point is well on the starboard quarter, at which time all dangers will have been cleared and the course may be altered for destination.

Vessels bound E, passing between Black Rock and Magcaragit Island, should keep in mid-channel and pass about 0.75 mile N of Magcaragit Island. When the middle of the cliff on Deagan Island bears 180°, all dangers will have been cleared and vessels may proceed to their destination.

Vessels bound W, through the above mentioned S channel of Black Rock Pass, should keep in mid-channel and pass about 0.75 mile N of Magcaragit Island. When the light on Argos Point bears 000° all dangers will have been cleared and vessels may proceed to destination.

San Bernardino Strait

2.111 San Bernardino Strait (12°35'N., 124°12'E.), which separates the SE extremity of Luzon from the NW part of Samar, is an important passage, as it is one of the routes taken by vessels from the Pacific bound to Manila or Cebu. The strait is wide, deep, and free from the dangers in the fairway. Heavy

seas and tide rips are encountered here during the Northeast Monsoon.

The channels E and W of the San Bernardino Islands are 3 and 7 miles wide, respectively, with depths of 55 to 128m.

Tidal currents in the strait attain a rate of 4 to 8 knots in the narrow passages between the islands and cause strong whirlpools and eddies among them. After passing through the strait, the currents spread out on either side and lose their force.

The **San Bernardino Islands** (12°45'N., 124°17'E.) are two small islets lying in the N entrance to San Bernardino Strait. They divide the outer part of the strait into two wide and deep channels, both clear of the dangers in the fairway. The S and larger island is 48m high and sparsely wooded, as compared to the N island, which is very rugged, bare of vegetation, and 30m high. Two large rocks lie about 0.2 mile E of the S island. The N rock is 5.2m high and the S rock is 6.4m high.

These islands lie on the SW end of the bank extending about 7 miles NE, and surrounded by much deeper water.

A detached shoal, with a depth of 7.9m, lies about 0.75 mile E of the S island. An obstruction has been reported about 1.5 miles ESE of the same island. A rock, with a depth of 7.9m, lies about 1 mile NNW of the S island. The rock shown on the chart as reported 1 mile NNW of the S island has not been located on recent surveys of the area.

Depths of 12m and 13m lie about 5 miles NNE of the islands.

San Bernadino Islands Light, a round masonry tower, 15m high, and dwelling stands on the summit of the S island.

San Bernardino Strait—West Side

2.112 Langao Point (12°32'N., 124°02'E.), on the S side of Luzon, lies 4.5 miles ESE of Tagiran Point. There are several small inlets along this coast which provide protection to small craft with local knowledge. The point is sloping, grass covered, 6.1m high at its outer end, and composed of a dark red colored conglomerate.

Hamorauan Point (12°32'N., 124°03'E.), lying about 1 mile ENE of Langao Point, is a bold reddish-brown bluff, 21m high, with a steep timbered slope rising above it. The low ground on either side makes the point stand out prominently.

Colasi Point (12°32'N., 124°05'E.) lies 2 miles E of Hamoravan Point.

2.113 Hamorauan Reef (12°32'N., 124°04'E.), nearly 0.5 mile of white sand, with a least depth of 1.8m, lies on the N side of the SW entrance to Ticlin Strait, about 0.75 mile WSW of Colasi Point.

Ticlin Strait (12°33'N., 124°06'E.) is the narrow channel between the coast of Luzon and the NW sides of Ticlin Island, Juac Island, and Calintaan Island. The strait is deep and clear of dangers in the fairway with a least navigable width of 0.2 mile.

This passage is not considered safe for large vessels because of the strong tidal currents and eddies in it.

Ticlin Strait is often used for coastal vessels bound to or from ports on the E coast of Luzon from San Bernardino Strait.

2.114 Calintaan Island (12°32'N., 124°05'E.), 83m high and Juac Island, 44m high, extend about 2.75 miles NE from a point about 1 mile SE of Colasi Point.

Juac Channel, which separates Juac Island and Calintaan Island, is deep, but narrow and of little use. Both islands are covered with jungles and trees. Their shores are indented by lagoons and fringed with mangroves.

The inner shores are low and have coral beaches. The outer shores consist, alternately, of rocky bluffs and coral beaches. Both islands are fringed by narrow reefs. Apari Rock, 3m high, lies 183m off the SE side of Calintaan Island, and about 0.75 mile NE of Calayuan Point, the S extremity of the island.

Calantas Rock (12°31'N., 124°05'E.), marked by a light, consists of a pile of small rounded rocks, 1.5m high, located about 1 mile SW of Calayuan Point. A shoal extends 0.35 mile W, 0.25 mile E, and about 0.75 mile SE and S from the rock.

A shoal, with a least depth of 8.5m, lies about 0.75 mile NW of Calantas Rock.

Ticlin Island (12°35'N., 124°08'E.), the N island of the group, is 56m high and lies about 1.25 miles NE of Juac Island. A shoal, with depths of less than 9.1m, extends about 0.9 mile SSW from Ticlin Island. A rock, awash, lies near the outer end of this shoal.

Foul ground, with a rock, 1.8m high at its outer edge, extends about 0.25 mile E from the E side of the island, and shoals extend about the same distance from the W side. Broken ground extends as far as 3 miles NNW from Ticlin Island, with depths of 12.8 to 18.3m.

Magtimua Rock, about 0.9m high, lies about 0.6 mile SE of Ticlin Island.

Caution.—The passage between Ticlin Island and Juac Island is obstructed by rocks and is not safe.

2.115 The W shore of Ticlin Strait, between Colasi Point and **Padang Point** (12°36'N., 124°06'E.), 4 miles NNE, is composed of broken coral covered with mangroves, and fringed by reefs which extend up to 0.35 mile offshore. The least navigable width of the strait is 0.15 mile, between Caluntaan Island and **Burungan Island** (12°33'N., 124°05'E.).

Directions.—A mid-channel course should be steered through the N part of the strait, keeping well W of the dangers between the Ticlin Island and Juac Island. Having cleared these dangers vessels should bring the sharp conical summit of Ticlin Island to bear 040°, astern.

This range will lead through the narrow part of the strait in mid-channel. When Calantas Rock bears 170° the course should be altered to 270°, with Calayuan Point astern. This course, run for a distance of about 6.5 miles, leads to the channel through Ticao Pass.

Caution.—Mariners are cautioned that a W set occurs in the strait abreast of Burungan Island when the ebb current is running.

2.116 Matnog Bay (12°35'N., 124°06'E.), lying about 1 mile inside the N entrance to Ticlin Strait, is entered between Padang Point and Mantay Point, about 1.5 miles SW. The bay is fringed by a narrow reef, with the 9.1m curve lying about 0.25 mile from its head.

A reef, with a rock awash at its outer end, extends about 0.35 mile NNE from Porong Island, located about 0.35 mile SE of Mantay Point. A large shoal, with depths of 10 to 15m, lies in the outer entrance to Matnog Bay.

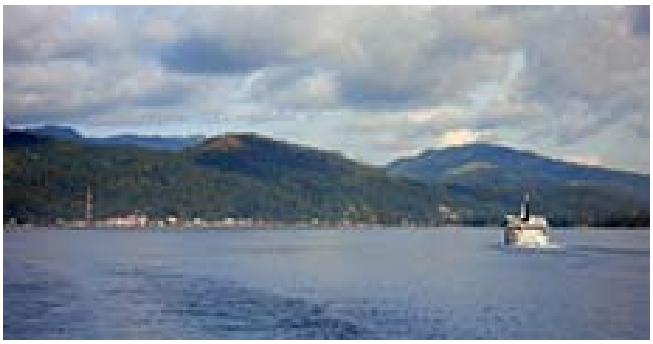
Matnog (12°35'N., 124°05'E.), a port of call for coastal shipping, stands on the W shore of the bay. It can be readily identified by the white iron roof of the church. A short concrete causeway, with a wooden landing platform at its head, extends ESE from the vicinity of the church. It is the busiest passenger terminal in southern Luzon and is the jump off point to Central Visayas and Mindanao.

The diurnal range of the tide at Matnog is about 0.8m. The tidal currents in Matnog Bay are weak.

Small vessels can take anchorage in Matnog Bay, in a depth of 5.5m, about 0.25 mile from the beach. Larger vessels can anchor in the middle of the bay in depths of 14.6m.

Vessels wishing to enter Matnog Bay may bring the sharp conical summit on Ticlin Island astern, bearing 090°, and anchor according to draft.

Matnog



Matnog Bay

Balusingan Bay (12°38'N., 124°06'E.) is entered between Padang Point and Pacahan Point, about 5 miles NNE. The shore of the bay is fringed by a narrow reef.

The town of Santa Magdalena stands on the N shore of the bay. Vessels can take anchorage, about 0.5 to 0.75 mile offshore, in depths of 18 to 27m, sand. This anchorage is fully exposed to the E, but some protection is afforded from W and SW winds.

2.117 Bulusan (12°45'N., 124°08'E.), a small town, is located about 5 miles N of Pacahan Point. There is a telegraphic office in the town.

Vessels can take anchorage off a break in the coastal reef abreast of Bulusan, with the church at that town bearing 300° and Tang Point bearing 010°, in depths of 22 to 26m.This anchorage is an open roadstead, fully exposed to the E. The holding ground is not good and there is considerable tidal current in the vicinity.

Bulusan Volcano, 1,559m high and active, stands about 5 miles WNW of Bulusan. When not obscured by clouds the volcano is visible over 60 miles. Sharp Peak, located about 1.25 miles NE of the volcano, is 1,215m high, but appears sharp only from the E. This region is susceptible to volcanic activity with various active volcanoes.

2.118 Port Gubat (12°55'N., 124°08'E.), entered between Rasa Point, 9 miles N of Bulusan, and Dancalan Point, about 2 miles further N, is formed by an opening in the coastal reef about 1 mile wide. This coastal reef extends about 1 mile from the shore in places.

Canauay Reef, which dries, extends about 0.8 mile SSE and 0.5 mile E from Dancalan Point.

The port consists of two bays divided by Penuntignan Point, located about 1.75 miles SSW of Dancalan Point.

A reef extends about 0.2 mile E from the point. A shoal, with a least depth of 0.3m, extends about 0.125 mile NE from the NE edge of this reef.

The S bay is the larger, but it is seldom used as it is open to the NE and has poor holding ground.

The N bay is sheltered from the sea by reefs, but there is only a small area in its outer entrance with suitable depths. The N part of the bay is very shallow.

Shoals, with depths of 6 to 7m, lie in the entrance to the N bay, about 0.5 mile ENE of Penuntignan Point.

A reef, which dries, extends about 0.5 mile N and over 0.5 mile E from Rasa Point.

A detached shoal, with a least depth of 8.7m, lies on the S side of the entrance to the port about 1 mile NNE of Rasa Point.

The 20m curve lies just within the entrance to the port between the reefs. The 10m curve lies up to 0.75 mile from the head of the N and S bays. Detached shoals, with depths of 2 to 4m, lie about 0.4 mile E of the W shore of the S bay.

The town of Gubat stands on the W shore of the bay about 1.25 miles SW of Dancalan Point. Copra and hemp are exported and loaded from lighters. Cargo operations are slow and often delayed for days whenever there is any kind of swell.

There are no provisions, water, or repair facilities in the town. There is a post and telegraph office in Gubat. The nearest hospital facilities are at Sorsogon, about 8 miles WNW.

A light marks the N part of Gubat. A beacon, situated on the edge of the shore reef on the W side of the N bay, about 0.45 mile NNW of the above point.

Small vessels can take anchorage in the N bay with the beacon bearing 298°, distant 0.3 mile, in depths of 7 to 9m, mud. This anchorage is protected by reefs, but the swinging room is very limited.

Larger vessels generally anchor about 0.5 mile NW of Rasa Point in the S bay, in depths of 13 to 15m. This anchorage is fully exposed to the NE and a heavy swell sometimes rolls in. It should be noted that the holding ground is quite poor and the

anchorage is untenable during the Northeast Monsoon.

The coast between Dancalan Point and Bingay Point, about 9 miles NNE, is fringed by a drying reef extending from 0.75 mile to 1.75 miles offshore. The coastal reef is steep-to within 0.25 mile of its outer edge and can generally be identified by the line of heavy breakers.

Caution.—Mariners are cautioned against using the beacon in range with Gubat Light.

Bingay Point (13°04'N., 124°11'E.), the N entrance point of the strait, is low, rounding, and wooded. It is fringed by a reef partly bare at LW and about 0.25 mile wide N and about 1.5 miles E. The reefs are well defined and steep-to.

Bingay Island is a rock, 4.5m high, lying about 0.4 mile E of Bingay Point.

A stranded wreck lies on the edge of the reef, 2 miles ESE of Bingay Point.

Samar—North Coast

2.119 Samar (12°00'N., 125°05'E.) is the third largest of the Philippine Islands. It is about 136 miles long and has a greatest width of 51 miles. The island is moderately high, densely wooded, and well watered. It is sparsely populated, and only a small part is cultivated. The principal exports are hemp and copra.

The N coast of Samar, which forms the S side of the E approach to San Bernardino Strait, is fronted by islands and shoals extending as far as 16 miles offshore. This coast is exposed to the full force of the Northeast Monsoon which blows at times with the force of a gale accompanied with much rain and a very heavy sea.

During the Northeast Monsoon, which occurs from November to the early part of March, no safe anchorage can be had between **Port Palapage** (12°40'N., 125°01'E.) and Biri Channel, about 39 miles W. It is frequently impossible to communicate with the towns of **Catarman** (12°30'N., 124°38'E.), and Bobon, about 5 miles WNW.

Oacan Point (12°35'N., 125°09'E.), located about 1 mile SE of the NE extremity of Samar, is low and fringed by a coral reef extending about 0.5 mile ENE of the point.

The land rises steeply SE to the summit of Cape Espiritu Santo, lying about 2.5 miles SE, and is reported to give a good radar return up to 40 miles.

2.120 Bacan Island (12°36'N., 125°09'E.) is connected by a reef to the NE extremity of Samar. The island is generally low and wooded, except near the center, where there is a tree covered hill, 51m high. The island is fringed by reefs which extend about 0.5 mile offshore.

A shoal, with a least depth of 4.1m, lies about 0.75 mile NW of the N end of Bacan Island.

Reefs, with depths of 7.3m and 9.1m, lie about 2 miles N and 1.25 miles NE, respectively, of the same extremity.

The water in this vicinity is very clear and the bottom can frequently be seen in a depth of 18.3m.

Palahan Islet (12°35'N., 125°08'E.) lies 1 mile WSW of the S extremity of Bacan Island. Sunken rocks and foul ground lie between it and the coast of Samar, about 0.5 mile S. Reefs extend about 0.25 mile N from the N side of the islet.

A rock, which is bare 0.6m at LW and a shoal, with a depth of 1.8m, are about 0.4 mile N of Palahan Islet, in the middle of the entrance to the small bay between Bacan Island and Palahan Island.

The coast, between the NE extremity of Samar and an unnamed point about 2.75 miles W, is indented to a distance of about 1 mile, forming a large bay which is fully open to the N. The latter point is reef fringed as far as 0.5 mile N and NE.

2.121 Port Palapag (12°38'N., 125°01'E.) is formed by the channel that separates Cahayagan Island and Laoang Island from Batag Island to the E, and by the channel which separates the latter island from the coast of Samar to the S. The port is partly sheltered from all winds and serves as a good harbor of refuge.

The N entrance, between Cahayagan Island and Batag Island, is about 0.65 mile wide and has depths of over 18.3m. The E entrance, between Batag Island and Samar, is encumbered with several rocky shoals and should be navigated only by small vessels with local knowledge.

The channel between Cahayagan Island and Laoang Island has a least charted depth of 6.8m, but is extremely narrow and the tidal currents set strongly through it. There are numerous shoal patches within both entrances to the port.

Cahayagan Island is moderately high and heavily wooded. A narrow reef, on which stand several small islets, extends about 1 mile NW from the NW end of the island. These islets, known as the Macan Islets, are covered with brushwood. The highest islet has an elevation of 6.4m.

A reef, with a charted depth of 3.6m over its outer end, lies parallel with the reef on which the Macan Islets lie, about 0.3 mile SW of its outer end.

The remainder of the island is fringed by a narrow reef on its E and S sides and by a reef which extends 0.4 mile N from its N side and 0.25 mile W from its W side.

Laoang Island, 65m high in its S end, is heavily wooded. It is separated from the coast of Samar by the Catubig River and the Laoang Channel. The W side of the island is fringed by a reef extending about 0.4 mile offshore.

Shoal water, as defined by the 9.1m curve, extends as far as 0.5 mile E, from the E side of the N part of the island, and as far as 1 mile N, from the N side of the S part of the island. Calapan Islet, small and reef fringed, lies within the above curve in a position about 2 miles SSE of the SE extremity of Cahayagan Island.

A light is shown from **Ipil Point** (12°35'N., 125°00'E.), on the W side of Laoang Island.

Two reefs, with depths of 4.2m and 8.5m lie about 1.1 miles and 1.25 miles, respectively, SE of the SE extremity of Cahayagan Island.

Batag Island, the largest and E of the islands forming Port Palapag, is 67m high and heavily wooded. Reefs extend about 0.6 mile W from the NW side of the island and form the E side of the N entrance to the port. The W side of the island between Leung Point and an unnamed point, about 2 miles S, is indented to a distance of about 1.5 miles, but is foul throughout.

A light on the summit of Batag Island, 1.75 miles S of Atalaya Point, the N extremity of the island. Dwelling houses stand close S of the tower. Two stranded wrecks lie on the NE coast of Batag Island.

Batag Island is reported to give a good radar return up to a distance of 28 miles.

Anchorage.—Moderate-sized vessels, with local knowledge, can take anchorage about 0.25 mile W of the SE extremity of Cahayagan Island, in a depth of 9.1m, mud, or about 0.3 mile SE of Leung Point, in a depth of 10.9m.

Larger vessels can anchor about 0.5 mile SE of the SE extremity of Cahayagan Island, in a depth of 14.6m, or farther S in mid-channel between the SW extremity of Batag Island and Calapan Island.

Vessels using the latter anchorage must exercise caution to avoid the previously-mentioned 4.2m and 8.5m reefs.

Vessels entering Port Palapag from N should favor the W side of the channel, as the reefs fringing Cahayagan Island do not extend as far out as those fringing the NW side of Batag Island. The SE extremity of Cahayagan Island and Leung Point are steep-to, and may be passed fairly close.

2.122 Laoang Bay (12°35'N., 124°59'E.) is entered between the N extremity of Laoang Island and Livas Point, about 4 miles SSW. The main branch of the Catubig River discharges into the SE corner of the bay, widening at the mouth and forming Laoang Harbor.

The E branch, known as Palapag Channel, leads E into the head of Port Palapag. This passage is used by small craft with local knowledge.

The W shore of Laoang Bay is fringed by a reef and foul ground extending about 0.3 mile offshore.

A conspicuous house stands in the village of Burabud, at the mouth of the Burabud River, about 2.25 miles SSE of Livas Point.

The depths in the bay decrease regularly from 18.3m at the outer entrance to 9.1m about 2 miles from the head.

Detached shoals, with depths of 3 and 3.9m lie about 0.5 and 0.8 mile ESE, respectively, of Livas Point.

A shoal, with depths of 2.7 to 3.4m, lies about 1 mile NNE of the conspicuous house in Burabud.

A rock, with a depth of 0.9m, and a shoal, with a depth of 1.8m lie 0.6 mile N and ENE, respectively, of the conspicuous house.

2.123 Laoang (12°34'N., 125°01'E.) (World Port Index No. 58630), the principal port of N Samar, stands on the N side of the mouth of the Catubig River. It is a regular port of call for inter-island shipping. Considerable quantities of hemp and copra are exported.

Laoang Harbor is only 137m wide with depths of over 3.7m. Rocky patches extend 0.6 mile W from Maculmacul Point, the N entrance point of the river, and form the N side of the channel into the harbor. A drying reef extends 0.3 mile WNW from the S entrance point.

Shoals, with depths of 1.8 and 1.2m lie about 0.3 mile and 0.6 mile W, respectively, of Maculmacul Point.

On entering the harbor there are sand bars on the S side of the channel, and on the N side inside the line of the end of the wharfs are reefs. A submarine cable crosses the Catubig River from Rawis Point, the S entrance point of the river, to the town of Laoang.

Daranasan Island, located between Laoang Island and Samar, is low, wooded, and formed by the delta of the Catubig River.

Anchorage.—Vessels can take anchorage between Livas Point and Laoang Island, in depths of 9 to 13m, mud. The anchorage is sheltered from all winds except those between N and W.

2.124 Livas Point (12°35'N., 124°57'E.), the W side of the entrance to Laoang Bay, is low and wooded. Reefs and foul ground extend about 1 mile W from the W side of Livas Point.

An extensive reef, which dries, lies with its NW extremity about 1.25 miles NW of the point. There are some rocks about 0.6m high on this reef which is connected to the point by foul ground. Reefs and foul ground extend about 0.5 mile N and NE of Livas Point.

A shoal, with a depth of 3.7m, lies about 0.8 mile ESE of the NE extremity of the reef.

Pambuhan (12°34'N., 124°56'E.) is located at the mouth of the Pambuhan River about 2 miles SW of Livas Point. The church and red-roofed buildings in the town are prominent. The 9.1m curve fronts the town as far as 0.5 mile offshore.

Vessels can take anchorage about 0.5 mile N of the church, in a depth of 10.9m, sand. To approach the anchorage, vessels should steer for the church bearing 181°, and when about 3 miles distant, anchor according to draft.

Villalobos Reef (12°40'N., 124°55'E.), with a least depth of 3.7m, lies about 6.25 miles N of the church at Pambuhan. It is about 0.5 mile in extent and the sea breaks heavily over it during the Northeast Monsoon.

2.125 Oot Point (12°35'N., 124°51'E.), located about 5.75 miles W of Livas Point, is a low, narrow peninsula extending about 2.25 miles NW from the coast.

A mangrove swamp lies at the extremity of the peninsula which is bordered by reefs and foul ground extending as far as 0.4 mile offshore.

Bantayan Bay (12°33'N., 124°50'E.), fully exposed to the N, indents the coast to a distance of about 2.25 miles between Oot Point and Bugko Point, about 4 miles SW. The latter point is fringed by a drying reef to a distance of about 0.5 mile N. There are no dangers in the bay, and the water shoals gradually to the 10m curve which lies close offshore. The villages of Laoangan and Bantayan stand on the shores of this bay.

Cajoagan Island (12°37'N., 124°49'E.), small in extent and reef fringed, lies about 3 miles NW of Oot Point. Shoals extend 1 mile NW and 0.5 mile E from the island.

Catarman (12°30'N., 124°38'E.), a small town and a port of call for coastal shipping, stands on the W bank of the Catarman River about 9.5 miles WSW of Bugko Point. It stands about 0.5 mile inland and is nearly obscured by trees, only the roof tops being visible from seaward. The town has a radiotelegraph office.

The village of Cawayan (Cauayan) stands on the E side of the mouth of the above river. Two partly drying reefs extend about 0.3 mile N from Cawayan, forming an inlet where small boats may land. Maguran Reef, a large coral reef bare at LW, lies just N of this inlet and partially protects it from the sea.

The W side of the mouth of the Catarman River is formed by a long and narrow sandspit, which is reported to shift considerably during the Northeast Monsoon. The channel across the bar is very narrow and has a depth of 2.1m at LW.

A light is situated on the beach at Cawayan on the E side of the entrance to the Catarman River.

Vessels can take anchorage about 0.5 mile NW of the light at Cawayan, in a depth of about 9.1m, sand. This anchorage is unsafe during the Northeast Monsoon.

Hirapsan Island (12°32'N., 124°42'E.), small in extent and about 4m high, is located about 2.75 miles ENE of the light at Cawayan. The trees on the island are tall and dense.

Palijon Island, located about 1 mile NW of the above island, is a mangrove swamp, all the land being covered at HW.

These two islands stand on the same reef, which is narrow and about 2 miles long in a NW and SE direction.

The reef between the islands dries at LW. Fairly good anchorage, protected during the Northeast Monsoon, can be taken by vessels with local knowledge, W of Hirapsan Island.

Caution.—Foul ground, consisting of a number of dangerous reefs and shoals, with depths of less than 2 to 6m, lies within an area bounded by Cajoagan Island, Palijon Island, Hirapsan Island, and Bugko Point. Vessels must navigate with caution in this area.

A shoal, with a least depth of 12.8m, lies about 6.75 miles NE of the light structure at Cawayan.

2.126 Catarman Shoal (12°34'N., 124°38'E.), on which the sea breaks in moderate weather, lies about 3 miles NNW of the above light. The shoal is about 0.75 mile long, with a depth of 1.8m.

A reef, with a depth of 7.3m, lies about 2.75 miles WNW of the light at Cawayan. A shoal, with a depth of 9.6m, lies about 2.5 miles N of the above light.

Wright Shoal, about 1 mile in extent and with a least depth of 10.9m, lies 9.5 miles N of the light at Cawayan.

A shoal, with a least depth of 9.1m, lies about 7.75 miles N of the above light. The sea breaks heavily over these shoals.

Shoals, with depths of 14m and 15m, lie about 13.5 and 16 miles, respectively, N of the light at Cawayan. A detached shoal, with a depth of 18.3m, lies about 14 miles NNW of the light.

Fisher Shoal, with a least depth of 9.1m, lies about 7.5 miles NW of the light structure at Cawayan. The sea breaks heavily over it in rough weather.

Bobon Point (12°32'N., 124°34'E.) lies about 5.5 miles W of Cawayan. The town of Bobon stands on the E side of the entrance to the Bobon River, which discharges close W of the point. The roof of the church is prominent from seaward. Reefs extend from both entrance points of the river, leaving a narrow boat channel to the beach in front of the town.

Reefs and foul ground extend as far as 1 mile NW from Bobon Point. A rock, 3m high, lies near the middle of a drying reef about 1.5 miles W of Bobon Point and about 0.5 mile offshore. A shoal, with a least depth of 3m, lies about 2 mile W of the point.

A drying rock lies about 0.75 mile W of Bobon Point and about 0.35 mile offshore.

Vessels can take anchorage, in fair weather, with the church at Bobon bearing 120°, distant 0.75 mile, in depths of 11 to 15m.

2.127 Cabaun Island (12°34'N., 124°30'E.), low and bordered with mangroves, extends about 3.5 miles NW from a position about 2.75 miles WNW of Bobon Point. It is surrounded by a reef which extends about 0.5 mile from the NE side.

A shoal, with a least depth of 11.9m, lies about 1.75 miles NNE of the N extremity of Cabaun Island. A shoal, with a least depth of 6.7m, lies about 1 mile ENE of the SE extremity of the island.

The S side of the island is fringed by a narrow reef and shoals as far as mile S.

Ugamut Island (12°33'N., 124°29'E.) is small, low, covered with mangroves, and lies parallel to the SW side of Cabaun Island. A very narrow channel, which is foul at its N end, separates the two islands. The channel between is impracticable for navigation.

Bat Island (12°32'N., 124°30'E.), small and low, lies about 0.5 mile S of the SW extremity of Cabaun Island.

Reefs and foul ground extend nearly 1 mile E and SE from the islet. Foul ground extends 1 mile E and SE from the island.

Foot Islet (12°33'N., 124°29'E.), small and 3m high, lies about 0.5 mile W of the SW end of Ugamut Island. Reefs extend about 0.25 mile NW and SE from the islet.

Green Islet (12°33'N., 124°28'E.), small and about 30m high, lies about 1 mile WNW of the NW extremity of Ugamut Island. Reefs and foul ground extend up to 0.35 mile NW and 0.25 mile W from the islet.

The waters enclosed by a line joining the islet with the NW extremity of Cabaun Island and the N side of Ugamut Island, are for the most part, foul. The waters between Green Islet and Foot Islet are also foul.

2.128 Carangian Channel (12°32'N., 124°30'E.) separates Cabaun Island and Ugamut Island from the coast of Samar. It is narrow and used by coasting vessels which usually pass S of Green Island and Foot Island and N of Bat Island.

The channel between Bat Islet and Cabaun Island is over 0.3 mile wide and clear of dangers in the fairway. It has a least depth of 12.8m. The part of the channel between Foot Islet and the coast of Samar is very narrow with a least depth of 7.3m in the fairway.

All the channels in this vicinity are subject to strong and irregular tidal currents.

San Jose (Carangian) (12°32'N., 124°29'E.), a loading port for copra, stands on the E side of a small cove about 4.5 miles W of Bobon. The cove is fouled with reefs, but there is a narrow boat channel to the shore. A range of hills approaches the coast close E of the town. There is a private wharf located about 0.4 mile NE of the town, with a depth of 10m alongside its berthing face.

A light is situated from a concrete tower 0.3 mile WSW of the pier, close N of the town. Improvements to the port are planned.

The town has a post and telegraph office but no medical facilities. There are no fresh water or stores available.

The approach to San Jose should be made from the E as the channel is wider, deeper, and straighter. The approach from the NW should be made only by small vessels with local knowledge. Carangian Channel should be attempted only during the daytime when the weather and visibility are good. There are no prominent landmarks or aids to navigation to mark the numerous shoals and reefs which are hard to discern.

Approaching from N, within 5 miles off Bobon Point, steer

180° for the roof of the church in the town of Bobon until the pier at San Jose comes clear and bears 255°.

Then steer 248° until the E point of Cabaun Island bears 360°, then change course to 270° and come alongside or anchor off the end of the pier, in 18 to 20m.

Anchorage is also available in mid-channel, N of Bat Island, in depths of 15 to 22m.

2.129 Gilbert Island (12°33'N., 124°26'E.) is well wooded and 69m high at its S end. It is separated from the coast of Samar by a very narrow and winding channel. Small vessels with local knowledge sometimes use this channel, which has a least depth of 6.9m in the fairway.

A detached reef lies in the center of the W entrance and a coral head is about 0.3 mile N of this reef.

The E entrance is clear of dangers in the fairway. The Sinamangan River, which discharges into the S side of the channel, is narrow, shoal, and winding. Baird Point, the N extremity of Gilbert Island, is fairly steep-to. The NW and NE sides of the island are fronted by reefs to a distance of about 0.25 mile.

Buenavista, on the S shore of Gilbert Island, is a regular port of call for coasting vessels. A small dock is located SW of the town.

The **Balicuatro Islands** (12°39'N., 124°24'E.) are a group of seven fairly large islands and numerous islets, reefs, and dangers lying N of the NW part of Samar. The islands extend from Tinau Island, lying about 2.5 miles NW of Cabaun Island, to the N extremity of Biri Island about 7.5 miles NW.

2.130 Biri Island (12°40'N., 124°23'E.), the largest and northernmost of the group, is 85m high in the center and heavily wooded. Biri Head, the NW extremity of the island, is a rocky perpendicular bluff, 61m high, and steep-to. It serves as a prominent landmark for vessels approaching San Bernardino Strait from the NE.

About 0.3 mile E of the N extremity of Biri Island a steep-to reef begins, which continues along the NE and E sides of the island, and also surrounds all the islands lying E and SE of Biri Island.

On the outer edge of this reef, which bares at LW, are a series of islets of limestone formation, from 3 to 36m high, all of which are prominent. The shoreline of the island is low and fringed with mangroves except at the N and S ends.

The W side of the island consists of a low bluff and gravel beach. The majority of the inhabitants are on the W side of the island.

Shoals, with a depth of 10.5m lie about 1.5 miles NW and 0.6 mile WNW, respectively, of Biri Head. A rock, 4.5m high, lies near the S end of a reef located about 0.75 mile S of Biri Head. A shoal, with a least depth of 19.5m, lies about 3.5 miles SW of the head. A rock, 6.1m high, lies just outside the coastal reef about 0.5 mile ENE of Biri Head.

Fitzgerald Banks are three small shoals, with depths of 16.5, 11.3, and 11.3m lying about 5, 7, and 10 miles ENE, respectively, of the summit of Biri Island. These banks, clearly indicated by their color, are of coral formation.

A shoal, about 1.5 miles long with a least depth of 14.6m, lies about 11 miles ENE of Biri Head.

Strong tidal currents and heavy tide rips are encountered off Biri Head.

Macarite Island and Cagnipa Island, moderately high and about 1.25 miles long, lie close off the SW side of Biri Island. The islands are separated from each other, and from Biri Island, by narrow and deep channels. The S ends of these islands form the N side of the W entrance to Biri Channel.

Talisay Island, Magesang Island, Makadlao Island, and Tinau Island and a number of small, unnamed islets and rocks lie E and SE of Biri Island. These islands, along with Biri Island, all lie on one large reef, which is mostly bare at LW.

A light, 9m high, marks the S end of Tinau Island at San Antonio village.

Anchorage.—Vessels with local knowledge can take anchorage between the N end of Cagnipa Island and the E side of Macarite Island. This anchorage is not recommended, because the bottom is rocky and the tidal currents are strong.

Biri Anchorage is a small but well-protected anchorage formed by a break in the reef between the S end of Biri Island and the W side of Makadlao Island

Vessels with local knowledge with a need to use this anchorage should make the approach from Biri Channel on a N course so as to pass about 0.25 mile W of a small, bright, sand cay lying about 0.75 mile WSW of the W extremity of Makadlao Island.

A mid-channel course should then be steered between the reefs and anchorage, taken as convenient, in depths of 27 to 37m. The edges of the reefs marking this anchorage show plainly, are steep-to, and in many places are marked by fish traps.

2.131 Biri Channel (12°38'N., 124°22'E.) lies between the Balicuatro Islands and another group of islands located close off the N coast of Samar. It is generally used by coastwise vessels bound to and from ports on the N and E coasts of Samar. The channel is over 0.5 mile wide, deep, and clear of dangers in the fairway.

In Biri Channel, and in the other channels in this vicinity, there are strong tidal currents. The flood flows W and the ebb E, the change of current occurring about 4 hours after HW and LW, respectively.

2.132 The **San Juan Islands** (12°36'N., 124°23'E.) lies in a group of five densely-wooded islands located on the S side of Biri Channel. They are separated from the coast of Samar and from Gilbert Island by Bani Channel.

The islands are closely joined by reefs and appear as one island. San Juan and the islands of Nagnasa, Elonbachid, Maravilla, and Bani lie in a N to S direction.

The outer coasts are well defined, usually bold, and fringed by a narrow reef. The inner coasts of the islands are mainly mangrove swamps.

Shoals, with depths of 10.4m and 14m, lie about 0.75 mile and 0.5 mile NW and W, respectively, of the S extremity of Maravilla Island. Another shoal, with a depth of 9.5m, lies about 1 mile W of the NW extremity of Bani Island.

Three shoals, with depths of 2 to 4m, extend about 1.25 miles NW from a position about 0.3 mile SW of the SW extremity of Bani Island. The shoals lie about 0.25 to 0.6 mile off the W side of Bani Island in the W approach to Bani Channel.

Small vessels, with local knowledge, can take anchorage in

the channel between San Juan Island and Bani Island, in a position about 1.5 miles E of the NW extremity of Bani Island. The anchorage has good holding ground of mud and sand, but limited swinging room.

Vessels should enter from the W at slack water or with the W tidal current.

The tidal currents at the W entrance to the channel are strong, but are weak at the anchorage.

The W entrance to the passage has a depth of about 9.1m and the E entrance about 13.7m.

2.133 Bani Channel (12°34'N., 124°23'E.) is a narrow passage separating Bani Island from the coast of Samar.

The channel has a least width of about 0.4 mile, but its navigable width is reduced to about 0.15 mile by the group of detached shoals lying just outside the W entrance. The fairway has a least depth of 5.5m.

Reefs and dangers extend as far as 0.25 mile SE from San Juan Island and up to 0.15 mile S from Bani Island.

The S side of the channel, between Baird Point and Borabaybay Point, about 4.5 miles WSW, is low and mostly mangrove swamp. Cave Point, 58m high, lies about midway between the above points.

Bani Channel is used by coastwise vessels bound to and from ports on the N and E coasts of Samar. Vessels navigating Bani Channel should steer mid-channel courses and pass at least 183m N of the reef off Borabaybay Point. A shoal, with a depth of 5.5m, lies in mid-channel, about 0.3 mile NE of Borabaybay Point.

2.134 Urdaneta Harbor (12°33'N., 124°21'E.) is entered between Borabaybay Point and the E face of a small peninsula, lying about 1 mile SSW.

A shoal, with depths of less than 9.1m, extends about 0.5 mile NW from the E side of the entrance to the harbor.

A reef, with a depth of 3m, lies about 0.2 mile from the head of the harbor. A small detached drying reef lies about 0.5 mile NNW of the W entrance point of the harbor.

Vessels with local knowledge can take anchorage in the middle of the harbor, in a depth of 18m. This anchorage is unsafe during N winds.

2.135 Lavezares Harbor (12°33'N., 124°20'E.), entered about 0.5 mile W of Urdaneta Harbor, is nearly blocked by the fringing reefs which extend from either shore. There is a narrow boat channel between the reefs, which leads to the town of Lavezares at the head of the harbor.

Fish traps mark the edges of the fringing reefs during most of the year. The metal-roofed municipal building, the largest in town, is prominent.

Vessels with local knowledge can take anchorage, in the entrance to the harbor, with the municipal building bearing 181° and the detached reef N of the E entrance point bearing 091°, in depths of 18 to 20m.

Small vessels with local knowledge can take anchorage in the middle of the harbor, nearer its head, with the municipal building bearing 181°, in depths of 4 to 6m.

The swinging room is somewhat limited, but the holding ground is good. These anchorages are untenable during N or NE gales, at which time heavy swells set into the harbor.

2.136 Coconut Island (12°34'N., 124°19'E.), low and covered with coconut trees, lies near the shore in a position about 0.5 mile NNW of the W entrance point of Lavezares Harbor.

The narrow passage, between the island and the coast of Samar, is intricate and shoal.

A reef extends about 0.5 mile W of the N extremity of Coconut Island. A rock awash lies about 0.3 mile ESE of the S extremity of the island.

Balicuatro Point (12°35'N., 124°17'E.), the NW extremity of Samar, is steep-to and clear of dangers. The land within rises to a hill, 173m high, about 1.25 miles SSE of the point. The reef, which fringes the point on both sides extends only a short distance offshore.

Samar—Northwest Coast

2.137 Lipata Point (12°32'N., 124°16'E.), lying about 3.25 miles S of Balicuatro Point, is quite high, rocky, and bordered by a narrow reef of sand and rock.

Vessels will find anchorage during the Northeast Monsoon in the small open bay off Quinaguitman about 1 mile SE of Lipata Point. In the N part of the bay, there are depths of 24 to 49m.

Allen (12°30'N., 124°17'E.) is a small town, situated close S of the mouth of the Sabag River. The town is reported to have a post and telegraph office.

A light marks a position close N of the entrance to the Sabang River. There is a concrete pier, 125m in length, at the town. The depth at the end of the pier reported to be 3m.

Vessels can take anchorage about 0.5 mile off the town of Allen, in a depth of 18m, sand and coral. This open roadstead is not a good heavy weather anchorage.

Burobodiongan Point (12°28'N., 124°17'E.), located about 2 miles S of Allen, is covered with high trees. The tidal currents, which attain a maximum rate of 7.5 knots at springs, cause heavy tide rips off this point.

The **Mauo River** (12°27'N., 124°18'E.), located about 2 miles SE of Burobodiongan Point, can be entered by small vessels. The entrance to the river is rocky, with the channel lying close to the wooded bluff on the N side. The navigable width of the channel is reduced to about 18m by a reef extending from the S entrance point.

There is a least depth of 4.5m in the fairway of the channel. Inside the entrance a spit, with a least depth of 1.8m, projects out from the village on the N bank of the river.

Victoria (Mauo) is a small town on the N shore of the entrance to the Mauo River. There is a small concrete pier with a depth of 2.1m at its head.

Large vessels can take anchorage outside the mouth of the river, with the river well open. Depths of less than 37m should be approached carefully. The ground is foul N and S of the mouth of the river.

Looc Bay (12°23'N., 124°20'E.) is entered between Looc Point, located about 4.5 miles SSE of the entrance to the Mauo River, and Canaguayan Islet, about 0.6 mile SSW. A shoal extends about 0.5 mile W from Looc Point.

A shoal, with a depth of 8.2m, lies in the middle of the entrance to the bay. The head of the bay is filled with reefs. A causeway, with two bridges, extends across the bay about 0.5 mile NE of Looc Point. A pier at which small vessels load

Capul Island Light

copra is located in the bay about 0.5 mile NE of Looc Point.

Sojoton Point (12°19'N., 124°20'E.), located 3.5 miles S of Looc Point, is high and jagged. Sojoton Islet, 32m high; lies about 45m NW of the point. There is a small, steep-sided cove just N of Sojoton Point. A depth of 7.3m lies near the mouth of the Palanit River, which discharges into the head of the cove.

Canaguayan Islet, 36m high, lies close off the coast of Samar, on the E side of the entrance to Dalupiri Pass.

Vessels can take anchorage between Canaguayan Islet and the coast of Samar in sufficient depths with good holding ground, but the space is limited.

2.138 Dalupiri Island (12°25'N., 124°15'E.), 128m high and partly wooded, extends about 6 miles SSE from its N extremity, which is located about 7.75 miles SSW of Balicuatro Point. It lies parallel to the NW coast of Samar, from which it is separated by the wide and deep Dalupiri Pass. The E and W sides of the island are clear of dangers and steep-to.

A shoal, with a least depth of 8.2m near its outer end, extends about 2.25 miles N from Igang Point, the N extremity of the island.

A shoal extends about 2.25 miles SSE and 2 miles SE from Minanga Point, the S extremity of the island. At the inner end of this shoal depths of less than 5.5m extend about 0.6 mile offshore, and depths of less than 10.9m extend 1.5 miles offshore.

Vessels can take anchorage anywhere off the coast of Dalupiri Island, but necessarily close in on account of the considerable depths, except on the shoals extending from the N and S ends of the island.

Dalupiri Pass (12°25'N., 124°18'E.), between Dalupiri Island and the W coast of Samar, is the safest of the three passes connecting San Bernardino Strait with the Samar Sea to the S. The pass has a least width of about 1.75 miles and is deep and clear of dangers in the fairway.

The strong tidal currents generally set fair with the channel, with a countercurrent close inshore. Tide rips and whirlpools are experienced about 2 miles N of Igang Point and 1.5 miles SE of Minanga Point.

2.139 Capul Island (12°26'N., 124°10'E.) stands with its N extremity about 6 miles WNW of the N extremity of Dalupiri Island. It lies parallel to the NW side of Dalupiri Island, from which it is separated by the wide and deep Capul Pass.

There are several sharp cone-shaped peaks on the island, but the summit, located near the SE end, is 216m high and flat-topped. The slopes are steep and heavily wooded, except on the NE side where a valley trends inland, where there are several clearings.

Capul, the most important town on the island, is located on the E side about 4.25 miles SSE of its N extremity. A church with a prominent bell tower is conspicuous. The fishing village of San Luis stands at the head of San Luis Bay on the NE side of the island.

A light, shown from a 15m high white conical tower, marks Totoog Point, the N extremity of Capul Island.

Vessels can take anchorage, during fair weather, in a position NE of the town of Capul. This area is exposed to the full strength of the tidal currents which set through Capul Pass.

A reporting system, operated by the Philippine navy, applies to all vessels, including pleasure craft and seaplanes on the water, transiting the area. Vessels should establish contact on VHF channel 16 with Capul Coast Watch Station (call sign: Coast Watch Capul) when entering or departing San Bernadino Strait or passing Capul Island.

Vessels should report the following information:

1. Vessel name.
2. Call sign.
3. Course and speed.
4. Port of registry and nationality.

5. Type of vessel.
6. Type of cargo on board.
7. Port of destination and ETA.
8. Last port of call.
9. Number of crew on board.
10. Master's name.

Contact Information.—The port can be contacted, as follows:

Capul Island—Contact Information	
Port Operations	
Call sign	Coast Watch Capul
VHF	VHF channel 16

Caution.—A stranded wreck lies 0.2 mile offshore, about 1.25 miles NNW of Capul.

2.140 Capul Pass (12°26'N., 124°13'E.), between Capul Island and Dalupiri Island, should be avoided as much as possible, and especially by northbound vessels, as there is danger of being set onto **Diamante Rock** (12°21'N., 124°12'E.). This rock is composed of sharp black rocks, which nearly dry, located about 2.25 miles SSE of Timon Point, the S extremity of Capul Island.

Rubi Shoal, which consists of sharp black rocks, with a least depth of 5.8m, lies about 1.5 miles WNW of Diamante Rock and 1.75 miles S of Timon Point.

This danger and Diamante Shoal are steep-to and difficult to distinguish. Strong eddies are encountered between these dangers.

While the tidal currents sets S on the W side and in the middle of Capul Pass, there is a N current setting along the W side of Dalupiri Island, causing a long line of rips and eddies with a great deal of foam which gradually works across the pass according to the stage of the tide.

The ebb current flows N throughout Capul Pass, coming from the W over Rubi Shoals, while the flood current is still running SE of Diamante Rock.

Rips extend over 1 mile N from Totoog Point. During the flood current in San Bernardino Strait, a N tidal current sets along the E side of Totoog Point.

Tide rips have also been reported almost 2 miles W of Totoog Point.

2.141 The **Naranjo Islands** (12°23'N., 124°02'E.), located W of Capul Island and about 7.5 miles S of the coast of Luzon, consists of the six small islands of San Andres, Rasa, Medio, Darsena, Aguada, and Escarpada.

The islands are mountainous with very abrupt slopes, being steeper near the shores. The islands are almost bare of heavy timber, though practically the whole group is covered with brush and jungle. There are no important towns in the islands.

Tadloy Point, on San Andres Island, is the N extremity of the group.

Vessels can take anchorage in Sabariog Bay, lying on the N coast of Darsena Island, with protection being afforded by the other islands of the group. During the Northeast Monsoon anchorage can be taken off the SW side of Escarpada Island.

Ternate Bay, between Darsena Island and Aguada Island, affords protected anchorage, but is subject to strong currents at times. Access to this anchorage is from the SW.

Caution.—Navigators must exercise caution when approaching these anchorages as the channels are narrow and the tidal currents are strong.

The flood current in San Bernardino Strait generally sets SW between and around the Naranjo Islands. However, in the channel between Aguada Island and Escarpada Island, the current sets NW; between Rasa Island and San Andres Island it sets NE, causing heavy rips where it meets the flood current.

Naranjo Pass, which is wide and deep, separates the group from Capul Island.

2.142 Destacado Island (12°17'N., 124°06'E.), about 201m high, lies about 3.75 miles SE of the Naranjo Islands. The island rises steeply from the sea and its coasts are generally clear of dangers. Lode Bay is formed by an indentation in the W coast of the island. A reef, on which there is a rock 2.7m high, extends about 0.3 mile offshore from the middle of Lode Bay.

Vessels can take anchorage in the N part of Lode Bay. This anchorage is untenable during the Southwest Monsoon.

Naranjo Pass (12°24'N., 124°07'E.), between the Naranjo Islands and Capul Island, is deep with a least width of 5 miles.

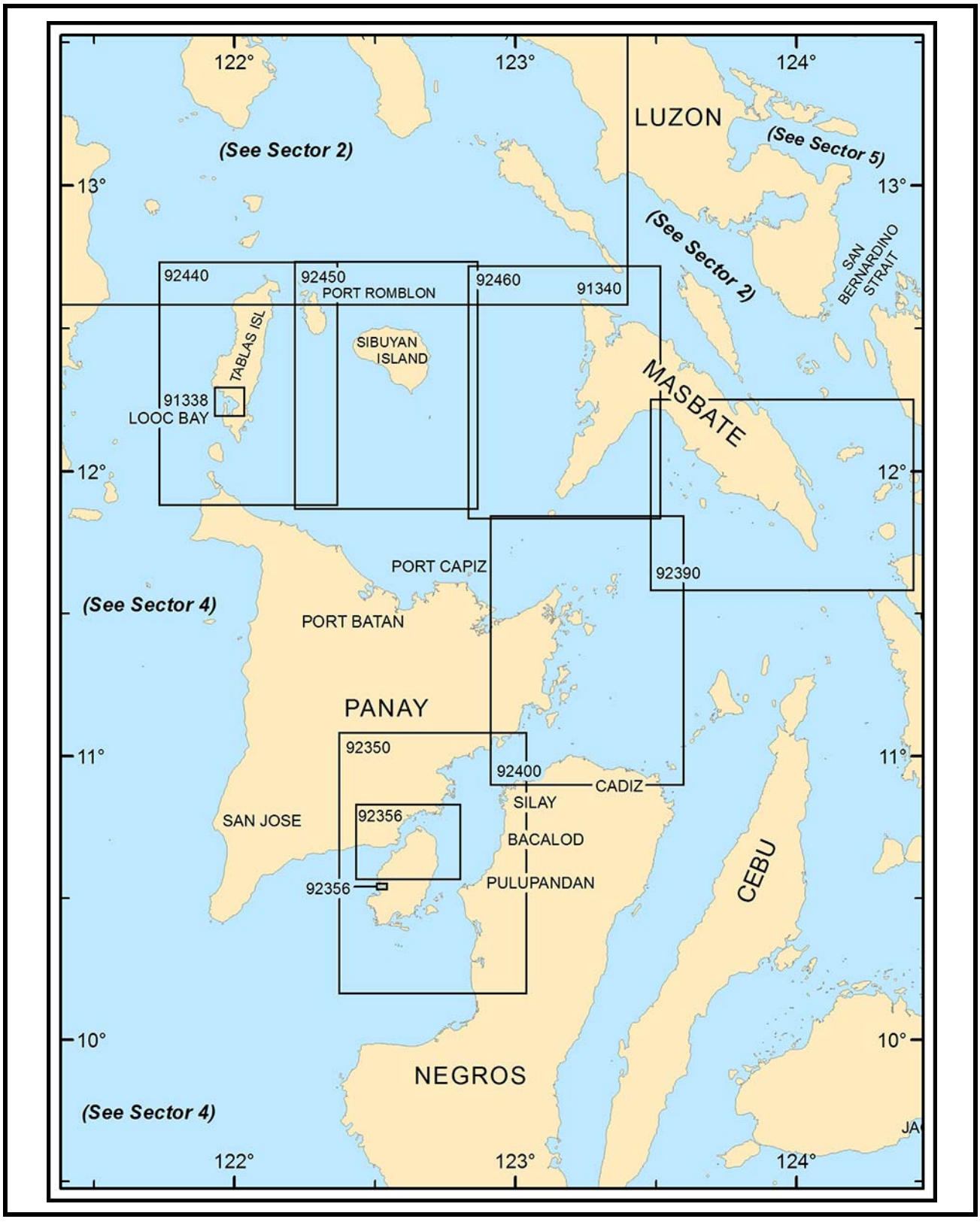
Numerous swirls and eddies are formed in the N entrance to Naranjo Pass and in the channel between Capul Island and Luzon.

Vessels bound S through Naranjo Pass should pass about 1 mile W of Totoog Point and the same distance E of Destacado Island.

Vessels bound W with the current are likely to be carried S toward San Andres Island unless special precautions are taken to avoid it.

Caution.—Navigators must exercise caution when navigating Naranjo Pass because of the cross currents. Also, numerous submarine pipelines exist in the area and can best be seen on the chart.

At night or during stormy weather when the visibility is poor, vessels are advised to pass N and W of the Naranjo Islands, keeping fairly close to the Masbate coast in passing to or from the Samar Sea from San Bernardino Strait.



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

SECTOR **3** — CHART INFORMATION

SECTOR 3

PANAY—NORTH AND EAST COASTS/MASBATE—SOUTH COAST/NEGROS—NORTHWEST COAST

Plan.—This sector describes the area between the NE extremity of Mindoro to the SE extremity of Masbate, the Sibuyan Sea and Sibuyan Island, the N coast of Panay, and off-lying islands and dangers in the above areas. The arrangement is from W to E.

Also described in this sector is the E coast of Panay and the W coast of Negros, both from N to S, including Guimaras Island, Iloilo Strait, and Guimaras Strait.

General Remarks

3.1 Winds—Weather.—The Southwest Monsoon generally begins about the middle or end of April, with winds from the SW and W, which at times blow freshly, alternating irregularly with NE winds. They are felt first in that part of the Sibuyan Sea included between Verde Island Passage and the meridian of Marinduque.

In this part they blow stronger than the variable winds from N to S through E that are experienced farther E and which are accompanied by thick weather and heavy squalls.

In April and May the winds are variable from N to S through E, with occasional thick weather, heavy squalls, and calms. This weather continues through June until the Southwest Monsoon becomes established in the vicinity of Verde Island Passage.

In general, the Southwest Monsoon becomes established during June and blows from SSW to W, reaching at this time as far E as Marinduque.

In some years the Southwest Monsoon is limited to a few gales W, alternating with the variable winds from the E. In other years it attains full force in May, and in this case the SW winds are less permanent from June to September and are replaced by longer periods of variable breezes.

The Northeast Monsoon begins toward the end of September or the beginning of October. During September the winds blow alternately from NE, SE, or SW, but with more persistence from the SW. During the interval of change there are light winds, calms, and tornadoes.

During October, November, and the early part of December, the monsoon blows strong from the N and NE, accompanied by thick weather and rains.

After the middle of December the gales cease and the winds blows strongly from the NE, E, and SE, with much thick weather and rain until the Vernal equinox, from which time until the monsoon ends the winds vary from N to S through E, sometimes blowing with force, and other times light and variable airs and calms.

Typhoons are more prevalent in the months from June to November, inclusive, and about 20 per cent of all the typhoons occur in September.

Tides—Currents.—The flood current, is the current which enters the Sulu Sea through Mindoro Strait and sets NE through Tablas Island, where they are joined by the tidal current. The tidal current comes through the passes between Tablas Island and Panay, and sets N through Romblon Pass.

Similarly, the ebb current, running SW, divides in the vicinity of Punta Gorda, one current running S on each side of Tablas Island.

Vessels coming from the NW along the usual route on the flood current leave the current from Verde Island Passage about midway between Maestre de Campo Island and Simara Island.

On nearing the latter island, a tidal current of 0.5 to 0.75 knot is found setting to the NE.

Abreast of Guindauahan Island the direction of the current changes to ENE, but seldom reaches the strength of 1 knot, since it appears to be very deep and not a surface current. This current causes a rip between the banks and the islet.

Close off Punta Gorda is an area with very little current, but E of it the flood current is met setting due N through Romblon Pass. This current enters the passages to Port Romblon from the W, and continues to the NE between Cobrador Island and Romblon Island.

The ebb currents are exactly opposite in strength and direction to those of the flood. Tidal currents of up to 1.5 knots are found in the narrow channels in the vicinity of Guindauahan Islet and Origion Rock. Moderate rips are found in this area.

The currents on the W coast of Tablas Island are almost wholly tidal and flood N, following the general trend of the coast with a strength of about 0.5 knot. These currents, which run very deep, causes rips at abrupt changes in depth. Strong rips are found off Bagulayac Point.

The flood current on the E coast of Tablas Island sets N and ebbs S at an estimated rate of about 0.5 knot. At the same time, the flood current sets SE along the SW side of Sibuyan Island.

Observations near Cresta de Gallo Island shown the flood current setting SW. The ebb current moves in a direction opposite to that of the flood in the above localities.

The tidal currents between Panay and Tablas Island sometimes attain a rate of 3.5 knots, but elsewhere in the above localities do not exceed 2 knots. The flood current sets E and the ebb sets W.

The flood current which sets E along the N coast of Panay and S along the E coast of that island meets the flood current which sets NE through Iloilo Strait and Guimaras Strait in the vicinity of Pan de Azucar Island.

The ebb current sets in an opposite direction. As a general rule the tidal currents are not strong in this area, but they sometimes attain a rate of 2 knots in the narrow channels and in the approaches to these channels.

In the Sibuyan Sea, the tidal currents are not strong, except off Arena Point, the SE extremity of the Bondoc Peninsula, where they acquire some force from the amount of water that enters and leaves Ragay Gulf.

The flood current that enters Mindoro Strait follows the coast of Mindoro, part of it continuing around the S and E coasts of that island and then N of Dumali Point, where it

meets the tidal current through Verde Island Passage.

The remainder of this tidal current divides at the NW extremity of Panay, one branch flowing along the N coast of Panay past Bulacue Point and the Gigantes Islands to Bulala qui Point the N extremity of Cebu.

From there it turns S and meets the tidal current from the Pacific Ocean through Surigao Strait, about 6 miles S of the Camotes Islands.

It also flows into the Iloilo Strait and into the Tanon Strait where it meets the tidal current which has entered from the S on the parallels of the N end of Negros and of Tajao Point.

The ebb currents set exactly opposite in strength and direction.

The tidal currents in the Visayan Sea are more or less unpredictable due to the numerous connecting channels leading into it. Swirls and eddies are apt to be found in the vicinities of the numerous shoal patches and in the narrow channels leading between the islands and dangers.

3.2 The route from Manila to Iloilo, via Verde Island Passage, is the one most commonly used, as it permits deviation to a number of minor ports. It is followed as far as Dumali Point, the NE extremity of Mindoro, where a choice of two routes is offered.

The E route is the one most often used by inter-island vessels, particularly during the Southwest Monsoon. The W route is deeper and more easily traversed.

The W route is used extensively during the strength of the Northeast Monsoon, when there is a fair wind and sea on the S passage. The W route is recommended for strangers and for vessels of deep draft.

The E route leads E of Maestro de Campo Island and then S of Simara Island, between it and the N end of Tablas Island. It then leads through Romblon Pass, between Tablas Island and Romblon Island, then SW of Jintotolo Island and through Jintotolo Channel.

From here proceed through one of the channels NE of Panay, and then between Panay and Negros.

Off-lying Islands

3.3 **Dumali Point** (13°07'N., 121°33'E.) lies on the N part of the E coast of Mindoro and is described in paragraph 2.34.

Maestre De Campo Island (12°56'N., 121°43'E.) lies about 13 miles SE of Dumali Point.

The summit of the island, 344m high, from E or W appears like a ridge with three distinct hills, the highest near the N part of the island.

The coast may be approached safely within 0.25 mile. The island has a number of small bays which afford anchorage and shelter to small craft.

Port Concepcion (12°55'N., 121°43'E.) lies on the SE side of Maestre De Campo Island.

A beacon, 10m high, is situated on a 32m high hill on the S side of the entrance to the port.

Depths of over 16.5m are found in the approach, and in the middle of the S part of the port. The shores are fringed by a reef, except at the head of the N arm, where there is a sandy beach. Several wrecks lie in the N part of the port, N of a line extending W from Batarya Point. This part of the port is extremely narrow and should only be used by small vessels with local knowledge.

Concepcion, a small village of little commercial importance, stands on the E shore of the N arm of the port.

There is anchorage in the middle of the port, protected from all winds except those between E and SE, in depths of 29 to 37m, rock and sand. Small vessels may anchor farther N off Concepcion village. Heavy squalls are reported to blow down from the hills during the Northeast Monsoon season (October to March).

3.4 **Bidoos Bay** (12°55'N., 121°44'E.), entered between Batarya Point and San Martin Point, about 0.5 mile ENE, is immediately E of Port Concepcion; they are separated by a narrow tongue of land.

Bidoos Bay and Agbatang Bay, on the S side of the island, are the principal breaks in the shoreline outside of Port Concepcion. They are open S, fringed with coral, and suitable for small craft only.

The **Dos Hermanas Islands** (13°02'N., 121°55'E.) lie about 11 miles NE of Maestre De Campo Island.

This group consists of two small islets, Carlota Island and Isabel Island, 59m and 65m high, respectively, lying about 1.5 miles apart. From the offing the two islets appear alike, each with a flat top and sloping to a terrace at each end.

The coasts of the islets consist of cliffs, 6 to 24m high, greatly underworn by the sea. A narrow fringe of coral fronts the N side of each islet. To the NE of Carlota there is a narrow coral spit sloping gradually to a depth of 46m, at a distance of 0.5 mile. Both islets are densely wooded and Carlota is inhabited.

The tidal current is especially strong in the vicinity of the Dos Hermanas Islands; the flood current sets in an E or ENE direction, and the ebb in a W direction. Added to this current is the effect of the wind currents, setting SW from 0.25 to 0.5 knot during the Northeast Monsoon, and in the opposite direction, and weaker, during the Southwest Monsoon.

The best anchorage is on the coral spit on the NE side of Carlota Island.

3.5 **Banton Island** (12°56'N., 122°04'E.) lies with its NW extremity about 17.5 miles E of Maestre De Campo Island. The island consists of a central ridge, 615m high at the N end, occupying the larger part of the island. The W coast is indented by Mainit Bay. This bay, and two small bays on either side, are too deep and exposed to provide anchorage. A narrow steep-to reef fringes the entire island, except at the NE and SW points where the cliffs fall precipitously into great depths. A town, which can be identified by its church, stands on the E side of the island.

Vessels with local knowledge can take anchorage off Banton Island, either off the S point of the town or on a coral ridge off the SE extremity of the island, in a depth of 27m, although this has been reported to be a poor anchorage.

3.6 **Simara Island** (12°48'N., 122°03'E.) lies with its NE extremity 4.5 miles S of Banton Island. The coast of the island is bold with no indentations except at the SW end, where there is a narrow, reef filled inlet. The rest of the coast consists of low cliffs and coral beaches.

A small town stands near the S extremity of the island. It can

be identified by a church and the ruins of a fort on the hill behind the town.

A light is shown from a concrete tower, 10m high, standing on Corcuera Point, the W extremity of the island.

The NE stream between Banton Island and Simara Island has a rate of between 0.5 to 0.75 knot.

Ranger Reef (12°48'N., 122°06'E.), a small shoal with a least depth of 3.6m, lies about 1.5 miles E of the SE part of the Simara Island. It can only occasionally be discerned by water discoloration.

Two 14.6m coral patches lie 2.25 miles off the E side of Simara Island. A similar patch lies about 0.7 mile off the SE part of the island.

Vessels, with local knowledge, can take anchorage between Ranger Reef and the SE side of Simara Island, with Bantayan Hill, the summit of the island, bearing between 300° and 315°, in depths of 20 to 26m.

Tablas Island

3.7 Tablas Island (12°25'N., 122°02'E.), about 35 miles long from N to S, is separated from Mindoro to the W by Tablas Strait and from Romblon Island to the E by Romblon Pass. A heavily wooded central range of hills traverses the length of the island. There are no important towns on the island.

The only protected anchorage is Looc Bay, near the SW end of the island, but sheltered anchorage may be obtained on either side of the island according to the season.

Guindauahan Island (12°41'N., 122°06'E.) lies close off the N coast of Tablas Island. An 8.5m shoal, coral and sand, lies 2 miles W of Guindauahan Island. There are tide rips between the shoal and the island. Origon Rock, with two pinnacles, 33m and 12m, lie close off the N point of Tablas Island. Tidal currents of up to 1.5 knots are found in the narrow channels in this area.

The W coast of the island is largely bordered by mangroves, with numerous beaches of coral sand and some limestone cliffs. The coastal reef extends up to 0.6 mile offshore in places. There are no reported off-lying dangers on the W side.

There are several villages on the W coast of which anchorage may be obtained with local knowledge during the Northeast Monsoon (October to March).

3.8 Odiongan (12°24'N., 121°59'E.), the largest town on Tablas Island, stands on the S shore of Odiongan Bay, about 18 miles S of Guindauahan Island.

A light is shown on the beach near the town and also from Batiano Point, about 1 mile NNE of the town. A stone mole, with an alongside depth of 3.4m, stands on Batiano Point.

Vessels can take anchorage about 0.5 mile NW of Odiongan Light, in a depth of 9.1m, mud. N winds cause a heavy sea at this anchorage.

Mount Bitaogan, 659m high, standing near the middle of the central range of hills 6 miles ENE of Odiongan, appears as a rounded knob from E or W, and as a sharp peak from N or S.

Bagulayac Point (12°24'N., 121°57'E.) lies about 2.5 miles WSW of Odiongan. It can be identified by a bare cliff and two rocks 9m and 20m high.

Guinawayan Point (12°17'N., 121°56'E.) is located about 6.5 miles S of Bagulayac Point. Colasi Hill, located about 0.5 mile N of the point, is 168m high, and is prominent from the S. Wayside Rock, 4.6m high, lies about 2 miles NNW of the point.

Odiongan—Romblon Pier

Mount Lunas, 422m high, is a black ridge located about 6 miles E of Guinawayan Point. It appears long and rounded from the E and W and presents a sharp appearance from N or S.

Cauit Point (12°16'N., 121°58'E.), located about 3 miles SE of Guinawayan Point, is low and bordered by mangroves. There are two conical hills about 0.5 mile N of the point. The N hill is 50m high and the S hill is 62m high. The point is fringed by a reef, which dries, that extends about 0.5 mile S into the entrance of the bay. A narrow spit, with a depth of 5.4m at its outer end, extends 0.5 mile farther SW.

3.9 Looc Bay (12°14'N., 121°59'E.) is entered between Cauit Point and Agoho Point, 1.25 miles S.

The bay is one of the best harbors of refuge in the Philippines, and the only sheltered anchorage on the W coast of Tablas Island during the Southwest Monsoon.

A village stands on the N side of the bay and is identified by its iron roof schoolhouse.

The shores of the bay are bordered with mangroves and there are sandy beaches, backed by mud, in front of Looc village on the N side of the bay and in the E bight.

The shore reef is from 0.15 to 0.35 mile wide and is steep-to, except on the N and NE shores.

A drying reef extends about 0.5 mile NNE from the SW side of the S arm of the bay. A small detached reef, marked by a light, lies close offshore in the E arm of the bay.

Looc, a small town, stands on a low sandy shore in the N part of the bay. A church with an iron roof is located in the town. There is regular sea service to Manila and a telegraph connection with Odiongon.

Looc Reef, which dries 0.6m, lies about 0.75 mile ENE of Agoho Point. It is steep-to and divides the N part of the bay into two deep channels.

Looc Reef Light is shown from a concrete tower, 21m high, marking the N extremity of the reef.

There is anchorage off the above village, in a depth of 20m, with the village church bearing 029° and Cauit Point bearing 294°, or closer in if necessary.

There is anchorage in the S part of the bay, in a depth of 31m, 1.75 miles from the head of the bay, with the point sepa-

rating the E and S part of the bay bearing about 089°.

Directions.—When approaching Looc Bay from the N, pass 0.4 mile W of Guinawayan Point and steer for a 6.1m high rock about 0.9 mile SSW of Agoho Point, bearing 147°. When Agoho Point bears 091°, steer for it on that bearing until Mount Lunas bears 055°, which will lead through the entrance.

3.10 Agoho Point (12°14'N., 121°58'E.), the S entrance point to Looc Bay, is 27m high, with black bluffs and mangroves at the coastline. It is fringed by a reef which extends about 0.15 mile N. A rock, 6.1m high, stands on the reef 0.9 mile SSW of Agoho Point.

Tuctuc Point (12°11'N., 121°57'E.) lies 3 miles SSW of Agoho Point. The point ends in a dark rock which is shaped like a sugar loaf. The shore reef extends about 0.15 mile offshore and is steep-to at its outer edge.

Capid Point lies 2 miles SSE of Tuctuc Point and is fringed by a narrow reef. An inlet indents the coast for 1 mile in a NE direction between Capid Point and Tipolo Point, about 1.5 miles SE.

Santa Fe is a small town that lies at the head of the inlet. A house with a prominent iron roof stands in the town.

Small vessels with local knowledge can take anchorage just inside the entrance to the inlet, in a depth of about 26m, mud, with Canyayo Point, 1 mile E of Capid Point, in line with Capid Point, bearing about 279°, and the iron-roofed house, 065°. A large bushy black tree on a dark hill at the head of the inlet, bearing 046°, is a convenient lead.

The coast between Santa Fe and Cabalian Point has low rocks and boulders at all the points, with sandy beaches between.

Cabalian Point (12°06'N., 122°01'E.), the S extremity of Tablas Island, is low, sandy, and difficult to distinguish at night. A light marks the point. Cabalian Banks, extending from 1.5 to 5.5 miles S from Cabalian Point, have a least depth of 10m. Heavy tide rips are formed on these banks.

Cabalian Point should be given a berth of about 1 mile.

In the S part of the island there are several sharp conical hills which are bare and grassy. Mount Malbug, 277m high, is located about 7 miles N of Cabalian Point. It is dark, wooded, and prominent.

Tablas Island—East Side

3.11 Gorda Point (12°40'N., 122°09'E.), the NE extremity of Tablas Island, is bold and shows a light.

Tablas Summit, which is prominent, stands about 1 mile SW of Gorda Point.

Carmen Bay (12°37'N., 122°09'E.) lies about 2.5 miles S of Gorda Point and is entered between Bailan Point and Canapiag Point, 1.5 miles S. Biaringan Island lies close S of the N entrance point of the bay.

A rock, with a depth of 1.5m, lies 0.5 mile SE of Canapiag Point. A rock lies close NE of the Biaringan Island.

A small village named Carmen stands at the head of the bay. A light is shown on the W side of the bay. A wooden pier, reported in ruins, lies S of the town. A concrete pier, 76m long, is located close S of the light. In 1989, the light was partially obscured by trees.

A radio tower has been established about 1.75 miles WSW of Canapiag Point.

Small vessels with local knowledge can take anchorage with Tablas Summit bearing 023° and Bailan Point bearing 074°.

Badajoz (San Agustin) (12°34'N., 122°08'E.), a small town, lies 3 miles S of Carmen Bay. The roof of the schoolhouse is prominent from offshore.

Small vessels with local knowledge can take anchorage about 0.1 mile off the town, in a depth of 12.8m.

Caution must be used to avoid the shoal water extending 0.3 mile ESE of Nalumsan Point, and the 2.7m shoal lying in the middle of the bight SE of the town. The shoals are visible at half tide and break in a moderate sea.

A light is shown from the edge of the 2.7m shoal.

3.12 Pineda Point (12°32'N., 122°08'E.) lies about 1.75 miles S of Nalumsan Point. The point is low, sandy, and hard to identify. Shoals, with depths of 10.9m and 5.8m lie about 1 mile NNE and 1 mile S, respectively, of the point.

Tugdan Point (12°19'N., 122°05'E.) lies about 14 miles S of Pineda Point. This point, which is low, sandy, and difficult to identify, is distinguished by the spurs extending E to the coast from the main mountain range.

A reef which nearly dries extends about 1 mile NE from the point. A shoal, with a least depth of 3.6m, lies about 1.25 miles SSE of Tugdan Point.

There are several detached shoals, with depths of 11.9 to 16.5m, lying as far as 3.75 miles S of the point.

Calaton Point (12°11'N., 122°04'E.) lies about 8 miles S of Tugdan Point. The point is a black heavily-wooded promontory, which projects about 1.5 miles from the coast. A hill stands on the point. The point is steep-to and fringed by large rocks at the water line. Foul ground extends as far as 1 mile N of the N face of the point.

Cabahan Island (12°09'N., 122°02'E.) lies about 0.5 mile offshore, 2.5 miles SW of Calaton Point. The S and E sides of the island are formed by red, rocky cliffs, and its N and W sides are bordered by mangroves. The island is fringed by reefs and foul ground. A rocky islet lies about 0.25 mile E of the island and is connected to it by a reef.

Pez Rock, a 21m high red pinnacle, lies about 0.25 mile SSE of the island.

Tablas Island—Off-lying Islands

3.13 Romblon Passage (12°35'N., 122°12'E.) lies between the NE point of Tablas Island and the islands of Cobrador, Alad, Lugbung, and Romblon. The pass has a least width of 4.25 miles and is deep and clear of dangers in the fairway.

Cobrador Island (12°40'N., 122°14'E.), 244m high, lies about 4.5 miles E of Gorda Point, the NE extremity of Tablas Island. The island is steep-to except on its SW side.

Cazcarro Rocks, a group of above and below water rocks, lie close off the SW side of the island. Aregita Rocks lie close off the E coast of the island.

Alad Island (12°37'N., 122°15'E.), 244m high, lies about 1.25 miles S of Cobrador Island. The island is steep-to and wooded. An islet, consisting of two rocks, lies 0.2 mile S of the S extremity of Alad Island.

Lugbung Island (12°36'N., 122°15'E.), 95m high, is located about 0.75 mile S of Alad Island. It has a hill 95m high at either extremity. A reef extends about 0.2 mile NNE from the is-

land and a similar reef extends 0.2 mile SW from the SW extremity of the island; a shoal, with a depth of 12.2m at its outer edge, extends about 0.2 mile farther SW.

The channel between Alad Island and Lugbung Island has a depth of 12m and a width of about 0.2 mile between the reefs.

Bangug Island (12°34'N., 122°14'E.), 54m high and wooded, lies 0.8 mile S of Lugbung Island.

Caution.—Shoals lie about 2 miles E and 2.75 miles SE of the N extremity of Biaringan Island with depths of 27.9m and 25.2m, respectively.

3.14 Romblon Island (12°33'N., 122°17'E.) lies about 5.5 miles off the NE coast of Tablas Island. The island is about 9 miles in length, N to S. The shores of the island are fairly steep-to.

Port Romblon (12°35'N., 122°16'E.) (World Port Index No. 58590) lies on the NW side of Romblon Island.

The port is entered between **Sabang Point** (12°36'N., 122°16'E.) and Rosas Point, 0.9 mile S, and is divided into 2 arms by Agbatan Point, from which a reef extends W for 0.1 mile. A lighted beacon situated on the W end of a reef which extends 0.2 mile W of Agbatan Point.

A light is shown from a concrete beacon, 5m high, standing 0.1 mile N of Binagon Point which is located 0.4 mile SSW of Agbatong Point. The approaches to the port are deep and free of dangers in the fairway. The main wharf is 108m long, with a controlling depth of 9m alongside.

Anchorage.—Vessels can take anchorage in the middle of the outer part of the N arm, protected from all but SW winds.

Anchorage can also be taken in the S arm, in the middle of the arm, in depths of 26 to 29m, mud. A mooring buoy is laid in the S part of the bay.

Although the entrance is only 0.15 mile wide, the edges of the reef can usually be discerned by water discoloration. Although confined, this anchorage is deep and provides good protection.

Directions.—Port Romblon may be approached by the channels between Alad Island and Romblon Island or Alad Island and Lugbang Island or Lugbang Island and Romblon Island.

If bound for the S harbor, steer to pass from 46 to 70m S of the lighted beacon off Agabton Point, and the same distance N of the lighted beacon off Binagan Point; when abeam of the latter steer for the anchorage or the pier.

3.15 San Pedro Point (12°32'N., 122°15'E.) lies 2.5 miles SSE of Bangud Islet. The point forms the S entrance point to a small bay. A reef extends about 0.4 mile S from the N entrance point of the above bay.

Vessels with local knowledge can anchor in this bay about 0.1 mile offshore, in depths of 12 to 18m.

There are two bays between San Pedro Point and Apunan Point, the S extremity of Romblon Island; the N bay is foul, but there is a depth of 9m at a distance of 0.1 mile offshore in the S bay.

Apunan Point (12°29'N., 122°17'E.), lies about 4 miles SSE of San Pedro Point. A light is shown on the point. Sablayan Point lies 2.75 miles ENE of Apunan Point. The coast between these two points is steep-to and clear of dangers.

Calabago Point (12°33'N., 122°19'E.) lies 2.5 miles N of Sablayan Point. A small islet, from which a reef extends 0.5 mile NNW, lies in a large bight, close N of the point. Detached shoals, with depths of 16.5m, lie about 4.5 miles E and ESE, respectively, of Calabago Point.

Tongo Point (12°38'N., 122°17'E.) forms the N extremity of Romblon Island. The coast between the islet N of Calabago Point and Tongo Point is clear of dangers, and may be approached to within 0.5 mile.

A shoal, with a depth of 14.6m, lies close E of the point.

Sibuyan Island

3.16 Sibuyan Island (12°25'N., 122°35'E.) is separated from the E side of Romblon Island by a passage 6.5 miles wide and is very deep and clear of dangers, except for a shoaler patch of 12 to 16.4m,

The island is mountainous and has eight prominent peaks. Mount Guitinguitin, the highest at 2,057m, stands in the middle of the island. There are several small towns standing along the shores of the island, but none are of any commercial importance.

The N and NE coasts of the island are fronted by detached shoals and dangers as far as two miles offshore.

Cabodiangan Point (12°27'N., 122°25'E.), the W extremity of the island, is low and covered with mangroves.

Cangouac Point lies about 5.25 miles NE of Cabodiangan Point. It is reported (1955) that a depth of 8.2m lies about 1.4 miles NW of Ipil Point.

Magdiwang (Magallanes) (12°30'N., 122°31'E.), a town on the W bank of the Magallanes River, lies about 1.5 miles ESE of Cangouac Point. Madiwang Lighted Beacon stands on Cangouac Point.

A conspicuous house with a white roof stands on the E side of the river.

Shoal water lies from 0.75 mile to 2 miles N of the town, and can best be seen on the chart.

Vessels, with local knowledge, can take anchorage NW of the entrance to the river, in depths of 11 to 17m, sand.

Vessels approaching from the W or N should pass about 2 miles N of Cangouac Point, and then steer 149° for the house with a white roof.

Vessels approaching from the E should keep from 1.5 to 2 miles offshore until Ipil Point, 2 miles WSW of Cangouac Point, bears 245°. Ipil Point is only prominent on this bearing. Steer for Ipil Point on 245°, passing over a 10m depth located about 1.25 miles N of Consumala Point.

When the mouth of the Magallanes River bears 186°, alter course to 197°, being careful to avoid the charted dangers, and approach the anchorage NW of the river's mouth.

3.17 Consumala Point (12°30'N., 122°33'E.), the N extremity of Sibuyan Island, lies about 3.25 miles ENE of Cangouac Point. A reef, with a depth of 0.9m, extends 0.5 mile NE from the point.

Silom (12°30'N., 122°36'E.), a village, stands about 3.25 miles E of Consumala Point. There is a break in the coastal reef off the village which provides anchorage and shelter to small vessels with local knowledge. Canloay Point lies about 2 miles E of Silom.

The coast between Canloay Point and Cambulayan Point is

fringed with coral and mangroves, but there are a few places where landings can be made.

A chain of sand and stone shoals lies from 1 to 1.5 miles off this coast.

There is a deep channel between the shoals and the coast which can best be seen on the chart.

Cajidiocan (12°22'N., 122°41'E.), a small town, is located about 2 miles SSW of Cambulayan Point. A school with a red roof in the town is conspicuous.

3.18 Cauit Point (12°17'N., 122°38'E.), the S extremity of Sibuyan Island, is located about 7 miles SSW of Cajidiocan. The point is a low narrow flat peninsula of coarse sand and gravel.

A concrete tower, 10m high, from which Cavit Point Light is shown, stands on Cavit Point. Heavy tide rips occur off the point at and near spring tides. Azagra town stands about 0.5 mile N of the point.

A rock, with a depth of 0.9m, lies about 0.4 mile N of Cauit Point.

San Fernando (12°18'N., 122°36'E.) also called Poro Point, lies about 1.75 miles NW of Cauit Point. Coral reefs extend as far as 0.25 mile offshore abreast the town. Cantingas Point lies 2 miles WNW of San Fernando. The point is low and hard to identify.

Espana (12°23'N., 122°30'E.), a small village, lies 5.75 miles SE of Cabodiangan Point. A river empties into the sea 1 mile SE of the village.

Vessels, with local knowledge, can anchor off the mouth of the river. Vessels can also anchor off the village.

A shoal, with a depth of 2.7m, lies about 0.75 mile SW of the town.

Vessels should use caution in order to avoid the reef and rock, awash, which extend 0.5 mile SE from the S side of the river.

3.19 Prueba Reef (12°14'N., 122°38'E.), on which there are two heads, which dry, lies about 1.5 miles S of Cauit Point. The channel between Cauit Point and the N edge of Prueba Reef has a least width of about 0.75 mile and is deep and free of dangers in the fairway.

The channel between Sibuyan Island and Masbate Island is about 30 miles wide and is encumbered by numerous shoals, reefs, and dangers, which are for the most part steep-to. This channel may be roughly divided into three passages, of which the W passage is easiest to navigate.

This passage lies between Sibuyan Island and Prueba Reef on the NW side and a line of reefs lying about 6 miles SE of the island. The narrowest part of this passage lies between Prueba Reef and Cresta de Gallo Island and is about 3.5 miles wide, deep, and clear of dangers.

The other two passages should not be attempted as they are unmarked and the tidal currents in the area are irregular and unpredictable. There is also the possibility of the existence of uncharted dangers.

Cresta de Gallo Island (12°12'N., 122°42'E.) is narrow and surrounded by dangers, and lies about 5.75 miles SE of Cauit Point.

The N part of the island consists of a low sandspit, which is almost awash at extreme high tides.

The S part of the island can be identified by its two conspicuous peaks. A concrete tower, 10m high, situated near the S point of the island.

A shoal bank, with depths of less than 8.2m, extends about 3 miles SSW of the island.

Romero Reef, with a depth of 4.5m, lies about 2 miles SE of Cresta de Gallo Island.

3.20 Aubarede Reef (12°13'N., 122°43'E.), with a least depth of 3.2m, lies about 1.75 miles NE of the NE extremity of Cresta de Gallo Island.

Roda Reef, with a least depth of 3.6m, lies about 2.75 miles NE of Aubarede Reef. A reef is reported (1984) to lie up to 3 miles E of Roda Reef.

Perseus Reef lies about 2 miles NNE of Roda Reef and has a least depth of 0.4m. Anda Reef, with a least depth of 2.1m, lies about 6 miles ESE of Roda Reef.

An isolated 8.2m depth was reported to lie about 5.5 miles ENE of Aubarede Reef. Another isolated depth of 3.7m, whose position is doubtful, lies about 1.5 miles SSE of the 8.2m depth.

Cervera Reef (12°20'N., 122°50'E.), awash near its E end, lies with its W extremity 7 miles ESE of Cambulayan Point. Shoals, with depths of 9.1 and 14.6m lie about 8 miles and 8.8 miles SE, respectively, of Cambulayan Point.

Bennet Reef (12°24'N., 123°05'E.), on which there is a shifting sand cay, lies 15 miles ENE of Cervera Reef.

Montero Shoal, with a least depth of 0.9m, lies 7.5 miles SSW of Bennet Reef. Gamma Reef, with a least depth of 5.5m, lies 3.5 miles SE of Bennet Reef.

Tuma Reef (12°15'N., 123°07'E.), with a depth of 5m, lies 5.5 miles ESE of Montero Reef. Pineda Reef, with a depth of 0.9m, lies 8 miles WSW of Tuma Reef.

Arana Reef, with a depth of 0.9m, lies about 3 miles SW of Pineda Reef.

Reynold Reef (12°07'N., 122°54'E.), with a least depth of 5m, lies about 4.5 miles SW of Arana Reef. Carrasco Reef, with a least depth of 4.6m, lies 1.7 miles SSE of Anda Reef. Roldan Reef, with a least depth of 0.5m, lies about 2 miles N of Carrasco Reef.

Panay—North Coast

3.21 Carabao Island (12°04'N., 121°56'E.) lies about 3.5 miles SW of the S extremity of Tablas Island. The shores of the island are mainly steep-to and clear of dangers.

Vessels can take anchorage off a sandy beach on the E side of the island, in a depth of 9.1m. Anchorage can also be taken, in 18.3m, E of the village of Taft, lying 1.5 miles N of the SE extremity of the island.

Vessels can also anchor on the SW side of the island, about 2.25 miles WNW of its S extremity, in a depth of 10.9m.

Borocay Island (11°58'N., 121°56'E.) lies 2.5 miles S of Carabao Island. See paragraph 4.26 for detailed description of Borocay Island.

Potol Point (11°56'N., 121°57'E.), the N extremity of Panay, is flat and sandy, with a few trees. A group of rocks and islets lie about 0.5 mile NE of the point. A reef fringes the shore from the point to Saboncogon Point, 3.25 miles SE. A prominent hill stands about 0.25 mile SW of Saboncogon Point.

Ibajay (11°50'N., 122°10'E.), a small town, stands on a point of the same name, and lies about 11.25 miles ESE of Sabongcogon Point. The town is obscured by trees and is not visible from offshore.

Vessels with local knowledge can take anchorage NE of the town. This anchorage provides protection from S winds but is not safe during the Southwest Monsoon.

The wind often shifts suddenly to the NW, leaving Pontud Banks to leeward, and a large vessel could not remain here with safety.

Pontud Bank (11°52'N., 122°15'E.) consists of a group of shoals with depths of 0.3 to 4.9m, lying from 1.5 to 3.5 miles N of **Apga Point** (11°48'N., 122°16'E.).

Detached shoals, with depths of 3.6m and 1.8m, lie about 0.5 mile and 5 miles NNW, respectively, of Apga Point.

Aklan Point, 7.5 miles ESE of Apga Point, is low and flat. It is formed by the delta of a river which flows out at the point. The sea breaks heavily on the bar during NE winds. A town stands on the E bank of the river, about 2 miles from the mouth of the river.

3.22 Port Batan (11°35'N., 122°29'E.) is entered between Floripon Point, a densely-wooded point marked by a light situated about 11 miles SE of Aklan Point, and Batan Point, 0.75 mile further SSE. Port Batan is formed by the mouths of several rivers flowing into the same general area.

The port may be identified by Ocboc Hill, a prominent, steep, rocky mount 47m high, situated close to the coast, 2.5 miles SE of Floripon Point. Mount Sinalay, 214m high, rises to a sharp peak 2.25 miles S of Ocboc Hill.

Detached reefs, with depths of 7.3m and 9.1m, lie about 5.75 and 5.25 miles NNE, respectively, of Floripon Point.

A shoal, with a depth of 17.7m, lies about 2.5 miles N of the same point.

Shoals, with depths of less than 5.5m, extend 1.5 mile and 2 miles N from the W and E sides, respectively, of the entrance to the port.

The entrance channel, lying between these shoals, is about 0.25 mile wide. The bar fronting the channel has a least charted depth of 6.4m. The bar and the shoals have been known to shift at times.

If the channel buoys are out of position, the edges of the banks may sometimes be distinguished by the color of the water and by tide rips. The tidal current runs at a considerable rate in this vicinity.

The village of Batan is on the E shore of the port, with only a few huts visible. New Washington, a loading port, lies about 5.75 miles NW of Batan, on the New Washington River (Lagatic River), which could carry a depth of 3m to New Washington.

Pilotage for both Port Batan and New Washington is provided from Iloilo (see paragraph 3.51). Pilots board E of Floripon Point.

Vessels can take anchorage anywhere S of the peninsula which forms the N side of Port Batan, in depths of 7 to 11m.

Anchorage can also be taken, during the Southwest Monsoon, outside the peninsula, about 0.75 mile NE of New Washington.

Vessels entering Port Batan should steer for Floripon Point bearing 195°, and then pass in mid-channel between the entrance buoys, allowing for the tidal stream.

Vessels are cautioned against the effects of the tidal currents in the channel and in the approaches. Vessels should round the S part of Floripon Point at a distance of 0.15 mile and anchor as convenient.

3.23 Sapian Bay (11°33'N., 122°36'E.) lies about 5.5 miles ESE of Batan Point. A small town of the same name situated about 3 miles up a river which flows into the SW corner of the bay. The bay is free of dangers, but a bank, with depths of less than 5.5m, extends about 2 miles from the head.

Malacha Islet, 15.2m high, lies on the E side of the bay, about 2.25 miles SSW of Nailon Point.

Detached reefs, with depths of 1.8m and 9.4m, lie about 2.75 miles N of Baquiao Point, the W entrance point to Saipan Bay. Shoals with depths of 12.9m and 14.7m, lie 5.5 miles NNE and 7.5 miles NE, respectively, of the above point.

A reef, with a least depth of 4.5m, lies about 1.25 miles N of Baquiao Point. Foul ground, with depths less than 0.9m, lies between this reef and the point.

Rocks, with a depth of 0.9m close E, lie 0.55 mile ESE of Baquiao Point. A shoal, with a depth of 0.9m, lies 1.5 miles NW of the point.

Maybay Island, rocky, partially wooded, and 23m high, lies 1.25 miles WNW of Nailon Point. A shoal, with a least depth of 2.1m, lies about 0.5 mile NW of the islet.

Mahabang Islet, 6.1m high, lies 1.25 miles WSW of Nailon Point. A number of small, rocky islets lie 0.35 mile S of the islet.

Capiz Bay (11°35'N., 122°42'E.) lies NE of Sapian Bay, and is entered between Nailon Point and Culasi Point, about 4 miles NE. The depths in the bay are mostly shoal, with the 5.5m curve extending, roughly, between the entrance points.

The Panay River discharges about 1.5 miles SSE of Culasi Point. Roxas City stands on the N bank of the river, about 3 miles above its mouth.

3.24 Port Capiz (Roxas City) (11°36'N., 122°43'E.) (World Port Index No. 59150) is located on the S side of Culasi Point. The entrance to the port is about 105m wide and lies between the heads of two breakwaters. A depth of 5.5m can be carried through the entrance to the pier at Culasi. A light is shown from the head of each breakwater.

Port Capiz (Roxas City)

Pilotage is provided from Iloilo (see paragraph 3.51). Pilots

board in position 11°37.0'N, 122°41.3'E.

A depth of 5.5m was reported in the channel leading to Port Capiz.

A concrete pier, with a reported depth of 5m, situated at Culasi.

A reef, with a depth of 5.8m, lies about 1.75 miles WNW of Culasi Point Light. A rock, with a depth of 0.3m, lies about 0.5 mile N of the above point.

Flat Rock, about 0.3m high, and surrounded by rocks, lies about 0.85 mile NNE of Culasi Point. Some rocks, which dry about 1.5m, lie about midway between Flat Rock and the coast.

Tuad Islet, 13.4m high, is partly wooded; it lies about 3 miles WSW of Culasi Point and within the 9.1m curve fronting the bay. The islet lies near the N end of a shoal, of sand and coral heads, which extends about 0.5 mile S.

A reef, with a depth of 2.7m, lies about 0.75 mile E of the islet. There is a 4.9m shoal 1.5 miles ESE of Tuad Islet.

A small pinnacle rock, with a depth of 2.1m, lies about 0.3 mile SW of Culasi Point.

Vessels unable to enter Port Capiz because of their draft can take anchorage about 1 mile SW of Culasi Point, in a depth of 6.4m, mud. Smaller vessels can anchor closer to the point.

Nipa Point (11°37'N., 122°43'E.) lies about 0.5 mile NE of Culasi Point. The point is steep and rocky. A cluster of intake pipes, marked by two buoys and a tower, lies about 0.5 mile NNE of Nipa Point.

Mantalinga Islet is small and wooded, and lies 1.5 miles E of Nipa Point. The islet stands on a rocky shelf which is awash. A 5.8m patch lies about 0.6 mile N of the islet.

3.25 **Pirara Point** (11°36'N., 122°50'E.), low, sandy, and covered with trees, lies about 7 miles E of Nipa Point.

A river, which empties close S of the point, forms a shoal sandbar which extends 0.75 mile seaward.

Nagtig Islet, densely covered with brush and trees, lies about 1 mile NW of Pirara Point.

Olutaya Island (11°38'N., 122°50'E.), which is sparsely wooded, lies about 1.75 miles N of Pirara Point. A small cove indents the SE side of the island and affords anchorage to small vessels.

A small wooded islet,15m high, lies about 0.25 mile W of the island, and a similar islet lies close off the N end of the island.

Eddies and irregular tidal currents are found in the vicinity of Olutaya Island. Rips have been observed just W of the channel between the island and Pirara Point, when the current was running at full strength.

Pilar Bay (11°33'N., 123°00'E.) is entered between Pirara Point and Bulacaue Point, about 19 miles E. The bay indents the coast for about 7 miles in a S direction.

The bay is mostly shoal, contains no sheltered anchorages, and is of little use to shipping. A town of the same name stands at the head of the bay.

3.26 The **Zapato Islands** (11°45'N., 123°01'E.) are three small islets lying on a bank, located about 12 miles NW of Bulacaue Point. Zapato Mayor Islet, the NE and largest of the group, is fringed by a reef with shoal water extending about 0.5 mile S and W from the islet.

Zapato Menor Islet, located about 3.5 miles SW of Zapato Mayor Islet, is well wooded, steep-to, and clear of dangers. Chinela Islet lies about 1 mile NNE of Zapato Menor Islet.

A rocky ledge, which dries, extends about 45m from its shores. Currents and eddies are strong in the vicinity of the Zapato Islands.

Elcano Shoal (11°51'N., 122°53'E.), located about 9.5 miles NW of Zapato Mayor Islet, is about 1.25 miles long and 0.5 mile wide with a visible bottom. The shoal has depths of 15 to 18m.

Bulacaue Point (11°36'N., 123°09'E.), the NE extremity of Panay, is a spur from Mount Agudo and Mount Sibala, situated 15 mile and 12 miles, respectively, SW of the point. The point is low and terminates in a sand spit with drying rocks which extend 0.35 mile offshore.

Cucaracha Shoal (11°41'N., 123°11'E.) lies about 4.5 miles NNE of Bulacaue Point. The shoal consists of several detached patches with depths of 2.7 to 8.2m.

A number of shoals lie to the E of Cucaracha Shoal and can best be seen on the chart.

Masbate—South Coast

3.27 **Bugui Point** (12°36'N., 123°14'E.), the N extremity of Masbate, has been previously described in paragraph 2.92. Beta Reef, with a depth of 2.7m, lies about 6.5 miles SSW of Bugui Point.

Bagupantao Point (12°28'N., 123°15'E.) is located about 9 miles S of Bugui Point.

Gato Island (12°27'N., 123°12'E.), 57m high, lies on the outer edge of a bank extending from the W side of Masbate, about 2.75 miles WSW of Bagupantao Point. A 5.5m shoal lies 2.5 miles N of Gato Island.

Tumalaytay Point (12°17'N., 123°14'E.), 65m high, lies about 10.5 miles S of Bagupantao Point.

The coast between these two points is indented by several bays fronted by Majaba Island, Nabugtut Island, Bagumbanua Island, and Napayauan Island.

The passages between these islands and the coast of Masbate are encumbered with drying shoals.

Tumalaytay Island (12°17'N., 123°13'E.) lies on the edge of the coastal reef which fringes Tumalaytay Point to a distance of about 1 mile W and NW. The reef is bare at LW. A 7.6m patch lies 1.25 miles NNW of the island.

3.28 **Nin Bay** (12°13'N., 123°15'E.) is entered between Pagbulungan Point, 3.75 miles S of Tumalaytay Point, and Talisay Point 5 miles further S.

The bay is divided into two parts by Carogo Island and Camasusu Island. The N side of the bay is sheltered, with good holding ground.

The S side of the bay have been reported to contain numerous shoals. The dangers in Nin Bay can best be seen on the chart.

Alas Bay is a narrow and shallow cove which extends about 2.5 miles from the head of the bay.

Anchorage.—Vessels can take anchorage anywhere in the N part of Nin Bay, according to draft. The holding ground is good, but the anchorage is exposed to N winds.

Small craft can anchor just inside the narrow channel connecting the head of Nin Bay with Alas Bay.

Jintotolo Island Light

Vessels can obtain secure anchorage in Looc Bay, about 0.5 mile E of the summit of Camasusu Island, in depths of 9 to 11m.

Caution.—A local magnetic anomaly of up to 42°E has been reported in Nun Bay.

3.29 Looc Bay (12°09'N., 123°15'E.), the S part of Nin Bay, lies about 2.5 miles NE of Talisay Point. The bay is shallow in its E part and somewhat restricted throughout.

Tandao Rock lies, awash, about 0.75 mile NNW of Talisay Point. The rock is the only known danger in the entrance to Looc Bay.

Coral reefs, some of which dry, extend up to 0.6 mile from the S shore of the bay.

Talisay Reef (12°07'N., 123°12'E.), parts of which dry at LW, lies 1.75 miles SW of Talisay Point and about 1 mile offshore.

Pulanduta Point (11°54'N., 123°10'E.), the SW extremity of Masbate, is located 14 miles SSW of Talisay Point.

The coast between is low, except at **Tumatum Point** (11°58'N., 123°09'E.), located 4 miles N of Pulanduta Point, where hills lie close to the coast and form low rocky bluffs and rise to a 143m high hill.

Coral reefs and sand beaches fringe the coast. A light is shown from Pulanduta Point.

Jintotolo Island (11°51'N., 123°08'E.) lies about 3 miles SSW of Pulanduta Point. The island is 40m high, well wooded and bordered by a sandy beach. A light marks the SW side of the island.

The island is surrounded by a reef which extends about 0.35 mile from the NW side. The channel between Masbate and the island is clear of dangers in the fairway.

Jintotolo Channel (11°48'N., 123°05'E.) is the passage between Panay and Masbate. The channel is divided into three passages by Jintotolo Island and the Zapato Islands.

All the passages are deep and clear of dangers in the fairways, but numerous unmarked shoals lie in their approaches and immediate vicinity. The middle passage is the one most used.

3.30 Asid Gulf (12°05'N., 123°30'E.) lies between Pulanduta Point and Buri Point, 32 miles E. The greater part of the gulf is encumbered with islets, dangers, and shoals. There are a few prominent landmarks and navigational aids in the gulf.

Only vessels with local knowledge should attempt to navigate within the gulf, and then only during daylight hours and under the most favorable conditions.

The coast between Pulanduta Point and Cinamongan Point, about 16 miles NE, is fairly steep-to and fringed by a narrow reef, with sandy beaches in places. Moderate highland, covered with trees, lies close to the shore as far as **Jangan Point** (12°01'N., 123°17'E.), located 10 miles NE of Palanduta Point. To the N of Jangan Point, the hills recede from the coast and give way to low grass-covered plains. A shoal, with a least depth of 1.8m, lies about 4 miles SE of Jangan Point.

Circe Bank, with a least depth of 6m, lies about 7.25 miles ESE of Pulanduta Point. Shoals, with depths of 9.1 and 9.6m, lie about 8.5 miles SSE and 11.25 miles SE, respectively, of the above point.

A shoal, with a least depth of 0.3m, lies 3.25 miles ENE of Jangan Point. Shoals, with depths of 0.9m, lie 5.75 and 6.75 miles E, respectively, of the above point.

A reef, which dries, lies about 10.5 miles E of Jangan Point. A chain of shoals, with depths of 0.5 to 9.1m, extend in a general SSE and then curve SSW to a position 8.75 miles S of the drying reef; an isolated rocky patch, with a depth of 0.5m, lies

1 mile N of the drying reef.

Shoals, with depths of 5.1m, lie about 12.25 miles E and 13.25 miles ESE of Jangan Point. A reef, which bares at LW, lies about 11.5 miles E of the point.

Taisan (12°06'N., 123°21'E.), a village on the N side of the mouth of the Taisan River, stands 6.5 miles NE of Jangan Point. There is a small wooden pier at the village. Manganese ore is loaded from lighters at the anchorage.

Vessels can take anchorage 1 mile S of the mouth of the river with Cinamongan Point bearing 290°, distant 1 mile.

A shoal, with a depth of 2.7m, lies 2.75 miles ESE of the mouth of the Taisan River.

3.31 Milagros (12°13'N., 123°30'E.), a small town, lies at the head of Asid Gulf, about 10.5 miles NE of Taisan.

Vessels can take anchorage about midway between Naguran Island and Milagros, in a depth of 9m, mud. Small vessels can anchor closer to the town.

A light is exhibited at Milagros.

When bound for Milagros from SW, pass E or W of the 0.5m shoal off Jangan Point, and W of the 2.7m shoal lying 3.5 miles E of Cinamongan Point.

Naguran Island lies about 5.25 miles SSW of Milagros and the island is fringed by a reef.

A chain of drying reefs, shoals, and rocks awash extends up to 12 miles SW from the island.

Buri Point (11°56'N., 123°43'E.), the E entrance point of Asid Gulf, is the most prominent landmark in the area. Naro Island is located about 3.5 miles WSW of Buri Point. The island is fringed by a drying reef which extends about 1 mile S and W. Chico Island, low and narrow, lies 2.75 miles WNW of Naro Island. The island is fringed by a reef which extends up to 1.5 miles S and W. A reef, which uncovers, lies about 2.5 miles SW of Chico Island. A light is exhibited from the S end of Naro Island.

Guinlabagan Island (11°56'N., 123°35'E.) lies about 1 mile NW of Chico Island. The island is small and fringed by a reef. Pobre Island is located about 2 miles NE of Guinlabagan Island. The island is fringed by a reef.

Guilutugan Island (11°57'N., 123°33'E.) lies about 4 miles W of Pobre Island. Reefs and shoals extend up to 1 mile SSW and about 1 mile N from the island.

3.32 Manoc Island (12°00'N., 123°34'E.) and Namatian Island, both small and fringed by a reef, lie about 2 miles NNE of Guilutugan Island. Guinluthagan Island lies about 4 miles N of Guilutugan Island.

Reefs and shoals front the island as far as 1.75 miles NNW and about 1 mile S. Balabao Point, on Masbate, projects about 1.5 miles from the coast, but is not prominent.

Nabugtu Island (11°51'N., 123°46'E.), fringed by a reef, lies about 6 miles ESE of Naro Island. Numerous shoals lie between the island and the coast to the N and NE and between the island and Gorriti Shoal, about 8 miles WSW.

Placer (11°52'N., 123°55'E.), a small town, lies about 12.5 miles SE of Buri Point and on the W side of the mouth of the Nauco River. The town is prominent from seaward.

Vessels can take anchorage a little over 1 mile S of Nauco Point, in a depth of 9.6m. There are some rocks lying awash, about 0.5 mile SE of Nauco Point.

Guinauayan Island (11°49'N., 123°55'E.), marked by a light, lies 3 miles S of Placer. The E side of the island is fringed by a reef about 1.5 miles E, leaving a channel about 0.75 mile wide between it and the 10m curve fronting the coast of Masbate.

Nagarao Island lies about 3.5 miles W of Guinauayan Island. The island is low, with shoals extending as far as 2 miles NW and 1.25 miles SE from the island.

Numerous reefs and shoals extend as far as 5 miles S and SW from the island.

Caduruan Point (11°44'N., 124°04'E.), the SE extremity of Masbate Island, consists of rocky bluffs, separated by short stretches of sandy beach.

Within the point the hills rise to a height of about 90m, but have no prominent peaks; they are covered with trees and brushwood with occasional clearings reported near the coast.

Shoal water extends about 0.3 mile S from the point, outside of which is clear, with a depth of 14.6m.

The shore between Placer and Caduruan Point is mostly a sandy beach, bordered with trees fronting a grassy plain, and is devoid of prominent landmarks.

Panay—East Coast and Off-lying Islands

3.33 Bulacaue Point (11°36'N., 123°09'E.), the NE extremity of Panay, has been previously described in paragraph 3.26. The 20m curve lies about 1 mile N and 6.5 miles E of the point. Inside this curve are numerous islets, rocks, and dangers.

Manigonigo Island (11°36'N., 123°11'E.), about 1.5 miles E of Bulacaue Point, lies on the NE extremity of a shoal, with depths of less than 5.5m, which extends from the coast of Panay. The islet is small, flat, and surrounded by rocks extending as far as 0.1 mile on all sides except on the S side, where they extend up to 37m. The islet is marked by a light.

Anegada Rocks are two small rocks, with depths of less than 1.8m, lying on the shore bank about 0.75 mile SSW of Manigonigo Islet.

Nabunut Island (11°35'N., 123°13'E.), about 30m high and wooded, lies 3.25 miles ESE of Bulacaue Point. It is fringed by a narrow reef and connected with Tulunanaun Island, about 2 miles SE, by a shoal with depths of 2 to 6m.

Tulunanaun Island (11°33'N., 123°14'E.) is a small, narrow island having a hill 40m high near its N end. It is fringed by a narrow reef which extends about 0.25 mile offshore.

Nabunut Island and Tulunanaun Island are on a coastal bank, with depths of 2 to 9m, that extends about 4.5 miles E from Manigonigo Islet.

A shoal, with a depth of 3.6m, lies about 1.25 miles SE of the SW extremity of Tulunanaun Island.

3.34 Balbagon Island (11°35'N., 123°17'E.), narrow and low, is located about 3.5 miles E of Nabunut Island. A small sand hill, covered with trees about 30m high, stands at its S end.

The island lies on the W side of an extensive bank and is fringed by drying reefs, which extend 1 mile from its N side.

Ojastras Islet, a small sandy cay, lies 0.5 mile S of Balbagon Island, with which it is connected by a shoal spit.

Shoals, with depths of 5.5m, lie 1 mile and 1.75 miles SSE, respectively, of the S end of Balbagon Island.

Turnina Islet lies on a detached reef about 0.75 miles E of Balbagon Island.

It is connected to the reef fringing the island by a shoal spit.

Tacut Reef, bare at LW, lies about 1.5 miles SE of Balbagon Island, on the E edge of the extensive shoal bank surrounding Balbagon Island and Ojastras Islet and Turnina Islet.

The channel W of Balbagon Island is the one generally taken by inter-island vessels bound for Iloilo. It has a navigable width of 1 mile and is deep and clear of dangers in the fairway.

3.35 The **Gigante Islands** (11°36'N., 123°21'E.) are a group of two islands and several islets and detached rocks lying about 10 miles E of Bulacaue Point.

The group is clear of dangers on the N side, except for a sunken rock lying close NE of the NE extremity of North Gigante Island.

The reefs and shoals on the other sides do not extend more than 0.75 mile offshore. A shoal, with a depth of 10.9m, lies about 2.25 miles WNW of the S extremity of North Gigante Island.

North Gigante Island (11°38'N., 123°21'E.) is wooded and 231m high near the N end. It is fringed by reefs, partly bare at LW, which extend up to 0.5 mile W and E.

Three small islets lie about 0.5 mile off the SE side of the island on the fringing reef. Named from N to S, they include Gigantillo Islet, Gigantuna Islet, and Bulubadiang Islet. A light marks the N extremity of North Gigante Island.

A shoal, with a depth of 7.3m, lies about 5 miles ENE of the N extremity of North Gigante Island. A shoal, with a depth of 6.4m, lies about 7 miles ESE of the same point.

There are numerous other shoals in the vicinity whose position can best be seen on the chart.

3.36 **Uaydajon Island** (11°38'N., 123°22'E.), lying about 0.75 mile E of the N end of North Gigante Island, is small, clear, steep-to, well wooded, and 80m high to the tops of the trees.

The channel between the island and North Gigante Island has depths from 13 to 17m.

South Gigante Island (11°35'N., 123°20'E.) lies 0.5 mile S of North Gigante Island, is well wooded, and 232m high near its S end. The N side of the island is fringed by a drying reef which extends about 0.3 mile offshore.

Dapdap Point, the W extremity of the island, is 33m high and fairly steep-to.

Bantigui Island, 18m high, Cabugao Island, 109m high, and Antonia Island, 98m high, are three small islands lying on the same reef, S of South Gigante Island. A 4m shoal lies 0.5 mile E of Antonia Island, with an 11m patch 1 mile farther E.

The channel between these islands and South Gigante Island is 0.5 mile wide, with depths from 12 to 17m.

There is anchorage during the Northeast Monsoon off the SW side of South Gigante Island, in a depth of 12.8m, mud and sand.

The channel between Turnina Islet and Tacut Reef on the W and the SW side of South Gigante Island on the E is about 1 mile wide with depths of over 18.3m in the fairway. This channel is sometimes used by inter-island vessels bound S for Iloilo.

Tanguingui Island (11°29'N., 123°43'E.), a flat and sandy cay about 6.7m high, lies about 22.5 miles ESE of the E side of South Gigante Island.

A reef, with a least depth of 2.7m, lies about 5 miles S of the islet. A shoal, with a least depth of 11.3m, lies about 4.5 miles NNE of the islet. The islet is marked by a light.

3.37 **Bancal Bay** (11°32'N., 123°09'E.) is entered between Blanca Point, lying 2 miles SSE of Bulacaue Point, and **Gogo Point** (11°29'N., 123°09'E.), about 5 miles further S. This bay is very shallow and the river entrances are blocked by sand bars at LW.

Binuluangan Island (11°31'N., 123°11'E.), 60m high and wooded, extends about 3.5 miles SW from a position about 2.5 miles SE of Blanca Point. The island is separated from the coast by Bancal Bay on the W, and Gogo Pass, a shallow channel between the island and Gogo Point, to the SW. The island is fringed by reefs; however, many islands and islets lie close N, E, and SE of Binuluangan Island.

Calagnaan Island (11°29'N., 123°13'E.), 339m high and wooded, lies with its W extremity about 1.5 miles E of Gogo Point. The E and S sides of the island are steep-to and clear of dangers, but reefs and shoals fringe its W and NW sides. There are two reef-fringed bights on the NW side of the island.

Nilidlaran Pass lies between the NW side of Calagnaan Island and the islands and dangers off the SE side of Binuluangan Island. The pass is divided into two narrow and tortuous channels by Labno Islet, lying close N of the W extremity of Calagnaan Island. Both channels have a least depth of about 2.7m. The W channel has a width of about 137m and is the one generally used by small craft with local knowledge.

Canas Island (11°29'N., 123°15'E.), 94m high and steep-to, lies about 0.85 mile E of Calagnaan Island. A pinnacle rock, with a depth of 0.9m, lies about 0.3 mile NE of the island.

Carmencita Shoal, with a least depth of 0.9m, sand and rock, lies about 1 mile SE of Canas Island. The navigable channel between the island and the shoal is about 0.75 mile wide, and between the shoal and the reef fringing the N end of Sicogon Island it is about 0.3 mile wide.

3.38 **Sicogon Island** (11°27'N., 123°15'E.), lying about 0.5 mile SE of Calagnaan Island, is 241m high in its SE part.

A hill, about 291m high, stands in the NW part of the island. This hill and Canas Island serve as good landmarks for vessels navigating the channel W of **Balbagon Island** (11°35'N., 123°17'E.).

The NE side of Sicogon Island is fringed by a drying reef as far as 0.5 mile N and 0.75 mile E. A shoal, with a depth of 6m, lies about 0.25 mile SW of the S extremity of the island.

Tumaguin Islet, prominent and 90m high, lies about 0.25 mile E of the NE extremity of Sicogon Island. The SE side of the islet is clear of dangers, but the W side is connected by a reef to the NE point of Socogon Island.

Sicogon Channel, between Calagnaan Island and Sicogon Island, is about 0.2 mile wide with a depth of 22m in the fairway. It is clear of dangers and is the channel generally used by inter-island vessels proceeding to Iloilo.

A shoal, with a depth of 7.3m, lies about 2.5 miles E of Tumaguin Islet. A shoal, with a swept depth of 5.1m, lies about 5 miles ENE of the islet.

A shoal, with a least depth of 10.1m, lies about 5.5 miles NE of the islet.

There are numerous shoal patches, with depths of 7 to 17m, lying E, SE, and S of these shoals.

3.39 Loguingut Island (11°28'N., 123°10'E.) lies about 1 mile SSW of the W extremity of Calagnaan Island and within the 5.5m curve fronting the coast of Panay. The island is fringed by a reef.

The **Bayas Islets** (11°26'N., 123°10'E.) are a group of four islets lying about 3.5 miles SE of Gogo Point. Bayas Islet, the E and largest, is 66m high. Manipulon Islet, 51m high, is separated from the W side of Bayas Islet by a narrow, winding channel with a depth of 9m in the fairway.

Magosipal Islet (11°26'N., 123°10'E.) and Pangalan Islet, the other islets, are low and connected to each other by reefs and shoal spits. The two islets are surrounded by sandbanks and rocks, with no channel between them.

There is a channel, about 0.25 mile wide with a depth of 6.7m, lying between Pangalan Islet, the W islet of the group, and the coast of Panay.

A rock, awash, lies about 0.5 mile S of Pangalan Islet.

3.40 Estancia (11°27'N., 123°09'E.) is a small town located about 2 miles S of Gogo Point. The town can be identified by two large prominent buildings with metal roofs.

A concrete pier, 137m long, stands about 0.5 mile S of the town with a depth of 7m at its outer end. A light is situated about 0.3 mile S of the town. The light is partially obscured by the Bayas Islets.

Pilotage is provided from Iloilo (see paragraph 3.51). Pilots board in position 11°25'09"N, 123°09'21"E.

Vessels with local knowledge can take anchorage between the Bayas Islets and Estancia, in a depth of 9m, mud. This is the only anchorage in this vicinity which is protected during all seasons.

The only danger in the E approach to this anchorage is a small rocky shoal, with a depth of about 1.2m, and marked by a buoy, lying about midway between Bayas Islet and Loguingut Island.

Magalumbi Islet (11°23'N., 123°10'E.), 48m high, lies about 4 miles S of Estancia. The islet is fringed by a reef, except on the SE side. A channel, about 0.1 mile wide, lies between the fringing reef and the coast of Pinay, with a least depth of 7.3m in the fairway.

3.41 Culebra Islet (11°21'N., 123°14'E.), 35m high, lies about 4 miles ESE of Magalumbi Islet. A shoal with a reef lying awash, extends about 0.5 mile WSW from the islet.

Shoals, with depths of 5.1, 4.5, and 3.6m lie about 2.5 miles NE, 4.25 miles ENE, and 2.5 miles E, respectively, of Culebra Islet.

A reef, with a depth of 6.4m, lies about 2 miles SW of Culebra Islet.

Malpal Point (11°21'N., 123°08'E.), a bold round steep-to headland, 350m high, lies about 3 miles SW of Magalumbi Islet.

Odiongan Bay is situated N of the point; its head is encumbered with reefs. Odiongan village is situated on its N shore.

The coast between Malpal Point and the village of Concepcion, about 7.75 miles S, is fringed by reefs, outside of which shoal water extends about 1 mile in places.

San Dionisio (11°18'N., 123°05'E.), a small village, is situated about 5 miles SSW of Malpal Point. Matagda Islet and Lacdian Islet lie on the coastal bank about 0.75 mile E and ESE, respectively, of the village.

A narrow spit extends about 1.5 miles E and SE from a position about 1.5 miles NE of Matagda Islet. A drying reef lies at the SE edge of this spit.

The channel between this reef and the reefs NW of Tago Island is about 1 mile wide, with a depth of 8.2m.

Concepcion Bay (11°15'N., 123°07'E.), located between Tago Island and the coast of Panay, is of little commercial importance. The bay is encumbered with reefs and shoals. Concepcion, a small village, stands near the head of the bay.

3.42 Pan de Azucar Island (11°17'N., 123°10'E.), the largest and N of a group of islands located at the N approach to Guimaras Strait, lies a little over 2.5 miles E of the coast of Panay.

There are several prominent peaks on the island, the S and highest having an elevation of 573m. The SE side of the island is steep-to, the remaining sides being fringed with reefs on which there are several islets and rocks.

Naburut Island, 41m high, lies on the reef off the NW point of Pan de Azucar Island; Magaisi Island, 71m high, lies on the reef fringing its N side.

Bocot Islet lies about 0.25 mile N of the NE extremity of Magaisi Island.

A shoal, with a least depth of 2.3m, extends about 0.25 mile SW from Bocot Islet. A very narrow channel, with a least depth of 2.1m, lies between Bocot Islet and Magaisi Islet.

Sombrero Islet, conical-shaped, well-wooded, and 140m high, lies about 0.25 mile from the SE side of Pan de Azucar Island. It is connected to the island by a sand bar which is bare at LW.

Tago Island (11°15'N., 123°08'E.), 170m high, is separated from the SW side of Pan de Azucar Island by Pan Pass, which is narrow and impassable.

A reef, which dries, lies about 0.6 mile N of the NW extremity of the island. A rock awash lies about 0.5 mile SE of the SE extremity of the island.

Tago Pass, a very narrow channel, lies between the reefs extending from the coast of Panay and those extending S from the S end of Tago Island. A depth of 2.7m is found in the N entrance, increasing to 5.8m in the S entrance.

Tago Reef, a small dangerous coral reef bare at LW, lies about 0.2 mile W of the S part of Tago Island. It forms the W entrance point of the N approach to Tago Pass.

The tidal currents run strongly through the pass and transit should be attempted only by small craft with local knowledge.

Four shoals, with depths of 3 to 6m, lie about 5.5 to 7.5 miles E of Lanuan Point, the E extremity of Pan de Azucar Island. Numerous dangers lie NE and E of these shoals.

Malangaban Island (11°15'N., 123°13'E.), wooded and 239m high, lies about 2 miles SE of Pan de Azucar Island. The N and E sides of the island are fairly steep-to, but a reef fringes its S and SW sides up to 0.5 mile offshore.

3.43 Igbon Island (11°12'N., 123°10'E.), wooded and 236m high, lies about 2 miles E of the S end of Tago Island. It is fringed by a reef on its N and SW sides.

A shoal spit, with some drying reefs, extends about 1 mile S from the S side of the island.

Bulubadiangan Islet, 67m high, lies close W of this spit and about 0.5 mile off the S side of the island. Dunao Islet, 28m high, lies close E of the spit, and is connected to the island by foul ground.

Small craft with local knowledge can take anchorage in the restricted areas between the spit and the islets. A detached shoal, with a depth of 6.4m, lies about 0.3 mile SE of Dunao Islet.

Bagabu Islet, low and wooded, lies about 1 mile SE of the S extremity of Tago Island and close off the coast of Panay.

A sandspit, which bares at LW, extends from the islet nearly across to a prominent green point on Panay, leaving a very narrow channel with a least depth of 5.5m between it and the point.

A shoal, with a depth of 5.5m, lies in mid-channel in a position about 1 mile W of the S extremity of Bulubagiangan Islet. The recommended route lies E and SE of this danger.

3.44 Botlog Island (11°14'N., 123°09'E.), wooded and 113m high, lies about 0.5 mile NW of the NW extremity of Igbon Island. It is steep-to and divides the passage between Pan de Azucar and Igbon Island into two channels, the S of which is generally used.

Agho Islet, 33m high, lies about midway between the SW extremity of Malangaban Island and the NE extremity of Igbon Island. It is fringed by a narrow steep-to reef.

Baliguian Island (11°12'N., 123°20'E.), lying about 9 miles E of Igbon Island, is small, low, and densely wooded. It is fringed by a narrow steep-to reef. From a distance, the tops of the trees look like land. The island is marked by a light situated on its NW end.

Two shoals, with depths of 4.6m, lie about 4.5 miles NNE and 4 miles NE, respectively, of the island. A shoal, with a depth of 2.7m, was reported to lie between these shoals in a position about 4.25 miles NE of the island.

A shoal, with a depth of 6.7m, lies about 3.5 miles E of Baliguian Island. A shoal, with a depth of 3.6m, lies about 2 miles S of the island.

There are numerous other shoals farther NE and E, outside the usual track of vessels proceeding to Iloilo, the positions of which may best be seen on the chart.

Mount Apiton (11°11'N., 123°06'E.), 432m high, is a bold round headland at the SE extremity of Panay.

3.45 Tagubanhan Island (11°08'N., 123°07'E.), 299m high, and well wooded, is separated from the coast of Panay, SE of Mount Apiton by Apiton Pass. The pass is 0.75 mile wide and is deep and clear of dangers, except for a 5.5m patch 2 miles E of Mount Apiton.

Anauayan Island (11°06'N., 123°09'E.), 54m high and steep-to, lies about 2 miles E of the S extremity of Tagubanhan Island. Anauayan Channel, which is deep and clear of dangers in the fairway, lies between the two islands.

Turia Rock (11°03'N., 123°06'E.), with a depth of 0.9m, lies about 3.5 miles SSW of the S end of Tagubanhan Island. A reef, with a depth of 4.3m, lies about 0.3 mile NE of Turia Rock.

Caution.—Turia Rock, marked by a black and red can buoy, cannot be distinguished except when close to it. The sea does not break over it any heavier than it does anywhere else in this vicinity. The channels leading to Guimaras Strait all pass N of these two dangers. Vessels should give this rock a berth of approximately 0.5 mile.

3.46 Calabazas Island (11°05'N., 123°01'E.), 59m high and wooded, lies about 5.5 miles WSW of the SW extremity of Tagubanhan Island. A light marks the SE end of the island.

Nasidman Island, 42m high and well wooded, lies about 0.3 mile WSW of Calabazas Island. It is fringed by a reef with a 11.9m channel between it and the Panay coast.

Pepitas Rocks (11°03'N., 123°00'E.), lying about 2 miles SSW of Calabazas Island, are a group of black rocks covered only at extreme HW. The channels leading to Guimaras Strait all pass SE and S of this rock and the island.

Directions.—If bound for Iloilo from Jintotolo Channel, from a position 2 miles S of **Jintotolo Island** (11°51'N., 123°08'E.), steer to pass between Cucaracha Shoal and the 7.3m shoal 6 miles ENE of it.

When the 291m hill on Sicogon Island bears 183° and is just open E of the hill on the E side of Canas Island, steer S on this leading line. This track leads between Balbagon Island and the 4.6m shoal W of it.

When the N end of Tulunanaun Island bears 273°, alter course to 158°, passing 1.25 miles E of Carmencita Shoal.

Continue on this course until **Baliguian Island** (11°12'N., 123°20'E.) bears 180°. Steer on that bearing until 2 miles N of Baliguian Island, when the vessel's course should be changed to 234°, passing N of Anauayan Island and 0.5 mile N of Turia Rock.

After passing Turia Rock, steer to pass W of Tomonton Shoal, and then alter course S and keep in the fairway for 16 miles to the pilot station E of Navalas Point.

3.47 Binanan Island (11°09'N., 123°05'E.), 113m high, lies close SW of the SW face of Mount Apiton. It is connected to the coast of Panay by extensive mangrove swamps and drying mud flats.

Apiton Cove, on the E side of the island, is very narrow and mostly shoal. The S side of the island is clear and steep-to.

Salog Island (11°09'N., 123°03'E.), 50m high and wooded, lies in the entrance to Ajuy Bay, in a position about 1.5 miles W of Binanan Island. It is surrounded by a drying reef.

Buri Island (11°08'N., 123°03'E.), 52m high, lies 0.5 mile S of Salog Island. There are a few inhabitants on both islands.

The pearl banks of Ajuy lie off the islands, and pearl diving operations take place in their vicinity.

The **Guinasian Islets** (11°06'N., 123°02'E.), consisting of Nasiducang Islet and Bayang Islet lie about 1.5 and 2.25 miles SSW, respectively, of Buri Island. The islets are surrounded by reefs.

Ajuy Bay (11°10'N., 123°03'E.) lies at the head of a large shoal bay located between Binanan Island and Calabazas Island, about 5 miles SW.

Ajuy, a small village, stands on the NW side of the bay in a position about 0.5 mile up the Ajuy River.

The coast between Calabazas Island and San Juan Point, about 11.25 miles WSW, is indented by four bays, all of which are shoal and used only by local small craft.

These bays are separated by high, prominent headlands, which are clear and steep-to.

3.48 Culasi Bay (11°05'N., 122°59'E.) is the NE bay, with Culasi village at its head.

Pedada Bay (11°04'N., 122°58'E.), immediately SW of Culasi Bay, has a depth of 5.5m in its entrance.

Mount Bayang (11°03'N., 122°57'E.), 224m high, is the summit of a peninsula separating Pedada Bay from Canas Bay.

Canas Bay (11°03'N., 122°55'E.) has a depth of 9m in its entrance and shoals gradually towards its head. The villages of San Fernando and Santiago stand on the shores of the bay.

Mount San Nicolas (11°02'N., 122°54'E.), 324m high and wooded, is the prominent summit of the headland separating Canas Bay and Barotac Bay.

A designated fish trap area lies about 1 mile E of Mount San Nicolas which is best seen on the chart.

Barotac Bay (11°01'N., 122°52'E.) has a depth of 9m in its entrance and shoals gradually towards it head; there are several small villages on its shores.

San Juan Point (11°00'N., 122°51'E.), at the SW entrance point of Barotac Bay, is a prominent headland about 60m high. It is fronted by the 20m curve to a distance of about 1 mile SE. A rock, 0.6m high, lies on a shoal, with depths of 4.1 to 6.4m, in a position about 0.5 mile SW of San Juan Point.

A light is shown from the E entrance point of a river, 1 mile WNW of San Juan Point.

Banate Bay (10°58'N., 122°48'E.) is entered between San Juan Point and the unnamed point about 50.5 miles SW. The bay is shoal, with the 5.5m curve lying up to 2.75 miles from its head.

Banate (11°00'N., 122°49'E.), a small town, stands on the N shore of the bay. A light is shown from the E entrance point of the Imbrandahan River about 0.75 mile E of Banate. A submarine cable extends from Banate SE to Sibucao and can best be seen on the chart.

The coast between the S entrance point of Banate Bay and **Dumangas Point** (10°47'N., 122°44'E.), about 9 miles SSW, is low and fringed with mangroves. Shoal water extends up to 2.75 miles offshore.

Iloilo Strait and Approaches

3.49 Iloilo Strait, located between the W coast of Guimaras Island and the SE coast of Panay, may be entered either from the NE or from the SW.

The NE entrance, which is used by inter-island vessels and vessels having local knowledge, is divided into two channels by Iguana Bank.

The N channel is recommended, but the S channel is sometimes used by vessels coming from the S through Guimaras Strait and by the inter-island ferry plying between Pulupandan, Negros, and Iloilo.

The SW entrance is used by deep-draft vessels and vessels approaching the strait from the W and SW.

Dumangas Point (10°47'N., 122°44'E.), low and covered with mangroves, lies on the N shore of the NE entrance to Iloilo Strait. The coast is fringed by a shoal bank, with depths of 0.3 to 0.9m, extending from about 0.5 to 0.75 mile offshore.

A rock awash, lies at the outer edge of this bank in a position about 1 mile SSW of Dumangas Point.

The NE entrance of Iloilo Strait is entered between Dumangas Point and Navalas Point, the NE extremity of Guimaras Island, about 4.25 miles S.

The S shore of the entrance is bordered by a shoal bank extending from about 0.2 to 0.4 mile offshore. Bantigui Rocks, a group of above-water dangers, lie on the coastal bank in a position about 0.1 mile N of **Bantigui Point** (10°45'N., 122°41'E.), which is situated 2.5 miles NW of Navalas Point. A conspicuous white house stands on Bantigui Point.

Shoals, with depths of less than 7.3m, extend about 1 mile N and 0.75 mile NE from Bantigui Point.

The NE entrance is divided into two channels by Iguana Bank. The N channel has a least depth of 5.5m in the fairway. A shoal, with a depth of 3.6m, lies about 1.5 miles SE of Dumangas Point.

The S channel has two shoals, with depths of 4.5m lying about 0.6 mile NNE and NE, respectively, of Bantigui Point.

A shoal, with a depth of 4.9m, lies about 0.75 mile NE of the point.

Iguana Bank (10°45'N., 122°44'E.), an extensive sandy shoal, with a least depth of 1.2m near its center, lies from 1 to 3.5 miles NE of the NE side of Guimaras Island, in the middle of the NE entrance to the strait. Buoys mark the NE edge, NW edge and SW extremity of the bank.

A narrow sandy ridge, with a least depth of 5m, extends about 1.5 miles SE from a position about 1.25 miles ENE of Bantigui Point.

3.50 Siete Pecados (10°46'N., 122°41'E.), a cluster of small rocky islets covered with trees and bushes, lies in midchannel at the E entrance to Iloilo Strait. Subarine cables extend through Iloilo Strait passing N of Siete Pecados and can best be seen on the chart.

A rock, with a depth of 2.1m, lies about one-fourth of a mile N of the light on Siete Pecados. Siete Pecados Islet Light, 9m high, stands on the largest islet of the group.

Two rocks, with depths of 1.8m and 0.6m, lie about 0.15 mile and 0.3 mile SW, respectively, of the light. The latter rock is marked by a stake.

Tides—Currents.—The spring tidal currents in Iloilo Strait have a maximum velocity of 3 to 4 knots. The flood sets NE and the ebb SW, following the general trend of the channel. In the NE entrance to the strait, about 1.5 miles S of Dumangas Point, the tidal currents set E on the rising tide and W on the falling tide at an average rate of 1.3 knots.

Abreast of Iloilo, eddies are strong and irregular with both the NE and SW currents.

Directions.—Vessels should approach North Channel of the NE entrance to Iloilo Strait on a course of about 283° from a position about 9.25 miles E of the Siete Pecados Light. Continue on this course until the light bears 267.5° at a distance of about 7.6 miles. Change course to 266°, continuing on this course until Navalas Point bears 183°, at a distance of about 3 miles.

If passing N of Siete Pecados, when Navalas Point bears 183°, a course of 282.5 ° for about 2.4 miles leads to a position

about 0.5 mile N of Siete Pecados Light.

Jaro Church, which is almost obscured by coconut trees, should then be steered for on a course of 247.5°.

When Bondulan Point and Iloilo Strait Wharf cargo shed are in range bearing 220°, they should be steered for on that bearing and then as necessary for berthing or anchoring at Iloilo.

If passing S of Siete Pecados, when Navalas Point bears 183°, the course should be altered to 272° with Siete Pecados Light slightly on the port bow. When a position about 0.6 mile E of the light is reached and when Cabugao Point bears 247°, the course should be altered to 247°. °At this position Bantigui Rocks are in range with a prominent white house located immediately E of Bantigui Point. The course of 247° leads about 0.25 mile SE of the light.

When the light structure bears 036°, distant almost 0.5 mile, the course should be altered to 249°, with the N rock of the Siete Pecados group astern. When the latter point and the Iloilo Strait Wharf cargo shed are in range 220°, the course should be altered to 220°, and then as necessary for berthing or anchoring at Iloilo.

Vessels continuing through the strait should follow the reverse of the directions given for the SW entrance.

Vessels wishing to enter Iloilo Strait through the channel S of Iguana Bank, approach a position with Navalas Point bearing 250° at a distance of 0.7 mile, on a course of 255°.

From this position steer for the Siete Pecados Light on a course of 314°. When 0.5 mile S of the light, change course to 270°, and continue as described above.

Caution.—Fish traps are located 1 mile E of Navalas Point. There is a least depth of 3.6m on this track.

The buoys marking the dangers at both entrances to Iloilo Strait are often out of position or missing.

3.51 Iloilo (10°42'N., 122°35'E.) (World Port Index No. 59190), a first port of entry and an important shipping place, stands on a low, sandy flat at the mouth of the Iloilo River on the W side of Iloilo Strait.

Tides—Currents.—Tidal currents of 3 knots at strength for both the rising tide and the falling tide may be experienced in the Iloilo River. Abreast Iloilo Strait Wharf, the eddies are strong and irregular on the rising tide.

Depths—Limitations.—The channel in the Iloilo River is constantly shoaling and is maintained by dredging. The present controlling depth is approximately 4.5m. Navigable widths in the river are from 183m in the lower reaches to 23m at the upper end.

Port of Iloilo

Old Foreign Pier, immediately SW of the Iloilo River entrance, is 500m long with a further proposed extension of about 140m to the SSW. The berth includes a passenger terminal and is used by inter-island vessels. It has been reported that the maximum depth alongside this pier is 6m.

River wharfs, totaling 3,000m and having a maximum depth of 4m, are located on both sides of the river. Inter-island vessels use the S bank; barges and small craft use the N bank.

A T-shaped jetty extends 125m from the shore NE of the river mouth. There are dolphins on either side of the jetty head and depths alongside are approximately 8m.

Iloilo Commercial Port Complex has a length of 400m with a passenger terminal, container stacking yard and a RoRo ramp at the SW end; maximum depth alongside is 10.5m.

There is a drydock, 77.7m long and 18.1m wide, capable of accommodating vessels of up to 4,500 dwt.

Iloilo—Berthing Information			
Name	**Length**	**Depth**	**Remarks**
Culasi Terminal			
General Cargo Berth	227m	6.1m	General cargo, Pax, Dry Bulk, Containers/breakbulk. Draught 6.0m.
Dumaguit Terminal			
L-Jetty	103m	—	General cargo, Passengers. Draught 6.0m.
Estancia Terminal			
General Cargo Berth	115m	7.0m	General cargo, Dry bulk.Max Draught 6.1m (LW).
Holcim Iloilo Terminal			
Cement Berth	52m	4.0m	Cement.
Iloilo Commercial Port			

Iloilo—Berthing Information			
Name	**Length**	**Depth**	**Remarks**
Center Berth	—	10.5m	Dry bulk, Containers, Passengers, Ro-Ro. Cont quay length 530m.
North Berth	—	10.5m	Dry bulk, Containers, Passengers, Ro-Ro. Cont quay length 530m.
South Berth	—	10.5m	Dry bulk, Containers, Passengers, Ro-Ro. Cont quay length 530m.
New Fastcraft Ferry Terminal			
Ferry Berth	—	4.0m	Ro-Ro, Passengers.
Old Foreign Terminal			
Center Berth	—	6m	Dry bulk, Containers, Break bulk. Continuous quay length 490m.
North Berth	—	6m	Dry bulk, Containers, Break bulk. Continuous quay length 490m.
Ro-Ro Berth	120m	6m	Ro-Ro, Containers, General cargo.
South Berth	—	6m	Dry bulk, Containers, Break bulk. Continuous quay length 490m.
PEDC Power Plant Terminal			
Dry Bulk Cargo Berth	135m	—	Coal. Length including dolphins: 230m.
Ro-Ro Ferry Terminal			
Ro-Ro Berth	—	4.0m	Passengers, Ro-Ro.
San Jose Terminal			
General Cargo Berth	75m	4.0m	General cargo, Dry bulk.
Wheat Grain Terminal			
Dry Cargo Berth	200m	—	Grain. Draught 13.2m.
Petron Depot Terminal			
Petron Berth	5m	—	Clean products. Length including dolphins: 68m.
Santos Gas Terminal			
Tanker Berth	—	—	Clean products. Length including dolphins: 68m.

Aspect.—Iloilo Harbor is defined as that portion of Iloilo Strait bounded by a line extending from the N bank of the **Dumangas River** (10°48'N., 122°42'E.), across the strait to Navalas Point on the NE coast of Guimaras Island; then along the N and W coasts of that island to Lusaran Point; then along a line extending from that point to the S bank at the mouth of the **Siuaragan River** (10°35'N., 122°07'E.); and then to the N bank of the Dumangas River.

The limits of Iloilo Harbor includes the lower reaches of the Iloilo River from its mouth to the Forbes Bridge, a distance of about 1.75 miles.

On either side of the entrance to the river, stone jetties extend a short distance into the strait, and retaining walls have been constructed. A light marks the inner end of each jetty. A monument situated on the shore 0.35 mile SW of the mouth of the Iloilo River.

Pilotage.—Pilotage is compulsory for vessels of 75 gross tons and over through Iloilo Straits to and from the harbor, to the Iloilo Straits Wharf, and to the Iloilo River. Pilots should be requested 24 hours in advance.

Vessels should establish contact with the pilots (call sign: Iloilo Pilots) on VHF channel 16 when within range and advise which entrance to Iloilo Strait pilotage is to be taken. Pilots board, as follows:

1. Northern entrance—About 2 miles E of Navalas Point. Pilots board in this position during daylight hours only.
2. Southern entrance—1 mile W of Sinapsapan Point.

Vessels taking a pilot through Iloilo Straits are exempt from mooring and unmooring pilotage fees, except when the vessel first anchors in the stream longer than 12 hours, in which case they shall pay the docking fees.

Iloilo also provides pilotage for:

1. Estancia (paragraph 3.40).
2. Jordan (paragraph 3.54).
3. New Washington (paragraph 3.22).
4. Port Batan (paragraph 3.22).
5. Port Capiz (Roxas City) (paragraph 3.24).

Regulations.—Vessels under quarantine are boarded off the mouth of the Iloilo River about 0.75 mile E of the N entrance light. The boarding hours are between 0600 and 1800. Vessels proceeding to Panay and W Negros ports must call at Iloilo for pratique.

The Quarantine Officer will take charge of medical cases on request and will pick up emergency cases from vessels off Panay and Negros if radio request is made to the Bureau of Quarantine, which is located at the customhouse.

Signals.—Typhoon signals are displayed from a mast on the

customhouse tower.

Contact Information.—The port can be contacted, as follows:

Iloilo—Contact Information	
Pilotage	
Call sign	Iloilo Pilots
VHF	VHF channel 16
Telephone	63-33-3362673
Facsimile	63-33-3362673
E-mail	iloilopilots54@yahoo.com
Port	
VHF	VHF channels 16 and 13
Telephone	63-33-3376945
	63-33-3377791
	63-33-3377792
	63-33-3377793
Facsimile	63-33-3376945

Anchorage.—There are no specified quarantine or customs anchorages. The usual anchorage can be taken with the customhouse tower and the NE entrance light in range, and far enough offshore so as not to obstruct the river entrance. There are a few dolphins located about 0.15 mile NE of the N entrance light.

The best anchorage reported for vessels that cannot enter the Iloilo River is NE of the river mouth, in a depth of 27m. sandy, provided navigation is not hindered.

An anchorage area lies on the SE side of the strait between Bondulan Point and Dapdap Point. The protected anchorage has depths of 27.4 to 34.7m, with a sandy bottom.

An explosives anchorage area lies in the Eastern portion of the strait, centered in position 10°44'40"N 122°36'26"E.

Directions.—No directions are given for the Iloilo River as the channel is continually shoaling and changing. Local knowledge is required. Vessels docking at the Iloilo Strait Wharf on the rising tide will find that the tidal currents, which reach a rate of 3 to 4 knots at strength, will easily lay the vessel alongside the wharf. An anchor is usually dropped to facilitate leaving the wharf.

Occasionally at night there is less water at this wharf when the rising tide is opposed by a strong NE wind.

It is advisable to leave the Iloilo Strait Wharf at half-tide on the NE tidal current, which tends to set the vessel off. Slack water is experienced at the time of high and low water.

Vessels docking at the Marginal Wharf on the rising tide should let go the port anchor and swing with the current in coming alongside. Pilots will not dock vessels at this wharf after 1830 hours because of strong currents and inadequate facilities for night conditions.

Caution.—A submarine power cable, best seen on the chart, and a restricted area lie between Ingore and Sawang on Guimaras Island to the E. A Tee-shaped pier extends from shore N of Ingore and S of Jaro River entrance and can best be seen on the chart. Shallows have been reclaimed as land from Jaro Point to Laboc Point and a pier added at Laboc Point which can best be seen on the chart. A wreck, best seen on the chart, lies approximately 525m SE of Ortiz Wharf and 0.75nm SW of the Iloilo River mouth.

3.52 **Oton Bank** (10°38'N., 122°29'E.), an extensive shoal of soft muddy sand, lies in the middle of the SW entrance to the strait. The shoal, as defined by the 5.5m curve, extends about 8 miles SW from a position about 0.5 mile SW of the mouth of the Iloilo River. A least depth of 0.3m is found on the shoal in positions about 1, 1.75, and 3.5 miles SW of the NE end. Oton Bank is reported to be extending W, and vessels are cautioned against attempting to cross it. It has been reported that a depth of 0.5m lies at the SW extremity of the bank.

Less water than charted was reported on the detached part of the bank 1 mile farther SW. There are numerous shoals reported to lie in the immediate vicinity of the shoal bank.

There is a narrow channel, with a least depth of 5.8m, lying between the N edge of Oton Bank and the coast of Panay. It is sometimes used by coasting vessels, but the main channel into Iloilo is between the bank and Guimaras Island.

The W limit of the 9.1m curve surrounding Oton Bank lies on a line bearing 350° from the light on **Lusaran Point** (10°29'N., 122°28'E.) and the S limit on a line bearing 260° from **Muhuy Point** (10°36'N., 122°31'E.).

The 9.1m curve which surrounds Oton Bank fronts **Cabalic Point** (10°37'N., 122°32'E.) at a distance of about 0.5 mile and continues about 3.25 miles NE to within 0.1 mile of **Bondulan Point** (10°40'N., 122°34'E.).

A narrow but deep channel lies between the shoal and the coast. A shoal, with a least depth of 5.1m, lies about 1 mile N of Cabalic Point.

Caution.—The buoys marking the dangers at both entrances to Iloilo Strait are often out of position or missing. Caution must be taken in passing through either entrance because of the strong tidal currents. During the rising tide, which attains a height of 1.5 to 1.8m, and a velocity of 3 knots, sets toward Bondulan Point.

Guimaras Island—West Coast

3.53 The W coast of Guimaras Island is described from Cabugao Point, the NW tip of the island, in a SW direction to Lusaran Point, and then in a SSE direction to South Point, the S tip of the island.

Cabugao Point (10°45'N., 122°39'E.) is a rocky bluff.

There are no charted dangers lying more than 0.25 mile offshore in this vicinity.

Dapdap Point (10°44'N., 122°37'E.) lies almost 3 miles SW of Cabugao Point. An L-shaped pier, with a controlling depth of 11.3m alongside, lies about 0.75 mile NE of the point. Tanks at the foot of the pier are prominent.

Santo Rosario (10°41'N., 122°37'E.) is situated 1.75 miles S of Dapdap Point. A channel leads to Buenavista, a small town 0.5 mile further ESE.

The channel approaches are encumbered by fishing stakes, but can be used by vessels with a draft of less than 2.7m.

3.54 Jordan (10°40'N., 122°35'E.) (World Port Index No. 59180), a subsidiary port of Iloilo, is located about 2.25 miles WSW of Santo Rosario and about 1.75 miles S of Iloilo.

Tides—Currents.—The SW tidal current in the fairway in the vicinity of the below-mentioned terminals has a maximum rate of 4 knots. There are tide rips 0.1 mile SW of the molasses-loading pier.

Depths—Limitations.—The Molasses Loading Pier can be identified by the three steel tanks and one concrete tank standing on a hill just N of it. The pier is T-shaped with a line of four pile clusters providing a berthing space of 91m with ample mooring facilities.

Vessels should berth during the rising tide with the assistance of a pilot. Vessels can depart at any time.

There were depths of 12m at this berth. Tankers of 12,000 dwt have been worked at this facility.

The Sugar Terminal Wharf at Jordan is a 183m long dolphin berth fronting a large sugar mill located 0.15 mile S of the molasses pier. The wharf has a mean depth of 12m, but the maximum draft allowed is 10.1m.

The maximum ship length that can be accommodated is 193m. Ships can berth only at slack water. A tug assists vessels in coming alongside.

There is a public landing, which dries, standing close S of the Molasses Loading Pier.

Aspect.—Three metal and one concrete storage tanks are prominent on a hill N of Jordan. Below the storage tanks are terminals to load molasses and sugar at Lusteveco, a suburb of Jordan.

Pilotage.—Pilots can be obtained at Iloilo (paragraph 3.51) where vessels must first call for entry and customs clearance.

3.55 Bondulan Point (10°40'N., 122°34'E.), 136m high, almost vertical and steep-to, is located about 1.5 miles W of Jordan. It is prominent from the SW. A conspicuous cross stands on the N side of the point. A shoal, with a depth of 2.7m, extends about 1.5 miles SSW of Bondulan Point.

Cabalic Point (10°37'N., 122°32'E.), 3 miles SSW of Bondulan Point, is 70m high and bold, but is difficult to identify from the W.

Muhuy Point (10°36'N., 122°31'E.), 73m high, steep-to and prominent, lies about 1 mile further SSW.

Sinapsapan Point (10°35'N., 122°31'E.), where the pilot station was located, lies 0.75 mile SSW of Muhuy Point. A small islet lies close to the point. Balingasag Island, very small in extent, lies close offshore about 0.5 mile SW of Sinapsapan Point.

Naburul Island (10°34'N., 122°31'E.), 46m high, lies close offshore about 1.5 miles S of Sinapsapan Point and is connected to the shore by a reef. It appears as a high black bluff apparently part of the mainland.

3.56 Santa Ana Bay (10°32'N., 122°31'E.), very narrow and shoal at its head, is entered between Lawi Point, 2.5 miles SSE of Naburul Island, and Igang Point, about 0.75 mile further SE. The bay indents the coast to a distance of about 1 mile, but is only about 0.2 mile wide between the shoals which extend from either side.

Vessels with local knowledge can take anchorage about 0.2 mile SSE of Lawi Point, in depths of 22 to 26m, or in the middle of the bay in a position about 0.5 mile E of Lawi Point, in a depth of 13.7m.

Igang Point (10°32'N., 122°30'E.) separates Igang Bay from Santa Ana Bay. Igang Bay, which indents the coast to a distance of about 1 mile, is clear of dangers with depths of 20 to 24m in its middle part. Tiniguiban Islet and Balud Islet, both small in extent, lie on the S side of the bay.

Lusaran Point (10°29'N., 122°28'E.), the W extremity of Guimaras Island, is a bold and prominent point. It is clear and steep-to with the 20m curve lying less than 0.3 mile from the shore. A light marks the point.

Tandog Island (10°25'N., 122°30'E.), lying close N of South Point, is connected to the shore by foul ground. The seaward side of the island is fronted by shoals, with least depths of 1.2m, to a distance of about 1 mile SW.

South Point (10°24'N., 122°30'E.), the SW extremity of a small island lying close S of the S extremity of Guimaras Island, is not very prominent.

There is anchorage in the bay on the S side of Guimaras Island, 4 miles ENE of South Point.

Lusaran Point Light

Iloilo Strait—Southwest Entrance

3.57 The SW entrance of Iloilo Strait lies between the W side of Guimaras Island and Oton Bank.

The coast between Talisayan Point and **Miagao Point** (10°38'N., 122°14'E.), about 6.75 miles ENE, is low and intersected by numerous small rivers.

Directions.—When approaching Iloilo Strait from SW, steer for Bondulan Point bearing 036° and pass 0.1 mile NW of Cabalic Point and SE of the 4.9m shoal lying 1 mile N of Cabalic Point.

When the twin spires and white dome of Molo Church,

standing 2.25 miles NW of Bondulan Point bears 006°, steer for the church on that bearing.

When Iloilo Strait Wharf bears 044°, steer for it on that bearing and pass 0.15 mile NW of Bondulan Point. Then steer as necessary for the Iloilo River or the anchorage.

Vessels continuing through the strait should follow the reverse of the directions given for the NE entrance.

Negros—Northwest Coast

3.58 **Sagay Point** (10°56'N., 123°30'E.), low and composed almost entirely of mangroves, is described in paragraph 7.5.

Carbin Reef (10°59'N., 123°28'E.) lies awash, about 3.25 miles NW of Sagay Point, in the W approach to Asuncion Pass. It has shifting sand cays, and lies outside the 20m curve fronting the coast. A lighted buoy marks the SW side of Carbin Reef.

Panal Reef (11°01'N., 123°25'E.) lies awash about 6 miles NW of Sagay Point and within the 20m curve fronting the mouth of the Himugaan River. There is a shifting sand cay lying on the reef, and some detached dangers lie within 0.5 mile E of the E side of the reef.

Maca Reef (11°04'N., 123°27'E.), which dries, lies about 7.25 miles NNW of Sagay Point. There is a long, narrow, sand cay on the S end of the reef.

Maca Shoal, with a least depth of 0.3m, is located about 1 mile NE of the NE extremity of Maca Reef. Shoal water extends up to 1 mile N and W from this shoal.

Maca Shoal and the three reefs mentioned above can generally always be identified during daylight hours. There are numerous shoals and dangers lying N of Maca Shoal.

The channel between Panal Reef and Maca Reef is about 2 miles wide and has depths of 22m and over in the fairway. Vessels bound to and from Tanon Strait generally use this channel.

3.59 The **Himugaan River** (10°57'N., 123°24'E.), the largest river in the N part of Negros, lies about 6 miles W of Sagay Point. There are numerous drying sandbanks at the river mouth. The Himugaan River discharges on the E side of **Himugaan Point** (10°58'N., 123°24'E.).

The bar, which is passable by small vessels up to 3m draft at HW, is liable to change and is entirely unprotected during the Northeast Monsoon.

There are no pilots available, and because of the numerous reefs and shoals off the N coast of Negros, vessels are advised to make the approach to the river mouth only during daylight hours and when conditions are favorable.

The Himugaan River is navigable for a distance of 7 miles as far as Fabrica, where timber is milled.

Vessels can take anchorage outside the bar, in a depth of 14.6m, sand and mud, with the lighted beacon at the entrance to the river, bearing 173°, distance 1.5 miles, and the center of **Suyac Island** (10°57'N., 123°27'E.) bearing 120°. In fine weather vessels lie outside the bar and load from lighters.

Sagay (10°57'N., 123°25'E.) is a small village standing on the E side of the mouth of the Himugaan River. There are no piers at the village. Lumber and sugar are loaded in lighters at a landing on the river bank, and towed to the anchorage.

3.60 **Cadiz** (10°58'N., 123°18'E.), a small town, stands on the W side of the mouth of the Cadiz River, about 5 miles W of Himugaan Point. It is prominent from seaward. The 9.1m curve fronts the mouth of the river at a distance of about 1.5 miles. The bar of the river nearly dries, but is passable by small craft at HW. A light marks the W side of the river mouth, 0.5 mile NE of Cadiz.

There is good anchorage off Cadiz, in a depth of 12m, with the mill chimney bearing 234°. Powerful white lights, which may be seen from a distance of 20 miles, are occasionally shown from near the top of the chimney.

This is an open roadstead and is untenable during the Northeast Monsoon.

Vessels are cautioned that there are numerous fish traps in this vicinity.

Sicaba Point (11°00'N., 123°15'E.), the W entrance point of the Sicaba River, lies about 4.5 miles NW of Cadiz.

The Sicaba River, which empties S and E of Sicaba Point, is deep inside, but is of little commercial importance because of the bar and shoals at its mouth.

Small craft can cross the bar at HW. Sicaba, a small village, stands on the N side of the entrance to the river.

3.61 **Sicaba Reefs** (11°01'N., 123°16'E.) are two large drying reefs, lying about 2.25 miles ENE of Sicaba Point.

A 0.3m shoal lies a little over 0.65 mile NE of the outer Sicaba Reef, and a 2.7m patch lies a little more than 0.33 mile N of the N extremity of the same reef.

East Rock (11°02'N., 123°15'E.), with a depth of 0.5m, coral, lies 2.5 miles N of Sicaba Point. A shoal, with a depth 8.2m, lies about 0.75 mile NW of the rock.

Daga Reef (10°59'N., 123°19'E.), which dries, lies 3.75 miles E of Sicaba Point.

Carmen Shoals (11°02'N., 123°20'E.), with depths of 1.8 to 8.2m, lie about 6 miles ENE of Sicaba Point. There are large boulders on all of these shoals.

The W extremity of Carmen Shoals is marked by a lighted buoy. It was reported that an unlit can buoy had been moored close SW of the N shoal.

Sacramento Rock (11°05'N., 123°18'E.), consisting of boulders with a depth of 0.9m, lies in the E approach to Ilacaon Channel in a position about 6.25 miles NNE of Sicaba Point. A depth of 8.2m was reported about 1 mile SSW of the rock.

3.62 **Ilacaon Point** (11°00'N., 123°12'E.), the N extremity of Negros, is low, rounded, and sandy and lies a little less than 3.5 miles W of Sicaba Point. Shoal water extends about 1.75 miles N from Ilacaon Point, leaving a narrow boat channel, with a depth of 6.4m in the fairway, between its N edge and the S edge of the reef surrounding Ilacaon Island.

Ilacaon Island (11°03'N., 123°12'E.), small, low, and 1.8m high, lies about 2.25 miles N of Ilacaon Point. It has some coconut trees and bushes on it, and lies on an extensive drying reef. A rock lies awash about 1 mile SE of the island.

Balaulan Reef (11°01'N., 123°09'E.), a small rocky patch, with a least depth of 0.3m, lies about 2.25 miles WNW of Ilacaon Point. A shoal, with a depth of 7.8m, lies close NW of the reef, and shoal water lies in between the reef and the coast.

Manapla (10°58'N., 123°07'E.), the principal town on this part of the coast, stands on the E side of the entrance to the

Manapla River, about 5 miles SW of Ilacaon Point.

The mouth of the Manapla River is fronted by coral reefs, which extend for a considerable distance offshore.

Small craft with local knowledge can enter the river at HW, or they can take anchorage about 1.75 miles N of the entrance, in a depth of 5.5m. Shoals, with depths of 7.6m, lie about 3 miles N and W of the mouth, respectively, of the river.

Salong Reef (10°59'N., 123°07'E.), which dries, lies about 1.5 miles N of the mouth of the Manapla River. A shoal, with a depth of 5.1m, lies about midway between Salong and Balaulan Reefs in a position about 2.5 miles NNE of Manapla.

3.63 Victorias (10°54'N., 123°04'E.) is a town located just inside the mouth of the Victorias River.

Three stacks, painted aluminum with black tops, stand close together and serve as prominent landmarks. They are located about 0.75 mile SSE of the entrance to the river.

Victorias Light is shown near the coast 0.75 mile NNE of the river mouth.

The Victorias River has a narrow channel with a depth of 0.3m on the bar. Small craft and lighters can enter the river at high tide.

Pilotage is not compulsory but is considered advisable when entering for the first time. Pilots for Victorias may be obtained at Iloilo.

Vessels can take anchorage about 2 miles NNW of the river mouth, in a depth of 15.2m, mud, with the stacks at the sugar mill bearing 171°, and the S extremity of Ilacaon Island bearing 057°. The anchorage is sheltered from the Southwest Monsoon, but being exposed to the Northeast Monsoon, it is rarely used during that season.

During severe NE weather vessels calling to load sugar from this district usually anchor off Bayang Point, on the Panay coast, about 10 miles NW of Victorias.

Several mooring buoys are moored close inshore of the anchorage off Victorias for the use of lighters.

3.64 Tomonton Point (10°54'N., 122°57'E.), the NW extremity of Negros, is low, swampy, and covered with mangroves. Tomonton Shoal, with depths of 1 to 3m, extends 3 miles NW from the point. A light marks the NW extremity of the shoal.

Cambanog Shoal (10°56'N., 122°59'E.), which dries, lies about 1.25 miles offshore and 3 miles NE of Tomonton Point.

Ilacaon Channel (11°04'N., 123°11'E.), lying between the reefs fringing Ilacaon Island and **Anauayan Island** (11°06'N., 123°09'E.), is about 3.5 miles wide.

Ilacaon Reef (11°05'N., 123°11'E.), consisting of coral boulders and sand having a least depth of 3m, lies nearly in mid-channel in a position about 2 miles NNW of Ilacaon Island. Depths of 10m and less extend up to 0.5 mile NE from the reef.

Between Ilacaon Reef and Ilacaon Island there are several shoals, with depths of 6 to 8m.

3.65 Mambagid (10°51'N., 122°57'E.), a loading place for sugar, is located at the mouth of the Mambagid River, about 2.25 miles SSW of Tomonton Point. The sugar is loaded into lighters at a landing place and towed to the offshore anchorage. The entrance to the river is shallow and suitable only for lighters and small craft. A concrete wharf, 80m long, with a depth of 1m alongside, stands on the S side of the river mouth.

The 10m curve fronts the mouth of the river at a distance of about 1.5 miles. The water shoals rapidly within the 10m curve. A shoal, with depths of 7.8m to 8.7m, lies outside the curve in a position about 2 miles W of **Calubcub Point** (10°50'N., 122°57'E.).

There is anchorage 2 miles offshore SW of Calubcub Point, in a depth of 15.2m. Vessels of lesser draft may anchor 1 mile W of this point, in a depth of 7.3m, but a 5.5m patch lies close SSE of the anchorage. A prominent white chimney stands 3.5 miles E of Calubcub Point.

These anchorages are open roadsteads and are fully exposed to the Southwest Monsoon and to winds from N. The approach to the anchorages should be made with caution as the water shoals rapidly.

3.66 Silay (10°48'N., 122°58'E.) (World Port Index No. 59140), a loading place for sugar, alcohol, and rice, is located about 2.5 miles SSE of Calubcub Point and about 0.5 mile inland. The town shows up well from seaward.

The dome of the church is prominent. A ruined pier stands in front of the town. There are depths of 3.6m in the channel leading to the pier.

Talisay (10°44'N., 122°58'E.), a town of some importance, stands on the coast in a position about 4 miles S of Silay. Three chimneys, close S of the town, are prominent. A radio mast stands close N of the chimneys.

At Banago, 2.5 miles SSW of Talisay, there is a long T-headed pier for ferry traffic. There is a depth of 3.3m alongside the head. If berthing, care must be taken to avoid some old piles standing 0.3 mile W of the pier head. A light is shown from the wharf.

3.67 Bacolod (10°40'N., 122°57'E.), the capital of Occidental Negros Province, is located about 4 miles SSW of the town of Talisay. Santo Nino, the loading place for Bacolod, stands 1.25 miles N of the city.

Bacolod can be identified by the galvanized metal roofed church and several large prominent buildings. The twin towers of the church, the provincial building, and the aluminum painted stack, standing about 1 mile inshore behind the town, are prominent landmarks.

Sugar is loaded into lighters from a ruined pier about 0.45 mile long located nearly 0.5 mile S of the mouth of the Mandalagan River. Construction of a pier in 2022 and land reclamation of NW of Bacolod can best be seen on the chart.

Two fueling berths, connected to the shore by pipelines, lie between Santo Nino and Bacolod.

There is a ruined pier, about 825m long, in Santo Nino. Another pier was reported (2011) to be under construction in Bacolod. Anchorage in the area E of the fueling stations is prohibited.

Pilotage.—Pilotage is compulsory. Pilots board about 3 miles WNW of Bacalod in position 10°41.6'N, 122°53.8'E.

Regulations.—Foreign vessels should sent the ETA 36 hours prior to arrival.

Contact Information.—The port can be contacted on VHF

channel 16.

Bacolod—Contact Information	
Pilotage	
VHF	VHF channel 16
Telephone	63-34-4412932
Facsimile	63-34-4412932
E-mail	elpeda2859@yahoo.com

Anchorage.—Anchorage is available in designated areas A and B, 5 miles NW and 5 miles SW, respectively, from Santo Nino and best seen on the chart.

3.68 Bago (10°32'N., 122°50'E.), a river port about 9.5 miles SW of Bacolod, stands on the E side of the Bago River, just inside its mouth. The river, which is shallow, discharges about 2.5 miles NE of Pandan Point.

The town can be identified by its large buildings with metal roofs which show up well through the opening in the trees at the mouth of the river.

There is a shallow sandbar lying in the mouth of the river. Small craft with local knowledge can cross the bar at HW.

Pandan Point (10°31'N., 122°48'E.), the W extremity of this part of the coast of Negros, is low, sandy, and covered with coconut trees. It is prominent from N or S. Its W extremity is steep-to, but shoal water extends N and S from it.

The description of the NW coast of Negros is continued in paragraph 3.74.

Guimaras Island—East Coast and Off-lying Islands

3.69 Guimaras Island (10°35'N., 122°37'E.), lying a little over 6 miles W of the W extremity of Negros, is large and hilly, especially in the E part, where there are hills 183 to 213m high.

The summit, a 263m high hill, is located about 12.25 miles S of its N extremity. Guimaras Strait lies between the E side of the island and the W coast of Negros.

The E coast of Guimaras Island between **Navalas Point** (10°43'N., 122°43'E.), the NE extremity, and Icauayan Point, 10.75 miles S, is mostly sandy and backed by low hills covered with grass and brushwood.

The coast between Icauayan Point and South Point, the S point of the island, is indented by some small reef fringed bights.

A bay indents the coast to a distance of about 2 miles between **Cabalagnan Point** (10°26'N., 122°35'E.) and Lugmayan Point, about 2.5 miles WSW. The head of the bay is reef fringed and shoal.

Vessels can take anchorage in the outer part of the bay, W of Cabalagnan Point, and about 1 miles N of **Panubulon Island** (10°25'N., 122°34'E.), in depths of 9 to 15m. The E approach to this anchorage has a least depth of 6.4m in the fairway.

The W approach to the anchorage is through a very narrow channel lying between the W side of Panubulon Island, and the coast of Guimaras Island to the NW.

Panubulon Island and **Guiuanon Island** (10°24'N., 122°37'E.) are two flat-topped islands, 15m high, lying off the S coast of Guimaras Island. Panubulon Island is fringed by a reef on which there are several islets, but Guiuanon Island is clear of dangers.

Anchorage.—Anchorage may be taken about 0.3 mile off the S coast of the island, in a depth of about 11m. The anchorage is well protected from the Northeast Monsoon, but is open to the Southwest Monsoon. It is used for the loading of sugar from lighters.

Caution.—An offshore wind farm area, which can be seen on the chart, sits along the E coast of Guimaras Island, between San Lorenzo and Pulupandan on Negros Island to the E.

3.70 Nadulao Island (10°31'N., 122°44'E.), small, narrow, and covered with grass, lies about 2.75 miles SE of Icauayan Point, on the SE side of Guimaras Island. The NW and SE parts of Nadulao Island, 73m and 58m high, respectively, are connected by a narrow isthmus.

The E side of the island is indented by a small bay, bare at LW, in which there is a small islet. There is another small islet about 0.3 mile N of Nadulao Island.

Shoal spits extend 1.25 miles N from the N side of Nadulao Island and 0.75 miles S from the S side.

Nalunga Island (10°30'N., 122°43'E.), 130m high, lies 0.75 miles SW of Nadulao Island and is covered with grass.

The narrow channel between the two islands has a least depth of 12.5m in the fairway.

An islet lies about 0.15 mile N of the N side of the island, to which it is connected by a reef. An above-water rock lies 0.15 mile NE of the NE side of the island. A shoal spit, with depths of 0.3 to 0.9m, extends 1.5 miles S from the S side of the island.

The channel between the W side of this spit and the NE coast of Inampulugan Island is about 0.25 mile wide. A drying shoal lies in the channel on the E side of the fairway, in a position about 1 mile S of the W extremity of Nalunga Island.

Vessels can take anchorage about 1 mile from the N shore of Nalunga Island, in a depth of 14.6m, mud and good holding ground. This anchorage is used to load molasses during the Southwest Monsoon. Currents run in a SSW to NNE direction at a rate of 2.5 knots during the ebb tide and flood tide.

The **Hinigaron Anchorage** (10°15'N., 122°49'E.) is used during the Northeast Monsoon.

Inampulugan Island (10°28'N., 122°42'E.), 193m high, is the largest and most prominent island in Guimaras Strait. A hill with a rocky bluff is located on the E point of the island. The shores of the island are clear and steep-to, except for its N extremity, where the shore reef extends nearly 0.3 mile N. Narrow shoal spits, as defined by the 9.1m curve, extend 1 mile N and W of the island.

A reef, which bares at LW, lies close off the coast of Guimaras Island in a position about 1 mile NW of the NW side of Inampulugan Island. The channel between the reef and the island has several shoal patches lying in it.

Rosario Rock (10°26'N., 122°42'E.), with a depth of 0.9m and steep to, lies about 0.5 mile S of the middle of the S side of Inampulugan Island. A bank, with depths from 4 to 9m, extends 3 miles SW from a position 0.5 mile E of Rosario Rock.

3.71 Nauai Island (10°26'N., 122°40'E.), 37m high, lies about 1.25 miles SW of the SW extremity of Inampulugan Island. Shoals, with depths of 8.2m and 8.7m lie about 0.75 mile NE and 0.75 mile SW, respectively, of the extremity of the island.

Nagarao Island and Nalibas Island lie between the N end of Nauai Island and **Capo Point** (10°27'N., 122°38'E.), about 1.5 miles NW. Numerous shoals are reported to lie in the vicinity of these islands.

Seraray Island and Pamancolan Island lie within the 5.5m curve fronting the coast of Guimaras Island in positions about 0.5 mile and 1 mile N, respectively, of Nalibas Island.

Susan Island lies close off the NW side of Inampulugan Island and about 1.75 miles NNE of Nauai Island. Shoal and foul ground lies between the two islands.

Toyo Reef (10°21'N., 122°34'E.), which dries, lies about 2.5 miles S of Panubulon Island. The depths between are very irregular, varying from 6 to 18m.

The **Unisan Islets** (10°20'N., 122°35'E.), consisting of a group of two rocky islands and several above-water rocks, lie about 3.5 miles S of the W end of Guiuanon Island.

Unisan Island, the central and largest island, is 28m high and partly covered with coconut trees.

Reefs and above-water rocks extend about 0.75 mile W from the W side of the island.

A detached shoal, with a least depth of 2.7m, lies about 0.5 mile NE of the island. Malingin Island, 32m high, lies about 0.5 mile E of the S end of Unisan Island.

The main channel of Guimaras Strait passes S and E of Malingin Island. The channel between Toyo Reef and the N side of Unisan Island is about 1 mile wide and has a least depth of 12.8m in the fairway.

Guimaras Strait

3.72 Guimaras Strait (10°45'N., 122°50'E.), between Guimaras Island and the W coast of Negros, has a least width of about 6 miles, but the navigable channels are narrowed by islets, banks, and dangers.

The main channel through the strait has a least depth of 12.8m in the fairway and lies between Iogiog Bank on the E, and Inampulugan Island, Nalunga Island, and Nadulao Island on the W.

The East Channel, which has a least depth of 4.5m in its N part, lies between Iogiog Bank and Pandan Point.

Shoals, with depths of 7.8m and 8.2m lie in the middle of the fairway, about 6.75 miles SE and 6.5 miles SSE, respectively, of **Navalas Point** (10°43'N., 122°43'E.).

Several shoals, with depths of 6.9 to 9.1m, lie between 2 miles and 4 miles NNW of the mouth of the **Bago River** (10°33'N., 122°50'E.).

A shoal, with a depth of 9.1m, lies about 4 miles NW of **Pandan Point** (10°31'N., 122°48'E.).

The E side of the navigable channel of Guimaras Strait is formed by Iogiog Bank, and by a shoal which extends about 11 miles SSW from Pandan Point.

Caution.—A shoal, with a depth of 7.8m, lies on this track about 6.75 miles SE of Navalas Point.

A prohibited anchorage area, best seen on the chart, has been established due to the presents of control type mines laid during the 1939-1945 war. All control cables have been cut. Due to the passage of time the danger to surface navigation is considered contained; however, danger to anchoring, fishing, and submarine activities may still exist.

3.73 Iogiog Bank (10°31'N., 122°46'E.), which dries, is a long, narrow shoal formed of hard sand which rises in lumps like submerged sand dunes. The bank extends about 5.5 miles SSW from its N extremity, located about 1.5 miles NNW of Pandan Point.

A shoal spit with a least depth of 0.9m, extends 1 mile NW from the SW side of Iogiog Bank.

Pontevedra Shoal (10°22'N., 122°44'E.), with a least depth of 0.3m, lies at the outer end of the extensive shoal off of Pontevedra.

A shoal, with a depth of 6m, lies in the middle of the fairway about 2 miles SSE of the E extremity of Inampulugan Island.

The flood current sets N and the ebb current sets S through Guimaras Strait, following the general trend of the channel. The highest observed velocity in the vicinity of Pandan Point was about 2 knots, the ebb and flood apparently being about equal.

Slack water occurs approximately at the time of high and low water. During the Southwest Monsoon the flood current sometimes attains a rate of 6 knots.

Directions.—When approaching Guimaras Strait from N or S, bring the E points of Nadulao Island and Inampulugan Island in line bearing 198° or 018°, respectively, and steer for them. Both points are steep-to and should be given a berth of 0.25 to 0.5 mile.

If northbound, course may be shaped as soon as Nadulao Island is passed.

If southbound, continue on course with the above points in line until Guiuanon Island bears 270°. Then haul W to give Pontevedra Shoal a good berth.

Caution.—A shoal, with a depth of 7.8m, lies on this track about 6.75 miles SE of Navalas Point.

Negros—Northwest Coast (continued)

3.74 Pulupandan (10°31'N., 122°48'E.) (World Port Index No. 59120), on the S side of Pandan Point, is a regular port of call for inter-island vessels and a loading port for sugar. The town has several large buildings which are visible from S or W.

Depths—Limitations.—Government Pier, the main concrete pier at Pulupand which is available to shipping, is located about 0.2 mile S of Pandan Point.

It is 424m long providing 241m as berthing space for secondary vessels, and 183m for primary vessels. This pier is connected by railroad to the sugar plantation.

Secondary vessels usually handle molasses, sugar, lumber, and fertilizers. Primary vessels handle as much as 25 commod-

ities.

Pulupandan—Berthing Information			
Name	Length	Depth	Remarks
Dry Cargo Berths			
Southwing	178m	6.0m	
Northwing	242m	6.0m	
Sugar Pier	62m	11.0m	
Danao Escalante	52m	—	Draught 2.0m (LW).

Government Pier is connected to the mainland by a causeway, 275m long. There are depths alongside of 5.2m. Ocean-going vessels are not accommodated at the pier. Less water than charted has been reported at the pier.

A concrete pier, with a L-head for loading sugar, is located N of the main pier approximately at the tip of Pandan Point. The face of the pier is about 57m long with depths alongside of about 11m; however, silting may reduce this depth considerably near the S end of the berth.

The maximum draft accepted at this pier is 6.7m. There are several dolphins N and S of the pier head to facilitate berthing.

It was reported that a tanker berth, 19m long and fitted with fender piles and a mooring dolphin, had been constructed. The maximum permitted draft was reported to be 7.6m.

There are strong tidal currents at the piers with the flood setting N and the ebb S. The flood current sometimes attains a rate of 6 knots during the Southwest Monsoon.

Vessels are advised to use double mooring lines alongside the piers. During the Southwest Monsoon it is not advisable for vessels to secure alongside the pier, but to anchor off.

The maximum vessel length accepted at the port is 200m.

Pilotage.—Requests for pilotage, which is compulsory, should be communicated to Pulupandan Pilots, Pulupandan, Negros Occidental, Philippines.

The pilot boards about 4.5 miles SSW of Pandan Point from a wooden boat, painted white, with the name “Pilot” painted in black. If the vessel cannot proceed to the boarding point the pilot will board S of this point.

During the Southwest Monsoon the boarding position is 2 miles N of Pandan Point.

Regulations.—Vessel should send their ETA 7 days, 5 days, 96 hours, 72 hours, 48 hours, and 24 hours prior to arrival, stating the following information:

1. Arrival draft.
2. Latest ETA.
3. Total cargo on board.
4. Total cargo to discharge.
5. Transit cargo.
6. Next port.
7. Number of crew and nationality.

Contact Information.—The port can be contacted as follows:

Pulupandan—Contact Information
Pilotage

Pulupandan—Contact Information	
VHF	VHF channel 16
Telephone	63-34-4412932
Facsimile	63-34-4412932
E-mail	elpeda2859@yahoo.com

Anchorage.—Anchorage can be taken, in about 10m, about 1 mile SW of Pandan Point.

Caution.—Anchorage between the parallels of 10°23'N and 10°30'N, and the meridians of 122°40'E and 122°50'E, is prohibited because of the presence of controlled-type mines. However, although it is a mined area, it has been declared safe for surface navigation.

3.75 East Channel (10°30'N., 122°47'E.), a secondary channel of Guimaras Strait, lies between Iogiog Bank and the coast of Negros. Vessels may approach Pulupandan from either N or S through this channel.

The best approach is from the S, and only small vessels with local knowledge should attempt the approach from the N or attempt to transit the entire length of the channel. There are depths of 4 to 11m in the narrow N entrance channel, and depths of 9 to 17m in the S entrance channel.

Shoals, with depths of 4.5m, lie on the E side of the N entrance in a position about 1 mile N of Pandan Point.

The N entrance to East Channel lies between these shoals and the NE side of Iogiog Bank.

The tidal currents set strongly through East Channel, especially in the N entrance. The harbor is exposed to the Southwest Monsoon and to N winds.

Vessels using the recommended approach to Pulupandan from the S through East Channel, should steer for the W extremity of Inampulugan Point bearing 001°.

When clear of Pontevedra Shoal, alter course NE, until Pandan Point bears 020°.

Caution.—Should be exercised to avoid the shoal, with a depth of 6m, lying about 2 miles SSE of the E extremity of Inampulugan Island. A course of 020° should be steered until a position is reached about 1 mile from the point, at which time the vessel’s course should be altered to pass about 0.3 mile W of Pandan Point. Then steer 000° and when 1.5 miles N of the point, steer as necessary.

If proceeding alongside Pulupandan pier, steer for the pier when it bears 090°. During the Southwest Monsoon (May to

September) it is advisable to anchor, in a depth of 15m, 0.5 mile W of the pier, on the E side of the fairway, with the summit of Nalunga Island bearing 270°.

3.76 Pontevedra (10°22'N., 122°52'E.), a small town on the S side of the mouth of the Marayo River, lies about 10 miles SSE of Pandan Point. It is a sugar-loading port for light-draft vessels. A prominent white stone church stands in the town.

The 10m curve lies about 9 miles WSW through about 5.5 miles SW of Pontevedra. Lighters can leave the river only at high tide.

Vessels can take anchorage about 4 miles WSW or SW of Pontevedra, in depths of 6.8 to 8.1m. The anchorage must be approached from SW, passing well S of Pontevedra Shoal. The water shoals rapidly and vessels should not come closer than 4 miles of the shore.

The anchorage is an open roadstead and is exposed to NW winds and the Southwest Monsoon. Deep draft vessels can anchor off Hinigaran.

Maquiquiling Point (10°18'N., 122°50'E.), located about 1.5 miles N of the mouth of the Hinigaran River, is reported to be a good radar target.

3.77 Hinigaran (10°16'N., 122°51'E.), a sugar-loading port, stands on the S side of the entrance to the Hinigaran River, about 6 miles S of Ponteverda. It can be identified by a small pier on the N bank of the river.

The lights of the town are prominent at night. A group of five tall chimneys are conspicuous about 3.5 miles S of Hinigaran.

Sugar and molasses are loaded onto lighters at the pier and towed to the vessels at the anchorage. There is a depth of about 0.8m over the bar at the mouth of the river.

Vessels can take anchorage, using the port anchor, about 2 miles SW of the town with the mouth of the river bearing 054° and the five conspicuous chimneys bearing 136°, in a depth of 10m. The anchorage is unprotected and open to both monsoons. In the above anchorage the effect of the Northeast Monsoon is somewhat diminished, and lighters are reported to lie quietly alongside.

In recent years, numerous fishing stakes have encumbered the above anchorage and vessels have had to anchor farther N. Caution must be exercised when approaching the anchorage.

An alternative anchorage has been used with Maquiquiling Point bearing 040° and the chimneys bearing 136°, in a depth of 11m.

3.78 Binalbagan (10°12'N., 122°51'E.), a small town, is located about 5 miles S of Hinigaran.

A group of three tall chimneys in the town makes a prominent landmark.

Himamaylan (10°06'N., 122°52'E.) stands at the junction of the Himamaylan River and the Bingig River, about 6 miles farther S. It can be identified by a lighted beacon standing on the coastal bank on the S side of the river entrance.

Ilog (10°02'N., 122°46'E.) stands about 4 miles inside the entrance to the Ilog River. The towns are connected to the general telegraph system.

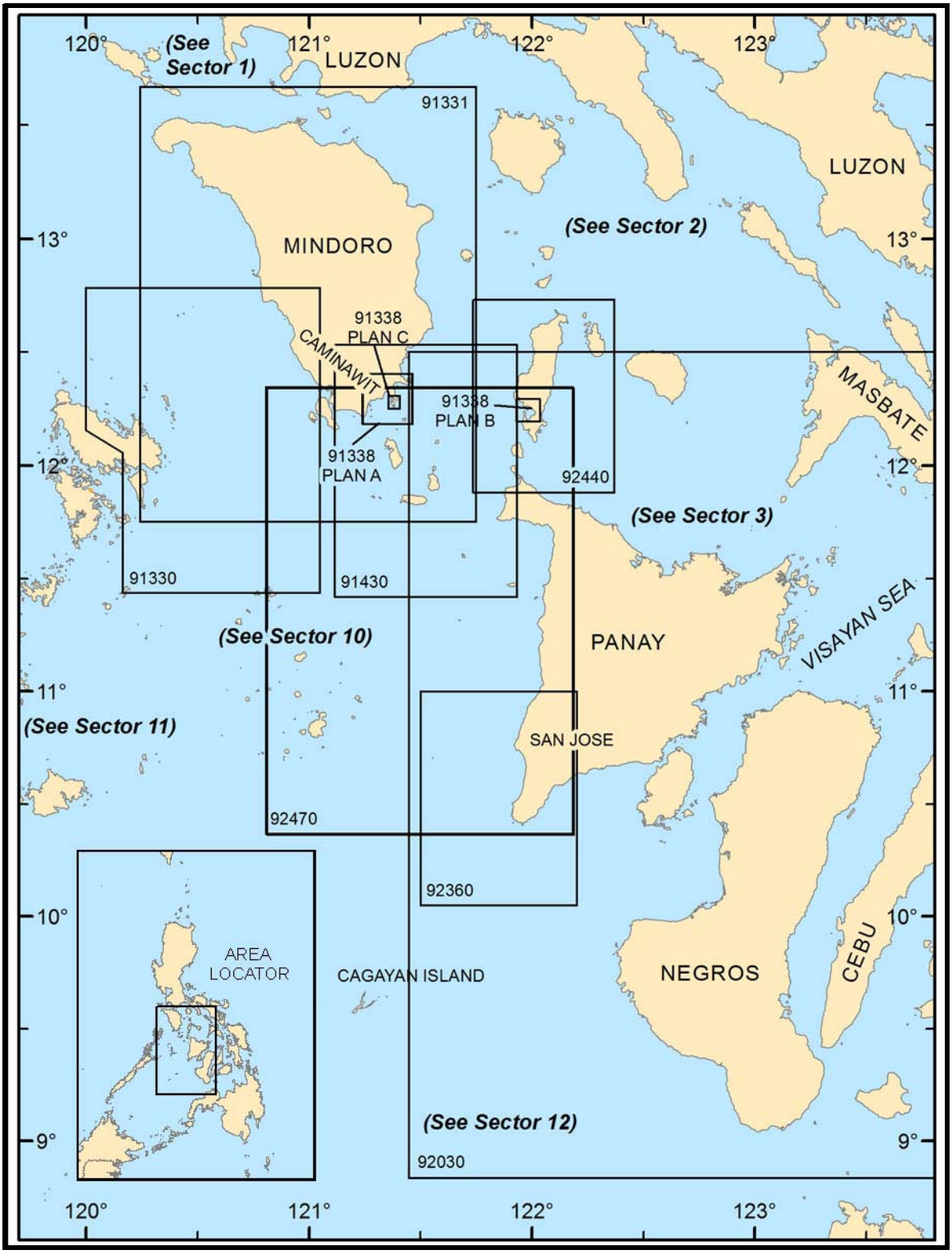
The Binalbagan River, the Himamaylan River, and the Ilog River all have a depth of about 0.5m over their bars.

Vessels can take anchorage anywhere along the coast off these towns, from 1 to 2 miles offshore, in depths of 5.5 to 9.1m, mud. These anchorages are open roadsteads with no protection except from S and E.

The coast, moderately steep-to, extends 4 miles SW of the Ilog River mouth, then 13 miles W to Sojoton Point.

Sojoton Point (9°59'N., 122°27'E.), a prominent headland, is fringed by a steep-to reef extending about 0.15 mile offshore. The land rises steeply from the coast to a height of 158m, less than 0.5 mile inland.

The point is an excellent landmark when approaching from N or S, appearing as a step from the shore to the higher plateau farther inland.



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

SECTOR **4** — CHART INFORMATION

SECTOR 4

MINDORO—SOUTHWEST AND EAST COASTS/PANAY—WEST COAST/NEGROS—SOUTH COAST

Plan.—This sector describes the W and E coast of Mindoro, the W coast of Panay, and the SW coast of Negros. The sequence of description is basically from N to S.

General Remarks

4.1 Winds—Weather.—The wind is variable along the mountainous W coasts of Mindoro, Panay and Negros during the Northeast Monsoon. Land and sea breezes are fairly well developed along these coast.

In the regions where the mountains are near the coast the land breeze is sometimes very squally. This is especially so in Puluan Bay on the W coast of Mindoro.

NW winds are prevalent in Mindoro Strait. The SW coast of Negros is fully exposed to the Southwest Monsoon.

Tides—Currents.—The flood current that enters Mindoro Strait follows the coast of Mindoro, part of it continuing around the S and E coasts of that island and then N of Dumali Point, where it meets the tidal current through Verde Island Passage.

The rest of this tidal current divides at the NW extremity of Panay. One branch flows along the N coast of Panay, the other turns SW from the NW extremity of Panay.

It is joined midway by the tidal current setting E of the Cuyo Islands or Linapacan Strait and then continues around the coast of Panay and Guimaras Island into Iloilo Strait, until it meets the previously-mentioned branch.

The ebb currents are exactly opposite in strength and direction. The tidal currents in Mindoro Strait flow SE on the raising tide and NW on the falling tide.

The currents are variable and depend to a great extent upon the strength and direction of the wind. The predominant trend of the current in Mindoro Strait appeared to be W from January to June and E from July to November.

The tidal currents off the SW coast of Negros set S during the rising tide and N on the falling tide. They are weak for the most part, but off the S end of the island they are strong and set SE on the flood and NW on the ebb.

Mindoro—Southwest Coast

4.2 Cape Calavite (13°27'N., 120°18'E.), a low headland, forms the NW extremity of Mindoro and is reported to give a good radar return up to 19 miles. A light is shown on the cape.

Mount Calavite, the summit of which lies 6.5 miles ENE of the cape, appears dome-shaped from the W, but from N or S it shows as a long ridge, fairly high at its W end.

A few rocks lie close offshore along this coast; vessels should give it a berth of 1.5 miles to avoid the dangers.

Paluan Bay (13°24'N., 120°26'E.), a small bay, is entered between Pantocomi Point and Camtas Point, 4.75 miles E.

The bay indents the coast about 3 miles in a N direction.

A river flows into the NE side of the bay. Two towns stand near the mouth of the river. The bay affords good shelter during the Northeast Monsoon (May to September), but is fully exposed to the Southwest Monsoon.

The entrance points are each fringed by a drying reef that extends about 0.3 mile offshore. Shoal water has been reported to extend from Pantocomi Point. A number of shoal spots lie in the entrance to the bay and can best be seen on the chart.

Vessels can take anchorage about 1.5 miles W of the N entrance point of the above river, in a depth of 26m, black mud.

Moderate-size vessels can find some protection from the Southwest Monsoon by anchoring in the middle of the entrance to Pamutusin Cove, in the NW corner of the bay, in a depth of 26m.

Vessels are cautioned that violent squalls blow down from the high land with little or no warning.

Igsoso Bay (13°16'N., 120°31'E.) lies about 9 miles SE of Paluan Point, and is entered between Igsoso Point and Tubile Point, 2.75 miles SSE.

Tubile Point (Tubili Point) (13°14'N., 120°31'E.) is the termination of a densely-wooded and prominent peninsula connected to the mainland by a low isthmus. A bank, with a depth of 4m, extends 1 mile S of Tubile Point. The point is marked by a light.

4.3 Mamburao Bay (13°12'N., 120°34'E.) is entered between Tubile Point and Mamburao Reef, about 4.5 miles SE. A river of the same name flows into the head of the bay. A village stands on the E bank of the river entrance. A conspicuous concrete building stands about 1 mile E of the village.

Mamburao Reef (13°10'N., 120°36'E.) lies close SE of Mamburao Bay. The reef is awash near its NW end and has a depth of 3m near its SE end.

Vessels can take protected anchorage, except during the Southwest Monsoon, about 0.5 mile SW of the village of Mamburao, in a depth of 9.1m, mud.

Vessels should use caution to avoid the shoal extending S from Tubile Point and to avoid Mamburao Reef.

Carauisan Point (13°12'N., 120°36'E.) is situated about 5 miles ESE of Tubile Point. A reef, with a drying rock near its outer end, extends 1.25 miles SSW of Carauisan Point.

Two 4.9m patches lie 1 mile W and SW of the same point. A rock, with a depth of 0.9m, lies 1.75 miles S of Carauisan Point. A depth of 16.1m was reported to lie 2 miles WSW of the same point.

Makolbo Point (13°11'N., 120°39'E.) is situated 3.25 miles SW of Carauisan Point.

A spit, with a depth of 2.7m over its outer end, extends 0.75 mile W and SW from Makolbo Point.

Talabasi Point (13°04'N., 120°43'E.) is situated 7.75 miles SE of Makolbo Point.

A 497m high peak is located 4 miles ESE of Talabasi Point. The coast between Carauisan Point and Talabasi Point and then to Sablayan Point, is low, intersected by several rivers whose

mouths are fronted by shallow bars, and rises gradually inland to mountainous country.

4.4 **Sablayan Point** (12°50'N., 120°46'E.) is the termination of a small peninsula extending about 0.75 mile SW from the coast of Mindoro. The peninsula forms the W side of a small bay. A town stands on the E side of the peninsula. A wooded knoll, 37m high, stands on the peninsula. A light situated on the summit of this knoll. A stone causeway situated on the SE side of the point.

A reef, which dries, fringes Sablayan Point to a distance of up to 0.15 mile. A shoal spit, with a depth of 6.9m at its outer end, extends about 0.2 mile E from the fringing reef abreast the church.

The N part of the bay is filled by reefs which enclose a small lagoon. Depths of 7 to 9m are found in the lagoon, but the narrow channel leading into it is very shallow. Several rocky heads show above water in the N part of the bay and sunken rocks lie within 0.35 mile of the shore, in the S part of the bay.

A shoal, with a depth of 6.9m, lies in the middle of the bay, in a position about 0.35 mile ESE of the church.

Vessels can take anchorage about 0.25 mile from the town church bearing 270°, in a depth of 29m. Small craft can enter the lagoon and anchor in its middle part.

Sablayan Point should not be brought to bear less than 270° as the bottom is rocky and uneven and the depths decrease rapidly towards the reefs.

4.5 The **Pandan Islands** (12°51'N., 120°45'E.) lie NW of Sablayan Point. The islands consist of two small, densely wooded islands. The channel between the islands is clear of dangers in the fairway, but the channel between the S island and the mainland is foul.

Pandan Bay lies between the Pandan Islands and the coast of Mindoro. A reef, with a depth of 4m, lies about 0.1 mile NE of the S island. Reefs, with depths of 8.2 and 2.1m, lie about 0.5 mile NE and 0.6 mile E, respectively, of the same point.

Vessels can take anchorage in the S part of Pandan Bay, 0.25 mile from the NE side of the S island, in depths of 11.1 to 26m, mud.

Dongon Point (12°43'N., 120°48'E.), low and sandy, is located 6.75 miles SE of Sablayan Point. The point is marked by a light. Dongon Bay, entered E of Dongon Point, is very deep.

Small vessels with local knowledge can take anchorage close to the shore where protection from N and E winds is afforded.

Iriron Rock (Irirun Rock) (12°38'N., 120°54'E.) lies about 5 miles SE of Dongon Bay. The rock lies about 0.75 mile offshore. A drying reef, about 0.15 mile in diameter, lies 0.75 miles NNW of the rock. A reef, with a least depth of 3.6m, lies 1.25 miles N of the rock and 0.5 mile offshore.

Iriron Bay (Irirun Bay) (12°37'N., 120°55'E.), formed by a slight indentation in the coast, is entered about 1.25 miles SE of Iriron Rock.

The bay affords fairly good anchorage for small vessels during the Northeast Monsoon. Tusk Peak, 904m high and prominent, stands about 6 miles NE of Iriron Rock.

The coast between the mouth of the **Lumintao River** (12°32'N., 120°55'E.), of no use to navigation, 5.5 miles S of Iriron Bay and to the mouth of the Bugsanga River, 7 miles further SSE, to Bubug Point, an additional 5 miles to the SE, is low with a steep-to sandy beach. The bar of the Bugsanga River is very shallow.

A beacon situated about 2.5 miles SE of the mouth of the Bugsanga River. A stranded wreck lies about 0.2 mile WSW of the beacon.

San Agustin (12°25'N., 120°59'E.) stands close SE of the mouth of the Bugsanga River. A pier, the outer end of which is destroyed, situated at the town.

Tanks situated on the coast about 1 mile NW of Bubug Point. A monument, 5m high, situated on Bubug Point. A 16m patch lies 1.25 miles W of the monument.

Caution.—A narrow rocky ledge lies parallel to the coast, about 0.25 mile offshore, in a position about 1.5 miles NW of Bubug Point.

Tidal currents off Bubug Point run parallel to the coast and may attain a rate of 2 knots.

4.6 **Mangaran Bay** (12°19'N., 121°03'E.), SE of San Jose is entered between Ilin Island and the coast of Mindoro. The bay affords good anchorage for all classes of vessels during most seasons of the year.

The inner part of the bay is shallow and of little value to shipping. Tidal currents with a rate of 1.5 knots have been observed in the bay.

Caminawit Point (12°20'N., 121°05'E.), 2 miles SE of San Jose, is long and low with several prominent warehouses on it. The area between Caminawit Point and the head of Mangarin Bay is shallow and of little use to shipping.

A light is shown at the SE extremity of Caminawit Point. A beacon is situated 0.3 mile E of the light. A buoy marks a 3.2m shoal lying about 0.1 mile SSW of the light.

San Jose (12°21'N., 121°05'E.), a small village, lies about 1.5 miles ESE of Bubug Point. An obstruction light marks the top of a church tower located about 0.45 mile S of San Jose.

A concrete pier about 43m long and 9.1m wide is situated on the NE side of Caminawit Point. There is a depth of 4.2m alongside the end of the pier at low water. A 74m long concrete pier, with Ro-Ro facilities at the offshore end, has been installed. The controlling depth is 5m alongside the 32m berth on the W side of the pier.

The channel leading to the pier can carry 3.1m at low water. Only vessels with local knowledge should attempt to use the pier.

Anchorage.—Vessels can take anchorage with the warehouses on Caminawit Point bearing about 065°, distant 0.75 mile, in a depth of 10.9m, mud. Vessels can anchor anywhere along this bearing line according to draft.

4.7 **Ilin Island** (12°14'N., 121°04'E.), high, narrow, and wooded is separated from the S part of Mindoro by Ilin Strait.

Mount Natangdol (12°12'N., 121°05'E.), near the S end of the island, is the summit of a sharp ridge running in a NNW to SSE direction and is the most prominent feature on the island, except from the N.

Calalayuan Point (12°18'N., 121°04'E.) is the NE extremity of Ilin Island. Ilin Rock, steep-to and with a depth of 1.8m, lies about 1.5 miles WNW of the point, while a 3m depth lies 1 mile NNW of the point.

Liscum Reef (12°19'N., 121°05'E.), with a least depth of 1.8m, lies on the E side of the channel in the approach from Il-

in Strait, about 0.75 mile NE of Calalayuan Point.

Vessels should not attempt to pass E of the reef because of the numerous shoal patches. The channel between Liscum Reef and Calalayuan Point is deep and clear of dangers.

A shoal, with a depth of 5.9m, lies 0.4 mile N of Liscum Reef.

Dongon Reef (12°19'N., 121°00'E.), the outer danger in the W approach to Mangarin Bay, extends about 1 mile S from a position about 2.75 miles SW of Bubug Point.

The reef is less than 0.5 mile wide and has a cay of coral and sand lying on its E side. Several sunken rocks lie close off the S side of the reef.

Sardine Reef (12°17'N., 121°00'E.), with a least depth of 4.1m, lies about 1.75 miles W of the NW side of Ilin Island.

4.8 Manadi Islet (12°20'N., 121°03'E.), a small sand cay with several trees standing about 6.1m high, lies on the E side of a small circular drying reef located about 2 miles S of Bubug Point.

A 5.9m rocky patch and a 7.3m shoal lie 1 mile N and 1.25 miles NW, respectively, of Manadi Islet.

The channel between Dongon Reef and Manadi Islet, 2 miles E, and also the channel between Dongon Reef and the Ilin Islands are deep and clear of dangers.

Cajui Reef (12°20'N., 121°04'E.), about 0.75 mile E of Manadi Islet, dries about 0.9m, and is surrounded by above and below-water rocks.

Broken ground, with depths of 2.7 to 5.1m, extends about 0.5 mile NNE from the reef, leaving a channel about 0.15 mile wide between it and the coast of Mindoro. A least depth of 10m is found in the channel.

Directions.—Vessels approaching from the NW should pass 0.75 mile W and S of Manadi Island. When entering the bay from the W, do not bring the W extremity of Ambulong Island until the N extremity of Ilin Island bears 085° or Caminawit Point bears 065°, so as to avoid Sardine Reef. The vessel can steer for Caminawit Point on that bearing and anchor as appropriate.

Vessels arriving from S should pass about 0.5 mile W of Ambulong Island, and steer 000° until Caminawit Point bears 065°, and then alter course to that bearing and anchor as directed above.

Vessels coming from the S through Ilin Strait should steer for Manadi Islet as soon as it bears 311° in order to avoid Liscum Reef. When Caminawit Point bears 030°, the course should be altered to the N, taking care to avoid the shoal, with a depth of 9.1m, lying about 0.75 mile W of Liscum Reef.

When Caminawit Point bears 065°, the course should be altered to that bearing and anchorage taken as directed.

4.9 Ambulong Island (12°13'N., 121°01'E.) lies about 0.75 mile off the W coast of Ilin Island, and is separated from each other by Ambulong Strait. A small village stands on the E side of the island. The coasts of the island are fringed by narrow coral reefs.

A light is shown from the summit of a hill, standing at an elevation of 136m on the W side of the island. The island is reported to give a good radar return up to 18 miles.

Silong Bay (12°11'N., 121°04'E.) lies between the E side of Ambulong Island and the SW part of Ilin Island. A reef, with a depth of 8.7m, lies in the middle of the S approach to the bay.

Baniaga Reef, with depths of 1 to 9m, lies in the SW approach to the bay. A rock lies on the S edge of this reef.

Vessels can take anchorage in the bay, but the holding ground is poor.

Ambulong Strait, lying between Ilin Island and Ambulong Island, has depths of 12.8 to 31m, in the fairway. The N part of the strait is about 0.25 mile wide between dangers. The S part of the strait is about 0.75 mile wide. The flood current sets S and the ebb sets N through the strait.

4.10 Ilin Strait (12°16'N., 121°06'E.) lies between the NE side of Ilin Island and the SW side of Mindoro. The strait has depths of 16.5m and over in the fairway and is clear of dangers.

The W side of Ilin Strait, between Calalayuan Point, the NE extremity of Ilin Island, and Mangsoagui Point, about 9 miles SSE, is low, wooded, and backed by densely wooded hills. It is fringed by a narrow steep-to reef.

The E side of the strait, between Bancal Point, lying about 1.25 miles ESE of Calalayuan Point, and Araguaya Point, about 1 mile S is low and covered with mangroves.

The Caguray River, which discharges close N of the point, is navigable by small boats to the small village of Caguray, about 1.75 miles from the entrance.

Lalawigan Bay, entered between Caguray Point and Lalawigan Point, about 1.25 miles SSE, indents the coast to a distance of about 0.5 mile, and is very shallow.

Santa Teresa, a small village, stands on the shore about 0.5 mile SSE of Lalawigan Point.

Santa Teresa Hill, 122m high, round-topped and prominent, lies about 1.25 miles E of the point.

Cominauet Point, located about 1.25 miles SE of Lalawigan Point, is a low, rocky bluff, fringed by a bank with depths of less than 6m, extending 0.6 mile offshore.

The 20m curve lies less than 0.25 mile W of Bancal Point, 0.2 mile SW of Caguray Point, and 0.4 mile SW of Lalawigan Point. The depths shoal rapidly within this curve.

A shoal bank, which bares at low water, extends up to 0.35 mile SW from the coast between Santa Teresa and Cominauet Point.

4.11 Pandarochan Bay (12°12'N., 121°10'E.) lies in the S approach to Ilin Strait and is entered between Mangsoagui Point and Buruncan Point, about 7 miles ENE. The head of the bay is low and sandy, with mangroves and scrub behind it.

Several small rivers flow into the head of the bay. Buruncan Point is reported to give good radar returns up to 18 miles.

Alibug Point, located 2 miles NW of Buruncan Point, can be identified by the small village of Alibug standing close E.

Buruncan Point (12°12'N., 121°15'E.), the S extremity of Mindoro, is composed of low, limestone cliffs, greatly worn by the sea. The land N of the point rises steeply, and is 77m high, 0.35 mile from the point.

The 20m curve fronts the N shore of the bay at a distance of up to 1.5 miles. The depths shoal gradually within this curve.

Garza Island (12°13'N., 121°12'E.), a small sand and coral island covered with mangroves and trees, lies about 2.25 miles W of Buruncan Point. The island is fringed by a drying reef. A shoal, with a depth of 1.8m, extends 0.3 mile N from the N side of the islet.

A shoal bank, with detached shoals having depths of 5.5 to 16.5m, extends 0.35 mile E and 2 miles S from the reef fringing the islet.

The flood current sets SSE through Ilin Strait and the ebb sets in an opposite direction, following the general trend of the channel. The flood current sets E along the S coast of Ilin Island and in the outer part of Pandarochan Bay.

The ebb current sets in an opposite direction. Rips are found off the S extremity of the shoal bank extending S from Garza Island.

Anchorage.—Vessels can take anchorage almost anywhere in Ilin Strait, in a depth of 18.3m.

A recommended anchorage is located about 0.1 mile offshore on the Mindoro side of the channel in a position about 0.5 mile NNW of the mouth of the Caguray River, in depths of 26 to 29m, mud.

Vessels can take anchorage anywhere in Pandarochan Bay according to draft and direction of the wind. The bay is protected from all but S winds.

Directions.—Vessels entering Ilin Strait from the N should keep Manadi Islet astern, bearing 311°, so as to clear Liscum Reef. In passing through the strait, the Ilin Island side should be favored as the water shoals suddenly on the Mindoro side.

After having cleared the strait, it should be kept open astern until the S extremity of Garza Island is in range with Buruncan Point bearing about 094°. Then the course should be altered to 125° until Garza Island bears 001°.

This course leads SW of the dangers extending S from Garza Island.

Vessels entering the strait from S and E should pass about 3.5 miles S of Garza Island and follow the reverse of the directions given above.

Mindoro—East Coast

4.12 Pinamalayan (13°02'N., 121°30'E.) (World Port Index No. 58550), a small loading port, lies about 6.5 miles SW of Dumali Point. A light is shown from a white concrete tower, 10m high, standing on the beach.

A vessel can take anchorage with the light bearing 270°, distant about 0.75 mile, in a depth of 37m. Small vessels can anchor closer inshore, in depths of 7.3 to 18.3m.

Quinabigan (Kinabigan) (13°00'N., 121°29'E.) is a small town located about 3 miles S of Pinamalayan. Several warehouses stand near the shore. Cargo operations are carried out at the anchorage. Vessels can take anchorage with the town bearing 235°, distant about 1 mile, in a depth of 55m.

Bongabong (12°45'N., 121°29'E.), a small village, lies 14.5 miles S of Quinabigan. The village stands at the mouth of the Sucol River. Several warehouses stand near the mouth of the river.

Vessels load cargo from barges. A light is shown from the village. Vessels can take anchorage with the light bearing 243°, distant 0.5 mile, in a depth of 22m.

4.13 Quinidiagan Point (Kinidiagan Point) (12°42'N., 121°32'E.) is a slight projection lying about 4.5 miles SE of Bongabong.

Duyagan Point (12°36'N., 121°33'E.), about 5 miles SSE of Quinidiagan Point, is low, sandy, and steep-to.

At times discolored water from the many small streams in the vicinity of the point extends a considerable distance seaward.

Paglasan (Roxas) (12°35'N., 121°31'E.) is located about 2.5 miles SW of Duyagan Point. There is a conspicuous white bell tower at Wasig, about 2 miles SSW of Paglasan.

Balanga Point (12°31'N., 121°28'E.), the first elevation near the coast S of Mount Dumali, is formed by a hill 77m high; the seaward cliffs have a reddish appearance. The point lies 3 miles SW of Wasig.

Langauin Reef (12°32'N., 121°31'E.) is an extensive reef, 1.75 miles SSE of Wasig; part of the reef is awash. Shoals, with depths of 4.5 and 6.7m, lie 0.75 mile W and 0.6 mile SSW, respectively, of the reef.

Mansalay Bay (Mansalai Bay) (12°30'N., 121°27'E.) is entered between Palaypay Point, located about 0.5 mile WSW of Balanga Point, and Bugton Point, about 1 mile SW. The bay indents the coast to a distance of about 0.75 mile. Depths of over 11m are found in the middle of the bay.

Palaypay Point is surrounded by a reef, near the S extremity of which, about 0.1 mile offshore, is a prominent pinnacle rock about 7.6m high.

Foul ground, on which there is a rock awash, extends about 0.5 mile offshore between Balanga Point and Palaypay Point.

Bugton Point (12°30'N., 121°27'E.) is steep-to and clear of dangers. It is formed by a round-topped hill, 93m high, wooded to the water's edge. A similar hill, 85m high, lies about 0.5 mile S.

Mansalay is a small town at the head of the bay. The metal-roofed school building in the N part of the town is prominent.

Vessels with local knowledge can take anchorage in the middle of the bay, about 0.4 mile offshore, with the village bearing 316° and the 7.6m pinnacle rock off Palaypay Point bearing 091°, in a depth of 12.8m, mud. Smaller vessels can anchor closer in, according to their draft.

Vessels approaching the anchorage from N should keep Maestre de Campo Island open E of Duyagan Point until Langauin Reef is passed.

When Bugton Point bears 271°, steer for it on that bearing, and give it a berth of about 0.25 mile, then alter course NW and steer for the village.

Vessels are cautioned that the N shore of the bay is fringed by a reef and that the bay is fully exposed to SE winds.

4.14 Cogolong Bay (12°29'N., 121°26'E.) lies about 1 mile S of Mansalay Bay. Vessels can take anchorage in the middle of the outer part of the bay, in depths of 9 to 18m, sand and mud. The anchorage is exposed to E winds.

Mansiol Bay (12°28'N., 121°26'E.) lies 1 mile SSW of Cogolong Bay. The bay indents the coast to a distance of about 0.5 mile. Mansiol Point, the N entrance point to the bay, is bold, rocky, and surmounted by two grassy hills about 107m high.

Several rocks, awash, lie up to 0.1 mile E of the point; the outer rock dries 1.5m. Colasi Point, the S entrance point, is rocky and fringed by a steep-to reef which extends 0.25 mile offshore. Two hills, 37m and 44m high, stand on the point. There are no dangers lying outside the narrow reef fringing the shores of the bay.

Colasi Bay (12°27'N., 121°25'E.) lies about 1 mile SSW of

Mansiol Bay. A small stream flows into the head of the bay.

Small vessels with local knowledge can take anchorage in the middle of the outer part of the bay, in depths of 9 to 18m.

Pocanil Point (12°24'N., 121°25'E.), surmounted by a prominent hill, 157m high, lies about 3.5 miles SSE of Colasi Bay. A yellow limestone cliff marks the E and S sides of the hill. An islet, wooded and steep, lies about 0.2 mile E of the point. A barren pinnacle lies about 0.15 mile E of the islet.

Pocanil Bay (12°24'N., 121°26'E.) is entered close S of Pocanil Point. Vessels can take anchorage in the middle of the outer part of the bay, in depths of 18 to 22m, soft mud.

The **Buyallao Peninsula** (12°22'N., 121°26'E.) lies between Pocanil and Soguicay Bays. The shores of the peninsula are rocky and steep-to. Mount Namalayan, 270m high, stands in the middle part of the peninsula and is prominent.

Buyallao Point, the SE extremity of the Buyallao Peninsula, slopes down gradually from Mount Namalayan and terminates in a low, rocky, and steep-to shelf.

Buyallao Island (12°23'N., 121°27'E.) lies close off the NE side of Buyallao Peninsula and is separated from it by Buyallao Pass. The island is high and densely wooded.

Two rocks lie close off the NE side of the island. Buyallao Pass has a least navigable width of 0.15 mile.

A shoal, with a depth of 3.6m, lies in the middle of the narrowest part. Anchoring in the pass is not recommended.

4.15 Soguicay Bay (12°20'N., 121°24'E.), which affords the best typhoon anchorage on the E coast of Mindoro, is entered between Buyallao Point and Cabug Point, about 5 miles SW.

The bay indents the coast to a distance of about 3.5 miles. The shores of the bay, which are steep-to, are fringed by a narrow reef and mud flats.

Soguicay Island, narrow and about 1 mile long, lies in the middle of the bay, about 0.75 mile offshore. The N part of the island is covered with mangroves and is fringed by partly drying reefs which extend about 0.25 mile from its E and S sides. The W side of the island is fairly steep-to.

Foul ground extends about 0.5 mile S from the S extremity of the island.

The village of Soguicay stands on the W side of the bay in a position about 1.25 miles W of the N extremity of the island. Panangiran Peak, a sharp peak, 721m high, is located about 8 miles WNW of the head of the bay.

A reef, which bares, lies close off the middle of the W side of Soguicay Island. A reef, partly awash, lies about 0.3 mile NW of the NW side of the island. It is separated from the reef fringing the NW side of the island by a narrow but deep channel.

A reef, which bares, lies about 0.5 mile NNW of the N end of the island. Detached shoals, with depths of 2 to 9m, lie between this reef and the shore of the bay to the W and SW.

The channel between this reef and the reef lying about 0.3 mile NW of the NW side of the island is about 0.25 mile wide with depths of over 11m in the fairway.

Narrow shoals, with depths of 8 to 15m, extend about 1.5 miles N from a position close N of Cabug Point.

The least depth is found about 1 mile S of the S extremity of Soguicay Island.

A detached shoal, with a depth of 9.1m, lies about 0.5 mile E of the SE end of the island.

Anchorage.—Vessels anchor in a position W or NW of Soguicay Island and clear of the detached reefs, in depths of 22 to 37m, soft sticky mud.

The recommended anchorage is located about 0.5 mile ESE of the village of Soguicay with the N point of Soguicay Island in range about 087° with the S tangent of the Buyallao Peninsula, in a depth of 26m, mud.

Directions.—Vessels approaching the bay from the E or SE should steer 286° for Panangiran Peak, which leads in mid-channel between the N point of Soguicay Island and the N shore of the bay.

When abeam of this point, the course should be altered to 255°, heading for a position about 91m S of the village of Soguicay and passing mid-channel between the N detached reef which dries and the reef awash about mile S of it.

This course should be held for about 0.5 mile and then a course of about 226° should be steered to the recommended anchorage.

Vessels approaching the bay from the SW should steer a course of 337° for a little over 2 miles from the position 2 miles SE of Pandan Point to a position about 0.25 mile E of Cabug Point.

Then a course of 342° should be steered until the S extremity of Soguicay Island is in range about 068° with the S face of Buyallao Point. A course of 348° leads to the recommended anchorage.

4.16 Pandan Point (12°17'N., 121°24'E.), the E entrance point of Pandan Bay, is a rocky, precipitous headland covered with grass and about 140m high.

Pandan Reef, with a least depth of 2.1m, lies about 0.4 mile SE of Pandan Point. A narrow, deep channel lies between the reef and the point.

Pandan Bay (12°17'N., 121°23'E.) lies about 4.5 miles S of Soguicay Bay. The 20m curve fronts the head of the bay to a distance of about 0.2 mile and the E shore to a distance of about 0.15 mile.

The W shore of the bay is steep-to. A shoal, with a depth of 7.3m, lies in the middle of the inner part of the bay, about 0.25 mile S of the head of the bay.

Vessels can take anchorage in the middle of the inner part of the bay, in depths of 11 to 37m, sand and mud. Vessels should not stand too far N as the head of the bay is foul.

Tambaron Island (12°16'N., 121°23'E.) lies close S of Pandan Bay. The coasts of the island are steep-to and clear of dangers. Tambaron Pass, on the N side of the island, is of little use to navigation except for small craft.

Masin Island (12°15'N., 121°23'E.) lies close SSE of Tambaron Island and is separated from it by Masin Pass.

The pass is a narrow channel with a least navigable width of about 109m and a least depth of 10.9m at its NE end. It is of little use to navigation.

4.17 Bulalacao Bay (12°19'N., 121°21'E.), entered between Badian Point and Tambi Point, about 2.5 miles WNW, indents the coast to a distance of 2.25 miles.

Badian Point, about 111m high, is the S extremity of a rocky peninsula. Tambi Point, about 15.2m high, is a black and yellow bluff, covered with trees, steep-to, and clear of dangers.

The land rises gradually to a height of 173m about 0.75 mile

NW of Tambi Point. Bulalacao, a small town, stands on the NW shore of the bay. The W and E shores of the bay are steep, rocky, and densely wooded.

The head of the bay, which has a low sandy shore, is composed of mangrove swamps, intersected by a number of small rivers.

Bulalacao Bay has depths of over 18m and is for the most part clear of dangers. The 20m curve fronts the head of the bay to a distance of about 0.5 mile. A shoal, with a least depth of 0.9m, extends about 0.35 mile SSW from the NE shore of the bay.

Masin Bank, with a least depth of 12.8m, lies about 3 miles SSE of Tambi Point.

Bula Shoal, with a depth of 7.3m, lies about 2.75 miles SSW of the above point.

Lagara Cove (12°17'N., 121°22'E.), a small, narrow, and deep inlet, lies about 0.75 mile N of Badian Point.

The projecting points of the inlet are high and steep and the inlet is entirely enclosed by hills except for the low neck of land which separates the cove from Pandan Bay.

The two arms which form the head of the inlet are both shoal.

Small vessels, with local knowledge, can take anchorage near the inner end of Lagara Cove, in a depth of about 22m, mud. The anchorage is well protected and about 0.1 mile wide.

Vessels can take anchorage in the middle of the inner part of Bulalacao Bay, in depths of 9.1 to 37m, mud and sand. Vessels usually anchor SE of the town of Bulalacao according to their draft. The anchorage is protected from all winds except those between SSE and SW.

The Southwest Monsoon draws up the bay with great force making anchorage in the bay untenable.

4.18 **Alibatan Islet** (12°13'N., 121°17'E.), fringed by a reef, lies about 5.5 miles SW of Bulalacao Bay. Two summits, formed by sharp, rocky pinnacles, are located at the S end of the islet. The channel between the islet and the coast to the W is deep and clear of dangers.

Silat Islet, formed by a reef, lies about 1.75 miles N of Alibatan Islet. A cluster of rocks lie about 0.3 mile NW of the islet.

A channel, with a least depth of 7.3m in the fairway, and about 0.1 mile wide, separates these rocks from the islet. The channel between these rocks and the coast to the W is deep and clear of dangers.

Aslom Islet (12°16'N., 121°17'E.), fringed by a reef, lies 1 mile NNW of Silat Islet. A shoal, with a depth of 5.5m, lies about 0.15 mile W of the middle of the W side of the islet. Vessels can take anchorage in mid-channel W of the islet, in depths of 22 to 24m, sand and mud.

The **Buruncan Peninsula** (12°13'N., 121°14'E.), which terminates in Buruncan Point, lies about 2.5 miles W of Alibatan Islet. The peninsula is formed by several high ridges extending in a N and S direction.

The sides of the hills and ridges are mostly covered with forest. The seaward end of the peninsula is a low limestone bluff that is reported free of dangers and can be passed close-to.

The Semirara Islands

4.19 The **Semirara Islands** (12°00'N., 121°30'E.) are a group of eight islands lying off the S end of Mindoro and extend about 28 miles SE of Buruncan Point.

Libagao Island (12°12'N., 121°25'E.), the northernmost island of the group, lies about 10.5 miles E of Buruncan Point. The island is high on its E side while the W side is low, flat, and sandy. The island is wooded and fringed by a reef.

Nagubat Island (12°10'N., 121°24'E.) lies about 3 miles SW of Libagao Island. The island is low, sandy, and wooded. The island is fringed by a reef which extends about 0.4 mile N. A coral reef, with a least depth of 0.3m, lies about 1 mile NE of the island.

A deep channel, about 1.25 miles wide, with a depth of 16.4m near the middle, lies between this reef and Libagao Island.

Semirara Island (12°03'N., 121°23'E.), the largest island of the group, lies 8 miles SE of Buruncan Point.

The island is almost divided into two parts by a mangrove swamp and a low neck of land about 3.5 miles from **Tungao Point** (12°07'N., 121°21'E.).

Semirara town is situated on the E side of the island and the villages of Tinabooc and Alegria stand on the SE and SW coasts, respectively. Coal is mined at several locations on the island.

Semirara Anchorage (12°04'N., 121°21'E.), on the W side of Semirara Island, is in a bight 3.5 miles S of Tungao Point. A coral reef, which nearly dries, lies at the head of the bight. The rest of the bight is encumbered with islets, rocks, and shoals.

Anchorage.—Anchorage may be obtained, in a depth of 27m, with Ilogao Point, 3 miles SSE of Tungao Point, high, dark, and well-defined, bearing 060° and the tangent of land N bearing 347°.

Small vessels may anchor, in a depth of 22m, with Ilogao Point bearing 055°, and Twin Rocks, 2m high and situated 0.6 mile W of Ilogao Point, bearing 329°.

Dapdap Pier extends about 750m W from a position on shore about 0.9 mile S of Ilogao Point and then NW for 250m. Coal is stockpiled on reclaimed land NE of the extension and ships of 9,500 dwt berth heading NE to SW to load coal against a line of dolphins at the head of the extension.

A 600m extension leading W from the base of the NW extension was under construction. When completed, vessels of 20,000 dwt will be able to berth there.

Pilots for Dapdap Pier board 0.7 mile W of Twin Rocks.

4.20 **Sibolon Island** (12°06'N., 121°35'E.) lies about 10.5 miles E of the NE side of Semirara Island. The island is low and wooded. A sandy beach fronts the W point and the NW and S sides of the island.

A reef extends about 0.25 to 0.35 mile from the sandy beach and is steep-to at its edge.

Vessels can take anchorage off the SW side of the island, in a depth of 11m, with the W tangent of the island bearing 030° and the S tangent bearing 068°.

Sibaton Island (11°59'N., 121°34'E.) lies about 8 miles ESE of the SE side of Semirara Island. The N side of the island consists of low, black limestone cliffs, and the E and W sides consists of sandy beaches. A small village of the same name stands on the S side of the island.

Caluya Island (11°56'N., 121°34'E.) lies about 0.75 mile S of Sibaton Island. A drying reef extends about 0.75 mile N from the NW side of the island.

A very narrow and shallow channel lies between the island and the reefs and shoals fronting the S coast of Sibaton Island. A town of the same name stands on the W side of the island.

A round hill, 170m high and covered with bamboo, lies on the S end of the island. From this summit the land slopes regularly to the N point.

All around the island, the points are of black limestone and there are sandy beaches in all the bays.

Vessels with local knowledge can take anchorage during the Northeast Monsoon (October to March) off the W coast of the island, with the town bearing 091°, and the tangent of the W side of the island to the S bearing between 180° and 182°, open E of the E extremity of Sibay Island, in depths of 9 to 18m.

During bad SW weather there is anchorage near the edge of the reef, in a depth of 29m, off the bay near the middle of the E side of Caluya Island. A light is reported to lie close to Ibot Point.

Caution.—A shoal, with a depth of 7.3m at its outer edge, extends about 0.5 mile W of the town.

4.21 Sibay Island (11°51'N., 121°28'E.), the S island of the Semirara Islands, is located about 3 miles SSW of Caluya Island. The island is moderately high and level.

The summit of the island stands near the middle of the N coast. The island is barren except for some small dark trees at the extremities. There are several small villages on the island.

The island is fringed by a narrow steep-to reef. The N and W sides of the island are steep-to with the 10m curve lying up to 0.25 mile offshore.

Between Bacong Point, the NE extremity of the island, and Tangaion Point, 1.5 miles SSW, the reef extends 0.5 mile offshore, while near the SW end of the island, it extends 1 mile offshore.

There is no anchorage around the island, except on the spits at the SE and NW points, both of which are exposed to monsoons, and are of hard sand and large coral heads.

Panagatan Cays (11°52'N., 121°18'E.) are three small wooded islands lying on a partly-drying reef. They lie about 5 miles W of Sibay Island.

Panagatan Malaqui Island, the largest of the three, lies on the W extremity of the reef. Bogtongan Island and Panagatan Munti Island lie on the NE part of the reef.

There is anchorage off the edge of the reef except on the E side, in depths of 18 to 37m.

Mindoro Strait

4.22 Mindoro Strait (12°40'N., 120°24'E.), which is divided into two passes by Apo Island and Apo Reef, is wide and deep. It separates the W coast of Mindoro Island from the islands of the Calamian Group. The tidal currents in Mindoro Strait flow SE on the flood and NW on the ebb.

Apo Island (12°40'N., 120°25'E.) lies about 23 miles WSW of Dongon Point. The island is low and wooded.

White sandy beaches border its E and S sides. A fringing reef extends up to 0.5 mile in places.

There are no good anchorages off the island. Apo Island is separated from Apo Reef by a deep channel about 1 mile wide.

A light is shown on the NE side of the island. A conspicuous wreck lies stranded on the S side of the island.

It has been reported the island is a good radar target up to 17 miles.

4.23 Apo West Pass (12°35'N., 120°20'E.) is about 20 miles wide and separates the NE islands of Calamian Group and Apo Island.

A local magnetic disturbance has been reported to exist in this pass about 7 miles S of Apo Island.

Merope Rock (12°44'N., 120°15'E.), a ledge with a least depth of 4.3m and on which the sea breaks, lies about 10 miles WNW of Apo Island.

A shoal, with depths of less than 11m, extends about 1 mile N from the rock.

Hunter Rock (12°40'N., 120°11'E.), with a depth of 2.1m on which the sea breaks, lies 13.5 miles W of Apo Island.

It is steep-to, except on its NE side, where a bank, with depths of less than 18m, extends 0.5 mile.

An extensive bank, with depths of 37 to 110m, lies with its center 18 miles SSE of Apo Island with a 20m depth in the S part of the bank. Two banks, with depths of 30 to 93m, lie 9 miles S of Discovery Bank.

Apo East Pass (12°35'N., 120°43'E.) lies between Apo Reef and Mindoro. The pass is about 15 miles wide, and with the exception of Discovery Bank, it is deep and clear of dangers. The pass is used mainly during the Northeast Monsoon season.

Discovery Bank, with a least charted depth of 15.9m, lies in the middle of the fairway about 9 miles WSW of Dongon Point. The sea does not break on the bank nor is it marked by any discoloration of the water.

Apo Reef (12°40'N., 120°30'E.) is an extensive danger in which there are two shallow lagoons, separated by a channel, which is entered from the W. The reef extends about 4.75 miles NNE, 6.5 miles E, and 5 miles SE from Menor Islet.

The islet is 10.1m high, wooded, marked with a beacon, and lies about 1.5 miles E of Apo Island. In the N lagoon are the Cayos del Bajo, consisting of two rocks, 2.4 and 6.1m high, respectively, and numerous above and below-water coral heads.

The S lagoon, which lies SE of Menor Islet, is also shallow and filled with sunken dangers. The outer edge of Apo Reef is generally steep-to, but there are numerous drying and above-water rocks lying near its N and E sides.

Vessels with local knowledge can take anchorage in the channel between the two lagoons, about 2 miles E of Menor Islet, in a depth of 28m.

The channel, which is deep in its W part and foul in its E part, is entered N of the islet.

Mindoro Strait—South Part

4.24 Ambulong Bank (12°13'N., 120°54'E.), with a least depth of 5.5m, lies 7 miles W of Ambulong Island Light. Sarraceno Bank, with least depths of 4.6m and 5.5m, lies about 4.5

Apo Reef Light

miles SW of Ambulong Bank.

Kambal Reef, with a least depth of 10.1m, lies about 7.5 miles SSW of Sarraceno Bank.

An isolated patch, with a depth of 5.5m, lies 6 miles SSW of Kambal Reef.

Leonidas Bank (12°03'N., 120°52'E.), with a least depth of 13.4m, lies 5.5 miles E of Kambal Reef.

Falmouth Bank, with a least depth of 12.8m, lies about 15 miles S of Leonidas Bank.

Coutts Bank, with a least depth of 14.6m, lies about 6 miles NE of Falmouth Bank.

Dominga Shoal (12°01'N., 121°10'E.), with a least depth of 7.3m, lies about 8 miles SSE of the S extremity of Ilin Island. A 16.5m patch is reported to lie 2.25 miles S of Dominga Shoal.

Framjee Bank (11°59'N., 120°32'E.), with a least depth of 4.9m, lies about 15 miles WSW of Kambal Reef.

Several banks, with depths of 6 to 18m, lie up to 11 miles ESE of Framjee Bank.

Caution.—Banks in the S approach to Mindoro Strait, with depths of less than 15m, are usually marked by discoloration, but banks of less than 18.3m should be avoided, as large coral boulders lie on some of them and the least depth may not have been found during the surveys taken of them.

Panay—West Coast

4.25 This part of the sector describes the W coast of Panay from Potol Point, its N extremity, to Caducdula Point, the S extremity of the island, a distance of about 91 miles. The general description is from N to S.

Panay is the sixth largest of the Philippine Islands. The NW extremity of the island is located 37 miles SE of the SE end of Mindoro. A chain of mountains extends in a curve from the NW to the S promontory.

The coastline is steep-to, with some points fronted by coral reefs.

Panay is extremely fertile and is irrigated by the mountain streams. It is one of the most densely populated and most extensively cultivated of the Philippine Islands.

4.26 Potol Point (11°56'N., 121°57'E.), the N extremity of Panay Island, has been previously described in paragraph 3.21. A reef, reaching a width of 0.2 mile, fringes the shore NE of the point.

Boracay Island (Borocay Island) (11°58'N., 121°56'E.), 98m high, lies 2.5 miles S of Carabao Island and is separated from Potol Point by a channel 0.4 mile wide.

The S end of the island is fairly steep-to, and the W and E coasts are fringed by a reef as far as about 0.75 mile offshore. There are shoals reported to lie about 0.25 mile off the N shore.

The channel between Borocay Island and the coast of Panay is about 0.25 mile wide, and clear of dangers in the fairway; but there are dangerous rocks on both sides of the fairway, and there are shoal patches in the approaches. The tidal currents set through the channel with great force.

Vessels can take anchorage off the W side of Borocay, in a depth of 6.7m.

Nasog Point (11°54'N., 121°53'E.) lies 4.5 miles WSW of Potol Point. The point, which is the NW extremity of Panay, is a steep-to wooded bluff, 52m high; it is the extremity of a peninsula.

Mount Tinayunga, 915m high, 7.75 miles SE of Nasog Point, is the highest peak on the peninsula.

Anchorage for vessels with local knowledge can be obtained close off the N side of Nasog Point.

Caution.—A 6.9m shoal lies about 1.25 miles offshore, about midway between Potol Point and Nasog Point.

4.27 Buruanga Point (11°52'N., 121°53'E.), located about 2 miles SSW of Nasog Point, is a small peninsula which extends about 0.5 mile SW from the coast.

The Buruanga River flows out into a small bight about 1.25 miles SSE of the point. The town of Buruanga stands on both sides of the mouth of the river.

A shoal, with a depth of 3.6m, extends 0.25 mile offshore W of the village.

Vessels with local knowledge can take anchorage off a beach near the mouth of the river, in depths of 6m to 9m.

Pucio Point (11°46'N., 121°50'E.), the SW extremity of the peninsula, lies 5.5 miles SW of the Buruanga River. It rises to a height of 182m and is similar to Nasog Point.

A fringing reef extends 91m W of the point; the 20m curve lies close seaward of this reef. A 4.1m shoal lies 0.35 mile S of the point.

A light is reported to be located at Pucio Point.

Maniguin Island (11°36'N., 121°41'E.) lies about 13 miles SW of Pucio Point. The island has a narrow ridge across its S end, but the remainder of the island is low and wooded. The island is fringed by a narrow steep-to reef.

It has been reported the island is a good radar target up to 20 miles. A light is shown from the SE side of the island.

Vessels with local knowledge can take anchorage close to the edge of the fringing reef NE or SE of the NW point of the island, according to the monsoon season. The anchorages offer

little protection.

Caution.—The island should be given a berth of 1 mile on its N, W, and S sides.

4.28 Patriya Point (Patria Point) (11°44'N., 122°01'E.) lies 10.25 miles ESE of Pucio Point. The coast between the points is bordered with sandy beaches, with the 10m curve lying up to 0.5 mile offshore; there are no charted dangers outside this curve.

Two ranges of hills, which have several churches on their slopes, parallel the coast. San Roque, situated on the bank of the San Roque River, is located about 1.75 miles WNW of Patriya Point.

Patriya, a small town, stands close NE of Patriya Point, on the W shore of a small bight.

Dayong, a small town, and Tingib, another small town, is located 1.5 and 2.25 miles E, respectively, from Patriya.

The coastal bank, with a least depth of 3.7m, extends about 0.3 mile offshore from a position close SE of Tingib.

The Bugan River discharges into the N bight of Pandan Bay, 0.5 mile NE of Tingib.

A large net, with steel wires extending 2 miles seaward, was under construction, close SW of the entrance to the Bugan River.

Pandan (11°43'N., 122°06'E.), a small town, stands at the head of Pandan Bay in a position about 2.25 miles SE of the entrance to the Bugan River.

Pandan Bay is formed by a bend in the coast, has considerable depths, but is fully exposed to winds from W through S.

Vessels with local knowledge can take anchorage about 0.5 mile offshore abreast the town of Pandan, in depths of 13 to 18m.

4.29 Lipata Point (11°28'N., 122°03'E.), located 15 miles SSW of Pandan, is a low, wooded neck of land. The intervening coast is relatively free of dangers, with several small rivers discharging into the sea.

Lipata Point is fringed by a steep-to reef which extends about 0.5 mile NW from the point. Lipata, a small village, stands on this point.

Vessels can take anchorage off the N side of Lipata Point, in depths of 10 to 42m. This anchorage provides best protection during the Southwest Monsoon (May to September).

Sebaste Shoal (11°36'N., 122°01'E.), with a charted depth of 7.3m, lies about 4.5 miles offshore, midway between Patriya Point and Lipata Point. This shoal is the only charted danger seaward of the 10m curve on this part of the coast.

Batbatan Island (11°29'N., 121°55'E.) lies with its E extremity about 7.25 miles W of Lipata Point. A hill, 168m high and with sides sloping toward the coasts, stands about 1 mile E of the W extremity of the island.

The shores abreast this hill consist mostly of cliffs from 6 to 15m high, interspersed with sandy beaches, where landing may be effected in good weather.

The usual landing place is a small and shallow cove, protected by a sand spit, which extends about 0.1 mile S from the E extremity of the island. A reef extends about 0.25 mile from the S side of the island.

Shoal water extends a short distance from each end of the island and from a position on the N shore near the village of Batbatan about 0.75 mile W of the E extremity of the island.

A small islet, 3m high, lies less than 91m S of the SW end of the island.

Seco Islet (11°19'N., 121°40'E.), composed of low shifting sandhills on a steep-to coral reef, is located about 24.5 miles WSW of Lipata Point. A bank, with a depth of 3.7m, extends about 1 mile N from the islet.

A shoal, with a least depth of 5.8m, lies about 2 miles NE of Seco Islet.

Carmen Bank (11°22'N., 121°37'E.), located about 4.25 miles NW of Seco Islet, is a small sand and coral shoal, with a least reported depth of 4.6m. A shoal, with a depth of 15m, lies about 1.5 miles S of Carmen Bank.

Sultan Bank (11°23'N., 121°30'E.) consists of two separate shoals, lying about 3.25 miles apart.

The outer shoal has a least depth of 12.8m and lies about 13.75 miles WNW of Seco Islet.

The E shoal, which has a least depth of 6.7m, lies about 11.75 miles WNW of the same islet.

4.30 From Lipata Point the coast trends S about 16.75 miles. The 10m curve lies up to 0.6 mile offshore in places; the shore bank is steep-to.

The Bungol River flows out about 2 miles S of Lipata Point. Culasi, a village, stands on the coast close S of the river.

Maralison Island (11°25'N., 122°01'E.), 69m high in its W part, lies offshore 1.5 miles WSW of Culasi. The island consists mostly of a group of small, bare peaks rising steeply from the shores. The E end of the island is formed by a flat sandy point and landings usually made on the S side of a spit extending E from the point.

A small islet, 41m high, lies on the drying reef which extends about 0.2 mile W from the island. Maralison is surrounded by a reef.

A rock, awash, lies in mid-channel between Maralison Island and Culasi and another rock, awash, lies about 1 mile SSE of the island.

A shoal, with a least depth of 3.7m, extends about 0.5 mile W from a position about 0.5 mile W of the W side of the island. The narrow channel between the shoal and island has a least depth of 18.3m in the fairway.

Tibiao Point (11°18'N., 122°02'E.) lies about 7.5 miles S of Culasi; the coast between is steep and bordered by sand with an occasional narrow coral reef.

The Tibiao River flows out through the point; the town of Tibiao is located close S of the river's mouth.

A light is exhibited at Tibiao Point.

The Dalanas River flows into the sea about 2.5 miles SSE of Tibiao; its origin is the foothills of the heights NE and E of its mouth.

Ontgol Point (11°12'N., 122°02'E.) lies about 3.75 miles SSW of the mouth of the Dalanas River. Barbasa, a small town, is situated close N of the point. A reef, awash, lies in a position about 0.5 mile NW of the town, 0.3 mile offshore. Two shoals, with depths of 1.8m, lie 1.25 miles NNE and 0.25 mile W, respectively, of Ontgol Point.

4.31 From Ontgol Point, the W coast of Panay trends 10.5 miles S and then 17 miles SSW to Tubigan Point.

The coast is steep-to with the 10m curve lying up to 0.5 mile

offshore and the 100m curve from 0.1 mile to 1.5 miles off. Numerous small rivers flow into the sea along this part of the coast.

Tolan Point (11°01'N., 122°02'E.) lies 10.75 miles S of Ontgol Point; there are no charted dangers seaward of the 4.9m curve, along this part of the river. The Cangaranan River flows into the sea at this point.

Ipayoc Point (10°56'N., 121°59'E.), a low point, lies 6.25 miles SSW of Tolan Point. The Ipayoc River flows out through the point. Patnongon, a village, stands on the S bank of the Ipayoc River, 1 mile SE of the point.

The delta of the Sibalom River, which has a shallow bar, is located 6.5 miles S of Ipayoc Point. The coast between this delta and Dalipe Point, 4 miles SSW, is fronted by a shoal bank, as defined by the 20m curve, extending up to 1 mile offshore.

Dalipe Point (10°46'N., 121°55'E.) is low, wooded, and steep-to; the 20m curve lies about 0.35 mile offshore.

Tubigan Point (10°44'N., 121°56'E.), 1.75 miles SSE of Dalipe Point, is low and is fringed by a narrow ledge of rocks. A light is shown from the old fort situated on the point.

Sombrero Rocks (10°43'N., 121°34'E.) lie 21.25 miles WSW of Tubigan Point. See paragraph 12.11 for detailed description.

When approaching from N or S, it has been reported that it appears in two parts, of which the W, 6.7m high, is the higher. The rocks are reported to be radar conspicuous at 15 miles.

4.32 From Tubigan Point there is a slight indentation in the coast to a position 14 miles S; from this position the coastline extends in an arc in a SSE direction for 6 miles to Nogas Island.

San Jose de Buenavista (10°44'N., 121°56'E.) stands at the head of a small bay, close E of Tubigan Point; it is almost hidden by some large trees. This small port, which is of little commercial importance, is the capital of Antique Province. Storm signals are displayed in the town.

A stone jetty extends 137m SE from Tubigan Point. Its outer end is connected by a 9m wide extension which extends SSE, 0.1 mile E of the light at Tubigan Point. A causeway extends 235m SSE from a position 250m E of the jetty.

There were depths of 5.2m at the SW end of the extension and 3.7m at the NE end. Depths alongside the causeway are 4m. This berth is recommended for small vessels only, as the turning room is limited. A 3m patch lies 91m SSE of the head of the pier. Heavy seas run into the harbor during SW winds.

The 10m curve, which lies about 0.15 mile S of Tubigan Point, fronts the shore to a distance of a little over 0.5 mile E. The limit of this shoal is marked by a black buoy.

Shoals, with depths of less than 6m, fill the entire cove lying E of Tubigan Point.

A detached shoal, with a depth of 3m, lies about 0.15 mile ESE of the old fort on Tubigan Point. A shoal, on which there is a sunken rock and average depths of 2.7m, lies about 0.25 mile SE of Tubigan Point. A reef, with a depth of less than 2m, lies about 0.5 mile S of the head of the wharf.

Pilotage is required, contact Iloilo Pilots Association.

Vessels with local knowledge can take anchorage, protected from NE winds, with the old fort bearing about 354°, distant about 0.35 mile, in depths of 10.9 to 12.8m, rocky bottom.

Vessels are cautioned against approaching too close to the coast because of the numerous sunken rocks and foul bottom.

4.33 **Hamtic** (Antique) (10°42'N., 121°59'E.), a town, stands near the mouth of the Antique River, 3.5 miles SSE of Tubigan Point.

The Malandog River, with a depth of 1.8m over the bar and 5.5m inside, discharges midway between Tubigan Point and Hamtic.

Jaldan Point (10°30'N., 121°55'E.), a sharp bold, rocky point, 27m high, lies about 14 miles S of Tubigan Point.

Several villages and rivers with bars lie between these two points.

Dao, a small town located about 2 miles ENE of Jaldan Point, near the mouth of the Dao River, can be identified by a prominent church with a square tower.

Bayo Point (10°27'N., 121°55'E.), 3.5 miles SSW of Jaldan Point, is the W extremity of Naso Point, a large promontory which forms the SW part of Panay.

Anini-y, a town in which there is a large white stone church with a metal roof, is situated 1.25 miles SSE of Bayo Point.

Nogas Islet (10°25'N., 121°55'E.), about 0.5 mile SSW Anini-y, is small, low, flat, wooded, and fringed by a reef extending up to 0.5 mile offshore. A narrow channel separates the islet from the SW extremity of Panay.

A reef, with a depth of 4.5m, lies in the middle of the W entrance to the channel. A shoal, with a depth of 7.6m, lies in mid-channel between the islet and the coast.

Nogas Islet is reported to give a good radar return up to 18 miles and a light is shown near the center of the islet.

Caducdula Point (10°25'N., 121°58'E.), the S extremity of Panay, lies 2.5 miles SE of Anini-y.

The point is fringed by a reef, and foul ground extends S about 0.2 mile to Juraojurao Islet.

Juraojurao Island (10°25'N., 121°58'E.), small, low, and wooded, lies close S of the S point of Panay. The island is reef fringed and is connected to the coast northward by foul ground. Vessels are cautioned against anchoring within 2.25 miles W of the island, as the bottom is rocky.

The N shore of the W approach between Juraojurao Island and Talisayan Point, about 15 miles NE, is high, steep-to, and clear of dangers. A serrated ridge, 238m high, about 3.75 miles NE of Juraojurao Island, is a prominent mark.

Caution.—Anchorage is not recommended between Nogas Island and Juraojurao Island, as the bottom is rocky.

Negros—South Coast

4.34 Negros is the fourth largest island of the Philippine Archipelago. It is situated between Panay and Cebu and is divided into two provinces. The coast is little indented and contains no harbors suitable for large vessels. The rivers are small and can only be used by small craft.

Sojoton Point (9°59'N., 122°27'E.), previously described in paragraph 3.78, lies on Negros, about 40 miles SE of Caducdula Point, the S extremity of Panay.

Sojoton, a prominent headland, is fringed by a steep-to reef extending about 0.15 mile offshore.

The land rises steeply from the coast to a height of 158m less than 0.5 mile inland. The point is an excellent landmark when approaching from N or S, appearing as a step from the shore to

the higher plateau farther inland.

From Sojoton Point the SW coast of Negros trends SSE about 70 miles to Siaton Point. The island is steep-to.

Close inland is a series of peaks which rises to a height of 904m.

A light is exhibited at Sojoton Point.

Maquiliguian Point (9°58'N., 122°26'E.), located about 1.25 miles SSW of Sojoton Point, extends about 0.5 mile NW from the general trend of the coast.It is over 30m high near its extremity, and is fringed by a drying reef which extends about 0.25 mile N and SW. A reef, with a depth of 0.4m, lies 1 mile SSW of Maquiliguian Point.

Linaon, a small town, stands at the inshore end of Maquiliguian Point.

A precipitous bluff, 62m high, stands close to the shore about 1.5 miles SSE of the point. A deep valley lies SE of the village of Inayauan, about 2 miles S of the bluff.

Shoals, with depths of 6.4m and 8.7m lie about 1.25 and 0.75 miles SW, respectively, of the point. A reef lies awash about 2.25 miles SSW of the above point.

There are several detached reefs, with depths of 2 to 6m, lying between this reef and the shore.

4.35 Binigsian Point (9°50'N., 122°22'E.), located about 8.25 miles SSW of Maquiliguian Point, is fringed by a reef to a distance of 0.25 mile SW.

It is an excellent landmark and may be identified by a bare cliff on the 36m hill located on the point. The point extends about 0.5 mile W from the general trend of the coast.

Danjugan Island (9°52'N., 122°23'E.), 77m high and narrow, extends about 1 mile N from a position about 1.75 miles N of Binigsian Point. It is surrounded by a reef which bares at low water and is steep-to on all sides.

Two small islets or rocks, the outer of which is 8.2m high, lie close NW of the island on the edge of the fringing reef.

Agutayan Islet (9°52'N., 122°22'E.), 96m high and fringed by a wide reef, lies about 0.4 mile SE of Danjugan Island. The channel between the islet and the island has a depth of 12.8m and that between Agutayan and the shore reef, 11.9m. These channels are about 0.25 mile wide and suitable only for small craft.

Anajauan Island (9°50'N., 122°22'E.), 70m high, lies about 0.65 mile SW of Binigsian Point. It is surrounded by a reef that extends about 0.3 mile N. Several islets or rocks, the largest of which is 36m high, lies near the N end of the reef. A reef, with a least depth of 2.7m near the outer end, extends about 0.5 mile S of the island.

The channel between the reef fringing the island and the reef fringing Binigsian Point is very narrow, but deep and clear of dangers in the fairway.

Cartagena Bay (9°49'N., 122°23'E.), entered between an unnamed point located about 1 mile SSE of Binigsian Point, and Buluguisan Point, about 2 miles S, indents the coast to a distance of about 0.75 mile.

The N entrance point and the SE shore of the bay are fringed by reefs to a distance of about 0.25 mile. A reef, with a least depth of 3m, lies in the middle of the bay.

Cartagena, a small town fronted by a sandy beach, stands near the head of the bay.

Matatindoc Point (9°43'N., 122°23'E.) is located about 7.5 miles S of Binigsian Point. The coast in the vicinity of the point is high and rugged. A large rock, lying on the reef fringing the point, is a prominent landmark.

4.36 The coast from Matatindoc Point trends in a SSE direction for about 15.5 miles to Doog Point. The intervening coast is indented by a number of indentations which form bays of no particular importance.

Campomanes Bay (9°41'N., 122°24'E.), the only well protected anchorage on this coast, is entered between a point located about 1.5 miles SE of Matatindoc Point and a point about 0.75 mile S. A reef extends about 0.35 mile NW from the S entrance point.

Several rocks, the largest of which is about 27m high and wooded, lie on this reef.

There is a sandy beach at the head of the bay, but elsewhere the shores are fringed by a narrow reef.

A small river discharges into the head of the bay and the ruins of a small wooden pier exists on the N shore.

Vessels can take anchorage about 0.2 mile S of the mouth of the river, in depths of 22 to 27m, mud, or in greater depths in the middle of the bay.

Nabulao Bay (9°39'N., 122°26'E.), entered between Obon Point, located about 3.25 miles SSE of Matatindoc Point, and Catmon Point, about 3.25 miles SE, indents the coast about 2 miles. The navigable space in the bay is greatly reduced by numerous reefs and shoals.

A broad reef fringes the shore, and a coral ledge, having a width of 0.5 to 0.75 mile, extends 1.5 miles SW from the head of the bay, dividing it into two narrow coves. A narrow islet stands on the SE side of the ledge.

A shoal, with a least depth of 0.9m, extends about 0.75 mile NW from a position about 1.25 miles NW of Catmon Point. There are some rocks lying awash on the SE side of the shoal.

The NW cove is encumbered with shoals. Anchorage can be taken in the SE cove, in depths of 16.5 to 26m, mud, 0.5 mile offshore and about 0.15 mile outside the shore reef. This anchorage is fully exposed to the Southwest Monsoon.

Catmon Bay (9°37'N., 122°26'E.), entered between Catmon Point and an unnamed point about 1 mile SE, indents the coast about 1 mile. The N shore and the head of the bay are fringed by a wide reef. The bay is exposed to W winds and seas.

A reef, with a depth of 6.4m, lies 0.5 mile offshore and about 2.5 miles SSE of Catmon Point.

Bolila Point (9°34'N., 122°29'E.), located about 4 miles SSE of Catmon Point, is low and rounded. The point is fringed by a reef which extends about 0.25 mile S. Bolila Island lies on the coastal reef in a position about 1 mile SE of the point.

Drying reefs extend up to 0.15 mile S and 0.1 mile E from Bolila Island. Shoals extend 0.1 mile S and 0.1 mile E from the above reefs.

4.37 Asia Bay (9°33'N., 122°30'E.), entered between the S end of Bolila Island and an unnamed point about 1.5 miles SE, indents the coast about 0.5 mile. The town of Asia stands in the NE corner of the bay. The Asia River empties into the SE part of the bay in a position about 0.75 mile SE of the town. The bay offers protection from all but SW winds.

The N shore of the bay is fringed by shoals and reefs to a distance of about 0.15 mile. A shoal, with a least depth of 2.7m,

lies midway between Bolila Island and the coast of Negros to the E.

Reefs and shoals extend 0.15 mile SW from an unnamed point located about 0.5 mile E of the SE end of Bolila Island. A shoal, with depths of 9 to 17m, extends about 0.2 mile W from the W edge of the above reef.

A drying reef, lying in the center of a shoal area about 0.3 mile in extent, is located in the middle of the entrance to the bay in a position about 0.25 mile SE of the SE end of Bolila Island.

Vessels can take partially protected anchorage in mid-channel between the reef fringing the S end of Bolila Island and the drying reef lying in the middle of the entrance to the bay.

Small vessels with local knowledge can anchor in the NW or NE corner of the bay, being cautious to avoid the 2.7m shoal about 0.15 mile E of the E coast of Bolila Island.

4.38 Doog Point (9°30'N., 122°32'E.), located 5.5 miles SSE of Bolila Point, is prominent; the hills which back it are close to the coast in this vicinity.

From Doog Point the coast trends 40 miles SSE to Siaton Point. Tolong Bay is formed in an indentation in the coast about midway between these points.

Calipapa (Kulipapa) (9°28'N., 122°34'E.) and Basay, another small town, stand on a narrow strip of land, backed by hills, in positions about 2 and 8 miles SE, respectively, of Doog Point.

A school building, with a red roof, at Calipapa, serves as a good landmark.

Cansilan Point (9°23'N., 122°41'E.), backed by land rising to a height of 220m, 2 miles E, lies 10.75 miles SSE of Doog Point.

The coast is backed by hills with peaks of similar height to the above-described peak.

Tolong Bay (9°20'N., 122°50'E.) is entered between Cansilan Point and Cauitan Point, 14.5 miles SSE; it is exposed to the SW. The E part of the bay off the mouth of the Tolong River is deep.

4.39 Tolong Viejo (Bayawan) (9°22'N., 122°48'E.) is located on the E side of the Bayuan River, about 8 miles ESE of Cansilan Point.

Vessels can anchor off Tolong, about 0.5 to 1 mile offshore, in depths of 7 to 12.8m, mud. This is fair weather anchorage, and is fully exposed to W and SW winds.

Giligaon Point (9°05'N., 122°55'E.) lies 11.5 miles SSE of Cauitan Point. It is steep and the single coconut tree on its summit is a good landmark.

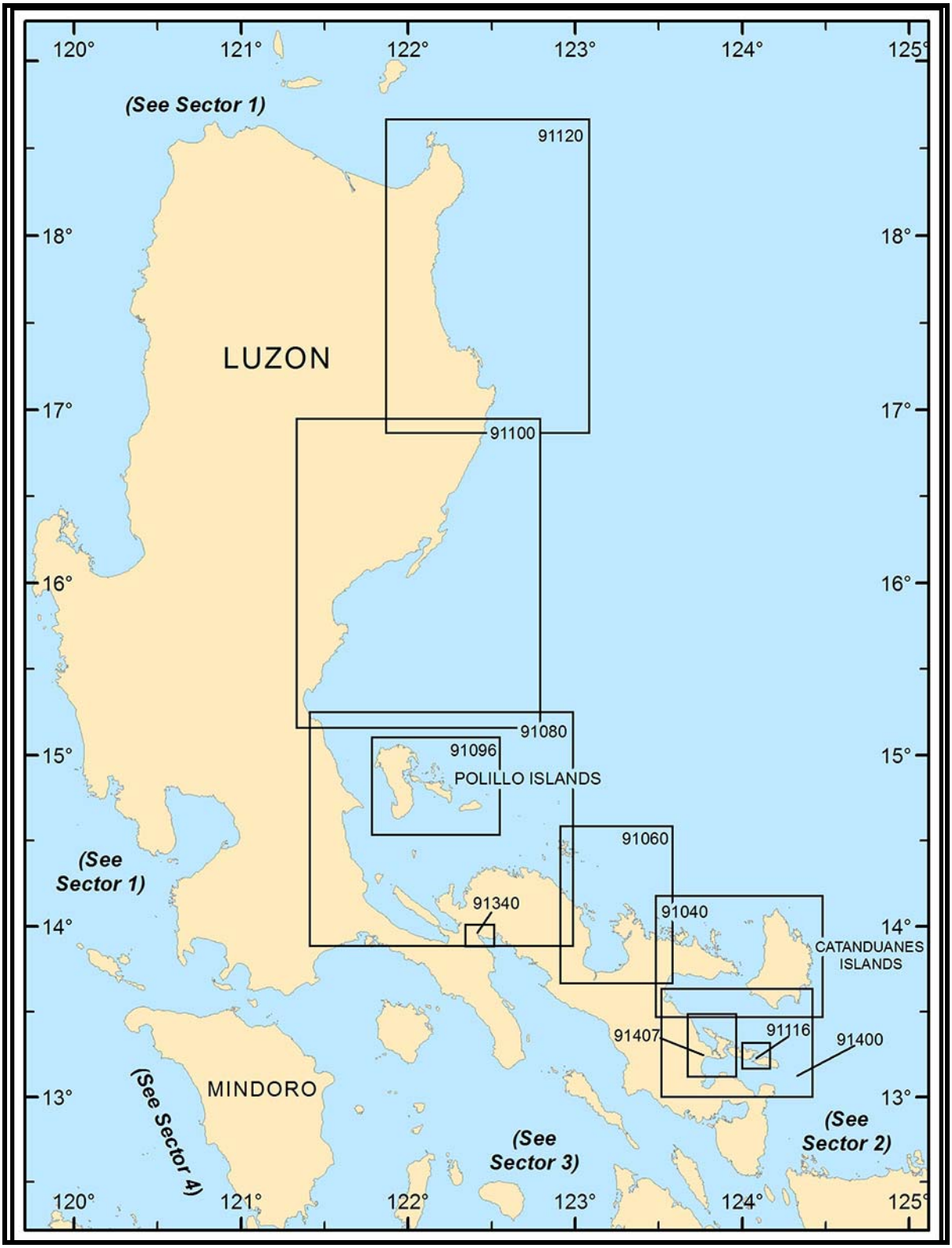
Siaton Point (9°02'N., 123°01'E.), the S extremity of Negros, is located 15.5 miles SSE of Cauitan Point; the coast between is steep-to.

Siaton is the termination of a long mountain ridge extending NW. Its coast is an abrupt cliff about 18.3m high, extending around the point.

A light is exhibited at Siaton Point.

Mount Malbug (9°07'N., 122°59'E.), 840m high, located about 5 miles NNW of Siaton Point, is prominent. Sharp Peak, 858m and Dome Peak, 846m high, are located about 5 miles N of Mount Malbug; they are also prominent landmarks.

Caution.—Strong tidal currents setting NW and SE may be expected between Giligaon Point and Siaton Point. Some heavy tide rips have been encountered off this coast.



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

SECTOR **5** — CHART INFORMATION

SECTOR 5

LUZON—EAST COAST

Plan.—This sector first describes the coast of Luzon between Escarpada Point to San Miguel Bay. The arrangement is from N to S.

The sector then continues to describe the SE coast of Luzon between Butauanan Bay and Bingay Point. The arrangement is from W to E and then S.

General Remarks

5.1 The E coast of Luzon is high, rugged, and densely wooded. The coast is indented in its S side. The coast is sparsely inhabited except in the Palanan River valley, about 85 miles S of Escarpada Point.

The rugged coastline is exposed to the full force of the Northeast Monsoon and the seas of the Pacific Ocean. There are no ports of any size along the coast, but there are several small bays where some shelter is afforded.

Typhoons which lash the coast cause heavy swells. Vessels transiting these waters are cautioned to pay strict attention to weather conditions and reports.

Winds—Weather.—The wet and dry seasons on the E coast of Luzon are the reverse in period to those on the W coast of that island. This is due primarily to the exposure to the Northeast Monsoon and to the high mountains of the Sierra Madre which block the winds. Northeast winds prevail from October to March, the monsoon beginning with the N winds, which are short duration and soon become NE.

In January and February the E winds begin, and terminate the monsoon. The heaviest rains occur from October to January.

The winds are variable in March and April, and sometimes in the early part of May, bringing in the Southwest Monsoon. April and May are the driest months of the dry season, but rain often occurs.

Thunderstorms, which occur from June to November, are most frequent in August. The sea is generally calm during the Southwest Monsoon, but it is especially heavy during the middle period of the Northeast Monsoon.

The typhoons which form E or SE of Samar and Leyte and cross the archipelago to the N of Manila are very dangerous to shipping. The N part of the E coast of Luzon is particularly dangerous during the period of the typhoons.

The typhoons that pass S of Manila are also dangerous as they bring strong NE to SE winds. The typhoons which recurve N and E before reaching the Philippine Islands bring strong winds and rain squalls from the SW. These sometimes continue for 5 or 6 days.

Typhoons may form at any time of the year, but they become more frequent in July and are most prevalent on the E coast of Luzon from September to December.

Tides—Currents.—The tidal currents are very irregular off the E coast of Luzon, but they generally set parallel with the coast at an estimated maximum rate of about 2 knots. They set N on the rising tide and S on the falling tide.

A fairly strong current sets parallel with the NE coast of Luzon. This current apparently does not follow the rise and fall of the tides, but is predominantly SW unless a prolong S wind is in evidence, at which time the direction of the current is reversed.

The tidal currents are very irregular in Lagonoy Gulf and Albay Gulf and appear to be greatly influenced by the force and direction of the wind. The tidal current attain a rate of 1.5 knots in Rapu Rapu Strait.

Escarpada Point to Palanan Point

5.2 The coast between Escarpada Point, the NE extremity of Luzon, and Iligan Point, 14 miles to the SSE, is indented by numerous small coves, suitable only for small craft. The tidal currents in this stretch of coast are irregular, but generally set parallel with the coast at a maximum rate of 2 knots. There are tide rips in the vicinity of Escarpada Point and Iligan Point.

Patunungan Bay (Pasmacanan) (18°24'N., 122°18'E.) lies 9 miles SSE of Escarpada Point, and is formed by a narrow opening in the coastal reef. The entrance, with a least depth of 11m, may be identified by Masak Rock on its NW side and Susak Rock on its SE side. The bay affords good shelter for small vessels. The anchorage can accommodate one small coastal vessel.

Iligan Point (18°18'N., 122°20'E.) lies about 5.5 miles SSE of Susak Rock. The point, which is 73m high and covered with grass, rises to an elevation of 160m about 0.5 mile inland. Russo Rock, 3m high and prominent, lies close off the point.

Mount Tinago, a serrated summit 251m high, stands close to the coast about 3.25 miles NNW of Iligan Point.

Mount Marotong, 366m high and densely wooded, stands about 0.5 mile SW of Iligan Point.

Mount Marotong appears as a sharp peak with steep slopes from the NE, but from the SE it has a beehive shape. It is one of the most prominent peaks nearby.

5.3 The coast between Iligan Point and Palanan Point, 71 miles S, consists of a succession of small bays open to the sea, with short stretches of sandy beach backed by steep mountains.

Maloncon Island (18°15'N., 122°20'E.) lies about 4 miles S of Iligan Point and 0.5 mile offshore. The island has a sharp summit, 108m high, and is the largest and most prominent island in this section of the coastline.

When seen from SW or NE, the island has steep sloping sides. Heavy tide rips are frequently seen in the areas E and N of the island. Landings can be made on a sheltered beach on the W side of the island.

Mount Nimamandum, 406m high, stands about 3.75 miles SW of Maloncon Island and about 0.5 mile NW of Nanisetan Point.

Mount Canapauan, 615m high, lies about 7 miles WSW of Maloncon Island. It is prominent when viewed from the SE because of its height and its flat appearance.

Naglocsaden Point (18°10'N., 122°16'E.) lies about 6 miles SW of Maloncon Island. A shoal, with rocks awash and a depth of 5.8m at its outer end, extends about 0.5 mile S from the point. Tide rips can be found in the area of the shoal.

J. B. Miller Bay (18°05'N., 122°11'E.) lies about 6 miles SSW of Naglocsaden Point. Bolos Point, the N entrance point of the bay is bold, rocky, and densely wooded. Cabutunan Point, the S entrance point of the bay, lies 3.5 miles S of Bolos Point and is low, covered with grass, and fringed by a coral reef.

Good anchorage can be taken almost anywhere in the bay, but it is fully exposed to E winds.

Capulutan Point (18°00'N., 122°11'E.) lies about 5 miles S of J. B. Miller Bay. The point is a bold, rocky headland whose seaward face is vertical and rises to a height of about 58m.

Mount Capulutan, 328m high, is a double-topped mountain with a small pass between the two highest peaks. It rises about 0.75 mile SW of Capulutan Point. The gray, vertical, rocky bluff on the S side of the mountain is prominent from the S.

A deep rocky gorge, which is a good landmark, lies midway between Capulutan Point and Cabutunan Point, 3.5 miles N.

Valley Head (17°55'N., 122°11'E.) lies about 5 miles S of Capulutan Point and consists of a triple-pointed, rocky headland rising abruptly from the shore. Valley Cove, the N arm of which provides good shelter to small craft, lies 5 miles S of Valley Head. Twin Peaks, high and sharp pointed, stand 3 miles W of Valley Cove.

Caution.—Tidal currents between Capulutan Point and Valley Head attain a rate of 2 to 2.5 knots.

5.4 **Baguio Point** (17°42'N., 122°10'E.), a sharp knoll 50m high, lies 13 miles S of Valley Head. A black detached rock lies close off the point. Flat Peak, with a sheer rocky E face, lies 3.5 miles WNW of Baguio Point.

Mount Cetaceo (17°42'N., 122°03'E.) lies 6.5 miles W of Baguio Point and consists of a dome-shaped summit which rises to an evaluation of 1,833m. It is the highest peak in the area and is prominent.

Divilacan Bay (17°23'N., 122°19'E.) lies about 20 miles SSE of Baguio Point and indents the coast about 3 miles SW. The bay is open to the N and is encumbered with shoals and reefs. The shores of the bay are low and densely wooded. Several large streams discharge into the bay.

Divilacan Peak stands about 10.5 miles SSW of the E entrance point of the bay and is prominent.

Vessels with local knowledge can take anchorage in the NW bight of Divilacan Bay, in a depth of about 9m, hard sand. The reefs at the entrance give some protection from E swell.

Vessels can find some protection from E winds by anchoring W of Gay Island (Dipado Island) and N of the reef fringing the S shore of the bay. Protection from SW winds can be obtained in a bight in the SE part of the bay, in depths of 13 to 16m.

Port Dimalansan (17°19'N., 122°23'E.), entered between Gay Island and Estagno Island, about 1.5 miles ESE, extends about 3 miles S between low and wooded hills to a rather large shoal basin. The channel has a least width of 230m and a least depth of 3.7m. Heavy tide rips and strong currents are often found at the entrance. Small vessels with local knowledge can find excellent shelter in Port Dimalansan.

Port Bicobian (17°15'N., 122°26'E.) lies about 7 miles SSE of Estagno Island. Aubarede Point, the SE entrance point to Port Bicobian, is fringed by drying reefs up to a distance of about 0.1 mile offshore.

Shoals extend about the same distance S from the fringing reef. A drying reef extends about 0.4 mile NE from the S entrance point. Shoals and foul ground extend about 0.15 mile offshore from the edge of the drying reef.

The E side of the inlet is fringed by drying reefs up to about 0.2 mile Drying reefs extend up to 0.5 mile E from the W side of the inlet.

A detached reef, which dries, extends about 0.4 mile N from a position 0.6 mile WSW of Aubarede Point. Shoals extend up to about 0.1 mile E from this reef.

A rock, which dries 1.5m, stands on the reef fringing the W shore of the inlet in a position 1 mile WNW of Aubarede Point.

Caution.—These reefs are not always marked by discoloration.

The unmarked channel to Port Bicobian has a width of about 0.25 mile between the detached reef and the reef fringing the W side of Aubarede Point. The channel gradually narrows to a width of about 91m near the head of Port Bicobian.

There is anchorage, in a depth of 18m, 0.2 mile from the E shore, 1.5 miles NNW of Aubarede Point. There is also anchorage 0.75 mile from the head of Port Bicobian, in a depth of 8m, mud.

Vessels approaching this anchorage should favor the E shore as the fringing reef does not extend as far as from the W shore.

5.5 **Palanan Bay** (17°10'N., 122°27'E.) is entered between Aubarede Point and Palanan Point, about 7 miles SSE. The bay indents the coast for about 3.75 miles in a SW direction. A reef extends from Palanan Point, which should not be approached within one mile. A river flows into the S part of the bay.

The bay is deep throughout, and with the exception of reefs and shoals which extend about one mile N from the mouth of the river, all dangers lie within 0.5 mile of its shores.

Ditolong Peak, wooded and conical, rises to a height of 321m, 2.5 miles SSW of Palanan Point; it helps to identify the point from the offing.

Palanan (17°04'N., 122°25'E.) is the only town on the E coast of Luzon N of Casiguran. It stands on the N bank of the river about 5 miles within the river's mouth; it is small and of little importance. There is a government radio station at Palanan and inter-island vessels make infrequent calls off the mouth of the river to load logs.

Strong tidal currents and heavy rips are found off the point. Vessels are advised to give the point a berth of at least 1 mile when entering the bay.

Vessels with local knowledge can take anchorage W of the reef and shoals fronting the mouth of the river, in depths of 13 to 44m.

Disumangit Point (17°03'N., 122°31'E.), a rocky headland, lies about 6 miles S of Palanan Point. Spires Islet, a prominent pinnacle rock, lies close NE off the point.

The Knobs, a conspicuous group of hills covered with trees, lies 1 mile inland, 5.5 miles SSW of Disumangit Point.

5.6 The coast between Palanan Point and Cape San Ildefonso, 75 miles SSW, is mostly steep, with wooded hills rising

sharply from bare hills backed by massive mountain ranges, and is indented by many shallow bays.

There are numerous coral heads within about the 20m curve, with little or no indication of their existence, so caution is necessary when approaching this coast.

A current, setting NNE at a rate of 2 knots, has been observed during the Southwest Monsoon (May to September) running parallel with the general trend of the coast.

Digollorin Point (16°53'N., 122°28'E.) is located 9.5 miles S of Disumangit Point. It can be identified by a rock, 22m high, about 91m off the point. A shoal, with a depth of 2.1m, lies about 0.75 mile N of Digollorin Point.

Digollorin Bay (16°50'N., 122°26'E.) lies about 3.75 mile SSW of Digollorin Point. A river discharges into the head of the bay. A rock, 3m high, lies 0.75 mile E of the N entrance point of the river.

Diviuisa Point (16°48'N., 122°26'E.) lies 5.75 miles SSW of Digollorin Point. A prominent pinnacle rock, 64m high, lies close off the point.

Dinatadmo Point (16°31'N., 122°17'E.) lies about 12.5 miles SSW of Digollorin Bay. The point is low and covered with bushes.

Dinapiqui Point (16°32'N., 122°17'E.), located 7 miles SSW of Dinatadmo Point, marks the S limit of the high, cliff-faced coastline. The shore S of the point is low, heavily wooded, and fringed by sandy beaches. A rock, 1.8m high, lies about 0.5 mile S of the point.

5.7 **Diapitan Bay** (16°26'N., 122°13'E.) lies about 14 miles SSW of Dinatadmo Point. The bay is about 1.75 miles wide at its entrance and indents the coast about 3 miles in a SSW direction.

Tarigtig Point, the S entrance point of the bay, has a bold rocky cliff on its seaward side. A small bare rocky islet lies close NE of the point. Foul ground extends about 0.3 mile NNE from the point. Foul ground, on which stand two detached rocks awash, extends about 0.5 mile W from a position about 0.9 mile SSW of Tarigtig Point.

A shoal, with a depth of 5m, lies in the middle of the outer part of the bay about 1 mile W of Tarigtig Point. A shoal, with a depth of 5.7m, lies about 0.6 mile WSW of the point.

There is a sandy beach at the head of the bay, which is backed by flat, wooded land. A reef, which bares at LW and which is connected to the shore by foul ground, lies near the SW corner of the bay in a position about 1.75 miles SW of Tarigtig Point.

Vessels can take anchorage in the middle of the bay about 0.5 mile SW of the 5m shoal, in a depth of 14.6m. Vessels proceeding to this anchorage should pass W of the shoal.

Protected anchorage can be found in the SE part of the bay S of the foul ground on which stand two detached rocks, in depths of 7 to 8m, mud, good holding ground. Vessels entering the bay should pass at least 0.75 mile N of Tarigtig Point.

Casapsapan Bay (16°19'N., 122°13'E.) lies about 6 miles S of Diapitan Bay and is entered N of Dijohan Point. The bay indents the coast 3 miles in a SW direction. The bay is fully exposed to Northeast Monsoons. A small islet lies close NE of Dijohan Point. The shores of Casapsapan Bay are densely wooded.

A shoal, with a depth of 6.4m, lies about 1 mile N of Dijohan Point. A narrow shoal, with depths of 6.9 to 8.7m, extends about 1.75 miles SW from a position about 0.75 mile WNW of Dijohan Point. This shoal lies parallel with and about 0.5 mile off the E shore of the bay. Several detached shoals lie within 0.5 mile of the W shore of the bay.

5.8 The **San Ildefonso Peninsula** (16°07'N., 122°04'E.), joined to the mainland by a strip of land about 3.5 miles wide, trends about 22.5 miles SW from Dijohan Point to Cape San Ildefonso. Its seaward face is wooded and rugged.

Baltimore Peak (16°05'N., 122°02'E.), about 4 miles from the S end of the peninsula, is 646m high and prominent. It appears double-topped from N or S, but from SE it shows as a sharp point. There is a large, triangular, grassy scar on the outer coast in a position about 2 miles NE of Baltimore Peak. This scar is an excellent landmark when approaching from the N or E.

A SW current sets along the E side of the San Ildefonso Peninsula at a rate of 1 knot, unless there is a strong S wind, when the direction is reversed.

Casiguran Sound (16°05'N., 121°58'E.) is entered W of Cape San Ildefonso. It extends 11 miles NE to the entrance to Casiguran Bay. The sound and the bay are deep and clear of dangers in the fairway and afford excellent shelter for all classes of vessels.

The SE shore of the sound is high, rugged, steep-to and clear of dangers, except for a detached shoal, with a least depth of 8.5m, lying about 0.75 mile N of Cape San Ildefonso. A reef, with a depth of 4.5m at its outer end, extends about 0.3 mile NW from a position about 1 mile NNE of the cape.

The NW shore of the sound is lower and backed by rolling hills and high mountains. It is fronted by shoal water to a distance of up to 0.6 mile.

Vessels navigating the sound or the S part of the bay, should keep in depths of 37m or more, as the depths decrease rapidly near the shore in many places.

The only outlying danger in Casiguran Sound is a shoal, with a depth of 6.4m, lying about 4.5 miles WSW of Motiong Point, the W entrance point to Casiguran Bay.

Casiguran Bay is entered between Motiong Point, located about 11 miles NNE of Cape San Ildefonso, and the shore about 0.5 mile E. A shoal spit, with a depth of 6.7m at its outer end, extends about 0.1 mile E from Motiong Point.

Shoal water extends about the same distance W from the E side of the channel, abreast the point. The head of the bay is low and densely wooded. Dipalali Point, which is located about 1.5 miles NE of Motiong Point, can be identified by an old fort, 3m high.

Wheeling Peak, 258m high and prominent, stands on the E side of the entrance to the bay in a position about 0.75 mile SSE of Dipalali Point. A detached shoal, with a least depth of 0.9m, lies about 1.25 miles SW of Wheeling Peak.

Casiguran Bay is deep with a soft clay or mud bottom. A detached shoal, with a least depth of 2.1m, lies about 0.4 mile off the W shore in a position about 2 miles N of Dipalali Point. The coastal bank, as defined by the 5.5m curve, extends up to 0.2 mile from the E shore, 0.3 mile from the W shore, and 0.6 mile from the head of the bay.

The tidal currents are fairly strong along the SE shore of Casiguran Sound. A rate of 1.25 knots has been observed about

1 mile N of Cape San Ildefonso. Currents on the NW shore are weak. Surface currents from the rivers are found in Casiguran Bay.

Vessels can take anchorage anywhere along the NW shore of Casiguran Sound, in depths of 37m and over. The best anchorage is located in the middle of Casiguran Bay, in depths of 28 to 48m, soft mud or clay.

Directions.—Vessels entering the sound should give the SE shore a berth of about 1.5 miles until abreast of Baltimore Peak. Then they should steer for Wheeling Peak on a course of 057° until Motiong Point bears 325°, distant 0.5 mile. Then a mid-channel course should be steered through the narrow channel leading into Casiguran Bay and anchorage taken, as convenient.

5.9 **Casiguran** (16°17'N., 122°07'E.), a small town not visible from the bay, is situated about 1 miles inland on the E bank of a river which empties into the NE corner of the bay. The river is navigable only by small craft.

Gumanining (16°15'N., 122°04'E.) lies at the head of a small cove on the W side of Casiguran Bay. A pier, 179m long, with a reported depth of 5.5m at its head, was reported to be in poor condition. Vessels lie off the end of the pier to discharge oil to a pipeline laid on the pier surface. Several oil tanks stand near the pier at Gumaining.

Debutunan Point (16°04'N., 121°47'E.) lies 12.5 miles W of Cape San Ildefonso. A rock, which dries, lies about 1.25 miles SSW of the point. A shoal, with a depth of 7.8m, lies close N of the rock. Strong tidal currents have been observed off the point.

Rinabasan Cove (15°58'N., 121°38'E.) lies about 10 miles SW of Debutunan Point. A detached shoal, with a depth of 8.5m, lies about 1.5 miles offshore, 4.5 miles NE of Delgada Point, the S entrance point of the cove. A rock, 4.9m high, lies about 0.5 mile E of a high knob, which is located 2.25 miles NE of Delgada Point.

Small vessels with local knowledge can take anchorage, in the S part of the cove, in a depth of 12.8m.

Baler Bay (15°50'N., 121°35'E.), entered between Delgada Point, and the NE extremity of Cape Encanto, about 13 miles S, indents the coast up to 5 miles.

Los Confites Reef, a group of rocks which break at LW, lies about 1 mile N of the N extremity of Cape Encanto. A shoal, with a depth of 6.7m, extends about 0.5 mile NE from this group of rocks.

The bay may be identified by the high land N and S of it, separated by the valley of the Baler River, which discharges into the S end of the bay.

Baler (15°46'N., 121°34'E.), a small town, stands about 1 mile W of the mouth of the Baler River and about 0.5 mile inland. The town is not visible from the anchorage. A light is shown from a concrete tower, 9m high, standing 137m from the beach.

Port Aurora, a small cove and landing place, lies about 0.5 mile E of the mouth of the river.

Baler Point, a small low projection, is located close W of Port Aurora; a reef extends about 0.2 mile N from the point.

Shoals extend 0.2 mile N from the mouth of the Baler River. A detached shoal, with a least depth of 0.9m, lies about 0.5 mile ENE of Baler Point. The entrance to Port Aurora lies between this shoal and the E side of the reef which fringes Baler Point.

Anchorage can be obtained, in depths of15 to 18m, sand and rock, with the entrance to the Baler River open, bearing 180°. The holding ground is poor.

Small vessels may anchor in Port Aurora in depths of 9m. All the anchorages are exposed to the Northeast Monsoon.

5.10 The coast between Cape Encanto and Agria Point, about 25 miles SSW, is rugged and very densely wooded. Numerous islets and large rocks, some up to 30m high, lie close offshore.

Dibut Bay (15°41'N., 121°37'E.) is entered between Disucsip Point, 1.75 miles S of Cape Encanto, and Salaysay Point, about 3 miles further SSW. The shores of the bay are high, rugged, and steep-to. All dangers in the bay lie within 0.25 mile of the shore.

There is anchorage, in depths of 22 to 26m off the W side of the bay. Anchorage can also be taken in the middle of the SW bight, about 0.65 mile from its head, in a depth of 14.6m.

The coast between Salaysay Point and Dicapanisan Point, about 8.5 miles SSW is high, rugged, and densely wooded. Dibayabay Bay, a small open bight, is located about 1.25 miles SW of Salaysay Point.

Two small islets, about 1.5m high, lie in the E approach to the bay about 0.75 mile offshore. A shoal, with a depth of 10.3m, lies in the SE approach to the bay in a position about 1.75 miles SSW of Salaysay Point.

Port at Dingalan Bay

The Egg Islets, a group of small islets, the highest of which is 30m high, lie about 0.75 mile offshore in a position about 4.5 miles SW of Salaysay Point.

Numerous islets lie within 0.4 mile of the coast, the highest of which, 39m, lies close offshore in a position about 1 mile N of Dicapanisan Point.

Dingalan Bay (15°18'N., 121°25'E.) lies about 18 miles SSW of Dibut Bay, and is entered between Agria Point and Deseada Point. The shores of the bay are high and rugged. A number of rivers empty into the bay.

Vessels with local knowledge can take anchorage in the N part of the bay, about 1.25 miles WNW of Agria Point, in depths of 5 to 16m.

Anchorage can be taken in the S part of the bay, in a position about 0.75 mile NE of the mouth of the Umiray River, in depths of 11 to 15m.

The Polillo Islands and Polillo Strait

5.11 Polillo Strait (14°50'N., 121°45'E.) lies between the E coast of Luzon and Polillo Island. The strait has a least navigable width of 7.5 miles and is deep in the fairway. Prueba Rock is a low rock rising from a steep-to coral reef lying 1.5 miles off the coast of Luzon, 15 miles SSE of Deseada Point.

The coast of Luzon between Deseada Point and Prueba Point, about 14 miles SSE, is backed by densely wooded ranges of mountains, lying parallel to the coast. Prueba Point is low and hard to identify. Marcelino Point, 7.5 miles SSE of Prueba Point, is high and prominent.

From Deseada Point to Dinahican Point, 33 miles SSE, the coast is steep-to. All dangers lie within 0.75 mile of the coast, between these two points, with the exception of Prueba Rock. A bank, with a depth of 48m, lies 4 miles NE of Prueba Rock.

The Agos River empties into Polillo Strait about 5.5 miles SSE of Marcelino Point. A concrete tower stands about 1.25 miles WNW of the mouth of the Agos River.

The town of Infanta stands about 2 miles SSW of the mouth of the above river.

Vessels can take anchorage during the Southwest Monsoon 1.25 miles SE of the mouth of the Agos River, and about 0.5 mile offshore, in depths of 11 to 15m. The anchorage is often obstructed by debris brought down the river by floods.

Dinahican Point (14°42'N., 121°44'E.), marked by a light, lies 6.5 miles SE of the mouth of the Agos River.

The point is low, densely wooded with trees, 15m high, and steep-to. The coast between the river and the point is sandy. There are tide rips and much discolored water off the point.

Polillo Island—West Coast

5.12 Polillo Island (14°50'N., 121°57'E.), separated from the E coast of Luzon by Polillo Strait, is hilly and heavily wooded.

Mount Malolo, the highest peak of the island is a good landmark and the first thing seen when approaching from the E or NE.

Panampalan Point (15°03'N., 121°50'E.), the NW extremity of Polillo Island, is the termination of a low mangrove area. The point is encumbered with shoals. The coast between this point and Panangatan Point, about 7.25 miles SSW, is fringed by reefs and backed by hills.

Hook Bay (14°56'N., 121°50'E.), a narrow inlet which affords excellent shelter for small craft, indents the coast about 1.5 miles in a N direction about 1 mile E of Panangatan Point. The inlet is about 0.2 mile wide at the entrance. Depths of 12.8m and over are found in its narrow fairway. The shoals and dangers fringing both sides of the entrance narrow the channel to a width of less than 91m. Inside the entrance the inlet widens to a greater width of about 0.2 mile.

Vessels can take anchorage in the middle of the widest part of the inlet, in depths of 18.3m, mud. Anchorage can be taken in the small cove W of the W entrance point to Hook Bay, in a depth of 27m, mud.

The coast between Hook Bay and Malagas Point, located about 11.5 miles S, is fringed by a narrow steep-to reef. A detached reef, with a depth of 1.8m, lies about 0.75 mile SW of Abuigoin Point, located about 2.5 miles SSE of the E entrance point of Hook Bay.

Salipsip Point and Anibong Point, two rounded projections, are located about 5.5 miles and 8 miles, respectively, SSE of Abuigoin Point. A shoal, with a depth of 2.7m, lies about 0.35 mile SW of Salipsip Point.

A reef, with a rock awash at its outer end, extends about 0.5 mile SW from Anibong Point.

Polillo Point (14°43'N., 121°55'E.), the W entrance point of Polillo Harbor, lies 13 miles SSE of the entrance to Hook Bay.

Yellow Rock, with a depth of 2.1m, and on which the sea breaks, lies on the NW edge of a bank, which extends 5.5 miles NW from Polillo Point. A buoy is moored close S of the rock.

Union Reef, with a depth of 2.1m, lies about 1.25 miles S of Yellow Rock. There are a number of shoals between Union Reef and Polillo Point.

Caution.—Due to strong currents, it is recommended that the reef to the NW of Polillo Point be given a wide berth.

5.13 Polillo Harbor (14°44'N., 121°56'E.) is formed between the N extremity of Polillo Reef, a drying reef extending about 2 miles N from Polillo Point and Malagas Point, about 1.5 miles E. Numerous fish traps line the edge of the drying reef. Range lights atop a white beacon and the Polillo Church tower, in line bearing 145°, stand at the head of the harbor.

Vessels can take anchorage about 0.3 mile W of the church at Polillo, in a depth of 16.5m. There is a small pier off the town at the head of the harbor, with a depth of 5m alongside its W face.

Directions.—Vessels approaching from the N can make a direct approach through Polillo Strait. Vessels approaching from the S should not bring Panangatan Point to bear W of 001° until Mount Malolo bears 097°, at which time the course should be altered to 097°.

When the church tower at Polillo bears 145° and the entrance beacons are in range, the course should be altered to 145°.

This course should be held until the W tangent of Polillo Point bears 210°, at which time the course should be altered to 152°. This course leads to the recommended anchorage located about 0.3 mile W of the church.

Vessels are cautioned to keep a good lookout in order to avoid the detached shoals in the harbor. The discolored water at the entrance to the harbor is the result of discharge from small streams.

Agta Point (14°38'N., 121°56'E.), the S extremity of Polillo Island, is low and densely wooded. A bank, with a depth of 3.7m, extends 0.5 mile offshore, 1 mile NW of the point. A detached 3m shoal lies off the SW extremity of this bank. Two 11.3m patches lies 2.75 miles S of Agta Point.

Polillo Island—North and East Coasts

5.14 The N coast of the island is fringed by a wide steep-to reef. There are several breaks in this reef, forming small bays which do not provide anchorage. Several hills stand 3 miles inland.

Pinavisagan Bay (15°01'N., 122°01'E.), entered about 11 miles E of Panampalan Point, lies on the NE part of the coast and provides some protection to vessels with local knowledge from W and S winds.

Minayit Point (Minayet Point) (15°00'N., 122°03'E.), the NE extremity of the island is a brown, rocky, prominent bluff, bare of trees, and 18m high. The coast between the point and Banla Point, 3 miles S, is fringed by a narrow reef.

Anibawan Bay (14°59'N., 122°01'E.), entered between Banla Point and an unnamed point about 3 miles SW, indents the coast about 3.5 miles. Banla Point may be identified by a 60m hill standing 0.75 mile N. A shoal spit extends about 1 mile SE from Banla Point.

Buguitay Islet, 23m high and fringed by a reef, stands on this spit about 0.4 mile SE of the point. A rock, with a depth of 0.9m, lies about 0.75 mile WSW of Banla Point.

A shoal, with a least depth of 4m, lies about 1 mile NW of the same point.

The Anibawan River, which is navigable by small craft, flows into the NW part of the bay. Three small islets and numerous shoals lie in the S entrance of the bay. Anawan Island, 35m high, lies about 1.25 miles S of Banla Point.

Anirong Island, 11.3m high, lies about 0.75 mile SW of Anawan Island. Reefs and foul ground extend about 0.5 mile S, 1 mile E, and 0.75 mile NE from Anirong Island.

A deep channel, about 91m wide, lies between Anirong and the S side of Anawan Island. Cabaloa Island, 55m high, lies about 1 mile SW of Anirong Island.

Vessels with local knowledge can take protected anchorage in Anibawan Bay, in depths of about 37m. Vessels wishing to anchor off the mouth of the Anibawan River are cautioned that mud flats extend 0.5 mile E from the river mouth.

Vessels approaching the anchorage from the N or E should use the narrow channel between Anawan Island and Buguitay Island. Vessels coming from Burdeos Bay should use the channel between Cabaloa Island and Anirong Island.

Strong tidal currents with a rate of 2.5 knots are found in the entrance to the bay.

The coast between the S entrance point of Anibawan Bay and Tataupin Point, about 12.5 miles S, is very irregular and fringed by a wide reef. The coast is low, backed by high hills, and somewhat indented in its N part.

Numerous islands, reefs, and shoals lie close off the coast.

The coast between Tataupin Point and Agta Point, about 8 miles SW, is in general, backed by high hills and is steep-to. A shoal, with a depth of 9.1m, lies about 1 mile offshore in a position about 4 miles ENE of Agta Point.

5.15 **Palasan Island** (14°52'N., 122°02'E.), 67m high, extends about 4.5 miles ESE from its NW extremity, located about 4.75 miles SSW of Banla Point; it is fringed by a wide reef, except on its W side.

Icol Island, narrow and low, extends about 1.25 mile W from its E extremity located about 0.5 mile W of the NW extremity of Palasan Island. The NE side of Icol Island is fringed by a wide reef.

Burdeos Bay (14°48'N., 122°05'E.) lies between the E coast of Polillo Island on the W side, Palasan Island on the N, and Patnanongan Island on the E. The bay offers a large area of anchorage ground well protected from all winds and sea.

The Burdeos River flows into the bay in a position about 4.75 miles SSW of the S entrance point of Anibawan Bay. The small town of Burdeos is located on the river about 0.5 mile from its mouth. The channel between Cabaloa Island and Icol Island is about 0.25 mile wide between the fringing reefs.

A reef, with a depth of 14.6m, lies in the channel about 0.2 mile S of Cabaloa Island. A reef, with a depth of 6.4m, lies in the E approach to this channel about 1 mile SE of the E extremity of Cabaloa Island.

Detached shoals, with depths of 6.4m and 2.3m, lie about 0.75 mile N and 0.5 mile W, respectively, of the W end of Icol Island.

The channel leading SSE between Icol Island and the coast of Polillo Island is deep and clear of dangers in the fairway.

The channel between Cabaloa Island and Polillo is intricate, its width being narrowed to about 0.1 mile by reefs on either side. The narrow channels between Icol Island and Palasan Island and the latter island and Patnanongan Island are deep and clear of dangers in the fairway. These rarely used channels are dangerous because of the very strong currents passing through them.

The S approach to Burdeos Bay is encumbered with numerous shoals and reefs. Narrow and tortuous channels lead through these dangers to the anchorage in the N part of the bay.

Burdeos Light(14°51.4'N., 121°58.6'E.) is reported to be shown from a concrete column, 10m high, on the SW side of the bay.

Minasawa Island, small and about 15.2m high, lies about 1.25 miles off the SW coast of Patnanongan Island. It can readily be identified because of its bright green color. Cataoyan Reef (14°44'N., 122°04'E.), which dries, lies parallel to and about 1.75 miles E of the SE coast of Polillo Island.

Coccoc Rocks, a group of above and below-water dangers, lie close N of Cataoyan Reef.

Pacabalo Reef lies in the middle of the bay in a position about 2.5 miles S of the SW extremity of Patnanongan Island.

The channel W of Cataoyan Reef is very narrow and should not be attempted. The channel E of Pacabalo Reef is apparently safe, but the channel between Cataoyan Reef and Pacabalo Reef is recommended and generally used.

Bini Island, which is small and low, lies in the middle of the channel between the SW extremity of Palasan Island and the coast of Polillo Island.

San Rafael Island lies about 1.25 miles WSW of the SW extremity of Palasan Island. Vessels can take anchorage about 0.75 mile W of the N extremity of San Rafael Island, in a depth of 14.6m, mud.

The tidal currents are strong and unpredictable between the reefs and between the islands. They attain a maximum rate of 4 knots at spring tides in the narrow channel between Palasan Is-

land and Patnanongan Island.

Caution.—The channels leading into Burdeos Bay are unmarked and dangerous due to the strong tidal currents and dangers in their vicinities. Vessels with local knowledge should use these channels only under the most favorable conditions.

The Polillo Islands—Off-lying Islands and Danger

5.16 **Patnanongan Island** (14°48'N., 122°11'E.), the largest island of the group, is 85m high and densely wooded. It extends about 12 miles SE from its NW extremity located about 0.5 mile E of the SE extremity of Palasan Island; the shores are fringed by reefs and bordered by mangroves.

The **Uala Islands** (14°55'N., 122°10'E.) lie on a large reef separated from the N side of Patnanongan Island by a narrow, shallow, and tortuous channel.

Kalongkooan Island, 24m high, lies on the N edge of this reef in a position about 5.75 miles NE of the NW extremity of Patnanongan Island. Malaguinoan Island, 45m high, lies on the W edge of this reef in a position about 3.75 miles NNE of the same extremity.

Ticlin Island, 11m high, and a small islet, 24m high, lie about 0.75 mile SW and 1.5 miles W, respectively, of Malaguinoan Island. Shoals, with depths of 7.8 and 2.3m lie about 0.5 mile and 1.25 miles SE, respectively, of the small islet.

Caution.—The waters between Palasan Island, Patnanongan Island, and the Uala Islands afford good protection, but the currents are very strong and the area is encumbered with shoals and dangers.

5.17 Ikikon Island, 28m high, and Minamata Island, 6.7m high, stand near the S edge of a large reef which extends about 7.75 miles NNW from a position close N of the NE extremity of Patnanongan Island.

Katakian Grande Island, 34m high, and Katakian Chica Islet, 29m high, lie on the W side of a reef lying close off the NE end of Patnanongan Island.

East Ikikon Island, small and 14.9m high, is located about 3 miles NE of a position close N of the NE extremity of Patnanongan Island. The island stands near the NW edge of a reef which extends 2.5 miles E and 1.75 miles SSE from it.

Several shoals, with a depth of 10.9m at the outer end, extend about 20 miles E from the island. Two patches, with depths of 1.5 and 4.6m, lie 2.5 and 5.5 miles E of the island.

Several shoals, with depths of 7 to 10m, lie within 6.5 miles ESE of East Ikikon Island.

5.18 **Jomalig Island** (14°42'N., 122°23'E.), low and heavily wooded, is separated from the SE end of Patnanongan Island by a channel, with a least depth of 9.1m in the fairway, and a navigable width of 2.75 miles.

The island is fringed by a drying reef which extends about 0.75 mile from its E shore. The W end of the island is moderately high, the tops of the trees being about 30m high. A light marks the NW extremity of Jomalig Island.

The Manlanat Islets, a group of three islets and a number of rocks, lie on the fringing reef in a position about 0.5 mile E of the E extremity of Jomalig Island. The islets are wooded and 10.6, 12.8, and 16.5m high, respectively.

Lantao Rock, 2.4m high and bare, lies on the E edge of a drying reef in a position about 1.5 miles ENE of the NE extremity of Jomalig Island.

The Lantao Islets are two small, bare, rocky islets about 45m high, of a whitish appearance, lying close together about 4.25 miles NE of the E end of Jomalig. Several rocks, awash, lie up to 3 miles W of Lantao Rock.

Dinahican Point to Jesus Point

5.19 Dinahican Point has been previously described in paragraph 5.11.

Lamon Bay (14°25'N., 122°00'E.) is entered between Dinahican Point and Jesus Point, about 51 miles ESE. The bay is partly protected from the Northeast Monsoon by Polillo Island and its off-lying islands. The tidal currents and the bay currents are mostly weak and variable.

Port Lampon (14°40'N., 121°37'E.) lies in the NW part of Lamon Bay and consists of a small sheltered inlet, except during SE and S winds. Depths of 20 to 24m, found on the E side of the entrance, decreasing sharply to 2.1m about 0.75 mile NNW of Tacligan Point. The Pulo River, which discharges into the head of the inlet, is navigable by small craft for a distance of 2.5 miles.

Puerto Real (14°40'N., 121°37'E.) stands on the W side of the mouth of the Pulo River, about 1 mile NW of Tacligan Point. The port can be identified by a tall concrete tower and a warehouse with a galvanized roof. Strong tidal currents, with an estimated rate of 3 to 4 knots, set S from the river on the falling tide.

The municipal pier has a berthing face, 42m long, with a controlling depth of 6m alongside. A conspicuous red and white tower is located close W of Puerto Real Light.

Vessels can take anchorage in the entrance to the port about 0.5 mile S of a training wall, with Tacligan Point bearing 100°, in depths of 9 to 18m. Vessels are cautioned against proceeding N of this anchorage because of the rapidly decreasing depths.

The coast S of Port Lampon is bold, densely wooded, and rather steep-to. Clipper Rock (Magasawang), 12m high, lies about 0.25 mile offshore in a position about 13 miles S of Tacligan Point. It is connected to the mainland by a drying reef. A reef extends about 0.1 mile E from the rock.

Two prominent waterfalls are located about 3.5 miles S of Magasawang Rock and another 5.5 miles farther SE.

Saley Point, located about 14 miles SE of Magasawang Rock, is high, well-wooded, and rather steep-to.

Malazor Point (14°12'N., 121°45'E.) lies about 31 miles S of Dinahican Point. The point is low and terminates in a wooded knoll higher than the rest of the point. A reef extends about 91m E and S from the point. A light is shown from the point.

5.20 **Mauban** (14°12'N., 121°44'E.) a loading port for copra, lies about 1.5 miles SW of Malazor Point. A large church, with a metal roof, stands in the SW part of the port. A monument stands on the top of a hill on the S side of the port. A stone breakwater extends 360m SE from a position close NE of the port. There is a depth of 3m alongside the outer end of the breakwater.

Vessels can take anchorage off the port, with the church bearing 288° and Malazor Point bearing 031°, in a depth of 7m.

Malazor Point

The coast between Mauban and **Atimonan** (14°00'N., 121°55'E.), 16 miles SE, is steep-to, and mostly bordered by sandy beaches and backed by wooded mountains. It is the principal town in the vicinity and lies on the S bank of the Atimonan River. The church spire, which resembles a lighthouse, can be seen for about 13 miles. A light is shown on the S side of the mouth of the river. A chemical factory stands about 1 mile NW of Atimonan. The storage tanks and buildings at the factory are conspicuous. There is a pier for ocean-going vessels at the site, at which berthing takes place about once a month. Cargo handled includes coconut oil and copra.

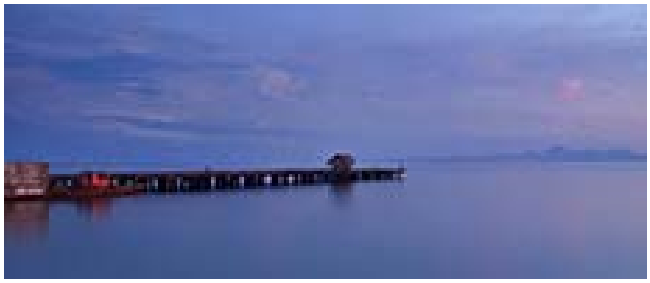
Pilotage.—Pilotage is compulsory; notice must be given 24 hours and 12 hours prior to arrival. Vessels do not enter the port during hours of darkness. It is not advisable to leave the port after darkness, as some of the piles on the sea bed near the jetty are broken. The pilot boards about 2 miles SW of the port.

Vessels with a maximum length of 198m, a beam of less than 30.4m, and a maximum draft of 13.4m can be accommodated.

Vessels can take anchorage off the river mouth, with the church spire bearing 180°, in a depth of 18m, mud. Small vessels can anchor closer in, but should not proceed within depths of 11m, as depths decrease rapidly, and the holding ground is poor.

During the Northeast Monsoon, this anchorage is at times untenable. Vessels should then seek refuge at Port Alabat or Sangirin Bay, on the SW side of Alabat Island.

5.21 Siain (Plaridel) (13°58'N., 122°01'E.) lies about 6 miles ESE of Atimonan. The port can be identified by a num-



Siain Pier

Vessels can take anchorage about 0.5 mile offshore, in a depth of 38m. During the Northeast Monsoon, the anchorage cannot be considered safe due to the deep water lying so close to the shore.

A light is shown from Gamau Point, close SE of Sliain.

Gumaca (13°55'N., 122°06'E.), a small town, lies 5.25 miles SE of Siain. Vessels can take anchorage about 1 mile offshore, in a depth of 31m. This anchorage is unsafe during the Northeast Monsoon. A drying reef lies about 0.3 mile NNE of Gumaca Church.

Lopez Bay (13°56'N., 122°12'E.) lies about 6 miles E of Gumaca and indents the coast for about 6 miles in a SE direction. A river discharges into the head of the bay.

Depths of over 18.3m are found throughout the greater part of the bay. A detached shoal, with a depth of 0.6m, lies about 1 mile SSE of Niogan Islet. A buoy is moored on the N side of

the shoal.

Vessels can take anchorage in the S part of the bay, about 1.25 miles NW of the mouth of the river, in a depth of 14.6m.

5.22 Hondagua (13°57'N., 122°14'E.) (World Port Index No. 58070) stands on the NE side of Lopez Bay. The town can be identified by the oil tanks to the S. There is a causeway and pier at the port area. This berth is for grain discharge and for coastal tankers supplying fuel. Arrival and departure from the berth is during daylight only. The pier can accommodate ocean-going vessels up to 152m long. The berthing area has a depth of 8.5m alongside the face and 11.9m at the W dolphin.

Hondagua

Tankers discharge by means of a flexible pipeline off the head of the pier. A light is shown about 0.25 mile ENE of the pier. A beacon stands on a hill 0.1 mile NE of the pier.

Depths of over 18.3m are found in the approach and in the outer part of the harbor. The inner part of the harbor, which has depths of 9 to 18m, is narrowed to a width of about 0.4 mile by the shore reefs on either side.

Pilotage is available, with a minimum of 12 hours notice required. Pilots board about 10 miles W of Hondagua on the N coast of the mainland. The pilot boat is a small dugout canoe fitted with outriggers and an outboard motor; by day it exhibits the pilot flag.

Vessels can take anchorage anywhere in the middle of the harbor, in depths of 9 to 18m. Tankers and vessels loading cargo generally anchor 137m off the head of the pier, in a depth of 13m.

Caution.—Less water than charted was reported (1984) in Hondagua Harbor.

Roma Point (14°00'N., 122°11'E.), marked by a light standing on the outer edge of a reef extending N from the point, lies about 5 miles NW of Hondagua. A reef, with a depth of 0.3m near its outer end, extends about 0.5 mile SW from a point about 0.75 mile S of Roma Point.

On the N side of the W approach there is a shoal, which partly dries, lying about 1 mile W of Roma Point and about 0.5 mile from the N shore. A reef, with a depth of 5.5m, lies in the middle of the pass in a position about 0.1 mile 342° from the light structure on Roma Point.

A reef, with a depth of 3.6m, lies on the N side of the pass in a position about 0.25 mile SE of Aguhuc Point, located about 0.5 mile N of Roma Point.

5.23 Silangan Pass (14°00'N., 122°11'E.) is entered between Roma Point and the SE extremity of Alabat Island. The pass is about 0.5 mile wide, but the navigable channel is reduced to about 0.3 mile between the reefs fringing the shore on either side. The depths in the pass are very irregular.

Navigators are cautioned that other isolated dangers may exist in the pass. Only vessels with local knowledge should use the pass, and then only under the most favorable conditions.

Quezon, a small town with a church, stands on the W side of the pass. The town is prominent from both entrances to the pass. There is a small stone mole landing for small craft on the SE side of the town.

Directions.—A vessel approaching Silangan Pass from the W should, when about 2 miles SW of the town of Quezon, steer for the SE tangent of Alabat Island, bearing 046°, until Roma Point light structure bears 088°, when she should steer 068°; this course leads close S of the rock, with a depth of 5.5m, lying in the middle of the pass.

A vessel approaching the pass from the E, should steer 248° for the middle of the pass until the light structure on Roma Point bears 088° and the SE point of Alabat Island bears 046°. Then alter course to 226° for 2 miles, at which time all dangers will have been passed.

5.24 Alabat Island (14°06'N., 122°03'E.) extends from Silangan Pass 20 miles NW to Sangirin Point, and then 3 miles NNE to Gerardo Point. The island is densely wooded and has a ridge running its entire length. There are five peaks on this ridge, the highest being Mount Camagong, 421m high. These peaks resemble islands from a distance.

The coast between Gerardo Point and Sangirin Point is fringed by a reef from 0.1 to 0.4 mile wide. This reef extends about 0.3 mile WSW from Sangirin Point.

The coast between Silangan Pass and Port Alabat, about 12 miles WNW, is fairly regular and densely wooded. Reefs and shoals front the coast to a distance of up to 1 mile.

Port Alabat (14°06'N., 122°00'E.) has accommodations for three or four small vessels. The shores of the harbor are low, with an extensive sandy beach.

Alabat

The town of Alabat stands on the E side of the port. It is the center of the copra industry on Alabat Island. There is a post office and radio station in the town. A rock causeway, 380m long, and a wooden pier, 21m long, afford berthing space for

small craft.

Foul ground, of rocks and sand, extends about 0.3 mile S from the NW entrance point and about 0.6 mile W from the SE entrance point.

The channel between these dangers, leading into the port, is about 0.3 mile wide with depths of 22 to 28m in the fairway.

Vessels can take anchorage with the light structure bearing 060°, distant 0.3 mile, in depths of 13 to 18m. The shoals on either side of the entrance are usually marked by fish traps.

The coast between Port Alabat and Sangirin Bay, about 6.75 miles NW, is densely wooded. Shoals extend up to 1 mile offshore.

The NE coast of Alabat Island, between Gerardo Point and Silangan Point, about 20.5 miles SE, is steep-to and clear of dangers. Pasig Rock, 35m high, lies close offshore in a position about midway between the above points.

Caution.—A rock, awash, lies close W of the shoal lying at the S entrance; this rock is marked by a light.

5.25 Sangirin Bay (14°12'N., 121°55'E.), entered between the E face of Sangirin Point and a position about 0.6 mile E, is small and mostly shoal. The land forming the point and that surrounding the bay is low. Reefs and drying shoals extend up to 0.5 mile W from the coast forming the E side of the S approach to the bay.

A large detached reef, which dries, extends about 0.5 mile S from a position about 0.5 mile SSE of Sangirin Point. These reefs protect the bay from S winds and seas.

The town of Perez is on the E shore of the bay. There is a post office and a radio station in the town.

A light is shown near the beach in the S part of Perez.

Vessels can take anchorage in the middle of the bay with the church bearing about 066°, distant about 0.3 mile, in depths of 13 to 15m. Small vessels with local knowledge can anchor about 0.1 mile from the head of the bay, in a depth of 10.9m.

Vessels approaching from a position about 1.5 miles W of Sangirin Point should alter course to the SE so as to pass about 1 mile SW of that point. Then a course of 046°, with the light ahead, leads to the recommended anchorage. Vessels should favor the SE side of Sangirin Point when entering the bay.

Baliscan Island (14°15'N., 121°54'E.), marked by a light, is a small, bare, and flat-topped rock, 6m high, that lies about 2 miles WNW of Gerardo Point. A reef, with a depth of 8.2m, extends 0.5 mile from its SW side.

5.26 Cabalete Island (14°17'N., 121°50'E.) lies about 6 miles WNW of Gerardo Point. The channel between the island and the coast of Luzon is 2.5 miles wide. When using this channel, the Luzon side should be favored.

A shoal extends 2.5 miles SE from the E side of Cabalete Island. A shoal, with a depth of 10m, lies 2.75 miles E of the S extremity of the island. Reefs and shoals fringe the remaining shores of the island to a distance of 1 mile.

Calauag Bay (14°00'N., 122°15'E.) is entered between the SE end of Alabat Island and the coast of Luzon. The bay is generally deep and clear of dangers. The head of the bay is encumbered with partly drying mud flats which extend 1 mile offshore.

Calauag, a small town, stands at the head of the bay. Calauag has several metal roofed buildings visible from seaward; the church is the most prominent of these buildings. A small boat channel leads to the town.

Vessels with local knowledge can take anchorage about 1.5 miles NNW of the church in Calauag, in a depth of 9.1m. This anchorage is sheltered from all but NW winds.

Cabalete Island

Apat Bay (14°01'N., 122°19'E.) lies in the NE corner of Calauag Bay. The entrance is nearly closed by a reef extending from Dayap Point, the N entrance point of the bay.

Vessels with local knowledge can take anchorage off the entrance to the bay, in a depth of 7.3m, mud. Partly-protected anchorage for small craft exists about 137m SSE of Apat Island, in a depth of 4m, mud.

The NE shore of Calauag Bay is bordered by mangroves and fronted by a reef which extends up to 0.75 mile offshore. A below-water rock lies 1 mile offshore, 4.25 miles NW of Dayap Point. A 1.8m patch lies 1 mile NW of this point.

Pangao Point (14°10'N., 122°10'E.) lies 9.5 miles N of Silangan Pass. The point is fringed by a reef which extends about 1.75 miles NW. Palupari Island lies near the outer edge of this reef and is fringed with mangroves.

Balesin Island (14°25'N., 122°02'E.) lies about 16 miles NW of Pangao Point. Its NW, N, and NE sides are fringed with drying reefs and shoals, with depths from 2 to 8m. The shoals extend about 2.25 miles W from the SW side of the island. Tarlac Reef, with a least depth of 7.6m, is located about 2 miles SSW of the S extremity of Balesin Island.

Balesin Island

5.27 Dapdap Point (14°13'N., 122°15'E.) lies about 8 miles NE of Pangao Point. The point is the N extremity of a long peninsula which forms the W side of Basiad Bay.

Basiad Bay (14°13'N., 122°18'E.) is entered between Dapdap Point and Mapingil Point, about 5 miles E. A prominent hill, 61m high stands on Mapingil Point. The shores of the bay are fringed with drying reefs extending up to 0.75 mile offshore. The Tabogon River, the largest in the area, discharges in-

to the head of the bay.

A shoal, with a depth of 9.1m, lies about 1.75 miles NW of Mapingil Point. Several shoals, with depths of 1 to 7m, lie within 1 mile W of the point. A rock, with a least depth of 0.3m, lies about 2 miles WSW of the point.

There are many detached shoals, with depths of 6 to 9m, between this shoal and the E face of Dapdap Point. The channel which lies between the above 0.3m shoal and the shoals fringing Mapingil Point is about 0.75 mile wide with depths of over 18.3m.

Vessels can take anchorage anywhere in the outer part of Basiad Bay, S of the numerous detached shoals that encumber the mouth of the bay, in depths of 11 to 18m.

Small vessels with local knowledge can anchor near the head of the bay in a position S of a drying reef, located about 1.25 miles N of Bagolayag Point, in a depth of 5.5m, mud.

This anchorage may be approached on either side of the drying reef, but should not be attempted unless the dangers are previously marked.

The coast between Mapingil Point and Jesus Point, about 11 miles ENE, is very irregular and backed by densely wooded hills. Numerous small and foul bays indent this coast.

Detached shoals, with depths of 11 to 13m, lie about 2.5 and 7 miles NNW, respectively, of Sagbungon Point. A shoal, with a depth of 14.6m, lies about 3.75 miles NNE of the same point. Vessels navigating this coast should keep at least 3 miles seaward of the projecting points.

Jaulo Island, fringed with mangroves and connected to the shore by a drying reef, lies about 1 mile offshore, about 4.5 miles NE of Sagbungon Point.

Capalonga Bay (14°20'N., 122°30'E.), entered about 0.75 mile W of Jesus Point, indents the coast about 2 miles in a SSE direction. A reef, with a depth of 5.8m at its outer edge, extends about 1.5 miles NW from the E entrance point of the bay. A river discharges into the head of the bay. A light is shown on the E side of the bay.

Access to Capalonga is blocked by reefs, and launches can approach only at HW.

Capalonga, a small town, stands on the W shore of the bay, near the entrance. The church steeple and some buildings in town are good landmarks.

Jesus Point to Rungus Point

5.28 Jesus Point (14°21'N., 122°31'E.) is formed by a round-topped hill, 30m high, connected to the mainland by a low neck of mangrove swamp. The point has the appearance of an island when first seen from E or W. It is fringed by a narrow reef, on which the sea breaks heavily at times.

A reef, with a depth of 9.6m, lies about 2.5 miles NNE of Jesus Point.

Calalauag Island (14°21'N., 122°36'E.), low, wooded, and fringed by a white sandy beach, except on the N end, which is composed of black rock, lies 1.5 miles offshore in a position 4.75 miles E of Jesus Point.

Shoals, with depths of 5 to 9m, lie up to 1 mile NNW of the island. A shoal, with a depth of 4.1m, lies 0.75 mile E of the island and a narrow shoal, with a least depth of 5.1m, extends 1.25 miles ESE from a position 1.25 miles NNE of the same island.

The **Tanao Islands** (14°25'N., 122°40'E.) are a group of three islands and several large rocks lying about 8.5 miles ENE of Jesus Point. Tailon Island, the largest and middle island of the group, is covered with bushes and bordered by a sandy beach. A light marks the S extremity of the island. Palumbato Island, the W island, is small, bare, and flat topped. Tanao Island, the E island, is small and wooded.

A ridge, with a depth of 3.6m in the middle over which the sea breaks in a N swell, extends between Palumbato Island and Tailon Island. A 0.6m shoal lies 1.25 miles SE of Tanao Island.

Tanao Pass (14°22'N., 122°40'E.), located between the coast of Luzon on the S and the Tanao Islands and Maculabo Island on the N, has a least width of 3.75 miles between Mangrove Point and Tanao Island, and 2.75 miles between the shoals on either side. Depths of over 28m are found in the fairway of the pass.

Directions.—Passing 3 miles N of Jesus Point, steer 093° for 6.8 miles, heading for the S end of Maculabo Island. When 1.75 miles S of Palumbato Island, the W Tanao Islet, steer 111° for 8.3 miles, when the W ends of Maculabo Island and Samur Island should be in range, bearing 021°.

Then steer 094° with Mangrove Point astern for 4 or 5 miles then shape the course as desired. The latter course passes 1.25 miles S of Medio Reef and about the same distance N of Paracale Reef.

Care must be taken to avoid the 6m shoal located about 1.3 miles SSE of Medio Reef.

Caution.—A strong SSW set has been reported in the area between Maculabo Island and Medio Reef.

5.29 Dahikan Bay (14°19'N., 122°37'E.) lies about 6 miles ESE of Jesus Point, and is entered between High Point and a low point about 1.25 miles ENE.

The bay has good shelter for small vessels with local knowledge, in a pocket in the reef S of High Point. The head of the bay is shallow and fringed by a reef which dries. Facilities in the bay were reported destroyed and abandoned. A ruined pier stands close S of High Point.

Pilotage for Dahikan Bay is compulsory. Pilots are obtained at Port Jose Panganiban, which is the port of entry for this area. The bay is only entered during daylight hours.

There is anchorage, in a depth of 10m, 0.3 mile ESE of High Point. Small vessels anchor 0.25 mile SE of High Point, in a depth of 6.4m.

Directions.—Vessels entering the bay should steer 153° for the extremity of High Point. When the N tangent of Calanag Island bears 077°, distant 0.7 mile, change course to 145°; this course leads about midway between Calalanag Island and Entrance Island. When High Point bears 255°, the course can be altered to the S.

5.30 Entrance Island (14°20'N., 122°35'E.), 45m high and well wooded, lies close offshore in a position about 1.5 miles WNW of High Point. It is surrounded by reefs which fill the passage between it and the mainland. Reefs and dangers extend a little over 1 mile NNW from its N side.

Tabusao Island (14°21'N., 122°38'E.), the farthest NE of the four Dahikan Islands, lies about 2 miles E of Calalanag Island. It is low and wooded, and surrounded by a white sandy beach. Shoals, with depths of 1 to 8m, extend about 1 mile NW and 1

Dahikan Bay—Jose Panganiban Approach

miles N, respectively, from this reef-fringed islet. A 5.1m shoal lies about 2 miles NW of the islet.

Palita Island (14°20'N., 122°38'E.), low, wooded, and fringed by a white sandy beach, lies on a drying reef in a position about 1.5 miles NE of High Point. Drying reefs and shoals, with depths of less than 5.5m, extend up to 1 mile N from the island. A shoal, with a least depth of 1.8m, lies about 0.75 mile WNW of the N end of Palita Island.

There are several shoals between Calalanag Island and Palita Island and also between Palita Island and Tabusao Island.

5.31 Larap Bay (14°19'N., 122°39'E.) lies about 1.5 miles SE of Dahikan Bay. The bay is entered W of Calambayanga Island. An ore pier stands on the NE extremity of the island. A large building stands E of the pier. It was reported that a conspicuous brick chimney stands 0.15 mile SW of the root of the pier.

The ore pier consists of a T-head lying in a 016°-196° direction. A line of fender mooring piles stand close off the pier face, with a depth of 10.7m alongside. A maximum draft of 8.2m has been reported.

The pier is normally sheltered, but during the Northeast Monsoon (October through March), a heavy swell rounding Pinandungan Point is sometimes felt alongside and during this period, vessels usually berth starboard side-to.

Pilotage is compulsory. Pilots are embarked W of Pinandungan Point.

The 10m curve lies close within the entrance points. Inside this line the bay is shoal and its head is filled with mud flats and rocks.

A shoal, with a depth of 1.8m, lies about 0.3 mile NNW of Calambayanga Island. A narrow spit, with depths of 2.3 to 6m, connects the shoal with the reef that extends about 0.1 mile N from the island.

Vessels can take anchorage anywhere in the outer part of Larap Bay, in depths of 9 to 15m.

5.32 Port Jose Panganiban (Port Mambulao) (14°18'N., 122°41'E.) (World Port Index No. 58100) is entered between Calambayanga Island and Pinandungan Point, two miles NE. Jose Panganiban, the town, stands on the SE side of the port.

An L-shaped pier and causeway stand 1.75 miles NNW of Jose Panganiban. The berthing face of the pier is 142m long while the depth alongside is 6.1m.

It is reported that, due to typhoon damage, the length of berth available is limited to 75m, and that vessels are restricted to anchorage berths only, with a maximum length of 230 and a maximum draft of 9.1m.

The galvanized buildings of a coconut processing plant inshore of the pier make a good landmark. There is a pipeline connection for diesel oil on the pier.

Pilotage for the port is compulsory. Pilots will board vessels between Pinandungan Point and Tabusao Island. Requests for pilots must be sent to the Harbor Pilots Association, Lagazpi City, at least 36 hours before arrival.

Vessels can take anchorage anywhere in the outer part of the port N of a line joining the S extremity of Calambayanga Island with the head of the above pier, in depths of 9 to 18m. Care must be taken to avoid submerged wrecks. Anchorage elsewhere is poor, owing to the greater depths.

Depths decrease gradually from 18.3m in the entrance to less than 1.8m off the town.

A church, with a pyramidal spire, is located in the town and serves as a good landmark. A mine tower is located about 0.4 mile N of the town. It was reported that two conspicuous white radar domes stand on the summit of a hill, about 2.5 miles S of Pinandungan Point.

Jose Panganiban—Berthing Information

Name	Length	Depth	Remarks
Pan Century Surfactants			
RC Pier	95m	6.0m	—

Jose Panganiban—Berthing Information			
Name	Length	Depth	Remarks
RC Wharf	39m	6.0m	—

The port is sheltered during the Southwest Monsoon. During the Northeast Monsoon, especially after typhoons, a heavy swell rolls in and the sea is apt to be choppy. It is not recommended as a typhoon anchorage.

Jose Panganiban

Storm signals are displayed from a mast near the municipal building at Jose Panganiban. This mast is not visible from the anchorage.

The port is somewhat restricted because of wrecks, fishing stakes, and the necessity of anchoring near the copra wharf.

Directions.—Vessels should enter the port with the front range beacon bearing 146°, until the beacon on the SE shore of Calambayanga Island bears 248°.

Then haul sharply to the E and steer 068°, heading for the pier or anchor as desired.

5.33 Mangrove Point (14°21'N., 122°41'E.) lies 1.25 miles E of Pinandungan Point. The point is low, covered with mangroves, and fringed by a reef which extends 0.25 miles offshore.

Gumaus Bay lies 2.5 miles E of Mangrove Point. The bay is clear of dangers except for a narrow reef which fringes the shore of the bay, and extends about 0.2 mile NW from Gumaus Point. Depths of 9 to 18m are found in the middle of the bay. A shoal, with a depth of 3.6m, lies 0.6 mile WNW of Gumaus Point.

Pulandaga Bay (14°19'N., 122°47'E.) lies about 2.5 miles SE of the E entrance point of Gumaus Bay. A ruined pier stands in the E part of the bay.

Small vessels can take anchorage in the middle of the bay, in a depth of 9m. Pulandaga Bay and Gumaus Bay are frequently unusable during the Northeast Monsoon.

The coast between Pulandaga Point and Tanoban Point, 3.5 miles SE, is indented by a bay which is divided into two smaller bays. The bays are separated by Longos Point, a wooded promontory, 61m high. Paracale Light is situated at Longos Point.

Paracale Bay (14°18'N., 122°48'E.) lies about 1 mile SE of Pulandaga Bay. A river flows into the head of the bay. A town stands on the W side of the mouth of the river.

Small vessels can take anchorage in the outer part of the bay, in depths of 7 to 9m.

Malaguit Bay (14°17'N., 122°49'E.) is mostly shoal and lies close SE of Paracale Bay. A river flows into the SW part of the bay. A town stands on the W bank of the river, near its mouth.

Vessels can take anchorage in the middle of the outer part of the bay, in depths of 6 to 9m. Ore is shipped in barges from the river to the anchorage.

Tanoban Point (14°17'N., 122°51'E.), located about 3.75 miles ESE of Pulandaga Point, is rounded, wooded, and about 85m high. A shoal, with a depth of 2.7m at its outer end, extends 0.5 mile E from the drying reef fringing the point.

Caution.—Both anchorages at Malaguit Bay are usually unusable during the Northeast Monsoon.

Luzon—Off-lying Islands and Dangers

5.34 Maculabo Island (14°24'N., 122°49'E.) lies about 7.5 miles E of Tanao Island and 6.5 miles N of Malaguit Bay. The island is steep-to, except for a narrow, drying reef on its W side.

Several shoals, with depths from 7 to 11m, lie between Tanao and Maculabo Island, with deep channels between them.

A shoal, with a least depth of 10.9m, lies 2.5 miles NW of Maculabo. A shoal, with a depth of 11.9m, lies 1.5 miles S of Maculabo, and a shoal patch, with a depth of 9m, lies 1.75 miles SE of the island.

Paracale Reef (14°19'N., 122°49'E.), with a depth of 7.3m, lies about 4 miles SSE of Maculabo Island. A reef, with a depth of 8.2m, lies about 1.5 miles offshore in a position about 3.75 miles E of the same point.

Medio Reef (14°22'N., 122°46'E.), with a least depth of 5.5m, lies about 3 miles WSW of the S extremity of Maculabo Island. A strong SSW set has been reported in the area between Maculabo Island and Medio Reef.

The **Calagua Islands** (14°27'N., 122°56'E.) are a group of six islands and a number of islets, rocks, and dangers lying on the N side of the E approach to Tanao Pass. Most of the islands of the group are bold and rugged. Guintinua Island and Tinaga Island are the largest of the group. They are joined to each other and to the Huag Islands by drying reefs. Several smaller islands lie in this area.

Vessels with local knowledge can take anchorage SSW of a village located about 1.5 miles W of the SE extremity of Guintinua Island. Small vessels can anchor closer to shore but must exercise caution as the coastal reef is steep-to.

Ingalan Island (14°22'N., 122°57'E.), the farthest S of the Calagua group, lies 2 miles S of Guintinua Island. The island is small and grass covered. Amalia Islet and Paquita Islet lie about 4.5 miles and 5.25 miles E, respectively, of Ingalan Island. Both islets are steep-to and clear of dangers.

Roses Reef, two rocks with depths of 0.3m and 1.2m, lies

about 1 mile W of Amalia Islet. Matandumaten Rock, a 44m high bare, perpendicular rock, lies about 5 miles ESE of Paquita Rock.

5.35 The **Pinacuapan Islands** (14°30'N., 122°54'E.), a group of small islands and islets, lie about 2.5 miles N of the W extremity of Tinaga Island. Samur Island, round topped and prominent, lies about 3.5 miles NNE of Maculabo Island. Twin Rocks lie about 1 mile SE of Samur Island.

Thurston Rock lies about 4.5 miles NNW of Samur Island. A reef of rocks, some of which are awash, lies within 1.5 miles E of Thurston Rock.

Depths are very irregular E of these rocks and N of Samur Island.

Lima Rock (14°36'N., 122°46'E.), with a depth of 1.2m, lies 4 miles N of Thurston Rock. A 5m shoal is reported to lie 2.5 miles NW of Lima Rock.

Bacacay Point to San Miguel Bay

5.36 **Bacacay Point** (14°16'N., 122°52'E.) lies about 3 miles ESE of Malaguit Bay. The point rises to a wooded hill with a prominent bare patch. A 4.6m shoal lies 1 mile E of the point.

Indan Point (14°13'N., 122°55'E.) lies about 4.75 miles SE of Bacacay Point. A shallow river flows out on the W side of the point. Indan Point should be given a wide berth as foul and shoal ground extends about 2 miles NNW from it.

Quinamanuca Island (14°12'N., 122°57'E.) is located about 1.75 miles SE of Indan Point. The island is densely wooded and shows up well against the low land between the coast and Mount Bacacay, about 5.75 miles W of Indan Point.

A shoal, with a depth of 5.5m, lies about 2 miles SSE of the island. Navigators are advised to pass at least 1 mile NE of the island.

Mercedes (14°07'N., 123°01'E.) is the port for the town of Daet, which stands about 3.5 miles to the W. The port lies on the W side of the mouth of the Daet River. The port can be identified by several iron-roofed buildings and a church. The harbor is not safe for vessels with drafts of more than 3.6m, or more than 55m in length. Pilotage is compulsory.

Vessels can take anchorage about 0.75 mile N of Mercedes with Canimo Island Light bearing 082°, in a depth of 14.6m, sand. This anchorage is open to N and E winds.

The anchorage should be approached with Cone Mountain, a prominent 421m peak about 8.5 miles S of Daet Point, on a bearing of 200°.

5.37 **Canimo Island** (14°07'N., 123°04'E.) lies about 2.5 miles E of Mercedes. The N and E slopes of the island are grass covered to its summit. The remainder of the island is heavily wooded. A light is shown on the NW extremity of the island.

Vessels can take anchorage, protected from all winds except from the N, in a position W of the island.

Canton Island (14°05'N., 123°06'E.) lies 2.5 miles SE of Canimo Island. The island is grassy, but has several scattered trees near its summit. The SE extremity of the island is a well defined thinly-wooded bluff which is a good landmark when approaching San Miguel Bay.

Apuao Grande Island (14°05'N., 123°05'E.) and Apuao Island lie between Canimo Island and Canton Island. Canton Island and a number of islets and rocks are connected and surrounded by reefs, partly bare at LW.

Quinapagyan Island (14°04'N., 123°04'E.) lies about 1.5 miles S of Canimo Island. The island is densely wooded. The W extremity of the island is a steep-to, prominent sandy point.

Caringo Island (14°02'N., 123°06'E.), located 1.75 miles SE of Quinapagyan Island, is low and densely wooded. Drying reefs extend up to 0.75 mile from its NE and E sides. Malasugue Island, small and low, lies midway between Quinapagyan Island and Caringo Island. A shoal with a depth 10m, lies about 0.8 mile SE of the SE extremity of the island.

5.38 **Canimo Pass** (14°06'N., 123°03'E.), the W channel into San Miguel Bay, lies between Luzon on the W and Canimo Island and Quinapagyan Island on the E. It is used mostly by small coastal vessels proceeding between Mercedes and the head of San Miguel Bay.

Vessels without local knowledge are advised to take a pilot, who may be obtained at Mercedes or Cabusao.

The coast between Daet Point and Pambuan Point, 3.75 miles SSE, is fringed by a wide drying reef extending up to 0.5 mile offshore. Depths of 7 to 15m are found in the fairway of Canimo Pass.

The channel is narrow and intricate in the vicinity of Quinapagyan Island because of the reefs extending from the mainland and the reef extending N from the island. A reef, with a depth of 1.8m, lies 0.75 mile N of Sand Point.

The greatest danger in the pass is a large, rocky reef, awash at extreme LW, lying in mid-channel about 0.35 mile WNW of Sand Point. Except at LW, there is no indication of its presence.

Vessels from N bound through the pass should, from a position 0.6 mile W of Canimo Island Light, steer for Sand Point, bearing 159°. When about 0.25 mile distant from the point, course should be altered S so as to pass about 0.1 mile W of the point.

Culasi Point, bearing about 167° and open W of Sand Point, leads W of 2.3m shoals on the E side of the pass.

San Miguel Bay

5.39 **San Miguel Bay** (13°50'N., 123°10'E.), entered between Caringo Island and Siruma Island, indents the coast for about 18 miles.

The navigable width of the entrance is about 4 miles between Bicol Rock and the reef extending from the E side of Caringo Island. Depths of 12 to 20m will be found in the middle of the bay. The S part of the bay is very shoal.

San Miguel Bay—West Side

5.40 **Angas** (14°03'N., 123°02'E.), a small port on the NW side of the bay, lies about 2 miles WSW of Quinapagyan Island. The port can be identified by a group of houses with galvanized iron roofs. A pier in ruins lies close S of the port.

Vessels can take anchorage about 1.25 miles S of the W end of Caringo Island, in depths of 11 to 13m.

Magsatangi Point (13°53'N., 123°06'E.), lies about 11 miles SSE of Angas. Culasi Peak (Colasi Peak), sharp, conical, and

Tanglar Island—Mount Isarog

389m high, is located close to the shoreline, about 0.5 mile NW of Magsatangi Point. The peak is conspicuously isolated from the rest of the high land and is identified from all directions except SE. A small peninsula, nearly 1 mile long, extends SSW from the S side of the point.

A small bight that dries at extreme LW indents the W side of this peninsula.

Tacubtacuban Hill, round-topped and 104m high, forms the extremity of this peninsula. The isthmus connecting this hill with the mainland to the N is low and covered with mangroves. A low hook of land extends SW and W from the SW slope of the hill, almost enclosing the small bight.

Vessels can take anchorage, protected from NW winds, about 0.5 mile S of the W extremity of the above-mentioned small peninsula, in a depth of 5.5m, mud.

Large vessels can anchor a little farther out, with Tacubtacuban Hill in range with Culasi Peak, in a depth of 7.3m. The beach along this coast is mostly rocky and wooded to the water's edge.

5.41 The **Bicol River** (13°44'N., 123°07'E.) empties into the head of the bay on its W side. The river is navigable for small craft as far as Naga, about 20 miles from the mouth.

Pilotage is compulsory and pilots are available at Cabusao. A light is shown on the W entrance point of the river.

The coast between the mouth of the Bicol River and Tanglar Point, 7 miles E, and then to the mouth of the Caaluhan River, 6 miles farther NE, is low, flat, and muddy.

Tanglar Island (13°45'N., 123°15'E.), located close N of Tanglar Point, is bold and wooded. There are rocks along the N coast of the island.

A small round islet lies 0.15 mile offshore, 0.6 mile E of Tanglar Island.

Mount Isarog, an extinct volcano, is located 11 miles SE of Tanglar Point; it is prominent and rises to two peaks, 1,906 and 1,976m high, respectively.

San Miguel Bay—East Side

5.42 **Cagsao Point** (13°46'N., 123°17'E.), about 3.5 miles NE of Tanglar Point, and Bogui Point, 0.5 mile further NE, are the principal breaks in a muddy or sandy beach, located midway between Tanglar Point and the mouth of the **Caaluhan River** (13°48'N., 123°19'E.).

Cauit Island (13°47'N., 123°16'E.), 44m high, lies about 0.6 mile NW of Cagsao Point. A light-colored bluff stands on its N side. A shoal, with some rocks awash at HW, lies about 0.4 mile W of Cauit Island. Less than 0.25 mile SW of these rocks is a sunken rock, which is covered with seaweed and sometimes bares at LW.

Cabgan Island (13°46'N., 123°16'E.), about 0.1 mile SW of Cauit Island, is conical in shape and 51m high.

There is a small warehouse on the island, and a larger one on the mainland opposite. The passage between Cauit Island and Cagsao Point has a depth of 1.8m and is clear of dangers.

Tinambac (13°49'N., 123°19'E.), a small village standing 1 mile N of the N entrance point of the Himoragat River, can be identified by its church with a white cross.

Kagliliog Point (13°54'N., 123°17'E.), about 5 miles NNW of Tinambac, is rocky and has a detached rock lying about 91m W of it; a rocky bottom extends some distance offshore. Vessels should give the point a berth of at least 1.5 miles.

Balocbaloc Point (13°55'N., 123°17'E.), the S entrance point of the Looc River, lies 0.75 mile N of Kagliliog Point and is low and sandy.

The **Looc River** (13°55'N., 123°18'E.), the outlet for a large tidal lagoon, is about 1.5 miles wide at its entrance. The shores of the river and the lagoon are low and fringed by mangroves.

The river is shoal with strong tidal currents.

Only small vessels with local knowledge, operating under the most favorable weather conditions, should attempt to enter the river.

5.43 San Miguel Island (13°58'N., 123°14'E.), low and wooded, lies about 4.5 miles NW of Balocbaloc Point. Its shores are rocky, and a drying sandbar connects its SE end to the mainland. Detached rocks extend about 0.3 mile off the NW end of the island.

Vessels can take anchorage about 0.5 mile SE of the SE end of the island, in a depth of 5.5m, sand. Large vessels can anchor about 0.75 mile S of the same point in a depth of 9.1m, mud. These anchorages are fairly sheltered from winds between NW, through N, to SE.

A small anchorage, with a depth of 5.5m, sand, mud, and rock bottom, lies E of the N end of the island, about midway between the point and the shore.

This anchorage should be approached with caution as there are drying rocks lying some distance off the mainland.

Siruma Bay (14°01'N., 123°14'E.), entered between Quelun Point, lying 2 miles N of San Miguel Island, and Siruma Point, about 1.2 miles further N, is foul and encumbered with dangers.

Shoals, with depths of less than 1.8m, extend about 1 mile from the head of the bay. A reef, with a depth of 2.1m, lies in the W approach to the bay in a position about 0.6 mile S of the W extremity of Siruma Island. A rocky islet lies about 0.75 mile W of Quelun Point.

Sunken rocks extend about 0.3 mile W from the islet. Siruma, a small town, stands on the S shore of the bay.

Siruma Island (14°02'N., 123°13'E.), the E entrance point of San Miguel Bay, is a small, low, wooded island about 15.2m high. The E end of the island is connected by reefs with Siruma Point, a long, narrow point projecting W from the mainland. The island is fringed by a reef which extends about 0.75 mile W from its W side.

A rock, above water, lies on the fringing reef in a position about 0.1 mile N of the N extremity of the island.

Five shoal depths, best seen on the chart, lie to the WNW and NW within 1.8 miles of the W extremity of Siruma Island.

Bicol Rock (14°02'N., 123°11'E.), awash, lies about 1.2 miles WNW of Simura Island.

5.44 Sapenitan Bay (14°03'N., 123°14'E.), entered between Siruma Point and Sapenitan Point, about 3.25 miles NE, indents the coast about 2.25 miles. Sapenitan Point is low and wooded at its extremity, but the land within rises to a height of 107m about 2.25 miles SE. The point is fringed by a drying reef which extends 1 mile NW and N.

Depths of 9 to 17m are found in the middle of the bay. Shoals, with depths of 6.7 and 5.5m lie on the S side of the entrance about 1 mile N and 1.25 miles NE; respectively, of Siruma Point.

Vessels can take anchorage sheltered from all winds except those from N and NW, about 1 mile offshore, between the mouths of two rivers which empty near the head of the bay, in depths of 7 to 11m, mud.

Sapenitan Point to Lamit Bay

5.45 Butauanan Bay (14°06'N., 123°17'E.) is entered between Sapenitan Point and Quinabucasan Point, about 5.25 miles ENE. The shores of the W arm of the bay are fringed by reefs.

A small area, about 1 mile long and 0.5 mile wide, with depths of 9 to 15m, lies between the reefs. The E arm of the bay is encumbered with reefs, on which there are several small islets.

Butauanan Island (14°07'N., 123°19'E.) forms the NE side of Butauanan Bay. The island is separated from Quinabucasan Point by a channel with a least width of 0.1 mile and a least depth of 10.9m in the fairway. The W side of the island is fringed by a reef which extends about 0.6 mile W from its S part.

A shoal spit, with a rock lying awash, extends about the same distance W from the edge of the reef. A shoal spit extends 0.3 mile S from the S edge of the same reef.

The bay may be entered from the NW between Butauanan Island and the peninsula forming Quinabucasan Point.

Reefs, which partly dry, and shoals extend up to 1 mile NE from Sapenitan Point. A reef, with a depth of 6.9m, lies at the junction of the two channels, 0.5 mile WNW of the point separating the two arms of the bay.

5.46 Tandoc (14°04'N., 123°18'E.) stands near the head of Butauanan Bay, about 2.75 miles SE of Sapenitan Point. There is an L-shaped pier extending 128m NE and then 76m NW, from the shore. The pier is 7.5m wide with a reported depth of 5.2m alongside.

Vessels docking should do so in calm weather and at slack tide. The flood tidal current flows E and the ebb W.

The pier is not safe during the Northeast Monsoon or when there is a heavy swell.

Pilotage is not compulsory but is recommended for large vessels. A pilot is available at Mercedes or from Manila. A 3 to 4 day advance notice of ETA is required.

Vessels can take anchorage during strong NE winds about 0.5 mile off the W side of Butauanan Island, with the S end of the island bearing 130° and the NW extremity of the island bearing 334°, in a depth of 22m, mud.

The approach to the anchorage is not difficult, but vessels are cautioned against approaching too close to the reef extending W from the S side of Butauanan Island.

The approach to the inner anchorage from NW lies between the SW side of the shoal spit which extends S from the above reef, and the 6.9m patch 0.5 mile S.

The approach to the pier is difficult as the other reefs are unmarked and hard to discern. Entrance should be made during daylight hours under favorable conditions.

5.47 San Vicente Bay (14°02'N., 123°22'E.) is entered between Dagdagen Point and a point 0.75 mile to the ESE. The bay is encumbered with reefs, and a rock awash lies about 0.5 mile NE of the E entrance point. Foul ground lies between the rock and the point.

Reefs and shoals extend up to 0.75 mile N from Dagdagen Point; a shoal, with a depth of 11.9m, lies 1.25 miles NNE of the point.

The only available anchorage is in the entrance, S of the W entrance point, in depths of 16 to 22m.

Port Tambang (13°58'N., 123°26'E.) lies about 4 miles SE of San Vicente Bay. The bay is encumbered with reefs and shoals. An islet lies close W of the SE entrance point to the bay. The bay is of no use to the navigator.

Lamit Bay and Off-lying Islands

5.48 Lamit Bay (13°56'N., 123°32'E.) lies about 5 miles E of Port Tambang. The bay is considered the best typhoon harbor on the E coast of Luzon. The bay is formed by a group of islands lying off the indented coast.

Protected anchorage can be taken among the many small islands in the area.

The W entrance to Lamit Bay lies between the S extremity of Pagbocavan Island and a point 0.75 mile SW. The entrance is about 0.5 mile wide between the reefs and shoals extending from both sides.

Pagbocavan Island (13°57'N., 123°31'E.) lies on the N side of the W entrance to Lamit Bay. The S end of the island terminates in a large brown rock. The island for the most part is wooded. Reefs extend up to 0.25 mile W from the NW side of the island.

Cagbinunga Island lies about 0.25 mile NNE of Pagbocavan Island and is connected to it by a reef. Reefs and shoals extend as far as 0.5 mile NE from the N side of the island.

Sibauan Island (13°59'N., 123°31'E.) lies about 0.4 mile NW of Cagbinunga Island. The island is wooded and 50m high at its S end. A shoal, with a depth of 1.8m, lies 0.25 mile SSW of the S end of the island. Naglaous Islet lies almost 0.5 mile N of the NE extremity of Sibauan Island.

The W side of the island is fringed by reefs which extend 0.1 to 0.4 mile offshore. Sampotan Islet, 9.1m high, lies on this reef about 0.4 mile SW of the N extremity of the island. Several shoals, with depths of 2.7 to 7.3m, front the W side of the island to a distance of 0.7 mile.

The N side of the island is fringed by a drying reef extending 0.5 mile NE. Dinug Islet, 30m high, lies on the edge of this reef N of the island. Salobot Islet lies about 0.75 mile NE of the NE extremity of Sibauan Island.

5.49 The **Paniqui Islands** (14°00'N., 123°31'E.) are three small islands lying about 0.75 mile N of Sibauan Island. The largest island is 58m high. These islands can be safely passed at a distance of 0.25 mile.

Aguda Rock (14°02'N., 123°31'E.) is a small rocky ledge, with a depth of 3.6m, and lies 1.5 miles N of the Paniqui Islands. It can only be distinguished by the color of the water under the most favorable conditions, and the rock breaks only in heavy weather.

The **Cimarron Islands** (14°03'N., 123°30'E.) are a group of four islands lying in the N approach to Lamit Bay, 2.75 miles NNW of the Paniqui Islands. The central island, 49m high, appears conical from E or W, but from N or S it appears as a short ridge.

5.50 The **Lamit Islands** (13°58'N., 123°34'E.) are two densely-wooded islands, separated by a narrow impassable channel. The S island is separated from the mainland by a shallow channel which leads into Quinalasag Passage.

Pawican Islet lies close NW of the N extremity of N island, and is connected to it by a reef. It is clear and-steep on the seaward side.

The Bani Islands, two in number and separated from each other by a narrow channel, lie off the W coast of the Lamit Islands.

Anchor Island (13°58'N., 123°32'E.) lies about 1 mile S of the Bani Islands. The island is fringed by a reef which extends about 0.25 mile N from the NW side of the island. A rocky islet lies near the N edge of this reef.

Shoals, with depths of 3.6 and 1.2m, lie about 0.25 mile WNW and 0.6 mile W, respectively, of the SW extremity of Anchor Island. A shoal, with a depth of 0.9m, lies about 0.5 mile ESE of the NE extremity of the island.

Vessels can take anchorage anywhere in the bay in adequate depths. The usual anchorage is in depths of 7.3 to 14.6m, mud, S and SW of Anchor Island.

Vessels from E usually enter the bay via the N entrance. Pawican Islet and the NW extremity of the N of the Lamit Islands should be rounded at a distance of about 0.25 mile. Then a SW course should be steered to a position about 0.25 mile W of the W extremity of the W of the Bani Islands.

Then vessels should pass about 0.2 mile N of the small rocky islet located about 0.25 mile N of Anchor Island, and then about 0.25 mile E of Anchor Island. Then a SW course leads to the recommended anchorage.

Vessels with local knowledge may steer a SSW course from the position about 0.25 mile W of the W extremity of the W of the Bani Islands to the recommended anchorage. This course leads between the W side of Anchor Island and the E sides of Cagbinunga Island and Pagbocavan Island. The shoals in the middle of the N part of the bay are unmarked, making it advisable for vessels without local knowledge to use the W entrance.

Vessels approaching Lamit Bay from W should steer about 136° for the opening between Pagbocavan Island and the mainland. When the S end of Pagbocavan Island bears 125°, the course should be altered a little to the E to pass about 0.25 mile S of the island. Then an E course leads to the middle of the bay where anchorage can be taken anywhere S of a line drawn between Pagbocavan Island and Anchor Island.

Vessels approaching from the E or N and wishing to use the W entrance should pass about 0.5 mile N of the Paniqui Islands. When the largest of the Cimarron Islands bears 001°, the course should be altered to 181°.

This course, which leads W of the shoals off the W side of Sibauan Island, should be held until the S end of Pagbocavan Island bears 125°, then the directions given previously should be followed.

Lamit Bay to Cataduanes Island

5.51 Quinalasag Island (13°56'N., 123°38'E.), densely wooded, lies with its N extremity about 3.5 miles E of Cugun Point, the NE extremity of the N Lamit Island. Bagacay Island lies about 0.1 mile N of the N extremity of Quinalasag Island, to which it is connected by a reef.

The island is a good landmark from E or W, showing as twin peaks of equal height. Hervor Rock, awash, lies 1.75 miles NW of Bagacay Island.

A rock, with a depth of 1.8m, was reported to lie 1.5 miles WNW of Hervor Rock; this rock breaks.

Badi Islet, 11.9m high, lies 0.25 mile NW of the NW extremity of Quinalasag Island. A shoal, with a depth of 6.4m, lies 0.25 mile N of the islet.

Malabungut Island (13°56'N., 123°35'E.) lies with its W end about 0.2 mile E of the S extremity of the S Lamit Island. The island forms the head of Binagasbasan Bay. Drying reefs extend up to 0.6 mile N from the N side of the island.

Binagasbasan Bay (13°57'N., 123°35'E.) lies between the E side of S Lamit Island and the W side of Quinalasag Island. The bay is encumbered with reefs and shoals and is of no use to shipping. Bacon Islet lies in the middle of the N entrance to the bay. Shoals, with depths of 4.5m, lie 0.6 mile SSW and 0.75 mile SSE, respectively, from the islet.

Masamat Bay (13°58'N., 123°38'E.) indents the N coast of Quinalasag Island in a SE direction. Small vessels can obtain good typhoon anchorage in the bay.

Depths of 6 to 18m are found in the middle of the bay. Reefs and dangers extend up to 0.4 mile from the projecting points.

Crater Bay (13°58'N., 123°40'E.), entered between the NE extremity of Quinalasag Island and a point about 0.6 mile WNW, indents the NE side of the island about 0.5 mile. Depths of 8 to 18m are found in the middle of the bay.

5.52 Sisiran Bay (13°55'N., 123°41'E.) is entered between the E extremity of Quinalasag Island and Tinajuagan Point, about 1.75 miles E. The W side of the bay is fringed by a narrow reef and its E side is fringed by a wide reef that extends up to 0.5 mile offshore.

Vessels can take anchorage off the indented SE coast of Quinalasag Island, in depths of 7 to 9m. Anchorage can also be taken SW of Tinajuagan Point, in a depth of 12.8m.

Laja Islet (13°58'N., 123°42'E.) is a dark, bare rock, which lies about 1.5 miles N of Tinajuagan Point.

A shoal, with a depth of 7.6m, lies about midway between the islet and the drying reef that extends 0.3 mile N from Tinajuagan Point. The sea breaks heavily over this shoal in rough weather. Breakers have been reported on the shoals SE and SW of Laja Islet.

Tagun Bay (13°57'N., 123°46'E.) is entered between Tinajuagan Point and Sugar Loaf Point, the NW extremity of Lahuy Island. Wide coral reefs fringe the W side of the bay and also encumber its head. The E side is less dangerous as the depths are greater.

Vessels can take anchorage 2 miles S of Sugar Loaf Point. Also, vessels anchor in 26m, 0.75 mile farther S.

Black Islet (14°00'N., 123°47'E.) lies about 2.5 miles NW of Sugar Loaf Point. The islet is 9.1m high and bare. The channel between the islet and Lahuy Island is deep and free of dangers in the fairway.

Masnou Islet lies 1 mile NW of Black Islet and is covered with grass. Molar Rock, about 18.3m in extent, lies about 0.75 mile NNW of Masnou Islet. A sunken rock, which breaks heavily in bad weather, lies about 0.35 mile NNW of Molar Rock.

5.53 Lahuy Island (13°57'N., 123°49'E.), narrow and hilly, extends about 5.25 miles in a N to S direction. There are three prominent peaks in the S half of the island. The W side of the island is very irregular with reefs and shoals extending up to 0.75 mile from the coast.

Several small islets and rocks lie close off the NW and N sides of the island. Ocata Island, marked by a light, lies about 0.5 mile NE of Sugar Loaf Point.

The E side of Lahuy Island is fringed by a reef extending from 0.25 to 2 miles offshore. Basot Island and Cotivas Island lie on the E side of this reef. A grassy peak, 47m high, lies in the N part of Basot Island, and there is a flat-topped peak, 51m high, in the S part.

The coast consists of sandy beaches and rocky cliffs. Basot Island is covered with grass. Cotivas Island, closer SW, is wooded.

Pocket Bay, a small cove, lies between the above reef and a reef that extends from the NE side of Lahuy Island.

Small vessels with local knowledge can take anchorage, protected from the SW monsoon, in the middle of the cove, in a depth of 14.6m.

The **Lucsuhin Islands** (13°52'N., 123°51'E.) are a group of rocks and islands lying on a partly drying reef, between the S end of Lahuy Island and the mainland. The islands are wooded and appear as one from seaward, but at HW a boat can pass between them.

Etinas Island (13°52'N., 123°52'E.), 39m high, is the farthest E of the Lucsuhin Islands. It is located on the edge of the reef 2.5 miles N of **Yopoquit Point** (13°50'N., 123°52'E.). A shoal spit, with a least depth of 5.9m, extends 2 miles N of the island; a shoal, with a depth of 8.7m, lies 0.5 mile NNE of the island.

Tirao Islet, 12.2m high, lies on the edge of the reef 0.15 mile S of Etinas Island.

Solodon Islet, the farthest SE of the group, is a large barren rock 27m high, with a few bushes on its summit. The islet is located on the N side of the channel leading to Tabgon anchorage, in a position 1.75 miles N of Yopoquit Point. A shoal, with a depth of 10.9m, lies about 1 mile E of Solodon Islet.

5.54 Haponan Island (13°50'N., 123°51'E.) lies about 0.75 mile S of the S Lucsuhin Island, and is grass and tree covered. Its coasts consist of sandy beaches and low rocky points. The area between the island and the mainland is foul. Reefs extend 0.5 mile NE from the island and form part of the S side of the channel leading to the anchorage.

Puling Island (13°51'N., 123°50'E.) lies about 0.2 mile N of the NW extremity of Haponan Island. An islet lies close N of the island.

An anchorage area lies SW of Puling Island or between the island and Haponan Island. A reef, with a least depth of 1.2m, lies on the W side of the anchorage, about 0.4 mile W of Puling Island.

Cocos Island, 38m high and covered with palms, stands on the reef extending from the mainland, 2 miles NW of Puling Island.

Tabgon (13°50'N., 123°49'E.), a small village, lies at the foot of a prominent hill, about 1.75 miles W of the W coast of Haponan Island.

A large anchorage lies about 1.5 miles NE of the village. There are depths of 7 to 22m in the anchorage.

Depths of 14.6m and over are found in the fairway of the E approach channels to Tabgon anchorage, but these channels are unmarked and only used during fair weather conditions.

The channel between Puling Island and Haponan Island is deep, but it is seldom used.

South Islet lies about 0.1 mile N of Puling Island; the channel between this islet and North Islet, a 4m high islet lying about 0.3 mile farther N, is the preferred channel and has a least width of 0.1 mile between the reefs.

Directions.—Vessels from E should steer 267° with the N tangent of Puling Island ahead. When about 0.4 mile SSW of Solodon Islet, the course should be altered to 279.5°, with the S side of North Islet in range with the S side of Cocos Island. Maintain this course to a position 0.75 mile E of North Islet, when a mid-channel course between North Islet and South Islet should be steered.

When South Islet is abeam the course should gradually be altered to the SW so as to pass midway between the reef covered by 2.7m, about 0.2 mile SW of North Islet, and a reef with rocks, awash, extending 0.1 mile W of South Islet.

Then steer S to pass about 0.2 mile W of Puling Island, and anchor, as convenient, off the SW side of the island.

5.55 Yopoquit Point (13°50'N., 123°52'E.) lies about 1 mile E of the S extremity of Haponan Island. The point is fringed by a reef which extends over 0.5 mile offshore, and gradually narrows toward the coast about 2 miles SE.

Depths are reported to be very irregular off this stretch of the coast. During the Northeast Monsoon, the sea occasionally breaks on some of the outer shoal patches. This area should be navigated with caution.

The **Malarad Islets** (13°48'N., 123°54'E.) are a group of rocks and islets lying within 1 mile of the coast and 1.75 miles ESE of Yopoquit Point. Most of them are wooded, with steep rocky sides.

Port Caramoan, a bay, lies between Yopoquit Point and the Malarad Islets. A small village stands near the head of Port Caramoan.

Caramoan Point (13°48'N., 123°56'E.), the NE extremity of the Caramoan Peninsula, is steep-to and lies about 3.5 miles ESE of Port Caramoan. The land within the point rises to numerous densely wooded peaks. The highest of these is a round-topped peak standing about 4 miles W of the point. A small rounded peninsula lies about 0.5 mile SE of the point and is connected to the coast by a narrow neck of land.

Pitogo Bay (13°47'N., 123°57'E.), located 1.25 miles S of Caramoan Point, is the only sheltered anchorage on this stretch of coast. The bay is backed by high wooded hills.

There are two entrance channels, one on either side of Pitogo Island. The N channel is generally used as the S channel is encumbered with shoals and reefs. Small vessels can take anchorage in mid-channel, W or SW of Pitogo Island.

5.56 Lugan Cove (13°45'N., 123°57'E.), located about 1.25 miles SSE of Pitogo Bay, consists mostly of reefs and shoals. Batobato Rocks, consisting of two rocks, lies about 0.5 mile S of Lugan Islet. Sombrero Islet lies about 2 miles SSE of Batobato Rocks. The islet serves as a good landmark as it is higher than the adjacent coasts. Lauing Bay, close W of Sombrero Islet, is filled with reefs and shoals.

Maqueda Channel (13°42'N., 124°01'E.) separates Luzon from Catanduanes Island. The channel is about 4.5 miles wide between Rungus Point and Sialat Point, the W extremity of Catanduanes Island. The channel is divided by the Palompon Islands, two in number, lying 1.5 miles E of Rungus Point. The E island is 46m high.

In the N part of Maqueda Channel there are a great many dangerous rocks and shoals. Dagat Rocks, the farthest W of these dangers, is separated from Basot Island by a deep, clear channel about 6.5 miles wide.

Vessels should use caution when approaching the channel from the N as Ocata Light is unwatched and at times may be extinguished.

5.57 The **Palumbanes Islands** (14°01'N., 124°02'E.) are a group of three islands and several islets and rocks, lying from 4 to 7 miles WSW of Balangona Point, the NW point of Catanduanes Island. Calabagio Island, the E island, is wooded.

Anchorage can be taken about 0.25 mile W of the SW side of Calabagio Island, in a depth of 27m. Porongpong Island, the middle and largest of the group, is covered with high trees. There is a village on its E side. The W island of the group is wooded.

A rock awash lies about 1.75 miles ENE of Calabagio Island, near the N end of a shoal area which extends 2.5 miles S; there are depths 6 to 18.3m on the shoal. In a position about 0.1 mile E of the rock the sea breaks over the shoal in a light swell.

There is an isolated 12.8m depth, midway between the shoal and Catanduanes Island.

A shoal, with a depth of 12.8m, lies 0.75 mile N of Calabagio Island and two shoals, with depths of 3.6m, lie 1.25 and 1.5 miles NNW of Porongpong Island.

Lane Rocks (14°07'N., 124°00'E.), the N danger in the area, consists of four or five steep-to rocks, which dry 1.5m, and lie about 5 miles NNW of Porongpong Island. The rocks are conspicuous to the eye. A 3.7m shoal lies 0.5 mile N of the rocks with a deep channel between.

Sail Rock (13°59'N., 124°04'E.), 19m high with a few bushes, lies 1.5 miles SSE of Porongpong Island and is a prominent mark. Several above-water rocks lie up to 0.1 mile N of Sail Rock and a 3.7m patch lies 0.5 mile SSW of Sail Rock.

Dagat Rocks (13°59'N., 123°59'E.) is a group of rocks, 2m high, near the NW end of an extensive coral reef lying 3 miles SW of the W island of the Palumbanes Islands. A 7.3m patch lies 0.35 mile NNW of Dagat Rocks.

A small patch awash lies about 1.75 miles SSE of Dagat Rocks. In calm weather it cannot be seen from any distance. There are depths of 8 to 17m over the remainder of the reef.

Caution.—A rock awash lies 3 miles SSW of Sail Rock. It can be distinguished at all times, but when the sea is smooth, it is not very noticeable.

Catanduanes Island

5.58 Catanduanes Island (13°45'N., 124°15'E.) is mountainous with rugged coasts. The N and S coasts are indented by a bay. The W coast is rugged and fairly regular.

The E coast is irregular and indented by numerous small coves and bays. The island is reported to give a good radar return up to 18 miles.

Yog Point (14°06'N., 124°12'E.), the N extremity of Catanduanes Island, is covered with grass and a few shrubs. A rocky islet lies close N of the point.

Pin Rock, a conspicuous point, stands on the N side of the islet. The islet may be safely rounded at a distance of 0.25 mile.

Pandan Bay (14°04'N., 124°10'E.), entered between Yog Point and Pandan Point, 4.25 miles SW, is fringed by reefs extending up to 0.5 mile from the shores of the bay.

A small peninsula divides the head of the bay into two small coves. The NE cove is foul, but there are depths of 9 to 15m between the reefs on either side of the cove.

Two small islets, 18.3 and 15.2m high and covered with coconut trees, are located about 0.6 mile and 1.1 miles ESE, respectively, of the Pandan Point. The Mambang River empties into Pandan Bay through a narrow channel lying between these islets.

A shoal, with a depth of 10m, lies about 1 miles NE of Pandan Point. A bank, with a least depth of 12.8m, lies about 1.5 miles NNE of the same point.

Pandan Light is shown from a concrete tower, 9m high, standing on the shore in the W part of Pandan Bay.

5.59 Pandan (14°03'N., 124°10'E.), a small village, stands 0.25 mile inland from the head of the W cove. The village, which contains a church, is nearly hidden by coconut trees. It is a port of call for small craft and launches coming to load copra and hemp. No fresh water, provisions, or stores are obtainable. There are no medical facilities in the town. Postal and telegraph facilities are available. There are no repair facilities.

Vessels with local knowledge can take anchorage with the E islet on the W part of Pandan Bay bearing 205°, and the N extremity of the small peninsula, bearing 087°, in depths of 22 to 24m.

Small craft can anchor SSE of this position, in a depth of about 16.5m, between the fringing reefs. These anchorages are open to the N and fully exposed to the Northeast Monsoon. Vessels wishing to communicate with Pandan usually anchor in Cobo Bay.

Vessels from the E should make the approach with the E islet, bearing 205°. Vessels from the W should make the approach with the N extremity of the small peninsula bearing 102°. This course should be held until the E islet bears 205°, at which time the course should be altered to that bearing and anchorage taken when the same extremity bears 087°.

Balangona Point (14°04'N., 124°07'E.), 0.75 mile WSW of Pandan Point, is the NW extremity of Cataduanes Island. It is 30m high and covered with grass.

The shores of the point are bold and steep-to. The cove close S of the point is shallow at its head and restricted by the fringing reefs.

Cobo Bay (14°01'N., 124°08'E.), located 2.5 miles S of Balangona Point, affords protection from the Northeast Monsoon. Toytoy Point, the S entrance point of the bay, is a sharp, prominent, and partly wooded neck of land about 22m high. Its shores are rocky and there is a 15.2m bluff on its W side.

A rounded and wooded hill, 86m high, stands near the head of the bay in a position about 1 mile NE of the N extremity of Toytoy Point. Cobo, a small village, is located close S of this hill and partially obscured by trees.

Reefs and shoals extend up to 0.25 mile from the S shore and 0.15 mile from the N shore. The head of the bay is shoal. Depths of 9 to 15m are found in the middle of N part of the bay.

Two rocks, the highest of which is 5.5m, are located about 0.1 mile SSE of Toytoy Point. Three smaller rocks lie about 0.1 mile E of these rocks.

Vessels can take anchorage with the rounded hill, bearing 098°, and Toytoy Point, bearing 206°, in a depth of 13.7m, sand. A heavy swell is found at this anchorage during periods of strong N winds.

Small craft may obtain protection from the swell by anchoring in a break in the fringing reef, in depths of 7 to 9m, sand.

5.60 Port Manamrag (13°44'N., 124°06'E.) is located about 16 miles S of Toytoy Point; the intervening coast is hilly and densely wooded. The head of the bay is shoal and rocky. Depths of 9 to 15m are found in the outer part of the bay.

A shoal, with a depth of 3.6m at its outer end, extends about 137m S from Manamrag Point, the N entrance. Manamrag Point is 30m high and rocky.

Vessels can anchor in a position about 0.2 mile S of Manamrag Point, in a depth of 14.6m.

The coast between Borigay Point, 0.75 miles SSE of Manamrag Point and Sialat Point, 5.75 miles SE, is high, rugged, and mostly steep-to. A shoal, with a depth of 7.3m, lies 0.5 mile offshore in a position 1.25 miles SW of Borigay Point.

Sialat Point (13°40'N., 124°01'E.), the W extremity of Catanduanes Island, is a high, rocky bluff. Several rocks that dry lie about 0.1 mile SW of the point. A rock awash lies about 1.5 miles SSE of the point. A light is shown on the point.

Agoho Point (13°36'N., 124°03'E.) is located about 4 miles SSE of Sialat Point; it is a mangrove swamp fringed by a drying reef to a distance of 0.25 mile. A reef-encumbered bight, with numerous rocks and dangers, lies close N of the point.

5.61 Calolbon (13°36'N., 124°06'E.), a small town, is situated about 3 miles E of Agoho Point. The town church and a large water tank are conspicuous from offshore.

Vessels can take anchorage off the town, in a depth of 18.3m, 0.75 mile offshore. A light is shown NW of the water tower.

The anchorage is usually approached with the light structure ahead bearing 036°.

The anchorage is protected from winds from W, through N, to ESE. A depth of 3m is located close WNW of this anchorage.

A shoal, with depths of 6 to 18m, extends 1.25 miles SW from a position 1 mile SE of Calolbon. A rock awash lies about 2.25 miles SE of Calolbon Light.

Two shoals, with depths of 6 and 7.3m, lie 3.25 and 3.5 miles SE, respectively, of the same light.

Taguntun Bank, with a depth of 7.8m, lies about 5 miles SSE of Calolbon Light. Teresa Bank, with a least depth of 3.1m, lies about 2 miles NNW of Taguntun Bank.

Virac Point (13°31'N., 124°13'E.), the S extremity of Catanduanes Island, is located 8 miles SE of Calolbon.

Pechili Reef (13°30'N., 124°11'E.) lies about 2.5 miles SW of Virac Point. The reef has a least depth of 4.5m and breaks in heavy weather. A shoal, with a least depth of 10.9m, lies about 0.5 mile SE of Pechili Reef.

Virac Bank (13°29'N., 124°16'E.), with a least depth of 11m, and on which the sea breaks in heavy weather, lies about 4.5 miles SE of Virac Point.

Johns Reef (13°32'N., 124°14'E.), with a least depth of 0.9m

and on which the sea breaks, lies about 1.25 miles ENE of Virac Point. A rock, with a least depth of 6.7m, lies 1 mile E of the shallowest part of Johns Reef.

Cabugao Bay (13°34'N., 124°16'E.) is entered between Virac Point and Nagumbuaya Point, about 7.75 miles ENE. The shore of the bay is mostly sand and is partly fringed with coral reefs.

The Pajo River discharges into the W side of the bay and the Bato River discharges into the NE part of the bay.

The mouths of both rivers are blocked by reefs and shoals. Winds between E and S cause heavy seas in the bay. A number of rocks and shoals lie in the bay.

5.62 Virac (13°35'N., 124°14'E.) (World Port Index No. 58130) stands on the W side of Cabugao Bay. The town is clearly visible from seaward. The white dome of the town church is conspicuous. A light is shown near the E end of the town.

A concrete pier, 142m long, extends SE from the shore. Depths vary from 10m at the head to 1.5m at the inshore end of the pier.

The submerged outer end of an L-shaped breakwater, which projects from the shore SW of the pier, lies 109m S of the pierhead and constitutes a danger in the approach to the pier. The E side of the pier should be favored to avoid this danger.

Vessels can take anchorage about 0.75 mile SE of the town church with the lighthouse bearing 344°, in depths of 15 to 17m. This anchorage is reported to be uncomfortable during the Northeast Monsoon (October to March). Small vessels can anchor 0.15 mile off the sandy beach at Virac.

Directions.—Vessels proceeding to the anchorage off Virac should steer 344° with the light structure ahead.

This course leads W of Virac Bank, E of Johns Reef, and W of a charted depth of 8.2m, 0.75 mile ESE of Johns Reef.

A single red buoy, “4”, marks the approach.

Catanduanes Island—East Coast

5.63 The coast between Yog Point and Bugao Point, about 7.5 miles SSE, is composed of cliffy projections that are fringed by narrow and steep-to reefs.

Horadaba Rocks (14°07'N., 124°17'E.) are three bare rocks lying 4.5 miles E of Yog Point. The rocks lie close together. Matulin Rock lies about 0.6 mile SE of Horadaba Rocks. A number of sunken rocks and rocks awash lie between Matulin Rock and Horadaba Rocks.

Tabugoc Cove (14°04'N., 124°14'E.) and Minaile Cove, both small and encumbered by reefs, lie 3 miles and 4.5 miles SE, respectively, of Yog Point.

Tarahid Point (14°02'N., 124°16'E.), 0.5 mile SE of Mnaile Cove, is 15m high and rugged.

Purog Bay (14°01'N., 124°16'E.) is entered 0.5 mile S of Tarahid Point. The bay is encumbered with reefs, but there are two narrow boat channels through them leading to the head of the bay. Minigil Islet lies in the middle of the entrance to the bay and is connected with the shore by a reef awash.

Bugao Point, 1.5 miles SSE of Minigil Islet, is low, sandy, and covered with bushes and small trees. The point is fronted by a reef for a distance of 1 mile; a reef, with a depth of 4.9m at its outer end, extends 0.5 mile SE from the reef.

Tahidan Point, 2 miles S of Bugao Point, is reddish in color, has a conical summit, 34m high and covered with grass, and is very prominent. A reef awash extends 0.75 mile NE from Tahidan Point.

Panay Island (13°58'N., 124°20'E.) lies 1.75 miles E of Tahidan Point. The island is fringed by coral reefs on all but the SW side. The island is reported to give a good radar return up to 27 miles.

Lete Island lies close off the W side of Panay Island. The N and W sides are vertical cliffs, 84m high, red-brown in color. A shoal spit, with a depth of about 0.9m, lies between Lete Island and the W side of Panay Island.

The Macarilan Islets lie on the fringing reef 1 mile WSW of the N extremity of Panay Island.

Lolong Point Light—Panay Island

5.64 Port Bagamanoc (13°57'N., 124°17'E.) lies between Lete Island and the coast of Catanduanes Island. The bay is open to the N and provides no protection from the Northeast Monsoon.

Bagamanoc, a small town which contains a church, stands at the head of the port in a position about 1.5 miles S of Tahidan Point. The town is partially obscured by a low ridge of gravel which is covered with bushes. The shores of the port are fringed by reefs extending up to 0.35 mile offshore.

A reef, with a depth of 1.8m, lies in the middle of the port in a position about 0.5 mile ESE of Tahidan Point.

There are depths of 9 to 18m in the outer part of the port.

Arch Rock, 18.3m high, a prominent, reddish-brown, arch-shaped rock, lies near the edge of the shore reef in a position about 0.75 mile SSE of Tahidan Point.

Vessels can take anchorage about 0.25 mile E of Arch Rock, in depths of 5.5 to 6.4m, mud.

The swinging room in this anchorage is restricted by the shoals lying on either side.

Directions.—Vessels bound for Port Bagamanoc should round the Macarilan Islets at a distance of about 0.5 mile and steer for the SW extremity of Lete Island, bearing 181°.

The course should be held until Arch Rock bears 214°, when she should steer for it on this bearing, passing midway between the 1.8m reef in the middle of the port and the reef fringing the W side of Lete Island.

Anchorage can then be afforded in the inner part of the port.

5.65 Babaguan Bay (13°56'N., 124°19'E.) lies between the SW side of Panay Island and the coast of Catanduanes Is-

land. The bay is very shallow, especially in the S part, where there are extensive drying mudflats. A river, used by boats, flows into the S part of the bay.

Port Anajao (13°57'N., 124°21'E.) lies between the S side of Panay Island and Catanduanes Island. The port is small but a well-sheltered harbor of refuge. The only entrance is from the E. Lolong Point, the SE extremity of Panay Island, is the N entrance point of the harbor. It is 27m high, covered with grass, and terminates in cliffs, 9m high. A light is shown from a concrete tower, 9m high, situated on the point.

Anajao Point, the S entrance point of the port, lies about 0.4 mile SSW of Lolong Point. It is covered with grass and is 30m high. The coast between Anajao Point and Viga Point, about 1.25 miles WSW, is slightly indented by two small and shallow coves.

The shores of the port are bold and well defined by low rocky cliffs. Densely wooded hills, about 122 to 152m high, stand on each side of the port abreast its narrowest part.

Reefs and shoals extend about 0.1 mile E from Lolong Point. Komagat Rock, 5.5m high and surrounded by rocks awash, lies about 91m E of the point. Reefs and shoals extend about 0.25 mile E from Anajao Point.

Two islets are about 45m and 137m E of this point. The inner one is a bare rock 8.5m high. The outer islet is 17.7m high and covered with grass, brush, and a few small palms.

Manyagui Rock, 4.9m high and dark in color, lies on the S side of the outer entrance to the port in a position about 0.4 mile ENE of Anajao Point. The rock is steep-to on all sides except its SW side, which is fronted by shoals to a distance of 0.1 mile.

The rock may be passed on either side, but the recommended channel into the port is N of the rock. This channel is 0.25 mile wide and 28m deep in the middle.

Minaaso Islet, 25m high and densely wooded, lies at the head of the port in a position about 0.3 mile S of Omuntol Point. It is bordered by cliffs and fringed by a reef that extends about 0.1 mile NE from it.

A rock, 3.6m high, and several rocks, awash, lie on this reef.

Several rocks, the outermost of which is awash at LW, extend about 0.1 mile S from the E entrance point of Babaguan Cove.

Vessels can take anchorage in the middle part of the port, in depths of 7 to 15m. Small vessels with local knowledge can anchor, in about 6.4m, mud, in a position S of the middle of the entrance to Babaguan Cove.

Directions.—A vessel entering Port Anajao should steer for Minaaso Islet bearing 255° and just open of the S shore. This course leads about midway between Manyagui Rock and Komagat Rock.

As the narrows are approached, a mid-channel course should be steered and anchorage taken as convenient.

Small vessels proceeding to the inner anchorage should continue on a mid-channel course until the village of Babaguan opens, then steer for Omuntol Point, bearing 288°. Vessels can take anchorage when the stone building in the village bears 001°.

5.66 Agutayan Island (13°54'N., 124°24'E.) lies about 3.5 miles SE of Lolong Point. The island is 54m high and covered with grass. Several rocks, some awash, lie off the N extremity of the island.

Soboc Bay, a narrow inlet, lies close W of Agutayan Island. A village lies at the head of the bay. Botinagan Bay indents the coast for about 1 mile and lies about 0.5 mile E of Soboc Bay.

Linampanan Island (13°53'N., 124°24'E.), a small grass covered island, lies on the E side of the entrance to Botinagan Bay. A number of detached rocks, the highest is 20m high, lie close N and E of the island.

Botinagan Bay (13°53'N., 124°24'E.), entered between the E face of Agutayan Point and Sohoton Point, about 0.5 mile SSE, indents the coast about 1 mile.

Bocana Bay, entered between Conloy Point, located 1.25 miles S of Sohoton Point, and Minabat Point, about 0.5 mile S, indents the coast about 0.75 mile.

Lictin Point (13°51'N., 124°25'E.), located 0.75 mile SE of Minabat Point, is 42m high and rugged. The cliffs are about 23m high, and the slopes leading to the 114m hill, 0.75 mile W of the point, are largely covered with grass and small trees.

Sicmil Bay, entered between Lictin Point and Bantayao Point, about 1 mile SW, indents the coast about 1 mile.

Bagalayag Point (13°48'N., 124°25'E.), located about 3 miles S of Lictin Point, is formed by rugged cliffs, and is very prominent from N or S. It is densely wooded, except for a small grassy area on its seaward side, and is about 23m high. A group of rocks, from 3 to 12m high, extend about 0.25 mile E from the point.

Pondanan Island, located about 0.5 mile N of Bagalayag Point, is 26m high, and is covered with grass. Numerous rocks, varying high from 2 to 6m, lie close SW of the island. The island is connected to the coast to the W by a shoal spit. A shoal, with a depth of 5.1m on its SW end, lies about 0.3 mile N of the island.

The outer limit of the 20m curve enclosing this shoal lies about 1 mile NNE of the island and the same distance E of the coast of Catanduanes Island. A reef, with a depth of 10.5m, lies about 0.4 mile E of the island.

5.67 Dalaynay Point (13°47'N., 124°25'E.), located about 0.75 mile S of Bagalayag Point, is 94m high and covered with grass. A densely wooded hill, 131m high, lies about 0.75 mile SW of Bagalayag Point.

The Dalaynay Islets are two small grass-covered islets lying close E of Dalaynay Point. The N and large islet is 47m high with rugged cliffs. The S islet rises to a sharp point, 23m high.

A number of bare rocks, varying in height from 3 to 12m, lie near these islets.

Poro Island, located about 0.3 mile SE of the Dalaynay Islets, is 57m high and appears as a truncated cone.

The E side of the island is steep-to, but reefs fringe its other sides to a distance of 0.1 mile.

Gigmoto Bay (13°47'N., 124°25'E.) lies about 1.25 miles SSW of Bagalayag Point, and is entered between Dalaynay Point and Macalanhag Island. A small village stands near the head of the bay. Coral reefs fringe both sides of the bay and limit the width of the channel to 0.1 mile.

Vessels can take anchorage in the middle of the bay, N of the central part of Macalanhag Island, in a depth of 16m, mud. Small vessels can anchor in the middle of the inner part of the bay.

Nagsilag Point (13°45'N., 124°24'E.), located about 2 miles SSW of Dalaynay Point, is 42m high, and is covered with grass. The point is connected to the high land to the W by a

neck of land 15.2m high.

Two steep-to rocks, 5.8 and 6.7m high, lie 0.7 mile NE and 0.4 mile SE, respectively, of the point. A rocky islet, 24m high and covered with brush, lies 0.1 mile S of the point.

Bitaogan Point (13°44'N., 124°24'E.), located 0.75 mile SW of Nagsilag Point, is the E extremity of a prominent and densely-wooded ridge that extends about 3 miles W. The W portion of this ridge rises to two peaks that are 628m and 571m high. The valley between the two points is prominent.

Balacay Island, a densely wooded islet, rises to a height of 80m near its SW end. The islet is fringed by a drying reef which connects it with Catanduanes Island to the W.

5.68 Agban Bay (13°43'N., 124°23'E.) lies about 4 miles S of Gigmoto Bay and is entered between the S side of Balacay Island and Vinticayan Point, about 0.4 mile S.

Small vessels can take anchorage in the middle of the bay, in depths of 7 to 18m. This anchorage is well protected from the Southwest Monsoon and partially from the Northeast Monsoon. Vinticayan Point is composed of high rocky cliffs, with grass on its E extremity.

Binorong Point (13°40'N., 124°25'E.), located about 2.75 miles SSE of Vinticayan Point, is formed by high, dark-colored, rocky cliffs. A wooded peak, 81m high, stands about 0.1 mile within the point, and is prominent.

Zayao Islet, lying in the middle of the approach to Guinsaanan Bay, about 0.5 mile N of Binorong Point, is 24m high and barren. It is connected to the mainland W and NW by a reef that breaks in a moderate sea.

A rock, 5.5m high, lies about 0.2 mile SSE of Tominongton Point, located about 1.25 miles SW of Binorong Point.

5.69 Guinsaanan Bay (13°40'N., 124°25'E.) lies about 3 miles SE of Agban Bay. The bay is encumbered with rocks and reefs.

Kalapadan Bay (13°39'N., 124°22'E.) is entered between Bandayanon Point and Taris Point, 2.25 miles SW. The shores of the bay are fringed by reefs up to 0.5 mile offshore.

The town of Baras stands on the NE side of the bay. A white iron roof at the E end of town is prominent.

It is visible from the vicinity of Sinalog Point, 5 miles SSW. Pinohagan Islet, wooded, lies on the edge of the fringing reef close SW of Bandayanon Point.

The Jumbit Islets, consisting of seven grassy islets, extend about 1 mile S of Bandayanon Point. The larger islets vary in height from 19 to 34m and are covered with grass and bushes.

The smaller islets are mere rocks, from 2 to 9m high. The entire group rises from a reef extending 0.25 to 0.5 mile W and 0.25 mile E of the islets. A rock, 0.9m high, lies 91m S of the islet farthest S.

The most dangerous part of the reef is at the NW end where depths of as little as 0.3m are found.

Detached reefs, with depths of 5.5 to 9.1m, lie 0.75 mile and 1.1 miles WSW, respectively, of Pinohagan Islet. A shoal, with a depth of 8.2m, lies about 0.4 mile NNE of Maguinling Islet. A shoal, with a depth of 4.1m, lies about 0.5 miles SW of Minabalay Islet.

Vessels can take anchorage in Kalapadan Bay about 0.4 mile W of Pinohagan Islet, in a depth of 16.5m, sand. Small vessels can anchor about midway between Minabalay Islet and the W face of the peninsula that forms Bandayanon Point, in a depth of 7.3m, mud.

Baras Light is shown on a point 0.5 mile NNW of Bandayanon Point.

Cagaray Point (13°37'N., 124°21'E.), located 0.75 mile S of Taris Point, is a narrow densely wooded neck of land, and faced with rugged cliffs. An islet of the same name lies close N of the point. Sinactan Point, 1.25 miles S of Cagaray Point, is a densely-wooded point of land, 53m high.

Locot Bay (13°34'N., 124°20'E.) lies about 2.25 miles SSW of Sinactan Point. A coral reef near the middle of the head of the bay extends almost 0.75 mile E, thus dividing the bay into two parts.

The Locot Islets, two in number, lie on the E extremity of this reef. Both islets are rocky and covered with bushes.

Nagumbuaya Point (13°33'N., 124°21'E.) is the S entrance point of Locot Bay. The point is the termination of a narrow strip of land. It is very rugged, especially near the outer end, where the cliffs rise abruptly to heights of more than 30m. Four hills stand near the E end of the point. The land W of these hills is low and wooded. A rock, 10.6m high, lies close E of the end of the point.

Lagonoy Gulf

5.70 Lagonoy Gulf (13°35'N., 123°50'E.), entered between Nagumbuaya Point and Ungay Point, the E extremity of Rapu Rapu Island, is a deep body of water, about 23 miles wide at the entrance. There are considerable depths in the middle of the gulf and there are no reported dangers outside a distance of 3 miles from its shores.

Palag Bay (13°44'N., 123°56'E.) lies about 2 miles NW of Rungus Point. The head of the bay is fringed by a steep-to reef. Both entrance points are free of charted dangers on their seaward side.

Rungus Rock, an above-water danger, lies 0.2 mile NNW of Rungus Point. A shoal, with a depth of 4.5m, lies 0.25 mile offshore in a position 0.75 mile NW of Rungus Point.

Vessels can take anchorage in the middle of the bay, in depths of 37 to 55m.

The space available is small, but well protected from all but SE winds.

Guijalo Bay (13°44'N., 123°52'E.) lies about 3.5 miles W of Palag Bay. The bay is deep and clear of dangers in its middle part. The head of the bay is fringed by a steep-to reef.

Port Minas, a small port, lies in a cove on the W side of Guijalo Bay. Anchorage can be taken off the entrance to the cove.

Alto Point (13°43'N., 123°39'E.), about 18 miles W of Rungus Point, is moderately high and steep-to. Rosa Islet, low and wooded, lies about 0.75 mile ESE of Alto Point. It is fringed by a reef. There is a clear, deep channel, 0.5 mile wide between the islet and the N shore of the gulf.

Alto Reef, part of which dries, lies 0.5 mile SW of Alto Point. The channel between the reef and Rosa Islet is about 1 mile wide and clear of dangers.

Directions.—When passing N of Rosa Islet and Alto Reef, keep 0.25 mile from the Luzon shore which is clear of dangers and steep-to.

5.71 Panagan (13°44'N., 123°36'E.) lies about 3.5 miles

WNW of Alto Point. A wharf extends in a S direction from the port. Sabang, a small town, lies about 1.25 miles WSW of Panagan, and stands on the S side of the entrance to the Lagonoy River. A light is shown from Sabang.

Vessels can take anchorage, in depths of 18 to 22m, 0.5 mile offshore with Sabang Church bearing between 316° and 001°.

Sagnay Point (13°36'N., 123°33'E.) lies 7.5 miles SSW of Sabang. A reef, on which there are some above-water rocks, extends about 0.5 mile N from Sagnay Point. A small town stands about 1.5 miles W of the point.

The **Nato River** (13°36'N., 123°33'E.) empties into the gulf close N of Sagnay Point. The entrance to the river is blocked by reefs and shoals. Nato, a small town, stands on the N bank about 0.75 mile from the mouth of the river. A small wharf is located N of the town.

Vessels can take anchorage with Sagnay Point bearing 171°, Atulayan Island bearing 148°, and Rosa Islet bearing 054°, in a depth of 26m. A small boat showing a flag meets incoming vessels and leads them to the anchorage.

5.72 Atulayan Bay (13°35'N., 123°33'E.), extending between Sagnay Point and Gorda Point, indents the coast for about 2 miles. A reef fringes the shores of the bay.

Atulayan Island, fringed by a narrow reef, lies in the middle of the entrance to Atulayan Bay. Reefs, with a least depth of 3.6 and 1.8m, lie 0.25 mile SW and 0.25 mile NW of the island.

Vessels can take anchorage with Sagnay Point bearing 012°, the W extremity of Atulayan Island bearing 040°, and the SE entrance point of the bay bearing 098°, in a depth of 37m, mud.

Vessels entering the bay may pass either NW or S of Atulayan Island. When using the NW entrance, vessels should pass fairly close to Sagnay Point in order to avoid the large reef NW of Atulayan Island.

Atulayan Island

5.73 Tabaco Bay (13°20'N., 123°47'E.), lies SE of Gorda Point and is entered between Tiwi Point and San Miguel Point, about 7 miles SE. The bay extends about 12.5 miles in a SE direction.

A 5.8m rocky shoal lies 1 mile NW of San Miguel Point and a 10.4m patch lies about 0.25 mile farther N; this latter patch was found to have extended S. The fairway into Tabaco Bay lies between these shoals. US charts,

A bank, with depths from 1 to 16m, extends 3.25 miles NW from a position 1.75 miles NW of San Miguel Point, leaving a deep, narrow channel between its NW end and the N coast of Luzon, 2 miles SE of **Tiwi Point** (13°29'N., 123°40'E.). There is a sand cay near the NW end of the bank.

The shores on both sides of the bay are steep-to. The towns of Malinao, Tabaco, and Malilipot, located about 5, 8, and 10.5 miles SSE, respectively, of Tiwi Point. The churches at Tiwi, Malinao, and Tabaco serve as good landmarks for vessels entering Tabaco Bay. There are a number of prominent warehouses and buildings at Tabaco.

Malinao leading marks are situated at **Malinao** (13°24'N., 123°42'E.). The front is a white concrete pillar, 7m high, on the beach NE of Malinao. The rear is a wooden, framework tower 0.65 mile WSW of the front mark. The rear light is flashing white. A fixed red light is shown from the front beacon, which in line bearing 238°55', leads into Tabaco Bay, N of the 7.3m shoal, but across the S end of the 10.4m patch mentioned above.

Caution is therefore required when making the approach. The leading marks have been reported difficult to see.

Bacacay, a small town, is located on the SW shore of the bay in a position about 3.5 miles ESE of Malilipot. A reef with a depth of 7m extends about 1 mile NE from the W side of the head of Tabaco Bay, about 1 mile E of Bacacay.

Buguias Islet, low and flat, lies on this reef about 0.5 mile within its outer end. There are several islets and shoals lying SE of this reef and near the head of the bay.

Pili Bay is a long shallow inlet extending from the SW side of the head of the bay almost to Albay Gulf; its S end is separated from the gulf by a narrow, gravel bank about 1.8m high.

Sula Channel, with a least depth of 1.5m, is a narrow and tortuous channel that separates Luzon from Cagraray Island and connects the head of Tabaco Bay with Albay Gulf.

Entrance to Sula Channel

Port of Tabaco—Mayon Volcano

5.74 Tabaco (13°22'N., 123°44'E.) (World Port Index No.

58150) is the most important point in Lagonoy Gulf.

The town church and several large buildings are prominent. The port is protected by a natural breakwater formed by a sandbar which is partly covered with vegetation and trees.

Winds—Weather.—Winds are generally prevailing from ENE.

Tides—Currents.—During the Northeast Monsoon (November to early March), berthing at the pier is very difficult. Rain and wind squalls occur quite frequently during the months of December and January. During the typhoon season (June to November), typhoons often cause severe damage in the Tabaco Bay area.

The tidal currents are weak and reported variable in Tabaco Bay. It is reported by local pilots that the flood current sets N and the ebb S off the face of the pier at Tabaco. A strong eddy current is reported to exist in the vicinity of Baculud Point.

Depths—Limitations.—There is a concrete wharf about 300m long and 12m wide, with a depth of 9.1m alongside. A dangerous wreck lay at the N end of the wharf. The maximum size of vessel accepted is 300m in length and a draft of 8.5m. Improvements to the port are planned.

Pilotage.—Requests for pilotage, which is compulsory, should be communicated to the Legazpi Harbor Pilot Association, Legazpi City, at least 24 hours before arrival. The pilot boarding area is established 2.25 miles NNE of San Miguel Point (13°20'N., 123°47'E.).

Anchorage.—There are no good anchorages in Tabaco Bay due to the deep water. An anchorage area is established 0.8 mile ESE of the pier, in a depth of about 75m, mud.

Directions.—Tabaco Bay should be approached with Malinao Leading Marks in line, bearing 239°, before Tiwi Point bears more than 294°, which leads 0.3 mile NW of the 7.3m shoal in the entrance. When Tabaco Church bears 186°, steer to pass close E of Baculud Point and then to the anchorage.

Caution.—Vessels should not enter Tabaco Bay at night, but may leave after dark. It has been reported (1994) that the range is obscured by trees.

A dangerous wreck lies about 0.5 mile S of Baculud Point, in a position approximately 0.25 mile E of the pierhead.

5.75 San Miguel Island (13°23'N., 123°48'E.) is densely wooded. Drying reefs extend 1 mile off its NE side.

A shoal, with a depth of 11m, lies 2 miles N of Budias Point, the E extremity of the island.

The town of San Miguel stands on the S side of San Miguel Island in a position about 2.75 miles SE of **San Miguel Point** (13°24'N., 123°46'E.), the NW extremity of the island. The offshore end of a small landing at San Miguel is destroyed.

Cagraray Island (13°18'N., 123°52'E.), densely wooded and 383m high, is separated from the SE side of San Miguel Island by Casolgan Pass, a narrow strait that nearly dries at LW. There are four small islets in the pass, the one farthest S being the largest.

The deeply indented E side of the island is separated from Batan Island by Cagraray Pass, a narrow strait that is blocked by reefs.

Mango Islet, which lies in the middle of the pass, is low and partly covered with coconut trees.

The N shore of Cagraray Island is fringed by a reef that extends up to 1 mile offshore. A shoal, with a depth of 11m, lies about 3.25 miles NW of Tumaras Point, the NE extremity of the island.

Cagbulauan Island, 76m high, and Guinanayan Island, 56m high, lie in the N end of Cagraray Pass, E of the NE side of Cagraray Island and N of the W part of the N coast of Batan Island.

The islands are small, wooded, and surrounded by reefs that extend about 0.5 mile offshore from their N sides.

5.76 Batan Island (13°15'N., 123°59'E.) extends about 11.25 miles E from Mancao Point, its W extremity, which is located about 2.75 miles SSW of Tumaras Point.

Mount Viscaya, 396m high and located about 7 miles ESE of Mancao Point, is the summit of the island. The island is heavily wooded and is rich in coal. The N coast between Mancao Point and Kalanaga Bay, about 7.25 miles E, is fringed by a reef extending about 1 mile offshore in places.

Small craft, with local knowledge, can find protected anchorage SE of Guinanayan Island. The approach to this anchorage is narrow and bordered by reefs.

Gaba Bay, entered between Labcan Point, located about 4 miles E of Mancao Point, and Nanlampalay Point, about 1 mile E, indents the coast about 1.75 miles. A light is shown from Labcan Point. The entrance is encumbered with shoals and the shores of the bay are fringed with reefs.

A very narrow channel, with depths of 7 to 17m, leads between the reefs to the head of the bay. Small craft, with local knowledge, can find protected anchorage in the middle of the bay, in a depth of 16.5m.

Cone Island, a small, sharp islet about 61m high, stands close off Nanlampalay Point. Mount Bilbao, densely wooded and 288m high, is the summit of the peninsula that separates Gaba Bay from Kalanaga Bay.

Kalanaga Bay, entered between Sharp Point, located about 1.75 miles ESE of Nanlampalay Point, and Kalanaga Point, about 0.5 mile ENE, indents the coast about 1 mile. The shores of the bay are fringed by drying reefs, leaving only a narrow channel and a limited anchorage space. The bay is surrounded by wooded hills.

The town of Kalanaga stands on the SE shore of the bay. There are a few huts on the low spit on the E side of the entrance. The surf breaks heavily on the W side of the entrance.

Tabaco—Berthing Information

Name	Length	Depth	Remarks
Dry Cargo Berth			
RC Pier	272m	—	Passengers, General cargo

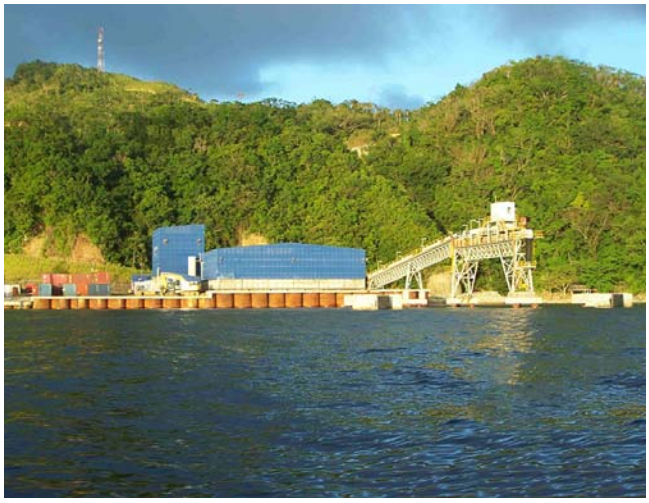
Vessels can take anchorage E of Sharp Point, in depths of 16 to 18m. The coast between Kalanaga Point and East Point, about 4 miles ESE, is bold and steep-to. A shoal, with a depth of 8m, lies about 1 mile ENE of East Point.

Rapu Rapu Island (13°13'N., 124°08'E.) lies with its W extremity 1.5 miles SE of the SE extremity of Batan Island. The island is mountainous and heavily wooded.

The NE coast is fringed by a narrow coral reef that dries, and detached shoals lie up to 2 miles off this coast.

Ungay Point, 229m high, is bold and prominent, and stands at the E extremity of the island. A light is shown from a concrete tower, 16m high, situated on the point.

Rapu Rapu Lafayette Mining Berth (13°10'N., 124°12'E.), a private mining port, lies on the SE coast of Rapu Rapu Island in Malobago, at the entrance of Albay Gulf. It was reported that the port can accommodate large vessels and can be easily accessed from the Pacific Ocean.



Rapu Rapu Lafayette Mining Berth

5.77 Rapu Rapu Strait (13°14'N., 124°05'E.) lies between Batan Island and Rapu Rapu Island. The strait is 5 miles long and 0.4 mile wide at its narrowest point. The channel is tortuous and is encumbered with numerous reefs, but there is a good channel through it with a least depth of 6.4m. It should only be used with local knowledge.

Navigational aids mark some of the dangers in the strait and can best be seen on the chart.

Drying reefs and shoals lie up to 1.5 miles off the E coast of Batan Island. Reefs and shoals extend 0.6 mile WNW and 1.75 miles W from Acal Point, located about 4.25 miles ENE of Babayon Point. The remainder of the NW coast of Rapu Rapu Island is fringed by reefs and shoals up to a distance of 0.4 mile.

Middle Reef lies on the W side of the channel in a position about 1.5 miles SSW of East Point. The reef is awash at LW and breaks heavily during the Northeast Monsoon. Drying reefs and shoals lie between this reef and the coast of Batan Island to the WNW and W.

A shoal, with a least depth of 6.9m, lies on the E side of the fairway in a position about 1.25 miles S of East Point.

The channel between the 10m curve surrounding this shoal and the 10m curve surrounding Middle Reef has a least width of about 0.1 mile.

A large drying reef lies about 0.4 mile E of Middle Reef. A shoal spit extends about 0.1 mile SW from its SW side.

A shoal, with a depth of 6m, lies about 0.4 mile S of the S end of Middle Reef.

Derickson Reef extends about 0.5 mile NE from its S extremity, which is located about 1.25 miles ENE of Babayon Point. The reef is partly awash and generally can be readily identified. The channel passes close SE of the S extremity of this reef.

A shoal, with a least depth of 2.3m, lies about 0.2 mile N of the N extremity of Derickson Reef.

A shoal, with a depth of 7.8m, lies about 0.9 mile NE of Babayon Point. Two small shoals, with depths of 6.9m, lie close together in a position about 0.5 mile N of the same point.

A shoal, with a least depth of 5.1m, lies about 0.6 mile NW of Babayon Point. The channel passes well S of these shoals.

Columbia Reef, with a least depth of 1.3m, lies about 1 mile W of Babayon Point. Detached shoals, with depths of 4.1 to 14.6m, lie between this shoal and the coast of Batan Island to the N.

Babayon Reef, which partly dries, lies about 0.4 mile WSW to Babayon Point. The channel between the 10m curve surrounding this reef and the 10m curve surrounding Columbia Reef is about 0.3 mile wide.

Two range beacons, located about 2.25 miles ENE of Babayon Point, mark the channel E of Middle Reef. These beacons. aligned 185.5°, lead between Middle Reef and the reefs E of it. Ships passing through Rapu Rapu Strait from N should use this range. These beacons are reported missing.

Tidal currents in Rapu Rapu Strait attain a rate of 1.5 knots.

Batan Harbor (13°14'N., 124°03'E.) lies on the SE coast of Batan Island. The entrance to the harbor, which is easy of access, lies N of the SW entrance of Rapu Rapu Strait.

A wooden wharf extends SE from the shore and was reported to have a depth of 3.7m alongside. The channel leading to the wharf is marked by beacons.

Small vessels usually anchor 0.2 mile SE of the wharf, in depths of 15 to 18m.

5.78 Coal Harbor (13°15'N., 123°55'E.) (World Port Index No. 58160) is entered between Binalbagan Point, the SW extremity of Batan Island, and Cagraray.

The harbor extends about 2 miles NW, beyond which it is blocked by reefs.

Numerous shoals and dangers lie in the middle of the harbor, through which there is a deep channel leading from the outer harbor into the inner harbor.

Liguan, a small town with an abandoned coal mine, stands near Liguan Point about 2.75 miles NW of Binalbagan Point. Misibis, a small town, stands on the W side of the harbor in a position about 0.5 mile NNW of Cagraray Point.

A drying reef extends about 0.3 mile offshore from a position about 0.5 mile NW of Binalbagan Point. Detached shoals, with depths of 0.3 to 6.9m, lie up to 0.5 mile S and 0.3 mile SW of Tinukawan Point, which is located about 2 miles NW of Binalbagan Point.

Liguan Point is fringed by a drying reef that extends 0.4 mile W and 0.5 mile S. A rock, 6.1m high, stands near the middle of

Legaspi Port

this reef. A shoal, with a depth of 4.1m, lies on the E side of the channel in a position about 0.75 mile WSW of Liguan Point. A lighted buoy marks the NE side of the shoal extending from Cagraray Point.

Anchorage.—Vessels can take anchorage in the outer harbor, sheltered from all winds, except from SE, about 0.5 mile N of Cagraray Point, in depths of 46 to 55m.

Small vessels with local knowledge can anchor in a small bight, fringed by coral reefs, about 0.35 mile NW of Liguan Point, in a depth of 33m.

5.79 Cagraray Point (13°14'N., 123°55'E.), located on the W side of the entrance to Coal Harbor, is fringed by a reef that extends 0.3 mile offshore. A shoal spit extends 0.25 mile E from the reef; a least depth of 1.2m is found on the spit.

A detached reef lies awash about 0.4 mile offshore in a position 0.75 mile SW of Cagraray Point. A shoal, with a depth of 5.1m, lies 0.4 mile SSW of the same point.

Port Sula (13°14'N., 123°52'E.) lies about 2.75 miles WSW of Coal Harbor, and is entered between Cabadea Point, and a point about 0.3 mile to the NW. The port is about 0.25 mile wide from the entrance to Picadero Point.

A light is shown on Cabadea Point. The channel above Picadero Point is narrow, shoal, and unfit for navigation.

Vessels can take anchorage in the middle of the unmarked channel, in depths of 11 to 18m.

Libog (Santo Domingo) (13°14'N., 123°47'E.) is a small town located in the NW corner of Albay Gulf, about 5.5 miles W of Port Sula. The twin spires of the town church is prominent. A drying reef extends up to 0.25 mile offshore abreast of and E of the town.

Albay Gulf

5.80 Albay Gulf (13°10'N., 124°00'E.) is entered between Ungay Point and Bingay Point, 15 miles SSW.

The shores of the gulf are mostly steep-to and the depths are considerable, but there are several dangerous reefs lying up to 3 miles from the head of the gulf.

Rapu Rapu (13°11'N., 124°08'E.), a small town, is located about 5.5 miles W of Ungay Point. There is a post office and radio station in the town.

The S side of Rapu Rapu Island is clear of dangers, except for a large drying reef that extends about 0.75 mile offshore in the vicinity of the town of Rapu Rapu. This reef extends along the coast for about 2.5 miles. On the outer edge of the reef, abreast the W end of the town, are two rocks, about 6.1m and 9.1m high.

Legaspi Port—Mayon Volcano

Small vessels can take anchorage, protected from SW winds, in a small bay located c1lose E of the E end of the reef. There is a narrow channel entered from W, between the reef and the S side of the island, which leads to within 0.5 mile of the town.

Legazpi—Berthing Information			
Name	**Length**	**Depth**	**Remarks**
Dry Cargo Terminals			

Legazpi—Berthing Information			
Name	**Length**	**Depth**	**Remarks**
Berth No. 1	85m	11.8m	Coal, Breakbulk, General cargo. Draught (HW): 7.5m.
Berth No. 2	—	5.7m	Breakbulk. General cargo.
Berth No. 3	—	4.0m	Breakbulk. General cargo.
Berth No. 4	—	3.0m	Breakbulk.
Berth No. 5	—	2.0m	Ro-Ro/Lo-Lo. Breakbulk. General cargo.
Berth No. 6	135m	2.0m	Breakbulk. General cargo.

Bugton Point (13°13'N., 124°01'E.), the S extremity of Batan Island and the SW entrance point of Rapu Rapu Strait, is low, rounded, and backed by high hills.

A small cove, located about 2.25 miles WNW of Bugton Point, indents the coast to a distance of about 0.75 mile. The E shore and the head of the cove are fringed by reefs. A rock, 7m high, stands on the W edge of the reef that fringes the E shore.

A drying reef lies in the SW approach to the cove in a position about 3 miles WNW of Bugton Point and about 0.25 mile offshore.

Small vessels can take anchorage off the W side of the cove, in a depth of 5.8m.

Mayon Volcano (13°15'N., 123°41'E.), the most prominent landmark in this part of Luzon, is located about 5.5 miles W of Libog. The volcano has the shape of a perfect cone, 2,421m high, and at times emits a considerable amount of vapor.

Mount Linguoin (13°10'N.,123°44'E.), a conical wooded hill, 169m high, exhibits an obstruction light and is located 5 miles SSW of Libog.

5.81 Legaspi Port (Legazpi) (13°09'N., 123°45'E.) (World Port Index No. 58170), the principal seaport on the E coast of Luzon, lies at the head of Albay Gulf. It is the center of the largest hemp-producing area of the Philippines.

Winds—Weather.—From October to May, the prevailing winds are from the N and NE. The rest of the year is predominated by SW winds.

Depths—Limitations.—Legazpi Port is not considered to be a safe harbor, except under the most favorable weather conditions. Berthing should be attempted only in daylight hours. Submarine cables, best viewed on the chart, extend from the harbor and E through Albay Gulf to Calbayog on Samar Island.

The harbor consists of a basin formed by two breakwaters. A wharf, about 339m long, stands on the N side. It was reported that the usable length is limited to 69m, with a depth alongside of 4.5m.

It was reported that the maximum size of vessel accepted in Legazpi Port was 120m loa with a 7.6m draft. The maximum size of vessel accepted at Legazpi Oil Company pier is 230m with a draft of 10m.

There are two small piers on the waterfront N of the basin. The piers extend about 45m from the shore. Vessels moor stern-to to these piers. These piers have been reported to be damaged.

A conspicuous copra plant made of galvanized metal, and well-lit, stands 2.25 miles N of the entrance to Legazpi Port.

There is an L-shaped pier, reported to be in poor condition at the plant, with a berthing head of 14m and a depth of 11.9m alongside. Dolphins are placed to form a 167m long berth. Vessels up to 230m in length and 10.6m in draft can use the berth.

It has also been reported that there is usually a heavy swell at the berth, with January being unsafe and July and August being the calmest.

All grades of fuel are reported to be available by road tanker.

Aspect.—The port is distinguished by the number of houses with metal roofs and the various small piers jutting out from the warehouses on the waterfront.

A light, partly obscured by trees when viewed from NE and difficult to distinguish in the early morning light, is shown 0.5 mile N of the port.

An obstruction light is shown from the top of a hotel in the port but has been recently reported extinguished. A prominent church stands on a hill, 3 miles W of Capuntucan Point.

Pilotage.—Pilotage is compulsory for vessels of 100 gross tons and over. The pilot boarding area is approximately 4 miles NE of Legazpi Light. Pilots should be ordered 48 hours in advance.

Regulations.—Vessels should send their ETA 72 hours prior to arrival.

Contact Information.—The port can be contacted, as follows:

Legazpi—Contact Information	
Pilotage	
VHF	VHF channel 16
Telephone	63-52-4804523
	63-52-4807598
Facsimile	63-52-4812875
E-mail	legazpipilots@yahoo.com
Port Authority	
Telephone	63-52-4820303
	63-52-4820304
	63-52-4807087
Facsimile	63-52-4820303
E-mail	ppalegcity@yahoo.com
Web site	http://www.ppa.gov.ph

Anchorage.—An anchorage area lies 0.8 miles E of Legazpi Light, in a depth of about 66m. The holding ground is poor because of the irregular steep bottom. The anchorage is open to the E and exposed to the Northeast Monsoon, which causes a heavy swell.

During heavy weather from the E, vessels should seek anchorage in Coal Harbor or in Port Sula.

Directions.—Lagazpi Port is usually approached by skirting the N shore of Albay Gulf at a distance of at least 1 mile, until the harbor bears 211°, when it should be steered for.

The anchorage may be approached directly by steering for the light 0.5 mile N of the port, bearing 255°, which leads midway between Barao Reef and Denson Reef.

In daylight, the prominent church at **Daraga** (13°09'N., 123°43'E.), bearing 257° and just open N of the light, is a good leading mark for this channel.

5.82 Catubeg Reef (13°11'N., 123°48'E.), with a depth of 3m, lies about 3.5 miles NE of Capuntucan Point. Three reefs, one uncharted, with depths of between 13.2 to 21.9m, lie between 1 mile and 1.5 miles W of Catubeg Reef. Barao Reef, with a least depth of 1.2m, lies about 0.5 mile SW of Catubeg Reef. Catubeg Reef is reported to be marked by a buoy.

Denson Reef, with a least depth of 1.2m, lies about 1.25 miles S of Barao Reef.

Poliqui Reef, with a depth of 5.1m, lies about 1.5 miles SE of Denson Reef. Legazpi Reef, with a least depth of 4.6m, lies about 1 mile NNW of Lubas Point.

5.83 Poliqui Bay (13°06'N., 123°48'E.) lies in the SW corner of Albay Gulf and is entered between Lubas Point and Cauit Point, 5 miles E. The bay indents the SW side of the gulf for about 5 miles. There are no ports of any importance in the bay.

Manito Reef (13°09'N., 123°51'E.), with a least depth of 2.7m, lies about 1 mile WNW of Cauit Point. Cauit Reefs, 0.5 mile S of Manito Reef, consists of two reefs separated by a narrow, deep channel. The N reef has a depth of 0.3m, while the S reef has a depth of 0.9m.

The S shore of Albay Gulf, from Cauit Point to Bacon, 12 miles SE, is fringed by a narrow reef.

Bacon (13°02'N., 124°02'E.) is a small town. A prominent hill stands 1 mile W of the town. The town church and red roofed schoolhouse are conspicuous. A dangerous rock awash, lies N of the church and 0.2 mile offshore.

Vessels can take anchorage about 0.75 mile offshore, with the church bearing 181°, in depths of 22 to 28m, mud and sand.

Small vessels can anchor on the same bearing, 0.25 mile offshore, in a depth of 9.1m. These anchorages are open roadsteads and fully exposed to the Northeast Monsoon. The holding ground is poor where small vessels can anchor.

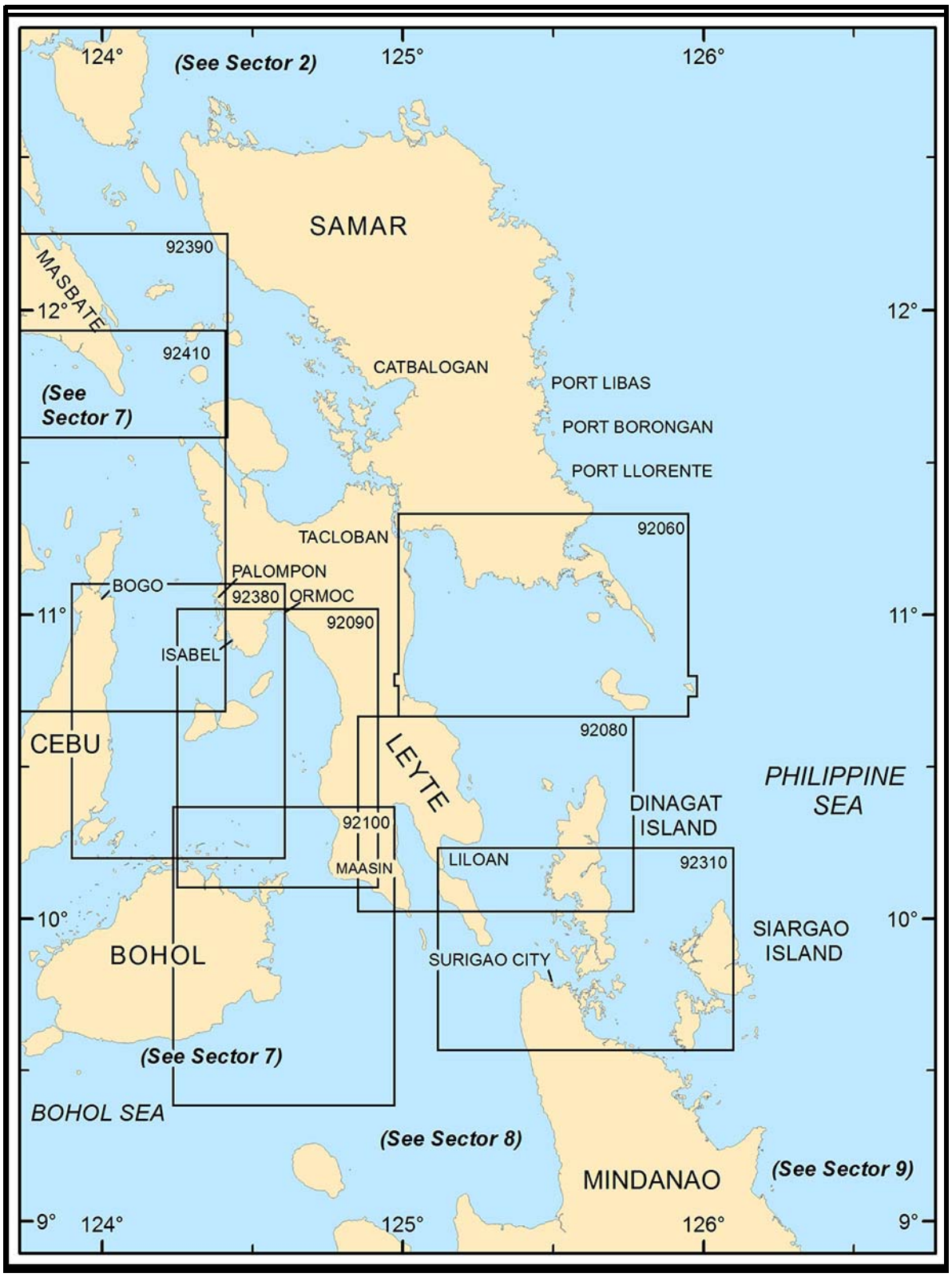
Sugot Bay (13°02'N., 124°05'E.), entered between Papucha Point, 1.5 miles SW of Bacon, and Pagjuriran Point, 3 miles NE, indents the coast for about 2.75 miles in a S direction.

A town stands on the NE side of the bay, about 1.25 miles S of Pagjuriran Point. A village stands 1.25 miles S of the town.

A mole, reported to be in ruins, extends 0.2 mile from the E shore, about 1.25 miles from the head of the bay, close S of the village.

Vessels can take anchorage about 1 mile S of the head of the bay, in depths of 22 to 27m.

Bingay Point (13°04'N., 124°11'E.), the S entrance point to Albay Gulf, and Bingay Rock have been previously described in paragraph 2.118.



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

SECTOR **6** — CHART INFORMATION

SECTOR 6

SAMAR AND LEYTE—WEST COASTS, BOHOL—NORTHEAST COAST, AND CEBU—EAST COAST

Plan.—This sector describes the E coast of Samar from Cape Espiritu Santo S, to and including Leyte Gulf, Surigao Strait, and the NE coast of Mindanao S to Cauit Point, including adjacent islands.

This sector also describes the E and S shores of the Samar Sea and the islands in its central part, the Camotes Sea and the islands therein, the NE coasts of Cebu and Bohol, and the W coast of Leyte.

General Remarks

6.1 Winds—Weather.—The climate in the area covered by this sector is typically warm and humid.

The two main seasons are the Northeast Monsoon from October to April, and the Southwest Monsoon from May to September. April and May is the transition period from winter to summer monsoon.

The area N of 10°N experiences spells of settled weather with high temperatures in April under the influence of the SE Trades from the West Pacific.

Fog is seldom encountered along the coast; also sea fog is rare. High temperatures prevail. Local land and sea breezes prevent extreme high temperatures at the ports.

The high temperature often occurs just before the onset of the sea breeze. The low temperature is reached around dawn. Most places endure high humidity and conditions become very oppressive at times, especially during the evening hours.

The predominate winds are of the Northeast Monsoon, which prevail from November to March, and the Southwest Monsoon, which prevail from June to September.

The winds are normally light to moderate, the average velocity being about 6 to 7 knots. Due to coastal configuration and high mountains, the wind direction on various parts of the coast may not always conform with the prevailing monsoon.

The weather on the E coast of Samar is considerable influenced by the large amount of rainfall, most of which occurs in November to January, during the Northeast Monsoon.

The maximum annual rainfall is about 3,559mm, of which about 50 per cent occurs during the winter months.

There is no dry season. Much of the rain from April to September is with thunderstorms, which occur most often in the late afternoon and in the early morning at sea.

The annual mean temperature in the vicinity of this coast is about 26°C. The average monthly temperature ranges from about 25°C in February to about 27°C in August. The relative humidity ranges from about 80 to 88 per cent.

The cloud amount is greatest on this coast in December and January and again in July, the latter probably because of the general cloudiness of the typhoon season. The clearest months are April and May.

Visibility may be reduced to less than 0.5 mile during heavy rain, but this is usually only for a few minutes at a time. Visibility of less than 5 miles occurs about 2 or 3 days a month during the monsoon seasons because of haze or mist.

On Cebu, November, December, and January are reported to be the most likely months for the occurrence of typhoons. They seldom, if ever, get so far S during the Southwest Monsoon season. They are least likely to occur in February during the Northeast Monsoon season.

Leyte is crossed by the average paths of 25 storms during October, December and May.

Between 8°N and 11°N, typhoons are slightly more frequent than farther S, and about 7 per cent of more serious typhoons which affect the archipelago are experienced.

From 11°N to 13°30′N, typhoons are frequent and destructive, this area experiences 19 per cent of all typhoons.

The mean track of typhoons moves progressively N from February until the middle of August and then S again until January resulting in the W moving typhoons of winter and spring. They generally strike the region S of 15°N.

From January to March, that part of the area lying N of 11°N is almost, if not completely, immune from typhoons.

Typhoons are quite frequent and often destructive on the E coast of Samar. About 20 typhoons occur each year; an average of about four of them are severe. Although they may be encountered any time of year, the typhoons season is from June to November.

The maximum typhoon activity occurs in September and early October, and the least activity is in the months of January through April. The typhoons dangerous to the Philippine Islands originate in the vicinity of the Caroline Islands.

During January, February, and March about 90 to 95 per cent of the typhoons recurve to the NE as they approach the Philippines. In April about 75 per cent recurve, and in May about 80 per cent recurve.

In June and July about 65 per cent recurve, and in the months of August through November about 60 per cent recurve. In December about 65 per cent of the typhoons recurve.

The typhoons which do not recurve but continue W across the Philippine Islands do so in the latitude of about 10°N, in December and January. In subsequent months the latitude of their tracks increase until August, when it is unusual for them to lie S of 18°N.

Storm and typhoon warnings are broadcast and signals are displayed at various ports throughout the Philippine Islands. Typhoon harbors of refuge on this coast Helm Harbor and Pambugan Harbor.

Tides—Currents.—The North Equatorial Current approaches the Philippine Islands as a broad W flow across the Pacific. This current is at its strongest during the Northeast Monsoon with average velocities of about 1 knot in the latitude of Samar.

Towards Samar, this current diverges. One branch flows SSW with some of the waters flowing through Surigao Strait into the Bohol Sea. Most current passes SE of Mindanao.

There are two principal flood tidal currents, coming from op-

posite directions, that are felt in the Camotes Sea and adjacent areas off Cebu, Leyte and Bohol.

One branch of the flood current coming from the N through the Samar Sea sets S between Cebu and Leyte into the Camotes Sea. Flood current from Surigao Strait enters the Mindanao Sea and sets W between Panglao Island and Siquijor Island, then branches as it nears the coast of Cebu and Negros.

The branch that sets N passes through the channel between Cebu and Bohol, and in a position 5 or 6 miles S of the Camotes Islands it meets the opposite flood current coming from the N. The meeting is reported as hardly noticeable. The ebb current sets in the opposite directions.

The flood current from the N sets E in the passage between Ponson Island, of the Camotes Islands group, and Calunangan Point on Leyte, and curves around the island and sets S.

Vessels approaching Surigao Strait from the W should keep well over toward Panaon Island to avoid being set toward Camiguin Island.

The currents in the Samar Sea are dominated by the tidal currents. The Pacific tide enters the Samar Sea from the N through the San Bernardino Strait and flows in a general S direction into the Visayan Sea. The flood currents sets S; the ebb current sets N.

In the passes between the islands in the N entrance of the sea, the flood sets SSE and the ebb in the opposite direction at a velocity of about 4 to 8 knots through the E channels.

Between the Naranjo Islands and Masbate, the flood current sets SE and the ebb NW at a lesser velocity. Close S of the central and E part of the N entrance of the Samar Sea, the flood current sets SSW and the ebb NNE.

On the W side of the Samar Sea the tidal currents tend to parallel the Masbate coast, the flood sets SW and S and the ebb is in the opposite direction.

The tidal currents on the E side of the sea are presumed to set similarly parallel to the coast of Samar.

Between Tagapula Island and Almagro Island, in the central part of the sea, the flood current sets SW and the ebb NE. The tidal currents have considerable velocity in the wide deep channels between the larger islands and the coasts of Samar and Masbate.

In the SE part of the Samar Sea and through the SW entrance of the sea, the S setting currents have been reported to have a velocity of less than 0.5 knot and a little over 0.5 knot, respectively.

Observations taken midway between Malapascua Island and the N end of Cebu indicate that the flood current sets NW and the ebb sets SE.

In general, the bays and straits of Leyte are free of currents, but any exceptions are described with the related features.

Off the N coast of Bohol, strong variable currents occur in the vicinity of Danajon Bank. Off the E coast of Bohol, the flood current sets N and the ebb current sets S through Canigao Channel between Bohol and Leyte.

The island of Leyte, between Cebu and Samar, is generally mountainous, but it contains several large and fertile valleys. It is the eighth largest of the Philippine Islands. Several of the mountains are the extinct craters of volcanoes and are covered with forests. The climate is hot and humid, but healthy.

Typhoons, although infrequent, do occur and cause great damage. The rivers are small and shallow, and are suitable only for small craft.

Samar is moderately high and densely wooded. It is sparsely populated and only a small part is cultivated.

The E coast of Samar is irregular and consists mostly of a low shore that is closely backed by hills with mountainous terrain inland.

Numerous bays and bights, encumbered with reefs, indent the coast and are separated by rocky points. Leyte Gulf occupies the large indentation S of Samar.

It has general depths of more than 37m, but there are a number of shoals and reefs in the W and NW parts. San Juanico Strait, navigable by small vessels, connects Leyte Gulf with Samar Sea.

The W coast of Samar is closely backed by hills and mountains, the summits of which attain a height of as much as 707m about 4.5 miles inland, but there are low coastal plains in the vicinity of the mouths of several rivers.

The N part of the coast is clear and unbroken, but the central and S parts are fringed with a number of small islands and become increasingly indented by small bays and bights. Several large shoal water bays indent the S part of the coast.

The Libucan Islands and the Canahauan Islands are small groups that lie between about 3.3 and 6.3 miles off the central part of this coast. Daram Island and Buad Island are larger islands fronting the S part of this coast.

There are depths of about 91m to more than 183m in the W part of the Samar Sea through which the preferred shipping tracks pass, and of about 37 to 73m in the E part of the sea.

The steep-to islands in the central part of the sea have depths of more than 37m less than 0.5 mile offshore, but a few detached pinnacle rocks and shoals lie up to about 1.3 miles offshore.

Most of the coastal dangers are contained within the 20m curve, which follows the trend of the W coast of Samar at a distance of about 0.3 mile to 3.3 miles offshore, passes close westward around Buad Island and Daram Island, and then follows the coastal trend about 0.3 mile to a little over 1 mile off the N coast of Leyte.

A few detached islets and shoal patches lie outside the 20m curve and up to about 0.5 mile off Daram Island and the smaller islands adjacent to it and Buad Island.

Several detached islets and rocks lie up to about 1.5 miles of the N part of W side of Biliran Island, and up to about 2.25 miles N of the NW end of that island.

The Libucan Islands and the Canahauan Islands are steep-to and have detached dangers up to about 0.8 mile off them, as well as between the two groups.

Large vessels frequently pass through the Samar Sea when bound to or from San Bernardino Strait and Cebu, Iloilo, or other ports in the S part of the archipelago.

Small inter-island vessels use San Juanico Strait, which separates Samar from Leyte, and connects the Samar Sea with Leyte Gulf.

Vessels proceeding through the Samar Sea, from San Bernardino Strait to the Visayan or the Camotes Seas, usually enter by Naranjo Pass which lies between Capul Island and the Naranjo Islands in the N entrance of the sea.

The track passes W of Destacado Island, the S islands in the N entrance, then trends S between the islands in the central part of the sea and the Masbate coast, and then through the SW en-

trance.

Northbound vessels frequently pass E of Destacado Island. At night or in bad weather, vessels bound N are advised to keep close to the Masbate coast and pass W around the Naranjo Islands.

The track through the Samar Sea for vessels using Dalupiri Pass, the easternmost and safest pass in the N entrance, trends SSW between Tagapula Island and Almagro Island, in the central part of the sea, and then S into the Visayan Sea.

Samar—Cape Espiritu Santo to Bunga Point

6.2 **Cape Espiritu Santo** (12°33'N., 125°11'E.) forms no projection from the coast but is conspicuous because of its height. The densely wooded mountains in the vicinity rise abruptly from the coast and attain an elevation of 451m less than 0.75 mile inland SW of the cape.

About 0.5 mile NW of this latter summit is another summit, 444m high, both being prominent from NE.

These mountains are visible for a distance of about 40 miles and make good landmarks for approaching San Bernardino Strait.

The mountains back the coast to a position SW of Dapdap Bay, and then to Sila Point, the coastal hills are about 91 to 222m high.

Palapag Mesa (12°28'N., 125°09'E.), a flat-topped ridge about 1.5 miles long, lies about 5.5 miles SSW of Cape Espiritu Santo. This ridge, which attains a height of 375m at its SW end and is 374m high at its NE end, is conspicuous because of its shape rather than its height.

Although prominent to vessels off the N coast of Samar, Palapag Mesa is concealed by higher mountains from vessels rounding Bacan Island and proceeding SE along the coast.

It cannot be seen again until a vessel is 2 or 3 miles SE of Sila Point.

A black conical rock, 46m high and conspicuous from seaward, lies on the edge of the coastal reefs about 4.5 miles SE of Cape Espiritu Santo.

Manjud Point (12°28'N., 125°17'E.) is formed by a spur that extends NE from the mountains island. The point rises perpendicularly from the sea to a height of 15.2m and then to a 167m summit less than 1 mile WSW. Some high rocks lie nearly 0.5 mile offshore about 0.5 mile NNW of the point.

6.3 **Sacamalig Bay** (12°27'N., 125°18'E.) is a bight that indents the coast between Manjud Point and Sila Point, about 4.5 miles SE. Canmanai Rocks, 6.1m high, are two rocks that lie about 0.3 mile off the NW side of the bay and about 1 mile SSE of Manjud Point. The SW shore is a sandy beach. Anchorage can be taken, in 18m, sand, about 1 mile off the sandy beach.

Sila Point (12°24'N., 125°20'E.), 59m high, rises abruptly less than 0.5 mile inland to the 169m summit of the W and highest of three pyramidal hills; the latter hills are conspicuous from NW and SE.

A reef, on which there are numerous rocks, and shoal water fringe the point up to a about 0.3 mile offshore. A high rock and several pinnacle rocks lie on the edge of the reef N of the point.

6.4 **Gamay Bay** (12°20'N., 125°20'E.) indents the coast between Sila Point and Hiuinatungan Island, about 8 miles SSE. Although there is deep water, from about 13 to more than 37m close to the reefs fringing the shore, the bay is encumbered with many dangerous detached reefs, with depths of less than 1.8 or 3.7m, and over which the sea does not ordinarily break.

The numerous small bays and bights that indent the shore of the bay are separated by reef-fringed points.

Although the shores of the bay are low, they are closely backed by hills that attain heights of about 152m about 2 miles inland; these hills are backed by higher mountains farther inland.

Higunum Rock (12°24'N., 125°21'E.), a flat rock 7.9m high, over which the sea breaks in heavy weather, lies in the entrance of Gamay Bay about 1.5 miles SE of Sila Point.

Sora Cay, low and sandy, lies in the middle of the entrance of Gamay Bay about 3.5 miles SE of Sila Point. The islet changes shape after every gale and should be given a berth of at least 1 mile when passing E of it.

Canabayon Island (12°20'N., 125°20'E.), a low wooded islet with a sandy beach, lies on the W side of Gamay Bay about 4.5 miles S of Sila Point.

Gamay (12°23'N., 125°18'E.) is a small village that lies at the mouth of the Gamay River, which empties into Gamay Bay.

During the Southwest Monsoon, good anchorage can be taken, in 14.6m, mud, with the S entrance point of the river bearing 335°, distant nearly 0.75 mile. This anchorage is not safe with a swell from eastward.

6.5 **Helm Harbor** (12°18'N., 125°21'E.) indents the SW side of Gamay Bay between Barabod Point, low and covered with mangroves, and a point about 1 mile ESE.

Nanuntugan Reef and the shoal patches between it and the entrance points reduce the entrance channel to a width of about 0.3 mile.

Although not large, the harbor provides good typhoon anchorage for vessels of moderate size, in 8 to 9m, mud, about 0.5 mile SW of the E entrance point. As there are no navigational aids, strangers should enter the harbor at LW when the reefs are visible or when it is rough enough to cause breakers.

San Ramon Bay (12°17'N., 125°23'E.) indents the S side of Gamay Bay between Binarayan Island, about 2 miles ESE of the entrance of Helm Harbor and Hiuinatungan Island, about 0.8 mile farther SE.

The island is low and fringed by reefs. The narrow bay has depths of 10.5m to over 18.3m in its central part, but it is a little less than 0.5 mile wide between the steep-to reefs fringing the shore. Although the main entrance is on the W side of Hiuinatungan, vessels can enter through a narrower channel that passes along the E and S sides of that island.

A 1.2m patch lies on the S side of this latter channel S of Hiuinatungan Island. The small village of San Ramon is situated at the head of the bay. A rock causeway is located at San Ramon.

Anchorage.—Vessels can anchor in the S part of San Ramon Bay, in about 9.1m, mud, about 1.3 miles SSW of Hiuinatungan Island. A branch of the bay extends NW from the central part of the bay and affords safe typhoon anchorage for small vessels, in 7 to 8m, mud, about 0.2 mile from the man-

groves on the NE shore and 0.3 mile from the bushes on the NW shore.

Vessels should moor, using about 82.3m of chain, with the starboard anchor N, where the first blow comes from, and the port anchor S. Although this latter anchorage is confined, it is considered as good as Helm Harbor and is much easier to access.

Between Hiuinatungan Island and Bunga Point, about 9.5 miles SE, the coast consists of a low mangrove shore.

A high level-appearing wooded ridge of hills backs this part of the coast and attains a height of 154m about 2 miles inland. A drying reef fringes this entire section of coast. The outer edge of the reef breaks continually.

Samar—Bunga Point to Anitaguipan Point

6.6 Most of the coast between Bunga Point and Anitaguipan Point is low and wooded. In many places the heavily-wooded coastal hills, about 30 to 122m high and which gradually increase in height southward, lie within 0.5 mile inland. They are backed by mountains that rise to elevations of more than 610m within 10 miles inland.

In the vicinity of Port Libas, the mountains approach the coast to about 1.8 miles inland at the head of that bay.

The coast is fronted by a drying coral reef which extends 1.5 miles offshore at the NW end and gradually narrows to 0.75 mile at the SE end.

Bunga Point (12°10'N., 125°30'E.), a low inconspicuous point bordered with mangroves, rises close NNW to a wooded ridge, 15.2m high.

A group of jagged boulders, up to 6.1m high and which are very prominent from NW or SE, lie near the edge of the steep-to coastal reef about 1 miles NE of the point.

Apiton Island, a wooded islet, lies about 0.5 mile SE of Bunga Point. The islet is fringed by a steep-to reef, on which there are numerous rocks, that extend up to about mile NE and about 0.3 mile SE from it. A rock, 19.2m high, lies on the edge of the fringing reef close off the SE end of the islet.

A detached 5.9m depth, over which the sea breaks heavily in bad weather, lies about 1.3 miles SE of Apiton Island.

Anchorage.—Anchorage, sheltered from E winds and sea, can be taken, in 18.3m, mud, about 0.3 mile off the steep-to SW side of Apiton Island.

6.7 **Tubabao Island** (12°07'N., 125°33'E.) lies in a position about 3 miles SSE of Apiton Island. The island has a small village on its SW side. A wooded ridge, 31 to 32m high, extends the length of the island. There is good anchorage off the W side of the island, in depths of 18 to 30m.

Other islands, all low and covered with coconut trees or bushes, extend S for 7.75 miles to Fulin Island, the S island of the group. These islets all lie on a reef, which is narrow at its N end and gradually widens until it extends 1 mile E and S of Fulin Island. A light is shown about 0.3 mile NW of the N extremity of Fulin Island.

Pasig Island (11°58'N., 125°32'E.), lying about 3 miles SSW of Fulin Island, is a detached islet located on the W side of a partly drying reef, on which there are a number of above-water rocks. This reef is fringed up to about 0.5 mile by shoal water, beyond which there are depths of more than 18.3m.

A prominent wreck lies on the NE edge of the reef. An 11.9m patch lies about 1 mile NE of Pasig Island.

Between Bunga Point and Cabra Point, about 6.5 miles S, the coast recedes to form a bight that is much indented by small bays and inlets and at the head of which lies Oras Bay.

The shores are mostly low and closely backed by detached hills, up to about 61m high, behind which are the higher coastal hills. There are many detached below-water reefs which extend up to 1 mile offshore.

6.8 **San Policarpo Bay** (12°11'N., 125°30'E.), a confined reef-fringed cove with numerous coral heads, lies on the W side of Bunga Point.

The best channel into this cove is on the W side of some reefs that lie up to about 0.5 mile SSW of Bunga Point.

Anchorage can be obtained in the middle of the bay, in a depth of 9m, with Bunga Point in line with the N extremity of Apiton Island bearing 104°.

Several other small bays lie between San Policarpo Bay and Ludo Point, a low point about 2.5 miles SW.

Although there is deep water close in to the reef-fringed shore, these latter bays are fronted by a number of shoal patches, with depths of about 0.6 to 4.5m, that lie up to about 1.3 miles offshore.

Oras Bay (12°07'N., 125°27'E.) indents the coast between Ludo Point and Bankari Point, about 2 miles S.

Both of the entrance points are fringed with reefs that extend up to about 0.8 mile offshore.

The small town of Oras is situated on the N bank of the mouth of the Oras River, which empties into the NW end of Oras Bay. The channel at the river mouth is constantly shifting and suitable only for small craft. There is small pier and a warehouse at the town.

6.9 Between **Cabra Point** (12°04'N., 125°31'E.), prominent and steep-to, and Paninihian Point, about 16 miles SSW, the coast forms a bight that recedes about 4 miles W.

The **Dolores River** (12°02'N., 125°29'E.) empties into the sea about 2.3 miles SW of Cabra Point. A channel over the bar, at the river mouth, has a least depth of about 2.1m at HW. The town of Dolores, from which a moderate amount of lumber is exported, is situated on the N bank just inside the river entrance.

Vessels can obtain anchorage NE of the river mouth, in a depth of about 9m, mud and sand.

The **Ulut River** (12°00'N., 125°27'E.) empties into the sea about 3 miles SW of the Dolores River. Only small boats can cross the shallow bar at the entrance.

From a position about 1.5 miles SSW of the Ulut River, the coast trends about 6 miles S to Pindilin Point. The low and mostly-wooded coast is backed less than 0.5 mile inland by hills, about 33 to 68m high.

Taft (11°54'N., 125°25'E.) is a small town situated on the S side of the mouth of the Tubig River, which empties into the sea about 5.75 miles SSW of the Ulut River.

The bar at the river mouth has a depth of 1.8m at LW. Tugasan Point is the low N entrance point of the river mouth. A reef extends 0.5 mile ESE from the point.

Anchorage.—The usual anchorage for Taft is nearly 1 mile E of Tugasan Point, in 18.3m, mud, with the town bearing 270°

and Pindilin Point bearing 181°. This anchorage is frequently untenable during the Northeast Monsoon.

Pindilin Point (11°52'N., 125°27'E.) is a low point fringed by a reef that extends about 0.5 mile NE. The coast in this vicinity consists mostly of a sandy beach backed by coconut trees.

Between Pindilin Point and Taig Point, about 3.3 miles SSE, the coast is fronted by several islands. The channels between the islands and also between them and the mainland are so encumbered with reefs and shoals that they are suitable only for boats.

Makate Island is a wooded islet that lies about 1.5 miles ENE of Pindilin Point. A dangerous 5.8m pinnacle, which breaks heavily in bad weather, lies about 1.3 miles NE of the islet.

Catalaban Island, the largest of these islands, lies about 0.8 mile S of Makate Island. The E and W ends of the island are about 30m high and are separated by a low isthmus. Macalayo Island, 26m high, and Anajao Island, low and wooded, are two islets that lie about 0.3 mile N and 0.5 mile S, respectively, of the W end of Catalaban Island.

6.10 Sulat Bay (11°50'N., 125°28'E.), open to E, lies between Catalaban Island and Taig Point, 2 miles S.

A 0.9m dangerous patch lies about 0.8 mile SE of Anajao Island, close to the reef off Taig Point.

Taig Point is conspicuous because of a drying reef that extends about 1.3 miles NE. There are four rocky islets, up to 9.4m high, on this reef. The town of Sulat, at which there is a post and telegraph office, is situated at the mouth of the Sulat River on the W side of Taig Point.

The ruins of a church, within which there is a nipa edifice, are conspicuous at the town.

Anchorage.—Vessels can anchor in Sulat Bay, in 9m, mud, about 0.8 miles N of Taig Point, with the ruined church at Sulat bearing 195°; inside this position depths shoal rather abruptly. When a heavy sea sets in during the Northeast Monsoon, this anchorage is untenable and better anchorage can be taken in the N part of the bay.

Caution.—Care should be exercised when entering Sulat Bay to avoid the above-described dangerous 0.9m patch.

6.11 Paninihian Point (11°48'N., 125°28'E.), lying about 1.5 miles SE of Taig Point, is the E extremity of the broad projection of the coast that separates Sulat Bay from Port Libas. The reef extending from Taig Point continues S and fringes Paninihian Point and **Cannomanda Point** (11°46'N., 125°28'E.), the N entrance point of Port Libas, where it extends 0.3 mile offshore. It has many large boulders on it and is steep-to.

Port Libas (11°46'N., 125°26'E.) indents the coast between Cannomanda Point, about 1.5 miles SSW of Paninihian Point, and Najibil Point, nearly 1 mile farther S. Both points are low, and fringed by steep-to reefs and foul ground.

The low shores of the bay are much indented by shallow low reef-fringed coves that are separated by points, fringed with drying reefs. Hills, about 67 to 111m high, closely back the shores, and there are higher hills and mountains, over 305m high, within about 2 miles W of the head of the bay.

Magnana Point (11°46'N., 125°26'E.), on the SW side of the bay, is conspicuous because of two, steep conical hills, of which Mount Magnagua, the higher and eastern hill, rises to a summit about 0.5 mile SW of the point. Tubigan Point is on the N shore of the bay about 0.5 mile NNE of Magnana Point.

A pier, serviced by an aerial tramway having numerous one-ton buckets, is located at Port Libas. Ore can be delivered to the pier at a rate of 65 tons per hour.

Anchorage.—Anchorage can be taken, in 9.1m, mud, about 0.5 mile E of Tubigan Point. In good weather, with a smooth sea, small vessels can go farther into the bay and anchor, in 4.6m, sand, between Tubigan and Magnana Points.

Directions.—When entering Port Libas from a position 1 mile offshore, steer with Mount Magnagua in line with the depression between the horns of a saddle-topped mountain in the interior, bearing 250°, which leads midway between the reef extending S from Cannomanda Point and the foul ground on the S side of the entrance.

When San Julian begins to open W of Palan Point, steer for Tubigan Point, which leads to the anchorage.

Between Najibil Point and Anitaguipan Point, about 5.5 miles ESE, the low coast is backed about 2 miles inland by hills, 116 to 128m high

Samar—Anitaguipan Point to Sungi Point

6.12 Anitaguipan Point (11°40'N., 125°30'E.) is a well-wooded rocky headland that somewhat overhangs the sea.

Capinas Point, 0.75 miles further SW, has a reef extending 0.4 mile SE from it.

Napla Bay (11°39'N., 125°28'E.) indents the coast between Capinas Point and Andis Island, about 1 mile S.

Numerous small shallow coves indent the bay, and there are several villages on its shores.

Anchorage.—Good anchorage can be taken in the middle part of the bay, in about 11.4m, mud, except when heavy seas often set in during the Northeast Monsoon.

Amogotada Point (11°39'N., 125°29'E.), lying 1 mile S of Capinas Point, is a rocky headland at the NE end of the island. A detached 4.6m patch, over which the sea breaks in heavy weather, lies about 0.3 mile S of the S end of the island. The low SW side of the island is fringed by a narrow drying reef that is steep-to.

6.13 Port Borongan (11°36'N., 125°26'E.) (World Port Index No. 58640) occupies a bay that indents the coast between Andis Island and Divinubo Island, about 1.8 miles SSE. A coral reef extends 0.2 mile from the E side of Andis Island. The town of Borongan is situated at the head of the port.

A few hills, up to 93m high, closely back the low and wooded shores of the NW and S sides of the bay, and higher hills lie about 1 mile or 2 miles inland from the head of the bay. Although open to eastward, from which direction swells set in during the Northeast Monsoon, the bay affords shelter in the lee of Andis Island.

6.14 Divinubo Island (11°36'N., 125°30'E.), which is about 27m high, marked by a light and appears flat, lies on the S side of the entrance of Port Borongan.

Candamat Reef (11°36'N., 125°26'E.), which dries at LW, extends about 0.5 mile ENE from a point that projects E from

the head of the bay westward of Divinubo Island. The reef was reported to have extended about 0.1 mile farther NE than charted.

Tides—Currents.—The tides at Port Borongan are predominantly semidiurnal. The mean range of the tide is 1.2m, and the diurnal range is 1.5m. The lowest LW falls as much as 0.4m below chart datum of MLW.

Depths—Limitations.—The head of Port Borongan consists of a sandy beach that extends about 1 mile N and about the same distance SSE from the point from which Candamat Reef extends.

The town of Borongan is obscured by coconut trees, but its location is indicated by the breakwater and pier on the N side of the point.

A 183m long breakwater, reported partially in ruins, extends NW from the root of Candamat Reef.

A pier, about 73m long and 12m wide, extends NNW from the head of the breakwater. Depths of 4.9 to 5.5m alongside and 11m off the head were reported. Reefs lie along the outer face of the breakwater and on both sides of the inner part of the pier.

Anchorage.—Anchorage can be taken, in about 16.5m, mud, about 0.5 mile SSW of a small reef, which breaks.

The anchor can be dropped when the reef bears 025° and a wooded islet bears 300°. The islet is located close to the NW shore, about 0.8 mile N of Candamat Reef.

This anchorage is untenable during the Northeast Monsoon. Anchorage can be taken closer in to the breakwater, in about 11.4 to 12.8m, mud, about halfway between the above wooded islet and Candamat Reef. This latter anchorage can be used only in good weather when there is not too much swell.

During the Northeast Monsoon, the best anchorage is in the N part of Port Borongan about 0.3 mile offshore and SSW of the NW end of Andis Island, in 18.3 to 21.9m, mud, with Anitaguipan Point just open of the latter extremity of the island.

This anchorage does not afford protection during typhoons because of heavy seas that make in around the S end of Andis Island.

Caution.—A 4.6m shoal in which the sea breaks in heavy weather lies 0.2 mile SW of the S point of Andis Island. A steep-to rocky shoal, awash, lies 1.25 miles WSW of the same point. Breakers mark the point when the sea is calm.

6.15 Lalawigan Point (11°35'N., 125°29'E.), located close W of Divinubo Island, the coast trends about 5.75 miles SSE to the Maydolong Islands and consists of a steep-to sandy beach, which becomes rocky and closely fringed with reefs toward the latter islands.

The Soribao River, which has a depth of about 0.6m at its mouth, empties into the sea about 2.8 miles S of Lalawigan Point.

The **Maydolong Islands** (Maiduun Islands) (11°30'N., 125°31'E.), two wooded islets, lie a about 0.3 mile offshore. They are located on a drying reef that extends about 0.8 mile NE from the mainland.

The E edge and N end of the reef lie about 0.3 mile ENE and about 0.5 mile N of the islets, but a narrow submerged part of the reef extends about 0.5 mile farther N. This dangerous reef is steep-to and should be given a wide berth.

Maydolong Cove recedes about 0.8 miles S between the above reef and the coast W. There are depths of about 11 to 21.9m in the cove, but some detached reefs lie on the E side of its central part. Small vessels can take fair but confined anchorage in Maydolong Cove.

Minasangan Island (11°29'N., 125°31'E.), about 2 miles S of the Maydolong Islands, is an islet located on a steep-to reef that extends about 0.8 mile from the coast and over the E end of which the sea usually breaks heavily.

Cabay Bay (11°28'N., 125°31'E.), a narrow inlet with the village of Cabay at its head, indents the coast about 2 miles SW between Minasangan Island and a point about 1.3 miles S.

Hills up to 139m high rise abruptly from the shore at the head of the bay, and somewhat lower hills lie close S of the S entrance point. Several shoals, with depths of 3 to 5m, lie within 0.3 mile of the S shore.

A somewhat confined anchorage, exposed to the NE, can be taken in Cabay Bay.

Minanut Island (11°26'N., 125°33'E.), the NE side of which consists of cliffs about 30m high, is an islet that lies about 2.5 miles SE of Minasangan Island and about 0.3 mile E of Sang Miguel Point, a low point. It is fringed within 0.25 mile by a steep-to reef, which is separated from San Miguel Point by a deep but very narrow channel.

6.16 Minanut Anchorage (11°26'N., 125°33'E.) has depths of about 16.5 to 20.1m in its central part, but the shores are fringed up to about 0.2 mile off by steep-to reefs and several detached patches. It affords protection from NE, but is not recommended during the typhoon season nor when the Northeast Monsoon is strong.

During a heavy NE sea, while the cove is absolutely smooth, breakers on the reefs at the N entrance fill it with foam and send in a strong current, which quickly reverses itself with the receding waters.

These currents make a vessel swing sharply and cause sudden heavy strains on the anchor. Anchorage can be taken about 0.2 mile WSW of the SW end of Minanut Island, in 16 to 18m, mud, with the SE end of the island bearing 086° and San Miguel Point bearing 350°.

Vessels entering the anchorage should approach from E and pass about 0.3 mile S of Minanut Island, being careful to avoid the reefs on either side. As soon as San Miguel Point opens W of Minanut Island, change course to the NW and steer for the anchorage. The N entrance is not recommended.

On the SW side of Minanut Anchorage and just SE of a rocky bluff, there is a good boat landing in a break in the reef; there is a deep cave on the NW side of the bluff.

The **Lanang River** (11°25'N., 125°33'E.), the mouth of which is shallow, empties into the sea about 1 mile SW of the SE end of Minanut Island.

The E entrance point is low, wooded, and fringed up to about 0.2 mile offshore by a steep-to reef. A sandy beach lies between the low W entrance point of the river and a rocky point about 1 mile SSE. The latter point extends about 0.5 mile NE from the coast and is closely fringed by a steep-to reef, on which there are several islets.

Llorente (11°25'N., 125°33'E.) is a village on the S side of the mouth of the Lanang River. The ruins of a church, several buildings, and a tall flagpole are visible from seaward, the latter being the most conspicuous. Coastal vessels call here to

load hemp and copra.

Anchorage can be taken, in 18m, sand, about 1 mile E of the mouth of the river, and small vessels can anchor closer in to the town, in about 12.8m, sand. These anchorages are open to the E, and at times they are untenable during the Northeast Monsoon.

Iniyao Island (11°24'N., 125°34'E.) is a rocky islet that lies about 0.3 mile offshore in a position about 1.8 miles SE of Minanut Island. It appears like many of the high rocky points and is situated on the N end of a drying reef that extends N from the coast.

From Iniyao Island to Tugnug Point, about 4.3 miles SE, the coast is indented by several small bights and consists of rocky cliffs, 12 to 27m high.

Heavily-wooded hills, about 91 to 152m high, back this coast a short distance inland. Reefs extend up to 0.25 mile offshore.

6.17 Tugnug Point (11°21'N., 125°38'E.), with nearly vertical cliffs, has a very small cove on its S side. The point is in the middle of the E side of a bluff headland that rises to a height of about 61m a short distance inland, and is prominent from N and S. Sheer cliffs, 8 to 15m high, continue for about 1 mile S to Agdan Point, the SE end of the headland.

Agdan Point (11°20'N., 125°38'E.), a bluff headland, rises to an elevation of 60m to the tops of the trees a short distance from the cliffs. The point is prominent from N or S.

Nagaha Bay (11°20'N., 125°38'E.), the low shores of which are fringed up to about 0.3 mile offshore by steep-to reefs and shoal water, is a small bight between the SW side of Agdan Point and Panadlihan Point.

During fine weather, anchorage can be taken in the middle of the bay, in 29m about 0.3 mile SW of Agdan Point.

Panadlihan Point, 15.2m high and cliffy, lies about 0.5 mile SW of Agdan Point. It is steep-to and has depths of more than 36.6m within about 0.3 mile SE.

The low coast between Panadlihan Point and Bura Point, about 1.5 miles SSW, is fringed up to about 0.5 mile offshore by a steep-to reef; depths of more than 37m lie close off the reef.

Bura Point (11°18'N., 125°37'E.) is low and wooded. It terminates in a line of black rocks, 6 to 9m high, and is prominent. Beyond these rocks the point is steep-to and has depths of more than 37m about 0.3 mile SE, but a reef extends up to about 0.5 mile from the coast immediately SW of the point. This latter reef fringes the coast to a position about 1.3 miles WSW of Bura Point.

The low coast in the vicinity of Bura Point is backed about 0.5 mile inland by hills, 68 to 121m high. A wooded ridge of hills, 281 to 288m high, backs the coast about 1.5 miles inland between a position NW of Bura Point and the hills on the NW side of Matarinao Bay.

6.18 Matarinao Bay (11°14'N., 125°34'E.) occupies a bight that indents the coast between Bura Point and Matarinao Point, about 4.3 miles SSW. Although much of the bay is encumbered with dangerous reefs, it is the largest and most easily accessible of any on the E coast of Samar.

Matarinao Point (11°14'N., 125°35'E.), with the village of Matarinao on its N side, forms the S entrance point of Matarinao Bay. It is the NW end of a peninsula that extends about 2.5 miles NW from the mainland and is conspicuous as the N termination of the bold wooded ridge, about 122m high.

The ridge extends almost the entire length of the peninsula from Matarinao Point to Sungi Point, being broken in several places by steep gaps. Its general appearance is one of uniform height and a vertical seaward side that is over 91m high and parts of which are bare.

The ridge is only about 0.1 to 0.2 mile wide. The coast consists of sandy beaches and coral bluffs.

A low narrow wooded belt, less than 0.75 mile wide, lies between them and the ridge.

There are numerous above and below-water dangers in Matarinao Bay, and the entrance is a little less than 0.5 mile wide between the reefs on both sides. Most of the reefs on each side of the entrance partly dry and are marked by breakers.

Lalauigan Island (11°17'N., 125°34'E.), 81m high, lies on the N part of a reef about 2.5 miles SW of Bura Point and can be seen over the latter from a position off Panadlihan Point. Capocpocanan Island, low and wooded, lies about 0.5 mile SW of Lalauigan Island.

Anahao Island is a low and wooded island that lies close SW of Capocpocanan Island. From the entrance channel this island appears like a low point.

A detached steep-to 7.3m patch lies in the middle of the entrance channel a little less than 0.5 mile SE of Anahao Island. An obstruction, with a depth of 12.8m, is located about 1.8 miles N of Matarinao Point.

Pou Rock is a small black rock that lies about 0.8 mile WNW of Matarinao Point. It is located on a small sand cay at the SE end of a reef, which has depths of more than 11m, less than 0.5 mile off its W and S sides.

Minaloa Island is a round-topped islet that lies almost 1.5 miles W of Matarinao Point. It is the highest island on the S side of the entrance channel. Minadion Island, a low and wooded islet, lies on a steep-to reef about 0.8 mile WSW of Minaloa Island.

Most of the W shore of Matarinao Bay is very low and wooded, but hills, 166 to 266m high, lie from about 0.8 mile to 1.5 miles inland.

6.19 Pambuhan Harbor (11°14'N., 125°32'E.) lies between the S end of Anahao Island and a partly-drying reef about 0.5 mile SW on the W side of Matarinao Bay.

This reef extends about 0.3 mile SE from a small wooded island that lies close to the W shore of the bay.

There are depths of more than 11m within about 0.1 mile E of this reef and within less than 0.25 mile off its NE end.

An ore-loading pier, in ruins, extends more than 0.25 mile E across the N part of the above reef. There are depths of about 10 to 15m in the central part of the harbor, which lies between the pier head and the S end of Anahao Island.

North of the pier shoal water lies up to over 0.3 mile offshore, and most of the N part of the harbor is very shallow.

The entrance channel into Matarinao Bay trends WSW between the entrance reefs to Pambuhan Harbor and leads almost directly to the pier. The preferred channel passes between the S end of Anahao Island and the 7.3m patch that lies about 0.5 mile SE. The pier at Pambuhan Harbor and the higher islands on each side of the entrance are conspicuous from outside the

bay.

Anchorage.—Large vessels can anchor off the pier in Pambuhan Harbor, in 11 to 12.8m, mud, about 0.5 mile SW of the S end of Anahao Island. Smaller vessels can anchor farther N, in not less than 9.1m, mud, because the reefs are very steep-to.

These anchorages are untenable at times during the Northeast Monsoon, when sheltered anchorage may be found in the S part of Matarinao Bay.

6.20 General MacArthur (Pambuhan Sur) (11°15'N., 125°32'E.), the most important of several small towns on Matarinao Bay, is situated on the W side of Pambuhan Harbor, W of the S end of Anahao Island.

There are several small landings at the town from which copra is taken by barge to vessels loading at the anchorage.

Between Matarinao Point and Sungi Point, about 25 miles SE, the coast consists of sandy beaches separated by coral cliffs, about 6m or more in height. The most prominent feature of this coast is a partly-wooded coral ridge.

Asgad Point (11°12'N., 125°40'E.) is a bluff that lies about 5 miles ESE of Matarinao Point. The cliffs from close NW of Asgad Point to 1 mile SE of Pananamitan Point, a total distance of 3.25 miles, are vertical, mostly bare, and very prominent.

Bagtong Point (11°05'N., 125°44'E.), 5 miles SE of Pananamitan Point, is a 6 to 9m high bluff. It is not easily distinguished from seaward, but a steep bluff that rises abruptly to a height of 124m close behind the point is one of the most conspicuous parts of the ridge. The coast from Bagtong Point to abreast Luyong Point, 2 miles SE, is one vertical wall of coral with a few bushes.

Three islands, Calicoan, Leleboon, and Candolu, lie on a reef extending about 8 miles SE from the above described peninsula. The bold wooded ridge on the peninsula, also extends down the chain of islands. The ridge is broken by several steep gaps, but the general impression is of one continuous ridge.

6.21 Calicoan Pass (11°02'N., 125°46'E.), the passage between the peninsula and the NW extremity of Calicoan Island, as well as the passages between the islands, are narrow, shallow, and dry in places.

Calicoan Island (11°00'N., 125°47'E.) has a ridge of hills extending down it from 75 to 105m high. The bluff facing Calicoan Pass is nearly vertical, but changes into moderate slopes further SE.

For a distance of about 3.5 miles SE of the N extremity of the island the coast consists of coral rock, 6.1m high.

There are several villages on the W coast of Calicoan Island.

Leleboon Island (10°56'N., 125°50'E.) is 61m high. Candolu Island, close S of Leleboon Island, is 57m high and wooded.

Sungi Point (10°55'N., 125°50'E.), the S extremity of Candolu Island, is 46m high, and has a reef extending 0.5 mile from its E side. Patches of reef lie within the same distance S and W of the point. Two shoals, with a depth of 4m, lie 1 mile SSE and 0.75 mile SSW of the same point.

A 4.9m shoal and a 5.5m shoal lie 0.9 mile SE and 0.75 mile S, respectively, of the same point.

A bank, with a depth of 12.8m, lies 2.75 miles SW of Sungi Point.

Leyte Gulf and Surigao Strait

6.22 Winds—Weather.—The climate in this area tends to be hot and humid. Except for the W side of Dinagat, the S end of Samar, and the N extremity of the E side of Leyte, which are somewhat protected from the NE, the coasts described herein are exposed to the Northeast Monsoon and the trade winds.

Although parts of these coasts are lee shores during the Southwest Monsoon, they are subject to the effects of the monsoon. There is considerable rainfall and practically no dry season. In general, there is no bad weather in this part of the Philippines unless a typhoon should occur.

The predominant winds are the Northeast Monsoon, which prevails from October to March or April, and the Southwest Monsoon, which prevails from June to September.

The Northeast Monsoon deposits a large amount of rain on these coasts and brings the coolest temperatures. Near the coast the Northeast Monsoon may be variable, particularly where the land is mountainous, and land and sea breezes may develop when the monsoon is weak.

Typhoons frequently develop during the season of the Northeast Monsoon. The Southwest Monsoon, which is not as strong as the Northeast Monsoon, is intermittent due to frequent storms.

During the Southwest Monsoon the winds near the coast are variable, and land and sea breezes may be better developed than during the Northeast Monsoon. Sometimes the land breeze may be very squally along mountainous parts of the coast.

The winds on various parts of the coast may not always conform with the prevailing monsoon. At Surigao the winds seem to conform with the monsoon and prevail from the NE from November through May, and from the SW from June through October.

At Tacloban, the winds prevail from the NW from October through March, from the SE in April and May, from the NW in June, and from the W from July through September.

At Guiuan, easterly winds are most frequent, and winds from N and NE occur about twice as often as those from S or SW. During the Northeast Monsoon E winds prevail more than 80 per cent of the days. Even at the height of the Southwest Monsoon, SW winds at Guiuan are not as frequent as E winds during the Northeast Monsoon.

At the mouth of Surigao Strait, the Northeast Monsoon begins toward the end of September and continues through November. In December, NE winds alternate with N gales. In January winds blow from NE to ENE and are accompanied by heavy rain. In February and March easterly winds prevail. In April through June SW winds prevail with occasional southerly gales. During July through September SW winds are frequent.

Winds from the NE, though strong, cease during the night, but winds from SE through SW continue to blow. It usually rains with NNE and ENE winds. The rain ceases and the weather clears with E winds and more so with SE winds. It remains clear with SW winds unless a gale arises, which sometimes brings rain.

Typhoons do not occur as often in this area as they do farther N and about 7 per cent of the more serious typhoons affecting the Philippine Islands are experienced in this part of the archipelago.

Although they may be encountered at any time of the year, the season when typhoons usually occur is from the end of July to the beginning of January. They begin to blow from the NW and finish from the SE, having passed through NE or SW. When they haul through NE they blow stronger and more rain falls.

During January, the typhoons which do not recurve move from E to W across the Philippine Islands in the latitude of about 10°N. In subsequent months the latitude of the mean track of the typhoons that cross the islands increases to about 18°N in August, and hence it moves S again to the above minimum.

During the months of least typhoon activity, January through May, Surigao Strait and Leyte Gulf are either in or on the S edge of the mean track of the few typhoons that occur.

During the months of July, August, and September this area is almost completely free of typhoons, the mean tracks of which lie well to the N. In October, November, and December typhoons occur most frequently in this area, particularly during the latter two months.

Although the N end of Mindanao lies S of the main area of typhoon activity, Surigao has experienced several typhoons at rather long intervals.

Storm and typhoon warnings are broadcast and signals are displayed at various ports throughout the Philippine Islands.

The weather in the vicinity of Surigao Strait and Leyte Gulf is considerably influenced by the large amount of rainfall, most of which occurs during the Northeast Monsoon.

Storms during the Southwest Monsoon sometimes pass across the islands and bring considerable rain to these coasts.

There is no dry season. Much of the rain from April to September is with thunderstorms, which occur most often in the afternoon or at night. The maximum amount of rainfall is about 3,559mm at Surigao, about 2,542mm at Tacloban, and about 3,432mm at Guiuan.

More than 50 per cent of the annual rainfall occurs during the winter months. At Surigao, about 2,619mm falls between November and March, but only about 80mm between May and September.

Fog is rare, but it may sometimes develop on the coast during the latter part of the night when there is little or no wind. Such fog quickly disperses after sunrise. Early morning mist is not uncommon over the land during fine weather.

Visibility is generally good. It may be reduced to less than 0.5 mile during heavy rain, but this usually lasts only for a few minutes at a time. Moderate visibility may be experienced because of haze or mist that occurs during the Northeast Monsoon or along coasts exposed to the Southwest Monsoon when the latter prevails.

Tides—Currents.—The North Equatorial Current divides E of the Philippine Islands, and the S branch tends to set S across the E entrance of Surigao Strait and along the E side of Mindanao. Because of the seasonal shifting N and S of the North Equatorial Current and the fact that the dividing position lies E of Samar, the currents E of Sungi Point and the E entrance of Surigao Strait may set contrary to the above. Comparatively few observations have been made in this vicinity, but the following may be experienced.

1. During January and February in the above vicinity, the current tends to set SSW at a velocity of about 1 knot, however in January a WNW set of about 1.3 knots has been experienced off the entrance of Surigao Strait.
2. In March, April, and May the current sets SW and SSW at a velocity of less than 0.5 knot to almost 1 knot.
3. From June through August the current sets WSW and SW at a velocity of about 0.5 to 1 knot, but E of Sungi Point a current setting NW at about 1 knot was experienced in July. In September, the current tends to set between SW and SSE at a velocity of less than about 0.5 knot.
4. In October, November, and December the current at the E entrance of Surigao Strait tends to set between WSW and SW at a velocity of about 0.5 knot. In the S part of Leyte Gulf and the central part of Surigao Strait during these latter three months, the current sets SW, SSW, and S, respectively, at a velocity of about 1 knot.

The Pacific side enters the Mindanao Sea from E through Surigao Strait. The tidal current sets W into the E entrance of Surigao Strait and Leyte Gulf on the rising tide and E on the falling tide. It attains a velocity of about 6 knots between the N end of Dinagat Island and Homonhon Island. In that part of Surigao Strait that lies between Dinagat Island and Leyte, the flood current sets S, and the ebb sets N.

In the S entrance of the strait the flood current sets SSW into the Mindanao Sea, and the ebb sets in the opposite direction. Between Hibuson Island and the N end of Dinagat Island the flood current sets SSW, and the ebb sets NNE.

In the W end of Hinatuan Passage between Bilaa Point and the islands at the S end of Dinagat Island, the flood current sets NW into Surigao Strait, and the ebb sets SE.

Tidal currents of a local nature are described in the parts of this sector where their related coastal features appear.

Caution.—A large area of sand waves exists NE of Desolation Point, extending from the meridian of 125°45'E to about the 200m curve.

Samar—Sungi Point to San Pedro Bay

6.23 Guiuan (11°02'N., 125°43'E.) (World Port Index No. 58655) harbor occupies an area of deep water within the reefs between Manicani Island and the coast ENE. The town of Guiuan is situated on the coast about 4.5 miles ENE of Manicani Island.

Depths—Limitations.—The harbor at Guiuan consists of a roadstead that lies within and is somewhat confined by many dangerous steep-to reefs. It is sheltered except that the reefs southward protect it only from the sea and leave it exposed to winds from between SSE through SW.

The main entrance channel, about 0.5 mile wide and 11 to 29m deep between the steep-to reefs and shoals on either side, trends about 5.5 miles NE from a position about 1 mile S of Manicani Island to the middle of the harbor anchorage area, about 1.3 miles SW of Guiuan.

A beacon is located about 1 mile SE of Inatoulan Island and marks the NW edge of a drying reef. This beacon, in range 048° with the church at Guiuan, leads through the entrance channel to the harbor anchorage.

A buoy marks a 7.8m patch that lies on the S side of the entrance of the channel in a position about 1.5 miles SE of the S end of Manicani Island. A reef, marked by pile beacons, lies awash on the S side of the channel about 1 mile SE of the SE

extremity of Manicani Island.

Most of the other steep-to dangers on each side of the entrance channel are marked by pile beacons, but there are a few 6 to 9m patches close off them.

Vessels are advised to adhere to the entrance range, except at a position about 1 mile S of Inatoulan Island, where it leads over a depth of 7.8m. This patch can be avoided by keeping slightly S of the entrance range line in that vicinity.

A beacon marks the SE edge of a drying reef. The beacon is located about 2 miles WSW of the head of the pier at Guiuan. A lighted buoy is moored on a 12.8 patch about 0.5 mile S of the beacon.

The channel to **Buenavista** (11°00'N., 125°39'E.), located on the N side of Manicani Island, is entered through the outer part of the entrance channel to Guiuan.

From a position about 1.5 miles SE of the NE end of Manicani Island and well clear of a number of detached 4 to 6m patches that lie up to about 0.8 mile E of that island, the channel trends NNE.

At a position about 0.8 mile E of the wharf at the NE end of Manicani Island, a channel, with a least charted depth of 10.5m, trends W to the wharf. Several shoal patches and reefs lie close N of the latter channel.

A channel, with charted depths of about 8 to 20m, leads about 5.3 miles in an ESE direction from close N of Bar Islet on the S side of the harbor anchorage, to a confined anchorage off the town of **Soroc** (10°59'N., 125°48'E.).

A beacon is situated on the N side of a detached reef in a position about 2 miles SSW of the head of the pier at Guiuan.

A SE entrance channel to Guiuan trends about 8.5 miles NW from a position about 1.5 miles W of Sungi Point to the harbor anchorage off the town. Although it has charted depths of about 6 to 13m between the reefs on either side, this channel is unmarked and requires local knowledge.

Aspect.—Manicani Island is a prominent landmark on the N side of the entrance to the channel to Guiuan.

Tubabao Island, 30m high and on which there is a conspicuous water tower, lies close offshore NW of Guiuan.

Inatoulan Island, a low wooded islet, lies on the N side of the harbor, less than 0.3 mile S of Tubabao Island.

A church spire is conspicuous at the town of Guiuan, and the buildings, there and at the other small towns in the vicinity, are easily seen.

A light is shown from Guiuan church. A concrete causeway extends SW over the reef fringing the shore in front of Guiuan.

Pilotage.—Although pilotage is not compulsory, vessels lacking local knowledge should not attempt to enter without a pilot. Pilots for Guiuan are available at Tacloban. Vessels entering and navigating in the harbor should exercise extreme caution to avoid the numerous unmarked dangers.

Anchorage.—Anchorage can be taken in the harbor, in a depth of 20.1m, about 0.8 mile SE of Inatoulan Island with the church at Guiuan bearing 048°, and the SW side of Inatoulan Island bearing 308°.

The harbor anchorage area is about 1.3 miles long and about 0.5 mile wide between the partly drying reefs that almost surround it. Except for the following shoal patches and those that lie close off the reefs, there are depths of about 12 to 20m in this harbor area.

A detached 7.8m patch, with a 6.4m patch about 0.3 mile NE of it, lies in the central part of this anchorage in a position SE of the entrance channel range line and about 1 mile SSE of Inatoulan Island. Several channels, for small vessels of limited draft, lead from this anchorage to the causeway at Guiuan and to a pier N of the town.

Caution.—In addition to the previously described buoys and beacons, there are a number of buoys marking parts of the above channels. Caution must be exercised as many of the buoys have been reported missing or out of position. Storm warnings are displayed at Guiuan but they are not visible from the harbor.

6.24 Manicani Island (11°00'N., 125°38'E.) is a conspicuous island that lies on the SW edge of the reefs and dangers fronting this section of the coast in a position about 4.3 miles offshore SW of the town of Guiuan.

There are several radio towers in the central part of the island, and the town of Buenavista is situated on the NE end. A large wharf at this latter place and the channel to it are described with the approach to Guiuan in paragraph 6.23.

A detached 7.3m patch lies about 1 mile offshore in a position about 1.8 miles W of the S end of Manicani Island. A steep-to, partly drying reef, with numerous above and below water coral patches close off it, extends about 5.3 miles NW from Manicani Island. Baul Island lies on the NW end of this reef. The wreck of a barge, loaded with ammunition, is sunk in depths of 18.3m, about 3 miles ENE of Balinatio Island.

A deep channel lies between the islets and dangers on the E side of this latter reef and those NE. It is encumbered with many coral heads, some of which are marked by piles. Most of the buoys marking the channel have been reported missing. The S entrance, which is entered from the channel to Guiuan, lies between shoals that fringe the E side of Manicani Island up to about 0.8 mile and a partly drying reef, about 1.8 miles ENE of that island.

Except for a 4.6m depth, about 1.3 miles ENE of Manicani Island, the S entrance of the above channel has depths of 13m or more. A drying rock lies about 0.8 mile NNE of the NE extremity of Manicani Island.

The best track through the channel trends NW and passes NE of the above rock and **Cambasingan Island** (11°02'N., 125°39'E.) and Cabalarian Island, which lie about 1.5 miles N and 2.75 miles NNW of the NE end of Manicani Island.

It passes W of Caninoan Island, which lies about 0.8 mile N of Cambasingan Island. Vessels are advised not to enter the above channel without local knowledge.

A floating dock is situated 2 miles N of Manicani Island, about midway between Cambasingan Island and Cabalarian Island.

Walker Shoal (11°01'N., 125°32'E.), with a depth of 0.6m, is a detached steep-to coral depth. It is the southwesternmost of the dangers off this part of the coast and can be distinguished by the light-green color of the water over the shoal.

Balinatio Island (11°06'N., 125°35'E.), low and wooded, lies so close S of Cabarasan Point that it appears as part of the point.

6.25 Quinapundan Bay (11°07'N., 125°33'E.), which is encumbered with extensive steep-to reefs and a number of islets, lies between Cabarasan Point and Gigoso Point, low and

wooded, about 4 miles WSW.

Among the numerous islets and reefs, good protected anchorages may be obtained with local knowledge.

A channel leads close around Gigoso Point into a confined area of deep water in the SW part of the bay. Another deep channel leads along the E shore to a small basin at the NE end of the bay.

Between Gigoso Point and Capines Point, about 16.5 miles W, the coast is indented by a number of unimportant small bays and bights, on the shores of which there are a few villages. The low coast is closely backed by hills that attain a height of 305m about 1.5 miles inland. In several places steep-to reefs lie up to as much as 2.3 miles offshore.

6.26 Cablagna Point (Cablagua Point) (11°05'N., 125°24'E.) is low and wooded. A coral reef, nearly awash, lies 0.75 mile S of Cablagna Point. A 1.8m shoal lies 0.75 mile W of the same point.

Lucson Point (11°06'N., 125°22'E.), 122m high and prominent, lies about 2 miles WNW Cablagna Point.

Lauaan Point (11°07'N., 125°19'E.), a low point, lies 3.5 miles further WNW.

Lauaan Bay (11°07'N., 125°17'E.) indents the coast between Lauaan Point and Capines Point, about 5.5 miles WSW. The shore at the NW end of the bay is steep-to and there are several beacons in this latter vicinity.

Capines Point is the S extremity of a prominent headland that rises abruptly to a height of 122m less than 0.25 mile inland and to a summit about 1.8 miles N. It is steep-to. A detached 9.1 to 11.4m depth lies about 0.7 mile E of Capines Point.

San Pedro Bay

6.27 San Pedro Bay (11°10'N., 125°05'E.) occupies a bight formed by the N end of the E coast of Leyte and the SW end of Samar.

The E side of the bay, which is closely backed by hills and mountains, trends about 12.5 miles NNW from Capines Point and is sparsely populated. The low W side of the bay trends about 10.5 miles S from **Cataisan Point** (11°14'N., 125°02'E.), close SE of Tacloban, to Vigia Point.

Although a large part of the bay has depths of 9.1 to 33m, much of the N end is shallow. There are a large number of reefs, shoals, and islets throughout the bay.

The recommended channel leads safely through these dangers to the entrance of the channel to Tacloban, or to several large clear areas of deep water.

Caution.—A large number of steep-to shoal patches lie across the entrance of San Pedro Bay and its approach. These dangers comprise several groups, between which there are deep clear channels, and vessels should have no difficulty if they adhere to the recommended channel.

Dynamiting for fish is common in San Pedro Bay, and there may be numerous fishing nets or traps in the N part of the bay. Less water than charted and numerous uncharted obstructions exist in San Pedro Bay.

An obstruction, with a depth of 11.2m, has been reported (2013) to lie in the charted recommended track about 3 miles E of Camiris Point (11°08'N., 125°02'E.).

6.28 Mariquitdaquit Island (11°04'N., 125°09'E.), marked by a light, lies in the entrance of San Pedro Bay. The island consists of a flat rock, partly awash, on which there are several rocky lumps, about 5.5m high.

Punubulu Island (11°13'N., 125°06'E.), low and wooded, lies in the middle of the N part of San Pedro Bay.

Dio Island (11°13'N., 125°03'E.), low and wooded, lies about 1 mile offshore. A dangerous wreck lies about 0.3 mile W of the island, while another dangerous wreck was reported to lie about 1.3 miles E. The stranded wreck charted on the NW side of the island was reported missing.

The dredged part of the outer channel, from Dio Island to **Jinamoc Island** (11°16'N., 125°05'E.), is reported to have shoaled to depths of 5.5m, but the projected depth is 7.6m. There are charted depths of 8 to 13m in the inner part of the channel from the latter island to Tacloban.

The towns on the low W and N shores of the bay are conspicuous. Some hills and mountains back the low coastal plain on the W shore of the bay about 1 to 2 miles inland between Palo and Tacloban.

Mount Guinhandang lies close N of Palo, and Mount Naganaga lies about 2 miles SW of Tacloban and is the highest of these mountains. Mount Danglay is a conspicuous summit that lies at the NW end of the bay about 1 mile N of the entrance point of San Juanico Strait.

A number of small rivers, navigable only by small craft, empty into the bay in the vicinity of some of the towns.

Tacloban (11°15'N., 125°00'E.)

World Port Index No. 58690

6.29 Tacloban, the chief port of Leyte, lies in the SE entrance of San Juanico Strait at the NW end of San Pedro Bay. It is a first port of entry. Although the harbor area includes all of the entrance of San Juanico Strait, the main part of the harbor occupies a small bight that recedes about 1 mile S between Panirugan Point and Anibong Point, about 1 mile WNW. There is a wooden pier partly in ruins on the E side of Anibong Point.

Winds—Weather.—There is practically no dry season at Tacloban. Rain is frequent, and the maximum rainfall occurs during December, January, and February.

During July, August, and September severe typhoons may occur, and the prevailing winds are then reported from the SW.

Tides—Currents.—The tides at Tacloban are chiefly diurnal. The mean tidal range is 0.4m and the maximum range is 1.1m. The mean height of higher HW is about 0.6m, and that of higher LW is about 0.1m. The tides show their greatest inequality during HW.

In the entrance of San Juanico Strait off Tacloban, the flood current sets NW and the ebb SE, and they may attain a maximum velocity of about 3 knots.

Depths—Limitations.—The controlling depth for vessels entering the port of Tacloban, by way of San Pedro Bay, is 5.79m, liable to silting. The entire bay is encumbered with islets, reefs, shoals, and fish traps. Use caution in entering and proceeding to the pilot station.

The maximum length of vessel that can be accommodated is 154m, with a maximum draft of 6m.

The City Wharf is a concrete structure divided into four sec-

Tacloban Harbor

tions. The N end is 114m long, the W end is 411m long, the S end is 102m long, and the fourth section connects to the shore and has lengths of 58m. Depths alongside the pier range from 2 to 9m, but are subject to silting.

Expansion and modernization is planned to meet foreign and domestic traffic needs. The project calls for improvement to the existing wharf, construction of new berths and upgrading the entrance channel.

There is also a T-shaped pier for smaller vessels E of the main wharf. The T-head is 20m long and about 30m wide. The depth at the N face is 3.4m. It is not safe for large vessels.

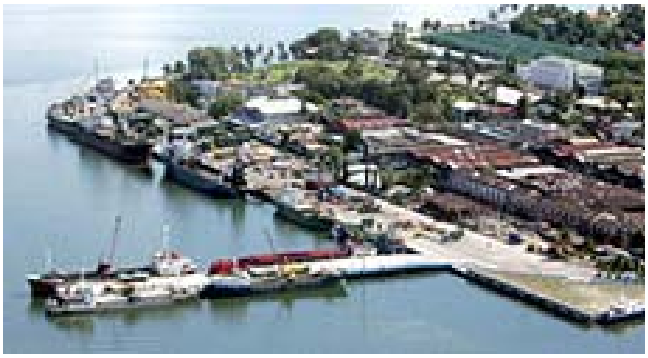
Anibong Point Pier, 1.25 miles WNW of Panirugan Point, extends 52m from shore. It has a 12m long T-head, with a depth of 7.3m alongside the head. Fuel is discharged onto this pier through pipelines.

Port of Tacloban—Berthing Information			
Name	**Length**	**Depth**	**Remarks**
Berth 1	69m	5.0m	General cargo
Berth 2	96m	5.0m	General cargo
Berth 3	113m	6.0m	General cargo
Berth 4	103m	6.0m	General cargo
Berth 5	10m	6.0m	General cargo
Berth 6	96m	6.0m	General cargo
Berth 7	47m	5.0m	General cargo
Berth 8a	80m	8.0m	General cargo
Berth 8b	68m	8.0m	General cargo
Berth 8c	68m	8.0m	General cargo

Aspect.—A white statue, 7m high and standing on the 74m hill behind the town, is prominent. A 61m high radio tower, located 1 mile NW of the city, is also prominent.

Pilotage.—Pilotage is compulsory for vessels over 100 gt bound for Tacloban, for passing through San Juanico Strait, for anchoring in the Quarantine Area in the harbor current, and for shifting or changing berths within the harbor.

Vessels requiring a pilot must make a request to Tacloban Harbor Pilot Association at least 24 hours prior to arrival. When approaching from the N, pilots board approximately 1.5 miles NW of Canauay Island. When approaching from the S, pilots board approximately 1.5 miles N of Mariquitdaquit Island Light.



Tacloban Port

The pilots can be contacted by telephone (63-53-3212219).

The pilot station at the NW entrance of San Juanico Strait is located at **Canauay Island** (11°26'N., 124°51'E.) and maintains a continuous lookout for vessels requiring a pilot.

In case of inclement weather vessels are advised to anchor 3 miles S of Dio Island when waiting for a pilot.

Regulations.—Vessels should send their ETA 36 hours in advance.

Signals.—Storm warnings are shown at Tacloban from an observatory on Panirugan Point.

Contact Information.—The port can be contacted, as follows:

Tacloban—Contact Information	
Pilotage	
Telephone	63-53-8321006
	63-92-73481690 (Cell phone)
Port Authority	
VHF	VHF channel 16
Telephone	63-53-3213373
	63-53-3214152
	63-53-3216704
Facsimile	63-53-3257248
E-mail	pmotacloban@ppavis.com
Web site	http://www.ppavis.com

Anchorage.—The quarantine anchorage for the port of Tacloban is about 0.5 mile N of Panirugan Point.

All vessels subject to quarantine inspection shall drop anchor within the limits of this anchorage and await quarantine inspection.

Any vessel subject to quarantine inspection, anchoring in an area in the Port of Tacloban outside the quarantine anchorage,

may not be cleared from quarantine until such vessel proceeds within the limits of the anchorage.

A vessel subject to quarantine measures may not be allowed to leave the quarantine anchorage until given free pratique by the quarantine officer.

Vessels carrying explosives, inflammable liquids, or other dangerous cargo must obtain special permission from the harbormaster to go alongside the wharf.

The bottom at the anchorage is clear sand and a little mud.

Anchorage can be taken, in about 7.8m about 0.3 mile N or NW of Panirugan Point or, in about 4 to 5m, about 0.3 mile NW of the wharf. A mooring buoy is located about 0.5 mile NW of the N end of the wharf.

Vessels of too deep a draft to enter the harbor can anchor S of Dio Island, in 9 to 11m, mud. Vessels awaiting pilots can anchor in the latter anchorage or N of Egbert Shoals, in about 13 to 15m, mud.

Anchorage can be taken about 1.5 miles N of Mariquitdaquit Light, in a depth of 33m.

Directions.—When approaching from S or E, pass 1.25 miles SSW of **Capines Point** (11°05'N., 125°14'E.) and follow the charted track. When 1 mile E of Dio Island, bring Basey Church spire to bear 004°, and steer for it on that course. Care should be taken to avoid a charted dangerous wreck and a 4.9m shoal lying 1.25 miles E and NE; respectively, of Dio Island.

When 0.25 mile SSE of Buoy No. 1, alter course to 328° until 0.25 mile NNW of the same buoy. Then course should be altered to 291° to pass N of Buoy No. 3, taking care to avoid the 5.5m shoal close NW of the buoy. When about 0.3 mile NW of Buoy No. 3, Jinamoc Light should be brought astern, on a bearing 089° and a course 269° steered to pass between Buoy No. 2 and Buoy No. 5. Then proceed as requisite to anchor or berth alongside, taking care to avoid the 2.7m shoal, 0.2 mile N of the wharf.

6.30 Tanauan (11°07'N., 125°01'E.) (World Port Index No. 58695) can be identified by its long pier and by the large tank, warehouses, and sheds near its root.

Depths—Limitations.—The pier, a wooden T-head, extends 332m from the S shore of Tanauan. The T-head, 27m long, is oriented in a 105°-195° direction. A line of five dolphins exists along the T-head and off either end of the head.

Depths of 8.2 to 9.1m were found alongside. The pier is unlighted and of wooden construction. There was a strong surge between the ship and the pier.

The maximum size of vessel accepted is 305m, with a beam of 27m and a draft of 9.4m. Berthing is in daylight hours only and tugs are not available.

Copra meal and copra oil are loaded from the pier; the oil is loaded through an 8-inch pipe with a rate of about 150 tons per hour.

Pilotage.—Pilotage is compulsory and a 12-hour and a 24-hour notice are required. Pilot boards 1 mile N of Mariquitdaquit Island.

Vessels can enter at any state of the tide; however, it is recommended to enter or leave during daylight hours due to the unsafe conditions at night.

Caution.—Numerous fish traps are located in the approach to the pier at Tanauan.

Leyte—Vigia Point to Taytay Point

6.31 Vigia Point (11°04'N., 125°02'E.) is backed by Tolosa Mount, a rocky headland that appears as a pyramid from the S. There is an old fort on the summit of the point. The small town of Tolosa lies on the S side of the point. A light is shown from a concrete tower on the fort. A water tank situated 2.25 miles NW of Vigia Point.

Liberanan Head (11°00'N., 125°02'E.), a conspicuous hill 122m high lying about 4.5 miles S of Vigia Point, is the SE end of a ridge of hills that attains a height of 427m in Catmon Hill, about 2 miles NW of the head. Although there is no extension seaward of the land in this vicinity, the hills rise so abruptly from the flat country southward that they appear as a headland from the offing.

A detached 2.3m depth lies about 0.5 mile offshore about 2.3 miles NNE of Liberanan Head, and is the farthest W of the dangers in the entrance of San Pedro Bay.

Dulag (10°58'N., 125°02'E.) is a town situated on the coast, about 2.5 miles S of Liberanan Head. A large stone church at the town and a chapel in the cemetery N of the town are the most conspicuous of a number of buildings with metal roofs. Considerable amounts of hemp and copra are shipped from here. There is a post office at Dulag.

Abuyog (10°45'N., 125°01'E.), a town situated on the coast, is easily identified from seaward. A large stone church and a municipal building, both of which have metal roofs, are conspicuous. A conspicuous water tank is situated in the S part of the town. There is a telegraph office, and the town is connected with Tacloban by road. Significant landfill has been added S pf Abuyog to Sabang Point. Sabang Point is marked with a 23m light which can best be seen on the chart.

6.32 Tangbo Point (10°44'N., 125°02'E.) is a rocky point that rises abruptly to a 190m summit. Between Tangbo Point and Taytay Point, about 5 miles ESE, the rocky intervening coast rises abruptly to summits of as much as 530m high, less than 1.5 miles southward.

Taytay Point (10°42'N., 125°07'E.) is a sharp rocky headland with a conspicuous hill, 30m high. The land rises abruptly to heights of more than 305m about 1 mile SW of the point. A narrow ledge, about 1m high, extends about 0.1 mile ENE from the point, and a rock, 4.5m high, lies about 91m N of the outer end of this ledge.

A dangerous wreck, part of which shows above water, lies about 1 mile offshore, 8.5 miles NW of Taytay Point.

Homonhon Island (10°44'N., 125°42'E.), a heavily wooded and mountainous island, lies on the E side of Leyte Gulf about 10 miles SW of Sungi Point and because of lower land between its extremities, the island appears as two islands from a considerable distance S.

Cagosoan Point (10°43'N., 125°49'E.) is the E extremity of the island.

A depth of 18.3m is located 6.5 miles S of the S shore of Homonhon Island. A deep channel lies between this shoal depth and Dinagat Island. It has been reported that depths up to 20m less than originally charted lie in this deep channel.

Depths of 34.7, 36.6, and 38.4m were reported 10 miles S, 9.5 miles S, and 11 miles SSW, respectively, of Cagosoan Point.

The village of Homonhon is situated at the head of Casogoran Bay, which occupies a large bight on the NE side of Homonhon Island.

Anchorage.—Anchorage can be taken during fair weather, in 42m, coral and sand, about 1 mile E of the village and about 0.3 mile offshore; easterly swells roll in heavily, but it is partly protected from SE swells.

Landing can be made through breaks in the reef in front of the town and about 1.3 miles NW. In the latter and better opening there is a rock, with a depth of 0.3m and marked by a post, that should be left to N in entering.

The best anchorage at Homonhon Island is E of the S end of **Montoconan Island** (10°47'N., 125°39'E.), in 11 to 20m, sand, in the middle of a small bight open to the S. It affords shelter from all winds except those from S to SW.

The clearest approach to this latter anchorage is found by following the W shore of Homonhon Island at a distance of about 0.3 mile.

Several narrow banks, with depths of 12 to 18m, lie parallel to each other about halfway between Homonhon Island and Suluan Island, about 7.75 miles E. When the sun is high and the sea smooth, these banks can be distinguished by the lighter color of the water and by rips that sometimes occur over them.

The banks are extending S, and a depth of 22m has been found E of the S limits in a position 4 miles SSW of the S extremity of Suluan Island.

Suluan Island (10°46'N., 125°57'E.) is high and hilly; a light is shown from an aluminum tower, 16m high, standing on the summit of the island. The village of Granadas in situated on the SW side of Suluan Island at the head of a small bight between two reefs.

Anchorage, sheltered from NW through SE winds, can be taken in this bight, in 11 to 13m, sand, 0.5 mile W of Granadas.

Caution.—Sandwaves are present in an area, best seen on the chart, centered about 17 miles SE of Homonhon Island. Depths are subject to change and may be less than charted.

Surigao Strait—West Side

6.33 The W side of Surigao Strait trends SSE from Taytay Point to Binit Point and appears high and rugged.

This entire steep-to coast is closely backed about 1 to 2 miles inland by a coastal range of mountains, 427 to 945m high. There are a number of high prominent points, but much of the intervening coast particularly in the bights, is low.

Tide—Currents.—The currents tend to set parallel to this part of the coast and along the coast adjacent to the S part of Surigao Strait the currents tend to be similar to those in the strait.

At the entrance of Panaon Strait the flood sets W and the ebb E, and they attain a velocity of 3 to 4 knots at springs in that strait. Strong eddies and whirlpools occur at the entrance of Panaon Strait.

Between Amagusan Point and Pandan Point the flood current sets N and the ebb S, which is contrary to the general set of the currents in Surigao Strait. There are rips off this section of the coast as well as off the Cabugan Islands and some of the more prominent points.

There is apparently little or no current in the bays and bights.

Between Taytay Point and Hingatungan Point, about 8.5 miles SE, the coast trends quite regularly and is fringed up to about 0.3 mile offshore by reef and shore bank, which are steep-to. A rock islet, 17.3m high, lies on the edge of the shore bank in a position about 0.8 mile S of Taytay Point.

Hingatungan Point (10°35'N., 125°11'E.) appears as a long, low, and heavily wooded projection when seen from N or S. It is fringed by a narrow reef, and a number of above and below-water rocks lie up to about 0.1 mile off the S side of the point. These rocks are dark and do not show up well when the sea is smooth. There are tide rips 1 mile ENE of the point.

A detached 10.5m depth lies about 0.5 mile SSE of Hingatungan Point.

Hingatungan is a village situated about 0.5 mile NW of Hingatungan Point at the head of a small break in the coastal reef.

Small vessels, up to about 24m long, can anchor here and be sheltered in any weather.

Pelada Rock (10°34'N., 125°11'E.), 10m high, is a steep-to danger that lies on the edge of the 20m curve about 0.3 mile SE of a point, about 1 mile S of Hingatungan Point. The channel between the rock and the reef fringing the coast is about 0.3 mile wide and requires local knowledge. Foul ground and rocks, which sometimes break, extend about 0.3 mile E from the point off which Pelada Rock lies.

6.34 **Lagome** (10°33'N., 125°11'E.), the site of a sawmill, lies at the head of a small cove. There is a small wharf with reported depths of 3.3m alongside. A boat from Cebu and Tacloban calls here weekly. The cove provides fair shelter for small craft during heavy northeasterly weather.

Small vessels can either go alongside the wharf or take anchorage in the entrance of the cove, in 9.1m, about midway between the reefs fringing the entrance points, with Pelada Rock bearing 080°.

The village of Silago lies about 2.3 miles SW of Pelada Rock. A cluster of black rocks lies just inside the 20m curve about 0.5 mile offshore and about 1 mile NE of Silago. One of these rocks is about 1.8m high, but most of the others are awash. They are surrounded by shoal water, and the channel between them and the shore is shallow and should not be used.

Sogod Point (10°28'N., 125°11'E.), low and wooded, lies 3.75 miles SSE of Silago.

Saingan Point (10°27'N., 125°11'E.), 2 miles S of Sogod Point, is composed of dark rocks and is low and steep-to.

Hinunangan Bay (10°25'N., 125°13'E.) recedes SW between Saingan Point and Pandan Point, about 4 miles further SE. Hinunangan is a small town situated on the SW side of Hinunangan Bay about 2 miles W of Pandan Point. Copra is shipped from here. There is a post and telegraph office at the town.

Anchorage.—Anchorage can be taken close off the town, in about 13 to 22m, sand, or in lesser depths depending on draft. During the Northeast Monsoon, when it is too rough off the town, anchorage can be taken off the village of Kanipaan, about 1.3 miles NNW of Hinunangan.

Coastal vessels usually discharge their cargoes at the latter anchorage when strong NE winds make it impossible to do so at Hinunangan. Sheltered anchorage can also be taken in the lee of the Cabugan Islands, but the depths are greater.

The **Cabugan Islands** (10°27'N., 125°14'E.), two small populated islands, lie between about 2 and 5 miles N of Pandan

Point. Cabugan Chico Island is the S and smaller.

Cabugan Grande Island lies about 0.8 mile NNE of the S island. Rips occur in the deep narrow channel between the islands.

6.35 Pandan Point (10°24'N., 125°14'E.), composed of coral rock, 4 to 5m high, rises abruptly to a 244m wooded summit. This very conspicuous point is at the NE end of short ridge of hills that attains a height of 305m about 1 mile SW of the point.

Between Pandan Point and Amagusan Point, about 8.5 miles S, the coast is low and wooded, and the mountain range paralleling it lies several miles inland. Several detached hills rise abruptly from the coast in the vicinity of Pandan Point.

Bugho Point (10°22'N., 125°15'E.), the N entrance point of Hinundayan Cove, is low and fringed by a narrow steep-to reef. The wooded land rises steeply to a 116m summit about 1 mile WNW. There are tide rips off the point.

Hinundayan (10°21'N., 125°15'E.), a regular port of call for coastal vessels, is a small town situated at the head of Hinundayan Cove. The cove, the only indentation on this section of coast, recedes about 0.5 mile W and is less than 0.75 mile wide. Except for a small detached reef, with a depth of 6.9m, that lies in its S part between 0.25 and 0.5 mile offshore, the cove is clear of dangers and has depths of about 7 to 24m. There is a small pier for boats at the town.

6.36 Anchorage can be taken about 0.2 mile offshore in the cove, in 12.8m, with the extremity of Bugho Point bearing 026° and the church at the town bearing 243°. Being open to the E, the cove is exposed to the Northeast Monsoon.

Amagusan Point (10°16'N., 125°15'E.), lying about 6.5 miles S of Bugho Point, is the N entrance point of Cabalian Bay. The point is low and covered with mangroves. There are tide rips about 2.5 miles NNE of the point.

Mount Cabalian (10°17'N., 125°13'E.) 945m high and the most conspicuous mountain in the vicinity of Surigao Strait, lies about 2.5 miles NW of Amagusan Point. The mountain is conical, with the upper part broken off, and it has three peaks, the middle one being the highest.

Between Amagusan Point and Caligangan Point, about 8 miles SSW, a bight recedes about 6.5 miles WNW.

Although the shores of the bight are low in many places, the coastal ranges attain heights of about 335 to 945m about 0.5 mile to 2 miles inland. The low and in the immediate vicinity of Panaon Strait forms a break in these ranges.

6.37 Cabalian Bay (10°15'N., 125°10'E.), on the N side of which is situated the small port of San Jose, occupies a part of the above-described bight between Amagusan Point and Mangayao Point, about 8 miles SW.

The N side of Cabalian Bay trends about 7 miles W from Amagusan Point to the head of the bay and has a steep rocky beach. There are coconut groves and a number of villages on this shore.

The W side of the bay trends very regularly about 6.3 miles S from the head of the bay to Mangayao Point and consists of steep rocky bluffs interspersed by small sand beaches.

Two prominent rocky islets lie on the edge of a reef that closely fringes the shore in front of the village of Loctob (Molopolo), situated about 0.8 mile N of Mangayao Point.

Marangay Point, about 1.8 miles N of Mangayao Point, is a conspicuous wooded bluff, 61m high, that descends steeply to the rocks at its foot. A rock, 6.1m high, lies on the edge of a narrow shore bank about 1 mile N of Marangay Point.

San Jose (Cabalian) (10°16'N., 125°10'E.), the principal town in the vicinity, is situated on the N side of Cabalian Bay. A white church, with a yellow-roofed building on one side and a red-roofed building on the other, is conspicuous at the town.

A concrete tower, 10m high, from which it is intended to show a light, stands near the shore. The shore is very steep-to, with depths of 18 to 64m, close off the town.

There is a small stone landing in ruins and not usable.

There is a copra warehouse with a capacity of 800 tons, and small quantities of that product and hemp are shipped.

Local labor is available and lighters can be obtained from Tacloban. Fresh water and stores are not available. There is a post office and a radio station at San Jose; telegraph communication is maintained with Hinuangan and Anahawan.

Vessels can anchor in good holding ground just off the landing at San Jose. Although it is well protected from the Northeast Monsoon, this anchorage is untenable during the Southwest Monsoon.

6.38 Mangayao Point (10°11'N., 125°08'E.), about 15.2m high and precipitous, is a small rocky promontory. A detached, steep-to 6.4m patch lies about 0.5 mile E of the point, and there is deep water between them.

Caligangan Point (10°08'N., 125°13'E.), about 5 miles SE of Mangayao Point, rises to an elevation of 241m about 0.6 mile further S.

Between Caligangan Point and Bolobolo Point, 13 miles SSE, the coast on the NE side of Panaon Island is clear of dangers and very steep-to. A coastal mountain range rises abruptly from the sea to 352 to 871m summits about 1.5 miles inland.

Benit Point (9°55'N., 125°17'E.), the SE extremity of Panaon Island, rises abruptly to the summit of Mount Nelangcapan, about 1.5 miles NW. Benit Point, which is very steep-to, has depths of more than 18.3m less than 0.25 mile offshore.

Several small villages are situated near the point. Bolobolo Point, which lies on the E extremity of the SE end of Panaon Island in a position about 1.3 miles NE of Benit Point, rises to 256m summit close inland and is similarly steep-to.

Surigao Strait—East Side

6.39 Dinagat Island (10°07'N., 125°35'E.), including the islands contiguous with its S end, forms the E side of Surigao Strait and extends about 40 miles N from Rasa Island, about 9 miles ESE of Bilaa Point.

A mountain range, about 183 to 457m high, backs the W side of Dinagat Island less than 2 miles inland, and another range, up to about 914m high, closely backs the E side of the island. The W side of Dinagat Island is indented by many bights and bays that are separated by prominent points.

Numerous small streams empty into the sea along the coast. Except for small coastal villages, the island is sparsely inhabited. Hemp, copra, and some minerals are exported.

The N end of Mindanao, the W side of Dinagat Island, and the islands adjacent thereto are mostly steep-to and have depths

of more than 18.3m about 0.8 mile offshore. There are a number of steep-to detached rocks, shoals, and other dangers that lie at some distance offshore.

Except as indicated, the dangers on these coasts are so steep-to and the depths in their vicinity so great and irregular that the fathom curves are of little help in approaching them.

6.40 **Bilaa Point** (9°49'N., 125°26'E.) is the termination of the range of mountains which traverses the E coast of Mindanao. It is composed of dark rock and is fringed by a narrow steep-to reef. Discolored water has been reported to extend 0.5 mile offshore on the NE side of the point.

Bilaa Shoal (9°50'N., 125°26'E.), composed of sand and dark coral heads, has a least depth of 3.6m and lies 0.75 mile N of Bilaa Point, from which it is separated by a deep channel about 0.5 mile wide. Vessels using this channel should keep about 0.3 to 0.5 mile from the point. The shoal is usually marked by rips. During the Southwest Monsoon, anchorage can be taken on the slope of the shoal out of the strength of the tidal current.

Between Bilaa Point and Sugbu Island, about 13 miles ESE, the coast trends irregularly along the N end of Mindanao and the numerous islets contiguous thereto. Except for Bilaa Point, this coast is low and wooded. Its E half is fronted by numerous low mangrove islands, which lie so close to shore and to each other that they appear to be part of Mindanao.

The narrow passage between these islands are navigable only by boats with local knowledge. The hills close to the coast are detached from a coastal mountain range, the summits of which attain heights of between about 305 to 396m less than 2.25 miles inland.

Although it is fringed by reefs and shoal water, this coast is fairly steep-to and has depths of more than 18.3m about 0.5 mile offshore. A number of small rivers discharge along this coast.

Between Bilaa Point and Surigao, about 4 miles SE, the coast is low and wooded. It is closely backed by mountains that attain a height of more than 366m about 2 miles inland. The first two miles of this coast is stony, with a few sand beaches, and is fringed by jagged coral heads that lie up to about 91m offshore. Close outside these dangers depths increase abruptly to more than 18.3m.

The remainder of this section of coast is a narrow, sandy beach fronted by a shore bank that drops off abruptly to depths of more than 18.3m about 0.3 mile offshore. Several small rivers, navigable only by boats, empty from this coast.

Madilao Point (9°46'N., 125°24'E.) is 82m high, steep-to, and composed of dark rock.

6.41 **Basol Island** (9°50'N., 125°29'E.) is an islet that lies about 2 miles offshore, about 2.8 miles ENE of Bilaa Point. It is located in the middle of the W end of Hinatuan Passage and is a prominent mark for vessels entering that passage or bound for Surigao.

The E part of the island is covered with coconut trees and has a sandy beach; the W part, which is higher than the E, is woody with a rocky coast. A tower stands at the E end of the islet. The islet is closely fringed by a steep-to reef, and there are depths of more than 18.3m, about 0.3 mile offshore. There are numerous detached patches in the vicinity of the islet.

Surigao (9°47'N., 125°30'E.)

World Port Index No. 59340

6.42 Surigao, the capital of Surigao Province, stands on low land on the E side of the mouth of the Surigao River in a position about 4 miles SE of Bilaa Point. The town is of considerable importance because most of the trade of eastern Mindanao passes through it. There are extensive mining operations in this area. A limited amount of gold concentrates is shipped.

Tides—Currents.—The tidal currents off this part of the coast in the W end of Hinatuan Passage set NW on the rising tide and SE on the falling tide.

They attain a velocity of 7 knots in the narrow part of the passage.

There are strong rips and swirls in the vicinity of Bilaa Shoal and Basol Island as well as in parts of Hinatuan Passage.

Depths—Limitations.—The Surigao River, discharging on the W side of Surigao, has a depth of 0.3m over its bar at LW. The mouth of the river is blocked by the ruins of an iron bridge.

The E half of Bilanbilan Bay has a number of dangerous steep-to 0.5 to 5m patches that lie between about 1.5 miles and 1 mile E of Bilanbilan Point. A 7.3m shoal is charted 1.25 miles ENE of the light at Surigao.

A dangerous wreck lies about 0.1 mile ENE of the light; another wreck lies about 0.4 mile SE of the light.

A concrete wharf, suitable for inter-island vessels, is situated on the SE side of Bilanbilan Point. The wharf is 168m long, with depths of 5.5 to 9m alongside. An extension, 72m long in a NE direction, has a controlling depth of 4.6m alongside.

There is an L-shaped pier, with a berthing face 28m long and a depth of 10m alongside, at which vessels are loaded by conveyor.

Cargo operations for large vessels are handled at the anchorage. Loading or discharging is reported to be slow because of the difficulty in operating barges in the exposed anchorage. The maximum permissible size of vessels allowed is 150m in length and a draft of 8m at MLLW.

Surigao

Aspect.—The port area does not show up until a position E

Lipata Ferry Terminal

of the light is reached. The numerous large buildings in Surigao are visible from well offshore. The provincial capitol and the red church dome, with its yellow tower, are prominent. Two spires near the beach on the E side of the town are useful landmarks for vessels approaching the wharf.

The port of Surigao is located on the W side of Bilanbilan Bay in a position about 0.5 mile SE of the town. Bilanbilan Point, the W entrance of Bilanbilan Bay, lies about 0.5 mile SE of Surigao.

The shore bank fringing Bilanbilan Point extends to 0.15 mile E of the point, where a depth of 11.9m has been reported. Port Surigao is a Port of Entry.

A small inlet at the W end of the bay recedes about 0.3 mile SW between Bilanbilan Point and a low point about 0.3 mile S.

Pilotage.—Pilotage is compulsory and a 24-hour notice is required. Pilots board in the following positions:

1. Domestic vessels—9°47'43.2"N, 125°30'40.2"E.
2. Foreign vessels—9°51'30.0"N, 125°28'30.0"E.

Surigao—Contact Information	
Pilotage	
Telephone	63-86-2317784
	63-52-4807598
Facsimile	63-86-2317784
	63-52-4807598
E-mail	surigaopilots@gmail.com
Port Authority	
VHF	VHF channel 16
Telephone	63-86-8262015
	63-86-8265523
	63-86-2317742
Facsimile	63-86-8265589
E-mail	pmosurigao@ppa.com.ph
Web site	http://www.ppasurigao.weebly.com

The following vessels are exempt from pilotage:

1. Government vessels.
2. Foreign government vessels entitled to courtesy.
3. Ferry vessels authorized by the Maritime Industry Authority to engage in daily service between two places within the port or two ports.
4. Philippine-flagged vessels departing from anchorage to engage in coastwise trading.
5. Vessels calling at private ports in which the owners have formally waived the requirement of compulsory pilotage.

Contact Information.—The port can be contacted, as follows:

Anchorage.—Vessels can anchor, in 26 to 29m, sand, within a circle with a diameter of 0.5 mile located E of the light. This anchorage lies close off the steep-to edge of the shore bank and is exposed to the Northeast Monsoon.

Some protection is afforded by the islands to the NE. Ships over 140m in length should not anchor within about the 20m curve fronting the bay.

Caution.—Vessels can approach Surigao from the W by passing either side of Basol Island, or from the E through Hinatuan Passage. The shore bank fringing Bilanbilan Point has been reported to have extended farther offshore.

Vessels are advised to round the N and E sides of Bilanbilan Point at a distance of not less than about 0.1 mile.

Port of Surigao—Berthing Information			
Name	**Length**	**Depth**	**Vessels**
Berth 1	57m	7.0m	Ro-Ro , General and bulk cargo.
Berth 2	55m	5.0m	Ro-Ro , General and bulk cargo.
Berth 3	21m	8.0m	Ro-Ro , General and bulk cargo.
Berth 4	21m	8.0m	Ro-Ro , General and bulk cargo.
Berth 5	30m	8.0m	Ro-Ro , General and bulk cargo.
Berth 6	185m	9.0m	Ro-Ro , General and bulk cargo.
Berth 7	100m	9.0m	Ro-Ro , General and bulk cargo.
Berth 8	35m	7.0m	Ro-Ro , General and bulk cargo.

6.43 Kabo Island (9°47'N., 125°33'E.) is the northernmost of several low mangrove islands that are practically part of the coast, from which they are separated by very narrow creeks.

Kabo Reef, a 3.6m coral head, is a steep-to danger that lies on the S side of Hinatuan Passage about 0.8 mile NNW of the NE extremity of Kabo Island. A 4.9m patch lies 0.4 mile S of Kabo Reef.

Between Kabo Island and Bitogan Point, about 5 miles ENE and at the N end of Bayagnan Island, the low mangrove coast is

fronted by numerous small islands which lie so close to each other and the shore that they appear as part of the mainland.

The above islands, mostly low and covered with mangroves, lie up to 1 mile or about 5 miles from the coast of Mindanao. Many of the islands have no hard land, and the tide rises in the mangroves to a depth of about 0.6m.

6.44 The network of narrow channels and creeks between these islands and the coast are navigable only by small boats with local knowledge. This low shore is backed about 1 to 2 miles inland by a coastal range that rises abruptly to summits of 91 to over 396m.

Bayagnan Island (9°47'N., 125°39'E.), the largest of the above islands, lies about 4.3 miles E of Kabo Island. Telegraph Mountain, a sharp peak 252m high and covered with tall green trees, is a conspicuous summit near the SE end of the island. The island is well inhabited, and there are numerous houses.

The village of San Jose is situated on the SE end of the island. Bitogan Point, the N end of Bayagnan Island, rises to a height of 83m less than 0.5 mile S.

Sugbu Islet, 65m high and wooded, lies on the outer part of a reef which extends from the NE side of Bayagnan Island. Sagasae Islet, 53m high, lies on the end of a steep-to reef that extends nearly 0.8 mile SE from the SE end of Bayagnan Island.

6.45 **Masapelid Passage** (9°43'N., 125°37'E.), the N entrance of which lies on the W side of Bayagnan Island, is narrowed to less than 0.25 mile by dangerous reefs and shoals, and the tidal currents are very strong. The channel is unmarked and requires local knowledge. For further information, see paragraph 6.67.

Hinatuan Island (9°47'N., 125°43'E.) is high and conspicuous. From a distance it appears as two islands, the large S part being separated from the small N part by a narrow neck about 9.1m high. The S part is 346m high and has large patches of bright red soil showing through the sparse growth. The N part presents nearly vertical, dark, stone cliffs and rises to a 185m summit. The island is uninhabited.

Hinatuan Passage—West Part

6.46 **Hinatuan Passage (9°50'N., 125°45'E.)**, connecting the S end of Surigao Strait with the Pacific Ocean, is deep and clear of dangers except for Kabo Reef and **Hinatuan Rock** (9°41'N., 125°46'E.), which lies about 4.5 miles SSE of Hinatuan Island. The narrowest part of the passage is about 1.3 miles wide between Rasa Island and Lapinig Island, an islet to the S.

The tidal currents follow the trend of the passage; however, the flood current sets W from the Pacific Ocean toward Surigao Strait and the ebb current in the opposite direction.

They attain a velocity of about 7 knots between Kabo Island and Rasa Island.

A velocity of 10.5 to 11 knots has been reported about 1 mile off Rasa Island; however, the velocity was about 7.5 knots at a distance of about 0.5 mile off that island. There are heavy rips and swirls at certain stages from Kabo Reef to Hinatuan Island.

These are more severe in the narrow part of the channel during the flood current, particularly in the vicinity of Kabo Reef. In the deep, very narrow channel on the N side of Rasa Island, the current practically becomes a race, and during the ebb current it produces heavy rips and swirls where it joins the current coming more slowing around the S side of the islet.

The time of HW slack abreast Rasa Island occurs about 40 minutes before HW at Surigao, while LW slack occurs generally occurs about 50 minutes before LW at Surigao, although occasionally the times of both high and LW slack will vary from the foregoing by as much as 40 or 50 minutes.

Less current is reported in Banug Strait than along the longer route around Hinatuan Island. The strait is deep and clear of dangers.

Pilotage.—Pilots for Hinatuan Passage can be obtained at Surigao, at the W entrance, and Cantilan, at the E entrance.

Anchorage.—Anchorage can be taken out of the strength of the tidal currents in Panag Bay, a confined bight that recedes about 1 mile S from close SE of **Lapinig Island** (9°46'N., 125°35'E.). The best anchorage is in 37m, sand, about 0.8 mile S of Lapinig Island, and nearly 0.5 mile SW of a conspicuous bare, white sand cay.

Anchorage can also be taken, in 37m, sand, near the middle of Panag Bay.

Caution.—Hinatuan Passage is not recommended for large vessels, low powered vessels, and sailing vessels unless local knowledge is possessed. Strong currents, heavy rips, and swirls are found throughout the passage, especially in the vicinity of Rasa Island. In case of necessity, vessels can anchor off Surigao to wait for slack water.

If Banug Strait is used, caution must be exercised in order to avoid Hinatuan Rock, which lies on the track to it.

Dinagat Island—West Side

6.47 Between Rasa Island and Kanhatid Point, about 16.5 miles NNW, the coast on the E side of Surigao Strait trends along the W side of Dinagat Island and is indented by numerous bays and bights. Most of the more prominent points are closely fringed by steep-to reefs, with depths of more than 37m about 0.3 mile offshore, but reefs and foul ground lie up to about 0.8 mile offshore in the bays and bights.

These dangers are contained within the 37m curve, which gives little warning because of its close proximity to them. Much of this coast is low, but it rises abruptly to a coastal range with summits over 305m high less than 1 mile inland.

Numerous detached islands and dangers, with deep water between them, lie up to about 9 miles off this coast and are described below.

Rasa Island (9°48'N., 125°35'E.), 7.6m high, is the S islands contiguous with the S end of Dinagat Island. A light, 3m high, stands on the S edge of Rasa Island, which lies on a partly drying and extensive reef. A 12.8m patch lies 0.4 mile E of the light. The NE side of the islet is steep-to, and there are depths of more than 37m in the narrow unobstructed channel between it and Doot Islet.

This channel is not recommended because of the very strong tidal currents. As the current changes from flood to ebb very quickly, there is scarcely any slack water.

Between Rasa Island and the S end of Dinagat Island, about 5.5 miles NE, there is a group of islands that lie so close to each other and to Dinagat Island that they appear as part of that island. The passages separating these islands are so narrow that they are navigable only by small craft.

6.48 Doot Islet (9°49'N., 125°36'E.), about 0.3 mile NE of Rasa Island, lies close to the SW end of Nonoc Island, from which it is separated by a very narrow and shallow channel. The S part of the islet is low and covered with mangroves. Three conspicuous hills stand on the N part of the islet.

A reef extends more than 0.25 mile W from the islet almost to the village of Nonoc, on the SW end of Nonoc Island, where the reef terminates in several above-water rocks. A 12.2m patch lies 0.6 mile W of the SW extremity of Nonoc Island.

Nonoc Island (9°51'N., 125°38'E.) is the largest of the islands contiguous with the S end of Dinagat Island. On its W side, this hilly island attains a height of 335m in the summit of Mount Conico.

There are several prominent, green grassy hills at the base of the SE slope of Mount Conico. Although the hills at the W and E ends of the island are heavily wooded, the ridges between are nearly bare, with bright red soil showing.

6.49 Port Nonoc (9°49'N., 125°37'E.) is situated 2 miles SSE of Mount Conico. Nickel and cobalt are loaded at a T-shaped wharf, 260m in length. Minerals are loaded by conveyor belt. Ammonia and naphtha are unloaded at a jetty close N of the wharf. Tankers secure to dolphins at the jetty. Depths alongside are unknown. No provisions are available at the port. Pilots and tugs are available from Surigao.

Port Nonoc

Port Gaboc (9°52'N., 125°41'E.), formed between the S end of Dinagat Island and the E end of Nonoc Island, is easily made out from seaward. The shores are bold and fringed by a narrow steep-to reef.

The reef projects about 0.3 mile N from the S shore of Port Gaboc, constricting the entrance of Gaboc Channel to about 0.2 mile between about the 10m curves. Gaboc Island, 30m high, is a wooded islet lying on the projecting reef.

Small vessels can take sheltered anchorage, in about 27.4m, close to the N shore of the port.

Awasan Island (9°54'N., 125°38'E.) lies at the N end of Nonoc Island, of which it appears to be part, being separated from the latter by a shallow channel less than 0.1 mile wide. This wooded island is fringed with mangroves, except for a sand beach at its NW end. There is a house on this latter end of the island.

Hanigad Island (9°53'N., 125°35'E.), hilly and wooded, lies about 0.3 mile off the NW sides of Nonoc Island and Awasan Island.

The mangrove shores are interrupted by conspicuous sand beaches and coconut groves on the W side of the island and at its S end near the village of Hanigad. Kantiasay Bay, between Hanigad Island and Nonoc Island, is blocked at both ends by rocks and shoal water.

A small bay that lies between the N part of Hanigad Island and Awasan Island is encumbered with reefs. Dangerous foul ground and depths of less than 1.8m lie up to about 0.8 mile N of the island.

Sibale Island (9°54'N., 125°34'E.), which rises to a sharp summit, lies close W of Hanigad Island, being separated from the latter by a channel less than 14m wide. The island is cultivated and is noticeably greener than the other islands.

There are sandy beaches in the bay. The village of Zaragoza lies on the N end of the island; hemp and copra are shipped from here. A small detached reef, with a least depth of 4.6m, lies about 0.8 mile W of the N end of Sibale Island. A small bank, with a depth of 8.2m, lies 0.25 mile SW of the S extremity of the island.

6.50 Hikdop Island (9°53'N., 125°31'E.) is rugged, wooded, and narrow. There are several villages, of which Buenavista on the SW side of the island, is the most important. The channel between Hikdop Island and Sibale Island is about 0.8 mile wide and can be safely navigated by keeping in midchannel. The N part of the island is mostly covered with coconut trees and grass, while the S part is mostly wooded.

Onate Rock (9°52'N., 125°30'E.) lies about 1 mile SW of the middle of the SW side of Hikdop Island. It is a small coral reef with several black rocks, one of which is awash at HW.

Beelzebub Reef, with a least reported depth of 3.3m, is a small reef that lies about 0.5 mile W of Onate Rock; a deep but narrow channel lies between them. Both of these dangers are steep-to and have depths of more than 37m close around them.

Danaon Island (9°56'N., 125°30'E.) is an islet that lies about 0.8 mile W of the NW end of Hikdop Island. It is low, flat, sandy, and covered with coconut trees on the E side. The remainder of the island is rocky and wooded.

A rock, 1.2m high, lies on a small detached reef about 0.5 mile NE of the island. Danaon, a small village, stands on the E side of the island. The area W of the village is planted in coconut trees.

Satan Rock (9°56'N., 125°28'E.), a conical black steep-to above-water rock, lies about 1.5 miles W of Danaon Island. It may be passed fairly close on either side. A detached 14.6m depth lies about 0.5 mile WSW of the rock.

Sumilon Island (9°55'N., 125°26'E.) is the westernmost of the islands and dangers off this section of Dinagat Island.

A sand spit extends about 0.3 mile SE from the islet. Two conspicuous rocks, one of which is 8.2m high, lie on the outer end of the spit. A concrete tower, 9.8m high, stands at the SE end of the island. A light is shown from the SW end of the island.

Awasan Bay (9°56'N., 125°36'E.), entered between Zaragoza Point, the N tip of Sibale Island, and Dinagat Point, lying about 3.5 miles NNE of Zaragoza Point, has depths of more than 27m in its central part, but steep-to reefs and shoal patches, with depths of less than 0.9m, fringe the shores of the bay.

Two islets lie at the head of the bay, and the SE one marks

the N side of the entrance of Gaboc Channel. The channel leading to this entrance is narrow and tortuous.

Gaboc Channel, separating the S end of Dinagat Island from Awasan Island and Nonoc Island, is a deep and narrow channel that is navigable only by small craft with local knowledge.

6.51 Dinagat Point (9°58'N., 125°35'E.), a wooded promontory, 48m high, extends from the W coast of Dinagat Island. Dinagat, a small town, stands on the N slope of Dinagat Point.

Tagbayakao Islet (9°59'N., 125°35'E.), a small cone-shaped rock 31m high, lies about 1 mile NNW of Dinagat Point. The islet is connected to the Kanhinaud Point peninsula close N by a partly drying reef. Foul ground extends 0.25 mile S from the islet. There are bushes on the summit of the islet.

An irregular bight, most of which is encumbered with reefs and shoals, indents the coast to a distance of about 1.8 miles E between Dinagat Point and Tagbayakao Islet.

Dinagat Cove and Masiub Cove lie in the SE and NE ends, respectively, of this bight. Deep channels lead into these coves, but the reefs and dangers fringing their shores limit their use to small vessels.

Dinagat (9°58'N., 125°35'E.) can be identified by its church and schoolhouse. A small pier E of the town has a depth of 1.5m alongside. Small craft from Surigao often call at Dinagat to load copra. Lighters can be obtained from that port. The town has a post office. Fresh stores in limited quantities can be obtained.

Anchorage.—Anchorage for vessels calling at Dinagat is anywhere off the town, preferably just N, in 18.3 to 37m. This anchorage is fully exposed to the Southwest Monsoon, but offers some protection from the Northeast Monsoon. It is reported that currents in this vicinity are strong at certain times of the year. The approach to the outer anchorage should be made from the S of the Cabilan Islets.

Smaller vessels, with local knowledge, can anchor within Dinagat Cove, in depths of 26 to 37m.

6.52 Capaquian Island (9°59'N., 125°33'E.), lying across the entrance to Masiub Cove and Dinagat Cove, is 79m high and wooded. Black rocky ledges lie on the SW side, while the NE side is bordered by mangroves.

A reef, partly awash, lies with its outer end 0.7 mile SE of the S extremity of the island. Dakit Rock, 1m high, lies 0.4 mile from the W side of Capaquian Island.

The **Cabilan Islets** (9°57'N., 125°32'E.), two in number, lie on the same reef, 0.9 mile SSW of Capaquian Island.

The W islet is 42m high, while the E islet is only 26m high. A detached reef, with a depth of 0.3m, lies 0.35 mile ESE of the E islet.

Unib Island (10°01'N., 125°31'E.), 1.25 miles N of the N extremity of Capaquian Island, is 198m high, rugged, and densely wooded. Sibanac Island is separated from the SW side of Unib Island by a narrow deep channel.

Baong Rocks (9°59'N., 125°29'E.), 1m high, lies 0.3 mile W of the S side of Sibanac Island. Drying rocks and a 0.3m patch lie 137m W and ESE, respectively, of Baong Rock. With W and SW winds, the sea breaks heavily over these rocks.

Viray Islet (10°00'N., 125°31'E.), 24m high and wooded, lies 0.75 mile S of Unib Island. Partly-drying reefs extend 0.4 from its NE side.

A rocky islet, with some coconut trees, lies 0.5 mile E from the E extremity of Sibanac Island, with a drying reef lying 137m E of the islet.

6.53 Kinhinaud Point (10°00'N., 125°34'E.), the W extremity of a rather prominent peninsula, lies about 1.3 miles NW of Tagbayakao Islet. A hill, 119m high, lies near the middle of the peninsula about 1 mile E of the point and is conspicuous from a considerable distance.

The point is bordered with mangroves and closely fringed by a steep-to reef that bares at LW.

Melgar Bay (10°03'N., 125°32'E.) occupies a bight that indents the coast between Kanhinaud Point and Kambagio Point, about 4.5 miles NW. The low shores of the bay rise abruptly to high hills, which attain a height of more than 305m about 2 miles N of the head of the bay.

A broken series of ridges culminates in the summit of Mount Tristan, which lies on the E side of Dinagat Island about 4.8 miles NE of the head of the bay.

The SE side of the bay trends about 3.8 miles NNE from Kanhinaud Point to Mahangin Point and is indented by numerous small deep coves. The village of Wilson is situated near the head of Kambay Cove, which indents the coast between **Kansadok Point** (10°02'N., 125°34'E.), about 2.3 miles NNE of Kanhinaud Point, and Kanayut Point, about 0.8 mile farther N.

The latter point has a cliffy face, about 9.1m high, that is conspicuous from many parts of the bay. Vessels desiring to call at Wilson can anchor N of the town, in 18 to 37m.

6.54 Mahangin Point (10°03'N., 125°35'E.), about 0.8 mile NE of Kanayut Point, has a black rocky beach, and is bold and steep-to. The two points are at the NW end of a prominent, wooded peninsula.

A deep narrow channel, about 0.2 mile wide, lies between Mahangin Point and Sibukauan Island, close N. It forms the common entrance of several deep coves at the head of Melgar Bay. These coves afford sheltered anchorage for moderate sized vessels with local knowledge.

Sibukauan Island (10°04'N., 125°35'E.), 30m high and easily identified, is a wooded islet that lies at the head of Melgar Bay. It is closely fringed by a steep-to reef, and a narrow reef, parts of which dry at LW springs, which connects the islet with Bilabid Point, about 0.3 mile N.

The N side of Melgar Bay recedes about 1.8 miles N between Bilabid Point and Kambagio Point, about 2.8 miles W. The shore, which is mostly steep-to, is rocky around the points and closely fringed by reefs, which extend up to about 0.5 mile S from a position on the shore about 1.8 miles NE of Kambagio Point.

A detached, steep-to coral patch, with a least depth of 1.8m and which usually shows plainly, lies about 0.3 mile SSE of a point about 0.8 mile NE of Kambagio Point.

Kambagio Point (10°04'N., 125°31'E.) is steep, rocky, and rises abruptly to the 61m summit of a grassy conical hill. It is prominent from the W and SW. A reef, that partly dries at LWS, extends nearly 0.5 mile SE from the E side of the point. The small village of Melgar is situated on the E side of the point.

Anchorage, sheltered from SW winds by the above reef, can be taken E of the village, in 35m or more.

Kanhatid Point (10°04'N., 125°30'E.), the W entrance point of Babas Cove, rises abruptly to a hill 79m high about 0.5 mile N. An islet, 15.2m high, lies close S of the point, to which it is practically connected.

6.55 Between Kanhatid Point and Tungo Point, about 4.8 miles NNW, there are a number of islets that lie up to about 1.5 miles offshore about halfway between the two points. These high and mostly steep-to islets have deep channels between them and shelter a number of small inlets that indent the S part of this section of the coast.

Kakub Point, which terminates at its S end in a 15.2m hill, lies about 2 miles NNW of Kanhatid Point. A narrow steep-to reef, on which there are a number of small and partly-wooded rocky islets, 6.7 to 33m high, extends about 0.8 mile S from the point.

The largest islet is located on the S end of the reef. A deep bay, less than 0.5 mile wide, lies on the E side of Kakub Point and the reef extending S from it. The steep-to shores of this bay are practically a wall of coral from 3 to 9m high.

The **Twin Islets** (10°05'N., 125°29'E.), 18.3m high, lie in the S approach to San Roque Channel, about 0.3 mile SW of the S end of the above-described reef. They are located on a steep-to reef that extends about 0.2 mile N from them. Although the islets may be passed at a distance of 0.1 mile on either side when approaching or leaving San Roque Channel, the channel on the E side of the islets is only about 91m wide between the reefs.

Hagakhak Island, 43m high, lies about 0.3 mile W of the Twin Islets and it is separated from them and from the reef extending S from Kakub Point by a deep channel about 0.1 mile wide. The SE and W sides of the island are closely fringed by steep-to reefs, and a steep-to reef, on which there are several islets, extends about 0.3 mile from the NE side and N end.

An islet, 21.3m high, lies at the NE end of the reef. Tinao Islet, 10.6m high, lies close off the edge of the island. There are two rocky columns on the W side of Tinao Islet.

A deep channel, about 0.1 mile wide, separates the reef fringing the NE side of Hagakhak Island from the islets off the S end of Kotkot Island.

Little Hagakhak Island lies about 0.3 mile SW of Hagakhak Island. The islet is steep and very prominent. It is closely fringed by steep-to reefs, and a rock, 15.8m high, lies at the SE end of the islet.

6.56 **Kotkot Island** (10°06'N., 125°29'E.), 52m high and thickly wooded, lies less than 0.5 mile N of Hagakhak Island and is separated from the coast, about 0.1 mile NE, by San Roque Channel. Several islets lie on the edge of the reef fringing the S end of the island.

Rabo Rock, 7.6m high, lies on the E edge of a reef that extends about 0.3 mile ESE from the SE end of the island. The deep channel between this latter reef and Kakub Point is only about 55m wide. A detached 3.2m patch lies about 0.3 mile N of the NW end of the island.

Puerto Princesa (10°06'N., 125°29'E.) is a village that lies on the coast about 0.8 mile NW of Kakub Point. A hill, 104m high, lies close behind the village and appears as a perfect cone from SE or NW.

San Roque Channel, which lies between the coast at Puerto Princesa and Kotkot Island, is narrowed to a width of about 91m by the reefs fringing each side. The channel has a depth of about 9.1m off Puerto Princesa, and depths increase from there toward the S and N entrances.

A short distance SE of the port the channel widens into a basin, about 0.3 mile in width and a little more in length. The basin is clear of known dangers except for two reefs that extend about 0.1 mile from the N side.

Good anchorage can be taken in the basin, in 40 to 46m. The channel leading S from the basin narrows to a width of about 55m between the reef fringing the E side of Rabo Rock and that fringing the W side of Kakub Point.

Tungo Point (10°08'N., 125°29'E.) is a steep-to point that rises to a 93m summit about 0.3 mile southward.

6.57 Between Tungo Point and Pelotes Point, about 4.3 miles NNE, the coast is indented by numerous small bays and bights. A number of steep-to islets and above and below-water rocks lie up to about 2.5 miles offshore. Hills rise abruptly to heights of about 171 to 256m about 0.5 mile inland.

Kanhanusa Island (Kanhanus Island) (10°09'N., 125°29'E.), 99m high, is an islet that lies about 0.5 mile NNE of Tungo Point and has Tamburay Island, a smaller islet, at its S end. Although the passage between them and the coast, about 0.3 mile E, is deep, there are a number of steep-to reefs that render it navigable only by small craft with local knowledge.

Kayitan Bay (10°08'N., 125°29'E.), which has depths of 20 to 55m, indents the coast on the E side of Tungo Point. It is entered through a deep channel, about 0.3 mile wide, between the latter point and Tamburay Island.

A 3m patch lies in the central part of the bay about 0.5 mile SE of Tungo Point, and there is a 0.9m patch near the head of the bay. A narrow drying passage leads into a cove at the S end of the bay.

Fairly good anchorage can be taken, in 38m, mud, about 0.2 mile E of the entrance of the bay. Care must be taken to avoid the above dangers and the reefs extending toward Tamburay Island from the N side of the bay.

Arellano (10°08'N., 125°30'E.), a small village, is situated on the coast about 0.5 mile E of the NE end of Kanhanusa Island. There is a sandy beach in front of the village. A small steep-to islet, with a reef extending about 0.2 mile S, lies about 0.5 mile NW of the village.

6.58 **Nanihaan Island** (Kanihaan Island) (10°10'N., 125°28'E.) is the westernmost of the islets in this vicinity. A small detached reef, with a depth of about 0.9m, lies about 0.3 mile W of Kanihaan Island and is steep-to.

Heavy rips and overfalls in the vicinity make the reef difficult to see. A 23.5m coral patch is charted about 1.3 miles W of the island.

Currents have been experienced setting S off the points of Dinagat Island and around Kanihaan Island. They were very strong in the vicinity of the N end of Kanihaan Island and the reef close W. When the currents set N they were found to have very little strength as a rule.

Pelotes Point (10°13'N., 125°30'E.) is the steep, rocky, NW end of the Tabunan Peninsula. This wooded peninsula, 180m high, is connected to the coast about 2 miles SE, by a short narrow isthmus, 30m high. The village of Tabunan is situated on the W side of the peninsula about 0.8 mile SSE of the point.

The Tabunan Islets, 15 to 64m high and rocky, lie up to about 0.5 mile offshore close S of the point. A rock, 17.7m high and topped with bushes, lies less than 0.25 mile NE of the point. A detached 10.1m patch lies nearly 0.5 mile NNW of the point.

Binaliu Rocks (10°12'N., 125°29'E.) are two rocks that lie about 1 mile WSW of Pelotes Point. The sea breaks over them in moderately heavy weather. Pelotes Rocks are wooded and lie about 1 mile N of Pelotes Point. They are located close together on a steep-to bank about 0.3 mile long.

6.59 Between Pelotes Point and Esconchada Point, about 7 miles NNE, the coast is indented by several bays, separated by high steep-to points. The coastal ridge of hills rises abruptly to summits more than 335m high about 1 mile inland.

Libjo Bay (10°13'N., 125°31'E.) indents the coast between Pelotes Point and Tamoyauas Point, about 2.25 miles NNE. The latter point is high and wooded, with rocky ledges at its foot. The village of Libjo is situated at the head of the bay. Fairly protected anchorage can be taken, in 31m, about 0.3 mile NW of Libjo.

Little Layauan Bay lies close S of Layauan Bay from which it is separated by a steep rocky bluff. The greatest depths are on the N side of the bay.

Layauan Bay (10°17'N., 125°32'E.) about 2 miles N of Tamoyauas Point, is a small narrow inlet. The entrance is about 0.3 mile wide between two high rocky points. The mangrove covered, rocky shores are fringed with steep-to reefs, 50 to 91m wide.

There are depths of more than 26m as far as a position S of a sand spit on the W side of the entrance of the N arm of the bay, but there are reefs and foul ground E of this position.

A channel, 137m wide, leads up the middle of the N arm and has depths of about 18.3m for about 0.3 mile. In entering the N arm, the steep-to sand spit mentioned above should be passed close to in order to avoid the reefs that extend from the point on the E side.

Anchorage, protected from all but W winds, can be taken in the middle of the bay, in 29m. Small vessels can enter the N arm, where there is a landlocked anchorage, in a depth of 18m.

Esconchada Point (10°19'N., 125°31'E.), 76m high, is a broad partly-wooded bluff headland that lies about 2.25 miles N of Layauan Bay. Part of the bluff has a steep, reddish, rocky face that is prominent. The point is fringed by a steep-to rocky beach. There are heavy rips off Esconchada Point, particularly during the rising tide.

6.60 Between Esconchada Point and Desolation Point, about 12 miles NE, the steep-to coast is indented by two large open bays. The ridge of hills and mountains closely backing the coast increases in elevation toward the N end of Dinagat Island and attains a height of about 914m about 2 miles inland.

Mount Redondo, 934m high, lies on the E side of Dinagat Island, about 2.8 miles SE of the head of Looc Bay.

Berrugosa Point (10°23'N., 125°33'E.), which lies about 4.5 miles NNE of Esconchada Point and rises abruptly to a 201m summit, is the N end of a hilly peninsula that extends about 2.25 miles NNW from the coast. There is a depth of 3.7m close N of Berrugosa Point.

Looc Bay (10°24'N., 125°35'E.) indents the coast between Berrugosa Point and Babatnon Point, a low wooded point about 3.5 miles ENE. The shores are fringed by narrow steep-to reefs, with depths of 11 to 18.3m close off them. Puyo Island lies about 0.5 mile off the E side of the head of the bay. The islet appears steep-to except for reefs and shoal water that fringe its W and N sides.

The villages of Loreto and Santiago are situated at the head of Looc Bay. There is a post office and radio station at Loreto. Small inter-island vessels call here occasionally.

Anchorage can be taken W of Puyo Island and about 0.5 mile N of Loreto, in about 27m. Fair anchorage can be taken between the SE side of Puyo Island and the coast, in about 18 to 22m. Both anchorages are exposed to N winds.

6.61 The **Kayasa Islets** (10°26'N., 125°34'E.) are two rocky and wooded islets that lie in the approach to Looc Bay about 2.5 miles NNE of Berrugosa Point.

They are located about 0.5 mile apart on an 11 to 18m bank, and there are depths of about 6.4m close NE of the S islet.

A rock lies awash about 0.1 mile W of the S islet, and a detached steep-to rocky patch, with a depth of 1.8m, lies about 0.3 mile NW of the N islet. Caution should be exercised to keep well clear of these dangers.

The tidal currents attain a velocity of 5 or 6 knots in the vicinity of the Kayasa Islets and between them and the coast to the E and Hibuson Island to the W. They cause rips off some of the points on the coast of Dinagat Island.

There are also tide rips NE and S of the islets.

The coast, for a distance of about 3.8 miles SW of Desolation Point, contains several low rocky points with small white sand beaches between them.

Desolation Point (10°28'N., 125°39'E.) is low and rocky. The land rises abruptly from the point and about 1.5 miles S it attains a height of 438m in the northernmost summit of the coastal ranges. Breakers were reported within 1 mile N of Desolation Point.

Hibuson Island (10°27'N., 125°29'E.), 10 miles W of Desolation Point, is 189m high, and wooded. Its coasts are mostly steep-to.

There is anchorage off Hibuson village, which stands at the head of Tinaga Cove, on the E side of the island, in a depth of 37m, protected from all except E winds. A bank, with depths from 2 to 4m, extends 0.3 mile from the S side of the cove.

Little Hibuson Island, an islet, lies so close to the SW side of Hibuson Island that it appears to be part of the latter and is connected thereto by reefs. Kanhandon Point, the NW extremity of the island, is prominent.

The tidal currents are strong in the vicinity of Hibuson Island and cause rips off the points of the island.

Caution.—It is advisable to pass NW around Hibuson Island in order to avoid the dangers eastward. Vessels may pass between Hibuson Island and the N end of Dinagat Island, but the currents are very strong and caution must be exercised to keep clear of the Kayasa Islets.

A branch of the North Equatorial Current flows SW at a velocity of 0.5 to 1 knot at distances greater than 4 miles off the NE coast. Within 1 mile offshore there are eddies, and the direction of the current is influenced by the tides.

The flood current sets from the Pacific toward Surigao Strait, the ebb current in the opposite direction. In the narrow channels between the islands, the tidal currents are strong and in

some places there are tide rips and dangerous whirlpools.

At the E entrance of Hinatuan Passage the flood current sets NW and the ebb current sets in the opposite direction. The velocity is reported to reach 2.5 knots at times.

Dinagat Island—East Side

6.62 The E side of Dinagat Island is bold and not heavily wooded. Because of the lack of good harbors, the strong tidal currents, and dangerous ground encumbering the approaches through Dinagat Sound, this side of the island is seldom visited by vessels.

The E side of Dinagat Island trends S from Desolation Point, the N extremity of the island, for about 37 miles to **Gaboc** (9°52'N., 125°41'E.).

A mountainous ridge extends along the coast. The summit of the island is Mount Redondo, about 7 miles S of Desolation Point. The lower slopes and valleys are wooded. Growth on the higher slopes is sparse. Spurs from the mountain terminate at the shore in steep cliffs.

The shore is fringed with reefs extending as far as 0.5 mile offshore. There are no towns. The E coast is a lee shore and is exposed to the Pacific. A safe coastal track leads about 1 mile E of the salient points with a least depth of 20m.

Between Desolation Point and Kalanugan Point, about 5.25 miles SSE, the coast is bold and steep-to. Masdang Cove, about 1.8 miles S of Desolation Point, affords shelter for boats. A landing can usually be made in foul weather.

Between Kalanugan Point and Malinao Inlet, 8.5 miles SSW, the coast is a continuous mountain ridge rising abruptly from shore.

Mount Redondo, the summit of Dinagat Island, is about 3.5 miles SW of Kalanugan Point. Narrow steep-to reefs fringe the shore.

Malinao Inlet (10°15'N., 125°38'E.) is about 0.5 mile wide at the entrance between heavily wooded mountains rising steeply on either side. Foul ground extends about 0.5 mile E and about 0.8 mile SE from the N entrance point of the inlet and drying reefs fringe both N and S entrance points.

Small craft can obtain sheltered anchorage in the inlet and vessels with local knowledge can anchor off the foul ground during the Southwest Monsoon. Approach should be made from SE, passing SW of the foul ground off the N entrance point.

Between Malinao Inlet and Gaas Bay, 3.5 miles S, the coast consists of wooded mountains rising steeply from the shore which is fringed by reefs less than 0.25 mile wide.

6.63 **Peninsula Point (10°10'N., 125°41'E.)** is a 161m high densely wooded peninsula that lies about 5 miles SSE of Malinao Inlet. It appears flat on top. Reefs and foul ground fringe the SE and NE sides of the peninsula up to 0.5 mile offshore.

Gaas Bay (10°11'N., 125°39'E.), on the N side of Peninsula Point, is about 1.5 miles wide and indents the coast about 1 mile. The shores of the bay are fringed with reefs which are about 0.3 mile wide at the head of the bay.

Depths in the bay vary from 51m at the entrance to about 14.6m at the head. A small village is on the S shore of the bay. Vessels can take temporary anchorage about 0.3 mile NE of the village, in 14.6m.

Gaas Inlet is a tortuous channel with steep rocky banks leading from Gaas Bay SW to a small basin about 1.5 miles long. It affords good protection for small vessels with local knowledge.

Between Peninsula Point and Penascales Point, 6.5 miles to the SSE, the coast is bold and fringed with reefs extending up to 0.3 mile offshore.

Penascales Point (10°03'N., 125°42'E.) is fringed by a steep-to reef about 0.3 mile wide. A group of large black rocks, 6.7m high, is on the reef and is conspicuous from N and S. An 11.3m bank is about 0.3 mile E of the point.

The W edge of the dangerous ground in Dinagat Sound is about 2.8 miles ESE of Penascales Point.

Between Penascales Point and the N entrance point to Lahi Bay, about 6.25 miles SSW, the coast is bold and fringed with reefs and foul ground extending as far as 0.25 mile offshore. There are several small coves along the coast.

6.64 **Lahi Bay** (9°57'N., 125°40'E.) indents the coast about 1 mile to the W. Reefs and foul ground extend up to 0.5 mile from the head of the bay and its S shore. There are depths of 33 to 44m in the bay.

Kagdyanao Bay (9°55'N., 125°41'E.), about 1 mile wide, lies close S of the Lahi Bay, and is nearly blocked by reefs. Kagdyanao Village is at the head of the bay.

There is a recess in the reef where small vessels with local knowledge can anchor off the village, in 22m.

Tabuk Island, 45m high, is on the shore reef projecting about 0.8 mile E from the N side of the entrance to Kagdyanao Bay. The island is covered with grass and trees. A 16.4m bank is 1.75 miles ESE of the island.

Sayao Island, 37m high, is a sparsely wooded island about 0.5 mile NE of Tabuk Island. The SE end of Sayao Island is steep-to. Reefs extend as far as the island.

Dakit Rock, a conspicuous 3.9m rock, marks the NE extremity of the reef. A boat passage, about 0.1 mile wide with depths of 15 to 20m, is between Sayao Island and the reef fringing Tabuk Island.

The S end of Dinagat Island consists of a bold promontory fringed by a narrow steep-to reef.

Mount Gaboc (9°53'N., 125°41'E.), on the N side of Port Gaboc, is the highest peak of the promontory. It appears as a flat-topped ridge covered with scrub and it slopes about 3 miles N from the summit to an isthmus about 1 mile wide and 30m high.

Dinagat Sound

6.65 **Dinagat Sound** (10°00'N., 125°50'E.) is N of Hinatuan Passage between the NW side of Siargao Island and the E side of Dinagat Island. It is avoided by shipping because of dangerous ground and unknown dangers. The sound is encumbered with several dangerous reefs. The bottom is very uneven and there are numerous detached banks with depths of less than 18.3m.

Little is known about the tidal currents in Dinagat Sound except that they are strong.

Halian Island (9°56'N., 125°48'E.) is a sandy, wooded islet about 24m high. It is on the S end of a reef about 8 miles ENE of Mount Gaboc. Foul ground extends about 0.5 mile N from the reef.

The 20m curve is about 0.3 mile off the edge of a reef fringing the E and W side of the island and about 0.5 mile off the SW end of the island. The N end of the reef is marked by breakers.

There is a sandy beach at the SW end of the island where boat landings may be made.

Depths—Limitations.—A 10.3m shoal is on the N part of a 14.6m bank about 3 miles ESE of Halian Island. A deep channel about 1.5 miles wide is between the above shoal and the reef fringing Kangbangyo Island (Kagbangio Island). A 9.1m shoal is located about 3.5 miles NE of Halian Island and an obstruction is about 0.3 mile SW of this shoal.

The remainder of the known dangers in Dinagat Sound are contained within an area 6 miles square W of 125°50'E and N of 10°N. The W limit of the dangerous ground is about 2.8 miles ESE of Penascales Point.

The least charted depth in this area, 6.1m, lies about 3.5 miles SE of that point.

Mindanao—Northeast Coast

6.66 The NE coast of Mindanao is bold and heavily wooded. Steep cliffs rise from the sea except for coastal lowlands bordering Becebos Bay, Carrascal Bay, and Lanuza Bay. The rivers are short swift mountain streams and fewer in number than most other parts of Mindanao.

The Dinuta Range trends parallel to the coast about 10 miles inland and averages about 1,158m elevation. Mount Legaspi, lying in a volcanic region about 8 miles WSW of Tugas Point, is an active crater which erupted many years ago.

There are no large ports or towns along this coast. The principal industry is mining. Placer is the shipping place for the surrounding mining district. The pilot station for the E entrance of Hinatuan Passage is at Cantilan village on the W shore of Lanuza Bay.

Typhoon tracks have crossed the NE coast of Mindanao with greatest frequency during the month of November and with the least frequency during February, March, and April.

Trade winds predominate during March and April. They may be NE, E, or SE and can seldom be distinguished from the Northeast Monsoon. The climatology of this coast is otherwise the same as the Surigao Strait area.

On the NE coast, at positions open to the Pacific, the effect of the tropic tides is less marked than in the inland waters of the archipelago and semidiurnal tides occur throughout lunation.

Magnetic compasses of vessels navigating these waters are greatly affected by the large iron deposits in the mountains between Claver Point and Tugas Point, and on Dinagat Island.

The N part of this coast borders Masapelid Passage and is a large mangrove swamp, interspersed with many tidal streams (esteros) that extend as far as two miles inland and form large islands of mangroves.

The hills nearest the coast are covered with grass and coconut trees and are detached from the mountains farther inland which are heavily timbered.

Cog Point (9°41'N., 125°36'E.), which forms the W side of the entrance of Canal Bay, is a steep hill covered with coconut trees. The W side of the point is low and covered with mangroves. The point, which is also known as Cogbabagang Island, is prominent.

6.67 **Masapelid Passage** (9°43'N., 125°37'E.) is used occasionally by small coastal vessels with local knowledge. Its use by vessels without local knowledge is not recommended because detailed directions from the intricate channel, which is constricted by dangerous shoals and reefs, are not available. The tidal currents are strong and there are no good landmarks.

Bilabid Island (9°45'N., 125°38'E.) consists mostly of mangroves. The E side of the island is covered with grass and scattered coconut trees. A hill, with a conspicuous clump of trees on its summit, rises in the NE part of the island. Caye Island, about 0.5 mile SE of Bilabid Island, is a small island with mangroves on its W side and a sand beach on its E side.

Masapelid Island (9°42'N., 125°39'E.), mostly fringed by a narrow reef, lies about 0.5 mile S of Caye Island. The W part is wooded and there are many small peaks. The NE part is covered with grass and scattered trees.

The S part is a ridge which is heavily wooded on its W side and has cogon grass on its E side. The summit of the island is about 0.5 mile N of Sampetan Point, the S extremity of the island. Lakandula is a village on the W side of the island and is situated about 1 mile NW of Sampetan Point.

Canal Bay (9°41'N., 125°37'E.), entered between Sampetan Point and Cog Point, 1 mile E, is encumbered by several islands and dangers. Strong tide rips occur N of **Cog Point** (9°41'N., 125°36'E.).

Opong Island lies at the head of Canal Bay. The island is covered with vegetation and may be easily identified. It is composed of rough, jagged coral, eroded at the waterline and has a mushroom appearance.

Dinago Island, lying about 0.5 mile S of Opong Island, is covered with vegetation and has a similar appearance. Close E of Dinago Island there is a small islet with two summits. A rock awash lies about 0.5 mile E of the islet.

A 0.9m patch lies about 0.5 mile NE of the NE end of Dinago Island. Foul ground extends from the N side of Dinago Island and from the S side of Opong Island.

The NW side of Canal Bay is foul as far as 0.25 mile offshore and consists of low mangroves bordered shores in the N part. The S part rises to cogon-covered hills in the vicinity of Cog Point.

Placer (9°40'N., 125°35'E.), a small village standing on an unnamed point about 1 mile S of Cog Point, is the shipping place for the surrounding mining district.

The harbor is formed by a small bay between Cog Point and a large drying reef which extends about 0.6 mile NE from the town.

Bancay Islet is a large rock lying near the middle of the N side of this reef. An 8.2m patch lies in the approach to the harbor about 0.3 mile NE of the NE extremity of the reef. A 0.9m patch lies near the middle of the harbor about 0.2 mile N of Bancay Islet.

Anchorage.—Large vessels can anchor, in 22 to 24m, in the middle of the harbor.

There is a rock causeway with a timber landing at Placer with a reported depth of 3.9m at its head. A pier, with a depth of 1.5m alongside, is located in a small cove about 0.5 mile N of Placer.

Between Cog Point and Claver Point, about 9.5 miles SE,

foul ground lies as far as 1.5 miles offshore. The NE coast of Mindanao is bold and heavily wooded as far as the valley of the Bacuag River, about 5 miles W of Claver Point. From the Bacuag River to Claver Point, the coast is low plain traversed by several small rivers and backed by wooded mountains rising about 3 miles inland.

The mountains along this stretch rise almost directly from the coast and are heavily wooded, except those near Tugas Point which are conspicuously bare of vegetation and bright red in color.

6.68 Bacuag (9°37'N., 125°38'E.), a village, lies about 3.5 miles SE of Placer on the S side of the mouth of the Tenanan River. A shoal spit, with a depth of 2.7m at its offshore edge, extends about 0.5 mile NE from the mouth of the Tenanan River. Puyo Rock, which is large and conspicuous, lies on the spit.

Anchorage can be taken, in 9 to 13m, mud, about 0.3 mile from the beach about 0.5 mile E of Puyo Rock.

Byby Island (9°35'N., 125°42'E.) is low, flat, and consists of mostly mangrove and nipa swamp in the E part. The W part is a long sandpit fronting Gigaquit village. There is a coconut grove on the island.

Cabgan Island (9°36'N., 125°43'E.), a grassy islet, lies about 0.5 mile off Byby Island about 2 miles E of the mouth of the Gigaquit River. A reef, usually marked by breakers, surrounds Cabgan Island.

Claver Point (9°36'N., 125°44'E.) projects about 0.5 mile N from the coast and forms the E side of Becebos Bay. A 5.5m shoal was reported to lie 0.75 mile NNE of Claver Point.

Hinatuan Rock (9°41'N., 125°46'E.), a steep-to reef with a depth of 6.4m, lies in the fairway of Hinatuan Passage, about 6 miles NNE of Claver Point.

Nagubat Island (9°39'N., 125°43'E.) is a small island lying in the middle of a long narrow reef in a position about 4 miles SW of Hinatuan Rock. Dijut Rock is a conspicuous rock with light vegetation on it. The rock lies on the same reef as Nagubat Island about 0.8 mile N of the latter. A 6.4m channel crosses the reef about midway between Nagubat Island and Dijut Rock.

Isa Reef (9°39'N., 125°41'E.), a dangerous reef with a depth of 2.1m, lies about 1.5 miles W of Nagubat Island.

Lapinigan Island (9°35'N., 125°46'E.), lying about 1.5 mile E of Claver Point, is covered with grass and scattered trees.

Good sheltered anchorage can be taken in Candos Bay W and S of Lapinigan Island, in depths of 11 to 18m, mud. A ship drawing 6.2m was reported to have touched bottom about 1.2 miles, bearing 342°15' from the W summit of Lapinigan Island.

6.69 Pagbuy Rocks (9°35'N., 125°47'E.) consists of a group of rocks, 5 to 10m high, lying on a steep-to reef about 1 mile E of Lapinigan Island. A small drying patch lies about 0.3 mile W of Pagbuy Rocks.

Aling Islet (9°33'N., 125°50'E.) is about 3m high and wooded. It consists of conspicuous, white sand beaches which distinguish it from the other islets in the vicinity which have rocky shores. A drying reef extends 0.6 mile N of the islet.

Telegraph Islet (9°33'N., 125°51'E.), 67m high, and two other islets, lie on the coastal reef about 0.8 mile SE of Aling Island.

The **Lang Islets** (9°32'N., 125°52'E.) are a group of small rocky islets from 0.5 to 1 mile from the coast of Mindanao about 1.3 miles E of Telegraph Island.

Amaga Islet (Amagat Islet) (9°32'N., 125°54'E.), 51m high to the tops of the trees, is in the middle of Hinatuan Passage, about 1.8 miles E of the Lang Islets. It is steep-to, composed of jagged coral, and can be passed on either side.

Hinadkaban Bay (9°31'N., 125°54'E.) is entered between an unnamed point and **Kaba Point** (9°30'N., 125°54'E.), which lies about 2 miles SE. The bay recedes about 1 mile S. The shores are fringed with coral which extends as far as 0.5 mile offshore at the head of the bay. Kaba Point is bold and rocky. It is fringed by a narrow steep-to coral reef at its extremity.

The most conspicuous natural feature is the bright red color of the Red Hills about 1 mile S of the head of Hinadkaban Bay.

The Red Hills are nearly bare of vegetation and consists of bright red soil and red rock which is weathering rapidly. The hillsides are eroded, leaving deep gullies where the soil has washed into the sea.

6.70 Dahikan Bay (9°29'N., 125°56'E.) is entered between Kaba Point and Tugas Point, 3 miles ESE. It is divided into two arms by **Pagtigian Point** (9°28'N., 125°56'E.), a high, narrow, and rocky point of land 31m extending in a N direction.

The main danger in the approach is a 10.5m patch lying in a position about 1.3 miles NW of Tugas Point. The W arm of the bay extends about 2.8 miles S from the entrance, forming a narrow cul-de-sac fringed by reefs.

Rock debris from the Red Hills has formed beaches of red soil in the small coves along the shore.

Anchorage.—Anchorage, protected from all directions except from the N, can be found inside the bay, in depths of 31 to 46m, mud. Small vessels can also obtain anchorage in the head of the bay E of Pagtigian Point, in a depth of 31m, mud, sheltered from the Northeast Monsoon (October to March).

6.71 Tugas Point (9°29'N., 125°57'E.) is the NE extremity of the Tugas Peninsula. The extremity of the point consists of a cliff, 24m high, backed by hills. The point is fringed by a steep-to reef about 0.3 mile wide.

From Tugas Point to Cauit Point the coast is indented by two large adjacent bays, Carrascal Bay and Lanuza Bay. The coast from the head of Carrascal Bay to the head of Lanuza Bay is a low cultivated plain. Along the SE shore of Lanuza Bay, the mountains rise steeply from the shore and are heavily wooded.

The **Tugas Peninsula** (9°28'N., 125°57'E.) is a bold, wooded, and irregularly-shaped peninsula. It is connected to the NE coast of Mindanao by a low narrow isthmus about 2.5 miles SSW of Tugas Point. The E side of the peninsula consists of rocky bluffs interspersed with sand beaches.

A tongue-shaped steep-to reef, which partly dries at LW, extends about 0.5 mile SW from the S end of the Tugas Peninsula and forms a sheltered cove on the N side of Carrascal Bay. The edge of the reef can be easily made out. Small vessels can round it fairly close to, and anchor in the cove NW of the reef, in 18 to 31m.

6.72 Carrascal Bay (9°25'N., 125°58'E.) is entered between the SE side of the Tugas Peninsula and Capungan Point, about 3 miles SE. Gorda Point, 52m high, lying about 2.8 miles

S of the S end of the Tugas Peninsula, divides the bay into two parts.

The bay is exposed to the Northeast Monsoon, and it is reported that a heavy swell sets into the bay during most of that season. A reef extends 0.25 mile E from the point.

The NW arm of the bay is backed by the active volcano of Mount Legaspi which rises about 4 miles W. Intervening hills rise abruptly from a mangrove-bordered shore that is fringed by mud flats about 0.5 mile wide.

The SE arm of the bay is backed by a level, cultivated, coastal plain through which the Carrascal River flows.

The mouth of the river lies about 0.8 mile W of a low isthmus connecting the mainland with the Capungan Peninsula. The peninsula forms the E shore of the SE arm of the bay.

Carrascal is a village located on the W bank of the Carrascal River mouth. A church bell tower on the N side of the village and a yellow building on the beach are conspicuous.

Anchorage can be taken in a position about 0.8 mile N of the church tower, in 18.3 to 22m.

During the Northeast Monsoon, heavy swells are felt at the anchorage.

6.73 General Island (9°25'N., 126°01'E.) lies close NE of Capungan Point, the SE entrance point of Carrascal Bay.

The NE and NW sides of the island consist of a series of bluffs which are conspicuous from E or W. The S side of the island is indented by two bays separated by a small peninsula. The E bay is of little value to shipping.

General Island Anchorage (9°25'N., 126°00'E.), the W bay on the S side of General Island, is fringed in places by narrow shore reefs which form a basin about 0.3 mile in diameter. A conspicuous rock on the edge of the reef projecting from the SW end of the island marks the W entrance point of the anchorage.

The E entrance point is steep-to and consists of the S of two spurs protruding W from the peninsula on the S side of the island. Small vessels can pass midway between the entrance points and obtain sheltered anchorage, in 26m, mud, with the N spur bearing 090°.

Ramillete Rock, a 17m high, steep-to, and conspicuous rock, lies about 0.4 mile NNW of the SW end of General Island.

Auqui Island (Auquit Island) (9°24'N., 126°03'E.) is 102m high and lies 1.75 miles SE of General Island. The SW extremity of the island is steep-to. The other sides are fringed by reefs which extend 0.5 mile N from it.

There is foul ground between General Island and Auqui Island.

Triton Rocks lie 1.25 miles NNW of Auqui Island. The N rock is 5m high and marks the N extremity of the foul ground between General Island and Auqui Island.

6.74 Whale Rock (9°29'N., 126°04'E.), a small black rock 4m high, lies on a bank about 4.5 miles NNE of Triton Rocks. Foul ground, over which the sea breaks in moderate weather, extends as far as 0.15 mile from Whale Rock. An 8.5m patch lies about 0.4 mile SE of the rock, while a 14.6m patch lies about 0.8 miles NW of the rock.

Lanuza Bay (9°17'N., 126°05'E.) is entered between Capungan Point and Cauit Point, about 14.5 miles SE. The E side of the Capungan Peninsula comprises the NW shore of the bay.

The SW shore of the bay consists of a continuous dark sand beach. A cultivated plain, about 5 miles wide, backs the SW shore of the bay and is traversed by several small rivers. The SE shore of the bay is bold, with black rocky cliffs.

Cantilan (9°20'N., 125°59'E.) is a small town on the N bank of the Cantilan River about 0.5 mile from its mouth.

There is a concrete pier that can accommodate general cargo vessels with a berthing face of 70m long and unreported depth alongside.

There are several warehouses and a large stone church in the town. A pilot for Hinatuan Passage is available at Cantilan.

Lanuza (9°14'N., 126°04'E.) is a village situated at the head of the bay on the E bank of the Lanuza River mouth. There is a stone church in the village. The village can also be identified by a hill, 168m high, lying 0.25 mile S of the village, which is the W hill in this vicinity.

Along the SE shore there are black rocky cliffs and the mountains rise steeply to form a bold heavily-wooded promontory. About 3 miles SW of Cauit Point the spur of mountains ends in a conspicuous step, 329m high.

There are short sand beaches about 1 mile SW and 1 mile NE, respectively, of the step. The N end of the promontory consists of hills terminating in Cauit Point.

6.75 Unamao Island (9°23'N., 126°00'E.) lies about 0.5 mile E of the SE end of the Capungan Peninsula. The island is wooded and has four conspicuous peaks.

Cantilan Shoals consists of a number of rocky patches, with a least depth of 1.2m, which are grouped in an area of foul ground that extends about 1.5 miles NE from the E end of the drying reef which fringes the mouth of the Cantilan River. Vessels should not attempt to pass inshore of Cantilan Shoals.

Anchorage can be taken, in 12.8m, mud, NNE of Cantilan in a position about 1 mile SW of Unamao Island.

Cauit Point (9°18'N., 126°12'E.), the NE extremity of a wooded promontory formed by a spur of the E mountain chain of Mindanao, is described in paragraph 9.68

There are some rocks, 9.1m high, on the N side of the promontory, lying close offshore, from 0.5 to 1.5 miles W of Cauit Point. The E side of the point is fringed by a reef, which extends 0.6 mile offshore.

Cauit Bank (9°20'N., 126°16'E.), with a least charted depth of 14.6m, rock, lies from 2.75 to 4 miles NE of Cauit Point.

The Bucas Islands

6.76 The Bucas Islands consist of Bucas Grande Island, Middle Bucas Island, and East Bucas Island. Bucas Grande Island, the largest of the group, forms the E entrance of Hinatuan Passage.

Middle Bucas Island lies close to the NE side of Bucas Grande Island and is separated from it by Port Batuecas.

Mount Sibonga, a conspicuous wooded conical peak in the SE part of the island, is the highest summit of the Bucas Islands group. East Bucas Island lies close E of Middle Bucas Island and is separated from it by a boat passage.

North and S of Siargao Island, and E of the Bucas Islands, the depths on the coastal shelf are irregular.

Bathymetric conditions are likely to be unstable in this vicinity because of frequent and severe earthquakes. Most of the

marine epicenters lie in the Philippine Deep. There is a concentration of epicenters recorded about 30 miles E of the Bucas Islands.

Banks and isolated soundings that have depths of less than 37m should be regarded with caution.

Wherever possible vessels should avoid passing over charted inequalities in soundings.

Under no circumstances should vessels navigate in this vicinity in depths less than 18.3m without taking every precaution to avoid possible dangers.

Bucas Grande Island (9°40'N., 125°56'E.) is indented by coves and small bays.

6.77 Dahakit Point (Darakit Point) (9°34'N., 125°56'E.), 21.3m high at its extremity, projects about 0.5 mile W from the S end of Bucas Grande Island. A narrow reef fringes its N side. The point is marked by a light.

The SW side of Bucas Grande Island, which lies about 4.5 miles off the NE coast of Mindanao and forms the NE side of the E entrance of Hinatuan Passage, is indented by two bays. A number of small, steep, and heavily wooded peaks distinguish this side of the island.

Kalunis Point (9°35'N., 125°54'E.), about 1.8 miles NW of Dahakit Point, is 58m high and fringed by a steep-to reef about 0.1 mile wide. An islet, 15.2m high, lies on the edge of the reef.

Between Kalunis Point and the SE entrance point of Sohutan Bay, about 1 mile NNW, the shore is fringed by a narrow steep-to reef. A small cove lying about 0.3 mile N of Kalunis Point is blocked by reefs on which there are several islets. The largest islet is 49m high.

Sohutan Bay (9°36'N., 125°54'E.) is about 1.3 miles wide between its SE entrance point, 57m high and Nakiauit Point, about 2.25 miles NW of Kalunis Point.

The shores of the bay are fringed by steep-to reefs. Two patches, 0.9 and 1.8m, lie about 0.5 mile SSW and ESE, respectively, from Nakiauit Point.

A steep-to reef extending about 0.5 mile NNW from the SE entrance point forms a S arm of the bay about 0.5 mile long. Several rocks lie on the reef.

The largest rock, 33m high, lies on the N edge of the reef. An island, 57m high, and an islet, 22m high, lie on a steep-to reef close W of the SE entrance point. The reef extends as far as 0.1 mile W from the islands W side.

Sohutan Inlet, which extends about 1 mile E from a break in the shore reef in the S arm of Sohutan Bay, is of no navigational importance because its entrance is blocked by a 0.4m shoal.

Good sheltered anchorage can be taken in the S arm of Sohutan Bay about 0.3 mile offshore, in 42m.

When approaching this anchorage from S, the 33m high rock should not be brought to bear less than 047°, in order to pass outside all dangers off the SE entrance point.

Nakiauit Point (9°37'N., 125°53'E.), the SW extremity of Bucas Grande Island, is about 61m high and conspicuous. A 4.6m shoal lies about 0.5 mile W of the point and a 4.6m patch lies about midway between. The shoals cannot be distinguished at any distance. The point should be given a berth of about 1 mile.

The W side of Bucas Grande Island is indented by a number of small bays, mostly too deep to provide anchorage. The coast is fringed by steep-to reefs.

6.78 Kanlanuk Bay (9°39'N., 125°55'E.), entered 3 miles NNE of Nakiauit Point, has a reef extending 0.5 mile NW from the S entrance point. There is anchorage, in a depth of 44m, 0.4 mile N of Pamosaingan village, located at the head of the bay.

Manaol Point (9°43'N., 125°54'E.), 6.5 miles N of Nakiauit Point, is bold and fringed by a narrow steep-to reef.

Bucas Point (9°46'N., 125°55'E.), the NW extremity of Bucas Grande Island, lies about 2.5 miles NNE of Manaol Point. The point is bold and is fringed by a steep-to reef about 0.2 mile wide. The N part of Bucas Grande Island consists of a sparsely-wooded flat-topped ridge, 271m high at its summit. Dark red bluffs rise abruptly from the shore.

Dayanayog Cove (9°45'N., 125°57'E.), Baybagun Cove, and Soung Cove are adjacent coves with a common entrance. The N entrance point of the coves is fringed by a steep-to reef about 0.3 mile wide. A conspicuous rock, 1.2m high, lies on a reef about 0.4 mile N of the N entrance point of the coves.

There is a depth of 14.6m between the reef and the shore. Vessels should pass NE of the rock.

Port Batuecas (9°43'N., 125°58'E.) is a narrow inlet separating the W side of Middle Bucas Island from the E side of Bucas Grande Island. The entrance of Port Batuecas is a narrow passage, about 0.8 mile long, which leads S and E to the W side of Port Sibonga.

It is constricted by reefs on either side to a navigable channel, about 91m wide, with a controlling depth of 5.8m. The tidal currents in the channel are strong.

The S part of Port Batuecas is foul as far as 0.3 mile offshore. Drying reefs fringe most of the remaining shores of the port. At the head of the port, reefs, which dry at 0.3m, connect the NW side of Middle Bucas Island with the E side of Bucas Grande Island.

About 0.8 mile NW of the W end of the entrance channel, the reef fringing the E shore of the port projects about 0.5 mile offshore. Sheltered anchorage, in 16m, mud, can be taken about 0.3 mile S of the projecting reef.

The N part of Port Batuecas is encumbered by an 8.2m patch lying about 0.3 mile N of the projecting reef. A 1.2m reef lies about 0.2 mile farther N.

6.79 Port Sibonga (9°41'N., 126°00'E.) is a small bay entered S of Middle Bucas Island. The navigable width is about 0.5 mile between the 9.1m curves. Banluto Islet, 58m high, rocky and wooded, lies in the middle of the bay.

The islet is surrounded by a reef which extends N to Middle Bucas Island, dividing the bay into two separate basins.

Anchorage can be taken in the E basin off the town of Consolacion, in 13 to 15m. Vessels over 5.5m draft should not use this anchorage. Vessels having a draft of 4.5 to 5.5m should proceed with utmost caution as the bottom is of coral and is very uneven. It is reported that the best anchorage is located between the E entrance point and Banluto Islet.

The E side of Bucas Grande Islet trends about 7 miles SSW from Port Sibonga to Dahakit Point and consists of bold rocky promontories interspersed with sandy beaches.

The summit of the island, 282m high, rises about 2.5 miles NE of Dahakit Point. A prominent white scar is located about

1.5 miles ENE of Dahakit Point. This scar was reported to be more prominent than the charted white scar to the NE.

Socorro (9°37'N., 125°58'E.) is a village located on the S side of the Socorro River mouth in a position about 4 miles NNE of Dahakit Point. A sandy beach, about 2 miles long and fringed by a reef about 0.3 mile wide, fronts the village.

A concrete pier accommodating general cargo and passenger vessels, has a berthing face 58m long and a reported depth of 4.0m alongside.

Middle Bucas Island (9°43'N., 125°59'E.) is separated from Bucas Grande Island by Port Batuecas. Mount Sibonga, 291m high, a wooded, conical peak in the SE part of the island, is the highest point of Bucas Island, and is a prominent landmark.

6.80 **Bagum Island** (9°44'N., 125°59'E.), a conspicuous islet 18.3m high, lies on a reef in a position about 0.1 mile N of the N extremity of Middle Bucas Island.

East Bucas Island (9°43'N., 126°02'E.) is separated from the E side of Middle Bucas Island by a narrow, drying boat channel.

The island is 183m high and well wooded. Its coasts are fringed by reefs which extend up to 1 mile offshore, on which there are several rocks and islets.

San Miguel Point (9°44'N., 126°02'E.), 44m high, is the N extremity of East Bucas Island and the S entrance point of the W entrance of Dapa Channel. Reefs and foul ground extend as far as 0.15 mile N from the point.

The village of San Miguel is located on the sandy extremity of the point. It can be identified by the metal roofs of the houses.

6.81 **Casulian Island** (9°42'N., 126°05'E.), lying 0.75 mile SE of the SE extremity of East Bucas Island, is wooded in the E part, where it is 90m high. The W part is lower and is covered with coconut trees. There is a narrow deep channel between Casulian Island and East Bucas Island.

Lajanosa Island (9°38'N., 126°10'E.), Mamon Island (Manon Island), and Antokon Island (Antokan Island) lie on the same reef, about 6 miles SE of Casulian Island.

Lajanosa Island, the northernmost island, has three hills on its W side. Mamon Island, the middle island, is 82m high.

Antokon Island, about 1 mile S of Lajanosa Island, has three cones on it.

Anajauan Island (Anajawan Island) (9°37'N., 126°08'E.), lies 1.5 miles W of Mamon Island. It lies on the SW part of a bank, on which there are a number of below-water rocks and shoals, with the southernmost lying about 0.6 mile SSE of the SW extremity of the island.

A 2.7m patch lies 0.5 mile SE of the NE extremity of the island, while a 3m patch lies 1.75 miles NE of the same point.

Dapa Channel

6.82 **Dapa Channel** (9°46'N., 125°58'E.) separates the N side of East Bucas Island from the S side of Siargao Island. The W entrance of the channel lies between San Miguel Point and Cambasac Point, about 0.5 mile NNE.

Immediately W of the W entrance points, Dapa Channel opens to a width of about 1.5 miles, between the reefs fringing the N shore of East Bucas Island and the reefs fringing the S shore of Siargao Island.

The E entrance lies between Inayauan Point and the S side of Siargao Island. Inayauan Point is the NE extremity of East Bucas Island. Reefs and foul ground fringe the point as far as 0.5 mile N and about 1 mile E and SE.

Dapa Channel is encumbered with a number of islets and reefs. Three narrow passages lead through the reefs, the edges of which are easily made out in good light.

Dapa Channel can be negotiated by small vessels with sufficient power to overcome the strong tidal currents.

The controlling depth of Dapa Channel is 9.6m.

Vessels coming from W usually favor the NE side of Dapa Channel in order to avoid **Quico Reef** (9°45'N., 125°59'E.) and Barrabas Reef about 0.8 mile SE. They then enter the middle passage between Abanay Islet and Bancuyo Islet.

The tidal currents run with considerable velocity in Dapa Channel and in the channels leading to Numancia, Port Batuecas, and San Benito.

During both monsoons the wind abates about sunset and freshens about sunrise. This area is most frequently struck by typhoons during November.

6.83 **Bancuyo Islet** (9°44'N., 126°03'E.) lies about 1 mile E of San Miguel Point. It is a good mark in the approach to Dapa Channel from W. The S passage lies between Bancuyo Islet and the reefs and foul ground that fringe the N side of East Bucas Island. The passage is narrow and intricate and is not recommended.

Abanay Islet (9°45'N., 126°02'E.) lies with its SW extremity about 0.2 mile E of Cambasac Point. Reefs fringe the SW and N sides of the island. Dapa Reef extends about 1.3 miles E from the E side of Abanay Islet.

A 7.3m patch lies about 0.3 mile farther E. The middle passage is the recommended channel. It leads fairly straight between Abanay Islet and Bancuyo Islet and has a least depth of 12.8m. The navigable width is about 91m.

The N passage is used by small inter-island vessels and lighters. It is marked by beacons and leads W and N of Abanay Islet and then N of Dapa Reef. It is a very constricted and intricate channel, with depths of 7 to 12m as far as Dapa.

In the passage SE of the town the controlling depth is 6.4m. A 2.7m patch, marked by a beacon, lies about 1 mile SE of the town.

The channel W of Abanay Islet is not recommended to those who are not familiar with the area due to the narrow passage and the swift current.

Dapa (9°45'N., 126°02'E.) is a small town standing on the N shore of Dapa Channel. There is a stone causeway with a concrete pier extension. The offshore end of the pier has depths of 4.2 to 5.2m at its S to NW corners and 5.8 to 6.1m about 7.6m off its end.

Vessels of more than 240 tons calling at Dapa usually anchor about 1.6 miles ESE of the town, in 14.6m, mud.

Siargao Island

6.84 The S side of Siargao Island trends about 3.5 miles E from the town of Dapa to **Dolores Point** (9°45'N., 126°07'E.), which is low and covered with coconut palms.

The controlling depth in the fairway of the E approach to Da-

pa Channel is 10m. A 6.4m shoal patch is on the E side of the fairway about 0.8 mile S of Dolores Point.

The SE side of Siargao Island between Dolores Point and Tuason Point, about 5 miles to the NE, is a smooth sandy beach with groves of coconut, hemp, and bananas.

The village of Union is about 0.5 mile N of Dolores Point at the mouth of the Union River.

The village of General Luna is on the shore about 3.25 miles NE of Dolores Point.

The SE shore of Siargao Island is fronted by an area of foul ground studded with reefs extending as far as 4 miles offshore. A drying barrier reef, marked by breakers, is on the edge of the foul ground. A dangerous, detached dark coral reef, 6m deep, is about 2.5 miles SSE of Dolores Point.

Daco Islet (9°45'N., 126°10'E.), on the SE end of the barrier reef about 2.5 miles ESE of Dolores Point, is a good landmark. The island is 40m high on its E end, 32m high on its W end, and appears flat on top. The islet is fringed on its SE and SW sides by a reef extending as much as 1 mile offshore.

Guyang Islet, small, sandy, and covered with coconut palms, is about 1.3 miles N of the E end of Daco Islet.

Seco Reef, a drying reef with a small sand cay at its NW side, is about 1 mile SE of Dolores Point.

6.85 Tuason Point (9°49'N., 126°10'E.), the E extremity of Siargao Island, is a very rocky point 40m high. It has an 18.3m bluff at its face. The point is fringed by a narrow steep-to reef.

Between Tuason Point and Sharp Point, 2.5 miles to the NW, the shore is fringed by drying reefs extending as far as 1.5 miles offshore. Three large rocks are on the outer edge of the reef; the highest, 15.2m high, is about 1.3 miles N of Tuason Point. About 0.5 mile NW of this rock there is a break in the reef about 0.4 mile wide. This is the entrance to a recess in the reef about 0.8 mile wide with depths of 9 to 26m.

Each side of the entrance is marked by a rock 7.6m high.

Sharp Point (9°51'N., 126°08'E.) is low and covered with coconut palms. The fringing reef extends 1 mile E and about 0.3 mile N of the point.

A mangrove-covered islet, 3.1m high, lies about 0.3 mile NNE of the point.

Between Sharp Point and Isda Island, about 1.8 miles to the WNW, a drying reef extends up to 0.5 mile offshore.

A recess in the reef, about 0.8 mile wide and with depths of 11 to 27m is formed SE of Isda Island. A drying patch is in the entrance about 0.5 mile ESE of Isda Island.

Isda Island, 37m high with several large rocks adjacent, stands on the edge of the shore reef and marks the S side of the entrance to Port Pilar.

6.86 Port Pilar (9°52'N., 126°07'E.) entered between Isda Island and Pilar Point, about 0.66 mile to the N, indents the coast about 1 mile W. The depths vary from 145m in the entrance, to 12.8m near the head of the bay.

Although the bay does not afford good shelter and is not recommended, it is the best anchorage on the E side of Siargao Island. Even during the Southwest Monsoon a heavy swell runs in around Pilar Point. The S part of the bay is filled with a drying reef extending as much as 0.25 mile offshore.

The N shore of the bay is steep-to. The Pilar River discharges into the head of the bay. Drying reefs extend about 0.2 mile from the head of the bay. An 8.2 and a 9.1m shoal are about 0.3 mile offshore at the head of the bay. Pilar Village is on the NE side of the Pilar River mouth.

Anchorage can be taken, in 12.8m or 14.6m, about 0.5 mile ESE of the village. Small vessels with local knowledge can enter the Pilar River NE of a 0.4m shoal encumbering the river mouth and proceed to a sheltered anchorage about 0.1 mile above the village. The controlling depth in the channel is 6.4m.

Pilar Point (9°52'N., 126°07'E.) is identified by a conspicuous, column shaped rock about 0.2 mile off the point. Between Pilar Point and Sugbuhan Point, about 12 miles NNW, the coast is bold and has a regular coastline fringed by steep-to reefs from 0.25 to 0.5 mile wide. The edges of the reef are easily identified and are marked by breakers even during the Southwest Monsoon.

There are no salient points along this stretch of coast; the most conspicuous landmark is a 183m ridge at **Arena Point** (9°58'N., 126°06'E.), which is a slight projection of the shore about 6 miles NNW of Pilar Point.

6.87 Sugbuhan Point (10°04'N., 126°04'E.), the N extremity of Siargao Island, is low and covered with trees and bushes. The point is fringed by a drying reef extending as much as 0.65 mile offshore.

Sugbuhan Reef (10°06'N., 126°02'E.) is about 2.5 miles NNW of Sugbuhan Point and has a depth of 2.7m.

Tide rips occur on the reef and it can be identified with good light. The reef is about 1 mile long and is on a bank about 1.5 miles long, with a depth of 12.8 to 18.3m. A 14.6m bank is about 1.5 miles NNW of Sugbuhan Point.

The NW side of Siargao Island trends about 15.5 miles SSW from Sugbuhan Point to Venus Point and is fronted by reefs, islands, and dangers extending as far as 6 miles offshore. Only small vessels with local knowledge should attempt the intricate channels among the reefs.

Other islands and dangers which are further offshore are described in paragraph 6.65 under Dinagat Sound.

Between Sugbuhan Point and the village of Sapao, about 3 miles SSW, the shore is fringed by drying reefs extending 1.25 miles offshore.

The village of **Sapao** (10°01'N., 126°02'E.) is at the head of a mangrove-bordered cove. There is a passage through the reef abreast of the village and small vessels with local knowledge can anchor off the break, in 12.8m, about 1 mile W of the village. A 4.9m patch is about 0.3 mile further W.

Between Sapao and the village of San Benito, 4 miles to the SW, detached reefs extend as far as 6 miles offshore.

Drying reefs and foul ground extend about 2 miles offshore. Several low islets are on the reefs.

Kambiling Islet (Cabiling Islet) (10°01'N., 126°00'E.), about 2 miles W of Sapao, is a small sand cay, awash at HW and fringed by a narrow steep-to reef. A 6.7m shoal patch is about 0.5 mile SW of the islet. Vessels can pass N of the islet in 26m or SW of the islet in 11.9m.

Malayo Reef (10°02'N., 125°56'E.), lying about 3.75 miles WNW of Kambiling Islet, has a least charted depth of 2.7m. Three charted reefs, with least charted depths between 3.2 to 5.8m, lie between Kambiling Islet and Malayo Reef.

Pagbasayan Islet (10°00'N., 126°01'E.), a low, sandy islet covered with trees and bushes, is on the S side of a large drying

reef and 1.5 miles SSE of Kambiling Islet.

6.88 **San Benito** (9°57'N., 126°00'E.) is a small village lying about 2 miles S of Pagbasayan Islet. Litalit Island lies 1.25 miles SW of San Benito. San Benito is fronted by a sand beach and is visible from seaward

Dahican Island (9°57'N., 125°57'E.), on an extensive drying reef about 2 miles W of San Benito, is a flat mangrove-covered island with a small wooded area in its middle part.

Kangun Islet (9°58'N., 125°59'E.) is a low sandy islet about 3 miles SSW of Kambiling and close NE of Dahican Island. A drying reef extends 1 mile NNE of Kangun Islet.

Litalit Bay (9°58'N., 126°00'E.) is formed E of Dahican Islet and Kangun Islet. The bay is encumbered by foul ground. Only small vessels with local knowledge can navigate the constricted channels N and S of Kangun Islet, and they can anchor about 0.8 mile NW of San Benito, in 10.5m, coral. Litalit Island is 1.25 miles SW of San Benito.

Sayung Channel, connecting the head of Litalit Bay with Baban Lagoon, is a mangrove-fringed channel navigable only by small craft and leads S to Numancia.

Between San Benito and Venus Point, about 8 miles SSW, the W part of Siargao Island is a wide mangrove flat, intersected with numerous streams and small boat channels forming large mangrove-bordered islands fronting the shore.

Poneas Island (9°54'N., 125°57'E.), the largest island fronting Siargao Island, has a summit 200m high, and from seaward appears as numerous peaks separated by deep ravines.

The drying reef fringing Dahican Island extends about 2.25 miles SW as far as Megancub Island and fringes the NW side of Poneas Island as far as 1.25 miles offshore.

Foul ground is 1 mile farther offshore and nearly fills the area W and NW of Megancub Island, and that is encompassed between the SW side of Poneas Island and the E sides of Cowhagan Island and Kangbanyo Island.

Laonan Island (9°53'N., 125°55'E.), 138m high, is a small wooded island close to the SW end of Poneas Island.

Kangbanyo Island (Kangbanio Island) (9°55'N., 125°54'E.), 134m high, is 0.5 mile NNW of the N part of Laonan Island and consists of numerous wooded peaks.

Cowhagan Island, which is low, lies on a reef extending NW from Kangbanyo Island. A rock, 19m high and wooded, lies close N of Cowhagan Island.

Tona Island (9°52'N., 125°57'E.), a large mangrove island, is close SE of Poneas Island and is separated from it by a narrow small boat channel. Narrow boat channels also separate the NE and SE sides of Tona Island from the W part of Siargao Island.

6.89 **Numancia** (9°52'N., 125°58'E.) is situated about 2.5 miles NNE of Venus Point.

The only part of the town visible from seaward is the conspicuous church tower. A 183m stone pier is at the town. Currents are strong and there are dangerous whirlpools, but it is reported that small vessels with 2.4m draft and with local knowledge, can reach the town at HW and anchor off the pier.

The SW side of Siargao Island from Venus Point to Cambasac Point, about 7.5 miles to the SW, is rocky and bordered with mangroves. A steep-to reef less than 0.5 mile wide fringes the shore.

Pamay Point (9°50'N., 125°57'E.), a low mangrove-covered point, is about 0.8 mile SE of Venus Point. A fringing reef extends about 0.4 mile W of the point.

Pamay Bay (9°49'N., 125°58'E.), a recess in the coast about 0.8 mile wide, is formed by the S side of Pamay Point. The Lumaton River discharges into the head of the bay.

The summit of Siargao Island, 275m high, rises 3 miles E of the bay. A green hill, visible from seaward, is on the N side of the Lumaton River and marks the deserted village of San Fernando.

Vessels can anchor in Pamay Bay, in 28m, mud, about 0.5 mile S of Pamay Point with the town bearing 060°.

Samar—West Coast and Off-lying Islands

6.90 The **Libucan Islands** (11°54'N., 124°39'E.), a group of three small islands and several islets and rocks, lie about 3.25 miles off the coast of Samar. Each of them is very steep-to and has depths of more than 18.3m, less than 0.25 mile off.

Good anchorage can be taken, in 22 to 26m, mud, in a bay on the N side of Libucan Daco Island, the largest of the group. Vessels on the coast take shelter here during SW gales.

Dapdap Rocks (11°52'N., 124°40'E.), a steep-to rocky pinnacle that is partly awash, lies about in the middle of the deep channel between the Libucan Islands and the Canahauan Islands.

The **Canahauan Islands** (11°49'N., 124°42'E.), a group of several islands, islets, and rocks, lie about 3.25 miles off the coast of Samar about 3 to 8 miles SSE of Libucan Daco Island.

Port Aguirre (11°49'N., 124°42'E.), a sheltered anchorage, occupies a bight formed by the SE side of Canahauan Daco Island and the NE side of Timpasan Island. It affords good refuge during typhoons, and vessels anchored off Calbayog or Catbalogan frequently take shelter here.

Large vessels can anchor, in 27 to 29m, mud, NNW of Batgangon Island. Small vessels can anchor, in 16 to 20m W of the latter island, or in a confined inner basin entered through a narrow channel that passes S and W of two islets at the W end of the port.

Vessels can enter the port through the wider passages between the islands and islets to the E and SE. In approaching from N it is advisable to pass E of Canmamot Island to avoid the rocks W of it.

The approach from SE is about 0.8 mile wide between Bolo Rock and Boloang Island, but a 7.6m depth lies almost in midchannel.

6.91 **Maglagabon Point** (12°18'N., 124°21'E.), about 30 to 61m high, is steep-to, clear of dangers, and has depths of 37m less than 0.25 mile offshore. It is closely backed by hills that rise abruptly from the coast so that the point may not be very conspicuous. A village is situated at the head of a small bight on the S side of the point.

Between Maglagabon Point and Jibatan Point, about 16 miles SE, the steep-to coast rises abruptly from the sea to hills that attain heights of 122 to 274m about 0.3 mile inland. Mountains, up to 707m high, back the coastal hills.

Parts of the coast are rocky, with cliffs in some places, but there are a few short sandy beaches. Toward the S end of this section of coast, the hills are lower and recede inland in the vi-

cinity of Jibatan Point.

Tungoo Point (12°10'N., 124°25'E.), a low point that extends about 0.3 mile from the coast, has a hill, 51m high, on its outer end. It is steep-to, but several rocks, close off a short coastal reef, lie about 0.5 mile offshore about 0.5 mile SE of the point. A small village is situated on the coast about 0.5 mile E of the point.

From Tungoo Point the coast trends about 7.5 miles SE to Jibatan Point. Although the narrow reefs and shore banks fringing parts of this section of the coast are steep-to, several islets and rocks lie up to about 0.5 mile offshore.

Binalio Point (12°08'N., 124°27'E.), about 30m high, lies about 2.5 miles SE of Tungoo Point. Binalio Islet, 35m high, lies 0.4 mile SW of the point.

Damita Rock (12°06'N., 124°28'E.) lies about 0.5 mile offshore about 4 miles SE of Binalio Point. The rock is steep-to, but there are depths of less than 6m between it and the coast.

Jibatan Point (12°05'N., 124°31'E.) has a hill 81m on it. The coast in this vicinity is low. It is clear of dangers, but a steep-to shore bank extends about 1 mile offshore SW and S of the mouth of the Jibatan River, about 1.5 miles ESE of Jibatan Point. Depths of less than 1.8m lie just inside the 20m curve on the outer edge of this shore bank. The land is low and marshy at the mouth of the river.

6.92 Calbayog (12°04'N., 124°36'E.), a town, is situated on the E side of the mouth of the Calbayog River. It is one of the principal ports for the export of copra and hemp.

The port is an open roadstead; cargo is lightered to vessels anchored off the town. Small vessels moor alongside the inner end of the E jetty. A bridge crosses the river some distance from the entrance.

A light is shown from a concrete tower, 10m high, at Calbayog.

A church in the town has a conspicuous red dome. The mouth of the river is confined by two parallel jetties, less than 91m apart, that extend about 0.3 mile S from the shore. There is a controlling depth of 1.2m in the entrance channel between the jetties. Boats and lighters navigate this channel to a number of small wharves at the town.

Anchorage.—The best anchorage is in 12.8m, about 1 mile S of the light at the river mouth. Large vessels should not go closer in as the depths are irregular and shoal rapidly in places. This open roadstead is somewhat sheltered from the Northeast Monsoon, but it is open to the Southwest Monsoon.

Vessels on this part of the coast can take anchorage, sheltered from S and SW weather, in a bay on the N side of Libucan Daco Island, about 10 miles SSE of Calbayog. Submarine cables, which can best be seen on the chart, extend from the harbor S and W to the Albay Gulf and terminate at Legaspi.

Supplies are very limited at Calbayog. A number of small powered lighters are available. There are a few warehouses of limited capacity. Inter-island vessels call regularly from Manila and Cebu.

There is a post and telegraph office, and the town is connected by highway with Catbalogan and the other important towns on Samar.

6.93 Santa Margarita (12°02'N., 124°40'E.) is a small town situated on the coast about 4.5 miles ESE of Calbayog. The low intervening coast is fronted by a sandy beach, and is clear of known dangers.

The **Gandara River** (11°58'N., 124°43'E.), the largest and most important river on the W coast of Samar, empties through a delta into the sea about 8 miles SE of Calbayog. Small craft, less than 27m long and 1.8m in draft, can navigate the river at HW to the town of Gandara, about 7 miles inland. The currents in the river are usually weak.

There is a depth of 3m alongside a landing at Pagsanjan, a village situated about 1.8 miles upstream at the junction of the N and S entrances.

The N and deepest entrance of the Gandara River lies about 8 miles SE of Calbayog. It has a least depth of 0.9m at LW, and there are depths of about 3.7 to 9.1m inside the bar.

A light is shown from a concrete tower, 9m high, on the N extremity of Caprangasan Island, situated on the S side of the entrance to the Gandara River.

Between **Tarangnan Point** (11°54'N., 124°44'E.), a prominent headland, and Madalonot Point, about 14 miles SE, the coast is rugged and hills rise abruptly from the sea to heights of about 91 to 244m. Mountains, over 457m high, back the coastal hills in the vicinity of Catbalogan.

Numerous bays and bights, most of which are small and shallow, indent this part of the coast. Although much of this coast is high and cliffy in places, the heads of the bays and bights are low.

Cambatutay Bay (11°53'N., 124°45'E.), the largest of the above-mentioned bays, indents the coast about 3 miles NE between Tarangnan Point and Mangcares Point, a low point about 3 miles SE. Except for a number of rocks and islets, depths in the bay shoal fairly regularly. Several steep-to rocks lie about 0.5 mile W of Mangcares Point.

Silanga Bay (11°49'N., 124°51'E.) occupies a bight that recedes about 1.3 miles NNE between the steep-to SE side of Buri Island and Anas Point, about 1.3 miles SE. The bay is clear of dangers.

Excellent anchorage, sheltered from all but S winds, can be taken in the bay, in 5 to 9m, mud.

Jesus Point (11°47'N., 124°52'E.), on the N side of Catbalogan Harbor, lies about 1 mile SE of Anas Point at the S end of a rather steep-to headland that rises abruptly from the sea to several hills, 58 to 71m high.

A number of islets and reefs lie up to about 1.5 miles offshore in the approaches to Catbalogan between Jesus Point and Cujao Point, about 2 miles SSE.

6.94 Catbalogan (11°46'N., 124°53'E.) (World Port Index No. 58670), the capital of Samar Province, lies about 0.8 mile SE of Jesus Point at the head of a small bight. The port consists of an open roadstead between the coast and several reefs and islets about 1 mile offshore.

Large vessels anchor in the harbor, and their cargo is handled by lighters. Smaller inter-island vessels go alongside a pier at the town.

The town of Catbalogan is situated on a very short narrow coastal plain, on low ground that is sometimes partly flooded during heavy rains but which drains off rapidly. It is confined by hills rising abruptly to heights of more than 152m.

The Catbalogan River, navigable only by boats, empties into the head of the harbor at the N end of the town.

A light is shown from a concrete tower, 7m high, standing on the N side of the entrance to the Catbalogan River, and the buildings at the town are conspicuous from offshore. The light was recently reported extinguished.

Depths—Limitations.—Quinutay Reef, a small drying reef, lies at the outer end of a narrow, sandy shore bank that extends about 0.8 mile W from the coast. A buoy is moored off the NW end of Quinutay Reef. Depths in the harbor shoal regularly from about 8.2m at the entrance to the 5.5m curve, which lies about 0.3 mile offshore.

Between Quinutay Reef and **Cujao Point** (11°45'N., 124°53'E.) several shoal patches, contained just inside the 5.5m curve, lie up to about 0.3 mile offshore.

A detached 2.7m patch lies about 0.5 mile offshore about 0.5 mile S of Quinutay Reef.

A causeway extends about 260m SW of the town. It terminates in a 140m long concrete pier, with depths of 2.1 to 4.6m alongside its fendered piles. Several inter-island vessels can be accommodated at one time.

Anchorage.—Vessels can anchor, in 8.2m, mud, about 0.8 mile offshore with the light at the mouth of the Catbalogan River bearing 063°, or they may anchor anywhere W of the town depending on draft. Sheltered anchorage can be taken in Silanga Bay, about 2 miles NW of Catbalogan, or in Zumarraga Channel, about 7 miles SW of the harbor.

Directions.—Either North Channel or South Channel may be used in entering Catbalogan, but the latter is preferred. In approaching South Channel steer to a position about 2.5 miles S of Buri Island, and before the larger of the Cagdullon Islands bears W of 316°, bring the light at Catbalogan to bear 063°.

Steer for the light on the latter course through South Channel into Catbalogan Harbor. The harbor can also be entered S through Darajuay Channel, which lies between the Darajuay Islands and the coast.

Vessels entering this channel steer to pass about 0.3 mile S and E around the Darajuay Islands, and then steer a course of 322°. When the light at Catbalogan bears 052°, steer for it into the harbor.

Caution.—The remains of a breakwater, with a depth of 1.2m, lie 0.1 mile S of the causeway. An obstruction, awash at LW, lies 0.15 mile N of the pier head.

6.95 Madalonot Point (11°45'N., 124°54'E.) is a promontory that lies about 1.5 miles ESE of Cujao Point. Maqueda Bay and Villareal Bay form an extensive bight that lies between Madalonot Point and Guintarcan Island, about 7.75 miles S. Maqueda Bay is one of the best known fishing grounds in the Philippines.

Extensive muddy shore banks, that dry at LW, lie at the heads of these bays. The low mangrove shore is backed several miles inland by low hills and a few mountains.

Wright, a small town accessible only by small craft, lies at the head of Maqueda Bay, and there are a number of villages on the shores of both bays.

The **Calbiga River** (11°40'N., 124°58'E.), with a depth of about 0.6m over the bar and navigable only by boats, empties on the S side of a low point that lies about 6 miles SE of Madalonot Point and separates the two bays.

Buad Island (11°40'N., 124°51'E.), about 4.5 miles long and nearly as wide, lies in the approach to Maqueda and Villareal Bays about 3.75 miles SW of Madalonot Point. The island is mountainous. It is indented by numerous small bights and there are many islets close to shore.

A 3.7m rocky patch lies about 0.3 mile N of the NE end of the island. A small, detached drying reef lies about 0.5 mile N of the middle of the N side of Buad Island, and another small reef lies about 0.3 mile off the SW end of the island.

Several islets lie just outside the 5.5m curve about 0.3 mile off the S end of Buad Island.

A number of islets lie up to about 1 mile off the middle of the E side of the island and are contained just inside the 5.5m curve.

The small town of Zumarraga is situated on the SW end of Buad Island. A concrete pier, the outer end of which is in ruins, extends about 137m NW into the harbor from the town and has depths of 3.6m at its outer end decreasing to 2.1m near the shore.

Small coastal vessels, which call regularly, moor to either side of the pier. The town has a post office and radio communications. The small harbor in front of the town affords sheltered anchorage for large vessels, in about 8.5m, mud. Deep-draft vessels should approach only from N.

6.96 Zumarraga Channel (11°38'N., 124°50'E.) separates Buad Island from Daram Island. It trends about 7 miles SE and joins the S end of Buad Channel in the NE approach to Daram Channel. There are two 12.8m rocky patches in the middle of the N part of the channel, but otherwise depths shoal regularly from 29m in the N entrance to 7.3m in the S end southward of Buad Island, with a least depth of 10.4m.

Anchorage.—Sheltered anchorage can be taken in Zumarraga Channel, in about 9 to 15m, mud. Although protected from the monsoons, strong winds sometimes cause rough water.

Buad Channel is usually taken by coastal vessels bound from Catbalogan to Daram Channel. It has a least depth of about 5.9m, and its narrowest part is about 0.5 mile wide between a 0.9m patch off the N end of Guintarcan Island and the SE end of Buad Island.

The **Basiao Islands** (11°42'N., 124°54'E.), up to 58m high, are three small islets. A narrow shoal, with depths of less than 5.5m, extends about 0.5 mile NW from the middle islet, and a reef extends about 0.1 mile W from the S islet; otherwise, these islets are steep-to. There are conspicuous white cliffs, 9 to 24m high, on the E sides of the N and middle islets.

Daram Island (11°36'N., 124°48'E.), mountainous and rugged, is separated from the coast SE by the narrow Daram Channel, described below in paragraph 6.97. The island appears as a high peninsula. Hills and mountains rise abruptly from the sea to heights of about 122 to 383m.

The island is mostly steep-to and, except for the shores adjacent to the SE part of Zumarraga Channel and the NE approach to Daram Channel, there are depths of more than 11m about 0.3 mile or less offshore.

Numerous high islets and a comparatively few above and below-water rocks fringe the island up to about 0.5 mile offshore.

The larger of the many bays and bights indenting the island afford good sheltered anchorage depending on the season.

There are a number of villages at which small craft call regularly from Catbalogan and Tacloban.

6.97 Parasan Island (11°43'N., 124°46'E.) lies so close to the E side of the N end of Daram Island that it appears as part of the latter, being separated by a channel less than 91m wide and about 3.6m deep.

The island is steep-to and has depths of more than 18m close offshore. A detached steep-to islet lies about 0.5 mile NE of the NE end of Parasan Island, and a 0.9m patch lies about 0.3 mile off the middle of the W side of the island.

Parasan Harbor occupies a small bight on the S side of the island off the village of Parasan. It is entered from E through the N end of Zumarraga Channel.

Parasan Harbor affords sheltered anchorage, in 18 to 27m, mud, 0.2 mile SE of Parasan town. This anchorage can be approached from E through Zumarraga Channel.

Dulugdug Point (11°31'N., 124°49'E.), the W entrance point of the S end of Daram Channel, is the NW end of the high headland between Laguinit Bay and Janabatas Channel. The point shows prominently from SW as a rounded knob.

Daram Channel (11°32'N., 124°50'E.), separating the S end of Daram Island from Samar, joins the S ends of Zumarraga Channel and Buad Channel. It is used by coastal and interisland vessels.

The channel, which has a least width of about 0.3 mile, has depths of about 9 to 27m in the SW part, but there are depths of 5.5m in the fairway over the shore bank that extends across the NE entrance from Guintarcan Island.

The Aocon Islets lie close together in the middle of the NE end of the channel and have fairly deep water on either side. Except for the latter islets and several others on each side of the NE entrance, the fairway of the channel is clear. In the vicinity of Talalora, the deeper water is on the NW side of the channel, but otherwise the fairway lies in mid-channel and is easy to negotiate.

Tides—Currents.—The tidal currents in Daram Channel set NE on the flood and SW on the ebb. They are reported to attain a velocity of 1 to 1.5 knots, the ebb having greater strength than the flood.

6.98 Talalora (11°32'N., 124°50'E.) is a village on the Samar shore of Daram Channel.

A causeway extends about 46m NW from the town. The small wharf at the end of the causeway has a depth of about 3.3m alongside.

There is a small cargo shed at the town. Coastal vessels call regularly.

Between Dulugdug Point and Diutay Point, about 2.5 miles S, the coast is indented by several small bights and presents a very high rugged aspect.

There are some narrow sandy beaches, but high hills rise steeply from the shore and attain a height of 363m about 1.5 miles inland.

Janabatas Channel and San Juanico Strait

6.99 Janabatas Channel (11°27'N., 124°50'E.), the W approach to San Juanico Strait, is entered from westward between Diutay Point and Baluarte Point, about 2.8 miles SSW.

The narrow passage formed by Janabatas Channel and San Juanico Strait separates the SW end of Samar from the NE end of Leyte and connects the Samar Sea with Leyte Gulf.

It is used by inter-island vessels, but transit of the passage is restricted by shoal water and dangers to vessels of not more than 107m in length and 5.5m in draft. The greatest draft that has been taken through is 5.2m.

Tides—Currents.—In Janabatas Channel, the tidal currents set W on the flood and E on the ebb at a velocity of about 1 to 2 knots. A velocity of as much as 2.5 knots may be experienced.

In San Juanico Strait the tidal currents set N on the flood and S on the ebb at an average velocity of about 1.5 knots off Uban Point and about 2 knots off the E side of Nababoy Island; however, velocities of as much as 3 and 3.75 knots, respectively, may be encountered at those places.

The tidal current may attain a velocity of 4 to 5 knots in some parts of the strait and is reported to cause violent rips and eddies.

The tide shows considerable inequality in San Juanico Strait. In the N part of the strait, N of Uban Point, this inequality occurs in both HW and LW, but in the S part of the strait it is mainly in the HW.

Depths—Limitations.—The depths in the fairway of Janabatas Channel vary from a swept depth of 5.8m in Samputan Pass to more than 26m. The 10m curve lies somewhat across the W entrance of the channel from Diutay Point to Baluarte Point, and immediately within it depths decrease to about 7.3 to 8.2m in the middle, and 6.4m on the S side of the fairway.

Although there are general depths of about 9 to 27m in San Juanico Strait, there are numerous 5.5 to 7.3m patches of less than 2.7m.

6.100 Baluarte Point (11°26'N., 124°49'E.), the S entrance point of Janabatas Channel, rises to a 143m summit about 0.5 mile SE. The coast in the vicinity rises abruptly to heights of more than 305m about 0.5 mile inland, and attains an elevation of 558m in the summit of Mount Busay, which lies about 2 miles SE of the point and is a prominent mark to steer for in making the channel entrance.

Calaguan Island is an islet that lies about 0.3 mile NE of Baluarte Point and is connected by a partly drying reef. The point is steep-to and clear of dangers, with depths of more than 11m less than 0.25 mile offshore. A small foul area lies about 0.5 mile NNE of Calaguan Island. Some stakes are located about 0.3 mile farther N.

Janabatas Channel trends about 8 miles E to the N entrance of San Juanico Strait. The shore on both sides is very irregular, indented by numerous shallow bays into which small streams discharge.

Much of the shore is low and in some places swampy, but there are many hills that rise abruptly from the shore.

Several small towns and a number of villages lie on both sides of the channel.

The N side of Janabatas Channel trends about 3 miles E from Malagining Point, about 0.8 mile SE of Diutay Point, to Tinigrapo Point, close SE of which lies an islet, 23m high.

A shore bank, defined by the 5.5m curve, extends about 0.3 mile offshore between Malagining Point and the village of Igangigang about 1.3 miles E, but it extends about 1 mile offshore from the head of a bight between the latter village and Tinigrapo Point. Some pilings stand near the S edge of this bank.

Between Tinigrapo Point and Santa Rita, about 3 miles ESE,

an extensive shore bank, with depths of less than 2m and defined by the 5.5m curve, extends S from the N shore to within a little less than 0.25 mile of the S side of the channel.

6.101 Dabun Island (11°27'N., 124°54'E.) is an islet that lies on the W part of the above shore bank in a position about 1 mile SE of Tinigrapo Point. A rocky 2.3m patch, on the W extremity of the above shore bank, lies about 0.8 mile W of Dabun Island and nearly that distance S of Tinigrapo Point.

An obstruction is charted on the N side of the channel a little more than 0.5 mile WSW of the W extremity of Dabun Island. The tidal currents apparently meet in this vicinity. The fairway of the channel lies S of this rocky patch.

Santa Rita (11°27'N., 124°56'E.), a small town on the N shore of the E end of Janabatas Channel, is very conspicuous from most parts of the channel. The shore bank extends about 0.3 mile offshore in front of the town, and encumbers a bight SE.

There are depths of about 4.9m alongside the S end of a pier at Santa Rita. Small craft call regularly from Catbalogan and Tacloban. There is a post office and the town has radio communication.

The S side of Janabatas Channel trends very irregularly E. Babatngon Point, about 91m high, lies about 1.5 miles E of Baluarte Point. The town of Babatngon lies at the head of a small bay on the W side of Babatngon Point, and the E part of the town is on a small bay on the E side of the point.

A pier, about 73m long, with a depth of 0.6m at its head, extends N from the NE part of the town. There is daily communication by small craft with Santa Rita and Tacloban.

Canauay Island (11°26'N., 124°51'E.) lies on the S side of the channel about 0.5 mile ENE of Babatngon Point. A group of drying rocks stand on the shoal ground fringing the N coast of Canauay Island. A detached 4.5m patch lies about 0.3 mile NNW of the island. A detached 5.5m patch lies about 0.5 mile N of Canauay Island.

A pilot station, which keeps a continuous watch, is located on Canauay Island.

Binuntuan Point (11°27'N., 124°53'E.), the N end of a hilly peninsula, lies about 1.5 miles E of Canauay Island. Ivantacut Islet, low and rocky, lies about 0.5 mile NNW of Binuntuan Point.

A 0.3m rocky patch lies about 0.2 mile N of the islet and is on the edge of a shore bank, which is very steep-to in this vicinity. The fairway of the channel is about 0.3 mile wide between this rocky patch and the shore bank extending from the N side of the channel. Small craft frequently pass S of Ivantacut Island, but the bottom is rocky and uneven.

Caltagan Island (11°26'N., 124°53'E.), 55m high and fringed with mangroves, lies close to shore about 0.5 mile E of Binuntuan Point. Samputan Point, on which there is a small village, lies about 1 mile SE of Caltagan Island.

Navahay Island, 34m high, lies about 0.3 mile NNE of Samputan Point and is located on the S part of the extensive shore bank that extends S from the N side of the channel between Tinigrapo Point and Santa Rita.

Small craft use a shallow channel N of Navahay Island, but the recommended channel lies S of that island.

6.102 Samputan Pass (11°25'N., 124°55'E.), through which the fairway of the channel trends, lies between the SW and S edge of the shore bank on which Navahay Island is located, and the shore bank that fringes the S side of the channel up to about 0.5 mile from the heads of the larger bays in the vicinity of Samputan Point.

From a position about 0.3 mile NE of the N end of Caltagan Island, the fairway of the channel trends SSE to Samputan Point and then about 2 miles ENE to Magkasuang Point.

It is narrowed by the shore banks to a width of about 0.1 mile between Caltagan Island and Navahay Island, and has least swept depths of 5.8m about 0.3 mile E and NW, respectively, of Samputan Point.

Patches, with swept depths of 5.5m, lie in the fairway a little more than 0.5 mile E and about 0.5 mile NW, respectively, of the above point.

A 4.1m patch lies near the E entrance of the pass, on the S side of the fairway, about 1.8 miles ENE of Samputan Point. The N part of Samputan Pass is marked by beacons; one on each side of the entrance of the channel NE of the N end of Caltagan Island, and one on the W side of the channel eastward of the S end of that island.

The fairway through the E part of Samputan Pass is marked by the below-described beacon on the E side of a hill on Samputan Point.

Ranges for Samputan Pass are formed by three beacons on Samputan Point and indicate the middle of the fairway through the channel.

Two beacons, on the N side of the hill close S of the point, in range bearing 146.5°, lead through the NW reach. The rear beacon serves for both reaches.

A beacon, on the E side of the hill S of the point, in range bearing 251.25° with the rear beacon, leads through the E reach.

Pilotage.—Pilotage is compulsory through San Juanico Strait for vessels of 60 gross tons or over, and smaller vessels without local knowledge are advised to take a pilot.

Vessels approaching the strait from NW can obtain a pilot from the pilot station on Canauay Island. A small rowboat with an outboard motor serves as a pilot boat. It flies an "H" flag at the stern pole.

Anchorage.—Anchorage can be taken by large vessels in the W entrance of Janabatas Channel, in about 7 to 9m, mud. Smaller vessels can anchor inside the channel depending on draft.

6.103 San Juanico Strait (11°20'N., 124°58'E.) trends about 11.5 miles S from the E end of Janabatas Channel to Tacloban Harbor.

It has a width of about 0.3 to 0.5 mile, but in many places, shoals, rocks, and islets reduce the navigable width to about 0.1 mile. The shores are low and fringed with mangroves.

Santa Rita Island, about 30m high, lies on the N side of the N entrance of San Juanico Strait about 1.3 E of Magkasuang Point. It has a square-topped bushy summit, and an old fort, partly obscured by trees, is situated on the islet. The S end is steep-to, but a narrow reef and shoal water fringe the W side. A lighted beacon stands close W of the SW point of Santa Rita Island.

The deep fairway of the channel is about 0.3 mile wide between Santa Rita Island and a shore bank, defined by the 5.5m curve, that encumbers a bight SW of the island.

A 6.9m patch is located about 0.2 mile NNW of a point on the SW side of the fairway, about 0.35 mile SSW of Santa Rita Island.

A buoy is moored about 0.3 mile NNW of the above-described point and marks the S side of the fairway. A 4.1m patch is located about 0.3 mile NW of the same point. There are rips in this vicinity.

The San Juanico Bridge connecting Samar and Leyte

Anajao Island (11°26'N., 124°58'E.), 16.4m high, is an islet that lies on the S side of the fairway. Its NW end should be given a berth of at least 137m.

Nababuy Island, 30m high, lies on the S side of the channel close SE of Anajao Island.

It is reported (1990) that an overhead power cable crosses San Juanico Strait about 1.5 miles S of Nababuy Island. The cable is supported by pylons (red and white) on either side of the strait, and there is a reported clearance of 17m.

A privately maintained lighted beacon stands at the N end of the strait, 0.3 mile E of Nababuy Island. There are a number of lighted buoys, buoys, and beacons as indicated on the chart.

The fairway of the preferred channel passes around the N and E sides of Nababuy Island at a distance of about 0.3 mile. Small vessels sometimes use the narrow channel S of Nababuy Island, but caution is necessary to avoid a detached, partly drying reef close S of Anajao Island and the reefs fringing the shore on each side.

A number of shoal patches, with depths of 2.7 to 8.2m, lie in this channel and in its N approach. Reefs and shoal patches, on the S and W side of the fairway, lie up to about 0.2 mile N and ENE of the N end of Nababuy Island. A detached 5m patch lies about 0.3 mile NW of Silaga Beacon.

A detached 5m depth lies in the fairway of the channel about 0.3 mile ENE of the NE end of that island, and a 3.2m patch lies in the middle of the fairway about 137m farther NE in a position about 0.3 mile NNW of Silaga Beacon.

A 7.3m patch is located close NE of the 3.2m patch. A beacon, on the W side of the fairway, is located about 0.1 mile E of Nababuy Island on the S part of a narrow steep-to reef that lies up to about 0.1 mile E of the island.

Silaga Beacon, a temporary low structure that is barely visible at HW, is located on the E side of the fairway about 0.3 mile E of Nababuy Island. It marks a steep-to rocky patch that dries at LW.

A number of shoal patches, with depths of 3.2 to 5.5m lie from 185 to 0.3 mile SE of the beacon.

A 0.4m rocky patch lies on the E side of the fairway about 0.3 mile S of Silaga Beacon. It is marked by a beacon. Shoal water lies up to about 137m WNW and 0.1 mile S. A detached 4.1m patch lies in mid-channel about 0.1 mile SW of the rocky patch.

Several 4.1 to 5.5m patches lie up to about 0.1 mile offshore from the W side of the channel about 0.5 mile and 0.75 mile S of Nababuy Island.

6.104 Torre Island (11°24'N., 124°59'E.), about 7.6m high, lies on the E side of the channel about 0.8 mile SE of Nababuy Island. A 5m patch lies about 0.3 mile W of the S end of Torre Island. The island is steep-to on its W side.

Between Torre Island and Bagalibas Island, about 1 mile S on the E side of the channel, the fairway follows mid-channel. The fairway passes E of a 4.6m patch that lies about 0.1 mile ESE of the village of San Vicente, located about 0.5 mile SSW of Torre Island.

A 5m patch is located about 0.3 mile SE of the same village.

Bagalibas Island and several islets close N are steep-to on their W sides. A 0.9m patch lies about 0.1 mile N of Guintiguian Island, a small islet, 27m high, located about 0.3 mile N of Bagalibas Island.

A 6.4m patch lies close off the NW extremity of Guintiguian Island. A 6.4m patch is located about 0.1 mile W of the NW extremity of Bagalibas Island. The fairway lies between a 4.6m patch about 0.1 mile SW of Bagalibas Island and a 4.6m patch about 0.2 mile farther W.

A drying reef, with a 2.7m patch about 0.1 mile SSW, lies on the W side of the fairway about 0.3 mile off the W shore about halfway between Bagalibas Island and Uban Point.

6.105 Uban Point (11°22'N., 124°59'E.) lies on the W side of the strait. A beacon stands on the W edge of the dangers on the E side of the fairway opposite Uban point.

A small steep-to reef lies on the E side of the fairway about 0.3 mile N of the beacon. The channel is only about 0.1 mile wide between the beacon and a small drying reef W of it.

Between Uban Point and the Bagasumbut Islands, which lie about 1.8 miles S on the W side of the strait, the fairway trends S. It is barely 0.25 mile wide between the shoals and islets on either side.

A 3.2m rocky patch lies on the E edge of the fairway about 0.8 mile S of the beacon opposite Uban Point.

Three 4.1m patches lie on the W side of the fairway within 0.2 mile NE of the northern Bagasumbut Island, and an islet lies on the E side of the fairway nearly 0.25 mile farther NE. Cauayan Point Beacon is located on a reef that lies about 0.5 mile S of the northern Bagasumbut Island.

A 3.2 to 5.5m patch, on the W side of the fairway, lies up to about 0.3 mile SE of the latter island and 0.2 mile E of the beacon. In this vicinity the fairway favors the steep-to E side of the strait.

6.106 Cangom Island (11°19'N., 124°58'E.) lies close to the E shore of the strait and is steep-to on its W side.

A 4.6m patch, on the W side of the fairway, lies about 0.3 mile SW of Cangom Island.

A reef, with a depth of 0.6m, lies on the E edge of the fairway a little less than 0.5 mile S of the island. A buoy is moored in 9.1m on the W edge of the latter reef. A 5m patch lies on the W side of the fairway about 0.2 mile W of the reef.

The channel fairway tends SSE and lies close to the steep-to W sides of the Kabalawan Islands, about 0.8 mile S of Cangom Island, and Tinaogan Point, about 0.8 mile farther SSE. The W side of this part of the strait is encumbered with steep-to shoals.

A bridge crosses the river from the W side of Kabalawan Island in a SW direction and from the N side of that island in a NNE direction to the opposite shore. The bridge has a vertical clearance of 30.7m and a horizontal clearance of 176m. Four lights are shown from the central portion of the bridge.

Between Tinaogan Point and Anibong Point about 1.5 miles SSE, the fairway of the channel trends SE to Tacloban Harbor and the S entrance of the strait, Lazareto Island, on the SW side of the fairway, lies about 1 mile SSE of Tinaogan Point and is NE a number of islets and extensive shoals that encumber the W side of this part of the strait. A 4.1m rocky patch lies midchannel about 0.3 mile NNW of Lazareto Island.

The fairway of the channel is about 0.2 mile wide between the latter patch and an extensive shoal that lies up to about 0.5 mile off the NE side of the strait between Tinaogan Point and Binatac Point, about 2 miles SE.

The light, shown from Tacloban, bearing 139°, is reported to lead through the best water in this part of the channel; however, it appears to be very close to the edge of the shoal on the NE side of the strait. Vessels are advised to use this range with caution.

The village of Amandayehan is situated on the NE shore of the strait about 0.5 mile NW of Binatac Point. It is approached from the SE through a narrow 6 to 9m channel that trends close around the W side of the latter point. A wharf at the village has a berthing length of 30m with depths alongside of about 3 to 4m. A road connects with Basay, and there is regular ferry service to Tacloban. Inter-island vessels call occasionally.

Janabatas Channel to Biliran Strait

6.107 Between Baluarte Point and Talairan Point, about 10.5 miles W, the coast receded about 8 miles S to form Carigara Bay. A steep-to shore bank, with depths of less than 1.8m, fringes the SE side and head of the bay within about 0.8 mile offshore. The W side of the bay is very steep-to, and the 20m curve lies about 0.3 mile offshore.

From Baluarte Point the coast trends about 2 miles SSW and is very high and steep-to. It then becomes very low and trends about 11 miles SW to the head of Carigara Bay.

There are a number of small towns and villages on this latter part of the coast, and numerous rivulets, navigable only by boats, empty from it.

The small town of Barugo is situated about 7.5 miles SW of Baluarte Point. There is a post and telegraph office at the town.

Anchorage.—Anchorage can be taken, in 14.6m, about 1 mile offshore, with a large white storehouse in the town bearing 170°. The edge of the shore bank extends about 0.8 mile offshore in this vicinity.

Carigara (11°18'N., 124°41'E.) is the largest of the towns on Carigara Bay. The church and a monument on the beach at Carigara are prominent. A light is shown from the W side of the mouth of a small river that empties into the bay at the town.

A stone causeway extends N from the town. Diesel oil, gasoline, and fresh water can be obtained. There is a post and telegraph office, and a highway connects Carigara and Barugo with Tacloban.

Anchorage.—Anchorage can be taken about 0.8 mile N of the town, in about 15m, mud. Both this anchorage and that off Barugo are sheltered from the Southwest Monsoon and exposed to the Northeast Monsoon.

6.108 From a position about 5 miles W of Carigara, the steep-to SW side of the bay trends about 7.5 miles NW to Talairan Point. It is backed by a mountain range that rises abruptly from the sea to heights of about 152m to over 305m less than 0.75 mile inland, and to summits of as much as 716m within 3 miles inland.

Talairan Point (11°26'N., 124°32'E.) rises abruptly to a 390m summit about 0.5 mile SW. Pacdahauan Peak, 636m high, and another peak, 570m high, are conspicuous landmarks that lie about 1.3 miles W and WSW, respectively, of the point.

Between Talairan Point and Rabin Point, about 15.5 miles NW, the coast is fronted by Biliran Island. The passage separating that island from Leyte narrows from both ends to a width of less than 91m at Biliran Strait, which is so shallow that only small craft can use it.

The E approach to Biliran Strait recedes about 3.75 miles W between Talairan Point and the S side of Biliran Island, about 3 miles N. The coast on the S side of this approach is steep-to, with depths of more than 18.3m within about 0.3 mile offshore, but a steep-to shore bank extends about 0.3 mile offshore about 0.5 mile SE of the narrowest part of the strait.

The N side of the E approach to the strait is fringed by reefs and shoals that lie up to about 0.5 mile off Biliran Island between Magbagun Point, about 3 miles NNW of Talairan Point, and Poro Islet.

A detached 1.8m patch lies about 0.5 mile SW of Magbagun Point on the W side of the narrow channel leading into Magbagun Cove, a small bay on the W side of Magbagun Point. A detached 8.2m patch lies about 0.5 mile SW of that point.

Biliran Strait

6.109 Biliran Strait (11°27'N., 124°29'E.), the narrowest part of the passage separating Biliran Island from Leyte, lies between a point on the Leyte coast about 4 miles WNW of Talairan Point and Poro Islet, about 108m NNE.

The latter wooded islet is on the SW edge of a drying reef that extends about 0.5 mile S from the S extremity of Biliran Island.

The S and SW edge of the above reef and Poro Islet are steep-to. A narrow reef, from which a light is shown, extends about 41m from the point on the S side of the strait and narrows the channel to a width of about 69m.

This part of the strait has a least depth of 4m and the fairway lies within about 46m of Poro Islet. There is a least depth of

about 3m over that part of an extensive shore bank that lies across the W approach to the strait.

A bridge, with a vertical clearance of 19m, spans the strait.

Tides—Currents.—At times the tidal currents run through the strait with considerable velocity and caution must be exercised.

Culajit Islet, rocky and nearly awash at HW, lies on the N side of the W entrance of Biliran Strait, about 0.3 mile W of Poro Islet.

6.110 Biliran (11°28'N., 124°28'E.) is a small town on the N side of the W entrance of Biliran Strait. A stone causeway extends about 0.3 mile S from the town. There is a telegraph office at the town, and small inter-island vessels call regularly.

It is reported that a road bridge has been constructed across Biliran Strait, linking Leyte and Biliran Island.

Anchorage.—Anchorage can be taken, in about 5 to 6m, mud, about 0.3 mile W of Culajit Islet, but anchorage N of that islet is not recommended as depths decrease abruptly.

Biliran Island

6.111 Biliran Island (11°35'N., 124°30'E.) is heavily wooded and very mountainous, attaining a height of 1,300m on the summit of Mount Suiro at its SE end.

Mount Naliwatan lies in the N part of the island. It is very prominent, having a summit that appears conical from W.

Most of the coast rises abruptly from a low shore to hills and mountains close inland, but there is a low coastal plain on the S and SW sides of the island.

Pawican Point (11°30'N., 124°36'E.) is the SE extremity of Biliran Island. From Pawican Point the coast trends about 3 miles NNE to Gamay Point. A conspicuous rock, painted white and visible 3 or 4 miles, lies about 0.3 mile S of the latter point.

Caibiran (11°34'N., 124°35'E.) is the largest of several villages on the NE side of Biliran Island. There is a post office and radio communication at Caibiran. Small vessels call occasionally.

Amambahag Point (11°41'N., 124°32'E.), the NE extremity of Biliran Island, lies about 6.7 miles NNW of Caibiran.

Buhoc Point (11°40'N., 124°20'E.), 110m high, is the NW end of Biliran Island. Tincansan Islet lies about 0.3 mile W of the point and is separated from it by a deep channel. Just W of the village of Telegrafo, on the S side of Buhoc Point, there are some conspicuous reddish-brown cliffs about 61m high.

From Buhoc Point the coast of Biliran Island trends 4.5 miles SE to Bagombong Point and appears rather high.

Rabin Point (11°34'N., 124°19'E.) is the NW extremity of Leyte and S entrance point of the NW approach to Biliran Strait. It is the termination of a high and wooded promontory that rises to a 194m summit about 2 miles SE of the point and to higher peaks farther S.

A bank, with a depth of 12.8m at its outer end, extends about 0.8 mile NNW from the point which is otherwise steep-to and has depths of more than 18m about 0.5 mile offshore.

Gigantangan Island (11°34'N., 124°16'E.), 46m high, wooded and marked by a light on its summit, lies 2.25 miles W of Rabin Point. The passage between the island and the coast of Leyte is 1.5 miles wide, deep, and clear of dangers. From Rabin Point, the coast, which is fronted by a low sandy shore, trends about 2 miles SW to Dungun Point.

The NW approach to Biliran Strait is entered from W between Bagombong Point and Rabin Point. Both sides of the approach trend quite regularly SE and gradually narrow the passage to a width of about 2.25 miles, about 2 miles W of Poro Islet.

The low NE shore, which consists of shingle beaches interrupted by a few small reef-encumbered bights, is backed by a narrow coastal plain and high mountains inland. The SW shore is also low, but is closely backed by very high hills. There are a number of villages on both shores.

6.112 Naval (11°33'N., 124°24'E.), largest of the small towns on the SW side of Biliran Island, is situated on the NE side of the approach about 3 miles SSE of Bagombong Point. A radio tower, marked by a light, is located at Naval.

A causeway, with a depth of 1.8m at its outer end, extends about 122m SW from the town and is suitable only as a landing for small boats. There is a radiotelegraph office at the town, and inter-island vessels call each week from Cebu.

Anchorage.—Anchorage can be taken close off the edge of the shore bank, in 5.9m, about 0.1 mile off the end of the causeway. Large vessels can anchor a little farther off, in 18 to 37m, mud.

6.113 Calubian (11°27'N., 124°26'E.) is a small town on the Leyte coast, W of Biliran Strait. The shore bank lies within less than 0.25 mile offshore in this immediate vicinity, but it extends nearly 0.5 mile offshore a little eastward. A causeway, with a depth of 2.7m at its outer end, extends NE from the town.

The ruins of a wooden pier, bare at LW, lie about 0.2 mile NW of the causeway.

There is a post and telegraph office at the town, and inter-island vessels call regularly from Cebu. That part of the approach that lies N of Calubian affords moderately-sheltered anchorage, in 12 to 22m, mud.

An extensive shore bank, with depths of about 3 to 5m, encumbers the entire W entrance of Biliran Strait between a position about 0.5 mile E of Calubian and Poro Islet, about 3 miles ENE of the town. The W edge of this shoal water trends NNE across the approach.

Leyte Bay (11°25'N., 124°28'E.), which is very shallow, indents the Leyte coast between Calubian and Manoc Point, about 2 miles E, on the S side of the W entrance of Biliran Strait.

A narrow channel, with depths of about 2 to 4m, leads between the shore banks to the small town of **Leyte** (11°23'N., 124°30'E.) on the E side of the head of the bay. There is a pier, suitable for small craft at HW, located at the town.

Islands in the Samar Sea

6.114 There are five mountainous islands that lie in the central part of the Samar Sea. These islands, together with a number of detached islets and several rocks and shoals adjacent to them, are very steep-to.

There are a few small villages on the islands, but otherwise they are sparsely inhabited. The detached islets, some of which are very small, lie up to about 2 miles off the larger islands.

Tagapula Island (12°04'N., 124°11'E.), marked on its W extremity by a light, is steep-to and clear of dangers, except for Espana Shoal, a 3.7 to 5.5m area that lies about 0.8 mile E of the NE extremity of the island. Sibugay Island, 130m high, lies 0.75 mile off the N coast of Tagapula Island, with a deep channel between.

Almagro Island (11°55'N., 124°18'E.), which rises to a flat summit in its S part, lies about 7.5 miles SE of Tagapula Island. The small village of Almagro is situated at the head of a cove indenting the SW end of the island.

Santo Nino Island (11°55'N., 124°26'E.) is closely fringed by a steep-to rocky ledge. A rock, 3m high, and a rock, 16.1m high, lie on the edge of the ledge close off the middle of the E side and W extremity of the island.

A concrete column, 9.8m high, stands on an old fort on the N end of Santo Nino Island.

6.115 Santo Nino Harbor (11°56'N., 124°27'E.), a small cove at the N end of Santo Nino Island, affords excellent typhoon refuge for small craft up to 46m long and is frequented by coastal vessels.

The entrance channel, which has a depth of 3.1m, is only about 18m wide between a partly-drying shingle spit that extends about 37m W from the E entrance point and a rock. The rock, with a depth of 0.6m, that lies on the W side of the channel close E of some rocks awash.

The channel leads into a circular basin, about 183m in diameter, but most of the rest of the harbor dries at LW.

The shingle spit on the E side of the channel is covered at HW, but its edge is visible and should be passed close to on a course of 158° into the basin.

Anchorage can be taken in the center of the basin, in about 10.5m, mud.

Maripipi Island (11°48'N., 124°19'E.) lies about 5 miles S of Almagro Island and about that distance N of the NW end of Biliran Island. It is steep-to and clear of dangers.

Maripipi, a town marked by a conspicuous church with a galvanized iron roof, is situated on the SE coast of the island. The seaward end of the pier at the town was reported to be destroyed. Maripipi has regular communication with Cebu and Tacloban and is connected with the telegraph system by radio.

The **Sambauan Islets** (11°46'N., 124°15'E.), 18 to 40m high, are four rocky islets that lie close together about 2 miles WSW of Maripipi Island. They are situated on a narrow, steep-to sand shoal. A concrete column, 9.8m high, stands on the W extremity of the largest islet.

Buga Rock, 2.4m high, is a detached danger that lies about 1.3 miles W of Maripipi Island and 0.75 mile N of the Sambauan Islets. A rock lies awash close NE of Buga Rock.

The Camotes Sea

6.116 The Camotes Sea can be entered northward by way of the Visayan Sea or the Samar Sea, from southwestward by Bohol Strait, and from SE by way of the Bohol Sea through Canigao Channel.

Most of the Camotes Sea has considerable depths with the exception of its S part where Danajon Bank lies along the entire length of the N coast of Bohol. Several detached shoals lie in the N part of the sea and there are patches of reef in the SE entrance area.

The large Camotes Islands, lying in the central area of the Camotes Sea, are high and steep-to. Other small islands and islets lie in or near the N entrance, and the Cuatro Islands group is located in the SE part of the sea.

The N end of Cebu consists of flat, low plains and rolling hills rising to 143m. Southward, the remainder of the E coastal section of Cebu has a narrow coastal plain lying at the foot of rolling hills that are backed by mountains more than 610m high in places.

There are no good harbors for large vessels along this sector of Cebu. Unprotected anchorages are to be found almost anywhere along this coast, in depths of 91m or less, and at a distance of about 0.3 mile off the narrow coastal reef. A number of small towns and villages are situated near this coast.

The W coast of Leyte trends about 88 miles SSE from Dungun Point to Green Point. As far as Duljugan Point, the area is mountainous and rugged with no pronounced high peaks.

This part of the coast is broken by numerous small bays and coves. In many places the mountains rise sharply behind the shore, and such small areas of coastal plain, as do exist, are forested or planted to coconut trees.

Ormoc Bay, about 10 miles E of Duljugan Point, is the only large indentation on the W coast of Leyte. It is deep and clear of dangers and the narrow fringing reefs are steep-to.

Eastward of Ormoc Bay is an area of cultivated gently rolling hills. Mountains blanket the S end of Leyte and are irregular in height and have no pronounced ranges.

They fall off rather sharply in the vicinity of the coast, leaving a very narrow coastal plain. A number of unimportant rivers drain the S half of the W part of Leyte.

The N approaches to the Camotes Sea from the Samar Sea and Visayan Sea are deep and adequately lighted. A number of islands and islets lying N of Cebu have deep channels between them, but most are fringed by foul areas and should not be passed close to.

There are several unmarked shoals in the N part of the Camotes Sea.

With the exception of the NE end of Cebu, this part of the coast of Cebu as far as Managao Point is mostly steep-to. The NW part of the coast of Leyte is generally steep-to, except the area between Canaguayan Point and Duljugan Point, where there is considerable steep-to coastal reef.

The principal towns in this section are Bogo on Cebu, and Palompon, Villaba, and San Isidro on Leyte.

Cebu—Off-lying Islands and Dangers

6.117 Near the E coast of Cebu, the 20m curve lies about up to 2 miles off the coast and contains several detached coral heads with depths of 1.8m. There is some coastal reef in this same area which dries for a distance of 1 mile offshore. A deep channel lies between the coastal reef and the outer detached heads.

The **Manocmanoc Islets** (11°35'N., 124°03'E.) are three flat-topped, vertical-sided, and uninhabited rocks lying on a reef. The N and largest is 8.8m high, the middle one is 14.6m high, and the S and smallest is 16.4m high.

The reef between them bares at LW. There is some foul

ground about 0.3 mile W of the group, and a 16.5m patch lies about 1.5 miles ENE of the northernmost island.

Carnasa Island (11°31'N., 124°06'E.), lying about 4.25 miles SE of the Manocmanoc Islets, has a group of wooded hills, 45m high, at the NE part of the island. On the E side are 18.3m cliffs.

A detached rock, 13.1m high, lies close off the S end of the island. The SE side of the island is inhabited.

Tide rips occur in the area midway between Carnasa Island and the Manocmanoc Islets.

Maria Islet (11°29'N., 124°07'E.), 18m high, rocky, and steep-to, lies 1 mile SSE of Carnasa Island. The channel between is 0.5 mile wide, with a least charted depth of 22m.

Gato Islet (11°27'N., 124°01'E.), lying nearly 5.75 miles SW of Carnasa Island, is a precipitous rock, 98m high, that forms a prominent landmark. There is some vegetation on its top. The cliffs are underworn by the action of the sea, making landing almost impossible.

Directions.—Vessels from Jintotolo Channel bound for the port of Cebu pass about 2 miles S of Gato Islet if intending to proceed N of Malapascua Island; those vessels using the passage between Malapascua Island and the mainland of Cebu should pass about 6 miles S of Gato Islet.

6.118 Malapascua Island (11°20'N., 124°07'E.) is covered by small trees and bushes. Its shoreline is very irregular and consists of a succession of rocky headlands with many off-lying pinnacle rocks. Its N, E, and S coasts are fringed by reefs and shoals for a distance of 0.5 mile.

There is an islet, 7.6m high, and several rocks, 0.9 to 4.2m high, lying about 0.4 mile SW of Malapascua Island. Close off the NW point of the island there is a rocky islet, 5.5m high. A rock, 0.3m high, lies 0.5 mile N of the same point, and a rock lies awash nearly 0.5 mile E of the 0.3m rock.

During the Northeast Monsoon, good anchorage can be taken, in 18.3m, in a position about 0.5 mile SW of a light on Malapascua Island.

Chocolate Islet (11°19'N., 124°04'E.) lies about 3.25 miles SW of Malapascua Island. It is a small, steep-to, wooded islet and forms a prominent landmark. Tide rips occur in the area about midway between Chocolate Islet and Bulalaqui Point.

Monad Shoal (11°17'N., 124°12'E.), a 10.1m rocky area about 1.3 miles in extent, lies about midway in the N entrance of the Camotes Sea. The bottom consists of sand and boulders.

A shoal patch with a least depth of 24.5m lies 4.5 miles ESE of the shoal.

A 10.1m patch has been reported (1995) to lie about 3.5 miles SE of Monad Shoal.

Nunez Shoal (11°06'N., 124°13'E.) and **Calangaman Island** (11°07'N., 124°15'E.) lie 11.25 miles and 13.5 miles E, respectively, of Bogo Bay. A shoal area, with a depth of 1.4m, surrounds Calangaman Island. Nunez Shoal is a steep-to coral head with a depth of 5.5m.

During the Northeast Monsoon (October to March), good anchorage sheltered from the sea exists, in a depth of 14.6m, off the S side of Calangaman Island.

6.119 Ormoc Shoal (11°02'N., 124°09'E.), a steep-to shoal with a least known depth of 8.2m, lies 6.25 miles SW of Calangaman Island. This shoal should be avoided as there may be some coral heads on it with less depths than charted.

Capitancillo Islet (11°00'N., 124°06'E.) is 4.5m high and has a reef extending about 0.5 mile N and S. A steep-to reef, with a depth of 4.6m, lies about 0.8 mile N of the islet.

There are considerable depths in this portion of the Camotes Sea, the maximum being 869m about 3 miles SE of Capitancillo Islet.

The NW part of the coast of Leyte, from Dungun Point SSE to Canaguayan Point, has the 10m curve approaching mostly close-to, its greatest distance off being 0.75 mile in the vicinity of Canaguayan Point.

To the S of the latter point, and as far as Duljugan Point, drying coastal reef extends up to 2 miles offshore.

Cebu—East Coast

6.120 Bulalaqui Point (11°17'N., 124°04'E.), the NE extremity of Cebu, is formed by a 27m cliff which rises steeply inland to a height of 44m. The point is steep-to on its N side.

Between Bulalaqui Point and Campatoc Point, about 1.8 miles S, there is a small unnamed bay blocked by drying reefs. Coastal reefs extend from about 0.4 mile E of Campatoc Point in a direct line to the E side of Bulalaqui Point.

A wreck lies stranded on the edge of the reef about 0.5 mile N of Campatoc Point. The bow and foremast were visible.

Campatoc Reef (11°13'N., 124°04'E.), with a least depth of 1.8m, lies about 1.8 miles S of Campatoc Point.

From Campatoc Point the coast trends SSW for about 7 miles to Malontod Point. This section of coast is generally low, bordered by mangrove, and fringed by a coastal reef extending 0.75 mile offshore in places.

6.121 Bogo Bay (11°06'N., 124°02'E.), lying between Malontod Point and Nailon Point, about 5.5 miles S, is nearly blocked by a reef, most of which is awash. Between Malontod Point and Tindug Point, about 1.8 miles SSW, there is a bluff, rocky shore about 4.5m high.

From Tindug Point, the remainder of the shores of the bay are mostly bordered by mangrove.

The navigable entrance of the bay is a break in the reef about 1.8 mile NNW of Nailon Point. The entrance is about 0.2 mile wide and has a depth of 48m. From this entrance a channel trends W about 0.8 mile and then branches. A beacon marks the edge of the reef on the S side of the channel at the juncture.

One arm, of no value to navigation extends NW, and the main channel trends SW for 0.75 mile where it again divides. One arm extends toward the entrance of the Daijagon Canal and the other arm extends S, shoaling gradually toward the town of Bogo.

There is a small coral patch, with a depth of 0.9m, about in the center of the reach which trends SW. A beacon marks the patch and should be passed on it N side.

A wreck, with a 0.6m depth, lies on the edge of the reef about 0.2 mile W of the latter beacon.

Anchorage.—Fairly good anchorage can be taken, in 9 to 11m, mud, SW of the beacon in a position about 1.3 miles N of the town of Bogo. Here the channel widens to about 0.2 mile and is well protected from heavy seas, but it is open to the winds between NNE and ESE.

6.122 Bogo (11°03'N., 124°00'E.), a town with a church, stands on the SW side of Bogo Bay. There is a stone pier in front of the town. It can be reached by small boats at HW, but at LW it dries off its outer end. A light stands on the N side of the entrance to Bogo Bay.

Baluarte Point, about 1 mile NNW of Bogo, has a causeway, with a concrete landing at its head, extending NE across the reef to the channel.

There was a reported LW depth of 3m at the outer end; there were no dolphins or mooring bits. The causeway is connected with a road to Bogo.

The village of **Polambato** (11°04'N., 124°00'E.) is situated on Baluarte Point.

On a clear day, at LW, the reefs in Bogo Bay are plainly defined, showing a bright green, but with the sun in the W and the tide high, it is hard to distinguish the reefs at the entrance. There are numerous fish traps on the reefs.

During the Northeast Monsoon when the wind is strong, there is a heavy sea running which combined with the current that sets down the coast at quite a good velocity, makes it hazardous to enter without considerable way on a vessel.

6.123 Nailon Point (11°03'N., 124°02'E.) is low, wooded, and fringed by a narrow steep-to reef. It can be passed at a distance of 0.5 mile.

From Nailon Point, the coast trends S for about 11 miles to Managao Point.

The shores are mostly fringed by narrow, steep-to reefs, nowhere exceeding 0.25 mile in width. The coast is slightly indented by Tabagon Bay.

Discolored water has been seen at various times off Managao Point, giving the impression of shoal water, but a survey failed to develop anything of this nature. A submarine cable extends ESE from Nailon Point to Bogo Bay and can best be seen on the chart.

Saac Point (11°00'N., 124°03'E.), 4 miles S of Nailon Point, is a low, wooded bluff, steep-to and clear of dangers. Less than 1 mile inland from the point, the land rises to a height of about 122m.

Between Saac Point and Pamoboan Point, about 2.25 miles S, the coast is irregular and consists of bold rocky cliffs, 6 to 9m high, back of which the land rises rapidly.

Bantulin Point (10°55'N., 124°03'E.) is a steep, clay bluff about 15.2m high, inland of which the land rises to a height of over 122m within 0.5 mile of the point. It can be recognized from N by a bare cliff showing white on its N side.

The town of Tabogon, 2 miles NNW of Bantulin Point, is partly obscured by trees, and the white-roofed school is all that can be seen from seaward.

The depths off Tabogon are too great to afford anchorage. At HW, small boats can land at the ruins of a small stone dock. There is a telegraph office in the town.

Leyte—Northwest Coast

6.124 A mountain chain, about 5 miles inland, trends parallel with the coast. Mount Majuyag, 1,348m high and about 25 miles E of Gumalac Island, is probably the highest point on the island.

Between **Dungun Point** (11°32'N., 124°17'E.) and Matung Point, nearly 8 miles SSE, the coast is generally fringed by a narrow steep-to reef. Tagawigan, Daja, and Tinago are small coves, blocked by reefs, that indent this section of coast; villages of the same names as the coves lie at their heads.

A prominent house, with a galvanized iron roof, stands at the head of the small bay of which Dungun Point is the W entrance point.

Caution.—Numerous unlit fishing stakes and small dugout canoes occupy the waters of the NW coast of Leyte from **Gigantangan Island** (11°33'N., 124°15'E.) and **Calangaman Island** (11°07'N., 124°15'E.).

6.125 San Isidro Bay (11°24'N., 124°20'E.) lies nearly 1 mile S of Matung Point. The center of the bay is deep and affords good anchorage during the Northeast Monsoon, but the head is filled by shoals and drying mud flats.

San Isidro (11°25'N., 124°20'E.), a town at the head of the bay, is a port of call for small coastal vessels. An L-shaped concrete pier, about 0.5 mile SW of the town, has a depth of 3.6m off its seaward face. Vessels can steer for the pier on a bearing of 090° and anchor, in a depth of 5.5m, about 0.3 mile seaward of it.

Five partly-submerged wrecks lie within a radius of about 0.2 mile of the face of the pier.

Between Sangabon Point, the S entrance of San Isidro Bay, and Canapog Point, 10.5 miles SSE, there are four small bays and a number of coves.

The bays are quite conspicuous as the entrance points are generally formed by bluffs 15 to 23m high.

Arevalo Bay (11°22'N., 124°21'E.), about 2 miles S of San Isidro Bay, is nearly blocked by reefs and shoals. A bare cliff marks the N entrance point.

The village of **Arevalo** (11°22'N., 124°22'E.) is situated in the SE part of the bay. There is a small stone landing on the S shore of the bay just inside Cauayan Point, the S entrance point of the bay.

Anchorage can be taken, in 5.5m, about 0.1 mile N of the landing and partially protected from SW by Cauayan Point.

Pulingbato Hill, about 2.5 miles S of Cauayan Point and 0.6 mile inland, forms an excellent landmark. It rises gently to a flat-topped cone.

Tabango Bay (11°17'N., 124°23'E.), about 4 miles SSE of Cauayan Point, is nearly blocked by reefs.

Campopo Bay (11°17'N., 124°22'E.) is separated from Tabango Bay by Liog Point, over 30m high. A large part of this bay is encumbered by reefs and shoals.

Burabud Point, at the S entrance of Campopo Bay, is a sharp, prominent cone that forms a good landmark.

Dauajon Island (11°16'N., 124°22'E.) lies about 1 mile SW of Burabud Point. The channel between it and Leyte is deep and clear in the fairway. The islet is mostly steep-to except about 0.3 mile NW of it where there is a depth of 8.2m. Dauajon Island is sometimes not clearly visible against the dark background of the mainland of Leyte.

6.126 Silad Bay (11°14'N., 124°23'E.), about 2.5 miles S of Burabud Point, is fringed by drying reef. The village of Silad is situated on the SE shore of the bay.

An 18.3m rock lies close offshore in a position about midway between Silad Bay and Villaba Bay, 1.5 miles S.

The rock is bare, sharp-pointed, yellow in color, and is a good inshore landmark.

Villaba (11°13'N., 124°24'E.) is situated at the head of Villaba Bay. A rock causeway, about 0.5 mile SW of the town, has a depth of 1.5m off its end. There is a privately maintained pier, with a depth of 2.7m at its outer end, close S of the town. Two private mooring buoys, in a depth of 3.6m, are located off the open coast about 1.5 miles SW of Villaba.

Anchorage can be taken, in 9.1m, at the entrance of the bay, about midway between the S entrance point and the aforementioned 18.3m rock. Anchorage, in 5.5m, can be taken about 0.2 mile off the end of the landing.

Canaguayan Point (11°04'N., 124°22'E.), at the N entrance of Port Palompon, is the most salient point in this vicinity. It is low, flat, covered by coconut trees and fringed by mangrove.

It is bordered by a reef and a bank, with a depth of 6.4m at its outer end, extends about 0.6 mile SW from the point.

6.127 Port Palompon (11°03'N., 124°23'E.) (World Port Index No. 58800), the principal commercial port in western Leyte, is formed by a narrow channel lying between the mainland of Leyte S of Canaguayan Point and the N end of the drying reef surrounding Taboc Island and lying over 0.3 mile S of the point.

This is the only approach to the town of Palompon, as the S end of the channel is blocked by reef. Mangrove-covered Taboc Island and its surrounding reef protects the anchorage from W winds and seas.

Depths—Limitations.—There is a T-head concrete pier fronting the town. This pier has a berthing face of 101m. There were depths from 6.7m at its N end to 8.8m at its S end.

Anchorage.—There is anchorage for vessels up to 40m in length, in a depth of 16m, mud, about 0.2 mile SW of the pier, but the swinging room is restricted.

Directions.—Enter Port Palompon from a position with Canaguayan Point bearing 046° and the light at Palompon bearing 105°; then steer for the light on a 105° heading.

The reefs on either side of the channel show well at LW and are generally marked by fish traps and bamboo stakes with bushy tops. When the pier at Palompon bears 140°, haul S in mid-channel and head for the pier, or anchor as described above. There are no pilots available.

Gumalac Island (11°00'N., 124°23'E.) is low, mangrove covered, and lies on the same reef as Taboc Island. This reef extends in places more than 0.5 mile W from the islands.

Cabgan Island is a similar but smaller island lying on the reef S of Gumalac Island and separated from it by an unimportant channel forming a break in the reef. Cabgan Island is also surrounded by reef which extends about 0.5 mile seaward.

Caution.—The reefs which surround the aforementioned islands and border the coast from Canaguayan Point to Duljugan Point, about 9 miles S, have their greatest width about 2.5 miles NW of Duljugan Point.

Although marked by stakes at many places along its edge, a number of vessels have struck this reef. When rounding the reef from N, mariners are advised that Canaguayan Point should not be brought to bear less than 014° until Duljugan Point bears less than 111°.

The Camotes Sea—West Part

6.128 The E coast of Cebu, between Managao Point and Bagacay Point, about 30 miles S, has a relatively narrow coastal plain varying from 46m to 0.75 mile as far as Kotkot Point where it begins to widen. Hills rise between 122 to 152m, 1 mile inland from the coast, and between Danao Point and Kotkot Point, they rise to 396m about 3.5 miles inland.

Streams are numerous along this section of coast, but none are navigable and they become very small during the dry season.

This coast is rather irregular, but there are no large indentations of importance as such. Towns of any importance in this area are Danao and Liloan. There are a number of villages along the coast.

Managao Point (10°53'N., 124°03'E.) is low, rocky, and steep-to. It appears very prominent when coming from N or S. Hills slope down to the shore in this vicinity and rise gradually to 91 and 122m at about 1 mile inland.

The white roof of the school at Tagnukan, about 0.5 mile WSW of Managao Point, is prominent.

6.129 Borbon (10°50'N., 124°02'E.), a small town, lies at the mouth of the Jimuguit River. A church with a galvanized iron roof stands at an elevation S of the town; it is a good landmark although, obscured by trees. A stone mole can be used by small boats at HW.

A wreck, awash about 0.3m at HW, lies on the edge of the reef 37m SE of the stone mole. The shore reef N and E of Borbon is quite extensive and backed by a thick growth of mangrove.

The Jimuguit River is small and can be entered only by small boats at HW.

Anchorage can be taken, in 37m, mud, about 229m from the edge of the shore reef and with the church at Borbon bearing 294°.

Bingkay Point (10°48'N., 124°01'E.), about 5 miles S of Managao Point, is a 6.1m rocky bluff covered by vegetation. A series of these bluffs and an occasional short strip of white sand beach forms the coast for 1 mile on either side of Bingkay Point.

6.130 Sogod Bay (10°45'N., 124°00'E.) is clear and steep-to, but it offers no protection from E winds and sea. At the NW part of the bay, there is a very peculiar steep-sided, narrow ravine, 9 to 12m deep, which penetrates nearly 1 mile inland and up which the sea enters for about 274m.

A prominent cliff, 17m high, is located 0.5 mile S of the ravine. A reef extends 91 to 274m offshore from here to 1 mile S of the town of Sogod.

Sogod, marked by a light at the head of Sogod Bay, is prominent from seaward, the town being situated on a slope and with few trees to obscure it. A church on elevated ground back of the town is prominent from NE and E, and the municipal building, about 0.3 mile S, also shows from NE.

Catmon Point (10°44'N., 124°01'E.) is low and consists of dark sand and gravel. The Bao River discharges through the point; thick coconut groves line the shore on both sides.

Catmon, a town about 0.8 mile S of Catmon Point, is almost entirely concealed from seaward by coconut trees.

The church at Catmon stands on an elevation in a position about 0.5 mile S of Catmon Point. It is very conspicuous, hav-

ing a prominent tower surmounted by a dome.

A highway bridge across the Panalipan River, 5 miles S of Catmon Point, shows prominently from seaward.

Binongkalan Point (10°38'N., 124°02'E.) is low, steep-to, and composed of dark rock. The point lies about 5.3 miles S of Catmon Point. The village of Binongkalan is situated on the slope immediately W of the point and consists of a cluster of brown houses visible from seaward.

Luyang (10°36'N., 124°01'E.), a good-sized village, lies at the mouth of the Luyang River about 1.8 miles S of Binongkalan Point. The bar of the river is shoal and can be crossed only at HW by small craft.

6.131 Port Carmen (10°35'N., 124°01'E.) is entered on the S side of a reef, which extends 731m SSE from **Poo Point** (10°35'N., 124°02'E.), which lies 2 miles N of Catadman Point. It is nearly filled with reefs and mud flats and affords a very limited anchorage area.

The entrance, 183m wide with a least depth of 10.1m, lies S of the above reef. From midway of the entrance, the top of the church at the town of Carmen is visible over the trees on a bearing 294°.

A drying reef extends from the shore toward the center of the entrance and forms the S side of Port Carmen. The channel N of this reef has a least width of about 91m and leads to the anchorage at Port Carmen.

A prominent clump of mangrove stands on the edge of the reef extending S from Poo Point, and immediately W of the clump is a well-defined sand spit which dries about 0.6m; the spit can be rounded close-to.

Inside the port, the water is usually muddy and only at LW do the reefs show plainly. A large cement factory with two tall stacks stands about 0.8 mile WSW of Poo Point.

A beacon stands in a clump of mangrove. Caution should be used by vessels entering without local knowledge, being guided principally by the color of the water on the steep-to reefs. Fish weirs are scattered over the shoal parts of the port and along the reefs.

The town of Carmen, situated on the W side of the port, is partly concealed by trees. The church has a nipa roof and can be seen over Poo Point from seaward and from the entrance of the port, but is obscured from the anchorage; it is not prominent at any time. The municipal building is more conspicuous.

Cogon (10°36'N., 124°01'E.), a village at the head of the port, is situated about 0.5 mile N of Carmen, and the villages of Davis and Villa Hermosa stands on the shore 0.5 mile and 2 miles S, respectively, of Carmen. At Cogon there are two stone moles, partly destroyed, where small boats can land at HW.

Anchorage can be taken, in 9.1m, W of the above-described clumps of mangrove, or about 183m farther N, in 7 or 8m. The edge of the reefs fringing the anchorages are steep-to.

6.132 Catadman Point (10°33'N., 124°04'E.) is formed by a wide steep-to coastal reef heavily overgrown by mangrove that extends for 1 mile in either direction, giving it the appearance of land. It is quite conspicuous from N or S.

Danao (10°31'N., 124°01'E.) is the largest and most important town in northern Cebu. The cream-colored church standing on low ground near the beach is prominent. The church and surrounding buildings form a large group, but they are partly obscured by coconut groves N and S of them and are only visible between 220° and 350°. Prominent factories stand 5 miles N and 2 miles S of the city. The beach in front of the town is of dark sand.

There is a small pier at Danao. The pier was partially destroyed by a typhoon and was being rebuilt.

A large shipyard and industrial complex was under construction in the vicinity of Danao.

Anchorage can be taken, in 37m, mud and sand, E of the church and about 0.3 mile offshore; it is exposed during the Northeast Monsoon.

Danao Point (10°30'N., 124°02'E.), about 1 mile S of Danao, has a bare and steep appearance. The point is fringed by a dark steep-to reef of moderate width.

Compostela (10°27'N., 124°00'E.), a town located about 3 miles S of Danao Point, has a church that stands on the beach. The town is visible only between the bearings of 294° and 350° because of the thick coconut groves bordering the coast in this area.

The ruins of a concrete railroad bridge, 0.5 mile N of Compostela, is visible from seaward. The shore for 3 miles N and for 1 mile S of Compostela is fringed by an almost unbroken narrow steep-to reef. There is little sand beach, the remainder of the coast being bordered mostly by gravel and a few stretches of rocky ledges.

Kotkot Point (10°25'N., 124°00'E.) is low and not prominent except from N. Between Kotkot Point and the town of Liloan, about 1.3 miles S, there is a stretch of prominent beach.

Liloan (10°24'N., 124°00'E.) lies at the head of a wide bay which indents the coast for about 0.8 mile between Kotkot Point and Bagacay Point. The bay is open to the Northeast Monsoon. A large church with a galvanized iron roof stands close to the beach.

The town is situated in back of the church and along the side of a channel, known as the Liloan River, which connects Silut Lagoon with the sea. A rock, awash, lies on a small reef about 0.3 mile NE of the church at Liloan.

Bagacay Point (10°23'N., 124°01'E.), about 1.3 miles SE of Liloan, is further described in paragraph 7.37.

The Camotes Sea—East Part

6.133 The **Camotes Islands** (10°41'N., 124°25'E.), consisting of Ponson Island, Poro Island, Pacijan Island, and Talong Island, are, in general, fringed by narrow, steep-to reefs. There are no good anchorages in the group. The island group is of little commercial importance and only a few vessels call at the larger towns.

Pacijan Island (10°40'N., 124°20'E.) is 247m high in the S part, and near the N part there is a small flat hill, 102m high. San Francisco, a town situated near the E extremity of Pacijan Island, is connected to Poro Island by a bridge.

Drying reefs extend N and S from the bridge for about 1 mile in either direction. Cargo for San Francisco is landed at the town of Poro on Poro Island; a road, about 2 miles long, joins the two towns. There are postal and radio facilities at San Francisco.

Talong Island (10°44'N., 124°19'E.), lies about 0.3 mile N of Pacijan Island. The navigable channel between them is reduced to a width of about 274m by the reefs on either side.

Tudela (10°38'N., 124°28'E.) is a small town on the S side of Poro Island. A light is shown from a concrete tower, 10m high, which stands on the E side of the town.

A stone landing at Tudela, with a depth of 1.2m off its end, can be used by small boats.

There are postal and telephone facilities at Tudela and bus transportation to San Francisco.

Anchorage can be taken, in depths of 13 to 27m, mud and coral, about 366m offshore S of the town. This is the best anchorage in the Camotes Islands group, but it is open to S winds. There is anchorage off Poro similar to that at Tudela; however, it also is exposed to S winds.

6.134 Poro (10°38'N., 124°24'E.), a town about 3.75 miles W of Tudela, has a church that is prominent from SW. A stone causeway fronting the town is accessible to small boats only.

Hermosa Bank is a small, detached coral patch, with a depth of 11.9m and steep-to, lying about 1 mile E of Villa Hermosa Point, the E extremity of Poro Island.

Ponson Island (10°47'N., 124°33'E.) is the most northerly of the group. It is 221m high and fringed by a narrow coral reef, except on its NE side, where the reef extends 1097m from a shallow bay.

Kawit is a village situated on a conspicuous sandy beach at the SW extremity of Ponson Island.

Anchorage can be taken off Kawit, but only close in because of the great depths. This anchorage should be approached with caution as the bank is very steep. In case of necessity, anchorage can be taken off the villages of Lanao or Dapdap, which are located on the NW coast of Ponson Island.

Pilar (10°48'N., 124°34'E.) (World Port Index No. 58760), a town at the NE end of Ponson Island, has a stone mole with a concrete landing, extending from the beach E of the town. The controlling depth off the landing was 1.8m.

A dangerous shoal, having a depth of 0.6m at MLW, extends from the shore to a position about 30m SE of the end of the causeway.

Boats calling here head in parallel to the line of the causeway and for the NE corner.

In fine weather, anchorage can be taken off the end of the mole, in depths of 35 to 37m.

6.135 Duljugan Point (10°55'N., 124°23'E.) is low and flat. Mangrove grows on the reef W of Duljugan Point and surrounds a small islet lying about 0.8 mile offshore, giving it the appearance of forming a part of the point. The S side of the point is steep-to.

Dupon Bay (10°55'N., 124°25'E.), entered between Sacay Point, situated 1.75 miles E of Duljugan Point, and Catiyoman Point, about 1.5 miles farther SSE, is a spacious harbor. The entrance is deep, the depths decreasing toward the head which is foul. It was reported (1999) that the tidal current in the bay is negligible, but a strong current is reported to set E along the coastline outside of the bay.

Isabel (10°56'N., 124°26'E.) (World Port Index No. 58795), marked by a lighted tower, is a town located on the E side of Dupon Bay. The light is shown from a concrete tower, 10m high, standing on the shore at Isabel. Red obstruction lights are shown from a chimney (red and white) standing 1.5 miles SE of the light.

Depths—Limitations.—Port Isabel, in the SE part of Dupon Bay, has been developed to serve local fertilizer and copper smelting plants. A vessel of 64,000 dwt has been handled at the port.

Philphos Wharf has five berths totaling 760m in length for grab discharge of bulk cargo and loading of bagged and bulk fertilizer. The S end of the main quay is reported to be used for discharge of liquid ammonia, sulfuric acid, and phosphoric acid.

Reported depths alongside the berths are, as follows:

1. Berth No.1—12m.
2. Berth No.2—9m.
3. Berth No.3—7m.
4. Berth No.4—7m.
5. Berth No.5—5m.

Passar Wharf is situated close S of the Philphos Berth No.1, and is reported to be 90m in length, with a depth of 12m alongside. Ore for the copper smelting plant is discharged at this berth.

Two tugs of 6,000 horsepower are available. There are three grab cranes feeding conveyor belt systems. Cranes are also available for loading.

Fuel and diesel oil can be supplied by barge from Cebu.

Since this area is on the W side of Leyte it is protected from the direct influence of a typhoon by the central mountain range running from N to S.

The prevailing winds are from NNW, SSW, and NNE. The SSW winds, which occur frequently from March to August, cause wave action at the wharf.

Pilotage.—Pilotage is compulsory and is available 24 hours. The boards about 0.75 mile SW of Catiyoman Point. Pilots are provided by Tacloban Pilot Association; a 24-hour notice of ETA is required.

Contact Information.—The port can be contacted on VHF channels 12 and 16.

Anchorage.—Anchorage can be obtained, for vessels with drafts between 9 and 30m, at the entrance to Dupon Bay.

Anchorage can also be obtained 0.5 mile from the W shore of the bay, in a depth of 15m, although it is advisable to use two anchors due to the poor holding ground.

The quarantine anchorage is situated about 1,463m W of Catiyoman Point, in a depth of about 80m.

6.136 Matlang Bay (11°53'N., 124°27'E.), about 1 mile E of Dupon Bay, is small and sheltered from all except S winds. The anchorage area is restricted by reefs extending from both sides and the head of the bay.

Mount Maanga (10°57'N., 124°30'E.) is a sharp double-tipped peak and an excellent landmark from all directions. The N peak is the higher.

Calunangan Point (10°52'N., 124°31'E.), about 4.5 miles E of Matlang Bay, is low, flat, fringed by mangrove, and skirted by a very narrow steep-to coral reef.

A light is shown from Calunangan 1 mile W of Calunangan Point.

6.137 Ormoc Bay (10°57'N., 124°35'E.), entered E of Calunangan Point, is deep and free from dangers.

Anchorage can be taken, in 15 to 27m, good holding ground,

all around the shores of the bay.

Merida (10°55'N., 124°32'E.) is a small town on the W shore of the bay.

A concrete pier, on which there is a cargo shed, has a controlling depth of 1.8m off the end. A privately-maintained fixed red light, 9.1m above HW, is shown from a stand in front of the cargo shed.

6.138 Port Bello (10°59'N., 124°32'E.), in the NW part of Ormoc Bay, affords anchorage during the Southwest Monsoon, in 17 to 22m, mud, off the end of the pier.

There is a stone causeway and wooden landing about 149m long at the Hacienda Puerto Bello. The small boats and lighters which call here for cargo lie at the S face of the pier near the outer end where there is a depth of 1.2m.

Vessels call here only by previous arrangement. The pier was reported badly in need of repairs and the hacienda was not in operation.

A dangerous wreck lies in Port Bello about 0.5 mile ENE of the village of Biasong.

6.139 Ormoc (11°00'N., 124°36'E.) (World Port Index No. 58770), at the NE part of Ormoc Bay, is the largest town in western Leyte and of some commercial importance.

A radio tower, 82m high and showing a red light, stands near the coast about 2.3 miles SE of Ormoc. Another radio tower, 61m high, stands near the coast about 1 mile SE of Ormoc.

Prominent landmarks in the approach to Ormoc include several chimneys situated about 2.3 miles SE of the town, a water tank about 0.8 mile SE of the town, and a church spire at the town.

Depths—Limitations.—A concrete city pier, about 12.2m wide at its outer end, extends about 341m SSW from the shore. There is a depth of about 4.5m at the outer end of the E side of the pier, but the water shoals rapidly along each side toward the shore.

It was reported difficult to go alongside because of the poor condition of the pier. A prominent building stands at the root of the pier. Six mooring buoys are laid in the bay 1 mile WNW of the root of the pier.

Ormoc

Anchorage.—Anchorage can be taken, in 26 to 27m, sand and mud, about 0.3 mile SW of the pier head.

Caution.—Several sunken wrecks, swept to 11.9m, lie between the anchorage and the pier and should be avoided; caution must be exercised not to get inside about the 20m curve when anchoring as the depths shoal rapidly.

From Ormoc to Baybay, about 22.5 miles SSE, the coast is low and consists of steep-to beaches of cobblestones and small boulders. Near the coast are heavily wooded hills, 305 to 610m high and immediately back of them is a mountain range, 914 to 1,219m high, lying parallel to the coast.

6.140 Panalian Point (10°59'N., 124°38'E.) is located about 1.8 miles SSE of Ormoc. The small landing, about 0.3 mile SE of the point, is reported destroyed. Its seaward end reportedly dried at LW. Vessels calling for cargo anchor, in 12.8m, about 0.3 mile offshore, and load from lighters.

Albuera (10°55'N., 124°41'E.), lying about 7.5 miles SE of Ormoc and reportedly marked by a light, is visible from seaward. It has postal and telegraph facilities. A highway connects the town with Ormoc and Baybay.

Baybay (10°41'N., 124°48'E.) (World Port Index No. 58750), lying on the S side of the Panbaganan, about 15.5 miles S of Albuera and marked by a light, presents a prominent appearance from seaward. The light was recently reported extinguished.

The old stone church with one tower is a good landmark.

Depths—Limitations.—A concrete government pier, with about 155m of berthing space, had a reported controlling depth of 5.0m off its seaward end.

Anchorage.—Anchorage can be taken, in 22 to 27m, mud, about 0.5 mile W of the town.

6.141 From Baybay, the coast trends S about 2 miles, then WNW about 1 mile, forming a bay between the town of Baybay and the reefs fringing **Catarman Point** (10°38'N., 124°47'E.).

A conspicuous hill, 96m high, stands close inland from the E shore of the bay. A small steep-to reef, with a depth of 1.8m, lies about 0.8 mile NNE of Catarman Point. The fringing reef extends 0.5 mile N from the point.

Good anchorage can be taken, in 11 to 18m, mud, E of the reef or off the village of Punpunan at the head of the bay.

A rock causeway is situated on the N side of Catarman Point, and is the loading site for manganese ore.

Between Catarman Point and the village of Guadalupe, 6 miles S, the coast consists of steep-to, coarse gravel beaches, backed by hills 183 to 610m high.

A reef, with a depth of 2.7m, lies about 0.8 mile WSW of Guadalupe, and another reef, which dries at LW, lies about 1 mile SW of the same position.

A depth of 2.7m, coral bottom, was reported to lie 326°, about 1.3 miles from Guadalupe.

6.142 Amogotada Point (10°29'N., 124°43'E.) is low, fringed by mangrove, and covered with coconut trees. Mount Bontoc, a very prominent flat-topped hill, 203m high and steep, is located about 1.5 miles SSE of the point. When first seen from N it appears as an island and is liable to be mistaken for low Amogotada Point.

The **Cuatro Islands** (10°31'N., 124°39'E.) are a group for four islets lying W and NW of Amogotada Point. Himuquitan Islet, the S and largest, is conspicuous. Daquio Islet, the northernmost of the group, is low and sandy and about 12.2m high to the tops of the trees.

Hindang (10°26'N., 124°43'E.), a small town about 3 miles S of Amogotada Point, offers anchorage, in 13 to 18m, about 0.5 mile offshore with the church bearing 141°. Hindang Light is shown from a fort at Hindang.

The small towns of Hilongos, Bato, Matalom, and the village of Cahangaan are situated on the coast between Hindang and **Green Point** (10°09'N., 124°45'E.). There are postal and telegraph facilities at Hilongos, Bato, and Matalom.

Canigao Island (10°15'N., 124°45'E.) is low, flat, and covered with coconut palms.

The N, W, and S sides of the island are fringed by reefs extending up to 0.6 mile offshore. The island is marked by a light.

6.143 Canigao Channel (10°15'N., 124°43'E.), between Danajon Bank and Leyte, is over 6 miles wide, but is divided into several passes by Cain Reef, Adam Reef, Eve Reef, and Canigao Island. The pass between Canigao Island and Leyte is over 0.75 mile wide, has a depth of 18.3m, and is the one generally used.

Cain Reef (10°15'N., 124°43'E.), with a depth of 7.3m, lies 1.75 miles WNW of Canigao Island.

Adam Reef (10°15'N., 124°42'E.), with a depth of 0.3m, lies 2.5 miles W of Canigao Island. An 8.2m patch was reported to lie 1.5 miles WNW of Adam Reef.

Eve Reef (10°14'N., 124°44'E.), with a depth of 5.8m, lies 1.5 miles WSW of Canigao Island. Abel Reef, with a depth of 6.7m, lies 1.75 miles S of Canigao Island.

Taguus Point (10°11'N., 124°45'E.) lies about 3.5 mile S of Canigao Island.

A 2.7m coral patch is reported to lie 0.6 mile W of the point.

Green Point (10°09'N., 124°45'E.), lying 2 miles S of Taguus Point, is the SW extremity of Leyte and is reported to be clear of dangers. Green Cone, a hill 140m high, located close E of the point, is prominent.

The Camotes Sea—South Part

6.144 Lapinin Island (10°06'N., 124°34'E.), lying close off the NE end of Bohol, is generally low, but of rugged appearance. It has a wide rice-cultivated flat broken by low, conspicuous hills covered with grass.

A well-defined hill, 129m high, lies close within the S end of the island. Its coasts are indented by several mangrove-fringed bays, except in a few places where there are small stretches of sand beach, and are bordered by reefs.

There are no rivers, the openings in the mangrove extending only a short distance inland. Three small islets, Bonoon, Budlaan, and Pamasaun lie on the reef fringing the N side of Lapinin Island.

Tinuibo Island, 121m high, lies about 2 miles SE of Tugas Point, the NE extremity of Lapinin Island. A light is shown from the point.

6.145 Basiao Channel (10°04'N., 124°32'E.) is about 0.5 mile wide and tortuous. At the NW end of the channel is Lapinin Chico Islet, fringed with mangrove.

From the E entrance, a mid-channel course in a depth of 5.5m can be carried to within about 1 mile of the islet.

A sand bar, bare at half tide, connects the islet with a sand spit lying about 0.8 mile SE of Lapinin Chico Islet, and then divides the channel into two arms at this position.

There is a depth of 4.6m in the NW arm. The other arm, which extends N, has a controlling depth of 2.7m.

It is foul and should not be attempted without local knowledge.

A rock, which lies awash about 274m S of Lapinin Chico Islet, has a depth of 4.6m close off its S side. On the opposite side of channel, about 0.5 mile S of the rock, a small rock lies in 2.7m at LW.

Anchorage.—Excellent, but limited anchorage can be taken in Basiao Channel, in 5 to 9m, sand and rock.

A rock causeway and a concrete pier, 142m in length, with a depth of 4.2m at its outer end, stands on the SW shore of Basiao Channel at **Tapal** (10°03'N., 124°31'E.).

The latter place serves as the port of the town Ubay, located about 3 miles W of the pier, and is connected to it by a highway.

Bohol—North Coast

6.146 Centinela Point (10°05'N., 124°30'E.), the N coast of the island trends irregularly WNW about 14.5 miles to Tabon Point, the N extremity, then W about 8.5 miles to Corte Point.

This shoreline is mostly fringed by mangrove and bordered by a bank that extends a considerable distance offshore in places.

Mount Cogtong (9°57'N., 124°29'E.), in the NE part of Bohol, is a 459m high, prominent, and grass-covered double peak. West of the Cogtong Mountains is a large valley extending in a W direction along the coast to the **Ipil River** (10°07'N., 124°21'E.) and S between the Cogtong Mountains and Mount Batuanan.

The latter mountain is the E termination of the long E-W ridge SW of the Cogtong Mountains. It descends with a cliff-like abruptness to the E and presents an easily-distinguished landmark.

West of the Ipil River, a belt of gentle rolling country extends inland from the coast for 1 to 3 miles, narrowing to the W. South of this belt are rounded hills, 183 to 274m high.

Cantamulig Hill (10°09'N., 124°15'E.), the northernmost of the hills in this vicinity, is situated 2.75 miles SW of Tabon Point. It has a long sloping shoulder extending NNW from its summit. The hill is conspicuous from E or W.

Mount Corte (10°08'N., 124°09'E.) is a round-topped grassy hill. It has a long shoulder extending about 1 mile S, terminating abruptly at the village of Corte.

Bohol—Off-lying Islands

6.147 Danajon Bank (10°17'N., 124°30'E.) is an extensive area lying off the N side of Bohol. Its N limit is marked by a chain of steep-to reefs 0.5 to 2 miles wide.

The only islets lying on these N reefs, other than **Pandanon Islet** (10°11'N., 124°05'E.), are the two Caubyan Islets lying up to about 8 miles N of Corte Point; Danajon Islet, about 6.8 miles N of Tugas Point, the NE extremity of Lapinin Island; and the three Tood Islets lying about 2.3 miles E of Danajon Islet.

The Caubyan Islets are small, low, and partly wooded; Danajon Islet is very small; the Tood Islets are small, sandy, and

have some low vegetation on them. There are some trees and houses on Danajon Islet. There are some huts on the southernmost of the Tood Islets.

Danajon Bank can be approached from either E or W, or through several breaks in the outer reefs. The greater part of these outer reefs bare at LW; because of the coral sand they are usually easily seen under favorable conditions.

On Danajon Bank, within these reefs, there are a number of low, wooded islands and islets as well as numerous detached reefs, some of which dry. Between them are many intricate and tortuous channels which should not be attempted without local knowledge.

The shoals and reefs on the bank are not indicated by a change in color of the water, and in the most favorable light show as brown patches which can scarcely be distinguished from cloud shadows.

This is attributed to the presence of silt in the water and the absence of coral sand.

6.148 Jinutangan Island (10°14'N., 124°29'E.), Nunu Island, Malingui Island, and Gindacpan Island have coconut groves of various sizes; scattered coconut palms stand on the other islands. Most of the outer islands have sandy beaches while those close to Bohol are usually fringed by mangrove.

Calituban Reef, with its E extremity located about 1 mile NE of **Calituban Island** (10°15'N., 124°18'E.), extends about 13.5 miles WSW. It is similar to the outer reef on the N side of Danajon Bank and roughly parallel to it. It shows up well because of the coral sand and is steep-to, the 10m curve lying close-off its edges and deepening abruptly beyond it.

Between Calituban Island and Banacon Island are long sand banks, bare at LW, on which stand many fishing huts on piles.

Caution.—The area bounded roughly by Talaban Island, Nunu Island, Maumaun Island, Macaina Island, and the E ends of Jau Island and Saae Island should be considered dangerous and navigable only by small craft using caution.

There are depths for fairly large vessels in the narrow channels, but reefs, discolored water, and strong currents render the area unsafe for navigation with exception of the channel W of Malingui Island and Maumaun Island S of Sagasay Island. Foul ground, on which lie drying reef patches, extends about 2 miles SE from Nunu Island.

Strong variable currents make the greater part of Danajon Bank unsafe for other than very small vessels.

6.149 Danajon Bank can be approached through Basiao Channel which separates Lapinin Island from Bohol; the channel N of Lapinin Island; Northeast Pass, a break in the outer reef; Middle Pass, a smaller but similar break in the outer reef; and **Northwest Pass** (10°10'N., 124°04'E.), between the reefs fringing Pandanon Islet and Cabulan Islet.

A narrow entrance channel, with a depth of 4.6m, is situated about 1.3 miles NW of Northeast Pass. The channel is of little importance and it use is not recommended.

Talibon (10°09'N., 124°20'E.), about 12 miles WNW of the W entrance to Basiao Channel, has a stone landing for small boats. The church in the town is large and prominent and the roof of the public market shows well coming from the N.

There is bus connection with other towns on Bohol. There are postal and telegraph facilities at Talibon. A light is shown at Talibon.

The harbor at **Jetafe** (10°09'N., 124°09'E.) is sheltered and has depths of 7 to 20m, mud. The stone causeway is T-shaped and about 293m long and 9.1m wide. The old landing to the W is in ruins.

Anchorage can be taken, in 20.1m, offshore of the stone causeway NE of the town.

Middle Pass (10°18'N., 124°15'E.) is a narrow channel about 274m wide with a least reported depth of 5.8m.

Unless familiar with the channel, it should not be attempted when the reefs do not show well. The deeper water will be found on the W side of the channel; spits extend a short distance from the W reef at the inner and outer ends of the pass.

Bohol—East Coast

6.150 The E coast of Bohol, between Basiao Channel and the village of Cogling, about 3 miles S, is mostly fringed by mangrove except in the vicinity of the village where it is rocky. There are a number of small patches, with depths of 3 to 9m, off this section of coast.

Kabulao Bay (9°56'N., 124°33'E.), lying between Huagdon Point and Kabulao Point, nearly 4 miles S, is encumbered with reefs, as are its approaches. Its shores are fringed by mangrove.

Kabulao Point (9°55'N., 124°34'E.), separating Kabulao Bay from Cogtong Bay, is a bold, wooded promontory rising to a height of 145m about 0.3 mile inland. Its seaward side is clear and steep-to, but its N and S sides are fringed with reefs which gradually widen toward the inner side of the bays.

Cogtong Bay (9°51'N., 124°32'E.), lying between Kabulao Point and Lamanoc Point, 6.5 miles SSE, is nearly blocked by Lumislis Islet, Tabangdio Islet, Calangaman Islet, and Catiil Islet. These islets are all low, mangrove covered, and connected with the shore by reefs which bare at LW.

Lamanoc Point (9°48'N., 124°36'E.) consists of low rocky cliffs and forms a very prominent coastal projection. Three rocky islets lie close offshore on the narrow reef fringing the point.

Between Lamanoc Point and Agio Point, about 2.8 miles S, the coast recedes W forming a bight blocked by coastal reef on which is a scattered growth of mangrove.

Leyte—South Coast

6.151 Off the S end of Limasawa Island, the flood current sets NW and the ebb current sets SE, sometimes attaining great velocity. During the Southwest Monsoon, heavy swells are prevalent off the S coast of Leyte.

Green Point (10°09'N., 124°45'E.), the SW extremity of Leyte, was previously described in paragraph 6.143.

Between Green Point and the town of Maasin, about 5 miles ESE, is a broad coastal reef extending offshore more than 0.25 mile in places. Behind this reef the shore is bordered by mangrove.

From the town of Looc, 1.5 miles SE of Green Point, to Maasin, the mangrove fringed coast is backed by a narrowing coastal plain which rises into lightly-timbered hills.

Near Looc, a low rock spur projects into the sea from the face of a steep cliff.

About 1 mile farther SE is the mouth of the mangrove-lined

Looc River.

6.152 Maasin (10°08'N., 124°50'E.) (World Port Index No. 58740) is located on a small plain in back of which is a semicircle of hills, the highest being 170m and standing about 1 mile NE of the town. Sharp Peak, 366m high, is prominent in a trio of hills more than 2 miles NNE of Maasin. The town is protected by a seawall from which a wide coral reef extends about 366m S.

East of the reef are two concrete piers, each 100m long, with a depth of 5.8m at their outer end and shoaling gradually to 2.1m at the inshore pile clusters.

Vessels using the pier should take care to avoid a submerged wreck lying about 15m eastward of the seaward end. The pier is exposed to winds from E to SE and is usable only during the Northeast Monsoon.

Maasin

Steering for the light on a bearing of 328° leads to the pier, or to the anchorage, in 9 to 11m, SE of the town.

Small craft can anchor closer in, off the NE part of the reef, in 5 to 7m, sticky bottom. The church at Maasin is prominent.

East of Maasin, the coastal section extends through sparse coconut plantations to San Roque, with hills in the back country. Amparo Point, 4.5 miles SE of Maasin, is covered with coconut trees.

Between San Joaquin, 5.5 miles SE of Maasin, and Macrohon, 1.5 miles farther SE, there is a stretch of flat sandy beach, about 1.5 miles long, paralleled by a coastal road practically on the beach.

There is a narrow cobblestone beach at Macrohon; post office and telegraph facilities are located in the town.

Taancan Point (10°00'N., 125°01'E.), located about 9 miles SE of Amparo Point, is a low rock formation underworn by the sea. It is fringed by a narrow steep-to reef, outside of which the depths increase rapidly, with 18.3m being found within 0.3 mile of the point.

Taancan Point is the S termination of a low, wooded peninsula about 1.5 miles long. The N part of the peninsula consists of mangrove swamp.

Limasawa Island (9°56'N., 125°04'E.), 3 miles S of Tancaan Point, from which it is separated by a clear, deep channel, is well-wooded. The island is fringed by a narrow, steep-to reef, but depths outside the reef are too great to afford good anchorage for large vessels. The W part of Limasawa Island is well populated and much of the land is planted to hemp and coconut trees.

An 8.5m coral reef, lying about 1.3 miles NNE of the S extremity of the island, is the only known detached danger. A light marks the N extremity of the island.

6.153 Sogod Bay (10°15'N., 125°00'E.) is entered between Tancaan Point, Leyte, and Ilijan Point on Panaon Island. The bay is free of dangers and usually calm, but offers no good anchorages with sufficient swinging room, except for the smallest class of vessels, because of the great depths.

Between Tancaan Point and the San Jose River, about 8.5 miles N, the beach is backed by a narrow strip of scattered palms behind which rise between 274 to 366m at a distance 1 mile inland.

Malitbog (10°10'N., 125°00'E.) is a small town on the W shore of Sogod Bay. A privately-owned pontoon pier, with a reported depth of 2.7m, is located at Malitbog. Wrecks are reported to lie along the N side of this pontoon pier.

The best anchorage. in 27m, hard sand, lies just N of this pier. A large white building is prominent from well offshore.

There are two additional piers further N of the above pontoon pier. The S pier has a depth of 6.4m at its head, and the N pier a depth of 3.3m at its head.

Southwest and NNW of Malitbog there are large coconut plantations. The coastal plain is up to 0.5 mile wide and 2.5 miles long.

The W boundary of the plain is another ridge of mountains. Mount Savejon, 288m high, is located 2 miles WNW of Malitbog. Broken hills behind the coast, 213 to 274m high, extend to the head of Sogod Bay.

Anchorage.—Anchorage can be taken, in 31m, sand and coral, in a bight about 9.5 miles N of Malitbog and close N of the village of Banday.

A bight immediately N of the village of Bontoc, nearly 3 miles N of Banday, offers refuge during periods of typhoon weather to coasting vessels.

A stone causeway, about 24m long, extends off Bontoc.

6.154 Sogod (10°23'N., 124°59'E.), a town at the head of Sogod Bay, is located on a flat coastal plain about 2 miles in extent. The Pandan River empties through the E part of the area, entering the bay by a delta having five mouths. Rice paddies and coconut plantations occupy the river flats in this vicinity. The town of Consolacion is situated about 1 mile E of Sogod.

Both Sogod and Consolacion have considerable trade and are regular ports of call for coastal vessels. The pier at Sogod has a depth of 4.2m off its seaward end. Anchorage can be taken, in 64m, mud, about 0.3 mile off the end of the pier.

The terrain on the E side of Sogod Bay, as far as Panaon Strait, consists of a central mountain range forming the backbone of the peninsula.

Mount Bitanhuan, 6 miles ESE of Sogod, and Mount Gascat, 411m high at the S end of the range, are prominent peaks. There are no extensive coastal plains.

Libagon (10°18'N., 125°03'E.), a town on the E shore of Sogod Bay, about 5.75 miles SSE of Consolacion, is a regular port of call for coasting vessels.

6.155 Panaon Island (10°05'N., 125°10'E.) is divided throughout its length by a mountainous ridge which rises to

Mount Baganting, near the N end of the island, and terminates with Mount Nelangcapan, which forms the S end of the island. The W coast of the island is open to the Southwest Monsoon.

With the exception of Liloan Bay, there are no good anchorages; coasting vessels call off the larger towns.

Panaon Strait (10°10'N., 125°08'E.) has a width of about 82m in the narrowest part where the depth near the middle is about 11m, but is constricted by a bank extending about 55m from the S shore and having a depth of 5.5m at its outer edge.

Tidal currents in the strait run at a rate of 3 to 4 knots at springs. There are strong eddies and whirlpools at either entrance.

Caution.—A bridge, with a vertical clearance of 13.7m, crosses the strait. The bridge is prominent from seaward.

The E entrance of the strait is somewhat encumbered by shoals, with a least depth of 2.7m at a position about in midchannel, 0.25 mile E of the narrows.

Coasting steamers using the strait usually pass S of this 2.7m spot and favor the Panaon Island side to avoid the stronger current and whirlpools on the Leyte side.

A sunken wreck, reported to be marked by a small drum, lies in the middle of the E part of the strait about 0.1 mile E of the narrows.

A detached rocky patch lies in the W approach to the strait in a position slightly more then 0.3 mile W of the N extremity of Panaon Island.

Vessels should pass S of this patch to avoid the foul ground between it and the coast of Leyte.

6.156 Liloan Bay (10°10'N., 125°07'E.) lies close SW of the W entrance of Panaon Strait.

A light is shown from a concrete column on the extremity of the W entrance point of Liloan Bay.

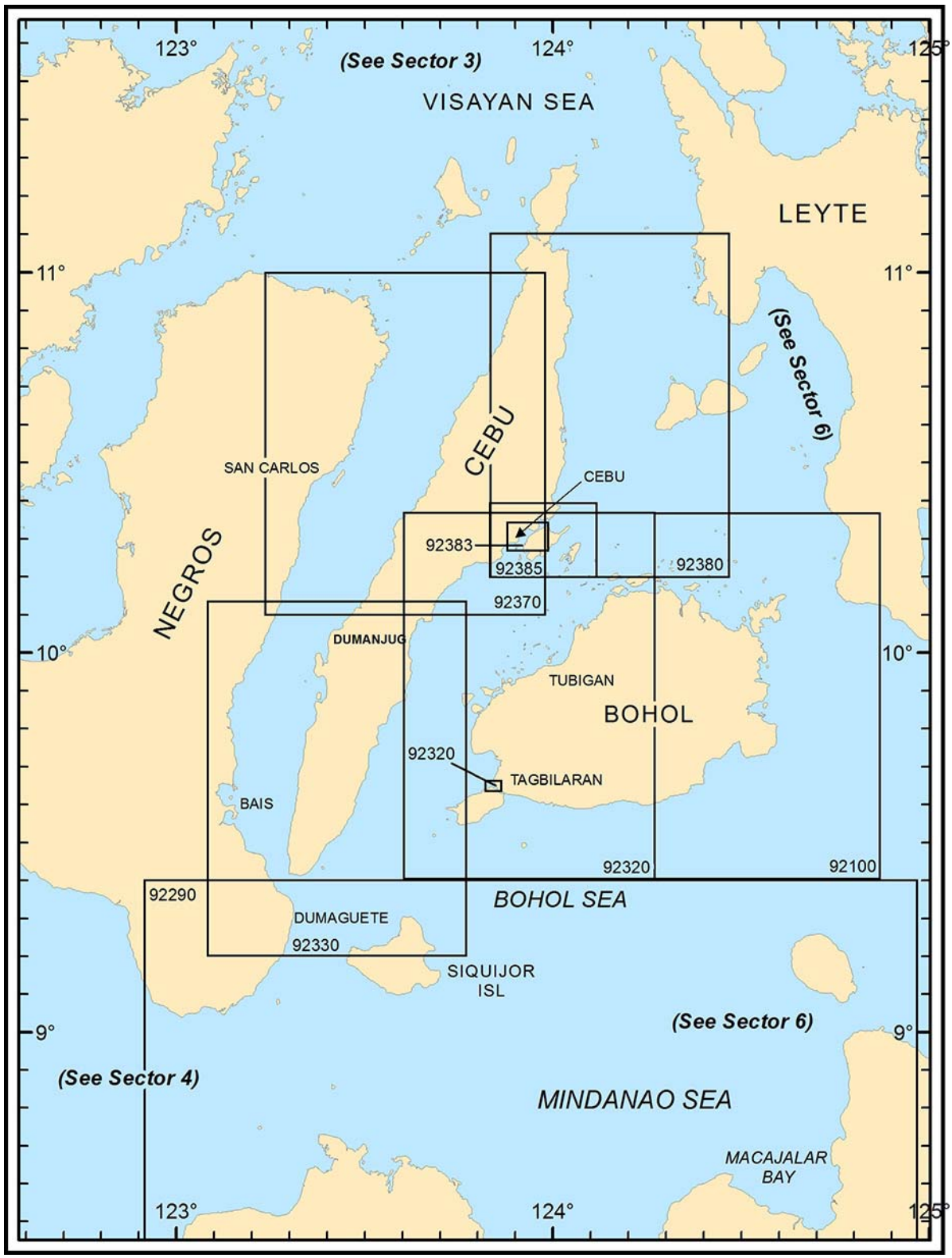
A reef extends about 91m N and NE from the W entrance of the bay, and the head of the bay is fringed by reefs extending more than 137m offshore.

Liloan (10°10'N., 125°07'E.), a small town on the SW shore of Liloan Bay, is easy of access.

There is a pier with a reported depth of 4.3m off its outer end.

Anchorage can be taken by small vessels, in 12.8m, sand and coral, about 0.1 mile NE of the pier.

Liloan Point, the W entrance point of the bay, can be rounded at a distance of about 0.1 mile; then haul S for the anchorage.



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

SECTOR **7** — CHART INFORMATION

SECTOR 7

TANON STRAIT, BOHOL STRAIT, AND BOHOL—SOUTH COAST

Plan.—This sector includes Tanon Strait, described from N to S, and Bohol Strait, also described from N to S.

The islands in the N entrance to Tanon Strait are also described. The S coast of Bohol is described W to E.

General Remarks

7.1 Tanon Strait (9°50'N., 123°15'E.), between Cebu Island and Negros Island, is about 100 miles in length and has a width of about 20 miles at the N entrance and 3 miles at the S. It is deep and clear of dangers in the fairway. On the Cebu side there are no off lying dangers except Tajao Reef. On the Negros side there are a few detached reefs, none of which lies more than 2 miles offshore. There are no harbors suitable for large vessels on either side of the strait.

Bohol Strait (10°00'N., 123°45'E.) is the passage between the W side of Bohol and the island of Cebu. It connects the Camotes Sea with the Bohol Sea (Mindanao Sea). The strait is wide and deep through its length.

The SE coast of Cebu, between **Bagacay Point** (10°23'N., 124°01'E.) and Tanon Point, trends SW for about 72 miles.

A Cebu coastal plain, which reaches a maximum width of 4 miles, lies about 5.8 miles SW of Bagacay Point. It extends as far S as Talisay, 14 miles SW of Bagacay Point. The city of Cebu, which lies on this coastal plain, is the second largest city in the Philippines.

Behind the coastal plain, the land rises rapidly inland for a distance of about 7 miles. Farther S, the coastal plain varies in width with mountains rising steeply from 1 to 3 miles inland.

The W coast of Cebu, being steep-to, can be approached almost anywhere by large vessels to within 0.5 mile to 1 mile of the coast.

Unprotected anchorages, in depths of 92m or less, can be found along this coast at a distance of about 0.3 mile from the shore reefs.

Bohol, lying SE of Cebu, is mostly mountainous or hilly throughout. The coastal plain is usually narrow, being about 1 mile wide on the W side. On the SW coast hills rise rather abruptly from the plain, and a fairly extensive lowland area is centered around Tagbilaran, the principal town on the island.

The small islands adjoining Bohol are low and the majority of them are flat. Panglao Island, close off the SW coast, is the largest. Siquijor Island, lying about 17 miles SSW of Panglao Island, is mostly mountainous and hilly country.

Negros is the fourth largest island of the Philippine Islands. It is located W of Cebu Island. The coasts of Negros are little indented and contain no harbors suitable for large vessels. The rivers can only be used by small craft.

Winds—Weather.—The general climate of the Philippines is, for the most part, governed by three main air currents: the Northeast Trade Wind, the Northeast Monsoon, and the Southwest Monsoon. Squalls are somewhat prevalent during the Southwest Monsoon, particularly near the land. During such squalls the wind gust may reach gale force. These squalls are often associated with thunderstorms. Strong and squally SW winds called Collas sometimes blow for several days in summer and early autumn. This phenomenon is generally associated with typhoons centered some distance to the N and accompanied by rain.

The land and sea breeze effect is well marked in coastal waters, particularly when and where the prevailing monsoon is weak. Topography may modify the prevailing winds.

The climate in the area covered by this sector is normally warm and humid. Maximum temperatures occur in April, May, and June with December, January, and February being the months of minimum temperatures.

Comparatively high values of relative humidity are observed, with minimum values generally occurring around March and April. In this area the seasonal variation of humidity on the whole follows that of rainfall, highest values occurring from September to January.

Eastern Negros has no pronounced maximum rain period, and has a short dry season lasting from 1 to 3 months. Central and S Cebu have practically the same prevailing conditions. During the short dry season, days with rain generally average between 4 to 10 a month, while 15 to 20 a month may be expected during summer and autumn.

Northern Cebu has no dry season and no pronounced rain period. In general, the average number of days with rain is not less than 10 in the spring and exceeds 15 from June to December.

Torrential rains of short duration occur at times in spring and summer during thunderstorms.

From October or November to April, the Northeast Monsoon is usually fresh from N and blows straight down the axis of Tanon Strait. It is seldom troublesome in the strait S of Pasil Point.

At the end of May, the winds of the Southwest Monsoon begin to blow. They become established in a month and terminate in October. They bring rain squalls and storms which occur principally in July, August, and September.

During July and August, squalls and SW winds of the outer zones of typhoons affect the area. During these months there are frequently periods of clear weather with S and SE breezes. In September and October fine weather prevails.

The S end of Tanon Strait is protected from the Southwest Monsoon by mountains, and it is only when the wind is strong that it is felt in the strait.

It is always stronger at the N end and like the Northeast Monsoon, it blows along the axis of the strait. Usually a quiet sea prevails in the S half of Tanon Strait.

The Northeast Trade Wind predominates during March and April, and often during February and May as well. It is of moderate strength and is the driest of all the winds affecting this area.

In general, wind velocities are very moderate, reaching 30 knots or more only during thunder squalls, or when associated with tropical storms.

Typhoons occasionally pass N of Negros and Cebu, moving in a NW direction. These islands are not frequently visited by typhoons, as only about 7 per cent of the more serious disturbances of this nature which affect the Archipelago, occur in the zone 8°N to 11°N in which Negros and Cebu are located.

In October and November an occasional typhoon will cross the islands in a general W direction, but this may not occur in several years.

During the Northeast Monsoon, the sea rises along the N coastline of Negros and surf is found along the beaches of the island from the N half of Tanon Strait to Tomonton Point.

Surf is seldom experienced at the S end of the strait, and is generally very light along the coastline on the Cebu side.

Tides—Currents.—Currents in the vicinity of Negros and Cebu are largely tidal. In the Samar Sea the flood current generally sets to the SW, among and around the islands, and enters the E part of the Visayan Sea and Tanon Strait.

In the Bohol Sea (Mindanao Sea), a branch of the flood tidal current from Surigao Strait strikes the SE coast of Negros off Dumaguete and divides into two arms, one of which enters Tanon Strait with great force.

The tidal currents run at a considerable rate through the whole width of the strait, but decrease rapidly in strength as the strait widens.

In the S part they attain a rate of 5 or 6 knots, with strong races and eddies. At neaps, the rate is 2 to 3 knots.

In the Bohol Sea (Mindanao Sea) the current produced by the tidal wave which enters Surigao Strait divides into two branches after passing between Panglao Island and Siquijor Island.

One branch flows NE through Bohol Strait, the other flows W striking the SE coast of Negros at Dumaguete and again divides into two branches, one of which turns S between Negros coast and Siquijor Island.

Off Bonbonon Point, it meets the flood from around the S end of Negros and both are diverted SE towards Mindanao; the other branch enters Tanon Strait. During the ebb the directions of flow are reversed. Combined with the tidal stream in Bohol Strait, there appears to be a non-tidal flow S which continues past the S end of the strait toward the S end of Negros.

In the NW part of Bohol Island, the Inabanga River has a large volume of flow and a moderately strong current.

There are swift and variable currents in the channel through the reefs that lead to Tubigon.

Off the S coast of Bohol, the flood current set W and the ebb E. In addition, there is a non-tidal flow with an estimated velocity of 1 to 2 knots. Cervera Shoal is usually marked by tide rips.

Caution.—It was reported (1994) that unlit fishing vessels up to 20m long, and which were almost invisible on radar, were observed in the S part of Tanon Strait.

Tanon Strait—North Approach

7.2 **Guintacan Island** (11°20'N., 123°53'E.) lies about 6.25 miles WNW of Bantigui Point, the NW extremity of Cebu. It is bordered on all sides by rocky cliffs ranging from 30m high at the N end, to 12m at the S end and is steep-to. The top of the island is a level grassy plateau covered with low trees and bushes. Several villages are situated on the island. There is poor anchorage, in a depth of 29m, about 0.4 mile off the villages of Pasil on the SE coast and off Langob on the SW coast. A submarine pipeline passes just N of Guintacan Island between Bantigu Pt. and Dumulog and can best be seen on the chart.

Four buoys lie about 3.5 miles NW of the N extremity of Guintacan Island.

Bantayan Island (11°13'N., 123°44'E.), the largest and northernmost of the island group lying in the N approach to Tanon Strait, is located about 8 miles W of the N part of Cebu. A hill, 90m high, is located on the N end. The remainder of the island is flat with a gradual slope toward the S end.

A light is shown on **Buntay Point** (11°18'N., 123°44'E.), the N point of the island.

The E coast of the island, from Buntay Point to Booc Point, is generally low with small bluffs at several places.

A concrete column, 9.8m high, stands on Booc Point. The town of Madridejos lies just S of Buntay Point.

Santa Fe (11°09'N., 123°48'E.), a town on the S shore of Booc Point, is the terminus of ferry service to Hagnaya on the island of Cebu. A concrete pier, with a reported depth of 2.7m along its face, lies about 1 mile N of the town. The villages of San Agustin, Silion, and Ocoy are situated on the E coast. The village of Pook (Maricaban) is situated on the S coast.

7.3 **Bantayan** (11°10'N., 123°43'E.), the largest town on the island, is located on the SW coast. It cannot be approached closer than 1 mile and then only by small craft. Prominent objects are the red church with a detached bell tower and white municipal building. There is a radio station at Bantayan.

Bantayan Light stands about 1 mile N of the town. Perla Reef, which dries, lies 2 miles W of the light.

Silion and Jilantangan are small islands lying about 1.5 miles off the E side of Bantayan Island. They are fringed by narrow reefs. There is a deep channel between the two islands and also between them and Bantayan Island. Silion Island, the N and smaller island is 6m high and flat.

Jilantangan is 43m high at the N end and slopes to the S end where there is a village. There is good anchorage between these islands and Bantayan Island, which affords protection from the Southwest Monsoon.

Doha Shoal (11°15'N., 123°51'E.), a small coral patch with a depth of 3.7m, lies midway between Jilantangan and Guintacan Island.

A reef, with a depth of 3.4m, lies about 5 miles N of Bantayon Island.

Tanguingui Island (11°29'N., 123°43'E.), which shows a light, lies 11 miles N of Buntay Point. See paragraph 3.36 for more details.

7.4 The **Don Islands** (11°05'N., 123°39'E.), a group of five islands, lie on drying reefs extending about 10 miles SW from the SW extremity of Bantayan Island. These consist of Botiquis Island, Doong Island, Lipayran Island, Mambacayao Island, and Yao Island.

Between the Don Islands and Bantayan Island are a number of small islands and islets, the largest of which are Panitugan Island, Maamboc Island, Silagon Island, Sagasa Island, and Botong Island. There are no navigable channels between them.

Yao Island (11°02'N., 123°35'E.), the SW island of the Don Islands, is small and heavily wooded with large trees. It is clear

of dangers and can be rounded at a distance of 0.25 mile. A 9.1m patch lies 1 mile WSW of the island.

The channel between Yao Island and Mambacayao Island is 0.25 mile wide and deep in the middle. A 2.7m coral shoal lies about 3 miles SE of Yao Island. The island is prominent when passing N of Negros and W of Bantayan Island.

The channel between Yao Island and Molocaboc Island, 4 miles SSW, is deep in the fairway.

Doong Reef (11°08'N., 123°34'E.), a sand and coral formation that dries 0.8m, lies 8 miles W of the SW end of Bantayan Island.

Lutungan Island, about 4.5 miles WSW of the town of Bantayan, lies on a reef extending from the SW port of Bantayan Island.

The channel between Doong Reef and the reef extending W from Lutungan Island is about 1 mile wide with a depth of 18m in the middle. A 5.8m rocky patch lies in the N approach to this channel.

Asuncion Pass (10°56'N., 123°33'E.) lies between Molocaboc Island and Sagay Point, on Negros, about 2.8 miles SW. It is deep in the fairway and is 1 mile wide between drying reefs on either side. A lighted buoy is moored about 0.8 mile WSW of Molocaboc Island.

Negros—East Coast—Sagay Point to Refugio Island

7.5 **Sagay Point** (10°56'N., 123°30'E.) to Vito Point, about 2.5 miles, has an intervening coast that is overgrown with mangrove covering the fringing reef for a distance of 0.5 mile N and over 1 mile E. A small village stands on a small area of firm ground on the E side of the point.

Mount Solitario (10°49'N., 123°28'E.), located 8 miles S of Sagay Point, is a prominent conical-shaped wooded peak about 341m high. It is easily identified from the N and E of Negros.

Pamaaun Reef (10°55'N., 123°34'E.), which dries and is about 0.3 mile in length, lies on the SE side of Asuncion Pass about 2.5 miles E of Vito Point. About 0.8 mile SE of Pamaaun Reef is a rocky patch. A 7m channel lies to the N of this patch and a 7.4m channel lies S of it.

Bagunbanua Island (10°52'N., 123°34'E.), about 3 miles SE of Vito Point, lies on the SW angle of a large triangular reef which dries. It is small and covered with bushes. The reef extends over 0.75 mile N and the same distance E.

Between Bagunbanua Island and the coastal reef is a channel with depths of 10m in the fairway. Rocky patches, with a depth of 2.7 to 5.5m, lie close W of the channel.

A detached drying reef lies 0.5 mile SE of Bagunbanua Island and between them is a narrow pass with depth of 2.7m. Between the detached reef and Panalsalon Reef, about 0.5 mile SW, is a channel with a depth of 20.1m.

Panalsalon Reef (10°51'N., 123°34'E.) partly dries at LW. Large boulders, awash at HW, lie in the center of the drying area. Between Panalsalon Reef and the coastal reef of Negros, there is a channel with a depth 11m.

From Vito Point, the coast trends SSE about 4 miles and then ENE about 2 miles to Mocaboc Point, forming Escalante Bay. The bay is bordered by wide coral reefs, bare at LW, and faced by Bagunbanua Island and detached reefs.

Escalante (10°50'N., 123°33'E.) is a town on the W side of Mocaboc Point. Because of the coastal reef N of the town, vessels seldom anchor in the bay but enter the Danao River S of Mocaboc Point, or anchor outside N of the bar, in 3.6 to 4.5m.

Large vessels anchor off the river entrance, in 15m, mud. This latter anchorage is open with no protection from the Northeast Monsoon.

Escalante

7.6 **Mocaboc Point** (10°51'N., 123°34'E.) is 12m high and formed of yellow clay and rock. It is bordered by a coastal reef extending nearly 0.3 mile N from it.

The **Danao River** (10°49'N., 123°34'E.), which discharges between Mocaboc Point and Ocre Point, 3 miles S, has a least depth of 3.7m on its bar, deepening within to 18 to 22m. The channel across the bar is narrow and tortuous, and vessels should proceed cautiously. The river is about 0.3 mile wide at its mouth, but soon narrows to 0.1 mile and varies in width from 91 to 137m for a distance of 4 miles; the banks are steep-to.

On the N bank of the river, about 0.5 mile inside the bar, are two small wharves with a depth of 2.7m alongside. A light is shown from a structure between the wharves.

Mount Solitario, about 5 miles W of the wharves, is a useful landmark for making the mouth of the Danao River.

There is good protected anchorage for small vessels inside the bar. The anchorage area off the wharves is only about 91m wide and there is considerable difficulty in turning, especially with an ebb current.

Vessels loading sugar from the Danao River wharves usually anchor about 1.5 miles off the river mouth, in about 15.2m.

7.7 **Ocre Point** (10°48'N., 123°34'E.), about 1.3 miles S of the mouth of the Danao River, is about 15.2m high and formed of yellow clay and rock.

From Ocre Point to Paulino Point, about 16 miles SSW, the coast is fringed by a narrow steep-to coral reef, with no detached dangers lying more than 0.75 mile offshore.

The **Salamanca River** (10°45'N., 123°32'E.) discharges about 3 miles SSW of Ocre Point. The village of Salamanca, with a small pier, stands here. Arcolon Point lies about 1.5 miles S of Salamanca, and Lemery Point is 5.5 miles farther S.

A vessel approached an anchorage off Salamanca on course 310° and anchored when Ocre Point bare 018° and Arcolon Point 225°. This anchorage had a depth of 40m.

Calatrava (10°36'N., 123°29'E.), a small town, is situated on the S side of the mouth of the Calatrava River, about 3 miles N of Paulino Point. It can be recognized by a group of white buildings with red roofs standing near the beach. The buildings

are visible from seaward.

There is anchorage, in 22m off the S side of the point on which the town stands, with the point bearing 013°, distant about 0.4 mile. Numerous submarine pipelines extend offshore between the mouth of the Patonan River S to Paulino Pt. and can best be seen on the chart.

Between Paulino Point and Pinabuntan Point, about 1.5 miles S, there is a coastal indentation, the head of which is filled by a mangrove swamp which extends up to 0.5 mile inland.

Ticlin Island (10°32'N., 123°28'E.), covered with mangroves and fringed by a drying reef, lies about 0.4 mile S of Paulino Point. Ticlin Reef, which partly dries, lies 0.75 mile SSE of Ticlin Island. A shifting sand cay, which dries 0.9m, lies on the S part of Ticlin Reef.

There is anchorage, in 15.2m, for vessels with local knowledge, about 0.3 to 0.4 mile SW of Ticlin Island. A more sheltered anchorage for small vessels in 11m, mud is in a basin about 0.3 mile in extent about 0.15 mile NW of Ticlin Island, with the SW point of the island in range, bearing 155° with the sand cay on Ticlin Reef.

Two channels lead to this latter anchorage, the N one being the better. In rounding the N end of the reef bordering Ticlin Island, the depth decreases from 27m outside to 9.1m in the basin just before the anchorage on the aforementioned range. The S passage is narrow and has a depth of 3.7m in mid-channel; it should be marked unless the light is favorable.

Talabe Point (10°30'N., 123°27'E.), about 1.5 miles SW of Pinabuntan Point, is low, flat, and covered with mangrove and coconut trees. A conspicuous white monument stands about 0.3 mile NNE of the point, while a prominent tank lies 0.75 mile NNE of the point.

The coastal reef, part of which bares at LW, extends nearly 0.6 mile E and about 0.3 0.25 mile SE from Talabe Point. The Talabe River discharges close N of the point. A reef, with a depth of 4.3m and steep-to, lies about 0.7 mile SE of Talabe Point; it is the outer danger on the W side of the N approach to Refugio Pass.

7.8 **Refugio Island** (10°27'N., 123°26'E.) is nearly flat, the highest point of elevation is about 15.2m. It is completely surrounded by a reef that partly dries and extends about 0.5 mile NE and about 1.3 miles SW from it. The reef on the W side is fairly narrow and steep-to and that on the E side extends up to 0.6 mile from the central part of the island.

A buoy marks the edge of the reef, 0.5 mile NNE of the island, and a buoy is moored off the reef, 1 mile SW of the island. There are two piers, suitable only for boats, on the NW coast of the island. A light is shown on the NE side of the island. It was reportedly periodically obscured by foliage. A submarine pipeline extends from Refugio Island to San Carlos and can best be seen on the chart.

Ermita Rock (10°26'N., 123°26'E.), composed of coral heads, with a depth of 2.4m, lies about 1 mile SE of the S extremity of Refugio Island. There is a deep channel between the rock and the reef fringing the island.

Refugio Pass (10°28'N., 123°24'E.) separates Refugio Island from the E coast of Negros, and has a least navigable width of 1 mile abeam San Carlos Point. The W side of the pass is mostly fringed with mangrove and is bordered by a narrow steep-to reef.

San Carlos Point (10°29'N., 123°25'E.), a low sandy point about 2 miles SW of Talabe Point.

7.9 **San Carlos** (10°29'N., 123°25'E.) (World Port Index No. 59070) is located on the W side of Refugio Pass. The town is nearly obscured by trees and only a few houses are visible.

Depths—Limitations.—The port is accessed from the N via Refugio Pass. Vessels may load/discharge alongside or at anchor, via lighters, in depths of up to 18.3m. Cargo handled includes molasses, sugar, and general cargo.

A government pier, 46m long and 9.1m wide, is situated at the end of a rock causeway on San Carlos Point. At this pierhead the controlling depth is 7.5m, but depths decrease rapidly along the sides of the causeway.

The ruins of a wooden pier, visible only at LW, lie about 91m W of the government pier. A submarine cable extends ENE from San Carlos and N of Refugio Island and can best be seen on the chart.

A T-headed pier, owned by the sugar mill with a berthing face 16m in length, projects 0.25 mile SE from the shore, 0.5 mile NE of San Carlos Point. The depth at the head of the pier was reported as 7.9m. Three mooring buoys are laid on each side of the pierhead. The pier is equipped with an automatic conveyor for loading sugar. A launch runs mooring lines.

A heavy swell may be experienced alongside these piers during the Northeast Monsoon (October to March).

Aspect.—The twin spires of the church and the metal chimney of the sugar mill are prominent. Two water tanks, 24m high, are located 0.75 mile N of San Carlos Point. A radio tower, 49m high, stands 0.5 mile W of the point.

Pilotage.—Pilotage is available. A radio is not available. Pilots for San Carlos can be obtained at Dumaguete.

Anchorage.—There is anchorage, in 9 to 15m, mud, about 0.2 to 0.3 mile S of San Carlos Point. Large vessels can anchor off the end of the sugar pier, in about 15m.

Directions.—When approaching Refugio Pass from N and when about 3 miles NE of Refugio Light, steer for the sugar mill chimney, bearing 265°. When about 0.4 mile of the buoy marking the N edge of the N of Refugio Island, alter course for the piers or anchorages.

The E side of San Carlos Point should be given a berth of about a 0.5 mile to avoid the flat, with depths of less than 3.7m, which extends 0.25 mile from the point.

Negros—East Coast—Refugio Pass to Guihulngan

7.10 The entrance to the **Mainit River** (10°26'N., 123°22'E.) is located 3.75 miles SW of San Carlos Point. There are no prominent features between this entrance and Guihulngan, 20.5 miles SSW; the hills approach close to the coast. The rivers are small and cannot be navigated.

This part of the island Negros is well populated and there are numerous villages scattered along the coast.

There is anchorage for vessels with local knowledge off **De La Vina Hacienda** (10°21'N., 123°20'E.), about 6 miles SSW of the mouth of the Mainit River. This anchorage is well protected during the Southwest Monsoon (May to September), and also from S and SE winds by a detached coral reef which lies parallel with the coast and dries in two places.

San Carlos

A vessel approaching this anchorage should steer for the prominent iron roofed dwelling on a bearing of 226° and anchor, in a depth of 9m, when the mouth of the small steam on the N side of the hacienda bears 271°. A small, detached 3.7m patch lies off the N entrance about 0.2 mile offshore, and vessels should pass about 137m SE.

7.11 **Vallehermoso** (10°20'N., 123°20'E.), a town about 1.5 miles S of De La Vina Hacienda, has a sand flat, with depths of 5.5m along its outer edge, extending about 0.1 mile from the shore E of the town.

Immediately outside this flat the depths increase abruptly to 18m, mud, where anchorage can be taken with the large and prominent convent near the coast bearing 271°. Vallehermoso is an occasional port of call for coastal vessels.

Jilaitan Point (10°15'N., 123°19'E.) is located 5.5 miles S of Vallehermoso. A small reef, with three coral heads, awash, lies 0.6 mile ESE of Jilaitan Point. Between this reef and the coastal reef is a deep channel about 0.1 mile wide. This is the only off-lying danger in the vicinity.

Guihulngan (10°07'N., 123°16'E.) is a small town situated about 7.8 miles SSW of Jilaitan Point. The mouth of a large river located N of the town is closed by a bar. A light is shown from a white concrete beacon, 11m high, standing on the beach at Guihulngan.

Depths off the town increase gradually to 7.4m about 0.4 mile offshore, then deepen abruptly to 22m, and to over 90m at a distance of little more than 0.5 mile.

A pier, about 0.8 mile SSW of the town, is reported to have a depth of 1.5m off its seaward end. There is anchorage, in 22 to 27m, mud, with Guihulngan Church bearing 290°.

Negros—East Coast—Guihulngan to Calongcalong Point

7.12 The **La Libertad River** (10°02'N., 123°14'E.) discharges about 6 miles SSW of Guihulngan and although appearing large, is completely blocked by steep-to drying reefs. Small craft enter the river at HW.

Pasil Point (10°00'N., 123°14'E.) is low, flat, and well cultivated. A white beacon situated on Pasil Point. The Magingin River, small and of no navigational value, empties through Pasil Point.

Jimalalud (9°59'N., 123°12'E.), a small town about 2.5 miles SSW of Pasil Point, can be identified by a red-roofed convent. There is anchorage, in 27m, mud, E of the convent and about 0.1 mile offshore.

Tayasan Point (9°55'N., 123°10'E.) about 5.8 miles SW of Pasil Point, is steep-to, low, flat, and well-cultivated. The town of Tayasan is located on the S side of Tayasan Point.

The Tibiauan River empties close W of the town. There is anchorage, in 40m, mud, in the elbow of the coast about 0.8 mile WSW of Tayasan Point. The anchorage is fairly protected during either monsoon.

Calagcalag Bay (9°50'N., 123°09'E.), about 6 miles SSW of Tayasan Point, is formed by drying reefs. There is good shelter for small vessels with local knowledge during either monsoon. The bay is divided into two sections.

The outer part has an anchorage about 0.3 mile in width. The inner part is entered between two mangrove covered points and is mostly fringed by drying reefs. A well-defined channel, about 137m wide at its entrance, leads to the inner anchorage.

This channel is clear of dangers and has a mud bottom, shoaling gradually from 27m at the entrance, to 5.5m about 91m from a causeway which crosses its head. The village of Calagcalag is situated close S of the S entrance point of the bay.

There are no navigational aids for use in entering Calagcalag Bay. The outer anchorage can be approached on a 270° course, keeping about 0.1 mile S of the reef forming the N side of the entrance and anchoring, in 27 to 37m, off the entrance to the inner part.

Tinaogan Reef (9°48'N., 123°09'E.), consisting of a circular formation of detached coral heads, lies off the coast about 2 miles SE of the N entrance point of Calagcalag Bay.

The area enclosed by reefs is about 1 mile in diameter and has depths of 20 to 33m. About 1.5 miles offshore, part of the E edge of the reef dries. The reef is steep-to on all sides, and soundings give no warning of its proximity.

Manjuyod Point, in range bearing 190° with Diutay Islet in Bais Bay 5.25 miles southward, leads E of the reef when coming from the N.

The village of **Tinaogan** (9°47'N., 123°09'E.) is located close SW of the reef.

7.13 Manjuyod Point (9°42'N., 123°10'E.), 5.5 miles S of Tinaogan Reef, is bold with rocky bluffs from 6 to 30m high for 1 mile on each side of it. The town of Manjuyod is situated about midway between Manjuyod Point and Campoyo Point, 4 miles S. The Manjuyod River empties S of the town.

Campoyo Point (9°38'N., 123°09'E.) is a narrow strip of land with a few trees. Drying reefs extend 1 mile E and 2 miles SSE from it.

North Bais Bay and South Bais Bay, lie between Campoyo Point and Canamay Point, about 5.5 miles S. The shores of both bays are low, fringed by mangroves, and are backed by a large cultivated area.

There is good anchorage in both bays for vessels of moderate size having local knowledge, but the area of extensive reefs make them difficult to enter, especially in bad weather. The entrances are between drying reefs.

Daco Island (9°35'N., 123°09'E.), 167m high near its N end, lies about 2.5 miles S of Campoyo Point and separates North Bais Bay from South Bais Bay. The S end of the island is low and covered with mangroves. There is a narrow boat channel, with a depth of 1.8m at HW, between the island and mainland.

Reefs, which partly dry, extend up to 1.5 miles from the E side of Daco Island and form the S side of the channel into North Bais Bay.

North Bais Bay (9°38'N., 123°08'E.) is obstructed by reefs, between which are narrow tortuous channels leading to good anchorages, but due to the absence of navigational aids it is impractical to use them without the benefit of local knowledge. There are good depths in the channels and the reefs are visible at LW.

The entrance to the bay lies between the reef extending SSE from Campoyo Point and that extending from the E side of Daco Island. It is deep and about 0.2 mile wide in the fairway. It has been reported that the beacons have been replaced by buoys which mark both sides of the entrance.

Diutay Islet (9°37'N., 123°09'E.), 63m high and cultivated, lies on an extensive drying reef in the center of the bay.

7.14 Bais (9°35'N., 123°07'E.) (World Port Index No. 59080), an important sugar exporting port, is situated on the SW shore of North Bais Bay. About 1 mile NNE of the town is a wooden pier, with a depth of 4m off its face.

Depths—Limitations.—It lies at the head of a long, tortuous channel between the reefs, and from it the ruins of a stone and earth embankment, about 1 mile long, extends over the mud flats to the main road which passes through Bais.

Another pier, with a depth of about 4.6m off its face, extends nearly about 0.3 mile N from Daco Island and is connected with Bais by a good road. This pier is partly destroyed.

A channel leading to the pier from the entrance of the bay is marked by beacons and are reported numbered from seaward.

Anchorage.—Well-protected anchorage, in depths of 15 to 17m, can be obtained between the pier and the entrance.

Directions.—The beacons in North Bais Bay are numbered. Beacon No. 1 and Beacon No. 3 on the port side; Beacon No. 2, Beacon No. 4, and Beacon No. 6 on the starboard side. Approach the bay on a course of 270° to pass 0.1 mile S of Beacon No. 2.

When abeam of Beacon No. 2, haul NW and steer for Beacon No. 4. Round Beacon No. 3 at a distance of about 0.1 mile and steer SW with Beacon No. 6 slightly open on the starboard bow.

When abeam Beacon No. 6 steer for the head of the pier, having regard for the shoal area E of it.

Caution.—It has been reported that Beacon No.1 and Beacon No. 2 have been replaced by buoys.

7.15 South Bais Bay (9°34'N., 123°08'E.), entered between Canamay Point and Banlas Point, the SE extremity of Daco Island, is generally shallow throughout. The best depths are found in the entrance. The maximum draft permitted is 7m.

Canamay Point, low and covered by mangrove, is fringed by a drying reef extending about 0.3 mile NNE.

A shoal, with a depth of 14.6m, was reported to lie about 0.6 mile ENE of Canamay Point.

A detached reef, that partly dries, lies about 0.3 mile SW of Arboles Point, the SW extremity of Daco Island.

There are some rocks lying on the SW end of the reef and are usually visible.

There is a channel about 73m wide, with a depth of 11m, between this reef and that fringing Arboles Point; it is generally marked by stakes.

Another channel, having a width of about 0.2 mile and a depth 11m, leads S and W of the aforementioned detached reef. On the W side of this channel is a small rocky patch with a depth of 1.2m.

A T-shaped concrete pier, about 69m long, extends about 0.6 mile N from the S shore of South Bais Bay. A light is shown from the head of the pier. The seaward end of the pier, lying about 0.6 mile NW of Canamay Point, had a least alongside depth of 7.9m and a width of 10.1m.

Four mooring buoys are laid within 0.1 mile of the face of the pier, two to seaward and two inshore of it. Three aluminum painted tanks stand on the pier about 0.1 mile S of the head; they are visible well offshore.

There is a small stone pier and prominent concrete building with a nipa roof on Guindung Point in the NW part of South Bais Bay.

Pilotage.—Pilotage is compulsory. Pilots for Bais Bay can be obtained in Dumaguete.

Anchorage.—There is anchorage, in 16.5m, off the S end of Daco Island with Arboles Point bearing 306° and Banlas Point bearing 058°. The inner anchorage is described below with the directions for entering South Bais Bay.

Directions.—Enter South Bais Bay on a course of 270° to pass about 0.3 mile S of Daco Island. If bound for the sugar pier, head for it when Arboles Point is abeam.

Vessels proceeding to the inner anchorage continue to steer 270° until the pier on Guindung Point bears 352° and head for it on that bearing, anchoring, in 5.8m, when Arboles Point bears 091°, or farther N if the draft permits.

7.16 Amblan Point (9°28'N., 123°14'E.), lying about 6.5 miles SE of Canamay Point, is low, sandy, and steep-to, it is covered with coconut trees. A light is shown on Amblan Point.

The town of Ayuquitan is situated close W of the point and is prominent from seaward. There is anchorage, in 18m, sand, off

the town.

Two mooring buoys are laid close SE of the point. A steep-to coral reefs extends up to 0.5 mile offshore in places between the two points.

Between Amblan Point and Calongcalong Point, about 9 miles SSE, the coast of Negros is bordered by steep-to sandy beaches having little reef and being generally clear of dangers.

From SSE of Amblan Point, for a distance of 3 miles, 30m hills rise close to the coast; then to Calongcalong Point the land is low and covered with coconut trees, with an occasional rocky bluff.

There are a number of villages along this coast off which anchorage can be taken in good weather, but usually close in because of the great depths. A radio tower, marked by two vertical obstruction lights, stands about 1.5 miles NW of Calongcalong Point.

Tampi (9°26'N., 123°14'E.), a village lying about 1.5 miles SSE of Amblan Point, has a pier with a depth of 3.7m alongside. Two mooring buoys lie off the pier.

A conspicuous church tower is situated about 0.8 mile SE of the mouth of the Ocoy River.

Calongcalong Point (9°20'N., 123°18'E.), is low, sandy, and fringed by a narrow steep-to reef. Two small sand cays lie on the edge of the reef 91m NE of the point.

Cebu—West Coast—Tapilon Point to Balamban Point

7.17 Tapilon Point (11°17'N., 124°01'E.), the NE point of Cebu, is rocky. The village of Tapilon is situated on the beach about 0.3 mile E of the point.

Between Tapilon Point and Bulalaqui Point, about 2.25 mile E, the coast of Cebu is low and fringed by a narrow reef. Three patches of 9.1m or less lie as far as 1 mile offshore between these points.

Anchorage can be taken, in 12.8m, sand, about 0.5 mile N of the village.

Bantigui Point (11°16'N., 124°00'E.), lying 1.75 miles WSW of Tapilon Point, is the NW extremity of Cebu. The point is low, sandy, and bordered by a reef that extends 0.5 mile offshore.

Daabantayan (11°15'N., 124°00'E.), a small town, is situated at the mouth of the Dalingding River, about 1.3 miles S of Bantigui Point. There is a prominent church in town. There is anchorage in good weather, in depths of 16 to 18m, mud, 0.5 mile W of Daabantayan.

7.18 Cauit Point (11°11'N., 123°57'E.), 5.5 miles SW of Daabantayan, is low, flat, covered with coconut trees, and bordered by a narrow strip of steep-to reef. East of the point the land rises gradually inland. There is a prominent church near the point.

Jibitnil Island (11°11'N., 123°55'E.) lies 1.5 miles W of Cauit Point. It is 33m high, table-topped, and wooded. A deep channel lies between the island and Cauit Point.

Hagnaya Bay (11°07'N., 123°57'E.) is entered between Tajad Point, located 2 miles S of Cauit Point, and **Sabil Point** (11°06'N., 123°56'E.), 3 miles farther S. A light is shown on the edge of the reef extending S from Tajad Point at the N entrance to Hagnaya Bay. The greater part of the bay E of a line joining the entrance points is encumbered with reefs and shoals.

The shores of the bay are generally fringed with mangroves. Several streams discharge into the bay. Twin stacks and a water tank on the E side are good landmarks.

Sabil Point is low, with a few coconut trees and bushes growing on it. The point is bordered by a reef extending about 0.5 mile N and 0.25 mile W from it. A beacon stands on the reef about 0.2 mile N of the point.

A narrow tortuous channel beginning about 0.5 mile NE of Sabil Point leads to the town of **Medellin** (11°08'N., 123°59'E.), at the mouth of the Dagosungan River in the NE part of the bay. Only vessels with local knowledge should use this channel. The land in this vicinity is flat with no distinctive features.

A light is shown on a small pier inside the mouth of the **Loya River** (11°07'N., 123°58'E.), 1.5 miles NE of Sabil Point. There is anchorage for small vessels, in 14.7m, about 0.8 mile NNE of Sabil Point.

Vessels proceeding to the anchorage can approach the bay with the light on the N side of the entrance in range, bearing 100° with the aforementioned water tank.

Large vessels can anchor, in about 29m, just S of this range and about 0.5 mile W of the light. This anchorage is protected from the Northeast Monsoon but is open to the Southwest Monsoon.

Daijagon Canal (11°04'N., 123°58'E.), connecting Hagnaya Bay with Bogo Bay on the E coast of Cebu, is approximately 4 miles long and dries about 1 mile near midway of its length. Both sides are bordered by mangrove swamps. The canal can be used only by small boats at HW.

Between Sabil Point and the town of **San Remigio** (11°05'N., 123°56'E.), about 1.5 miles S, a number of rocky islets, 1.8 to 3m high, lie on a coastal reef at a distance of 91 to 137m from the shore. There is a prominent white church at San Remigio which is partially obscured from seaward by coconut trees.

There is anchorage for small vessels, in 27.4m, with the church bearing 091° and the outer of the two rocky islets on the reef, northward, in range with Sabil Point. There is barely swinging room to clear the reef at this anchorage.

7.19 Mangcao Point (11°02'N., 123°54'E.) is located about 5 miles SSW of Sabil Point. The extremity of the point consists of low cliffs rising gradually to **Guintorijan Hill** (11°03'N., 123°56'E.), 82m high, located 2.25 miles ENE of the point. The point can be safely passed at a distance of 0.5 mile.

Bangtad Point is 2 miles SE of Mangcao Point, where the fringing coastal reef is 0.75 mile wide. There is good anchorage for small vessels with local knowledge off the mouth of the Lambusan River, which discharges E of Bangtad Point, between the reef extending S from that point and the reef fringing the coast S of it, in a depth of 11m, mud. Good protection exists except from SW winds.

Between Bangtad Point and Bagasaue Point, 16 miles SSW, the coast is bordered by a steep-to reef extending not more than 0.75 mile offshore.

Casimon Point (10°53'N., 123°53'E.), about 8 miles SSW of Bangtad Point, is formed of dark rock. It is bordered by a reef,

which mostly dries, extending about 0.3 mile offshore. On this reef is a wooded islet and several rocks.

The **Batauang River** (10°50'N., 123°52'E.), the largest in the vicinity, empties about 2.5 miles S of Casimon Point.

Its mouth is formed by a small bay indenting the rocky coast and having a depth of 3.7m, but too small to be of any value to shipping.

The village of Tabuelan, which shows a light, is located about 0.5 mile S of the entrance to the Batauang River.

Tuburan Bay (10°44'N., 123°49'E.) is entered between Bagasave Point and Languyon Point, nearly 2.5 miles SW. Bagasaue Point is low and bordered by drying reef extending about 0.3 mile offshore.

Languyon Point is low, wooded, and steep-to. Fringing reefs, some of which bare at LW, and other detached patches are found in the bay.

The town of **Tuburan** (10°44'N., 123°49'E.) is on the SW shore of the bay, close W of the mouth of a small river of the same name. A church and convent are good landmarks. Small craft can enter the river at HW. The pier at Tuburan is in ruins.

Anchorage can be taken, in 9.1m, mud, by steering for the bell tower of the church on a bearing of 142° and anchoring when Languyon Point bears 229°. This course leads about 0.1 mile NE of a 4.7m patch lying 0.75 mile NW of the church. Small craft may anchor farther in. On the S reef there is a prominent limestone boulder, bare at LW, which forms an excellent mark.

7.20 From Languyon Point to Macalbang Point, about 6.8 miles SW, the intervening coast is bordered by a narrow reef. Macalbang Point is low and sandy.

Asturias Point (10°34'N., 123°43'E.), 4.5 miles further SW is low, and the fringing reef extends 0.25 mile N from the point. The town of Asturias is close ENE of the point.

There is a prominent church in the town. There is a landing at Langob village, 0.5 mile ENE of Asturias.

Two concrete stumps, the remains of beacons, mark the entrance to the channel between the reefs. Small vessels can enter midway between these markers and steer for Langob, bearing 113°.

The bight between Asturias Point and Uag Point, nearly 1.5 miles SSW, is a shoal area, with depths of 3.6m, extending 0.5 mile from a line drawn between the points.

Balamban Point (10°31'N., 123°42'E.), about 2 miles S of Uag Point, is low and wooded with trees. It terminates in a sandy spit that dries and has several dangerous rocky patches lying outside it. The outer patch, with a depth of 3m, lies about 0.5 mile SW of the point.

Balamban Bay (10°30'N., 123°43'E.), lies between Balamban Point and Mambocayan Point, about 1.5 miles S. Although this bay indents the coast only a little more than 0.5 mile, added protection is afforded vessels at anchor during the Northeast Monsoon (October to March) by the sandspit and reefs extending from Balamban Point. On the S side of the bay a coral reef, with depths of 0.3 to 5.5m, extends 1 mile NNW from Mambocayan Point.

Balamban (10°30'N., 123°42'E.) is a small town on the N shore of the bay. There is a large prominent church and convent. A light is shown on the beach in front of the town. A stone mole, privately maintained, is situated about 0.1 mile S of the light.

Vessels bound into Balamban Bay should steer for the light, or the seaward gable of the church, on a bearing of 083° and anchor, in 16.5m, mud, less than 0.5 mile from the light. Caution is necessary as this bearing leads only 0.1 mile from the dangers on either side.

Depths—Limitations.—A medium-sized ship-building and ship-repair facility is located here. The facility consists of two slipways, two floating docks, and a building dock 450m in length, with reported depths of 11.5m depths.

Cebu—West Coast—Balamban Point to Copton Point

7.21 Between Mambocayan Point, about 1.5 miles SE of Balamban, and **Tajao Point** (10°19'N., 123°35'E.), about 12.5 miles further SW, the coastal reef is narrow and there are no dangers more than 0.5 mile offshore. Tajao Point is low and steep-to.

Daanglungsod Point (10°24'N., 123°39'E.) lies 6.5 miles SW of Mambocayan Point.

7.22 **Sangi** (10°24'N., 123°38'E.) (World Port Index No. 59015) is a small port about 0.5 mile S of Daanglungsod Point, and should not be confused with Toledo, located about 1 mile S of Sangi.

Depths—Limitations.—There are three piers with reported depths alongside at LW as follows:

No. 1 Pier is for general and bulk cargo. Facilities are available for the handling of liquid cargo. The pier length is 70m, with a draft of 3.6m.

No. 2 Pier is an Island berth with a loading conveyor for copper silicates. The pier length is 15m, with a draft of 9.2m.

No. 3 Pier has a bulk discharge conveyor system for coal. Facilities are available for the discharge of liquids. The pier length is 70m, with a 15.2m draft.

Lights are shown from No. 1 Pier and No. 2 Pier. The piers are exposed to the Southwest Monsoon (May to September).

Diesel fuel oil is available at the pier heads. Fuel oil is reported to be available by road tanker.

Aspect.—At a distance of 5 miles offshore several gray buildings, three oil tanks, and four tall aluminum chimneys about 0.5 mile inland may be seen at Sangi. At night, lights from the buildings can be seen afar.

Pilotage.—Pilotage is not compulsory, but is advisable on the first visit. The pilot will board off the piers upon 4 hours notice. Berthing can take place at any time, weather permitting. A pilot may also be obtained at Cebu City.

Directions.—It is advisable to use an anchor to assist berthing. In the Northeast Monsoon (October to March), especially on the falling tide, the piers should be approached from S.

In the Southwest Monsoon (May to September), especially on the rising tide, the piers should be approached from N; as the land provides no lee, berthing can be hazardous under these conditions. Vessels should be prepared to leave the berth on the first sign of bad weather.

7.23 **Toledo** (10°23'N., 123°38'E.) is the largest town on the W coast of Cebu, and is located about 1.5 miles SSW of

Balamban Shipyard

Toledo Harbor—Toledo Power Company Wharf

Daanglungsod Point.

A pier, 122m long with a depth of 4.6m at its head, is located at Toledo. The pier was reported in poor repair, but is still in use.

Twin church spires, about 25m high, and a large fertilizer plant close to the root of the pier, are prominent.

The recommended anchorage off Toledo is in a position with Toledo Church bearing 125° and Luok Point, situated 3 miles SW of Toledo, bearing 228°. This anchorage has a depth of 33m and is about 0.4 mile off the beach.

Tajao Reef (10°18'N., 123°34'E.), which dries, extends about 1.8 miles SW of Tajao Point. A shifting sand cay covers a small part of the reef; the outer edge of the reef is steep-to. There is a channel with a depth of 11m, and a width of about 0.3 mile at its narrowest part, between Tajao Reef and the reef fringing the shore.

There is anchorage where a break occurs in the reef off the town of **Pinamungajan** (10°16'N., 123°35'E.), about 3 miles S of Tajao Point.

Vessels anchor, in 33m, mud, about 0.3 mile offshore, with the white gable end of a church, with two towers on a slight rise, bearing 078°.

By anchoring nearer the S side of the bight, off a small indentation in the reef, fairly good shelter will be found during the Southwest Monsoon (May to September). The ruins of a wooden pier stands in front of the town.

Aloguinsan (10°14'N., 123°33'E.) is a small town situated at the mouth of the Aloguinsan River, about 3.5 miles SW of Pinamungajan.

Gorda Point (10°11'N., 123°31'E.), about 3 miles SW of Aloguinsan, rises to a flat topped hill 197m high, about 1 mile SW of the point.

7.24 Japitan Point (10°08'N., 123°29'E.), about 3.5 miles SW of Gorda Point, is the N entrance point of Barili Bay. It is high, rocky, and has vertical cliffs. A steep-to reef extends about 0.1 mile from Japitan Point.

Barili Bay (10°07'N., 123°29'E.) is entered between Japitan Point and Tayong Point, about 0.6 mile SSW. The bay can be recognized from the N by a conspicuous white landslide on its S side; a drying reef fringes this side of the bay.

The head of the bay is filled with an extensive growth of

mangrove, outside of which are partly drying mud flats extending about 0.3 mile seaward.

A canal, used by small boats at HW, leads through the mangrove and coastal swamp for about 1 mile to the town of **Barili** (10°07'N., 123°31'E.). The town is not visible from offshore.

Guibuangan (10°07'N., 123°30'E.), a village on the S shore of the bay, has a large white house that is a good landmark.

Tayong Point (10°07'N., 123°29'E.) is a rocky, vertical cliff about 18.3m high, which rises to a 211m hill about 1 mile SE of the point. The point is fringed by a partly drying reef which extends about 0.15 mile N from it. A prominent round rock, about 1.8m high, lies on the reef in a position about 137m from the point.

Small vessels can anchor, in 35m, mud. Vessels entering Barili Bay can steer for the aforementioned white house on a bearing of 144° and anchor when the prominent rock on the reef off Tayong Point bears 266°.

7.25 Tangil Point (10°05'N., 123°27'E.), low and covered with mangroves, is located about 3.5 miles SW of Tayong Point.

Dumanjug Bay (10°04'N., 123°26'E.) is entered between Tangil Point and Dumanjug Point, 1.5 miles SW.

The Dumanjug River empties between the reef fringing the head of the bay.

Mud flats, with depths of 2.8 to 5.5m, extend beyond the drying reef for a distance of 0.3 mile offshore. Close outside this flat the depths increase abruptly to 24m or more.

7.26 Dumanjug (10°04'N., 123°26'E.), one of the largest towns on the W coast of Cebu, has a large conspicuous church. Because of the reef fronting the town, there is no pier in Dumanjug. Most of the commerce for the area is handled through the village of Tangil, about 1 mile NNE, across a conspicuous steel bridge.

A stone mole, laid across the reef in front of Tangil, has a wooden landing with a depth of 2.5m off its face. It is used as an inter-island ferry landing. A rock, awash at LW, lies about 36m from the NW end of the landing. A light is shown on the beach at Tangil.

Vessels entering Dumanjug Bay can anchor almost anywhere according to draft, but the anchorage should be approached slowly as the depths decrease rapidly. Small vessels can steer for the light on a bearing of 095° and anchor, in 14.6m, mud, about 137m WNW of the landing at Tangil.

Good anchorage for large vessels is in 37m, with the steel bridge bearing 110° and the church at Dumanjug bearing 197°. The best landing for boats is on the beach at the mouth of the Dumanjug River, nearly 0.25 mile E of the church.

From Dumanjug Point, the coast trends SSW for about 2.5 miles to a point near the village of Santa Cruz.

Kambuang Hill (10°02'N., 123°24'E.), a well-defined ridge with a flat top 102m high, lying close NE of the village, is a good landmark.

Libao Hill (10°00'N., 123°24'E.), about 1.8 miles farther S, is 145m high. It is a conspicuous landmark and can be seen a long distance. Care must be taken not to mistake it for Pescador Island.

Copton Bay (9°59'N., 123°25'E.) lies between the Copton Peninsula and the mainland of Cebu. The bay is almost entirely blocked by mud flats and drying reefs. There is a narrow channel, with a depth of 0.4m, which leads through the bay as far as the village of Alcantara on the E side. Off the seaward edge of the reef, at the entrance to this channel, the depths increase abruptly to 46m.

Ronda (10°00'N., 123°26'E.) is a village on the NE side of Copton Bay. The ruins of a stone mole extend almost to the edge of the reef fronting the village. Beyond the reef the depths increase too rapidly to afford anchorage.

Cebu—West Coast—Copton Point to Liloan Point

7.27 Copton Point (10°00'N., 123°23'E.) is a rocky bluff, about 4.5m high, underworn by the sea. It is fringed by a narrow steep-to reef on which are four detached peculiarly-shaped rocks, 3 to 4.5m high, lying 20 to 45m offshore.

The **Copton Peninsula** (9°58'N., 123°23'E.), low, flat, and covered with coconut trees and brush, is connected to the mainland by an isthmus about 0.5 mile wide and 6 to 15m high.

The W side of the peninsula is steep-to with a sandy beach. Tongo Point, the S part of the peninsula, is low, covered with trees, and terminates in a rocky bluff about 6m high.

Badian Bay (9°55'N., 123°23'E.), lying between Tongo Point and Badian Point about 4 miles S, is bordered by a steep-to reef that extends offshore nearly 0.5 mile in places.

Moalboal (9°56'N., 123°24'E.), a small town at the NE part of Badian Bay, is situated about 1 mile E of Tongo Point. A church, convent, and bell tower, close together in town are prominent as they show up white.

A stone mole, more than 0.25 mile long extending over the reef in front of the town, in ruins, is used only by small boats. There is anchorage, in 15 to 37m, mud, protected during the Northeast Monsoon off the mole head.

Badian Island (9°53'N., 123°22'E.), 108m high and cultivated, lies less than 0.5 mile N of Badian Point, to which it is connected by a drying reef.

The greater part of the area between the island and the mainland is blocked by drying reefs. At HW there is a small boat channel over these reefs to the town of Badian, in the SE part of the bay. A church and bell tower are poor landmarks from offshore.

There is protected anchorage during the Southwest Monsoon, in 18 to 37m, mud, E of the N end of the island and about 1.3 miles NW of the town.

7.28 Pescador Island (9°55'N., 123°21'E.), 9.1m high and steep-to, lies off the entrance to Badian Bay and is small, flat, and rocky. A light is shown from the island.

Between Badian Point and Liloan Point, the SW extremity of Cebu, there are no bays or prominent points.

The coast is bold with hills of moderate elevation rising close inland. Anchorage is limited by the considerable depths close offshore. A number of small towns and villages are scattered along the shores.

Malabuyoc Point (9°39'N., 123°19'E.) is located 13.5 miles S of Badian Point. Culasi Point, 10.5 miles S of Malabuyoc Point, is low, rather craggy, and white; thence to Liloan Point, the coast is sandy and very steep.

San Sebastian (9°28'N., 123°18'E.) is situated about 3 miles N of Liloan Point.

There is an L-shaped pier with a reported controlling depth of 6.1m alongside.

Liloan Point (9°25'N., 123°18'E.) forms the N entrance to the S end of Tanon Strait. It is the terminus of a spur from the main range of hills, and can be recognized by an old white fort standing on its W side. The point is about 15.2m high and sparsely wooded.

Negros—South Coast

7.29 The S coast of Negros between Calongcalong Point (9°20'N., 123°18'E.) and Siaton Point, about 25 miles SW, is clear and steep-to.

Apo Island lies about 4 miles ESE of **Zamboanguita Point** (9°06'N., 123°12'E.). Cuernos de Negros are three very prominent peaks about 9 miles SW of Calongcalong Point. The highest peak is conical in shape and 1,903m high.

Dumaguete is the principal city in the area. There are several small and villages along the coast. Port Bonbonon offers the best anchorage along this coastal section. Siquijor Island lies about 10.5 miles SE of Dumaguete.

7.30 **Dumaguete** (9°18'N., 123°18'E.) (World Port Index No. 59090) is the capital and largest town of Oriental Negros, being the commercial center of SE Negros.

The offshore approach to the city is easy with no hazards, except that caution should be used in coming from the N to avoid rounding the N entrance point too closely in making for the piers. The open harbor has no protection other than the mountains to the W.

Winds—Weather.—The winds are generally light and variable, but during the Northeast Monsoon they can become strong enough to interfere with shipping. During the year there are three to four typhoons which come close enough to make it hazardous for ships at the pier.

Depths—Limitations.—No. 1 Pier, the N and main reconstructed pier, is 126.5m long on its S face and 12m wide. Vessels normally berth on the S side. Depths alongside have been reported to be from 5.7 to 9.4m. It was reported that there was a depth of 12.2m alongside the S side at the seaward end of the pier. Vessels up to 8,600 tons can be handled. The N face of the pier has depths of 5.5 to 9.1m alongside; depths are maintained by dredging.

No. 2 Pier, Y-shaped, is situated 91m off the root of No. 1 Pier. The outer NE section, 60m in length, has a charted depth of 7.3m at its head, but shoals rapidly towards the shore.

No. 3 Pier, 162m long, lies 91m S of No.2 Pier, with a draft alongside of 6m.

Vessels up to 20,000 dwt, with a 12m draft, can be accommodated at the Bacong Ammonia Tanker Terminal. of which the length of the pier head is 40m. Wooden fenders fore and aft exist 40m from the pier head.

It has been reported that the maximum dimensions accepted are a length of 101m and a draft of 6m.

Aspect.—A light is shown from the root of No.1 Pier. A light is also shown from a radio tower about 0.2 mile SW of No. 1 Pier, but was recently reported extinguished.

A church stands close N of Dumaguete Point, while a radio tower stands 1.5 miles S of the point.

Pilotage.—Pilotage is compulsory in the district embracing the waters of the ports and harbors of Dumaguete, Bais Bay, San Carlos, and the ports of Siquijor Island. It is available 24 hours. Pilot boarding can be taken 0.5 miles E of Dumaguete Light.

Contact Information.—The port can be contacted, as follows:

Dumaguete—Contact Information	
Pilotage	
Telephone	63-35-2250982
Facsimile	63-35-2250982
E-mail	dgte_harborpilots@yahoo.com.ph
Port Authority	
VHF	VHF channel 16
Telephone	63-35-2250973
	63-35-2250335
	63-35-4228913
Facsimile	63-35-4228914
E-mail	ppadumaguete@yahoo.com
Web site	http://www.dumaguete.com/dumaguete-seaport/

Anchorage.—The anchorage off Dumaguete is bad. The coastal bank is steep-to and the holding ground is poor. Vessels are liable to drag off into deep water.

It is open E and during the Northeast Monsoon (October to March) it is frequently unsafe to anchor or go alongside the main pier.

If anchoring, the best positions are SE of the light, in a depth of 27m, or N of the town, in about 45m.

Directions.—Vessels should approach the port with the light bearing 265°. An eddy has been reported 90m off the pier, producing a S set away from the main pier.

Vessels berth usually bow in at the S side of the main pier and generally moor without difficulty.

Caution.—There are no buoys marking the reefs in the vicinity.

7.31 From Dumaguete to Zamboanguita Point, a distance of about 14 miles SSW, the coast is clear of dangers and the depths are too great for anchorage. The coast is formed of coral sand, bordered by grass or coconut trees. The country for 0.5 mile inland rises gradually to the mountain range which dominates the SE part of Negros, and then is practically flat.

Bacong (9°15'N., 123°18'E.), a small town with a large prominent church, stands about 3.5 miles S of Dumaguete. A 210m long timber and concrete pier, built to handle ammonium nitrate and nitric acid, extends E from the shore. Two mooring dolphins lie 20 to 60m from either side of the head of the pier. Vessels of 20,000 dwt, with a maximum draft of 12m, can use this pier. There is a conspicuous tank 200m inshore of the pier.

Pilotage is compulsory. Anchorage and Port of Entry is at

Dumaguete, which is described in paragraph 7.30.

7.32 Dauin Point (9°11'N., 123°16'E.), 4 miles SSW of Bacong, is sandy, flat, and covered with trees somewhat higher than those generally found in this vicinity. The town of Dauin stands close W of the point. A large stone church standing on a slight elevation and the ruins of two forts are good landmarks. The top of the church tower shows above the coconut trees which obscure the town.

Zamboanguita Point (9°06'N., 123°12'E.), flat and sandy, is located about 6.8 miles SSW of Dauin Point.

Shoal water extends 0.25 mile S from the point. Zamboanguita town, concealed by coconut trees, stands on the point.

Apo Island (9°05'N., 123°16'E.), 120m high, lies 4 miles E of Zamboanguita Point. Rocks, awash, extend 0.15 mile S from the island; the remainder of the coast is steep-to. The N end is a tableland sloping steeply on all sides; the S end is about 45m high, and in the middle the land is low and cultivated. A light is shown from the summit of the island.

There is a constant S current with a variable rate in the channel between Apo Island and the coast of Negros.

7.33 Port Siit (9°05'N., 123°09'E.) is situated about 3.5 miles SSW of Zamboanguita Point. It provides shelter for small vessels; the narrowest part of the channel is about 37m wide, with a least depth of 11m.

The best anchorage is near the head of the harbor, with depths of 13 to 15m, soft mud. Access is comparatively easy as the reefs on both sides of the entrance are plainly visible.

Bonbonon Point (9°03'N., 123°07'E.), about 1.8 miles SSW of Port Siit, is the end of a long ridge which trends N. A cliff, 12m high, extends around the point. The land rises steeply N of the point, and attains an elevation of over 60m at a distance of 0.5 mile inland.

Port Bonbonon (9°03'N., 123°07'E.), entered 0.75 mile NW of Bonbonon Point, is a small inlet which affords good protection for small craft at all times. The channel at the entrance is 46m wide at the narrowest part, and has a least depth of 5.5m.

The best anchorage in Port Bonbonon is in a depth of 9m, mud, off the mouth of the Talocoy River, which discharges into the NW side of the harbor.

Directions.—Port Bonbonon is comparatively easy access in daytime, as the reefs show plainly on both sides of the channel. The N side of the E entrance point is clear of dangers and fairly steep-to; it may be passed at a distance of 91m. After passing the point, keep towards the S shore as a small reef, generally marked by a fish trap, extends from the first point on the N side. From here the shores of the harbor to within 0.25 mile from the head are clear of dangers to within 91m, and steep-to.

Siaton Point (9°02'N., 123°01'E.), the S point of Negros, lies about 6.5 miles W of Bonbonon Point. The Siaton River discharges 1 mile NE of Siaton Point. Siaton town, which is not visible from seaward, stands 1 mile inland on the E bank of the river.

Siquijor Island

7.34 Siquijor Island (9°10'N., 123°35'E.), 10 miles E of the S part of Negros, is fringed by a narrow steep-to reef off which depths are generally too great to afford anchorage. The coasts are clear of dangers, except for the W end of the island, where the reef extends 1 mile offshore.

Mount Malabahoc (9°11'N., 123°35'E.), near the center of the island, is 628m high, and Mount Cudtingan, 3.75 NE of Mount Malabahoc, is 466m high.

Sandugan Point (9°18'N., 123°36'E.), the N extremity of the island is low, but rises gradually to a 165m hill about 1.5 miles SE of it.

Port Canoan (9°15'N., 123°35'E.), a narrow indentation in the coast, 3 miles SSW of Sandugan Point, is very small, but offers fair shelter for small craft in all weather. Mud flats at the head of the harbor and reefs on either side reduce the available anchorage space to 0.2 mile in length and 0.1 mile in width.

Both sides of the entrance are marked by low, yellow bluffs, and fringing reefs extend 0.1 mile from the N side and 91m from the S side.

Larena (9°15'N., 123°36'E.), the capital of the island, is located on a slight elevation on the S side of Port Canoan. The roof of the church is a good landmark from seaward.

An L-shaped concrete pier projects 50m from a bluff N of Larena. Depths of 8.2m off the NW corner shoal gradually to 4m at the E end.

No anchorage is recommended because of considerable shoaling at the head of the bay, which limits swinging room. Seas enter the harbor during heavy weather.

A dangerous wreck, whose position is doubtful, lies N of the fairway, about 0.3 mile NW of the front range structure.

Another dangerous wreck lies close off the face of the pier.

7.35 Siquijor (9°13'N., 123°31'E.), the largest town on the island, stands 5 miles WSW of Port Canoan. The metal roofs of a large church and other buildings, painted white, are prominent from seaward. Depths off the town are too great to afford safe anchorage.

Siquijor

Tonga Point (9°13'N., 123°28'E.) and Tambisan Point lie 3 miles W and 3.75 miles WSW, respectively, of Siquijor forming the W end of the island. They are fringed by a partly-drying reef which extends 1 mile offshore.

This reef shows well, and its edge is usually well defined by fish traps.

San Juan (9°09'N., 123°30'E.), a town with a prominent church, is situated about 3 miles SE of Tambisan Point.

Lazi Bay (9°06'N., 123°39'E.) is on the S side of the island,

about 9 miles ESE of San Juan. The E entrance point of the bay is the extremity of a prominent tableland over 120m high. Canaba Point, the W entrance point, lies 2.25 miles WSW.

7.36 Lazi (9°08'N., 123°38'E.) (World Port Index No. 59100), a town at the head of the bay, has a large prominent red roofed church and convent. Vessels berth along the W side of a concrete pier which is marked by a light. Depths at the pier are 2.4 to 3.7m. Depths alongside the E side are 2.4 to 3m.

There is anchorage in the bay, well-protected during the Northeast Monsoon. Vessels entering the bay steer for the church on a bearing of 317° and anchor, in 33 to 37m, mud and sand. Inshore of this position the depths decrease very rapidly.

Minalulan Point (9°09'N., 123°42'E.), the SE extremity of Siquijor Island, is moderately high, well wooded, and very prominent.

Maria Bay (9°11'N., 123°42'E.), entered between Minalulan Point and Daquit Point, 4.25 miles N, is free of dangers except for a reef which fringes its shore. The town of Maria, standing at the head of the bay, has a prominent church.

There is anchorage, in 37m, sand, just S of the river on the S side of town. This anchorage offers good protection during the Southwest Monsoon (May to September).

Daquit Point (9°13'N., 123°41'E.), on the N side of the entrance to Maria Bay, is formed by a 60m hill about 0.5 mile inland, sloping gradually toward the sea and terminating in low rock bluffs. An islet close to the point is connected by a reef.

Daquit Shoal (9°16'N., 123°41'E.), a coral reef with a depth of 2.7m and steep-to, lies 2.5 miles N of Daquit Point and 2 miles offshore. It is usually marked by discolored water.

Enrique Villanueva (9°17'N., 123°39'E.), a large town on the coast about 4.25 miles NNW of Daquit Point, has a prominent church. The shore in front of the town is fringed by a narrow steep-to reef.

Bohol Strait—West Side—Bagacay Point to Cebu

7.37 Bagacay Point (10°23'N., 124°01'E.), located about 54 miles S of the N extremity of Cebu Island, is low, rugged, and bordered by a bank extending 0.1 mile E from it. The point is about 7.6m high at the seaward end, rising gradually to about 30m about 0.5 mile inland.

Bagacay Point Light is shown from the point. The light was reported to be obscured by a large tank, and several buildings, when approaching from the NE. There is a small pier NE of the light.

Between Bagacay Point and Cansaga Bay, a fringing reef attains its greatest width of 0.5 mile about 2.8 miles SW of Bagacay Point.

Cansaga Bay (10°21'N., 123°58'E.) is large and shallow, with depths of 0.4m. It is bordered by drying mud flats; a number of rocks lie in the entrance.

Mactan Island (10°18'N., 123°58'E.) consists of an old coral reef, about 3m high. Its coast is fringed with mangroves and the remainder of the island consists of predominantly coconut trees. The southern side of the island largely consists of tourist resorts.

This densely-populated island is located a few miles from Cebu Island in the Philippines. The island is part of Cebu Province and it is divided into Lapu-Lapu City and the municipality of Cordova. The island is separated from Cebu by the Mactan Channel which is crossed by two bridges: the Marcelo Fernan Bridge and the Mactan-Mandaue Bridge. The island is home to some 430,000 people, making it the nation's most densely-populated island in the Philippines. The Mactan-Cebu International Airport, which shared its runway with Benito Ebuen Air Base, is located on the island.

Bagacay Point Light

Bantolinao Point (10°20'N., 123°59'E.), the NW extremity of the island, is located about 3.5 miles SW of Bagacay Point. A light is shown close N of the point on the reef extending N from the point. A dangerous wreck lies 1 mile NE of Bantolinao Point and can best be seen on the chart.

7.38 Magellan Bay (10°20'N., 124°01'E.), lying E of Bantolinao Point, is blocked by drying reefs extending from its head. Magellan's Monument stands near the shore at the head of the bay, 2 miles SE of Bantolinao Point.

Panguian Point (10°20'N., 124°03'E.), the NE extremity of Mactan Island, is clear and steep-to. An obstruction in a depth of 10m lies 1.25 miles W of the point. There are several villages on the SE side of the island.

The SW part of the island has a large reef extending about 2.5 miles to the SW. Part of the reef dries at LW.

Lauis Ledge (10°14'N., 123°54'E.), the SW part of the reef, is marked by a small coral islet. A light is shown from a prominent metal framework tower, with a concrete dwelling, located about 0.2 mile SW of Lauis Ledge.

Care must be taken not to mistake this light for Mactan Airport Beacon Light or Cebu Customs Beacon Light. This error has caused the grounding of several vessels.

Lauis Ledge Light, at the S entrance. is reported returned to service. The temporary light is mounted on a steel pole on top of the ruins of the old structure has been removed.

Several buoys mark the S edge of the reef SW of Mactan Island. These buoys are reported missing (2011).

Mactan Strait from N—Osmena Bridge (top) and Marcelo Fernan Bridge (bottom)

Courtesy of US Navy

Lauis Ledge Light

7.39 Hilutangan Channel (10°16'N., 124°00'E.), separating Mactan Island and Olango Island, is more than 1.75 miles wide, straight, deep, and free of obstructions.

Olango Island (10°16'N., 124°03'E.), 2.25 miles SE of Mactan Island, is about 12m high. There is heavy local water traffic during the daylight hours. Local watercraft, called Pump Boats, small motor boats and Personal Water Craft (PWC) are the primary traffic concerns. Scuba diving is prominent around the islands bordering the channel. There are two ferries that conduct runs across the channel between Mactan, Olango and Hilutangan Islands.

Mabini Point (10°17'N., 124°04'E.), the NE extremity, is clear and steep-to. The village of Mabini stands near the point. The W and E side of the island are fringed by reefs.

On the S side, a wide reef, bare at LW, extends 4.5 miles SW and surrounds Sulpa Island, Camungi Island, Panganan Island, Hilutangan Island, Caohagan Island, and Lassuan Island.

On Olango Island, half the E shore, the N shore, and most of the W shore consists of overhanging bluffs of coral. Most of the S shore is coral, sand, and mangrove.

The villages of Santa Rosa and Poo are on the W side of the island.

Olango Channel, between Olango Island and the far W reef of Danajon Bank, is about 1.8 miles wide in its narrowest parts, and deep and clear in mid-channel.

Mandaue (10°20'N., 123°56'E.), a town on the NW side of the channel leading to Cebu Harbor, has a prominent tower standing 0.1 mile N of the N root of the Mandaue-Opon Bridge. The bridge is described under Cebu in paragraph 7.40. A pier, used only by small boats, fronts the town.

Cebu

Cebu (10°18'N., 123°54'E.)

World Port Index No. 58960

7.40 Cebu City, the capital of Cebu Province, is the second largest city in the archipelago and is a port of entry.

Cebu Harbor, one of the finest in the Philippines, is formed by the strait between Cebu and Mactan Island and has safe anchorage with good holding ground. Entrance is generally made from the S end of the channel. A deep-water access channel has been recently dredged for the new International Port.

Weather—Weather.—At Cebu City, N and NNE winds averaging 7 to 10 knots prevail from around November to May. During the remaining months, S and SW winds 6 to 12 knots are experienced.

Average maximum wind velocities at Cebu City are somewhat less than 12 knots in February, March, and April, about 12 knots in January, May, June, and December, and reach 18 knots in June, July, and August.

During a 27-year period, wind velocity has averaged more than 31 knots for 1 hour on seven occasions. A velocity of 44 knots was once recorded. The wind dies down after sunset at Cebu City.

Storm warning signals are displaced both day and night from the tower of the Custom House.

There is no pronounced maximum rain period in this area. Torrential rain of short duration occurs at times in spring and summer months. Visibility is generally good, fog is rare.

Temperature is moderately high; the average yearly maximum is about 33°C while the minimum is about 28°C.

Relative humidity is generally high; the yearly mean is about 76 percent.

Tides—Currents.—The currents in the channel set NE during the rising tide and SW during the falling tide with an average velocity of 1 knot, at times 2 knots may be experienced. The time of slack water coincides closely with those of HW and LW at Cebu.

At HW stand there is usually a period of about 2 hours of variable currents, from 0.25 to 0.5 knot, swinging through S, and at LW stands there is a similar period with the currents swinging through N. Maximum velocities are usually midway between HW and LW.

During flood, there is a strong eddy off Fort San Pedro. It is most violent at spring tides, but practically disappears during neaps. This reverse current is reported to start about 1 hour 30 minutes after the beginning of the flood and is felt in the area alongside the marginal wharves and piers inside a line drawn from the angle of the marginal wharf off Fort San Pedro across the end of Pier 1.

During the ebb, the eddy is felt through an arc of about 035° from the marginal wharf and SW of the point of the above-mentioned marginal wharf.

An additional eddy current, reverse in direction, is experi-

enced at berths 1 and 2 immediately E of the jetty during the flood. The diurnal range of the tide in the vicinity of Fort San Pedro is about 1.5m.

Depths—Limitations.—The area NE of Pier No. 3 has been reclaimed, providing a quay 1,980m in length with charted depths of 0.6 to 6.4m alongside.

However, it is understood that the approach from the SW is dredged to 10.5m with 9.5m alongside. This quay serves as an extension to the domestic port and Cebu International Port container terminal at its NE end.

Vessels engaged in foreign trade must use Cebu International Port, which can accommodate vessels up to 172.5m in length and a draft of 9.14m.

It was reported that the area up to 300m off the International Port Berths was dredged to a depth of 8.5m only. An obstruction, consisting of piles showing above water, is reported to lie close off the NE corner of the container terminal.

It was reported that the NE part of the berth, for a distance of about 690m, has been extended 50m into the harbor. The depth alongside this section is reported to be 9.5m.

Numerous mooring buoys and a buoy marking a dangerous wreck inhibit berthing and unberthing at this berth.

Marginal Wharf Berth No. 7, Pier No.1, and Pier No. 2 are used for ocean-going vessels. Container and bulk cargoes can be handled. There is also container handling at Berth No.7 and Berth No. 8.

See table titled **Cebu Lengths and Depths** for more details.

It was reported that the concrete structures and mooring posts in Cebu Port area were in a poor state of repair.

Mandaue, close NE of Cebu City, has a draft limitation of 3.6m and is not used by vessels engaged in foreign trade.

Lapu-Lapu (Opon) (10°17'N., 124°00'E.) is situated on the W coast of Mactan. The principal oil companies in the Philippine Islands have installations here. These facilities are of the W coast of Mactan and are described from N to S.

Coming from N, the first wharf is the Philippine Refinery Company Wharf, with an 8.5m depth alongside, but in poor condition.

The Standard Vacuum Oil Company Wharf lies 0.75 mile SW of the Mandaue-Opon Bridge. There is a depth of 9.4m alongside.

Cebu Lengths and Depths

Berth	Length	Depth
Marginal Wharf		
Section A	816m	4.9-6.8m
Section B	262m	3.7-6.7m
Section C	494m	3.9-7.8m
Section D	1,265m	4.3-8.3m
Section E	690m	8.3m
Berth No. 7	193m	8.5m
Berth No. 8	258m	8.0m
Pier No. 1		
South side	125m	7.9m
North side	145m	7.6m
Pier No. 2		
South side	145m	7.3m
North side	155m	7.0m
Pier No. 3		
South side	150m	4.8m
North side	145m	4.2m

Mobil No. 1 Pier has a depth of 10.7m at a distance of 3m off it, shoaling to 8.5m at a distance of 70m SW of the SW dolphin. The maximum allowable draft is 7.6m.

Caltex Oil Company Compound Wharf has a depth of 7.6m at a distance of 6m off it, shoaling to 5.5m at a distance of 60m SW of the dolphin SW of the wharf. The maximum allowable draft is 7.6m. An L-head grain pier 61m long lies close SW of the Caltex Pier.

Continued expansion of the Rafael Ramos Naval Base (Naval Force Central) has increased capacity via reclamation South of Capt Veloso Pier. This expansion is ongoing (2023). Dense mangrove lines the southern extreme of the base and access is restricted.

The **Shell Tank Farm** (10°17'N., 123°54'E.), located on Shell Island, faces Cebu City, on the NW corner of the reef W of Mactan Island. A light stands on the SW end of the island.

Courtesy of US Navy

Shell Island Light

A dolphin stands 137m W of the tank farm and another close N of the NE corner of the wharf on the N side of the installation. There is a depth of 8.5m alongside this wharf.

A 2.7m patch lies close off the NW corner of the tank farm.

A submarine cable, marked by a light at its SE end, is laid NNW across the channel 0.1 mile W of Shell Tank Farm. A rock which covers lies in the middle of the cable lay.

The Ludo Soap Wharf is a 182m long T-headed finger pier with a draft limitation of 12.1m.

A high gantry and two derricks stand on the head of the pier.

The Marcelo B. Fernan Bridge, with a vertical clearance of 23m at HW and a horizontal clearance of 113m connects Mandaue and Opon.This bridge is 1,010m long. Foreign ships are not allowed to use the channel spanned by the bridge.

A major bridge, the Cebu-Cordova Link Expressway (CCLEX), has been constructed along the Southern approach to Cebu Harbor. The vertical clearance of the span is 51 meters.

The Marcelo B. Fernan Bridge (Mactan Bridge)

The Marcelo B. Fernan Bridge (Mactan Bridge)

There are general depths of 9m in the harbor. The harbor was reported to be dredged to a depth of 11m. The maximum draft that may be carried in Cebu Channel is 12.1m. The largest vessel to use this port had a length of 186m.

Numerous sunken wrecks and obstructions lie within the vicinity of Cebu Harbor, especially in the vicinity of Pier No. 1, Pier No. 2, and Pier No. 3. Most of these dangers are uncharted and unmarked.

Lipata Bank (10°15'N., 123°52'E.) lies in the middle of S entrance, about 1 mile WNW of Lauis Ledge Light. The W and larger part dries, while the E patch has a swept depth over an obstruction of 2.3m.

Cebu International Terminal

Cebu Container Port

Narvaez Reef, with a depth of 0.3m, lies about 0.4 mile NW of Lipata Bank.

Campanario Shoal (10°16'N., 123°53'E.), with a depth of 0.9m, lies about 1 mile NNE of Lipata Bank.

Numerous charted wrecks and obstructions lie in or near the fairway of the S entrance channel.

These obstructions are gradually being removed and some of those charted may not be present. The least swept depth is 6.7m.

Banilad Shoals (10°19'N., 123°56'E.), part of which is awash, lies on the NW side of the channel. Several rocks uncover at LW.

A submarine cable, marked by a light at the SE end, crosses the channel, about 0.3 mile SW of the bridge between Mandaue and Mactan Island.

Aspect.—The harbor limits are defined by a line extending from Bantolinao Point, on Mactan Island, due N to the mainland of the island of Cebu, and a line extending from Lauis Ledge, on Mactan Island, to Lipata Point on Cebu.

Prominent features at Cebu City are the Custom House tower, radio and TV towers marked by obstruction lights, water tanks, and several church towers, all of which are shown on the charts.

A church with twin spires, from each of which a red light is shown, stands 0.45 mile SE of the Capitol Dome. Cebu Plaza

Cebu - Cordova Link Expressway (CCLEX)

Cebu Harbors

Hotel stands 1.5 miles NNE of the Capitol Dome and is reported conspicuous.

Approaching from NE, the tower at Mandaue is conspicuous. Coming from the S, a radio tower, marked by three obstruction lights, stands near Lipata Point. A green neon sign erected over a soap factory in SW Cebu is prominent.

Cauit Island is reported to be a good radar target at 12 miles.

A TV tower, marked by an obstruction light 0.5 mile N of the Capitol Dome, is prominent. It has been reported (2011) that the light on the Capitol Dome is obscured.

Several radio towers, which are marked by red lights, stand on the shore from about 2 to 3 miles SW of the same dome.

The tower of Santo Nino Church was reported to be pink in color and difficult to identify.

Pilotage.—Pilots are compulsory and available 24 hours. Vessels should send their ETA, as well as the vessel draft and which entrance will be used, to the Cebu Harbor Pilots 24 hours in advance. Pilot launches are painted white with a block "P" and show a blue flag with a white letter "P."

Vessels taking a pilot through the channel are exempt from mooring and unmooring pilotage. The use of a pilot from a pier on a wharf in Cebu Channel, and for shifting from berth to berth to anchorage or vice versa, is compulsory.

Vessels can wait for pilots midway between Lipata Bank and Lauis Ledge Light; if entering from the NE, vessels wait E of Buoy C-1.

Pilots board in the following positions:

a. 10°13'45.0"N, 123°53'08.4"E. (South Entrance).
b. 10°21'19.2"N, 124°00'38.4"E. (Northeast Entrance).

The pilots can be contacted (call sign: Cebu Pilots) on VHF channel 16. Vessels should establish contact with the pilots 2 hours prior to arrival.

Regulations.—Philippine Coast Guard requires all foreign vessels to their ETA 48 hours prior to arrival to include crew and cargo manifests.

There is a speed limit of 5 knots in the harbor in the area N of Cauit Island and SW of Bantolinao Point.

Contact Information.—The port can be contacted, as

Cebu Pilot Boat

follows:

Cebu—Contact Information	
Port Authority	
Call sign	Cebu Pilots
VHF	VHF channels 12 and 16
Telephone	63-32-256-1661
	(cell) 63-9173128417
	63-32-2321462
	63-32-2321463
Facsimile	63-32-256-2269
E-mail	cpa@cpa.gov.ph
Web site	http://www.cpa.gov.ph

Anchorage.—Anchorage areas are established, as follows:

1. Large vessels—0.5 mile NNE and 0.4 mile SE of Cauit Island Light.
2. Quarantine—0.8 mile NE of Cauit Island Light.
3. Small vessels—Ten numbered berths located in the vicinity of Banilad Shoal, about 1 mile WSW of Mandaue Tower.

The quarantine anchorage is established 0.9 mile NE of Cauit Island Light. An alternative quarantine anchorage is situated about 0.2 mile E of No. 3 Pier.

Vessels approaching the quarantine station on the N side of Cauit Island from the S should give the NE tip of the island a berth of about 0.3 mile until it bears 270°, then head for the anchorage.

Large vessels can anchor, in a depth of 14.6m, about 0.6 mile NE of the NE extremity of Cauit Island.

An explosives anchorage, which can accommodate three vessels with a length of less than 183m, lies S of Lipata Point and W of Lauis Ledge.

Anchoring of any vessel in Cebu Harbor between the limits of Cebu City and Mactan Island and in the channel between Bantolinao Point and Lauis Ledge Light is strictly prohibited unless authorized in writing by the Collector of Customs.

Prohibited anchorage also lies in a charted area SE of Cebu International Port.

A "Domestic" anchorage has been designated between 0.6 and 1.9 miles SSW of Bagacay Point. Subsequent "Domestic" waiting anchorages lay 0.25 miles thence SW.

Two "Foreign" anchorages have been designated 1.0 miles S of Lipata Point.

A number of individual anchor berths are reported to be established both NE and SW of the port. Outer anchorages are indicted in the following table labeled **Cebu Outer Anchorages.**

Cebu Outer Anchorages		
Name	**Lat**	**Long**
Southern Approach		
A-1	10°14.4'N	123°51.6'E
A-2	10°14.4'N	123°52.0'E
A-3	10°14.2'N	123°52.3'E
A-4	10°14.8'N	123°52.6'E
A-5	10°15.1'N	123°52.7'E
A-6	10°15.1'N	123°52.4'E
Northern Approach (Magellan Bay)		
No 1	10°19.9'N	124°01.6'E
No 2	10°20.1'N	124°01.2'E
No 3	10°20.1'N	124°01.0'E
No 4	10°20.3'N	124°01.2'E
No 5	10°20.4'N	124°00.8'E
No 6	10°20.6'N	124°00.5'E
No 7	10°20.6'N	124°00.0'E

Directions.—Cebu Harbor can best be entered from the S. The channels N of Bago Shoal, Osteng Shoal, and Lagundi Shoal and those W of Lipata Bank and Campanario Shoal are not recommended.

From a position 0.5 mile W of Lauis Ledge Point Light steer a course bearing 004° toward the red-and-white banded stack (10°17.5'N., 123°53.3'E.). The Cebu, Mactan channel TSS between of Lauis Ledge, close to or over several obstructions, lying about 1 mile NNW of Lauis Ledge Light.

Deeper water can be carried by keeping E of the above course.

When the N end of Cauit Island is abeam, alter course to 033°, bringing the tower of Santo Nino Church and the cathedral spire in line.

When the center of the Shell Tank Farm is bearing about 090°, a course of 070° leads past the piers.

Caution.—Piracy is a serious problem in both the N and S anchorage areas.

There are many small canoe-type fishing vessels in the S entrance channel.

Lipata Bank, Narvaez Reef, and the edge of the reef off Mactan Island are marked by fish traps, but as these are being constantly shifted, they should not be relied upon as a mark.

A number of dangerous wrecks are reported to lie in the harbor and approaches.

Depths of up to 5m less than charted lie in the anchorage areas NE of Banilad Shoals.

Numerous changes to navigational aids have occurred. Extreme caution and advice from the Cebu Port Authority are essential as these changes may not be currently charted (2011).

Extensive work is in progress in Cebu Harbor and the approaches; this work includes land reclamation, coastline changes, and port development. Depths less than charted exist throughout the harbor and approaches.

Bohol Strait—West Side—Lipata Point to Tanon Point

7.41 Lipata Point (10°15'N., 123°52'E.) is low and flat. From this point to Langtad Point, 8.75 miles SW, there are numerous detached reefs lying up to 1 mile offshore. This part of the coast should be given a wide berth.

Lagundi Shoal (10°14'N., 123°50'E.), with a depth of 4.6m, lies about 2 miles SW of Lipata Point.

Osteng Shoal, with a depth of 7.6m, and Bogo Shoal, with 4m, lie about 0.5 and 0.8 mile E, respectively, of Lagundi Shoal.

Vessels should not pass between these shoals and the shore.

Naga (10°13'N., 123°45'E.), a small town about 6.5 miles WSW of Lipata Point, has a church and cement plant which are good landmarks.

Pilots, if required, can be obtained at Cebu City. There is anchorage in 27m, sand, about 0.3 mile off the town with the church bearing 271°.

Tinaan Anchorage (10°12'N., 123°45'E.), 1 mile S of Naga, is formed by a small bay in the coast and an extensive reef, awash, lying 0.5 mile SE.

It has depths of about 9 to 18m, but anchorage is recommended only for those vessels with local knowledge. There is a pier to accommodate vessels of 4.6m draft.

Tankers moor to buoys off the end of the pier and discharge through a submerged pipe line. The anchorage and pier are exposed to the Southwest Monsoon.

San Fernando (10°10'N., 123°42'E.), a small town with a prominent church, stands close within **Lauis Point** (10°10'N., 123°43'E.), about 2 miles SW of Langtad Point. There is anchorage for a small vessel, in 37m, sand, in front of the town.

Carcar Point (10°05'N., 123°41'E.), covered with coconut trees, is located about 4.75 miles SSW of Lauis Point.

Carcar Bay (10°05'N., 123°39'E.) is entered about 1.5 miles W of Carcar Point. A low mangrove islet lies on the W side of the entrance, connected to the shore by a drying reef. There is a small sheltered anchorage between reefs on either side. The head of the bay is fringed by mangroves.

Carcar (10°06'N., 123°39'E.), a small town about 1 mile NNW of the head of the bay, has a prominent church. The entrance to the bay is deep and clear. It should be entered by bringing the church to bear 334° before Carcar Point bears more than 063° and steering on a course of 334°. Anchorage can be taken, in 13m, mud.

7.42 Sibonga (10°01'N., 123°37'E.), a small town about 5.5 miles SW of Carcar Point, has a stone church with twin spires, but is obscured from the S by trees.

The municipal building on the beach is a better landmark from N or S. There is also a ruined pier. A 5.5m detached reef lies 0.5 mile offshore, in range with the N church spire and the end of the ruined pier. Another 4m patch lies immediately SW of the reef. When approaching Sibonga Pier pass N of these shoals.

Argao (9°53'N., 123°36'E.) town is located about 8 miles S of Sibonga; it stands between the Argao River and Argao Point. It has a large and prominent church. The concrete pier extending from the beach E of the town was reported in ruins. It has been reported (1995) that a new pier had been constructed.

Small vessels with local knowledge can anchor N or S of Argao Point, but close in because of the great depths.

There is anchorage E of the town, in 27 to 37m, sand, with the church bearing 316°, or S of the point, in 18 to 27m, sand, according to the swinging room desired.

7.43 Dalaguete Point (9°46'N., 123°32'E.) is located about 8.25 miles SSW of Argao Point; the point is flat, sandy, densely-wooded, and steep-to. Dalaguete, the leading town in this vicinity, is situated on the N side of the point.

The town has a church, visible only from the N. There is anchorage, in 27 to 37m, sand, close inshore, with the church bearing 316°, or S of the point in 18 to 27m, sand, about 0.1 mile from shore.

The coast from Dalaguete Point to Cayangon Point, 10 miles SSW, is low, with steep sandy beaches, interspersed by rocky bluffs. Several detached patches, with a least depth of 2.3m, lie about 3.5 miles SSW of Dalaguete Point and 0.3 mile offshore.

Mambagi Reef (9°41'N., 123°30'E.), about 5 miles SSW of Dalaguete Point, has its outer edge about 0.5 mile E of the village of Mambagi. The reef is composed of rock and sand and the greater part of it dries. There is a narrow deep channel between it and the coast. Dalaguete Point, bearing 018°, leads clear of the E side of the reef.

There is temporary anchorage W of the reef for small boats, but the entrance from both N and S is very narrow. The anchorage area is limited with poor holding ground.

Boljoon (9°38'N., 123°29'E.), a town situated in a cove with considerable depths, 3.75 miles SSW of Mambagi, can be recognized by the white cliffs, 30m high, on Ili Point, on the N side of the cove.

The red roof of a church is prominent from the E. There is no anchorage off the town, but there is temporary anchorage for

small vessels, in 37 to 46m, off the mouth of the **Losapon River** (9°37'N., 123°29'E.) just S of the town and 91m from shore.

7.44 **Cayangon Point** (9°36'N., 123°29'E.), 33m high, located about 1.5 miles S of Boljoon, is fringed by a partly drying reef which extends 0.25 mile E.

Iuisan Point (9°34'N., 123°28'E.), located about 2.5 miles SSW of Cayangon Point, is low, and terminates in sand and rocks. Iuisan Shoal, which dries near its center, lies 1 mile S of Iuisan Point and 0.5 mile offshore.

The channel between the shoal and the reef fringing **Santa Monica Point** (9°33'N., 123°27'E.) to the W is about 0.2 mile wide, with depths of over 37m, but should not be used without local knowledge. Vessels coming from the S should steer well clear of the shoal.

Oslob Point (9°31'N., 123°26'E.), about 3 miles SW of Iuisan Point, is low, sandy, and well wooded, with a prominent white stone fort on its extremity. It is fringed by a steep-to reef which extends about 0.3 mile SE. The town of Oslob is situated on the point. There are houses that are scattered and partly concealed by trees. The church with a red roof and a tower nearby are both prominent. There is anchorage, in 7 to 16m, off the S side of Oslob Point.

The coast between Oslob Point and Tanon Point, 8.75 miles SW, consists of sheer white cliffs between 3 to 37m high alternating with sandy beaches and is steep-to.

7.45 **Tanon Point** (9°25'N., 123°20'E.) is low, sandy, and surrounded by a reef about 0.1 mile wide.

Santander, a town on high ground back of the point, is prominent. A large white church, with a tower and steps down to the beach, is very conspicuous.

Sumilon (9°26'N., 123°23'E.), about 31m high and wooded, lies 3.5 miles ENE of Tanon Point. There is a prominent stone tower, 7m high near the S end, which has the appearance of a clump of trees due to the brush growing on or about the tower. The channel between Sumilon Island and the coast of Cebu is deep and clear of dangers.

Bohol—West and South Coasts—Off-lying Dangers

7.46 The NW coast of Bohol between **Corte Point** (10°09'N., 124°09'E.) and **Abucayan Point** (9°53'N., 123°50'E.), is an extensive area of numerous small islets and reefs extending up to 7.5 miles offshore.

The outer edge of this bank is steep-to, with the 18.3m curve lying close along the reefs, and the depths increasing rapidly beyond this contour. A number of channels, of varying depths, lead in between the outer dangers. For further information, see paragraph 12.7.

Pandanon Islet (10°11'N., 124°05'E.) is located on the reef on the NE side of Northwest Pass. This pass connects the inner channels in this area with Olango Channel.

Cabulan Island (10°09'N., 124°03'E.) stands on the reef on the SW side of Northwest Pass; it is the northernmost of the islets on Northwest Bank. Extending SW from it are Coamen Islets, Magcalingao Island, Mocaboc Island and Bagambanua Island The reefs around and between the islets are partly bare at LW.

The area between Bohol and Northwest Bank is foul and should be navigated with caution, keeping a good lookout and paying particular attention to soundings.

There are least depths of 7.4m in the pass between Magcalingao Islet and the small drying reef 1 mile SW of it. Between Mocaboc Islet and Bagambanua Islet there is a least depth of 6.4m.

Between a 4.5m patch located about 5 miles SW of Bagambanua Islet and **Mantatao Islet** (9°57'N., 123°51'E.), lies a deep wide channel that serves as a SW entrance to Northwest Bank.

There are numerous islets, reefs, and rocks, some of which bare at LW, located in the central area of Northwest Bank. Their size and location can best be seen on the chart. There are no maintained navigational aids in this vicinity.

Bohol Strait—East Side—Corte Point to Tagbilaran

7.47 **Corte Point** (10°09'N., 124°09'E.) lies about 1.5 miles N of Mount Corte, 177m high, a principal landmark in the area. The coast in this area is low, mostly fringed by mangroves, intersected by several small rivers, and bordered by shoal water.

Corte (10°07'N., 124°08'E.), a small village, stands at the head of a small cove about 1 mile SW of Mount Corte. Pampang, a small village, lies 3.5 miles SW of Mount Corte. It has a conspicuous stone church with a nipa roof.

The village is reported to be fronted by shoal water and is not easily approached even by small boats, except at HW.

The **Inabanga River** (10°05'N., 124°05'E.), which empties about 5 miles SW of Mount Corte, is the largest river in western Bohol. The bar at the entrance can be crossed by small boats at HW.

The town of Inabanga stands 2.5 miles S of the river mouth. A large stone church with a square tower is prominent.

7.48 **Tubigan** (9°57'N., 123°58'E.) (World Port Index No. 58890), about 7.8 miles SW of Inabanga, is the most important town of the NW coast of Bohol. A large church and convent form good landmarks. A pier extends about 0.4 mile out from shore. There are depths of 9.1m at the head of the pier. A light is also shown from the head of the pier. There is anchorage, in 5.5 to 9m, mud, about 0.3 mile seaward of the pier.

Directions.—The approach to Tubigon is difficult owing to the many reefs and lack of navigational aids.

Local knowledge should be used when available. The best approach is between Mocaboc Islet and Bagambanua Islet where there is 6.5m at LW. The channel, through narrow in places and somewhat tortuous, is deep.

The following directions should only be used as a rough guide. After crossing the ridge between Mocaboc Islet and Bagambanua Islet, proceed SE until Mocaboc Islet bears 030° and then change course to 210° and continue until Bagambanua Islet bears 348°, then alter course to 168° bringing Bagambanua Islet astern and the E end of Hayaan Islet directly ahead.

When Pangap Islet bears 090°, alter course to 099° and steer for the center of Cancostino Islet, passing about 0.3 mile S of Pangap Islet. The reef that surrounds Pangap is steep-to and bare at LW. It should be favored to avoid a small 2m patch ly-

ing 0.5 mile SW of the W end of Pangap Islet. When abreast of Pangap alter course and steer for the church at Tubigon, bearing 154°.

7.49 Between Tubigon and Calape, a town situated about 6.5 miles SW, the foothills at several localities rise to conspicuous heights.

The most prominent are Mount Ilihan, 222m high; Mount Tanauan, 443m high, about 3 miles S of Tubigon; and Mount Candungao, 480m high, 3.25 miles SW of Mount Tanauan.

Calape Bay (9°54'N., 123°52'E.), 6.5 miles SW of Tubigon, is small and constricted. The bay is inaccessible from the N except by small craft at HW. The S entrance can be used by small boats; the channel is unmarked and should not be attempted without local knowledge.

Calape, a small town at the head of the bay, has a prominent church with twin towers.

Pangangan Island (9°54'N., 123°49'E.), low and cultivated, lies about 2 miles W of the town of Calape.

Magtung Point, on the NW side of the island is clear and steep-to, but the remainder of the island is fringed with reefs which dry on the N side.

Sandingan Island (9°51'N., 123°48'E.), lying about 2 miles SW of Pangangan Island and marked by a light, 81m high and wooded. It is connected with Bohol by swamps and drying reefs.

Cabilao Island (9°53'N., 123°46'E.), 34m high and wooded, is separated from the NW side of Sandingan Island by Sauang Pass, a 0.75 mile wide deep channel. A concrete pole stands near the NE extremity of Cabilao Island. Tidal currents in the vicinity of the island set N and S at a considerable rate.

7.50 **Loon** (9°48'N., 123°48'E.), 2.5 miles S of Sandingan Island, stands on the NW slope of Mount Canmanoc, 445m high, situated 2 miles SE. A large church and convent stand on a plateau 23m high, reached by a wide flight of steps.

A stone mole, used by small boats, extends 0.15 mile from shore. There is anchorage for small vessels, in 7 to 14.6m, with the head of the mole bearing 097°, 0.25 mile off.

Care should be taken when anchoring as there are several large coral heads in this area, with depths of 1.2 to 2.4m. A submarine cable extends NW from Cocales Point into Maribojoc bay and can best be seen on the chart.

Cruz Point (9°44'N., 123°47'E.), the extremity of the peninsula lying between Loon and Maribojoc, lies about 4 miles S of Loon. The point is 6.1 to 9.1m high, rocky, and covered with trees. There is a prominent stone watchtower standing near the seaward end of the point.

Maribojoc Bay (9°42'N., 123°50'E.), entered between Cruz Point and Cocales Point, 5.25 miles SE, is fringed by a reef which extends 1 mile offshore on the S end.

7.51 **Maribojoc** (9°45'N., 123°51'E.), a town on the NE side of the bay, has a large church visible from all parts of the bay. A mole, with a depth of 1.3m off its outer end, extends 0.2 mile SW between the reefs. A light is shown at the head of the mole.

There is anchorage, sheltered only from the Northeast Monsoon, in 11 to 18m, mud, with the seaward end of the mole bearing 053°, distance 0.25 mile.

Four concrete beacons mark the edges of the reef leading to the mole; the edges are generally marked by fish traps. Small craft drawing not more than 2.4m can proceed farther in through a short, winding channel to within a short distance of the mole.

7.52 The **Abatan River** (9°43'N., 123°52'E.), 2 miles SE of Maribojoc, has a depth of 1m on the bar at LW, with greater depths inside. It is navigable by small craft to above the town of Cortes, where it is spanned by a steel bridge.

Cortes, a small town on a bluff on the E bank of the Abatan River, lies about 1.8 miles from the entrance of the river.

Paminuitan Hill (9°41'N., 123°52'E.), 99m high, conspicuous, round topped, and wooded, stands about 1.5 miles S of the Abatan River and 0.5 mile inland from the coast.

There is anchorage providing fair shelter about 0.5 mile offshore, with the low, wooded point which marks the S limit of the flats off the mouth of the Abatan River bearing 100°, Paminuitan Hill bearing 125°, and a conspicuous bushy tree on a reef near the entrance of the river bearing 018°. Depths shoal gradually from 27 to 7m, mud.

7.53 **Tagbilaran** (9°39'N., 123°51'E.) (World Port Index No. 58870), the seat of the provincial government of Bohol, is situated 2 miles SSE of Cocales Point. It is a town of growing commercial importance.

Depths—Limitations.—The channel was reported to be about 61m in width, with a controlling depth of 7.8m, although depths of as little as 1.4m have been reported in the channel. A shoal patch (9°39.4'N,. 123°49.8'E) is marked close N by No. 1 Lighted Buoy. A 1.8m shoal lying just within the channel is marked by No. 7 Lighted Beacon. A shallow spit is marked by No. 8 Lighted Beacon that stands N of the spit.

An L-shaped concrete pier projects 0.25 mile from shore about 0.5 mile NNW of the town. The pier has a berthing face 95m long with a least depth of 6m reported alongside. Improvements to the port facilities were recently planned. A T-headed stone pier 9m wide, projects 290m from the shore, about 0.2 mile SSE of the L-shaped pier.

Tagbilaran

Aspect.—The standpipe behind the town and the church tower in town are prominent objects in the approach. A cross, which is outlined at night by green lights, is situated atop a college near the church.

A tower, marked by obstruction lights, stands 0.5 mile NE of the church. The N side of the entrance channel is marked by

lighted beacons.

A light stands at the head of the L-shaped pier.

Pilotage.—Pilotage is available 24 hours. The pilots board near the beginning of the channel, about 1.3 miles WNW of the head of the L-shaped pier, in position 9°39.6'N, 123°49.5'E.

Regulations.—Cargo vessels must send their ETA 36 hours prior to arrival. Passenger vessels must send their ETA 24 hours prior to arrival.

Contact Information.—The port can be contacted, as follows:

Tagbilaran—Contact Information	
Pilotage	
Telephone	63-38-5018098
	63-917-6510342 (Mobile)
E-mail	vickycadz@yahoo.com
Port Authority	
VHF	VHF channel 16
Telephone	63-38-5018138

Anchorage.—There is a confined anchorage area, with a depth of 26m, W of the government pier. Anchoring positions are best seen on the chart. The outer anchoring positions are for vessels greater than 3,000 gt. The inner anchoring positions are for vessels of 3,000 gt and under, with a depth of 26m, W of the government pier.

Bohol—South Coast—Tagbilaran to Agio Point

7.54 **Panglao Island** (9°36'N., 123°47'E.), off the SW extremity of Bohol, is almost joined to it as the harbor of Tagbilaran that separates them is only about 0.3 mile wide at the narrowest part and nearly dry at LW.

A causeway extends from the town of Dauis, at the NE end of the island, to the Bohol shore. There are gaps in the causeway to allow for the passage of boats. A church spire at Dauis is conspicuous.

There are two hills near the NE part of Panglao Island. Mount Biking rises to 197m and is the higher. A third hill rises to 97m on the S side of the island. The rest of the island is fairly level and covered with vegetation.

The town of Panglao, open to small craft at HW, stands at the head of Panglao Bay.

An extensive drying reef extends 3.25 miles SW from the SW end of Panglao Island. Two small wooded islets are located on this reef.

Balicasag Island (9°31'N., 123°41'E.), 4 miles SW of Tahuruc Point, the SW extremity of Panglao Island, is low, flat, and surrounded by a narrow steep-to reef. A few houses and the ruins of an old fort stand on the island.

The channel between the island and the reef extending SW from Panglao Island is 1.75 miles wide and deep.

Cervera Shoal (9°30'N., 123°50'E.), with a depth of 6.4m and steep-to, lies about 9.5 miles E of Balicasag Island. The shoal can usually be distinguished by tide rips and discolored water.

The Panglao Taytay Bridge

Pamilacan Island (9°30'N., 123°55'E.), 15m high at its W side, lies about 14 miles E of Balicasag Island. The N extremity is clear of dangers and steep-to, but the rest of the coast is fringed by a reef which, in places, extends about 0.2 mile offshore. A small rock, with some bushes, lies nearly 0.1 mile off the S side. A fort, in ruins, stands on the N point of the island.

7.55 The S coast of Bohol, from Tagbilaran to Agio Point about 46 miles E, is fringed by a narrow steep-to reef. There are no off-lying dangers and the S coast of Bohol can be safely navigated at a distance of 0.75 mile.

Baclayon (9°37'N., 123°54'E.), a small town about 3.5 miles ESE of Tagbilaran, has a church and other buildings that show well from seaward. There is a small stone landing in front of the town. A light is shown at the outer end of the landing.

Anchorage.—Vessels can anchor, in 37m, with the church tower bearing 317°; Mount Biking, on Panglao Island, bearing 248°; and the round-top hill, 145m high, on Bohol bearing 013°.

Care should be taken to avoid a 1.8m patch lying on the approach to this anchorage, 2.75 miles SE of Tagbilaran church.

Small vessels can find anchorage, in 22m, about 0.3 mile off the shore of Panglao Island, with the church tower at Tagbilaran bearing 321°, the small chapel on Panglao Island bearing 285°, and the round-top hill on Bohol bearing 029°.

Outside the reef along the S coast of Bohol the depths increase so abruptly that anchorage is afforded in only a few places.

Alburquerque (9°37'N., 123°57'E.), a small town about 2.5 miles E of Baclayon, has a large prominent stone church.

Loay (9°36'N., 124°01'E.), a town about 3.5 miles E of Alburquerque, is situated on low flat ground on the E side of the mouth of the Loay River.

A church and convent stand on a small hill overlooking the town. A light is also shown from the E bank of the river.

The small harbor, formed by the river, is about 137m wide off the town. It has two rock jetties and a marginal wharf.

The channel is marked by three beacons, two of which mark the outer ends of the jetties.

The other beacon stands midway between the E jetty beacon and the marginal wharf, the latter having depths of 1.5 to 2.4m reported alongside. There is temporary anchorage, in 14.7 to 27m, outside the bar of the river.

The Loay River is navigable by small boats as far as the town

of Loboc, about 2.5 miles inland from the coast.

From Loay to Loboc, the river is very tortuous and mostly fringed by swamps. It is spanned by a bridge at Loay and a bridge at Loboc.

7.56 Tayong Peak (9°38'N., 124°04'E.), 506m high and conical, stand prominently in a group of hills 4 miles NE of Loay.

Lila (9°35'N., 124°06'E.), a town about 5 miles E of Loay, has a church with a galvanized roof; the S gable is prominent.

Dimiao (9°36'N., 124°10'E.), a town about 4 miles E of Lila, has a church whose peaked roof forms a good landmark.

There is anchorage for small craft in the bight close W of Dimiao with fair shelter from all winds except SW. The town has a small wooden pier.

Valencia (9°36'N., 124°12'E.), a small town about 3 miles E of Dimiao, offers anchorage, in 14.6 to 18.3m, sand, but without shelter.

Gorda Point (9°36'N., 124°16'E.), about 3 miles E of Valencia, forms a barely noticeable projection from the general coast line and derives its name from the height and prominence of Mount Gorda. The coast in this vicinity is clear and steep-to.

Mount Gorda (9°36'N., 124°16'E.), a narrow steep ridge, is about 1.5 miles long. Its summit, 328m high, is located about 0.5 mile NW of Gorda Point. Its bluff-like tree-covered sides show distinctly against the range farther inland forming an excellent landmark.

Garcia Hernandez (9°37'N., 124°17'E.), a small town about 2.25 miles E of Gorda Point, has a large prominent stone church. There is temporary, unprotected anchorage off the town, in 9 to 27m. About 1 mile ENE of Garcia Hernandez there is a pier.

7.57 Canopao Point (9°38'N., 124°22'E.), about 4 miles E of Garcia Hernandez and Cantagay Point, 0.75 mile farther NE, with a small bay between them, are formed by bluffs 9 to 15m high.

Jagna (9°39'N., 124°22'E.), a small town about 0.5 mile N of Cantagay Point, stands at the head of Jagna Bay. Its shores are fringed by reefs that dry at LW. Government Pier, L-shaped and of concrete construction, is 33m long at its face, with depths of 4 to 9.4m reported alongside.

The pier was being extended. A light is shown at the inner end of the pier. Vessels may berth either side to the pier, but starboard side-to is recommended during the Southwest Monsoon, using the port anchor.

Pilots and tugs are not available and entry into the bay at night is not recommended. The largest vessel to berth here was 141m long.

There is an anchorage area 0.25 mile wide N of Cantagay Point, in depths of 26 to 33m, protected from S, through W and N, to NE. In heavy weather from E, the pier and anchorage are untenable.

7.58 Nauco Point (9°39'N., 124°24'E.), where the coast makes an abrupt change of direction to the N, is located about 2 miles E of Jagna. The point is clear and steep-to, rising almost vertically to a height of 22.8m, then gradually to over 30.5m at a distance of 137m inland. The vertical face of Nauco Point makes a good landmark.

Duero (9°42'N., 124°24'E.), a small town about 3.3 miles N of Nauco Point, offers fairly good anchorage, in 27m, E of the church and about 0.2 mile offshore.

Guindulman Bay (9°45'N., 124°30'E.), between Cabantian Point and Napacao Point, 4 miles E, extends about 3 miles N. It is very deep at the entrance, but shoals rapidly near its head. The only detached danger in the bay is a 0.9m patch in the NE corner about 0.3 mile off the mouth of the **Tabahan River** (9°46'N., 124°30'E.).

7.59 Guindulman (9°45'N., 124°30'E.), the town at the head of the bay, is close W of the river entrance. The town is concealed by trees, and although the tower of the church is visible above them, it is inconspicuous.

Vessels can anchor according to draft outside the fish traps lining the shore in front of the town, mud and sand bottom. This anchorage is exposed to the Southwest Monsoon.

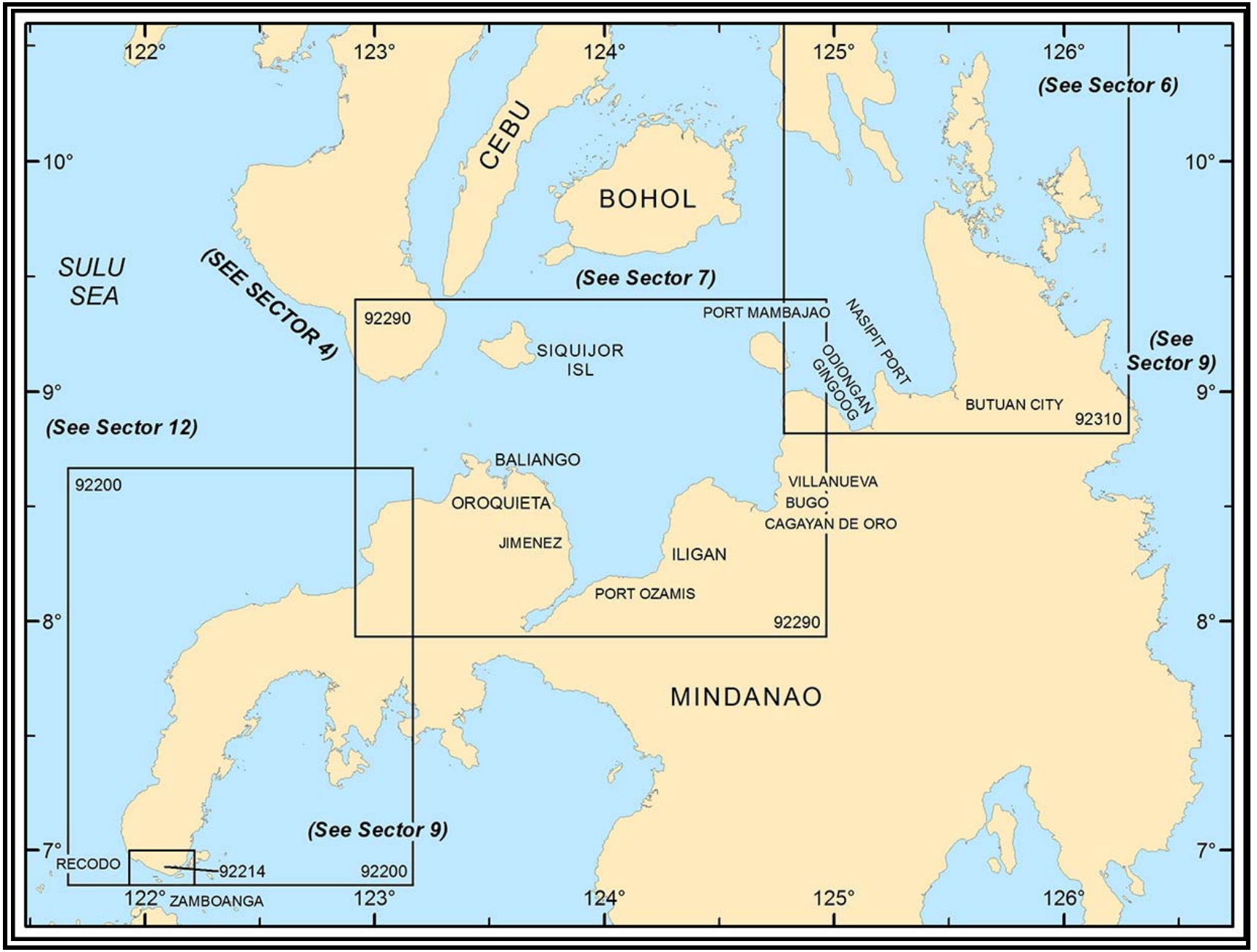
A T-shaped pier, 204m long, with depths of 5.2m at the NW end and 7.9m at the SE end, stands on the E shore of Guindulman Bay, 0.5 mile SE of the town. Two buoys mark the shoal and the edge of the reef NW and S of the pier. There is anchorage, in 14.6m, about 0.1 mile SW of the pier.

From Napacao Point, the coast trends E for about 3.5 miles to **Quinali Point** (9°44'N., 124°34'E.), then NE for nearly 2 miles to Agio Point. **Mount Pugatin** (9°47'N., 124°34'E.), with twin peaks 375m and 390m high and about 0.5 mile apart, lies up to 2.25 miles NNW of Agio Point.

Anda (9°45'N., 124°34'E.), a small town lying on a sandy point, the extremity of which is about 1 mile N of Quinali Point, has a large white conspicuous church. An extensive mangrove swamp lies between Anda and the mainland.

There is anchorage for small craft, in 22m, close off the edge of the reef SE of the extremity of the point.

Agio Point (9°46'N., 124°35'E.), the SE extremity of Bohol is low, but rises to a height of 163m less than 0.5 mile inland. The point is fringed by a narrow steep-to reef with a growth of mangrove.



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

SECTOR **8** — CHART INFORMATION

SECTOR 8

MINDANAO—WEST AND NORTH COASTS

Plan.—This sector describes the W and N coasts of Mindanao. The descriptive sequence is N from Caldera Point to Sibalic Point (Sibalik Point), then W to E to Madilao Point.

General Remarks

8.1 The W coast of Mindanao borders on the Sulu Sea and consists of the W side of the Zamboanga Peninsula. Heavily-forested mountains rise to elevations of about 366 to 610m, forming a wide central ridge which is virtually unexplored, and extending the length of the Zamboanga Peninsula. The 20m curve fringes the W coast, varying from 0.2 to 0.5 mile offshore.

The 200m curve varies from 0.25 mile to 5 miles offshore. There are no known dangers seaward of the 200m curve. It is a very exposed coast and heavy seas are experienced, especially during the Southwest Monsoon. The best sheltered anchorage on the W coast is Port Santa Maria. There is no recommended typhoon refuge.

The N coast of Mindanao is indented by four large bays separated by broad peninsulas which terminate in bold capes. The largest of these, Iligan Bay, has a long SW reach nearly dividing the island in two, with only 7.5 miles at the narrowest part.

The terrain of the N coast is rugged and otherwise similar to the W coast except that the hinterland is much higher. The 200m curve fringing the N coast varies from about 0.3 mile to 4 miles offshore, except for a narrow shelf extending about 11 miles NW from the NW extremity of the island. Nasipit Harbor and Port Ozamiz are recommended typhoon refuges.

Wind—Weather.—The Southwest Monsoon prevails from the end of June until November. It is not as strong and steady as the Northeast Monsoon. It is usually accompanied by overcast sky and rain, especially on the W coast of Mindanao. Southwesterly gales, which are accompanied by heavy rains, occur occasionally during the Southwest Monsoon. In October, the winds vary from SW to N and are usually accompanied by squalls and thunderstorms.

From December until early March, the Northeast Monsoon prevails with some strength on the N coast of Mindanao and occasionally reaches gale force in the open sea.

Mindanao is S of the usual typhoon tracks, however, occasionally they pass across the island from E during the month of December.

Tides—Currents.—Off the W coast of Mindanao, the W tidal current from **Basilan Strait** (6°50'N., 122°00'E.) flows N, meeting the S tidal current from **Surigao Strait** (10°28'N., 125°23'E.) about midway up the coast.

Strong E eddies set toward **Caldera Point** (6°57'N., 121°58'E.). A rough sea rises off this coast during the Southwest Monsoon.

In the **Bohol Sea** (Mindanao Sea) (9°21'N., 124°00'E.) there is a W set in both monsoons, varying in strength according to wind and tide. Between the S end of **Negros** (9°03'N., 123°03'E.) and **Tagolo Point** (8°44'N., 123°23'E.), there is a SE set.

Vessels approaching **Surigao Strait** (10°28'N., 125°23'E.) from the W should keep well N of the **Camiguin Island** (9°15'N., 124°43'E.) N extremity to offset the SW set. In the S part of Bohol Sea, the currents are weak and follow the direction of the prevailing monsoon. Along the N coast of Mindanao, the currents are influenced by the discharge of the rivers.

Mindanao—West Coast

8.2 The coast between **Caldera Point** (6°57'N., 121°58'E.) and Coronado Point, about 62 miles NNE, consists of heavily-wooded mountain slopes which rise steeply from the shore except on the SW coast of the peninsula, which is low and extensively cultivated. A number of exposed bays, which afford temporary anchorage, indent the coast.

Caldera Point, a sandy point with a coconut plantation, is located on the SW extremity of Zamboanga Peninsula. A prominent white chimney, 17m high, and a large conveyor, marked by lights, stand on the point.

San Ramon (7°00'N., 121°55'E.), 3.75 miles NW of Caldera Point, is the site of a penal colony. The buildings are quite prominent, day or night, as many lights are kept on all night. A monument stands on the coast in the middle of the colony.

Batorampon Point (7°07'N., 121°54'E.) lies about 7 miles NNW of San Ramon; the coast between is low, covered with trees, and bordered with steep sand beaches. Batorampon Point is backed by a sand hill, 137m high, flat on top, and densely wooded.

Vessels approaching from N by night, keep well clear of Alimpaya Point, 2.25 miles N of Batorampon Point, as it is low and flat and does not show up well against the higher point S.

From Alimpaya Point to **Pangian Point** (7°17'N., 122°01'E.), the S entrance point of Sibuco Bay, the coast trends NE about 10.5 miles.

The coast is steep-to and free of dangers, except for close offshore rocks lying about 6 miles NE of Alimpaya Point.

Sibuco Bay (Sibuko Bay), entered between Pangian Point and Sibuco Point, about 3.3 miles NNE, offers no protection during either monsoon, and a considerable swell sets in. The bay is deep and clear of dangers.

Vessels calling at Sibuco Bay anchor about 0.2 mile offshore, in a position about 0.5 mile SW of Sibuco town, at the head of the bay.

Between Sibuco Point and **Cauit Point** (7°32'N., 122°05'E.), about 12 miles NNE, the coast is high and has several small coves that afford temporary anchorage for coastal vessels.

From Cauit Point to **Siraway Point** (7°33'N., 122°07'E.), about 2.5 miles ENE, several small bays indent the coast. Piacan Bay, a small cove located E of the former point, affords protection to small vessels during the Southwest Monsoon.

Panabutan Bay, entered between Siraway Point and Balatacan Point, about 2.8 miles N, has a very irregular shore line. A timber mill stands at the head of Panabutan Bay. The N part of

the bay is sheltered from the Northeast Monsoon, with a depth of 18m.

A good landmark for approaching Panabutan Bay is the 270m hill close E of Balatacan Point. The hill is heavily wooded, except for the lower slope of its S side.

Anchorage can be taken E of **Panabutan Point** (7°35'N., 122°07'E.), in 18m, mud. This anchorage is open to W and SW winds.

Caution.—A rock awash, lies 91m off Balatacan Point. It is difficult to distinguish at HW.

8.3 Siocon Bay (Siocan Bay) is entered between **Balatacan Point** (7°36'N., 122°06'E.) and Dulunguin Point, 8.5 miles N. It provides anchorage for small vessels in the N part, sheltered from NE winds, but close in because of the great depths.

A 4.9m patch lies 0.75 S of Dulunguin Point, and a group of rocks, 2m high, lies 10.75 mile N of the point.

The Siocon River flows into the bay about 3 miles SE of **Dulunguin Point** (7°44'N., 122°05'E.).

A good landmark for the N part of the bay is a hill, 75m high, located on the N bank of the river about 1.3 miles NE of the river mouth.

8.4 **Port Santa Maria** (Puerto) (7°46'N., 122°07'E.), a timber port, lies in a nearly landlocked bay 2 miles N of Dulunguin Point. The entrance, which is difficult to distinguish from a distance, is 0.2 mile wide between the shoals just inside it and has considerable depths in the fairway.

Mount Santa Maria, 197m high, lies about 0.8 mile S of the S entrance point of the harbor and is a good landmark.

A privately-owned wooden wharf, 67m in length, with a T-head 24m long, is situated on the N side of the E bay. Depths of 9.1m were reported alongside. It is reported that fish traps lie on the N and S side of the approach to the wharf, and vessels should pass between them.

There is good anchorage in either bay at the head of the harbor, in depths of 22 to 27m. It provides the best sheltered anchorage on the W coast of Mindanao.

8.5 Nunuyan Bay, entered between **Sampoak Point** (7°47'N., 122°06'E.), 1.5 miles N of the entrance to Port Santa Maria, and Nunuyan Point, 1.5 miles NE, provides good anchorage during the Southwest Monsoon (May to September). Several small settlements stand along the shores of the bay.

Baligian Bay, entered N of Nunuyan Point provides good anchorage, in depths from 9 to 27m, protected from the NE.

The approach lies S of **Condulingan Island** (7°49'N., 122°07'E.), which lies 0.6 mile W of the N entrance point of the bay, with shoal water between. The island is steep-to, but should be given a berth of 0.25 mile.

Coronado Bay is entered between **Tumao Point** (7°52'N., 122°10'E.), located 3.5 miles NE of Condulingan Island and **Coronado Point** (7°57'N., 122°13'E.), 5.75 miles farther NE.

Anchorage, protected from NE, can be obtained close S of Coronado Point, in 18 to 36m. Coronado Point is reported to be a good radar target at 24 miles.

Two shoals, with depths of 3m and 11.3m, lie 2 miles SSW and SW, respectively, of Coronado Point. Two other shoals, with depths of 3.2m and 7.6m, lie 1.25 and 1.75 miles S, respectively, of the same point.

Between Coronado Point and **Quipit Point** (8°04'N., 122°28'E.), about 16 miles NE, the coast is backed by heavily wooded mountains. The lower slopes and foothills are undulating and have large, coarse, tall grass areas.

Sibalic Point (8°03'N., 122°21'E.), 10 miles NE of Coronado Point, is steep-to and bold. Quipit Point, low, flat, and sandy, is located 6.75 miles ENE of Sibalic Point. The 20m curve is charted less than 1 mile offshore, except N of Quipit Point where shoals and banks extend about 3.5 miles offshore.

8.6 The **Murcielagos Islands** (8°07'N., 122°27'E.) are two islands lying on the same reef, 3 miles NNW of Quipit Point. The E and larger island is 12m high to the top of the trees. The reef is steep-to; a 3m shoal lies off its E end.

There is a deep channel between the Murcielagos Islands and the coastal bank off Quipit Point, but there is a 11.9m patch lying 0.75 mile S of the larger island. There are tide rips E of the channel.

Quipit Bay, entered between **Quipit Point** (8°04'N., 122°28'E.) and **Sawigan Point** (8°05'N., 122°31'E.), low, flat, and sandy located 3.5 miles E, provides shelter protected from SW. Several shoals, with depths of 2.7 to 8.5m, lie between the entrance points.

Anchorage, protected from SW winds and swells, can be taken, in 13 to 17m, in the middle of the bay. The approach is made from NE, passing about 0.5 mile off Sawigan Point.

Sindangan Bay, entered between **Sindangan Point** (8°10'N., 122°40'E.) and Lanboyan Point, about 19 miles NE, is a broad exposed bay with great depths; it is clear of dangers right up to the shore. The 20m curve is found less than 0.5 mile offshore, except off the town of Sindangan, where depths of 7 to 15m are found as far as 1 mile offshore.

Anchorage, protected from SE, can be taken in the E part of the bay, WNW of Sindangan, in 7.3 to 14.6m, mud. The anchorage lies about 295° from the town, at a distance of 0.5 to 1 mile from the shore.

8.7 **Lanboyan Point** (8°18'N., 122°56'E.), the NE entrance point of Sindangan Bay, appears as a yellow slide that rises abruptly from the water's edge to a height of 46m to the tree tops on the point. Strong tide rips are found NW of the point.

Between Lanboyan Point and Blanca Point, about 14 miles NNE, sparsely wooded lower slopes extend inland to heavily-wooded mountains. The coast is clear seaward of the 20m curve, which is charted less than 0.75 mile offshore.

Madalag Point (8°25'N., 122°59'E.), 6.75 miles NNE of Lanboyan Point, is high and steep-to. Dark trees cover the seaward side of the point and show well against the lighter vegetation surrounding it.

Diwait Point (8°29'N., 123°02'E.), about 5.3 miles NNE of Madalag Point, is steep-to and fringed by a narrow reef. Lumayag Rock, on the edge of the latter reef, resembles a sail from NE or SW.

Mount Disacan (8°29'N., 123°05'E.) is the most prominent landmark in the vicinity at 456m high, 3.6 miles ESE of Diwait Point.

Blanca Point (8°31'N., 123°03'E.), 2.5 miles NE of Diwait Point, is a vertical cliff of white clay, 15m high, and is formed by a long horizontal tableland covered with grass, but with no

trees. The hinterland in this vicinity is mountainous, and there are many densely wooded small peaks and ridges.

Between Blanca Point and **Boton Point** (8°39'N., 123°22'E.), about 19 miles NE, the coast forms a broad unnamed bay, which is deep and free of dangers seaward of the 20m curve; the latter is charted less than 1 mile offshore. The bay is exposed to both monsoons.

Port Roxas (8°31'N., 123°15'E.) is situated about 12 miles E of Blanca Point, close SE of the mouth of the Pian River. The area is floodlit at night. Coconut oil and copra are loaded in bulk from a jetty which projects about 91m offshore and which is equipped with four concrete mooring dolphins, two on each side of the jetty.

Vessels berth heading 150°. A vessel of 31,766 dwt, with a length of 169m, berthed at the jetty. The pilot boards 0.5 mile from the jetty. There are no tugs.

Port Roxas

8.8 **Dipolog** (8°35'N., 123°20'E.) stands on the S side of the mouth of the Dipolog River, about 4 miles SSW of Boton Point. There is anchorage anywhere W of the town according to draft; depths of 9m are found 0.4 mile offshore.

A concrete cross stands at the seaward end of the main street. During the Southwest Monsoon, when it is too rough to load off Dipolog, coastal vessels call at Pulauan (see paragraph 8.9), lying about 4 miles NNE.

Aligbay Island (8°45'N., 123°13'E.), lying about 10 miles NW of Boton Point, is about 30m high and wooded.

A steep-to coral reef extends 0.25 mile from its NW side, and shoal water extends 0.5 mile from its E side. The island is a good radar target up to 22 miles.

Challenger Reef (8°43'N., 123°14'E.), with a least depth of 6.4m, lies about 2 miles SSE of Aligbay Island.

Don Reef (8°40'N., 123°18'E.), with a depth of 3.7m, coral and steep-to, lies 3.7 miles WNW of Boton Point.

Dapitan Bay (8°40'N., 123°24'E.), entered between Boton Point and Tagolo Point, 5 miles N, is free of dangers and provides shelter from all except NW winds. There are numerous fish traps in the bay. Pilots board 0.35 mile N of Boton Point.

8.9 **Pulauan** (8°38'N., 123°24'E.), on the SW side of Dapitan Bay, is located 0.75 mile SE of Boton Point. The pier at Pulauan is 55m long with a depth of 8.8m at its head. A light is shown from Pulauan. It is the loading port for Dipolog and Dapitan.

Dapitan (8°39'N., 123°25'E.) is situated at the head of the bay on what is virtually an island formed by the two mouths of the Dapitan River. With a smooth sea, small craft can cross the bar at HW. Two pyramidal spires of the church at Dapitan are prominent.

Dapitan

There is anchorage, from 0.4 to 0.6 mile offshore, with Dapitan Church bearing 092°, in a depth of 6.4m, but anchorage may be obtained in any part of Dapitan Bay.

Tagolo Point (8°44'N., 123°23'E.), 30m high, is located about 5 miles N of Boton Point. A narrow steep-to reef fringes the point, with wooded slopes rising inland.

The tidal currents are very strong off the point, setting either E or W at a considerable rate. A light marks Tagolo Point.

Mindanao—North Coast

8.10 Between Tagolo Point and Sulauan Point, about 66 miles ESE, the coast trends about 23.5 miles ESE and then recedes about 26 miles S to form Iligan Bay, the largest bay on the N coast of Mindanao. Panguil Bay is the shoal arm extending about 18 miles SW from the head of Iligan Bay; a number of small bays and coves indent the shores of Iligan Bay.

A coastal plain of varying width rises to high, rugged, wooded mountains. Between Sulauan Point and Bagacay Point, about 28 miles NE, the coast is indented about 12 miles SE by Macajalar Bay. Northward of the E shore of the bay heavily-wooded mountains reach an elevation of 914m.

Tides—Currents.—The tidal currents appear to be very weak along the coast and the currents follow the direction of the wind in both monsoons. The tidal currents set SE from the S end of Negros Island toward Tagolo Point and Silla Point.

Caution.—Seaward of the 200m curve, which follows the general trend of the coast from 0.25 mile to 3 miles offshore, the only dangers are Iligan Reef and Alutaya Reef.

8.11 **Iligan Reef** (8°39'N., 123°52'E.), lying about 7.8 miles ENE of Polo Point (8°36'N., 123°45'E.), is a dangerous reef consisting of coral and white sand; it has a least depth of 2.7m.

Silino Island (8°51'N., 123°25'E.) is a low, flat, wooded island lying about 8 miles NNE of Tagolo Point.

A steep-to reef which is narrow on the E side extends about 0.3 mile from the W side of the island.

Depths of less than 106m prevail as far as 2 miles from Silino Island.

A depth of 12.8m was reported (1976) to lie 1.5 miles NNW of Silino Island.

8.12 Between Tagolo Point and **Silla Point** (8°42'N., 123°30'E.), the coast trends ESE for about 6 miles and thence NE for about 2 miles to Silla Point, forming a reef-fringed bay.

The head of the bay W of Silla Point is fringed by a wide coral reef, through which a passage leads to Cavite village on the W shore. Mount Latungon, 402m high, is located 1.6 miles SSW of Silla Point; it is prominent from E or W.

Murcielagos Bay, entered between Silla Point and **Bulalo Point** (8°40'N., 123°35'E.), 5.5 miles ESE, is encumbered by numerous coral reefs and shoals, through which are several channels where small vessels may obtain sheltered anchorage.

With a light and smooth sea, the edges of reefs fringing the passage may be seen. The W and S shores are hilly, rising gradually to the mountains inland.

A channel in the W part of the bay leads to an anchorage near the N end of Sinipay Daco Island, 2 miles S of Silla Point.

Directions.—When proceeding to the anchorage off Sinipay Daco Island, steer for **Mount Canim** (8°39'N., 123°28'E.), 334m high, located 4 miles SSW of Silla Point, bearing 232°, until Mount Silla bears 293°, to clear the bank extending E from Latungon Point, 1 mile SSE of Silla Point.

When Taluluc Islet, lying 0.25 mile NW of the NW point of Sinipay Daco Island, bears 234°, steer for it on that bearing until the W extremity of Sinipay Daco Island bears 207°. Then steer 216°, which will lead to the anchorage, with the N point of Sinipay Daco Island bearing 090°.

8.13 Baliangao Bay, with **Baliangao** (8°40'N., 123°36'E.) standing near the NE corner of Murcielagos Bay, is a loading port for copra. Large vessels or vessels without local knowledge should not enter the bay, as aids to navigation are unreliable and the charted coastline is reported to be difficult to recognize.

Anchorage.—Vessels usually anchor 0.5 mile NW of the largest of the Cabgan Islands, located on the E side of Murcielagos Bay, in a depth of 35m, rocky bottom.

During the Southwest Monsoon, a strong E set may be experienced at this anchorage.

Directions.—When approaching the anchorage in Baliangao Bay from N or E, steer 182°. Pass 91m W of a can buoy marking the W edge of a bank, with depths of 0.5 to 10m, extending 0.75 mile W from the largest of the Cabgan Islands.

The Cabgan Islands are connected with **Bulalo Point** (8°40'N., 123°35'E.) by a drying reef.

8.14 From Bulalo Point the coast trends E for 2 miles to **Baliangao Point** (8°40'N., 123°37'E.), then 4 miles ESE to Usucan Point.

Polo Point (8°36'N., 123°45'E.) lies about 4.8 miles SE of Usucan Point.

The entire coast from Bulalo Point to Polo Point is backed by a low plain and is fringed in places by a narrow steep-to reef. A light is shown from Polo Point.

Usucan Shoal (8°39'N., 123°42'E.), with a least depth of 2.7m, lies outside the 10m curve, 0.6 mile ENE of Usucan Point. Langaran Shoal, with a least depth of 3.7m, lies close offshore outside the 10m curve, 1 mile SE of Usucan Shoal.

The town of Plaridel is situated about midway between Usucan Point and Polo Point. During the Southwest Monsoon, anchorage can be taken, in 18.3m, with the bell tower in the town bearing 182°, about 0.5 mile distant. The approach to this anchorage is encumbered by the two shoals described above.

Inamucan Bay (8°36'N., 123°43'E.) lies about 1 mile SE of Plaridel and is entered between two points, about 0.1 wide, between the reefs. Pilots board 0.8 mile ENE of the bay.

Plaridel Light is shown from a structure standing 1 mile SSE of town.

Large vessels usually anchor outside the bay, in about 75m, with the light on Polo Point bearing 129.5° and the pier in the bay bearing 223.5°.

Iligan Bay

8.15 **Iligan Bay** (8°30'N., 124°00'E.) is entered between Polo Point, a low, flat point, and Initao Point, about 33 miles E; the bay extends 25 miles S. The long narrow inlet of Port Ozamiz, including Panquil Bay extend 22 miles farther SW from the SW part of the bay. The W shore of the bay is low and flat.

The foothills begin to rise gradually from 1 to 2 miles inland to a mountain range about 10 miles distant which parallel the coast. The S and E shores of the bay are planted in coconuts.

The hinterland is mostly wooded hills rising gradually from the S shore to volcanic peaks about 1,219m high, some 13 miles inland.

The bay is deep outside the 200m curve, which generally lies less than 1.25 miles off the W, S and E shores of the bay except for a 3.5 mile area, best seen of the chart, NE of Silanga Point.

The W side of Iligan Bay trends in a SSE direction from Polo Point to **Madre Reef** (8°20'N., 123°52'E.), 17.5 miles distant.

The hills for a distance from 6 to 10 miles from the coast are cultivated; there are many large trees on the uncleared portion. The mountains are heavily wooded, and the peaks appear to be very steep and the valleys are precipitous.

Mount Ampiro (8°26'N., 123°38'E.), 771m high, rises 12.75 miles SW of Polo Point.

Caution.—The dangers along this stretch of coast are all contained within the charted 20m curve, with the exception of detached reefs close N and S of Madre Reef and a shoal with a depth of 25.6m which lies 2 miles ENE of Loboc Cove.

8.16 Polo Bay, lying between Polo Point and **Silanga Point** (8°33'N., 123°46'E.), 2 miles SSE, is encumbered by reefs.

Capayas Islet, covered with bushes about 1.5m high, lies on the coastal reef in the middle of the bay.

Layaban Point (8°31'N., 123°47'E.), located 2.3 miles SSE of Silanga Point, is low, sandy, and bordered with densely growing coconut trees, which give the point appearance of a bluff when viewed from a distance.

Paypayan Bay is entered between Layaban Point and a point 0.75 mile S. The bay is fringed by a reef, awash, that extends up to 0.4 mile offshore.

Loboc Cove, an opening in the coastal reef, is located about 1.25 miles SSE of Paypayan Bay. There is a pier at the head of the cove, with a depth of 3.4m on its face and 6.1m on the N. The final approach to the pier is through a narrow break in the reef and is navigable only by very small vessels.

8.17 Oroquieta (8°29'N., 123°49'E.), the capital of Misamis Occidental Province, one of the largest towns in Iligan Bay, is situated 1 mile SSE of Loboc Cove on the N side of the mouth of the Oroquieta River.

The buildings of the town are conspicuous from northward. The church standing W of the river's mouth is ornamental, and is easily made out from seaward.

Anchorage, sheltered from S and W, but exposed to the Northeast Monsoon, can be taken about 0.3 mile offshore, in 27m, mud, good holding ground, with the church bearing 215°.

Simio Point (8°28'N., 123°49'E.), located 0.75 mile SE of the mouth of the Oroquieta River, is low, sandy, and covered with coconut trees.

Anchorage can be taken, in a depth of 7.3m, close N of the mouth of the San Vicente River, which discharges 1 mile S of Simio Point.

Balaring Point, 3 miles SSE of Simio Point, is sandy and bordered by mangroves and nipa palms.

The coastal reef for 4 miles S of Balaring Point does not extend more than 0.5 mile offshore, but for the next 2.5 miles it extends up to 1 mile offshore.

8.18 Jimenez (8°20'N., 123°50'E.) (World Port Index No. 59670) is situated about 1 mile inland, 5.75 miles S of Balaring Point. It may be identified by a prominent white stone church with a square tower and dome, visible through the trees fronting the town.

The Palilan River enters the bay E of Jimenez; there is a shallow bar fronting the entrance. A black metal warehouse stands 0.25 mile S of the river entrance, and marks the position of a small lighterage pier extending 0.1 mile offshore, with a depth of 4.6m at its head.

It has been reported that shoaling has occurred and that a heavy swell sometimes reaches the pier during the Northeast Monsoon. Four prominent white tanks stand on the N side of the root of the pier.

The coast in the vicinity of Jimenez is fringed by a bank which extends 0.25 mile offshore. It is fronted by Poricos Reef and Madre Reef and other reefs, mostly awash, which are usually well defined and easy to distinguish. These reefs provide a sheltered anchorage in front of the town.

Pilotage.—Pilotage is compulsory for berthing and unberthing and is available during daylight hours only. The pilots can be contacted on VHF channel 16 and board about 0.7 mile SE of JOMI Pier in position 8°18'57.0"N, 123°53'17.4"E.

Contact Information.—The port can be contacted, as follows:

Jimenez—Contact Information	
Pilotage	
VHF	VHF channel 16
Port Authority	
Telephone	63-88-2723734
	63-88-2723735
Facsimile	63-88-2723937

Directions.—To approach this anchorage a vessel, from a position with Tabu Point Light bearing 285°, distant 2 miles, steer 270° which leads about 0.2 mile S of the reef 0.3 mile SE of Tabu Point. When the light bears 340°, alter course N and pass from 91 to 137m E of Tabu Point and then, after rounding the point, steer for the anchorage.

8.19 From **Tabu Point** (8°20'N., 123°52'E.) the W coast of Iligan Bay trends 10.5 miles S to Ozamiz. This coast is low, with shores of sand and mangroves; most of the coast is fringed by coral. There are isolated shoals that lie between the 20 and 200m curves.

A T-headed private pier owned by JOMI of Jimenez, stands about 0.1 mile SW of Tabu Point. The pier extends about 130m from the shore. In 1990, it was reported that the head of the pier, 40m long and 12m wide, had a depth of 11m alongside its outer face. Two dolphins off each end of the T-head provide a mooring length of 200m.

A factory and large warehouse stand at the SW side of the root of the pier, with two conspicuous tanks close NE of the pier.

Range lights are shown, in line bearing 307°. The front range is on the SW end of the pier head and the rear from the top of a water tank. They lead to the pier, clear of all dangers.

There is anchorage 0.1 mile SE of Tabu Point, in a depth of 22m. The anchorage should be approached with the SW end of the T-headed pier bearing 307°. When Tabu Point Light bears 328°, it should be steered for on that bearing, anchoring when the head of the pier, or at night, the front range light, bears 238°.

Tidal currents set N and S in the approach to the pier or anchorage and must be guarded against.

It is reported that vessels up to 25,000 dwt, with a maximum length of 180m and a maximum draft of 10m, can be accommodated. Copra expellers and coconut oil are exported.

Fresh water is available in limited quantities.

8.20 Balicaocao Point (8°14'N., 123°52'E.), about 5.5 miles S of Tabu Point, is sandy and bordered with coconut trees. A chain of reefs, part of them dry, extend from 1 mile S of Tabu Point to within 0.5 mile NE of Balicaocao Point. The outer edge of these reefs, which are steep-to, lie about 1.5 miles offshore. Shoals, with depths of 2.7m and 4m, lie 0.4 mile E and 0.7 mile SE, respectively, of the point.

Loculan Point, located about 1.5 miles S of Balicaocao Point, is low and sandy. The village of Clarin (Loculan) lies close W of the point, and the mouth of the Loculan River lies about 0.3 mile N of the point.

Anchorage can be taken 0.4 mile E of Loculan Point, in a depth of 11m, sand.

Loculan Shoals consists of two groups, lying from 0.5 to 1.75 miles from the W shore, midway between Loculan Point and Opol Point, 2.5 miles S. The W shoal has a dangerous wreck lying close NW of it.

The W group consists of sand and rock, parts of which dry; trunks of trees may often be seen on these shoals.

The E group, with depths from 0.9 to 2.1m, lie 0.5 mile E of the W group, with a deep channel between. A lighted buoy marks the E side of the shallowest patch of this group.

Port Ozamiz (8°08'N., 123°51'E.)

World Port Index No. 59680

8.21 Port Ozamiz, also known as Port Misamis, lies with its entrance between Loculan Point and Binuni Point, low and wooded, 9 miles E. The shores are low and fringed with mangroves, but N of Ozamiz City, the site of the main piers, on the W shore, there is an extensive sandy beach, and S of the city on the opposite shore, there are high hills. Port Ozamiz is a Port of Entry.

Wind—Weather.—The port is sheltered from all directions except NE, but winds rarely exceed force 6. There is some rainfall the year around, but more falls during the Southwest Monsoon. Port Ozamiz is a recommended typhoon refuge.

Tides—Currents.—About 1 mile E of Misamis Point the tidal currents set either NE or SW; the maximum rate is reported to be about 4 knots. The ebb current sets E across the head of the pier at Ozamiz City.

In the approach to the pier at Migcaniguing Point, on the E side of Port Ozamiz, the tidal current sets SW on the rising tide and NE on the falling tide. In the vicinity of the pier they set more E and W. In the vicinity of the pier the rate is estimated to be about 0.8 knot. Strong currents of 4 to 5 knots were reported in the outer anchorage areas, and the same year about 2 knots was reported in the vicinity of the pier.

The mean tidal range is about 0.9m and the diurnal range is about 1.4m.

Depths—Limitations.—The main concrete pier at Ozamiz extends 67m SSW from the S side of Misamis Point; it has an extension 15m in length, and a 30m long arm extends W from the center of the pier.

There were depths from 3 to 4.3m alongside the W side of the main pier. There were also depths from 3 to 3.7m alongside the N side of the arm, and from 3.7 to 5.5m alongside the S side, with 7.3m off the head. Inter-island vessels berth on either side of the pier.

When approaching alongside, care must be taken to avoid an underwater obstruction, the outer end of which lies 115m E of the pierhead. It extends NNW to the shore and is entirely submerged at HW.

The port has two reinforced concrete general purpose piers for foreign and domestic dry bulk and general cargoes as well as passengers.

Pier No. 1 has a length of 167m, with a depth of 5.2m alongside.

Pier No. 2 has a length of 81m, with depth of 5.2m alongside.

A stone mole extends 80m SE from the shore, near the old fort at Misamis Point. A small pier stands between the mole

Port Ozamis

A timber pier, 175m in length, stands close E of Migcaniguing Point. There were depths on the E side from 7.6m at the head, decreasing to 6.1m, about 255m from the head. On the W side there were depths of 8.2m at the head, decreasing to 7.3m about 128m from the head. The pier must be approached with caution as the submerged remains of an old pier extends about 61m beyond the head.

Land reclamation for the development of back-up areas and the construction of a 135m reinforced concrete wharf with a rock bulkhead are underway.

Aspect.—On the NW side of Ozamiz City, Mount Malindang rises to a height of 2,425m. It is the highest peak of a mountain range, and is situated about 13 miles W of Loculan Point. Ozamiz City is easily distinguished by its numerous buildings.

The old fort standing on Misamis Point 0.5 mile SE of the city is marked by a light; a water tower painted aluminum stands 0.2 mile NW of the light. A large isolated metal-roofed building stands 1 mile NW of the light and Bucagan Hill, 96m high, stands 1.5 miles WSW of the city.

Pilotage.—Pilotage is not compulsory, but is recommended because of the dangers in the approach and the strong tidal currents. Pilots may be obtained from Ozamiz City or from Manila or Cebu City. The pilot will embark in the vicinity of No. 2 buoy, which will be lit on advance notice of nighttime arrival.

Anchorage.—Deep-draft vessels can anchor, in 18.3m, 0.7 mile ESE of Misamis Point. Vessels with a lighter draft may anchor 0.3 mile SSW of the point, in a depth of 7 to 9m. There is anchorage, in a depth of 8m, 0.75 mile NNE of Migcaniguing Point.

Directions.—Port Ozamiz should be approached with caution and in daylight only. From a position about 6 miles NE of Misamis Point, steer course 193° on the alignment of the lighted beacons on Migcaniguing Point, pass close E of No. 2 buoy and W of a 4.6m patch, 0.4 mile E.

Two prominent oil tanks stand close E of the leading lights. If bound for Ozamiz City, alter course to 226° when Ozamiz Light bears 235°. If the vessel is proceeding to the anchorage or pier near Migcaniguing Point, hold the 193° course to the pier or anchorage as desired.

Caution.—Narvaez Shoal, with a least depth of 0.9m, and Panguilinan Shoals, with a least depth of 2.1m, lie on the E side of the approach to Port Ozamiz, 4 and 2.5 miles NNE, respectively, of Migcaniguing Point. Pasil Shoal, with depths of 0.3 to 5.5m, is an extensive shoal which lies about 1.5 miles

NW of Migcaniguing Point.

8.22 Panguil Bay (8°01'N., 123°44'E.), a continuation of Port Ozamiz, is a shallow bay about 10 miles in length from NE to SW and has a width of about 4 miles.

It is bordered by nipa palms backed by mangroves and fish traps are numerous in the bay. Most commerce between the towns scattered along the shores of the bay is conducted by sailboats and small launches.

Panguil Bay Light is shown close S of Jandadalao Point.

From **Binuni Point** (8°12'N., 124°01'E.), the E entrance of Port Ozamiz, the coast trends in an E direction to the Agus River, about 10 miles distant.

The coast is backed by heavily wooded hills that rise a short distant inland, and is fringed by a reef which extends as far as 0.5 mile offshore. There are a number of small rivers traversing the narrow coastal plain.

The Agus River flows into the SE corner of Iligan Bay. It is an outlet for a mountain lake that lies about 14 miles S. The mouth of the river is fronted by a bar, with a depth of 1.2m at LW. A tank, painted aluminum color and standing 0.75 mile S of the mouth of the Agus River, has been reported to be a good landmark.

From the Agus River, the coast trends about 3.3 miles NE to Iligan, then N 19.5 miles to Initao Point, the E entrance point to Iligan Bay.

8.23 Camp Overton (8°12'N., 124°12'E.), an abandoned military post, located about 1 mile NE of the mouth of the Agus River, is now the site of considerable industrial development. Large buildings which are prominent from seaward included the chimneys of a steel mill, a fertilizer factory with a tower, and a tank.

There is a pier at Camp Overton of concrete construction with a T-head; depth alongside is 5.5m. A wooden pier stands about 0.8 mile E of the T-head pier, with a depth of 3.7m at its head.

An offshore berth capable of taking up to 20,000 gt oil tankers, consists of three mooring buoys. It is situated 0.2 mile NW of the T-head pier and is connected to the shore by a submarine pipeline.

The berth is suitable for ships up to 175m long with a draft of 9.75m. Ships secure to one buoy ahead and two astern. The berth is closed from mid-November to mid-February due to adverse weather conditions.

Iligan Steel Mill Pier, 230m long, lies about 1.3 miles E of the T-head pier at Camp Overton. The pier is of steel and concrete construction. There are depths of 10m alongside its E side and 6.1m alongside its W side.

A 160-ton fixed leg crane is mounted on the offshore end of the pier. The pier can be identified by a steel furnace on the W side and four oil tanks on the E side. It was reported that the pier could accommodate vessels up to 229m in length and a draft of 11m.

Iligan (8°14'N., 124°14'E.)

World Port Index No. 59700

8.24 Iligan, an important port, stands at the mouth of the Iligan River, 2 miles NE of Camp Overton. The city's importance has increased because of the many power projects in the vicinity.

Tides—Currents.—The mean range of tides is about 0.8m and the diurnal range is about 1.5m. The tidal currents on the ebb set N across the piers. They are especially strong when the Iligan River is in flood.

Depths—Limitations.—There are three concrete piers. The two S piers, about 91m apart, are each 96m long. The S pier has a controlling depth of 13.1m at its seaward end and 3.7m midway along its length on either side. The middle pier has a controlling depth of 9.1m at its head and 1.8m midway along its length. Vessels over 30m in length and drawing more than 4m forward should not attempt to berth on the sides of these two piers.

Iligan—Berthing Information

Name	Length	Depth	Remarks
Republic Cement Corporation			
Main Berth	103m	10.0m	Cement.
RC Pier	35m	—	Multipurpose.
Pilmico Foods Corporation (Flour and Feeds)			
Main Berth	32m	9.2m	Breakbulk.
Iligan City Berths			
RC 1	68m	—	Ferries and general cargo. Can accommodate vessels with a maximum loa of 78m and a maximum draft of 5.2m.
RC 2	65m	—	Ferries and general cargo. Can accommodate vessels with a maximum loa of 78m and a maximum draft of 6.0m.
RC 3	—	—	General cargo and bulk cargo. Can accommodate a vessel with a maximum loa of 90m.

Iligan—Berthing Information			
Name	**Length**	**Depth**	**Remarks**
RC 4	—	—	General cargo and bulk cargo. Can accommodate vessels with a maximum loa of 123m.
RC 5	—	—	General cargo and bulk cargo. Can accommodate vessels with a maximum loa of 116m.
RC 6	—	—	General cargo and bulk cargo. Can accommodate vessels with a maximum loa of 121m.
Ro-Ro 1	27m	—	—
Ro-Ro 2	—	—	—
Ro-Ro 3	30m	—	—
Global Steel Philippines Inc.			
RC Marginal	270m	—	Steel products. Closed.
RC Pier	220m	—	Steel products. Closed.
Tanker Terminals			
Shell	44m	9.0m	Dirty Products.
CBM	—	—	Clean products.
San Miguel Corporation			
RC Pier	35m	—	Chemicals.

Iligan

The N pier, standing 0.1 mile NE of Iligan City Light, has been reconstructed to form a wharf 240m in length and 15m wide, with a depth of 7.6m alongside.

It was reported (1993) that vessels of 23,000 gt with a draft of 10.7m could be accommodated.

Fresh water is available at the S and N piers. Fuel oil and gas oil are available by road tanker, with prior notice.

Aspect.—The cross on the dome of the church is conspicuous. At night the numerous lights of the electric plant, 3 miles SW of Iligan, are prominent as is a building standing on a 45m hill 0.75 mile SE of the church. High Peak, 521m high, rises 2.75 miles SE of the city.

Pilotage.—Pilotage is compulsory. Pilots will meet the vessels 1 mile NW of the piers. Vessels from foreign ports intending to dock at private piers must first anchor.

Domestic vessels may berth at any time, day or night, but foreign-going vessels must berth during daylight hours.

Pilots can be contacted, as follows:

Iligan—Contact Information	
Pilotage	
VHF	VHF channel 16
Telephone	63-63-2215512
Hours	48 hours and 24 hours confirming 2 hours prior to arrival via VHS
Port Authority	
VHF	VHF channel 16
Telephone	63-63-2239123
	63-63-2211346
Facsimile	63-63-2215288
E-mail	ppailigan@yahoo.com

Regulations.—Vessels should send their ETA 48 hours and 24 hours prior to arrival, with a confirmation sent 2 hours prior to arrival.

Contact Information.—The port can be contacted, as follows:

Anchorage.—Anchorage is not recommended due to the deep water near the fringing reef. Vessels waiting to berth can obtain temporary anchorage, in 48m, about 500m W of Iligan Light. During the Northeast Monsoon, vessels can find

sheltered anchorage in Quinalang Cove, about 3 miles NNE

Iligan Anchorages	
Type	**Position**
Recommended	8°17.1'N, 124°15.4'E
South of Baseport Anchorages	8°13.9'N, 124°13.5'E
	8°13.4'N, 124°13.4'E
	8°13.2'N, 124°13.2'E
	8°12.8'N, 124°12.3'E
	8°12.6'N, 124°11.5'E
Dangerous cargo	8°14.4'N, 124°13.8'E
	8°14.6'N, 124°13.8'E
Quarantine	8°13.5'N, 124°12.1'E

8.25 **Quinalang Point** (8°16'N., 124°15'E.), 2 miles NNE of Iligan is the S entrance point to Quinalang Cove. The Mandulog River flows into the bay close N of Quinalang Point.

The village of Santa Filomena (Mandulog) stands on the shore close NE of the river mouth. A pier, 90m in length, is situated near Santa Filomena. Pile clusters and mooring dolphins stand W and E of the head, forming a T-head.

Caution must be used as the piles are loose, the pier weak, and the local labor inexperienced in line handling.

The shore of Quinalang Point, for a distance of 1.25 miles N of the river's mouth, is low and comprised of a swamp with dense growth.

Three parallel concrete piers extend S from the N end of Quinalang Cove, 1.5 miles NNE of Quinalang Point. The W pier has a depth of 10.7m at its head. The other two piers are T-headed. The W T-head pier has a depth of 4.9m along its seaward face and the E T-head pier has a depth of 7m alongside its seaward face. A wharf, 93m long, lies between the W pier and the T-head piers. It has a least depth of 4.6m alongside.

These three piers serve the grain silo, the bulk copra loading berth, and the bulk cement loading berth.

It is reported that vessels of 183m length can berth at the grain and copra berths, with depths of 12.2m and 9.8m alongside. The cement berth is reported capable of accommodating vessels of 25,000 gt. The Coconut Oil Berth was reported to accommodate vessels having a draft of 13.7m.

The conspicuous white chimney of a cement factory, where there is a small pier, stands near the coast, 0.3 mile SE of the above concrete piers.

It is reported that a berth for loading coconut oil and coconut products, with a depth alongside of about 11m at LW, is situated N of Santa Filomena.

8.26 From Quinalang Cove, the coast trends in a NNE direction for 11.5 miles to **Naawan Head** (8°28'N., 124°17'E.), passing Manticao Point, about 6 miles distant. Naawan Head can be identified by its low cliff face. A narrow steep-to reef extends about 0.3 mile offshore along this coast.

The Talabaan River flows into the bay 1.5 miles S of Naawan Head; the village of Naawan lies on the S side of the river. There is anchorage 0.6 mile offshore, SW of the mouth of the river, in a depth of 82m, good holding ground, but is subject to rough seas and heavy swells during the Southwest Monsoon. The anchorage is used at times to load ore.

Initao Point (8°33'N., 124°19'E.), the E entrance point of Iligan Bay, is about 5 miles NNE of Naawan Head.

The intervening shore consists of a series of cliffs interspersed with short sandy beaches. Initao Point is wooded and undercut by wave action. The coast is fringed by a narrow steep-to reef.

The village of Initao sits at the head of Initao Bay, about 2.8 miles SSW of Initao Point. Anchorage for vessels calling at Initao may be taken in the bay 0.3 mile W of town, but is limited by depth of the water and is used by smaller vessels.

Sulauan Point (8°37'N., 124°29'E.) is situated 10.5 miles NE of Initao Point. The coast between these two points consists of a series of cliffs interspersed with sandy beaches. Sulauan Point is low and wooded.

Macajalar Bay

8.27 **Macajalar Bay** (8°34'N., 124°37'E.) is entered between Sulauan Point on the SW and Gorda Point, 16.75 miles ENE. The SW shore of the bay is low and fringed by steep-to coral reefs.

At the head of the bay, grass-covered hills rise about 1 mile inland, to elevations of more than 460m.

The E shore is higher and consists of sand beaches separated by low, rocky points. Several rivers, which are navigable by boats, flow into the bay.

The 20m curve lies close to the edge of the reef fringing the shores of the bay. The shoal fringing Macabalan Point, near the head of the bay, was reported to have extended at least 91m farther NE than charted.

Alutaya Reef (8°41'N., 124°41'E.), lying in the NE part of the bay, consists of a patch of sand and rocks which uncovers.

The passage between the reef and shore is about 2.5 miles wide between the 20m curves.

8.28 The SW side of Macajalar Bay extends for 12.5 miles in a SE direction from Sulauan Point to Cagayan de Oro at the head of the bay. The shore, in general, is backed by grass covered hills.

Alubijid Bay (8°36'N., 124°29'E.), close S of Sulauan Point, is a loading place for the chromite ore mined in the vicinity. A privately owned pier, with a depth of 4.2m alongside, is located near the head of the bay.

A church that is prominent from seaward stands close inland 3.5 miles SE of Alubijid Bay.

Molugan Point (Malugan Point) is fringed by a reef, which partly dries, that extends 0.75 miles offshore.

Opol (8°31'N., 124°35'E.), a small town 8 miles SE of Sulauan Point, lies close S of Molugan Point. Chrome ore is usually loaded into lighters from a pier which has a depth of 5.2m alongside.

The water off Opol is too deep for vessels to anchor. An anchorage, exposed to the Northeast Monsoon, is available N of Molugan Point, with the church in the village of Molugan (Malugan) bearing 180°, in a depth of 30 to 33m.

Cagayan de Oro Harbor and Cagayan de Oro River

Cagayan de Oro (8°30'N., 124°39'E.)

World Port Index No. 59710

8.29 Cagayan de Oro, situated 2 miles inland on the E bank of the Cagayan River in the SW part of Macajalar Bay, is an important commercial center. It is a Port of Entry.

The Port Authority is the Philippine Ports Authority, Port of Cagayan de Oro Port Manager, Macabalan, Cagayan de Oro City, Philippines.

Winds—Weather.—During the Southwest Monsoon, the harbor is sheltered from the prevailing winds, but it is exposed during the Northeast Monsoon.

The dry season which is short, lasts only 1 to 3 months, usually occurring from February to April.

Generally, the prevailing wind is from the N and NW. Annual rainfall is relatively low and occurs mainly from May to July, coinciding with the period of the Southwest Monsoon. There is no period of a pronounced maximum rainfall reported.

Tides—Currents.—The mean tidal range is about 0.8m. The tide becomes diurnal around the time of the moon's maximum N and S declination. The diurnal range is about 1.3m. High and LW occurs 15 minutes earlier than at Cebu.

The tidal currents are weak, but it is possible for a counterclockwise current to exist in the bay, though it varies in intensity throughout the year.

Depths—Limitations.—The approach to the port is deep and clear of dangers with the exception of Alutaya Reef.

The port has 13 berths, which can handle passenger vessels, general cargo, break-bulk, containers, Ro-Ro, and liquid bulk cargo. Berthing details are shown in the accompanying table titled **Cagayan de Oro—Berthing Information**.

Aspect.—The buildings and wharf at Cagayan de Oro are prominent. Two radio towers stand 0.5 mile SW of the light on Macabalan Point, and a silo stands 0.5 mile farther SW.

Cagayan de Oro—Berthing Information

Name	Depth	Remarks
Lagoon 1	3.0m	—
Lagoon 2	—	—
Berth 1	8.5m	Vessels with a maximum loa of 100m
Berth 2	8.5m	Vessels with a maximum loa of 100m
Berth 3	8.5m	Passenger vessels
Berth 4	8.5m	Passenger vessels
Berth 5	8.5m	Passenger vessels
Berth 6	8.5m	Passenger/cargo vessels
Berth 7	8.4m	Passenger/cargo vessels
Berth 8	10.5m	Passenger/cargo vessels
Berth 9	10.5m	Passenger/cargo vessels
Berth 10	10.5m	Container vessels
Berth 11	10.5m	Container vessels
Berth 12	11.0m	Deep-draft vessels
Berth 13	11.0m	Deep-draft vessels

Pilotage.—Pilotage is compulsory for foreign vessels anchoring in the stream, docking, or undocking. Pilotage is optional for vessels leaving the anchorage. Pilots will embark about 2 miles off the main wharf.

The pilots should be contacted on VHF 3 hours prior to the vessel's ETA.

Cagayan de Oro provides pilotage for Bugo (paragraph 8.30)

and Villanueva (paragraph 8.32).

Contact Information.—The port can be contacted, as follows:

Cagayan de Oro—Contact Information	
Pilotage	
Call sign	Cagayan Pilot Station
VHF	VHF channel 16
Telephone	63-88-8568895
	63-88-3096070
Facsimile	63-88-8568895
Hours	24 hours
Contact Details	
VHF	VHF channel 16
Telephone	63-88-8569098
	63-88-3099099
	63-88-3093800
Facsimile	63-88-8569100
E-mail	ppapmocdo@ppa.com.ph
Web site	http://www.ppa.com.ph

Anchorage.—The usual anchorage for vessels not proceeding alongside is 0.1 mile SE of the wharf, in depths of 33 to 55m.

Directions.—Vessels from NW can pass about 4.5 miles E of Sulauan Point and steer for a position about 1 mile NE of Macabalan Point, then to the anchorage area.

Vessels from N or E, after clearing Alutaya Reef, can steer for a position about 0.2 mile E of Macabalan Point, then anchor, or go alongside the wharf, in daylight only.

Caution.—Two below-water wrecks lie together about 60m off the middle of the main wharf.

8.30 A prominent red-roofed house stands on the S shore of the bay, in a position 3.5 miles ESE of Macabalan Point.

A conveyor-belt pier was reported to be in operation at Agusan, 4.5 miles ESE of Macabalan Point. The pier appears to be capable of handling large vessels. There is a mill and a cupola standing near the pier.

Bugo (8°31'N., 124°45'E.) (World Port Index No. 59720), the site of a cannery, stands in the SE corner of Macajalar Bay.

There are two piers at Bugo, 90m apart, and faced with dolphins, which provide berths for deep-draft vessels. The pier heading is N and S.

The N pier, a T-headed wooden main pier, is 61m long, with a least depth of 10.1m alongside. Pile clusters at either end of the pier give a total berthing length of 183m. The pier was reported to be 121m long. Vessels usually berth port side to. Bow and stern lines can be secured to mooring buoys close to shore. A wreck, awash, is reported to lie close S of the pier.

The S pier, which is L-shaped, has a berthing face 92m long and a controlling depth of 7.9m alongside. It was reported that the berthing face of each pier was to be joined to extend the berthing area. A dangerous wreck lies 91m NE of the N end of the pier.

A pier, 50m long with a depth of 9.1m alongside, is situated 1.5 miles NW of Bugo.

An oil installation, consisting of three mooring bollards and a floating pipeline, is situated N of the piers.

Mindanao Container Terminal with a 300m face on a NW/SE axis, has a depth of 13m alongside and 2 berths.

Pilotage.—Pilotage, which is compulsory, may be obtained through the vessel's agent and is provided through Cagayan de Oro (paragraph 8.29). The pilots embark 0.5 mile off the berth. Pilots can be contacted on VHF channels 16 and 22.

There is anchorage 0.2 mile W of the piers, in depths of 55 to 73m, or 0.5 mile NW of the piers, with a good holding ground, in a depth of 42m.

8.31 Gorda Point (8°42'N., 124°45'E.), the NE entrance point of Macajalar Bay, is located 11 miles N of Bugo. It is a conspicuous steep-to promontory with wooded slopes and a flat crown. The point can be easily identified from any part of the bay.

The Tagoloan River discharges into the bay about 2.5 miles N of Bugo. The bar at the river mouth is shallow, and outside the depths are too great to provide anchorage. The holding ground is poor.

An L-shaped pier, 20m long with a depth of 6m, is situated at the town of Tagoloan, about 1.3 miles within the mouth of the Tagoloan River.

A 3.6m shoal, marked by privately maintained buoys, lies 2 miles NNE of the N entrance point of the Tagoloan River.

8.32 Villanueva (8°35'N., 124°46'E.) (World Port Index No. 59725), about 2.6 miles NE of the N entrance point of the Tagoloan River, has an ore terminal. The terminal consists of a wharf constructed on piles about 400m long in a 050°-230° direction.

The outer side of the wharf has depths of 23 to 29m and is capable of accommodating 350,000 dwt bulk ore carriers. There is a quay for medium sized vessels close NE of the main berth.

Loading of iron ore is by means of a conveyor system; the discharge of iron ore is carried out with the use of two gantry cranes. Reported loading and discharge rates are 4,500 tons per hour and 25,000 tons per day, respectively.

Tugs and some lighters are available. Fresh water is reported to be available. Fuel oil and diesel oil can be supplied by road tanker. No repair facilities are available.

Lighted buoys, privately maintained, mark the dangers in the approach to the main berth.

Pilotage is compulsory for berthing. Movements are only by day. Pilots are provided by Cagayan de Oro (paragraph 8.29) and are reported to board about 4 miles N of that port. A boat or tug is used for boarding and the pilot can be contacted by VHF radio.

There is anchorage, in depths of 70 to 80m, about 2 miles NNW of the terminal.

Cabulig Bay (8°38'N., 124°46'E.), situated 5.5 miles N of the entrance to the Tagoloan River, affords anchorage close inshore during the Northeast Monsoon. There is a pier, about 95m long, with a depth of 7.6m at its head, situated at the vil-

lage of Jasaan near the head of the bay. A church, which is conspicuous, stands in the village.

Gorda Point lies 4 miles N of Cabulig Bay.

8.33 Banbayan (8°46'N., 124°46'E.), about 5 miles NNE of Gorda Point, is the N entrance point of Balingasag Bay. The town of Balingasag stands at the head of the bay. There is a church in the town, and a monument which stands on the beach W of the town that is prominent.

There is anchorage, in a depth of 16m, sand, 0.2 mile offshore in front of Balingasag. During the Southwest Monsoon, there is better protected anchorage near the head of the bay in a depth of 22m, mud, with the church bearing 005° and the N tangent of Gorda Point bearing 265°.

Between Banbayan Point and Bagacay Point, 12 miles N, the terrain rises abruptly from a narrow coastal plain to heavily wooded slopes reaching an elevation of 1956m about 8 miles inland.

The coast is fringed by a steep-to coral reef which dries in places. Constancia Reef, with a depth of 0.5m, lies outside the 20m curve, 0.75 mile NW of Banbayan Point. A reef, with a depth of 4.6m, lies outside the 20m curve, 6.5 miles NNE off the same point.

From **Bagacay Point** (8°59'N., 124°47'E.), the coast trends in a general ENE direction about 6 miles to Sipaca Point. Steep bluffs and cliffs rise abruptly from the shore in the vicinity of Bagacay Point and it is fringed by a steep-to drying reef as far as 0.5 mile offshore.

Canauayon Islet (9°01'N., 124°51'E.), 33m high, lies 4.5 miles NE of Bagacay Point; it is connected to the mainland, 0.25 mile SE, by a reef which nearly dries.

Canauayon Anchorage (9°01'N., 124°51'E.) is a small protected bay entered 0.15 mile W of the islet through a break in the coastal reef. There is also anchorage for small vessels with local knowledge, in depths of 14 to 17m, about 0.15 mile N of a warehouse with a metal roof, standing in the W part of Baligoan village. The village is located on shore about 0.4 mile SSE of Canauayon Islet.

Camiguin Island

8.34 Camiguin Island (9°10'N., 124°43'E.), a high, steep volcanic island, lies with its S extremity 6 miles N of Bagacay Point. Mount Mambajao, a volcanic peak, rises to a height of 1,525m, near the center of the island.

Mount Hibok-Hibok, 1,207m high, is an active volcano located 3.5 miles NW of Mount Mambajao. The island is reported to be a good radar target at 18 miles.

The entire island, except the upper mountain slopes, is cultivated. Above a height of 460m the mountains are heavily wooded.

The channel between Camiguin Island and the coast of Mindanao is clear of dangers.

The island is steep-to, with the 20m curve lying less than 0.25 mile offshore. The S and W sides of the island are clear of off-lying dangers, but there are several reefs and islets lying off the N and E sides.

8.35 Medano Islet (9°16'N., 124°39'E.) is a sand cay, 2m high, with a few bushes, lying 1 mile NW of Agoho, on the NW side of Camiguin Island. The fringing reef extends 0.5 mile off the entire islet. The channel between the islet and Camiguin Island is deep and clear of dangers, however, tide rips form 0.5 mile NW of the islet.

Jigdup Reef (9°16'N., 124°47'E.), with a depth of 1.4m, lies 4 miles E of the light at Mambajao.

Bulias Shoal is a small shoal, with a depth of 7.8m, located 4.75 miles SSE of Jigdup Reef. Magsaysay Island is a low, wooded and sandy islet lying 1.5 miles S of Bulias Shoal that is fringed by a reef that extends about 0.5 mile off its N side.

8.36 Mambajao (9°15'N., 124°43'E.), the principal town of Camiguin Island, stands at the N extremity of the island.

The harbor consists of a break in the coastal reef which extends 0.1 mile to seaward on either side. The pier, a stone jetty with wooden extension, had reported depths on its W side from about 2.1 to 2.4m. It is 163m long with a depth of 4.6m at its seaward end. The E side of the pier is not usable.

A light is shown at Mambajao.

Anchorage can be obtained off Mambajao, in depths of 33m, sand, with the light bearing 204°, about 0.25 mile distant.

Mambajao

Mahinog (9°09'N., 124°47'E.), a small town, is located on the E side of Camiguin Island, 7.5 miles SSE of Mambajao. The white tower of the church can be identified at a distance of 5 miles. There is anchorage off the town, in a depth of 27m, sand.

Binoni (9°08'N., 124°48'E.), standing 1 mile S of Mahinog, is the second busiest port on the island.

The L-shaped wooden pier is 50m long with a depth at the seaward end that can accommodate vessels with a draft of 7m. The N face is foul. A wreck lies about 40m off the end of the pier.

A light is shown at the port, which is the main Port of Entry for the island.

Farol Point (9°05'N., 124°46'E.) is the S extremity of Camiguin Island. The tidal current S of this point is dangerous to small vessels when the current sets against the wind.

Sagay is a small town 3 miles NW of Farol Point. The white church in the town is visible at a distance of 20 miles. Anchorage, sheltered only during the Northeast Monsoon, can be taken, in depths of 22m, sand, with the N gable of the church

Binoni

bearing 000°.

Catarman, one of the islands principal villages, is located about 3 miles NW of Sagay. A 18m pier, with a depth of 3.7m alongside, is situated at the village.

Catarman Point (9°13'N., 124°38'E.), about 6 miles NNW of the village, is one of the few bluff points on the island. A light is shown about 1 mile S of this point.

Gingoog Bay

8.37 Gingoog Bay (8°57'N., 125°06'E.) is entered between Sipaca Point and Diuata Point, 20 miles ENE. Densely wooded mountains rise to an elevation of 1,177m, a short distance inland, between Sipaca Point and Gingoog, 17.5 miles SE. The shores of the bay are fringed with narrow steep-to coral reefs; there are no charted dangers outside a distance of 1 mile offshore.

Sipaca Point (9°01'N., 124°52'E.), located 1.75 miles ENE of Canauayon Islet, is an excellent landmark and consists of a bold conical hill rising from the water's edge to an elevation of 267m, about 0.1 mile inland. It is separated from the mainland by a mangrove swamp and appears as an island when viewed from a distance.

Talisayan (9°00'N., 124°53'E.), the principal town in Gingoog Bay, stands 1.25 miles SSE of the summit of Sipaca Point.

A detached coral shoal, 7.3m deep, lies 0.1 mile offshore.

There is a deep channel between the shoal and the coastal reef fronting the town. A pier, 165m in length, with a depth of 4m alongside its head, is situated in the town.

There is anchorage, exposed to NE winds, close to the coastal reef N of Talisayan, in a depth of 37m.

Small vessels sometimes anchor on the shoal patch, with Sipaca Point bearing 321° and a prominent metal-roofed building near the beach bearing 237°.

8.38 Medina (8°55'N., 125°02'E.) is a small harbor, situated on the S side of Medina Point, about 11 miles SE of Sipaca Point.

Depths—Limitations.—The N pier, which is government owned, is T-headed, with a berthing face of 20m in length. Pile clusters off either end provide a berth 122m in length.

A vessel reported depths of 7.3 to 14.6m along the inboard side. A privately-owned L-shaped pier is situated about 91m SE of the government pier. The berth facing is 7m long, but dolphins off the NE corner have increased the berth to take vessels of about 150m in length. Such a vessel, berthing starboard side to, reported depths of 8.2 to 16.5m along the inboard side.

A wreck, partly awash, lies on the N side of this pier.

Aspect.—The town may be identified by several buildings with metal roofs. A concrete tower 10m high stands near the town. There are two piers here exposed to the Northeast Monsoon.

Pilotage.—Pilotage is advisable for berthing and unberthing, as coral heads encumber the inshore ends of the S pier. Pilots can be obtained from Davao. Vessels should arrive during daylight only and berth starboard side to the head of the pier. Care must be taken to keep the stern clear of the wreck, which is awash.

Anchorage.—Anchorage is not recommended on account of deep water close offshore.

8.39 Minlagas (8°53'N., 125°03'E.) is located about 2.5 miles SE of Medina.

There is a berth for loading copra pellets and coconut oil. The berth consists of a concrete pierhead 6m in length, standing about 150m offshore. There are breasting and mooring dolphins on each side, providing a total berth length of 150m and a mooring berth of 350m.

The pier head supports a loading gantry and manifold, supplied by a conveyor system and pipeline from the shore installation. The depth alongside is reported to be 15m at MLLW.

A smaller berth for the discharge of copra is situated about 70m N of the main berth.

Pilotage is compulsory and pilots are obtained from Cagayan de Oro, boarding from a canoe about 2 miles from the berth.

There are no tugs or facilities for provisions, fresh water or fuel.

8.40 Lunao (8°51'N., 125°04'E.), a small timber-loading town, is situated 5 miles SSE of Medina. The T-headed pier is difficult to identify until well into Gingoog Bay; however, a light is shown from the SE corner of the pier.

The pier face is 61m long, there were depths of 9.1m at the S end, decreasing to 5.8m at the N end. There are mooring posts for securing bow and stern lines. The pier can be used by large vessels. It is recommended that vessels berth starboard side-to during the Southwest Monsoon and port side-to during the Northeast Monsoon. The use of an anchor is recommended. A pilot boards just off the pier.

A 2.7m coral shoal lying 1 mile ESE of the pier is reported to be clear of the approach.

There is anchorage 0.2 mile off the pier at Lunao, in depths of 30 to 55m.

8.41 Gingoog (8°50'N., 125°06'E.) (World Port Index No. 59475) a town standing at the head of the bay in a position 2 miles SE of Lunao, is visible from seaward. There is a wooden pier 152m long located at the town. A concrete tower, 10m high, stands close W of the root of the pier. Pilotage is compulsory.

Anchorage can be taken 0.25 mile N of the town, in a depth

of 27m.

8.42 Anakan (8°51'N., 125°09'E.), the site of a lumber camp, stands in a bight 3 miles ENE of Gingoog. Timber is loaded at a pier or in the anchorage.

The privately-owned L-shaped pier has a controlling depth of 8.2m, alongside. The berthing space was reported to be 183m long, with a depth of 9.8m alongside.

A pair of beacons, in range bearing 132°, are secured to trees on the hillside, but they are difficult to distinguish beyond 1.5 miles distance. The E peak of a low ridge of hills behind the beacons, bearing 132°, serves as a guide from a distance.

Pilots are not available, but a representative from the timber mill will board 1.5 miles offshore.

There is anchorage NW of the pier, in a depth of 73m, good holding ground, with Gingoog bearing 243°.

There are numerous logs adrift in the vicinity of Anakan, some of them large enough to damage a ship's propeller. The approach should be made in daylight.

Odiongan (8°51'N., 125°10'E.), a village at the mouth of the Odiongan River, is situated on the SE shore of the bay, 1 mile E of Anakan.

There is anchorage for small vessels with local knowledge on a ridge of sand and coral, N of the E side of the entrance to the river. Larger vessels may anchor 0.2 mile offshore, in a depth of 37m.

The E side of Gingoog Bay, from Odiongan to Magsaysay, 10.5 miles N, is fringed by a narrow steep-to drying reef.

8.43 Magsaysay (Linugos) (9°01'N., 125°11'E.) is a small town which stands on the N side of the mouth of the Linugos River.

The coastal plain, less than 0.5 mile in width, is backed by a ridge which quickly rises to a height of over 305m.

A break in the coastal reef, about 0.3 mile wide off Magsaysay, affords good anchorage, sheltered from NE winds, in 13m, sand and mud. Between Magsaysay and Diuata Point, about 5 miles N, the terrain rises steeply from the shore, with some cliffs. In this area a narrow steep-to drying reef fringes the shore.

Diuata Point (9°06'N., 125°13'E.), low and densely wooded, rises to a height of 355m, 3 miles S.

Butuan Bay

8.44 Butuan Bay (9°07'N., 125°27'E.), entered between Diuata Point and the entrance to the Tubay River, 19 miles ENE, is open and clear of dangers.

Vessels can proceed directly from the entrance to any part of the bay. Pilotage is compulsory at Masao.

The ports of Butuan, Masao, Nasipit, and Surigao are administered by the Philippine Ports Authority, Port Management Unit, Agusan del Norte.

The port limits extend from Diuata Point to NE of Surigao and include the islands of Siargao and Dinagat.

Nasipit Harbor (9°00'N., 125°20'E.) is located about 10 miles SE of Diuata Point. The harbor is formed by an opening between bluff rocky headlands 0.5 mile apart.

8.45 Nasipit (8°59'N., 125°20'E.) (World Port Index No. 59345), a timber port of some importance, stands on the E side of the harbor.

Vessels up to 170m long and 7.6m draft can be accommodated.

Tides—Currents.—The spring tides rise about 1.2m, and neaps about 0.8m. The LWS tides can fall as much as 0.5m below chart datum. There is a rather strong tidal current which sets in a S direction during the rising tide and in a N direction during the falling tide.

Depths—Limitations.—The reef, on the W side, extends about 700m N from the W entrance point; the reef, which partially dries and shows plainly on a clear day, is marked by a buoy on its SE edge. A small restricted area is established about 274m SW of this buoy. The fringing reef on the E side outside the entrance extends about 183m offshore. A buoy is moored about 183m NE of the E entrance point; a beacon stands close W of the same position.

The timber mill pier has a T-head 140m long, extending in a NNW direction, with a depth of 13.4m alongside. The pier face is 85m from shore. There are two dolphins off the inner face of the N arm of the T-head. The berth can accommodate vessels 168m in length. Vessels usually berth starboard side-to.

Another pier, for loading copra, extends 183m W from the shore in the SE part of the harbor. It has a 64m long berthing head, with a depth of 6.4m alongside, although depths of 7 to 7.9m alongside have been reported. A mooring buoy is laid 183m S of the pierhead.

The International Port at Nasipit has a berth 299m in length, with a depth of 6m alongside, for container, general, and ro-ro traffic. There are also facilities for handling petroleum products.

Nasipit Wharf

Aspect.—A large timber mill stands on reclaimed land on the E entrance point. The cross on the church in the town, the timber mill's pier, the buildings, and the black chimney of the timber mill are prominent from seaward.

A conical kiln 24m high and two black oil tanks stand on the E side of the harbor.

Pilotage.—Pilotage in Nasipit Harbor is compulsory and it is recommended that a pilot be used due to changing harbor conditions and the numerous log rafts within the harbor.

Vessels waiting for a pilot should anchor in the Quarantine Anchorage (9°00'30"N., 125°28'15"E.).

Nasipit also provides pilotage for Masao (paragraph 8.46)

and Butuan (paragraph 8.48).

Regulations.—Ocean-going vessels should send their ETA 24 hours in advance. Coastal vessels should send their ETA 12 hours in advance. The ETA message should include the following information:

1. Vessel name.
2. Type.
3. Gross tonnage.
4. LOA.

Contact Information.—The port can be contacted, as follows:

Nasipit—Contact Information	
Pilotage	
VHF	VHF channel 16
Telephone	63-85-3423068
E-mail	renepcubal@yahoo.com
	nasipit_pilots@yahoo.com
Port Authority	
VHF	VHF channel 16
Telephone	63-85-225-5012
Facsimile	63-85-342-5352
E-mail	ppa-13@butan.philco.com.ph

Anchorage.—Large vessels can take anchorage, in depths of 37 to 46m, sand and mud, about 0.5 mile offshore close E of the harbor entrance.

The S shore of Butuan Bay, between Nasipit and the Agusan River, which discharges into the bay 11 miles E, is low and heavily wooded to the sandy beach. The coastal bank does not extend more than 0.5 mile from the shore.

Buenavista (8°59'N., 125°25'E.) is a small town which stands 4.5 miles ESE of Nasipit.

8.46 Masao (9°00'N., 125°29'E.) (World Port Index No. 59343) is situated about 4.75 miles ENE of Buenavista and 1.5 miles WSW of the entrance to the Agusan River. The port of Masao was developed to service a number of operating areas in the locality. Vessels are directed to deep-water anchor berths in open water off the entrance to the Agusan River.

Masao Pier, a concrete structure, stands on the S side of the entrance to the Agusan River, close ENE of Masao.

Recent development is reported to have included land reclamation and extension of the available berth space.

Pilotage is provided from Nasipit (paragraph 8.45).

The quarantine and waiting anchorage is 2.5 miles W of Masao in position 9°00.5'N, 125°28.25'E.

Ten anchor berths are located between 1.25 and 2.25 miles W of Agusan River Light, in general depths which vary between 73 and 164m.

8.47 The **Agusan River** (9°01'N., 125°31'E.), which discharges into the SE corner of Butuan Bay, is the second largest river in Mindanao. Pontod Island, a sandy cay, lies off the NE entrance point of the river and divides it into two channels. There is a pilot station and a settlement on the island.

It is reported that the entrance to the river can be identified from W by two small groups of hills on the N side of the river mouth.

A prominent triangular-shaped hill about 180m high, about 2.5 miles NE of Agusan River Light, is reported to be a useful mark and a good radar target.

The S entrance channel is 137m wide at its narrowest part, and a depth of 2.7 or 3m can usually be carried over the bar at LW, and from 3.7 to 4.3m at ordinary HW. A hard gravel shoal, with depths of 0.3 to 1.2m, extends 0.25 mile S from Pontod Island.

Caution.—The entrance channel is constantly changing, and no vessel should attempt to enter without current local knowledge.

8.48 Butuan (8°57'N., 125°33'E.) (World Port Index No. 59760) stands on the W bank of the Agusan River, 5 miles from the entrance. A depth of 4.6m can be carried from the bar to the town.

During the rainy season, which begins in November and lasts four months, the river is high and filled with floating debris, most of which can be avoided by anchoring in the lee of a point. There is a constant current running out of the river all year, and at times it runs at a considerable rate. The river is at its lowest in September and October.

Pilotage is provided from Nasipit (paragraph 8.45).

Development of the port has been undertaken in recent years, and it is reported that there is a berth 138m in length with a depth of 5m alongside at MLLW.

8.49 Magallanes (9°01'N., 125°31'E.) stands on the W bank of the Baug River, close within the entrance of the Agusan River.

The T-head pier of a lumber company extends 0.2 mile from shore in a NW direction, 1 mile N of Magallanes. The pier head is about 91m long, with a least depth of 7.3m alongside, and can accommodate a large vessel. It is reported that the best approach to the pier is from the N towards the NE end of the pier head, berthing port side-to.

8.50 Cabadbaran (9°07'N., 125°32'E.), on the E shore of Butuan Bay, stands on the S bank of the Cabadbaran River, 6 miles N of the mouth of the Agusan River.

The mountains which back this coast rise to a height of about 1,829m, 12 miles E of the mouth of the Cabadbaran. The shore is low, densely wooded, and fringed by a steep-to ledge as far as 0.75 mile offshore.

A light is shown from a round metal tower, 9.1m high, standing on the S side of the river mouth.

The bar of the Cabadbaran River dries at LW. A stone pier, 0.5 mile S of the light, provides landing for small boats.

It is reported that there is anchorage, 0.1 mile offshore, 1 mile N of the Cabadbaran River entrance, in 18.3m.

8.51 Tubay (9°10'N., 125°31'E.), a small town, sits on the S bank of the Tubay River 3 miles N of Cabadbaran. There is little water reported on the bar that fronts the Tubay River.

Anchorage can be taken about 0.4 mile offshore, in 22 to 27m, with the town bearing 167°, distant 1 mile.

Mount Tubay (9°11'N., 125°32'E.), 447m high located 1.5 miles NE of Tubay, is prominent.

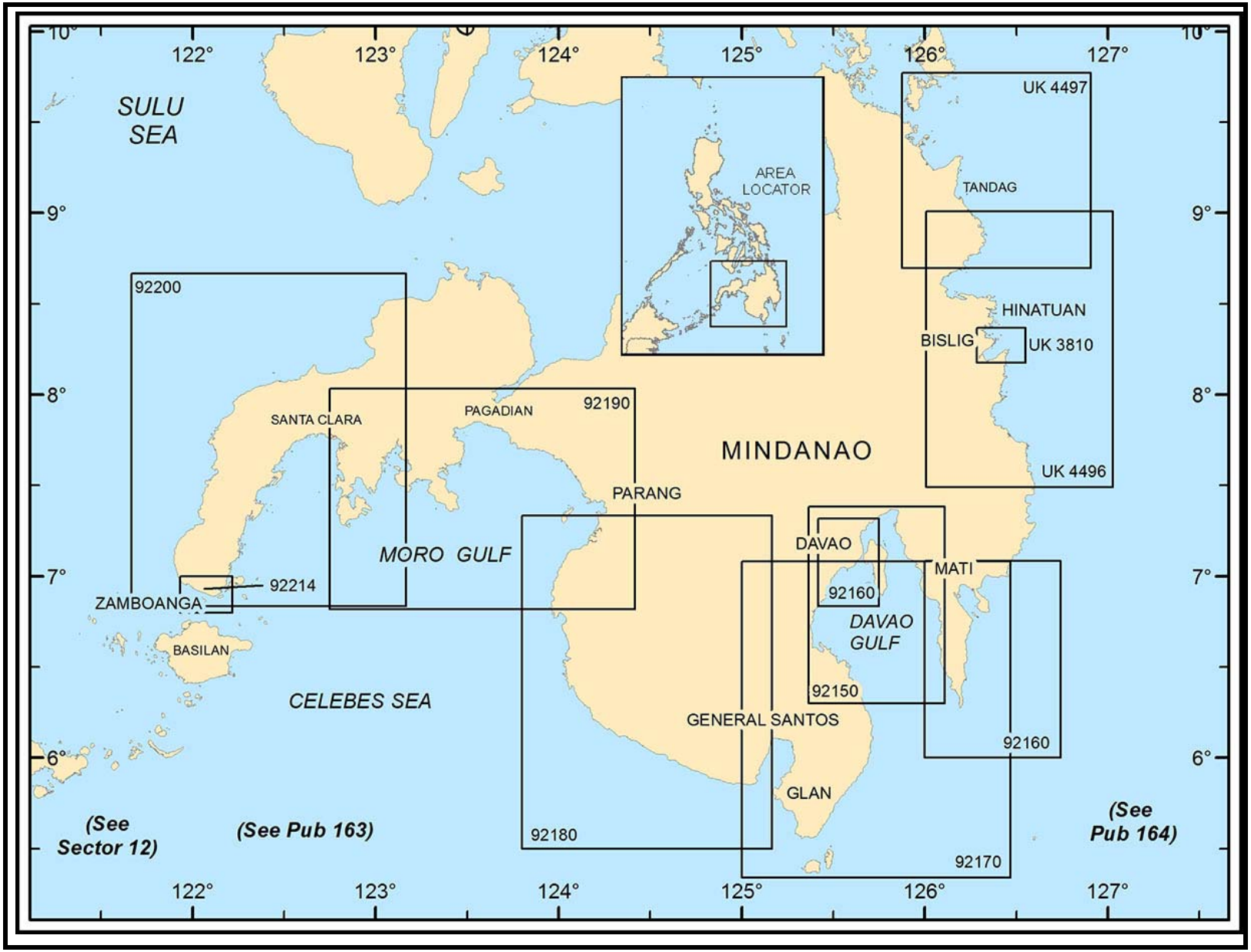
Between the mouth of the Tubay River and Madilao Point, 37 miles NNW, the coast is bold, steep-to, and has no known off-lying dangers.

Madilao Point (9°46'N., 125°24'E.) is 82m high, steep-to, and composed of dark rock.

Bilaa Point (9°49'N., 125°26'E.), the N extremity of Mindanao, lies 3.75 miles NE of Madilao Point. It is at the N end of a range of coastal mountains.

The coast between these two points recedes and forms a slight bay. The 20m curve lies close to a ledge, less than 0.5 mile wide, which fringes this bay.

There is anchorage, close in, which is sheltered from NE, through E to SW winds.



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

SECTOR **9** — CHART INFORMATION

SECTOR 9

MINDANAO—SOUTH AND EAST COASTS

Plan.—This sector describes the S and E coasts of Mindanao, including off-lying islands and dangers. The first part of the sector describes the S coast from Caldera Point, E to Cape San Agustin. This is followed by a description of the E coast from S to N, from Cape San Agustin to Cauit Point.

General Remarks

9.1 Wind—Weather.—In the vicinity of Basilan Strait E and NE winds, accompanied by clear weather, occurs in January. The same conditions prevail during February, March, and April, but there are occasional NW breezes of short duration.

In May and June the wind blows from the SE and is more or less variable. Squalls occur during June, and towards the end of the month, fresh SW breezes commence. Winds from the SW of some strength blow during July, August, and September.

These winds are accompanied by much rain and foul weather. Gales occurring at this time last more than 3 or 4 days. North and NE winds occur during November and December, and the Northeast Monsoon becomes more or less steady during the latter month.

Throughout the year, when the seasonal wind is not strong, land and sea breezes are prevalent.

About 1 per cent of the total number of typhoons occurring in the Philippines affect the Davao area. Typhoons passing to the N, between June and October, cause increased seas and swells. The storms develop far enough S so as to affect Davao can be expected from November to February. They do not form during the normal typhoon season.

The visibility is generally good, although it is temporarily restricted in heavy rain squalls.

The rainfall at Davao averages about 2,000mm a year. It is fairly evenly distributed throughout the year. There is no definite dry season. Less rain falls in January and February, with averages between 117 to 127mm. The wettest months are May and June with about 235mm of rainfall.

On the S coast of Mindanao, the Northeast Monsoon predominates. Interruptions to the Northeast Monsoon occur more frequently at Davao Gulf than at places farther N. There are no pronounced maximum rain nor dry seasons.

On the E coast, the Northeast Monsoon does not become established until December, when it prevails over the area until March.

The Southwest Monsoon, which is neither as strong nor steady as the NW, is usually accompanied by cloudy and rainy weather. The entire E coast is exposed to the full force of the Northeast Monsoon.

Typhoons are most frequent from July to November and are in most cases severe. The winds usually blow 60 to 70 knots but a velocity of 131 knots has been recorded. These storms cause heavy swells and high seas. Typhoons are rarely experienced S of 5°N.

Tides—Currents.—Semi-diurnal tides predominate on the S and E coast of Mindanao. Strong tidal currents are known to exist close off the S and E coast, and their direction, strength and consistency, depend to a great extent upon the prevailing monsoon and on the character of the coastline.

The tidal currents in the Mindanao River are strong. It is reported that the ebb current has a rate of 2 knots and the flood current a rate of 0.5 knot.

There is a weak N current off the S coast of Mindanao. Close to the coastal reef this current appears to set in an opposite direction.

The tidal currents in Basilan Strait follow the direction of the channel, and near the islands and shoals they follow the edges of the reefs. Their general direction, when obstructed, is W during the rising tide and E during the falling tide. The rate is 2 to 3 neaps and from 5 to 6 knots at springs.

The tidal currents have been observed as setting in the reverse directions during the months of November and December. They also have been observed as setting in the same direction for 24 hours even though two high and two low tides occurred on that day. The direction is generally E.

The turn of the currents takes place later in Basilan Strait than at Zamboanga. The change begins first on the coast of Mindanao, and finally on the coast of Basilan Island. Strong and irregular tidal currents and rips are found in the vicinity of the shoals and banks off the NW side of Basilan Island.

Close W of Malamaui Island, the currents set N on the rising tide and S during the falling tide. The rate diminishes as the distance from the island from the island increases.

Davao has a semidiurnal type of tide. There is some inequality but the principal variations follow the moon's changing phases.

The current in Pakiputan Strait has a rate of about 2.5 knots and occasionally sets S both with a rising and falling tide. This usually occurs during strong N winds or after a SW wind during which the water has been backed up into the N end of the gulf. The current off Davao floods N and ebbs S. It sweeps at right angles with N and S faces of the pier.

Between Tapian Point and Linao Point there is a small continuous N current offshore. Along the reef line, a reverse current of 0.5 to 1 knot sets SE with a current in the opposite direction close inshore between Tuna Point and Sarangani Bay.

Off Palimban Point, 12.5 miles SE of Tuna Point, a moderate current, sets NW along the shore.

Offshore, a strong SE current setting toward Sarangani Strait is encountered.

Tidal currents in the vicinity of the Sarangani Islands are strong. Through Sarangani Strait the flood sets W and the ebb E. On the E side of Sarangani Island the flood sets S with a rate of about 3 knots, being deflected by the 37m bank off the SE side of the island. Heavy rips have been observed N and S of Sarangani Island and S and W of Balut Island.

Off the E coast of the Philippines the North Equatorial Current divides into two major parts. One part turns N, sending branches into the insular waters of the archipelago and the remainder continues N along the coast of Luzon to become the

Kuroshio. The other part turns S along the E coast of Mindanao sending a branch SE into the Pacific Equatorial Counter current.

Regulations.—A Recommended Transit Corridor (RTC) has been established in Moro Gulf for vessels navigating to and from Basilan Strait (6°50'N., 122°00'E.). It has been established to allow Philippines law enforcement to monitor vessel traffic and deter acts of piracy. The RTC is not a Traffic Separation Scheme and is not marked by any aids to navigation.

The operational area of the RTC covers Moro Gulf and Baslin Strait between position 6°50.4'N, 122°11.9'E and position 5°54.0'N, 124°29.3'E.). The corridor includes separate inbound and outbound transit lanes, which are each 1 mile wide and separated from each other by a 0.5 mile wide buffer zone.

The RTC applies to all vessels transit this area with the exception of government vessels involved in maritime law enforcement duties.

The following procedures are in effect for transiting the RTC:

1. Vessels must notify the Philippines Coast Guard on VHF channel 16 at least 6 hours prior to entering the RTC.
2. The vessel's AIS must be activated during the transit.
3. Vessels must report any suspicious activity to the Philippines Coast Guard and other vessels transiting the area.
4. Vessels restricted in their movement during cable operations must notify the Philippines Coast guard prior to approaching the RTC.
5. In the event of engine or machinery breakdown, vessels must immediately notify the Philippines coast guard or the Coast Guard Action Center (CGAC).

The Philippines Coast Guard and the CGAC can be contacted, as follows:

1. VHF:VHF channel 16
2. Telephone:63-2-5275481 (CGAC)
   63-2-5275482
   63-2-5275489
   63-2-5273880
   63-2-5273885
3. Facsimile:63-2-5278482
4. E-mail:cgac@coastguard.gov.ph
5. Web site:http://www.coastguard.gov.ph

In the event of piracy or armed attack, vessels should report, as follows:

1. Suspicious vessel in the vicinity:
   a. Contact the Philippines Coast Guard alerting that an attack may take place.
   b. Alert other vessels transiting the RTC.
2. Suspicious vessel approaching:
   a. Report the attack to the Philippines Coast Guard.
   b. Ensure the vessel's AIS is switched on.
   c. Activate the Ship Security Alarm System.
   d. Send a distress message on applicable systems to alert other ships transiting the RTC.
3. Piracy/attackers on board, before they reach the bridge:
   a. Inform the Philippines Coast Guard.
   b. ensure the Ship Security Alarm System has been activated and the vessel's AIS is on.

Directions.—The S coast of Mindanao may be approached from the E or the S in deep water mostly free of dangers.

The W approach through Basilan Strait should be made with caution, using one of the two channels separated by the Santa Cruz Bank.

The ocean approaches to the E coast are mostly free of dangers. Most of the dangers are found within a few miles of the E coast except to the NW of Cauit Point, and this part should be approached with caution.

Caldera Point to Zamboanga

9.2 Caldera Point (6°57'N., 121°58'E.) forms the SW extremity of the Zamboanga Peninsula. The point forms the W side of Caldera Bay. A prominent white chimney, 17m high, and a large conveyor, marked by lights, stand on the point.

The bay affords anchorage, in depths of 11 to 14.6m, but is open to the SE. Tidal currents set strongly onto Caldera Point.

Recodo (6°57'N., 121°58'E.) lies within Caldera Bay, close E of Caldera Point.

The inner part of the port has space for four light-draft vessels, with a depth in the channel of 2m. The Timex Wharf, a T-headed concrete wharf, projects 36m E from Caldera Point.

The wharf is 96m long and has a reported depth of 11m. Vessels up to 183m can be accommodated, heading N, using both anchors. Pilots are available and board off Zamboanga.

Berthing and unberthing is reported to be difficult during the Southwest Monsoon (May to September). Vessels usually berth at the start of the E current.

Between Caldera Point and Zamboanga, about 7 miles ESE, the coast is low, steep, and wooded. There are four oil depots at Gavilan Point and Baliwasan, capable of accepting vessels of up to 4,000 gt and a 5.5m draft.

Anchorage may be taken off the town of San Mateo, 4 miles ESE of Caldera Point, in depths of 14.6 to 27.4m, sand.

Elsewhere along this coast, the bottom is foul and uneven. Prominent white oil tanks stand 1 mile ESE of San Mateo.

9.3 Baliwasan (6°55'N., 122°03'E.) lies about 2 miles ESE of San Mateo. A T-shaped wharf, privately maintained for loading copra pellets and coconut oil, extending 140m from the shore with an 85m long berthing face, and an alongside depth of 12.5m can accommodate vessels up to 152m long, heading ESE using both anchors. Draft on the completion of loading must not exceed 9.75m forward and 10.97m aft. Shoal water exists 0.1 mile ESE of the pier. A pilot is available and will board off Zamboanga.

Santa Cruz Bank (6°53'N., 122°01'E.) is a coral bank, the N edge of which lies about 1.5 miles from the coast of Mindanao. The islands of Great and Little Santa Cruz lie within the bank.

Great Santa Cruz Island (6°52'N., 122°04'E.), which is low, flat, and wooded lies on the E part of Santa Cruz Bank. President Shoal lies S and SE of Great Santa Cruz Island and has depths of 4.6 to 8.5m, which may best be seen on the chart. There is a 18.3m patch 2 miles SE of President Shoal.

Little Santa Cruz Island (6°53'N., 122°02'E.), which lies about 0.8 mile NW of Great Santa Cruz Island, is also low, flat, and wooded. A light is shown on the N side of the island. Recently, this light was reported extinguished.

A drying reef extends 0.5 mile from the E and W extremities of the islands.

Zamboanga

Zamboanga (6°54'N., 122°04'E.)

World Port Index No. 59580

9.4 Zamboanga is the capital of the Province of Zamboanga and the principal town in Mindanao. It is a first port of entry and a quarantine station.

Wind—Weather.—The harbor area of the town is well protected from the Northeast Monsoon. Southwest gales are sometimes experienced in the port. Their approach can be usually foretold by masses of flying clouds and threatening skies to the NW. The wind usually begins to blow from the NW and then backs to the SW.

Tides—Currents.—The current alongside the town pier moves W at 6 knots on the flood and E at 4 knots on the ebb, depending on the range of tide.

Depths—Limitations.—The government pier, a T-headed concrete pier, projects 122m SSW from the main quay at Zamboanga.

The T-head is about 500m long, with reported depths alongside of 9.1m at the E end, diminishing to 6.4m at the W end. It has also been reported that the depths at this pier range from 5.6 to 8.8m.

A buoy is moored about 0.1 mile SE of the SE extremity of the pier and marks a shoal with a swept depth of 0.9m.

It was reported that a new jetty close NW and a new wharf 800m ESE of the existing Government Pier have been constructed.

There is also a 274m long marginal wharf, with depths of 3.7 to 5m alongside.

Aspect.—Zamboanga is partially obscured by palm trees, but the silver dome of the church and the red roof of the government building are prominent as is the main wharf and the light on it. A radio tower stands 0.4 mile NE of the light. Two radio towers, showing red obstructions lights, stand about 0.3 mile N and 0.4 mile NE of the light. Another radio mast stands about 0.7 mile NW of the light.

Pilotage.—While pilotage is compulsory for vessels berthing alongside, it is optional if anchoring off the main wharf. The pilot boards off Little Santa Cruz Island for vessels approaching from the W and off the Rio Hondo for vessels approaching from the E. Pilots also board in the quarantine anchorage.

The pilot boat is white with the word "Pilot" on the deck house. Pilotage should be requested at least 24 hours in advance.

Regulations.—A coastal reporting station, operated by the Philippine Navy, applies to all vessels, including pleasure craft and seaplanes on the water transiting the Basilan Strait around Zamboanga. For further information, see paragraph 12.25.

Contacting Information.—The port can be contacted, as follows:

Zamboanga—Contact Information	
VHF	VHF channel 16
Telephone	63-62-9912037
Facsimile	63-62-9912360
E-mail	legazpipilots@yahoo.com

Anchorage.—The anchorage off Zamboanga is not very good due to the steep bank, hard and uneven bottom, and the swell and currents. Anchorage may be taken 0.25 mile SSE of the E end of the main wharf, in a depth of 29m. This anchorage is exposed to gales from the W and SW.

Storm signals are shown from a mast in front of the custom house at the inner end of main wharf.

Directions.—The approaches to Zamboanga are deep and clear. However, vessels coming alongside the S face of the main wharf should proceed with caution, especially during the W current. This is due to the existence of a shoal area near the W end of the wharf, with depths of 4.9m.

Approaches to the wharf should be made against the current. Departure should be made during slack water.

Tictauan Channel and Off-lying Islands

9.5 **Tictauan Channel** (6°54'N., 122°09'E.), between Tictauan Island and the S end of the Zamboanga Peninsula, is about 0.5 mile wide at its narrowest point.

There are depths of 18 to 26m in the fairway. This channel should not be used for other than a temporary anchorage because of strong tidal currents.

Tictauan Shoal (6°54'N., 122°09'E.), with a depth of 5.5m, sand and coral, lies in the middle of Tictauan Channel, about 2 miles E of **Mariqui Point** (6°53'N., 122°06'E.). It is usually marked by tide rips.

Masinloc Anchorage (6°56'N., 122°11'E.) is formed by the channel between Sacol Island and the SE side of the Zamboanga Peninsula.

Vessels may anchor virtually anywhere in the anchorage, in depths of 11 to 22m, sheltered from wind and sea. A village stands on the SW side of the anchorage.

The N entrance of Masinloc Anchorage, which requires local knowledge, is divided into two channels by a number of shoals. The W channel, which is about 0.3 mile wide, has a depth of 10m.

The E channel, which is 0.5 mile wide, has a least depth of 11m. Three islands lie off the S entrance to Masinloc Anchorage, but are clear of the fairway.

Sacol Island (6°58'N., 122°14'E.) is low on its W side and consists mainly of mangrove swamps. Two prominent hills stand on the E part of the island. Pangapuyan Island lies close off the SW extremity of Sacol Island and is covered with palm trees. The channel between Pangapuyan Island and Tictauan Island should not be attempted without local knowledge. Balabac Island, a small mangrove island, lies on the W side of the N entrance of Tictauan Channel.

Roldan Rock, with a depth of 1.2m and steep-to, lies 2.25 miles NNE of Sacol Island.

9.6 **Malanipa Island** (6°53'N., 122°17'E.) lies 6.25 miles E of Tictauan Island. The island is wooded and has a prominent village on its SW side.

A small island lies on a bank extending 0.5 mile E from the S extremity of Malanipa Island. Great Sand Bank, made up of coral and sand, extends nearly 5 miles W of Malanipa Island. The bank has a least depth of 0.9m.

Sinonog Island (6°58'N., 122°20'E.) lies 2.75 miles SE of the E extremity of Sacol Island. The island is low except for a cliff on its E side. A sand patch, with a depth of 8.5m, lies about 1.5 miles ESE of Sinonog Island.

Tulnalutan Island (6°59'N., 122°21'E.) lies about 3.75 miles E of the E extremity of Sacol Island. The island is cone shaped. An islet lies close off the E side of the island. Angosto Shoal is a rocky patch, with a least depth of 2.7m, and lies 3.75 miles ENE of Tulnalutan Island.

Sibuguey Bay

9.7 **Sibuguey Bay** (7°25'N., 122°35'E.) lies with its entrance between the Panubigan Islands and Lutangan Island, 36.5 miles ENE. A number of small reefs and shoals lie across the entrance to the bay and can best be seen on the chart. Sharp Peak, 753m high, is a prominent peak and stands 34 miles N of the S extremity of the Zamboanga Peninsula.

Mount Silingan, on the W side of the head of the bay, is prominent from all parts of the bay.

Malasugat Point (7°05'N., 122°14'E.) lies on the SE side of the Zamboanga Peninsula. The point is low, wooded, and fringed by a narrow reef. Two shoal patches, with depths of 1.8 and 6.7m, lie 1.5 miles and 1.25 miles S, respectively, of the point.

The **Panubigan Islands** (7°09'N., 122°16'E.) lie up to 2 miles off the coast between Malasugat Point and Lawigan Point. This group of about 20 islets and rocks provides sheltered anchorage for vessels with local knowledge. The seaward sides of these islets are steep-to, but foul ground lies between them and the coast.

Taguite Bay (7°20'N., 122°18'E.) is entered between Taguite Point and Bluff Point. The bay is shallow and indents the coast to a distance of two miles. Taguite Island, a small wooded islet, lies in the middle of the entrance to Taguite Bay.

9.8 **Vitali Island** (7°22'N., 122°21'E.) lies NNE of Taguite Bay. The irregular shaped SW end of Vitali Island forms the NE side of Taguite Bay.

Vitali Point forms the NE extremity of the island. The island is densely wooded except for the area near Vitali Point, where low hills are grass covered. A steep-to rock, awash, lies about 0.8 mile SSE of Vitali Point.

9.9 The **Tigbauan Islands** (7°22'N., 122°25'E.) are a group of five islands and one rock lying E and SE of Vitali Point.

Tigburacao Island, 3.75 miles SE of Vitali Point, the southeasternmost of the group, is low, flat, and densely wooded. Two large rocks lie 91m SE of the island. These rocks are very prominent and when seen from the SW they appear as one.

White Rock (7°21'N., 122°25'E.), 0.3m high, lies on a reef 0.75 mile WSW of Tigburacao Island. The Gatusan Islands, two wooded islands fringed with rocks, lie 1.75 miles SSE of Vitali Point.

Bacungan Island (7°23'N., 122°25'E.) lies 2.75 miles E of Vitali Point. The channel between the island and Vitali Point has a least depth of 5m in the fairway.

Lapinigan Island (7°24'N., 122°24'E.), 57m high and densely wooded, lies 0.6 mile NE of Vitali Point. The island appears as a cone from SW, with a steep slope on its E side.

Tungauan Bay (7°27'N., 122°22'E.) is entered between Vitali Point and Linguisan Point, about 7 miles NNE. The bay indents the coast to a distance of about 4 miles. There are extensive mud flats off the W shore of the bay. Basan Reef, a dangerous detached coral reef, lies on the S side of the bay.

Tigbucay Bay, a small cove, lies in the N part of Tungauan Bay. The S part of Tigbucay Bay is deep and clear of dangers, but the N part is shallow. There is anchorage in this bay, in a depth of 18m, mud.

Port Banga (7°31'N., 122°26'E.) is entered between Tigbucay Point and Linguisan Point. The entrance is two miles wide between the two points. The port provides good anchorage, protected from all winds, and is navigable for 2 miles from the entrance for large vessels, and nearly to its head for small vessels.

9.10 **Linguisan Point** (7°30'N., 122°26'E.), low and wood-

ed, is fringed by a reef which extends 0.2 mile offshore. East of the point is a coral shelf which extends 0.3 mile offshore. Above-water rocks lie on the E extremity of this shelf. A dangerous drying detached coral reef lies 1 mile SE of the SE point of the peninsula, of which Linguisan Point is the SW extremity.

Bangaan Island (7°30'N., 122°25'E.), which is sparsely wooded, lies in the middle of the channel to Port Banga. The island divides the entrance into two channels. Buildings and a ruined wharf may be seen on the N side of the island. A rocky ledge, covered at HW, extends 0.45 mile from the SW point of the island.

Bagolibud Point (7°35'N., 122°30'E.) lies at the NE end of the peninsula which forms the SE side of Port Banga. The E shore of the peninsula is composed of cliffy points with sandy beaches between. The S part of the peninsula is grassy with scattered trees. A small cove lies nearly 1 mile SSW of Bagolibud Point.

A small islet, which is connected to the mainland, lies about 3 miles SSW of Bagolibud Point.

9.11 Busan Bay (7°36'N., 122°28'E.) lies about 2.5 miles N of Port Banga, and is entered between Bagolibud Point and Calug Point, 3.5 miles NNW. Tupilac Hill lies 3 miles NNW of Calug Point and is the most prominent landmark in the vicinity of Busan Bay. It is a conical grassy hill, and having a wooded background, can be seen a considerable distance.

Good anchorage in Busan Bay exists between Lalim Point, situated 1.75 miles W of Bagolibud Point, and the reefs extending from the SW corner of Busan Bay, in depths of 11 to 13m, mud. The bay is exposed to NE winds.

Diligan Island (7°35'N., 122°29'E.) lies about 1.3 miles NW of Bagolibud Point. The island is low and densely wooded. The island, fringed by a narrow reef, may be passed at a distance of about 0.5 mile.

Laboyoan Point (7°42'N., 122°31'E.) lies about 4 miles NNE of Calug Point. The point is mangrove covered and fringed by a reef. A rock, awash, lies 1 mile SSW of the point. Buluan Island is the largest and most conspicuous island in Sibuguey Bay and lies about 1 mile ESE of Laboyoan Point.

There is a channel about 0.3 mile wide between Buluan Island and Laboyoan Point, with depths of 14 to 18m in the fairway.

9.12 Madiaop Point (7°44'N., 122°35'E.), lying 4.5 miles NE of Laboyoan Point, is bordered by mangroves and numerous rocks, awash. Mount Silingan, 5.5 miles W of Madiaop Point, is conspicuous from all parts of Sibuguey Bay.

Bacalan Point (7°46'N., 122°37'E.), covered with trees, lies 2.5 miles ENE of Madiaop Point. The point is part of an islet which lies at the mouth of a small river. The islet is connected to the mainland by an extensive mangrove swamp.

Taynabo Point (7°46'N., 122°40'E.) lies about 3.25 miles E of Bacalan Point. The S and E sides of the point are composed of cliffs about 4.6m high. A narrow isthmus of mangrove connects the point with the mainland.

The **Kabasalan River** (Kabsalan River) (7°46'N., 122°46'E.) enters the NE corner of Sibuguey Bay from a NW direction and has a common entrance with the Siay River.

Kabasalan (Kabsalan), the headquarters of a rubber company, stands on the banks of the river, 3.75 miles above its confluence with the Siay River. There is a wooden wharf with a berthing face 32m long and a depth of 2m alongside.

Santa Clara (7°47'N., 122°41'E.), a lumber-loading pier, lies 1.5 miles NE of Taynabo Point. A conspicuous green warehouse, which shows a light, stands near the root of the pier. A least depth of 7m was reported alongside the SW part of the pier.

9.13 Tayoman Point (7°41'N., 122°47'E.) is situated on the NE side of Sibuguey Bay, 8.5 miles SE of Taynabo Point.

The coast between Tayoman Point and Patan Point, about 5.5 miles S, is intersected by a number of small rivers. Mount Sibuguey stands 1.75 miles ENE of Patan Point.

Taba Bay (7°34'N., 122°48'E.) is entered between Patan Point and Cabog Point, about 3 miles S. Two small islands lie on a reef about 0.3 mile N of Cabog Point.

There is a SW entrance into the bay between Cabog Point and the two small islands. This entrance has a beaconed channel, with a depth of 3.7m, and is used by small vessels with local knowledge.

The N channel, about 0.3 mile wide, is entered about 0.3 mile SW of Patan Point and has depths within the entrance of 22 to 29m. Depths decrease gradually to 9m about 1.8 miles within the entrance. The head of the bay is shallow.

Taba Bay is considered the best anchorage on the E side of Sibuguey Bay. Vessels anchor according to their draft. The deepest water is found in the middle of the bay. Generally, the anchorages are well protected and the holding ground is good.

Locsico Bay (7°27'N., 122°47'E.) lies 6.5 miles S of Taba Bay. The shores of the bay are fringed with reefs and lined with mangroves. A reef divides the bay into two arms. The bay is only suitable for small vessels with local knowledge.

9.14 Pandalusan Island (7°28'N., 122°41'E.) is wooded and lies about 5.5 miles W of Locsico Bay. A drying reef extends 0.2 mile SW from the island. A reef, nearly awash, extends 0.2 mile E from the island. Northwest Rock is situated about 2.3 miles NW of Pandalusan Island. This rock, which is awash, is hard to identify and should be given a wide berth.

West Circe Shoal (7°28'N., 122°38'E.) lies about 11 miles SSW of Northwest Rock. The shoal is steep-to, with a least depth of 5.5m. East Circe Shoal lies 3.5 miles ESE of West Circe Shoal. This shoal is steep-to on its N side and has a least depth of 4.9m. A number of unnamed shoals lie to the S of West Circe Shoal and can best be seen on the chart.

Olutanga Island (7°21'N., 122°52'E.) lies close S of the peninsula that forms the E side of Sibuguey Bay. The island is large and irregular in shape. The W part of the N coast of the island is separated from the mainland by a narrow and tortuous strait. Seboto Point, the SW extremity of the island, is bordered by a sandy beach. A village stands on the point.

Lutangan Island (7°17'N., 122°51'E.) is the SE entrance point of Sibuguey Bay. The island is low and densely wooded. It lies on the SE edge of a partly drying reef extending 1.25 miles from the S side of Seboto Point. The SE side of the island is bordered by low cliffs and a sandy beach.

Sibuguey Bay to Dumanquilas Bay

9.15 Silagui Island (7°17'N., 122°51'E.) lies on the same reef as Lutangan Island, and close N of it. The island is low and partly wooded. A small rocky islet, covered with bushes, lies 0.25 mile E of Silagui Island.

A small coral head, which dries, lies 0.25 mile NE of the islet. Small vessels with local knowledge may take anchorage in a pocket of the reef, 0.75 mile NNW of Silagui Island, in a depth of 15m.

Suba Nipa (7°18'N., 122°51'E.), a lumber port, lies 1 mile N of Silagui Island. There is a privately-owned pier, 670m long and 15m wide, with a depth of 11m alongside. The pier can accommodate vessels of up to 10,000 gt.

Pongca Bay (7°21'N., 122°57'E.) lies about 7 miles NE of Lutangan Island. This bay is encumbered with dangers and does not offer anchorage.

Arayat Shoal (7°16'N., 122°58'E.), with a least depth of 5m, lies about 6.5 miles E of Lutangan Island. A buoy marks the SE side of the shoal. There are several dangerous shoals within the area encompassed by a line drawn through Lutangan Island, Taguisian Point, and Arayat Shoal. These dangers can best be seen on the chart.

Liscum Bank (7°15'N., 123°05'E.), with a depth of 13.7m, lies 9.5 miles SE of Taguisian Point. Breeches Shoal, an extensive rocky shoal with a least depth of 7.7m, lies about 9.5 miles E of Taguisian Point.

Port Sibulan (7°29'N., 122°54'E.) is a large irregularly shaped body of water which lies between the NE coast of Olutanga Island and Mindanao. The port is entered between Taguisian Point and Lapat Point.

Coayan Bay (7°24'N., 122°57'E.) is situated on the SW side of Port Sibulan. This bay has not been thoroughly surveyed and its head is shallow. A rock, 5.1m high, lies close off the S entrance to the bay.

Middle Reef (7°25'N., 122°59'E.), a large detached reef, with a least depth of 2.7m, lies in the middle of the entrance to Port Sibulan. A buoy marks the SW edge.

Balangan Bay (7°29'N., 122°58'E.) lies on the NE side of Port Sibulan. The head of the bay is shoal for a distance of 0.75 mile from its head. The bay is approached between the reefs projecting from Lapat Point and Letayen Island. This channel has a least depth of 18m in the fairway.

Anchorage can be taken, in a depth of 15m, about 0.5 mile NE of Letayen Island.

9.16 Sumangul Point (7°27'N., 122°54'E.) forms the N extremity of Olutanga Island. It terminates in a narrow neck of land covered with coconut trees and is separated from the land S of it by a depression, very noticeable from E. The point is easily identified from the entrance to Port Sibulan.

A small settlement stands on the point. Tumalung Bay indents the middle of the N coast of Olutanga Island.

Depths in this bay are very irregular, with numerous detached patches of sand and coral in its N part. The S side shoals gradually to within 1 mile of the head, where there are extensive drying mud flats.

Tantanang Bay (7°31'N., 122°54'E.) lies at the head of Port Sibulan. The bay has depths of 18.4m in the entrance and shoals gradually towards its head. Sheltered anchorage may be taken in the bay.

Alicia (7°31'N., 122°56'E.), a small town and the site of a sawmill, lies on the E side of Tantanang Bay. There is a T-headed wharf, with a berthing space of 43m and an alongside depth of 5.2m.

Dumanquilas Bay

9.17 Dumanquilas Bay (7°35'N., 123°05'E.) is 11 miles wide at its entrance between Lapat Point and Dumanquilas Point. The bay provides shelter and anchorage, with good holding ground, among the islands and bays within the bay.

Tidal currents within the channels entering the bay usually are not greater than 1 knot, but the currents near the shoals in the approaches are stronger.

Bacao (7°33'N., 123°01'E.), the site of a lumber mill, lies 6 miles NNE of Lapat Point. The wooden pier at the mill is in ruins.

Malangas (7°38'N., 123°02'E.) lies about 4 miles N of Bacao. There is an L-shaped pier 0.3 mile SE of Malangas, with a berthing face 41m long and depths of 5.8 to 7m alongside. Depths alongside the inner face range from 4 to 5m.

Conspicuous landmarks off Malangas are a schoolhouse with a metal roof, the coal storage bin, and the pier. There is anchorage off Malangas, in depths of 11 to 14m, mud. Malangas light is shown from a position approximately1 mile W of Igat Point.

The **Nipa Nipa Islands** (7°37'N., 123°05'E.) are three densely wooded islets that lie in the middle of the entrance of the inner part of Dumanquilas Bay.

Putili Island, small and reef fringed, lies about 0.3 mile NE of Igat Point.

Pamintayan Point (7°41'N., 123°05'E.) lies about 3.5 miles NNE of Igat Point. A pier, with a conveyor belt, projects SE from the point. The head of the pier has a reported depth of 11.6m. A small wharf lies close N of the pier and had a reported depth of 5.5m alongside.

9.18 Between Dumanquilas Point and Carabuca Point, about 7 miles NW, the coast is made up of low hills covered with high trees. Tide rips may be seen about 0.5 mile SW of Labucan Point.

Triton Island, high and wooded, lies about 2.5 miles NW of Dumanquilas Point.

Igat Point (7°36'N., 123°06'E.), the W extremity of Igat Island, lies 2.75 miles N of Carabuca Point.

The entrance to a bay lies between these two points. Igat Island is separated from the mainland by a drying channel. Igat Bay is a large inlet on the E side of Dumanquilas Bay.

Margosatubig (7°35'N., 123°10'E.) (World Port Index No. 59550) lies on the S shore of Igat Bay. The hospital building standing on a hill SW of the town is prominent.

The town wharf has a length of about 22m, with a depth of 4.5m alongside.

Vessels take anchorage off the town, in depths of 22 to 26m, 0.5 mile offshore, W of the wharf.

9.19 Maligay Bay (7°30'N., 123°15'E.) is entered between Dumanquilas Point and a point on the Baganian Peninsula, 6

miles E. The W and N sides of the bay consist of a series of small rocky points and in places some mangroves.

The E side is bordered by mangroves and fringed with drying coral which extend up to 1 mile offshore. A series of extensive shoals extend about 3.5 miles W from the E entrance point of the bay.

Anchorage may be taken, in depths of 9 to 27m, in an area about 0.5 mile wide close N of the westernmost bank in the entrance to the bay.

There is also anchorage, in 26 to 29m, about 0.3 mile NE of Maculay Island. Small vessels can anchor in a bight in the NE corner of the bay.

The **Baganian Peninsula** (7°27'N., 123°20'E.) lies between Maligay Bay and Illana Bay. Flecha Point forms the S extremity of the peninsula. A river discharges about 1.5 miles NE of the point.

There is anchorage on a sandy flat that extends 1 mile off Flecha Point, in depths of 18.3 to 37m. This anchorage is exposed to the Southwest Monsoon.

Paniquian Island (7°22'N., 123°20'E.), which is sandy and wooded, lies about 4.5 miles W of Flecha Point. A drying reef fringes the island and extends up to 0.5 mile to the W and S of it.

There is an exposed anchorage over a shoal extending S from the island, in depths of 9 to 15m.

Illana Bay

9.20 **Illana Bay** (7°35'N., 123°40'E.) is entered between Tambulian Point and Tapian Point, about 39 miles ESE. The bay indents the coast in a N direction. The bay is very deep in its middle part.

Tidal currents run at a considerable rate within the bay. Vessels crossing the bay are often set well S.

Limbug Cove (7°28'N., 123°24'E.) lies 6 miles NNW of Tambulian Point. Reefs project from both entrance points narrowing the entrance channel to about 0.1 mile.

Tambatan Point, 2.2 miles SE of Limbug Cove, is marked by a light.

A bare, white rocky bluff is a good mark for identifying the entrance. Small vessels with local knowledge may take anchorage in the cove, in a depth of 18m.

Port Sambulauan (7°33'N., 123°21'E.) lies about 6 miles NNW of Limbug Cove. It is a narrow tortuous break in the coastal reefs and is of little importance.

Tidal currents are reported to produce eddies at the entrance. Sambulauan Hill is prominent and stands at the head of Port Sambulauan.

Malubug Bay (7°36'N., 123°25'E.) lies about 3.5 miles NNE of Port Sambulauan. The bay is encumbered by reefs, most of which dry. Narrow and unmarked channels lead between the reefs and dangers.

The shores of the bay are bordered by mangroves. Two small settlements stand on the N shore of the bay.

Rios Rock (7°31'N., 123°28'E.), with a least depth of 1.8m, lies about 4 miles NE of the entrance to Limbug Cove.

9.21 **Sagayaran Island** (7°37'N., 123°28'E.), high and wooded, lies S of the N entrance of Malubug Bay. The island is fringed by a reef and separated from the mainland by foul ground. Anchorage can be taken by small vessels with local knowledge, in a depth of 29m, about 0.3 mile W of the W extremity of Sagayaran Island.

Pagadian Bay (7°49'N., 123°31'E.) lies about 10 miles N of Sagayaran Island. The land on the W side of the bay rises gradually towards the mountains inland, while the land on the N side is low and flat.

Boca Reefs are a chain of reefs which lie in the entrance to Pagadian Bay. Some of these reefs are always awash. There are several narrow and unmarked channels between these reefs.

Pagadian (7°50'N., 123°26'E.) (World Port Index No. 59530), with a 158m long pier having a depth of 6m alongside, lies in the NW part of Pagadian Bay. A light is shown from the pier. A 3m coral patch lies 161m SSW of the pier head.

Vessels can anchor in the middle of Dupulisan Bay, 2.5 miles S of Pagadian, in a depth of 27.4m, mud. Anchorage can also be taken between Dumagok Islet and Lampaqui Islet, in a depth of 23.8m.

Illana Bay—East Side

9.22 **Calibon Point** (7°50'N., 123°37'E.), about 9 miles E of Pagadian, is fringed by a narrow steep-to coral reef. The land N of it rises to an elevation of over 300m, and is covered with tall grass and small trees. This ridge can easily be identified off Tambulian Point by its green appearance.

Caromata Bay (7°47'N., 123°42'E.) is 7.25 miles ESE of Calibon Point. A chain of reefs fronts the bay. Narrow channels lead between the reefs into the clear part of the bay. Vessels can take anchorage in the middle of the bay, NE of the chain of reefs, in a depth of 37m, mud.

Sigayan Bay (7°43'N., 123°45'E.) is separated from Caromata Bay on its W side by Semaruga Point, a well-wooded 40m high promontory. The bay is deep and clear of dangers.

Vessels can take good anchorage near the head of the bay, in a depth of 37m, sand.

The coast between **Sigayan Point** (7°42'N., 123°46'E.), the E entrance point to Sigayan Bay, and Lapitan Point, 13 miles ESE, is steep-to and consists of a number of bold points with scattered bays between them. The land appears mountainous from seaward.

9.23 **Mount Iniaoan** (7°50'N., 123°56'E.), 1,585m high, situated 11 5 miles NE of Sigayan Point, is wooded, conical in shape, and the only prominent peak in this vicinity.

Tuka Bay (7°40'N., 123°58'E.), a small cove situated about 1 mile N of Lapitan Point, is only 0.5 mile in extent.

A settlement stands on a bluff by the E side of the bay.

Port Baras (7°39'N., 124°01'E.), a small cove, lies about 2 miles E of Lapitan Point. The W side of the cove is backed by dense wooded hills. The E side is low and covered with coconut trees. A small island lies about 0.2 mile S of the E entrance point of Port Baras.

Vessels can take anchorage in the middle of the entrance to Port Baras, about 0.3 mile NW of the above small island, in depths of 24 to 31m, mud.

9.24 **Malabang** (7°36'N., 124°04'E.), a small lumber loading port, lies 4 miles SE of Port Baras.

The port stands 0.75 mile up the Malabang River and two

houses, with white roofs, stand on the beach off the town.

Vessels can take anchorage about 0.3 to 0.4 mile S of the two above houses, in depths of 22 to 28m. Vessels loading lumber should anchor off the mouth of the river.

Tetian Bay (7°28'N., 124°08'E.) lies about 9 miles SE of Malabang. The N shore of the bay is low and sandy. The E shore is composed of sandy beaches and rocky points. A river flows into the head of the bay. A small settlement stands on the E side of the mouth of the river.

Vessels can take anchorage in the middle of the bay, in a depth of 35m.

Pinatayan Shoal (7°28'N., 124°06'E.), with a least depth of 2.7m, lies about 2 miles W of Tetian Bay. Buford Reef, with a depth of 3.6m, lies about 4 miles NW of Pinatayan Shoal. A reef, with a depth of 5.8m, lies about 0.3 mile N of Buford Reef.

Lalabugan Bay (7°25'N., 124°09'E.) lies about 3 miles SE of Tetian Bay. Two small coves indent the E and SE shores of the bay, at the head of which are sandy beaches and a few houses. Depths of over 37m are found throughout the bay, but does not afford good anchorage.

9.25 Polloc Harbor (7°23'N., 124°11'E.), entered between **Tugapangan Point** (7°24'N., 124°09'E.) and Marigabato Point, 4.25 miles SE, is an excellent well-sheltered harbor, easy to enter, but with considerable depths. It is protected from W winds by Bongo Island.

Polloc Island forms the S side of the entrance to Polloc Harbor and is separated from the shore by Sampintan Creek. The N and E sides of the island are fringed with reefs.

Parang Anchorage is on the E side of Polloc Harbor, W of Parang.

Lalayanga Point is situated on the N side of Parang Anchorage, 0.75 mile WNW of Parang.

Two shoal patches, with depths of 11m and 12.8m, lies 0.2 mile S and 0.15 mile W, respectively, of Lalayanga Point.

The tidal current in Polloc Harbor sets E on the N shore with the flood tide and follows the bend of the coast S and W. The ebb current sets in the reverse direction.

Polloc (7°21'N., 124°13'E.) (World Port Index No. 59500), stands about 1 miles E of Marigabato Point. The main wharf, aligned in a N to S direction, is 400m long with an alongside depth of 10.5m. Two lighterage wharves, each 67m long, are situated at each end of the main wharf.

The quarantine anchorage is in the center of Polloc Harbor, 1 mile NE of Port Polloc. Other vessels may anchor S of the quarantine anchor as shown on the chart.

Pilotage is compulsory; however, a 24-hour notice of ETA is required.

9.26 Parang (7°22'N., 124°16'E.), a shipping port, lies 2.5 miles ENE of Polloc.

An L-shaped pier extends in a WSW direction from the shore of the port. Depths of 9.7 to 12.2m are found alongside its SW face; depths of 5.2 to 6.1m are found alongside its NE face.

There is good anchorage for large vessels about 0.3 mile W of the pier head, in depths of 26 to 28m.

Sugut Bay (7°24'N., 124°14'E.) is situated 2 miles NW of Parang. Vessels can take anchorage on the E side of Quidamak Bay, W of Sugut Bay, in a depth 15m.

Polloc Port

Bongo Island (7°20'N., 124°02'E.) lies with its NE extremity about 7.75 miles W of Marigabato Point. The island is densely wooded and fringed by a reef. Bongo Shoal, with a depth of 6.4m, lies about 4 miles W of Bongo Island. A reef, with a depth of 7.3m, lies about 1 mile W of Bongo Shoal.

9.27 Panalisan Point (7°16'N., 124°12'E.) lies about 5.3 miles S of Marigabato Point. The coast between these two points is low, intersected by several streams, and fringed by a reef extending about 0.8 mile offshore.

The **Mindanao River** (7°16'N., 124°12'E.), the largest river in Mindanao, flows out close S of Panalisan Point.

The river divides into two arms, 21 miles from its mouths. Large floating masses of grass resembling small islets are found offshore of and in the vicinity of the mouth of the river. The entrance bars at the river mouth are subject to change, especially during freshets.

The N entrance, situated close S of Panalisan Point, is used by small vessels bound for Cotabato. Vessels drawing about 2.5m can usually cross the bar at HW.

The S entrance, used only by local craft, lies close N of Bulusan Point. There is a depth of 0.9m on the bar.

The tidal currents in the river are strong. It is reported that the outgoing current has a rate of 2 knots and the incoming current has a rate of 0.5 knot.

Vessels can anchor 1 mile NW of Panalisan Point, in depths of 9 to 18m. Depths shoal very suddenly in the anchorage area. This anchorage is not recommended for large vessels nor during Southwest Monsoon (May to September).

9.28 Cotabato (7°14'N., 124°15'E.), a river port, stands on the S side of the Mindanao River, about 5 miles from its N entrance. Its importance as a port is declining as its trade is taken over by Polloc Harbor. There is a concrete wharf, 268m long on the S bank of the river, in front of the town. A depth of 2m is maintained at the wharf.

The coast between Bulusan Point and Tapian Point, about 6.5 miles WSW, is wooded to a distance of 1 mile inland. A small village stands about 1 mile S of Bulusan Point.

Mount Cabalata (7°09'N., 124°09'E.), an excellent landmark, stands 3 miles S of Bulusan Point. It is 709m high,

shaped like a sugar loaf, and covered with grass.

Tapian Point to Davao Gulf

9.29 Tapian Point (7°09'N., 124°04'E.), the E entrance point of Illana Bay, is low, sandy, and wooded. It is fringed by a reef about 0.1 mile wide.

A reef, with a least depth of 4.6m, lies about 0.8 mile NNW of Tapian Point.

Manangula Point (7°06'N., 124°02'E.), a low point, lies about 3 miles SSW of Tapian Point. A river discharges on the S side of the point. Tenotungan Point lies about 4 miles SSW of Manangula Point. A village stands close S of the point.

Small vessels can take anchorage between a 5.5m shoal and Tenotungan Point, in depths of 18 to 22m, sand.

Logung Point (6°58'N., 123°58'E.) lies about 5 miles SSW of Tenotungan Point. The point rises to a grassy prominent knoll. Mount Binaca, the highest mountain in the coastal range, lies 3.25 miles ESE of Logung Point.

Mount Blik, 15 miles E of Logung Point, is an excellent landmark for approaching the coast.

9.30 Resa Bay (6°52'N., 123°58'E.) is situated about 4.5 miles S of Logung Point. The bay is open to the W and is tenable only in fair weather.

The Lapacan River flows into the SE part of the bay. Vessels can take anchorage about 0.5 mile N of the mouth of the river, in depths of 31 to 42m, sand.

Quidapil Point (6°49'N., 123°57'E.), steep and rocky, lies 2.25 miles S of Rasa Bay, and is prominent from N or S. It appears as an island when first seen from these directions. It is formed by a narrow ridge, 107m high, covered with grass and bushes.

Sadam Bay (6°47'N., 123°58'E.) lies about 2.5 miles S of Quidapil Point. The bay is a deep cove bordered by mangroves and coral. Huidobro Reef, with a depth of 5.8m, lies about 2 miles SSW of Sadam Bay. The reef is marked by discolored water.

9.31 Linao Bay (6°46'N., 124°00'E.) is entered between Linao Point and Kalingmomo Point, about 3.75 miles further SE. The shores of the bay consist of sand and hard mud, lined with bushes and trees along the HW mark.

Vessels with local knowledge can take anchorage in the N part of the bay, in depths of 13 to 20m. This anchorage is reported to be not tenable with strong SW winds.

Lebak Point (6°33'N., 124°02'E.), which rises to an elevation of 104m close within, is situated 10 miles S of Kalingmomo Point. There are no charted offshore dangers between these points.

Port Lebak (6°33'N., 124°03'E.) is entered between Lebak Island, 0.25 mile SSW of Lebak Point and Nara Point, 1.5 miles further SW. The port is sheltered and easy to approach. The shoreline is fringed by a reef.

A river discharges into the S part of the port about 1.5 miles from the entrance. Tubotubo Island stands on a reef, about 0.3 mile from the S shore.

A wooden pier projects about 215m from the shore, about 0.5 mile SE of Tubotubo Island. Alongside depths of 4.6 to 12.8m have been reported. Oil discharge facilities are available at the outer end of the pier. A floating pipeline berth is N of the pier.

A town stands on the N side of Port Lebak. A red and white radio tower marks the town. A light is shown from a position 137m SW of the radio tower.

Vessels can take anchorage E of Tubotubo Island, in depths of 29 to 33m, mud. Vessels may also anchor NE of Lebak Island, in depths of 26 to 29m.

Donauang Shoals (6°30'N., 124°00'E.) are a group of shoals lying parallel to the coast S of Nara Point. All the shoals are steep-to and separated from the mainland by a channel about 0.8 mile wide. Basiauang Bay lies 4 miles S of the entrance to Port Lebak.

Anchorage in this bay is difficult due to its great depths. Donauang Island lies close W of the S entrance point of Basiauang Bay. The island is a conspicuous landmark.

Caution.—Vessels not entering Basiauang Bay or Port Lebak should keep at least 5 miles offshore in order to avoid Donauang Shoals.

9.32 Tuna Bay (6°23'N., 124°04'E.) lies about 4.5 miles SSE of Basiauang Bay. The bay is open to the S, and a heavy swell sets in during the Southwest Monsoon. The W shore of the bay is fringed by a coral reef. Vessels can take anchorage near the head of Tuna Bay, in depths of 33 to 37m, protected from all but S winds.

Malatuna Point (6°19'N., 124°06'E.) lies about 4.5 miles SE of Tuna Bay. The point is easily identified from NW or SE by an islet lying close off it. Taytayan Island, wooded at its summit, lies close offshore, about 2.8 miles SE of Malatuna Point. The channel between the island and the mainland is shallow.

Vessels with local knowledge can take anchorage in the channel between the reefs and the coast, in depths of 28 to 37m.

Caution.—A chain of reefs lies from 0.5 mile to 2 miles offshore, between Taytayan Island and Pola Point, about 11 miles to the SW. The channels between the reefs, and between the reefs and the mainland, are deep and clear of dangers.

These reefs are difficult to distinguish due to the discolored water from the rivers in the vicinity.

9.33 Milbuk (6°09'N., 124°16'E.), a lumber loading port, lies about 1 mile ENE of Pola Point. The approach to the harbor is encumbered by several reefs, some of which dry. Three buoys marking the channel into the anchorage were reported missing.

A tidal current, with a rate of 2 to 4 knots, was reported as setting in an E direction across the entrance during the flood tide. A W set, of lesser strength, was reported during the ebb tide.

There are no pilots at the port, but a coastal pilot can be obtained at Zamboanga. A launch meets the vessel in the entrance and indicates the anchorage.

Vessels with local knowledge can take anchorage about 137m SSE of the pier head, in a depth of 12.8m. The harbor is small, but offers good shelter from N winds.

Maculi Point (6°07'N., 124°20'E.) lies about 4 miles SE of Milbuk. The point is low, broad, and rounded. A small river discharges near the E side of the point.

Vessels can take anchorage about 2 miles E of the river en-

trance, 0.25 mile offshore, in depths of 26 to 37m.

Pinol Point (6°06'N., 124°23'E.), with a prominent yellow cliff, lies 3.25 miles SE of Maculi Point. Pagang Point, a sharp rocky point, lies about 9 miles SE of Pinol Point. Bacud Point is composed of rocky cliffs and lies about 6 miles ESE of Pagang Point. Bacud Reef, with a least depth of 0.9m, lies about 4 miles SE of Bacud Point.

9.34 Kiamba (5°59'N., 124°37'E.), a small town, lies about 1 mile E of Bacud Point. A concrete pier, with a wooden extension, is situated close E of the town. Coastal vessels use the anchorage S of the town.

Kling, a small village, lies 6.5 miles ESE of Bacud Point. Bual Point, low and wooded, lies about 8 miles SE of Kling. A beacon stands on the shore 2 miles ESE of Bual Point. It is used as a guide when anchoring.

Matil Point (5°52'N., 124°55'E.), low and flat, lies about 6.5 miles ESE of Bual Point. The point consists of coral and sand.

Taliak Point, about 6.5 miles E of Matil Point, is rounded with low hills in the interior. A chain of shoals lie S of Taliak Point and can best be seen on the chart. A conspicuous cliff, 15m high, is situated 2 miles E of Taliak Point.

Tampuan Point (5°52'N., 125°05'E.), about 1.8 miles NE of the cliff, is marked by prominent vertical cliffs, 11m high.

Sarangani Bay

9.35 Sarangani Bay (6°00'N., 125°12'E.) is entered between Tampuan Point and Sumbang Point, about 16 miles ESE. The hills on the E side of the bay are heavily wooded. At the head of the bay the land is flat, with high hills and mountains in the distance.

Anchorage.—The bay provides poor anchorage in the various small bays due to the great depths. The quarantine anchorage and the recommended anchorage lie near the head of Sarangani Bay, in positions best seen on chart. Anchorage may also be found off the mouth of the Siloway River. These anchorages are located near the edge of the deep water shelf and local area knowledge is recommended for anchoring. The W shore of the bay The W shore of the bay trends 14 miles NNE from Tampuan Point to Makar and is generally straight and regular. There are numerous fish traps moored in the bay.

9.36 General Santos (Buayan City) (Dadiangas) (6°07'N., 125°11'E.) (World Port Index No. 59485) lies about 1.5 miles NE of Makar. The limits of the port extend over the whole area N of a line drawn from Tampuan Point to Sumbang Point, the entrance points into the bay and includes Makar where most of the port facilities reside.

Depths—Limitations.—Makar Wharf (6°06'N., 125°10'E.), made of reinforced concrete, includes a berth 261m long, another 300m long, and one 27m in length with a 22m extension for ro-ro vessels. Another wharf 152m long completes the complex. There are depths alongside of 8.5 to 11m. A light, marking the E edge of a reef, is exhibited NE of Makar Wharf.

General Santos Harbor

Dole Wharf (6°05'N., 125°09'E.), constructed of concrete piles, extends 185m NE from the shore. The SE side of the head of the wharf is 139m long and between 12 and 18m wide.

General Santos—Port Facilities			
Pier	**Length**	**Draft**	**Remarks**
Makar Wharf			
Berth 1	40m	7.4m	Grain and oil
Berth 2-4	220m LOA	12.0m	Containers
Berth 5-7	300m LOA	12.0m	Containers
Berth 8	150m	12.5m	Containers
Berth 9	111m	13.0m	Containers
Private Berths			
Cargill	69m	12.0m	Copra
Dole Philippines	202m	11.0m	Fruits
Fish Wharf	226m	—	Fish
SFC	30m	8.0m	Fish
GMC	37m	12.2m	Grain
Tanker Berth			
Petron Depot	46m	10.0m	Crude oil

Pilotage.—Pilotage, which is compulsory for foreign vessels of 100 gross tons and over and for domestic vessels of 50 gross tons and over, is available 24 hours. Pilots board about 1 mile E of Dole Wharf.

Regulations.—Vessels should send their ETA through Manila Coast Radio. Vessels are berthed 24 hours.

General Santos—Sarangani Bay

The following information should be send in advance through the vessel's agent, who in turn forwards it to the Philippine Port Authority in General Santos:

1. Vessel name.
2. Port of destination.
3. Discharging/loading point (public or private wharf) at anchorage or at berth.
4. ETA.
5. Vessel particulars.
6. Estimated draft at berth (in meters).
7. Nature and tonnage of cargo to be discharged.
8. Special gear requirements.

Vessels should give a 1-hour notice of berthing on VHF channel 16.

Contact Information.—The port can be contacted, as follows:

General Santos—Contact Information	
Pilotage	
VHF	Channel 16
Telephone	63-2-527-8356
Port Contact Details	
VHF	Channel 16 via Manila Coast Radio
Facsimile	63-2-527-4855

Anchorage.—Vessels can take anchorage about 0.3 mile offshore, S of a large green warehouse, in depths of 18 to 37m. The quarantine anchorage is situated about 0.8 mile ESE of this anchorage. Both the designated general anchorage and quarantine anchorage can best be seen on the chart.

9.37 Lago Cove (6°04'N., 125°16'E.) lies about 6.5 miles ESE of General Santos. The cove has limited anchorage, in a depth of 37m, close inshore. The depth drops sharply from the beach and this restricts the anchorage.

Sapu Bay (5°55'N., 125°16'E.) lies about 8.5 miles S of Lago Cove. The bay offers limited anchorage, protected from S and SW winds, in depths of 37 to 48m, off the mouth of the Big Sapu River, which discharges into the head of the bay.

Canalasan Cove (5°50'N., 125°12'E.), entered between Sumbang Point and Letue Point, about 1.5 miles E, is the best harbor in the area during the Southwest Monsoon. The S and E shores are fringed by a reef and a narrow strip of mangroves.

Glan (5°50'N., 125°12'E.), a small town, is situated at the head of Canalasan Cove. The outer end of a concrete pier is in ruins.

Vessels can take anchorage about 0.1 mile NW of the end of the pier, in depths of 16 to 18m, mud.

Sumbang Point to the Sarangani Islands

9.38 Lefa Point (5°47'N., 125°11'E.) lies about 3.75 miles S of Sumbang Point. The point is steep and rocky. A shoal, with a depth of 8.7m, lies about 1.3 miles SE of the point. Sagby Point, about 4 miles SE of Lefa Point, is high, rocky, and marked by a prominent red cliff.

Tinaca Point (5°33'N., 125°20'E.) lies about 12 miles SSE of Sagby Point. The point forms the S extremity of Mindanao.

General Santos (Makar)

The point consists of two headlands connected by a beach and has the appearance of a volcanic crater. A light is shown on the point.

Balangonan Cove (5°34'N., 125°21'E.) lies 2 miles ENE of Tinaca Point and affords poor anchorage. Malavinuan Cove, 1 mile farther E, provides sheltered anchorage during the Northeast Monsoon (October to March), in depths of 22 to 29m.

The **Sarangani Islands** (5°26'N., 125°27'E.) consists of two large wooded islands and a small wooded cay lying 5.5 miles SE of Bukid Point and 9.75 miles S of Tinaca Point.

Sarangani Strait, separating the two islands from Mindanao, is deep and clear of dangers. Tidal current in the strait set WSW and ENE.

9.39 Balut Island (5°25'N., 125°23'E.), the largest of the Sarangani Islands, has a volcano near its center, which at times emits smoke. The island is fringed by a reef. A small islet lies close off the SW point of the island.

There is anchorage for vessels with local knowledge from 0.5 to 1.5 miles S and SE of Lajan Point, the NE point of the island, in depths of 9 to 27m, with good shelter from SW or NE storms, but the anchorage is encumbered with shoals.

Sarangani Island (5°27'N., 125°28'E.) lies about 2 miles NE of Balut Island. The island consists of several rolling hills and is fringed by a reef on its NE and SW sides.

Port Patuco (5°28'N., 125°28'E.), an inlet which affords good shelter for small craft, lies on the W side of Sarangani Island. The channel into the port is narrow and tortuous.

At the head of the port is an anchorage area about 0.1 mile wide, with depths of 6 to 9m.

Port Tumanao (5°27'N., 125°28'E.), about 1.3 miles S of Port Patuco, is the largest inlet on the W coast of Sarangani Is-

land. The port is deep except near its shores. Vessels anchor in the middle or near the head of the port, in depths of 28 to 51m, mud.

9.40 Olanivan Island (5°31'N., 125°29'E.) lies about 1.3 miles N of Sarangani Island. The island is fringed by a reef. There is a deep channel between the fringing reef of the island and the reef off the NE side of Sarangani Island. The tidal currents are strong in this channel.

Bukid Point (5°34'N., 125°25'E.), on the SE coast of Mindanao, lies 5.5 miles NW of Olanivan Island. The point is fringed by a narrow reef. The point may be approached to within 0.5 mile.

Butulan Cove (5°38'N., 125°27'E.), about 0.5 mile wide and 0.25 mile long, lies about 3.75 miles NNE of Bukid Point. The cove is deep but affected by ground swells. Small vessels anchor about 0.1 mile NE of the mouth of a small stream at the head of the cove.

Banos Point (5°55'N., 125°40'E.), steep, high, and lying about 25 miles NE of Bukid Point, is formed by a prominent peaked ridge.

There is anchorage, 0.5 mile offshore S of the point and 1 mile N of the point, in a depth of 37m. There are strong rip tides offshore.

Lawayon Point (6°02'N., 125°42'E.) is formed by a conical hill and lies about 6.7 miles NNE of Banos Point.

The point is conspicuous and makes a good landmark and the coast N of the point is steep and rocky.

Davao Gulf

9.41 Calian Point (6°07'N., 125°43'E.), lying 5.5 miles N of Lawayon Point, is the bold and rocky W entrance point of Davao Gulf. The point is a conspicuous landmark and is marked by streaks of bare cliff. It rises to a height of 379m from the narrow valleys on its N and S sides.

Lapuan (6°08'N., 125°42'E.), a small village with a dock, is situated about 1.8 miles N of Calian Point. The dock is small and in poor condition.

Lawa is a small village lying about 3 miles N of Lapuan. There is a basin which is reportedly used by small boats. The lights from the village are conspicuous.

Malita (6°24'N., 125°37'E.) lies about 13.5 miles NNW of Lawa. A small pier, in ruins, is situated on the point of the same name. Vessels anchor SE of the pier, in 11 to 15m. Lacaron, with a small pier, lies about 3 miles NW of Malita.

Tubalan Head (6°30'N., 125°35'E.) lies about 3 miles N of Lacaron. The head is a conspicuous landmark. A reef extends 0.2 mile NW of the N extremity of the headland.

Port Tubalan lies close W of Tubalan Head. There is deep water in the middle of the port.

The best anchorage is on the W side of the port, 0.5 mile offshore, in depths of 37 to 40m, mud.

Sigarin Point (6°32'N., 125°33'E.) lies about 3.25 miles NW of Tubalan Head. The point consists of a gentle slope notched by five hills. Foul ground extends about 0.3 mile from the point. The point forms the E entrance point of Basiauan Bay.

9.42 Basiauan Bay (6°32'N., 125°31'E.) is divided into two coves by a point on the S shore of the bay.

The bay is deep and clear of dangers, except for the fringing shore reef, which extends from the SW cove. A small village stands at the head of the SW cove.

Vessels anchor NE of the village, in 26 to 29m. This anchorage is sheltered from all but N and NNE winds.

Monkiaua Bay (6°34'N., 125°30'E.) lies close NW of Basiauan Bay. The bay is deep and clear, but seldom used. Kulungan Bay lies close NW of Monkiaua Bay. There are numerous shoals in the bay, some awash at LW.

Colapsin Point (6°38'N., 125°26'E.) lies about 5 miles NW of Kulungan Bay. The point is the NE extremity of the peninsula forming the NE shore of Malalag Bay. A light is shown from the point. A 6.4m shoal lies about 0.8 mile NNE of the point.

Mount Piapi (6°39'N., 125°23'E.), a conspicuous landmark, lies near the beach on the W side of the entrance to Malalag Bay. Piapi Reef, drying to 0.3m at LW, lies about 1 mile offshore, E of Mount Piapi. A lighted buoy marks the reef.

9.43 Malalag Bay (6°37'N., 125°24'E.) is entered between Colapsin Point and Piapi Reef buoy. The N part of the W shore is fringed by mangroves and has shoal water extending from 0.5 to 0.75 mile from the shore.

The navigable width of the channel is 1 mile. Bolton Reef, with a depth of 1m, divides the entrance into two deep channels. A beacon marks the reef. A small village of the same name stands on the S shore of the bay.

A river discharges close W of the village. A concrete pier 30m long, used for loading molasses and handling general cargo, is situated SE of the village. The controlling depth is reported to be 10m. A light is shown on the E side of the bay.

Numerous anchorages have been established within the bay. Pilots board 1.1 miles NNW of Colapsin Light.

The **Padada River** (6°42'N., 125°22'E.), navigable by small boats, discharges about 3 miles N of Mount Piapi. A small town of the same name stands on the N bank of the river, about 0.5 mile inland.

Digos Point (6°45'N., 125°23'E.), low, flat, wooded, fringed with mangroves, and fairly prominent from the N or S lies about 3.5 miles NNE of the mouth of the Padada River. A reef, which dries at LW, extends about 0.3 mile from the point. A channel separates the fringing shore reef from the offshore reefs.

Digos Reefs (6°45'N., 125°24'E.) are a group of shoals and detached reefs extending about 1.5 miles from the shore. Part of the reefs bare at LW. There are several channels between the reefs, but these should not be used without local knowledge.

Digos Outer Reef (6°44'N., 125°24'E.), which dries, lies about 1.8 miles SSE of Digos Point. The reef is steep-to on its E and S sides and foul on its W side. A number of shoals lie up to 0.5 mile S and W of the reef. Digos Islet, a white, coral, sand cay lies 1 mile S of Digos Point.

Digos (6°45'N., 125°23'E.), a town on the N bank of the river with the same name, lies about 0.5 mile inland. A conspicuous warehouse stands on the beach, close S of the mouth of the river.

There is a concrete pier, 27m in length, for domestic traffic. The controlling depth is reported to be 5m.

Vessels anchor SW of Digos Islet, in depths of 22 to 27m, with the warehouse bearing 317°. Vessels also anchor NW of the islet, in depths of 20 to 22m, with the warehouse bearing 249°. Small vessels anchor between the islet and the

Davao Ports and Approach showing Islands of Arboles and part of Samal

warehouse on the beach.

9.44 Tagabuli Bay (6°48'N., 125°23'E.) lies 2.5 miles N of Digos Point. The bay, about 1 mile long, 0.25 mile wide, is a deep inlet. The sides of the entrance are low, making the bay difficult to identify. A causeway with a T-shaped extension is situated on the S shore near the head of the bay. It is only used by small craft.

There is anchorage in the middle of the bay, in depths of 29 to 37m. There is a width of 0.2 mile between the reefs in the anchorage. The anchorage is protected from all winds except ESE.

Santa Cruz Point (6°50'N., 125°25'E.), 2.5 miles NNE of Tagabuli Bay, is low and wooded. A barrier reef extends about 0.1 mile offshore. The town of Santa Cruz stands on the point. A large warehouse is a conspicuous landmark. Two patches of tall grass on the hills lie 0.5 mile inland and 1.5 miles N of Santa Cruz. These patches can be seen for a considerable distance offshore.

There is anchorage SE of the warehouse, about 0.2 mile off the beach, in 13 to 37m. A well-protected anchorage is found in the cove 1 mile N of Santa Cruz Point, in depths of 31 to 33m, mud. This anchorage is protected from all winds except those from the SE and ESE.

Malusi Point (6°52'N., 125°27'E.) lies 3 miles NE of Santa Cruz Point. A prominent white tank stands on the point. Astorga, a small village, lies 1.75 miles N of Malusi Point. A number of detached shoals encumber the bight fronting Astorga.

Tagulaya Point (6°55'N., 125°29'E.), low and wooded, lies 2 miles NNE of Astorga. A 7.4m shoal lies 1.5 miles NNE of the point.

Darong, a small village, lies about 1 mile WNW of Tagulaya Point. A large conspicuous house is visible for a distance of 8 to 10 miles offshore.

9.45 Daliao (7°01'N., 125°30'E.), a coastal village, lies 5 miles NNE of Tagulaya Point. Numerous houses are visible and a large warehouse near the beach is conspicuous. Vessels anchor ESE of a ruined pier, in depths of 13 to 18m, mud.

Daliao Reefs consists of two coral reefs lying about 0.5 mile SSE of Daliao. Lights mark the N and S breakwaters.

Talomo Bay (7°03'N., 125°33'E.), deep and clear of dangers, lies about 3.5 miles NE of Daliao.

Talomo (7°03'N., 125°33'E.), a small town, is situated at the head of the bay.

Vessels anchor SW of the pier, in depths of 18 to 37m, mud. This anchorage is exposed to the Southwest Monsoon.

Dumalag Point (7°02'N., 125°34'E.), low and wooded, lies about 1.5 miles SE of Talomo. A rocky patch lies close SE of Dumalag Point.

9.46 Davao (7°04'N., 125°37'E.) (World Port Index No. 59430), a first port of entry, stands on the NW shore of Davao Gulf, at the S entrance of Pakiputan Strait. A prominent flashing green light with a range of 18 miles, best seen on the chart, is located approximately 5nm north of Port Davao and marks the north end of the Pakiputan Straight.

The town is the leading port for the export of Manila hemp.

Wind—Weather.—The port is protected on all sides, except the S. There is no rainy season; weather conditions throughout the year do not vary greatly. The port is normally outside the typhoon belt.

Tides—Currents.—The port has a semi-diurnal type of tide. The current off the port floods N and ebbs S. It sweeps at right angles with the N and S faces of the pier at a maximum rate of 2 knots.

Depths—Limitations.—Berthing can be done day or night. The length and beam of vessels do not pose a problem in entering the approaches to Davao; however, limiting dimensions at the various piers are given in the accompanying table titled **Davao—Port Facilities**.

For further information, see the Caution paragraph.

Aspect.—The buildings, warehouses, and pier are conspicuous for a distance of 10 miles from the S. A high hill, 2 miles W of the port is prominent.

Port of Davao (Sasa)

Port of Davao (Apo Cement Terminal)

A light is shown from the S side of the root of the Santa Ana Pier.

A white stone monument stands close W of the light and is often mistaken for the light.

Davao—Port Facilities			
Pier	Length	Draft	Remarks
Int. Container 1	250m	15.0m	Container
Int. Container 2	140m	12.0m	Container
Int. Container 3	170m	12.0m	Container
Coal Berth	270m	—	Coal
Holcim 1	172m	9.0m	Cement
Holcim 2	196m	9.0m	Cement
Interco	—	12.5m	Bunkers
Marginal Wharf	50m	12.5m	Bunkers
Mati Wharf	154m	6.5m	Bunkers
NE Berth	172m	—	Bunkers
SW Berth	133m	—	Bunkers
SW Berth	154m	6.5m	Bunkers
New Quay 1	104m	10.6m	Bunkers
New Quay 2	104m	10.6m	Bunkers
New Quay 3	104m	10.6m	Bunkers
New Quay 4	104m	10.6m	Bunkers
New Quay 5	104m	10.6m	Bunkers
Old Quay 1	115m	10.6m	Reefer
Old Quay 2	115m	10.6m	Reefer
Old Quay 3	115m	10.6m	Reefer
Old Quay 4	115m	10.6m	Reefer
Old Quay 5	115m	10.6m	Reefer
AJMR 1	150m	14.0m	Breakbulk
AJMR 2	150m	14.0m	Breakbulk
TEFASCO 1	200m	—	Breakbulk
TEFASCO 2	200m	—	Breakbulk
TEFASCO 3	150m	—	Breakbulk
Craft Haven	277m	12.0m	Reefer
Concrete Wharf	43m	8.7m	Breakbulk
Apo Inner	88m	—	Cement
Apo Outer	102m	—	Cement
Coconut Oil 1	—	—	Clean oils
Copra Exports 1	20m	9.3m	Clean oils
Copra Exports 2	28m	9.3m	Clean oils
Legaspi Wharf	191m	12.0m	Clean oils
Oil Mill Berth	20m	—	Clean oils
Astorga	—	—	Bunkers
Chevron	—	—	Bunkers
Flying V	14m	—	Bunkers
Petron	—	—	Bunkers
Phoenix Berth	—	—	Bunkers
Santa Cruz Jetty	—	—	Bunkers
Shell	—	8.0m	Bunkers

Pilotage.—Pilotage is compulsory and is available 24 hours. Vessels should contact the pilot 2 hours in advance on VHF channel 16.

The pilot boards in position 7°02'N, 125°39'E.

Regulations.—Vessels should send their application for berthing or anchorage 48 hours in advance, giving the following information:

1. Vessel name and voyage number.
2. Destination port and discharging/loading point.
3. ETA.
4. LOA.
5. Estimated draft at the berth.
6. Type and tonnage of cargo for discharging.
7. Any special berthing or cargo-handling gear require-

Davao Port Light S of Santa Ana Pier

ments.

Contact Information.—The Port Authority can be contacted, as follows:

Davao Pilotage—Contact Information	
Pilot Contact Details	
VHF	VHF channel 16
Facsimile	63-82-227-3690
E-mail	dvopilot@gmail.com
Port Contact Details	
VHF	VHF channel 16
Telephone	63-82-2352564
Facsimile	63-82-2352569
E-mail	ppapmodavao@pldtdsl.net
Davao International Container Terminal (DICT)	
Telephone	63-84-233-2446
E-mail	tos-dict@anflocor.com
Web site	http://www.dict.com.ph

Anchorage.—Vessels can anchor, in a depth of 22m, mud, about 0.3 mile SE or NE of the head of Santa Ana Pier, or up to 1 mile from the pier, in a depth of 37m.

Anchorages are well protected and outside the typhoon belt.

Caution.—The dolphins at Santa Ana North Pier are in poor condition and create a hazard during berthing.

The S end of Sasa Wharf is fouled by pylons.

Islands in Davao Gulf

9.47 Samal Island (7°02'N., 125°45'E.), lying near the head of Davao Gulf, is 18.5 miles long and 8 miles wide. It is sparsely inhabited on its W coast. Samal, on the W side of the island, is situated at the head of a small bay. The town has a stone pier, used as a boat landing.

Pohum Point (7°04'N., 125°41'E.) and the general coast of Samal Island provide poor radar images.

Malipano Anchorage (7°00'N., 125°43'E.) lies about 4 miles SSE of Samal. The anchorage is used chiefly by small craft. A pearl farm, marked by four buoys, lies in the anchorage.

The **Cruz Islands** (7°11'N., 125°46'E.), consisting of Big Cruz Island and Little Cruz Island, lie off the NE coast of Samal Island. The islands are densely wooded, but a few houses can be seen from offshore. The channel between the two islands is about 0.8 mile wide and mostly foul.

Talikud Island (6°56'N., 125°42'E.) lies off the SW coast of Samal Island. A light is shown from a round concrete tower, 10m high, standing near the SW extremity of the island. Talikud Strait, separating the two islands, is a deep navigable channel about 0.8 mile wide.

Pakiputan Strait

9.48 Pakiputan Strait (7°07'N., 125°40'E.), separating Samal Island from the NW shore of Davao Gulf, has a least width of 0.5 mile and a deep fairway, except for an 8.5m patch close within its N entrance, nearly 1 mile NNW of Arboles Island.

Several rocky, detached shoals lie off the W side of the S entrance to the strait. The current in the strait has a rate of 2.5 knots and occasionally sets S both with a rising and falling tide. This occurs after strong winds have backed up the water in the N end.

Arboles Island (7°10'N., 125°41'E.) lies on the NE side of Pakiputan Strait. The entire island is covered at HW. A narrow channel, with depths of 11 to 16.5m and about 0.1 mile wide, separates the island from Samal Island.

The most dangerous shoal in the N part of the strait consists of several drying heads lying 1.5 miles S of Arboles Island.

Vessels can anchor about 1 mile NNE of Linao Point, where there are moderate depths close to the narrow fringing reef of Samal Island. Anchorage may also be found 1 mile SW of Linao Point, in depths of 11 to 14m.

Davao Gulf—Head

9.49 Liang (Ilang) (7°11'N., 125°39'E.), a village, lies about 2 miles NW of Arboles Island. There is a 135m long conveyor pier and a T-shaped pier with a berthing head about 55m long.

The controlling depths are 8.8m and 10m alongside these piers. A chimney is located here.

Tibungko (7°12'N., 125°39'E.) lies about 1 mile N of Liang. A conspicuous schoolhouse is reported to stand near the beach. Fish traps mark some of the shoals off the beach.

Vessels anchor E of a ruined pier, about 0.5 mile offshore, in depths of 22 to 27m. Small boats can anchor closer to the beach, S of the pier.

The **Bunawan River** (7°14'N., 125°39'E.), discharging about 2.25 miles N of Tibungko, can be used by small boats. A village of the same name stands about 0.5 mile inland. Vessels can anchor E of a ruined pier, in depths of 15 to 27m.

9.50 **Tambungon** (7°15'N., 125°40'E.), a lumber-loading port, is situated about 1.5 miles NE of Bunawan. A prominent gray building stands at the root of a stone mole and pier. Pilings stand where the outer end of the pier formerly stood.

Pilotage is compulsory. There is good anchorage, 0.5 mile S of the pier, in depths of 18 to 37m.

Panabo (Kaganjuan) (7°18'N., 125°42'E.) lies about 4 miles NNE of Tambungon. A T-headed pier, with a berthing face 118m long, extends SE from the shore. The controlling depth was reported to be 12m alongside the berthing face. The T-head is partly covered with a roof. It was reported that the length of the berth was about 258m.

A government-owned pier is situated close N of the above pier. It was reported that this pier had been enlarged and had two berths. The S berth faces E and is about 150m in length. The N berth faces NE and is about 180m in length. The pier is of concrete construction and is reported to be well fendered. The controlling depth alongside was reported to be 12m.

9.51 The **Tuganay River** (7°19'N., 125°44'E.) discharges about 0.1 mile W of the Tagum River. Large vessels can anchor ESE of the mouth of the river, in depths of 27 to 37m. This anchorage is poor and many anchors are reported to have been lost in this vicinity.

The **Madaum River** (7°22'N., 125°49'E.) lies 3.5 miles ENE of the mouth of the Tuganay River. Depth over the bar is 0.6m at LW. An L-shaped pier, 30m wide and 300m long, stands 0.4 mile NE of the river entrance. There are two berths with a controlling depth alongside of about 13m.

Maco (Maca) (7°22'N., 125°51'E.) lies about 2.5 miles E of the mouth of the Madaum River. The sawmill in town is conspicuous. A small pier close to the sawmill dries at LW.

There is anchorage offshore, in a depth of 91m, good holding ground, mud, with the sawmill bearing 057° and the white plantation house near the mouth of the Madaum River bearing 288°.

9.52 **Pandasan Island** (7°17'N., 125°50'E.) lies about 4 miles S of Maco. The island is separated from the mainland by a narrow channel, almost blocked by a reef at its N end. A fair anchorage exists 0.75 mile N of the island, in depths of 22 to 27m, or S of the island, in depths of 13 to 37m.

Kopia Island (7°17'N., 125°50'E.) is separated from Pandasan Island and the mainland by a channel about 0.3 mile wide and a village stands on the E coast of the island. There is good anchorage S of the island, in depths of 13 to 37m.

Magnaga Bay (7°10'N., 125°53'E.) lies about 7 miles SSE of Kopia Island. The bay is clear of dangers and easy to approach. A village stands at the head of the bay.

Pangasinan Point, low and sandy, lies about 2.8 miles S of Magnaga Bay. Several houses on the point are conspicuous. Detached shoals lie 0.5 mile WNW of the point.

Piso Point (7°03'N., 125°57'E.), steep, bold, and marked by a brown scar, lies 5.5 miles SE of Pangasinan Point. A small bight lies N of the point. A village is situated on the N shore of the bight. Vessels anchor in the bight, in a depth of 28m, mud.

Mapanga Bay (7°01'N., 125°59'E.) is situated about 2 miles SE of Piso Point. The bay is encumbered by numerous shoals of various depths and by reefs awash.

Mapanga Reef, awash, lies about 1.5 miles SSE of Piso Point.

Maputi Creek (7°01'N., 125°59'E.) discharges into the head of a small bight and lies about 3 miles SE of Piso Point. Vessels anchor about 0.5 mile W of the mouth of the creek in 20m, mud.

Arena Point (6°56'N., 125°59'E.), low and flat, is situated about 5 miles S of Maputi Creek. The point is fringed by a sandy beach. Mount Galintan, a conspicuous landmark, lies about 6 miles ENE of Arena Point.

9.53 **Sumlug Point** (6°52'N., 126°01'E.) is low and sandy and can be identified by the many houses. A 1m shoal patch lies about 1.5 miles WSW of the point. Cuabo Bay is entered between Sumlug Point and Bato Point, about 4 miles SE. The bay is encumbered by shoals and reefs.

Bitaogan Point (6°46'N., 126°04'E.) lies 3 miles S of Bato Point. The point is low and sparsely wooded. Talisay Reef, partly bare at LW, lies about 3 miles WSW of Bitaogan Point. Burias Reef lies 2.25 miles S of Talisay Reef. The N side of the reef bares at LW.

Duas Point (6°44'N., 126°05'E.), consisting of bare vertical cliffs 15 to 30m high, lies about 2.5 miles SSE of Bitaogan Point. There is anchorage off the point, in a depth of 42m, mud. A prominent hill stands 1 mile S.

Baksal Cove (6°41'N., 126°05'E.) lies 2.5 miles S of Duas Point. The middle of the cove and the approaches are encumbered by several shoals with depths of 7.4 to 9.2m. A small rock lies near the head of the cove.

Bais Point (6°40'N., 126°04'E.), about 4.25 miles SSW of Duas Point, is a low point with a sandy beach. Governor Generoso, a town, lies close S of the sandy beach.

The town has a number of conspicuous buildings and a church. Sigaboy Island, with steep cliffs, lies 2 miles S of Bais Point.

Borot Cove (6°36'N., 126°05'E.) lies about 2.5 miles SSE of Sigaboy Island. The entrance points to the cove are steep rocky bluffs. Shoal water extends 0.2 mile N from the S entrance point. Anchorage in the cove is restricted.

Borot Reef lies about 0.5 mile W of Borot Cove. The reef is partly awash at LW.

9.54 **Monserat** (6°36'N., 126°05'E.) is the site of an estate and lies at the head of Borot Cove. Several buildings are conspicuous from offshore. A small pier has a reported depth of 5.5m alongside.

Vessels can anchor in the entrance to the cove, in a depth of about 49m, good holding ground.

Mount Bilbogan (6°34'N., 126°06'E.) stands about 2 miles SSE of Monserat. This landmark is very conspicuous when seen from N or S and shows three small peaks.

When seen from the W it appears as a sharp peak with a regular outline.

Padada Point (6°32'N., 126°05'E.), low, flat, and rounded, is fairly prominent and lies about 4 miles S of Borot Cove. A small village lies about 1.5 miles SSE of the point.

Nangan Bay (6°27'N., 126°07'E.) is entered 4 miles SSE of Padada Point. A drying reef extends 0.25 mile W from the N entrance point. With the exception of this reef, the bay is clear and easy to approach.

Vessels anchor about 0.1 to 0.2 mile from the E shore of the bay, in 40 to 51m, mud.

Abag Bay (6°25'N., 126°08'E.) lies about 2.5 miles SE of Nangan Bay. The bay is mostly deep and free of dangers. A village situated at the head of the bay. A second village lies 1 mile farther S.

9.55 Kaganuhan Point (6°23'N., 126°08'E.) forms the S side of Tagabibi Bay. When seen from the NW, the point has six hills rising to the E. The point is fringed by a reef.

Tagbanao Cove, a small bight about 0.5 mile in extent, lies 2 miles SE of Kaganuhan Point. Vessels anchor in the middle of the cove, in 33 to 37m, mud.

Lakga Point (6°22'N., 126°10'E.), with several houses visible from seaward, lies about 0.5 mile S of Tagbanao Cove. A small village lies SE of the point. Vessels anchor SE of the point, about 0.1 mile offshore, in a depth of 37m.

Lavigan Anchorage (6°18'N., 126°11'E.) lies about 3.5 miles SSE of Lakga Point. The anchorage is a narrow inlet extending about 0.3 mile in an E direction.

The navigable width of the channel is 46m, with a depth of 14.7m. The anchorage is mainly for small boats.

Cape San Agustin (6°16'N., 126°11'E.), the E entrance point of Davao Gulf, is the S extremity of a long peninsula which forms the E side of Davao Gulf. A light is shown from the cape on a concrete tower, 15m high.

The currents off the cape are strong and appear to set in a SW direction. The average rate approaches 2 knots but rates of 3 to 4 knots have been encountered.

Cape San Agustin Light

San Agustin Reef (6°15'N., 126°11'E.), with a least depth of 2.7m, lies about 0.3 mile S of Cape San Agustin. The reef breaks heavily at times. There is a channel between the reef and the cape and is used by small craft.

Cape San Agustin to Cauit Point

9.56 Luban Island (6°26'N., 126°13'E.), about 10 miles NNE of Cape San Agustin, is connected to the mainland by a drying reef. A large rock lies close off the E side of the island. A small village stands on the mainland W of the island.

Between Cape San Agustin and Tumago Point, about 30 miles NW, the coast is high, rugged, and steep. There are no off-lying dangers and deep water lies close to the coast. There are no good anchorages in this part of the coast.

Pujada Bay (6°51'N., 126°14'E.) is entered between Tumago Point and Lamigan Point, 6.5 miles NE. The Guanguan Peninsula forms the E side of the bay, which is fringed by a narrow reef. The W side of the bay is steep-to and densely wooded. The head of the bay is fringed by reefs and shoals to a distance of 0.5 mile.

Pujada Island (6°47'N., 126°16'E.) lies near the middle of the entrance to the bay. It divides the entrance into two wide and deep channels. The N end of the island is wooded and the S end is covered with bushes and trees.

The N and W sides of the island are steep-to. Reefs and shoals extend up to 0.35 mile off its E side. Pujada Island Light is shown from a structure at the SE end of the island.

Two sandy islets lie 0.75 mile and 1 mile SE of the island. They are surrounded by drying reefs. A narrow and foul channel separates the two islets. The channel between the N islet and Pujada Island is about 0.3 mile wide, with a least depth of 5.8m in the fairway.

Uanivan Island (6°50'N., 126°16'E.), high and wooded, is situated on the E side of Pujada Bay. The island and the Guanguan Peninsula are connected by a rocky ledge, with a least depth of 9.2m. A drying reef extends 0.25 mile SE from the island.

9.57 Mati (6°57'N., 126°13'E.) (World Port Index No. 59400), the most important town in the area, lies at the head of Pujada Bay.

Depths—Limitations.—The town has an L-shaped pier, 40m long, with a controlling depth of 6.7m. A light is shown from the pier.

Interco Berth, a T-headed pier, used for loading coconut oil, lies 1.75 miles SE of Mati. The berth is approached from the S between two reefs. It consists of two mooring dolphins, in line 095°-275°, alongside an artificial island which is connected to the shore by a causeway.

A refining plant, with prominent tanks, is at the root of the causeway. Vessels with drafts up to 14m and about 180m LOA can be accepted at this berth.

It is reported that loading of expeller pellets is by means of a fixed loading arm and that, when warping the vessel to change holds for loading, attention should be given to the existence of a reef lying W of the berth, and to the shallow water lying E.

Pilotage.—The pilot for berthing comes from Davao and adequate notice of ETA is required. The pilot is reported to board about 1.5 miles S of the berth from a small yellow painted boat.

Anchorage.—Vessels can anchor, in 28 to 33m, about 0.3 mile off the above pier. Small vessels can anchor in Balete Bay, in depths of 30 to 37m, near the entrance, or near the head of Balete Bay, in 14.7m, mud.

9.58 Mayo Bay (6°55'N., 126°22'E.) is entered between Lamigan Point and Tugubun Point, 13 miles NE.

The N shore of the bay is high, very rugged, and steep-to. Three small towns lie on the N shore of the bay. Great depths are found throughout Mayo Bay. The tidal currents in the bay are weak, but a constant S current of about 2.3 knots is felt offshore at the entrance points.

Mayo Bay is protected from N winds, but is not recommended as an anchorage as very deep water lies close offshore.

Fair weather anchorage is sometimes taken off the three towns on the N coast.

Casauman Point (7°09'N., 126°32'E.) lies about 10 miles NNE of Tugubun Point. There are five bays, all open to the E and S, between these two points. There are frequently heavy tide rips off the point. The Casauman River, on which small boats can enter at HW, lies 1.5 miles NNW of the point.

Manay Bay (7°12'N., 126°33'E.) is situated about 3 miles NE of Casauman Point. The town of Manay stands at the head of the bay along with the town of Zaragoza.

The bay provides protected anchorage from all winds except from S and E.

Caraga Bay (7°18'N., 126°34'E.) lies about 6.7 miles NNE of Manay Bay. Alisud Point, the N entrance point, is rocky and steep-to and is formed by low and bare cliffs.

Pusan Point, the S entrance point, is low, rocky, and rounded. Heavy rips are found off this point and apparently caused by the constant S current.

Caraga (7°20'N., 126°34'E.) stands on the cliff bordering Alisud Point. The town church is conspicuous.

Vessels can anchor close to the shore S of Caraga. Vessels also anchor off Santiago, in the SW corner of the bay, in E and SW winds. The anchorage at Caraga is used only during fair weather.

9.59 Baculin Bay (7°25'N., 126°34'E.) lies about 6 miles N of Alisud Point. The N and S shores of the bay are high and rocky while the W shore is reported to be low and sandy. Baculin, a small town, stands on the N shore of the bay.

Vessels anchor, in 13 to 18m, about 0.5 mile offshore, 2 miles WSW of Baculin Point.

Baganga Bay (7°35'N., 126°34'E.), 8.75 miles N of Baculin Point, is entered between Lakud Point and **Lambajon Point** (7°36'N., 126°35'E.), about 2.2 miles NNW. A river flows into the S end of the bay. A town stands on the S bank of the river. Some of the town buildings are visible from seaward. The bay is deep and clear of dangers in its middle part.

There is anchorage in the bay, in a depth of 12.9m, about 0.3 mile offshore and 0.5 mile W of Lambajon Point. Vessels also anchor, in 9m, protected from S and SE winds, in the SW part of the bay.

San Victor Island (7°40'N., 126°34'E.), about 4 miles NNW of Lambajon Point, is a small, low islet with a bushy top and the island is surrounded by foul ground.

An extensive area encumbered with shoals lies within 1.25 miles NE, E, and S of the island. The sea breaks heavily at all times on three drying patches in this area.

Bangai Point (7°44'N., 126°34'E.) lies about 4 miles N of San Victor Island. The point is low and rocky. The coast to the SW of the point is fringed by a reef which dries in places. Two prominent islands stand on the reef.

9.60 Cateel Bay (7°53'N., 126°24'E.), entered between Bangai Point and Catarman Point, about 17 miles NW, is a large open roadstead. The bay is free of dangers outside of 1.5 miles from shore.

The villages of San Roque and Boston are situated in the NW part of the bay. Cateel, a town on the S shore of the bay, lies about 7 miles SE of Boston. Several buildings and a church can be seen from offshore.

Vessels can anchor off the village of Boston, in depths of 9.1 to 12.9m. Vessels calling at Cateel usually anchor, in 11 to 14.7m, about 0.5 mile N of the village of Magdalena, which lies about 2 miles NW of Cateel. There is a prominent warehouse in the village. The anchorage at Boston may become untenable during E winds.

9.61 Catarman Anchorage (8°00'N., 126°26'E.) is formed between the reef fringing the N side of Catarman Point and the coastal reef enclosing the Majangit Island to the N. The reef forming the N side dries at LW.

The entrance channel is reduced in width to 0.2 mile by a small detached reef lying close off the N side of the entrance. Safe anchorage can be obtained about 0.5 mile W of the small detached reef.

Lingig (8°02'N., 126°25'E.), lying about 3.25 miles NW of Catarman Point, is a port of call for inter-island vessels.

Small vessels with local knowledge can anchor, in 3.7m, sand, about 0.5 mile ESE of Lingig.

Tambog Point (8°06'N., 126°27'E.), 4.5 miles NE of Lingig, is covered with scattered trees and bushes, and is prominent. It has two prongs, the S being the higher of the two with an elevation of 15m.

Barcelona (8°10'N., 126°26'E.) lies about 3.7 miles NNW of Tambog Point. There is a break in the coastal reef abreast the town, which forms an inlet. Vessels can anchor in the middle of the inlet, in a depth of about 12.9m.

Sanco Point (8°15'N., 126°27'E.), 5.5 miles NNE of Barcelona and marked by a light, is low, thickly covered with bushes, and has a white, sandy beach on it.

Valencia (8°14'N., 126°27'E.), a small town which is not visible from offshore, stands near the SE extremity of Sanco Point.

9.62 Bislig Bay (8°14'N., 126°23'E.) (World Port Index No. 59385) is entered between Sanco Point and Mawes Island, lying about 4 miles to the NW. The NW shore of the bay is low and bordered by mangrove. The head of the bay is low and fronted by mud flats. The SE part of the bay is rocky and rather steep. A town stands in the NW corner of the bay.

Mangagoy (8°11'N., 126°21'E.), a timber-loading port, lies in the SW corner of Bislig Bay. The buildings of the town and two sawmills are prominent. Twin spires stand about 0.3 mile SW of the sawmills.

A hill, 280m high, lying 2 miles S of Mangagoy, is also prominent. Three oil tanks, two painted black and one silver gray, stand near the shore close S of the timber pier.

A timber loading pier is situated 0.75 mile NE of Mangagoy. The berthing space is 168m long on either side, with alongside depths of 6.7 to 8.4m. The pier is exposed to the swell, especially during the height of the Northeast Monsoon (January to March).

Vessels must be prepared to leave the berth at short notice. The largest vessel accepted is 152m and 18,000 dwt. Vessels usually berth heading SW but during the Northeast Monsoon should berth heading NE.

A breakwater with an L-shaped concrete pier head stands 0.75 mile ENE of the timber pier. The breakwater projects 790m into the bay and has a head 130m long.

The berth for large vessels (operated by the PICOP Timber Company) with a maximum draft of 9.1m is on the W side of

the pier. A patch, with a depth of 4m, lies off the head of the breakwater.

Pilotage is compulsory and must be requested 48 hours in advance.

Vessels anchor, in a depth of 12.8m, 0.75 mile N of the head of the L-shaped pier. Vessels also anchor 2 miles E of the mouth of the Bislig River, in a depth of 9.1m.

The quarantine anchorage can best be seen on the chart.

9.63 Hinatuan Bay (8°21'N., 126°22'E.) is entered N of Bislig Bay. The coastline at the head of the bay is fronted by reefs and shoals to a distance of 2.25 miles.

A small stream discharges into this part of the bay. Depths of 6 to 46m are found in the middle of the clear part of the bay. A number of small islands lie in the bay and in its entrance.

Hinatuan (8°22'N., 126°20'E.) (World Port Index No. 59380) stands on the N side of Hinatuan Bay. The town is visible from well outside the bay. Within the town, the church is conspicuous.

Vessels usually anchor, in 7.4m, mud, about 1.5 miles SE of the mouth of the Hinatuan River. The approach to the anchorage is clear and about 1 mile wide.

Lamon Point (8°28'N., 126°24'E.) stands about 7 miles NE of Hinatuan. The point is made up of rocky cliffs.

Bagasinan Island lies about 1.3 miles SSW of Lamon Point. The E end of the island is separated from the rest of the island by a narrow and shoal passage.

Lamon Anchorage (8°28'N., 126°23'E.), an inlet nearly 2 miles long and having a navigable width of about 0.2 mile at its narrowest point, lies between the reef N of Bagasinan Island and the reef fringing the coast to the W of Lamon Point.

Vessels usually anchor off a ruined pier, which is situated about 1.3 miles W of Lamon Point, in a depth of 12m.

Singag Island (8°33'N., 126°23'E.) lies about 1.3 miles E of Bakulin Point. The island is separated from the mainland by a narrow and foul channel, with a depth of 5m in its middle part.

9.64 Lianga Bay (8°37'N., 126°10'E.) is entered between Bakulin Point and Jobo Point, about 11.5 miles NW. The bay indents the coast for about 13 miles in a W direction. The N shore of the bay is bordered by mangroves and rounded hills. The S shore of the bay is higher and is fringed by a wide reef. The bay is clear of dangers in its middle part. Depths of over 37m are found throughout the greater part of the bay, except for a 15m patch and a 22m patch.

Panirongan Island (8°35'N., 126°07'E.) lies at the head of the bay and appears to be part of the mainland. A narrow boat channel separates the two. A village stands on the SE shore of the island. A small islet lies off the E side of the island. A number of islands and islets lie off the N and S shores of the bay and can best be seen on the chart.

Lianga (8°38'N., 126°06'E.), a small port, lies at the head of the bay. The town church is prominent from seaward. A concrete tower stands on the reef E of the town. An L-shaped pier stands 1 mile NE of the town. A private pier stands 0.5 mile N of the town and is only used by small boats.

Vessels can anchor, in 37m, with the church bearing 289°, with shelter only during the Southwest Monsoon.

There also is anchorage available, in depths of 20 to 22m, with **Malinonok Islands** (8°39'N., 126°08'E.) bearing 224° at a distance of 0.7 mile.

9.65 Oteiza Bay (8°44'N., 126°13'E.) is entered between Jobo Point and an unnamed point lying about 5.8 miles to the NE. The N and S shores of the bay are bordered by mangroves and fringed by a drying reef.

A river discharges into the N part of the bay. A town stands near the N side of the mouth of the river. A second town stands on the S shore of the bay. Vessels anchor, in 12.8m, SE of the N town.

Ayninan Island (Agninan Island) (8°47'N., 126°18'E.) lies about 1.3 miles ENE of the N entrance point of Oteiza Bay.

A deep passage, about 0.1 mile wide, separates the islet from the shore reef of the mainland. There is anchorage, in 29 to 33m, about 0.8 mile NE of the islet.

Marihatag (8°48'N., 126°18'E.), a small village visible from seaward, stands about 1.3 miles NW of Ayninan Island. The town stands on the S side of the mouth of a river of the same name. The river can only be entered by small boats at HW.

Santa Cruz Bay (8°50'N., 126°20'E.), situated 2.25 miles NE of Marihatag, is about 0.8 mile wide at its entrance and extends about 1 mile W. A small town stands at the head of the bay. The bay is unsuitable for shipping.

9.66 Bitaogan Bay (8°53'N., 126°19'E.), about 1.5 miles wide at its entrance, is very shallow at its head. A reef, about 0.2 mile wide, fringes the N side of the bay.

Aras-Asan (8°53'N., 126°19'E.) stands on the W side of the bay. Vessels call to load lumber.

The **Arangasa Island** (8°53'N., 126°20'E.), three in number, lie on a reef in the entrance to Bitaogan Bay. Arangasa Island shows a light.

The largest island is merely a mangrove patch. The third island, close S of Arangasa Island, is small and covered with brush.

Vessels usually anchor, in 22m, in the S part of Bitaogan Bay, with the S extremity of Arangasa Island bearing 096°, in mid-channel, between the reef on which Arangasa Island lies and the SW shore of the bay.

Vessels with local knowledge anchor in the N part of the bay, E of Aras-Asan, in a depth of 18m.

Cagwait Cove (8°56'N., 126°18'E.), a small cove, lies 3.25 miles NW of Bitaogan Bay. The entrance is about 0.3 mile wide with a depth of 12.8m. A village stands on the S shore of the cove. There is anchorage in the cove for small vessels with local knowledge.

Magabao Cove (8°59'N., 126°16'E.) is 3.25 miles NW of Cagwait Cove. It is 0.5 mile wide at its entrance. A 6.7m patch lies in the middle of the entrance.

The **Tago River** (9°01'N., 126°14'E.) discharges 3 miles NW of Magabao Cove. A narrow channel, with a depth of 1.9m at LW, leads across the bar. A small town stands on the N bank of the river.

9.67 Tandag (9°05'N., 126°12'E.), a small seaport lying about 5 miles NW of the Tago River, stands on Tandag Point, which is low and flat. The church and a number of buildings in the town are prominent. There is a concrete pier that extends to 60m with 2.1m alongside, stands near the point.

Lenungan Island (9°05'N., 126°12'E.) is the larger of two steep, high, densely wooded, and rocky islands lying close off the N side of Tandag Point. The smaller island is oval in shape.

Vessels can obtain anchorage, in depths of 13 to 18m, about 0.3 mile W of the N end of Lenungan Island.

Macangani Island (9°07'N., 126°14'E.), 79m high and covered with small trees and brushwood, lies on the S part of a bank 2.5 miles NNE of Tandag Point. The island is prominent. Two bare rocks lie close off the N end of the island.

Panisaan Point (9°10'N., 126°10'E.), lying about 5.5 miles NNW of Tandag Point, rises steeply from the water's edge. There is a dome-shaped mountain W of the point. It is a good landmark, but is frequently obscured in cloudy weather. An 11m patch lies about 1.5 miles SSE of the point.

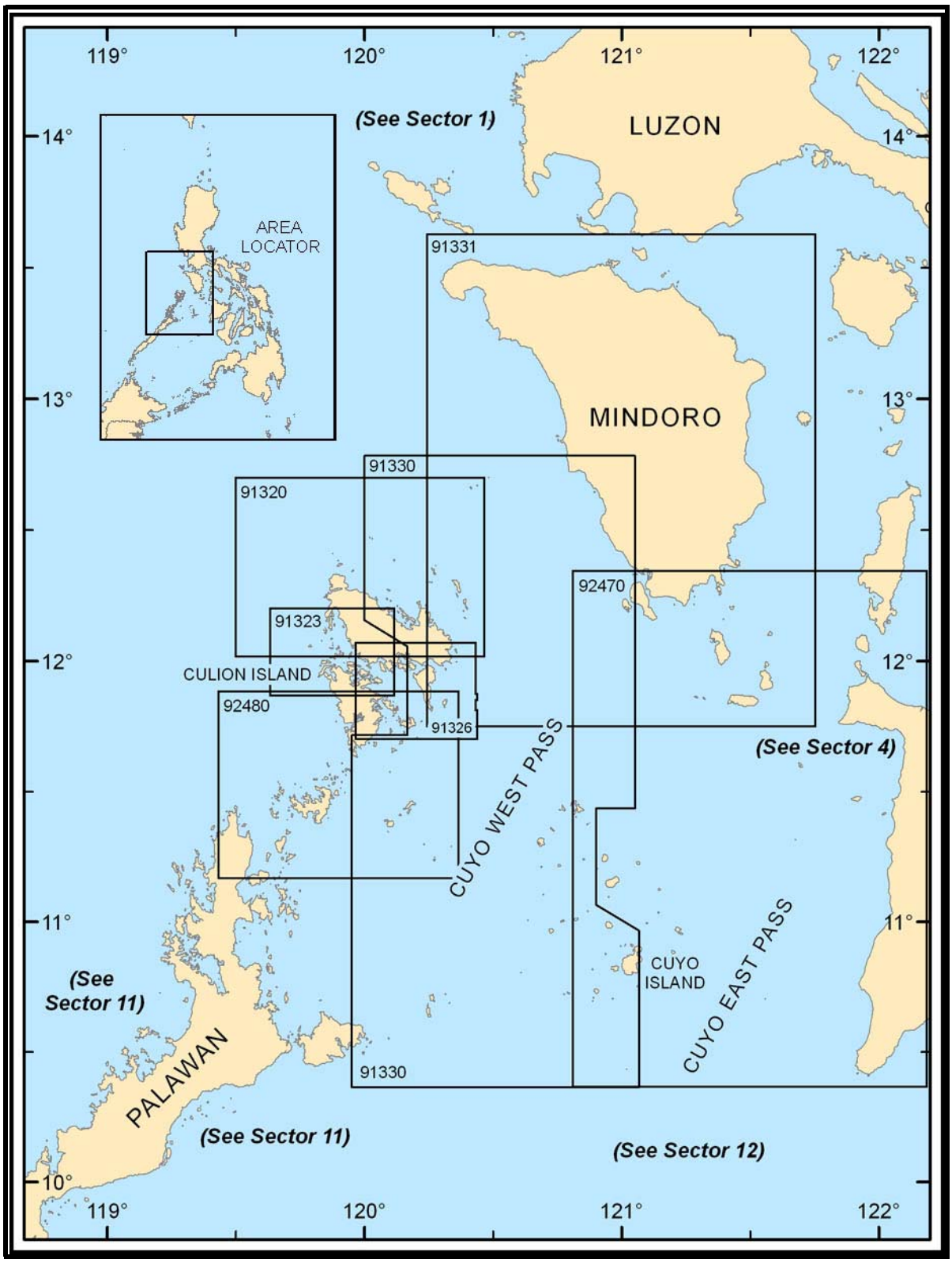
Taganauan Island (9°14'N., 126°12'E.) lies on the coastal reef about 4 miles NNE of Panisaan Point. The island is small and covered with mangroves. Several islets and rocks lie close off the E side of the island.

9.68 Cauit Point (9°18'N., 126°12'E.), situated about 4.8 miles N of Taganauan Island, is the NE extremity of a rugged and well wooded peninsula. The point is high and rather steep-to on its N side. A light is shown on the point. The E and S sides of the point are fringed by a reef that extends up to 0.6 mile offshore.

Cauit Bank (9°20'N., 126°15'E.), with depths of 14.7 to 18.4m, lies from 2.75 to 4.25 miles ENE of Cauit Point.

A constant S current has been observed on this coast at a distance of over 4 miles from the shore, with a rate of 1 to 2 knots. The tidal currents flow N on the flood tide between the numerous reefs lying in the bays on this coast.

Anchorage, in about 22 to 37m, sand, or sand and rock, can be taken anywhere along the coast between Panisaan Point and Cauit Point.



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

SECTOR **10** — CHART INFORMATION

SECTOR 10

THE CALAMIAN GROUP AND ASSOCIATED DANGERS

Plan.—This sector describes the islands and dangers in the area between the NE end of Palawan and Mindoro, and Panay to the E. The sequence of description is from S to N.

General Remarks

10.1 The Calamian Group, Linapacan Island, and the Cuyo Islands, together with the numerous islets and reefs lying off them, lie approximately between latitudes 10°23'N and 12°29'N, and between longitudes 119°30'E, and 121°15'E.

These islands and islets together with Palawan form the major part of Palawan Province; they are also known as the Palawan Group and as the Palawan Archipelago. The latter designations are used most often in describing the winds, weather, and currents in the group as a whole.

The Calamian Group consists of three relatively large islands; Busuanga Island (paragraph 10.13), Coron Island (paragraph 10.20), and Culion Island (paragraph 10.25), together with numerous off-lying islets and reefs.

The three large islands lie grouped around a position about midway between the SW coast of Mindoro and the NE end of Palawan. Mindoro Strait separates Mindoro and Busuanga Island.

Winds—Weather.—In the Palawan Group, the Northeast Monsoon generally sets in during October, but does not become fully established much before the beginning of November. This monsoon, also called the winter monsoon, continues until April. The winds of this monsoon are N and NE, tending to become more easterly toward the close of the season.

When at maximum development, which is in January, the Northeast Monsoon blows with remarkable steadiness, averaging 10 to 15 knots over the open sea.

Stronger winds are generally associated with rising barometric pressures, but such conditions are of short duration, and become less frequent as the Northeast Monsoon draws to a close.

Interruptions to the normal monsoon winds are more frequent in the S part of this area than in the N part; they are associated with typhoons and shallow low pressure systems.

The Southwest Monsoon prevails from June to October; it follows a transition period of variable winds and calms.

The winds of this monsoon blow most steadily in July and August, but are not as steady as the winds of the Northeast Monsoon. The winds, when not interrupted by land masses, average 10 to 15 knots at the height of the monsoon. In the S part of the Palawan Group, in the latitude belt 8°00'N to 9°30'N, the close of the Southwest Monsoon season invariably brings strong, boisterous winds during the early days of October. A further transition period precedes the onset of the Northeast Monsoon again.

Squalls are somewhat prevalent during the Southwest Monsoon, particularly near land, and during such squalls the wind may attain gale strength in gusts. These squalls are often associated with thunderstorms.

Squalls and rain lasting for 5 or 10 days occur during the Southwest Monsoon. Fair weather, sometimes lasting at least a month, may be experienced between periods of bad weather.

Strong and squally SW or W winds, known locally as Collas, sometimes blow in summer and early autumn for periods as long as 10 days. They are generally observed with typhoons, centered some distance to the N, and at times in the S with shallow depressions. These Collas are generally accompanied by considerable quantities of close driving rain.

Land and sea breezes are clearly observable in this area, particularly when the prevailing NE or Southwest Monsoon winds happen to be weak. Along the E and W coasts of the island of Palawan, the winds of both the Northeast Monsoon and the Southwest Monsoon give place at sunset to a land breeze, known locally as the Tugpo. The Tugpo is observable as far as 10 to 15 miles offshore.

Typhoons are not very frequent over the greater part of the Palawan Group, although their frequency increases with increasing latitude. Only about 7 per cent of the more serious typhoons occur in the latitude belt 8°00'N to 11°00'N, but in the belt 11°00'N to 13°30'N, the region in which the Calamian Group is situated, typhoons are quite frequent and are often destructive, about 19 per cent of all typhoons being experienced in this belt.

In a normal year 13 typhoons are encountered in the area 0°00'N to 20°00'N, and 120°00'E to 130°00'E, but about 50 per cent of these begin to recurve to the N and NE before reaching the Philippines.

Tides—Currents.—The North Equatorial Current divides E of the Philippine Islands. Most of the water is deflected to the N and S; however, some of the water continues W to pass between the various islands.

During the Northeast Monsoon, this W drift current continues into the South China Sea, but during the Southwest Monsoon, this water becomes mixed, in the Sulu Sea, with water flowing E from the South China Sea. Most of the resultant mixed water turns S to flow into the Celebes Sea. Near shore and in the passes between the islands the tidal currents are often much stronger than the ocean currents and mask the effect of the latter.

Generally speaking, the currents of the South China Sea and the Sulu Sea need not be considered when navigating in close proximity to the Palawan Group.

Regarding sea conditions, the area described in this sector experiences medium to low seas and moderate to low swell, from NE, during the period from November to April. The most disturbed sea conditions occur during this period because wind velocities are higher than at any other time of the year.

During the period from May to October, sea and swell are predominantly from SW.

Caution.—Waterspouts have been observed in the area between Palawan and the Cuyo Islands, and occasionally occur N of Tami Point in Ipolotte Bay.

Reefs and shoals border the W sides of Busuanga Island and Culion Island as far as 22 miles W. The 200m curve is the W

boundary of the shoal area, but depths of less than 9.2m are found close within the curve. Vessels without local knowledge are advised to remain outside the 200m curve.

Drilling operations are progressing in position 11°53'10"N, 119°21'32"E. A lighted buoy marks the location.

The Cuyo Islands

10.2 The Cuyo Islands lie between the N part of **Palawan Island** (11°25'N., 119°30'E.) and Panay Island.

They are contained within the parallels of 10°40'N and 11°30'N, and between the meridians of 120°40'E and 121°15'E. There are about 40 islands in the group, mostly scattered, except for the Quiniluban Islands.

Shoals, banks, and reefs are numerous in the vicinity of the Cuyo Islands.

However, most of the islands of the group can be approached without difficulty from any direction except the waters between **Cuyo Island** (10°51'N., 121°02'E.) and **Canipo Island** (10°59'N., 120°57'E.). These waters are encumbered with numerous shoals known as the Gosong Dangers.

The route E of the islands is generally used during the Northeast Monsoon from Basilan Strait to Mindoro Strait thus taking advantage of the N current along the W side of **Panay** (11°00'N., 122°00'E.).

The channel between the NE coast of Palawan and the Cuyo Islands is named Cuyo West Pass and that between the Cuyo Islands and Panay is Cuyo East Pass.

The Cuyo Islands are exposed to both monsoons. The mean annual temperature is about 28°C. and the entire area is considered excellent for working conditions.

Visibility is rarely obscured by fog or mist, but there are periods of haze during the Northeast Monsoon.

The Quiniluban Islands are the northernmost of the Cuyo Islands, and lie about 35 miles NNW of Cuyo Island. The group consists of several islands, islets, and rocks lying on a circular reef about 6 miles in diameter.

The group is of limestone formation, covered by tall grass. The reefs that encircle the islands are flat and sandy with numerous coral heads which dry at LW.

Breakers mark the edges of the reef during the monsoon seasons.

Anchorage, partly protected during the Northeast Monsoon (October to March), can be taken close off the SW side of the encircling reef, in depths of 11 to 27m.

Quiniluban Island (11°26'N., 120°50'E.), the largest of the group, lies near the NE edge of the reef. The island appears as a sharp cone on a N approach; whereas, from the E the island resembles a ridge with a dome-shaped elevation in the center.

The cone and ridge have a reddish brown color and make a prominent landmark. The island is a good radar target for a distance of 24 miles.

Quiniluban Island to Cuyo Island

10.3 The **Halog Islands** (11°22'N., 120°52'E.) are two small islands rising from a reef about 3 miles SSE of the SE side of Quiniluban Island. The channel between the islands and Quiniluban Island is free of dangers and at least 10.9m deep.

A shoal, with a depth of 5.5m, lies 6.5 miles ESE of Halog Island. A steep-to reef, with a depth of 4.9m, lies 5.25 miles SW of the same island.

Pamalican Island (11°21'N., 120°44'E.) lies about 7 miles SW of Quiniluban Island. The island is covered with bushes and is uninhabited.

It is fringed by a drying reef extending 1 mile from its NE side.

Manamoc Island (11°18'N., 120°41'E.) lies 2.75 miles SW of Pamalican Island. The island is fringed by a partly drying reef which extends up to 1 mile offshore.

A lagoon, about 1m deep at LW, lies within a break in the reef on the SW side of the island.

A light is shown from a concrete tower, 12m high, standing on a hill on the W extremity of the island.

10.4 **Lean Island** (11°13'N., 120°41'E.) and Imaruan Island lie 4.75 miles S and 5.75 miles SE, respectively, of Manamoc Island. A 3.6m coral patch lies about 5 miles SE of Imaruan Island.

Oco Island (11°15'N., 120°51'E.), with a rock close off its E side, lies 10.5 miles ESE of Manamoc Island. Gosong Rocks, 5m high, lies 3.75 miles SE of Oco Island.

Dit Island (11°15'N., 120°56'E.) lies about 4.3 miles E of Oco Island. The island is wooded and has three mountain peaks in the middle part of the island.

Large boulders form the shores but small sandy beaches are found at the S and W ends of the island.

Shoal patches lie as far as 1 mile off the SW side of the island.

10.5 **Maracanao Island** (11°13'N., 121°04'E.) is located on a bank, with depths of less than 18m. The island lies 7 miles E of Dit Island.

Chinaman Shoals are two shoals, with depths of 6 to 7m, lying 3.5 and 6 miles NNE, respectively, of Maracanao Island. Luzon Bank, with a least depth of 14.6m, lies 11 miles E of Maracanao Island. Several smaller banks, with depths of 13 to 17m, lie between Chinaman Shoals and Luzon Bank.

Agutaya Island (11°09'N., 120°58'E.) lies about 4.5 miles SSE of Dit Island. The island is high and hilly in its NE part with four peaks rising close together. Extensive coral reefs, bare at LW, extend as far as 0.4 mile off the NW and SE sides of the island.

Agutaya Island Light is shown at the W side of the island.

A small detached coral reef, with a depth of 3.7m, lies 8 miles W of Agutaya Island.

Guinlabo Island lies near the E edge of a shoal, 2.25 miles S of Agutaya Island. A rock, with a depth of 1.2m, lies 3.75 miles W of Guinlabo Island.

Matarabis Island (11°07'N., 121°09'E.) lies on the S side of a bank with depths of less than 18m, 9.5 miles E of Agutaya Island. The island is easily identified by its steep conical hill, which is the most prominent landmark in the Cuyo Islands. The island is a good radar target up to 27 miles.

A shoal, with a depth of 10.4m, lies about 3 miles WNW of Matarabis Island.

10.6 **Siparay Island** (11°02'N., 121°08'E.) lies about 5 miles S of Matarabis Island. Tacbubuc Island lies about 3 miles SW of Siparay Island. Both islands lie on banks, with depths of

less than 18m.

The **Tagauayan Islands** (10°58'N., 121°13'E.), consisting of two islands, lie about 6.5 miles SE of Siparay Island. The two islands are connected by a drying ledge. The larger of the two islands has three conspicuous high ridges; the highest is reported to be visible for 23 miles. Both islands are reported to be good radar targets up to 25 miles.

Tagauayan Bay (10°58'N., 121°14'E.) is the area between the two islands lying NE of the rocky ledge connecting them. The bay is open to the E but affords good shelter during the Southwest Monsoon.

A number of hills and a large sharp rock on the above ledge are good landmarks for entering the bay.

A shoal ridge in the middle of the bay extends 0.5 mile E from the shore and has a depth of 4.9m. Fair shelter from the Northeast Monsoon can be obtained on the N side of the bay.

Anchorage can be taken in the N part of the bay, in depths of 14.6 to 18.3m. Anchorage can also be taken off the W side of the bay, in depths of 18.3 to 27m, about 0.2 mile off the shore, and 0.35 mile SW of the N entrance point S of the rocky ridge is an area about 0.2 mile in extent, with depths of 11 to 22m, where anchorage is available in fair weather.

Cocoro Island (10°53'N., 121°12'E.) lies 4 miles SSW of the Tagauayan Islands. The island is fringed by a reef, except on its S side, and a bank extends about 0.5 mile NW from its N extremity, with depths of less than 5.5m. It has been reported the island is a good radar target up to 24 miles.

10.7 **Cuyo Island** (10°51'N., 121°02'E.) is the largest of the Cuyo Islands and lies about 7 miles WSW of Cocoro Island. The N and S parts of the island are connected by a low, narrow isthmus. Mount Bombon, the highest hill on the island, stands in the N part of the island.

The S coast of the island is composed of low, rocky ledges or mangroves with trees along the beaches. Lucbuan Hill, on the E side of the island, is a good landmark when approaching the island from the E. The island has been reported to be a good radar target up to 31 miles.

10.8 **Cuyo** (10°51'N., 121°00'E.), the largest town in the Cuyo Islands, stands on the W coast of Cuyo Island. Buoys mark the N and S entrance points to the port.

Cuyo

The entrance channel at the buoys is 7.3m deep and 0.25 mile wide. Depths decrease to 1.5m off a pier at the inner end of the channel. A light is shown near the middle of the pier.

Cuyo Port Light

Cuyo is approached from N or W through a channel between the N side of Bisucay Island and the SW extremity of Gosong Dangers. This channel is at least 0.5 mile wide with depths of 18.3 to 31m.

Bisucay Channel, between Bisucay Island and Cuyo Island, is 0.3 mile wide, with a fairway about 0.1 mile wide and 11.9m deep.

The immediate approach to town is through a break in the reef abeam of it. There are numerous shoal patches lying adjacent to the channels.

There are two piers at Cuyo. The stone mole, about 0.15 mile long, has a reported depth of 2.1m off its head. The stone causeway extends almost 0.4 mile offshore, with its outer 40m submerged 0.3m below water. The remaining part of the causeway is in disrepair and used only by small boats.

Small vessels can anchor about 0.5 mile W of the pier, in 7.3m, or closer in if draft will allow. During the Southwest Monsoon (May to September), vessels can anchor closer off the reef that fringes the N side of Bisucay Island.

Anchorage can also be taken during SW storms in the bay on the SE side of Cuyo Island.

Islands West of Cuyo Island

10.9 **Bisucay Island** (10°49'N., 120°58'E.) is separated from the SW side of Cuyo Island by Bisucay Channel. A double-peaked hill rises in the middle of the island. The NE side of the island is low and sandy.

Batas Point, on the SE side of the island, has a hill which is a good landmark for vessels approaching the S entrance to Bisucay Channel.

The **Gosong Dangers** (10°54'N., 120°59'E.) is an extensive area of foul ground and detached shoal patches which lies W of Cuyo Island. Gosong Rock, 3m high, lies on the E side of the Gosong Dangers.

Indagamy Island, 40m high, is steep and rocky; it lies 1.25 miles ENE of Gosong Rock.

Putic Island, 1.25 miles E of Indagamy Island, is 128m high; it lies on the reef, which dries, about 0.4 mile NW of the N part of Cuyo Island.

Bararin Island (Bararing) (10°52'N., 120°56'E.) lies 3 miles NNW of the NW extremity of Bisucay Island. The island is

steep-to on its W side. Pandan Island lies on the SE part of a detached bank, 4.5 miles W of Bisucay Island.

Imalaguan Island (Imalauan) (10°45'N., 121°04'E.) lies 3 miles S of the SE extremity of Cuyo Island. The island consists of three hills which are covered with vegetation. Silat Island lies about 6 miles S of Bisucay Island. The island is wooded and inhabited.

10.10 Capnoyan Island (10°44'N., 120°54'E.) lies about 5.5 miles SW of Bisucay Island. The island is high and wooded on its SW side. A narrow reef fringes the island except for a short stretch on its SW side. Malcatop Island lies about 1.3 miles SSW of Capnoyan Island.

The island has two summits and is partly cultivated. Pangatatan Island lies 0.5 mile S of Malcatop Island. The island has a sandy beach on its NE side and the rest is covered with bamboo and scrub.

Pacheco Shoal (10°40'N., 120°52'E.), with a depth of 6.4m, lies about 1.8 miles SSW of Pangatatan Island. Ramon Shoal, with a depth of 4.5m, lies 4 miles W of the same island.

Santa Filomena Shoals (10°39'N., 120°44'E.) consists of three coral formations and lies at the SW end of the Cuyo Islands.

There is deep water between the three shoals. The shoals, which have least depths of 2.1 to 3.6m, can best be seen on the chart.

10.11 Quiminatin Island (10°43'N., 120°47'E.) lies 6 miles W of Capnoyan Island. It rises abruptly and is almost inaccessible and the cliffs are undercut by the sea. The NW corner is separated from the remainder of the island by a deep saddle, and the W side of this point is the only landing place.

The **Quiminatin Chico Islands** (10°43'N., 120°46'E.) comprise two islets on the E edge of a bank, 1 mile WSW of Quiminatin Island.

The channel between the islets and Quiminatin Island is deep and clear.

Round Island (10°48'N., 120°36'E.), the westernmost of the Cayo Islands, lies about 11.5 miles WNW of Quiminatin Island. The island is steep-to and partly wooded. Lubic Island lies 11.5 miles NNE of Round Island.

The island is hilly and has a coconut plantation on its S end. Tabac Rock, with a depth of 0.3m, lies 5.5 miles WNW of Lubic Island. The rock lies on the S end of a partly drying coral reef.

An isolated rock, with a charted depth of 4.9m, lies 4.5 miles SW of Lubic Island.

Pamitinan Island (11°00'N., 120°46'E.), Patunga Island, and Paya Island all lie in a NE-SW direction, about 2.5 miles apart, and steep-to. Cauayan Island lies about 7 miles NNE of Tabac Rock. A shoal, with a depth of 14m, lies 3.5 miles NW of Cauayan Island.

The Calamian Group

10.12 The Calamian Group consists of three relatively large islands; Busuanga Island, Coron Island, and Culion Island, together with numerous off-lying islets and reefs.

The islands are generally hilly and the lower slopes and valleys are wooded.

The climate of these islands is generally hot and unhealthy. Depths N and E of the islands are very irregular with patches from 13 to 18m rising steeply from greater depths.

Busuanga Island

10.13 Busuanga Island (12°10'N., 120°00'E.) is the largest island of the Calamian Group. The coasts of the island and its bays are fringed by reefs. The highest mountains are in the SE part of the island.

Mount Tundalara is the highest of these mountains and is very prominent, but is sometimes obscured by clouds. A number of towns and villages are located about the island.

Macachin Point (12°20'N., 119°54'E.), the N extremity of Busuanga Island, is low, rocky, and reef-fringed. Northwest Rock, with a flat summit, is barren, has a dark appearance, and lies almost 5 miles NNW of Macachin Point.

Sail Rocks, a group of bare rocks, lie 2 miles SSE of Northwest Rock. A bank, with a depth of 12.8m, lies 1.5 miles NE of Sail Rocks.

Dimipac Island (12°22'N., 119°54'E.), with a few trees and some vegetation, lies about 2 miles N of Macachin Point. The island is mainly fringed by a drying reef.

The NW end of Busuanga Island is locally known as Calauit Island, as it is separated from the mainland by the Ditipac River which flows through the narrow neck connecting them.

Inagtapan Point (12°19'N., 119°55'E.) lies about 2 miles ESE of Macachin Point. The point is bold, rocky, and steep, with a high bare cliff. A low ridge extends from the point SW to the W coast of the island.

10.14 Tanobon Island (12°21'N., 119°57'E.), high and wooded, lies 2 miles NE of Inagtapan Point.

Tanobon island is also reported to be fringed by a coral reef. Two rocks lie 1 mile WNW of the SW extremity of the island. Dumunpalit Island lies 12 miles NE of Inagtapan Point. The island is rocky and encircled by a reef.

Colocoto Rocks, a group of large black boulders, lie about 7 miles NW of Dumunpalit Island.

Calauit Bay (12°16'N., 119°56'E.) lies about 2.8 miles SSE of Inagtapan Point. The bay has irregular depths of 6 to 37m and is open to the Northeast Monsoon. A village of the same name stands on the N shore of the bay.

The shores of the bay are fringed by coral reefs. Part of the year a fishing fleet is reported to be operating out of the bay.

Minuit (12°15'N., 120°01'E.) is situated on the coast 7.5 miles SE of Inagtapan Point. It is a small open bight with depths of 9.1 to 22m. It is exposed to N winds, but the E part of the anchorage is protected from NE, E, and S winds by an extensive reef and off-lying islands.

Minuit, a village, stands on the shore S of the anchorage. A wooden pier in ruins, at the SW side of the anchorage, is a good landmark on approaching the anchorage.

Anchorage can be taken, in 14.6 to 16.5m, mud, about 0.3 mile NE of the pier.

Diboyoyan Island (12°16'N., 120°06'E.) lies 5 miles ENE of Minuit. Dimaquiat Island and Malpagalen Island are connected together by an underwater ridge of sand and coral. Shoals are scattered between the above islands and the coast of Busuanga Island.

10.15 Port Caltom (12°11'N., 120°06'E.) lies about 6 miles SE of Minuit. The port consists of an irregularly shaped bay, about 1 mile in extent, which affords good protected anchorages in several bights.

A brown hill on the N side of the entrance is a good landmark. A long narrow coral reef extends about 0.5 mile from the head of the port towards the middle of the entrance, with a deep passage on either side.

Sheltered anchorage can be obtained in an area of about 0.2 mile in extent, in depths of 11 to 20m, located W of a stone mole, in ruins on the E shore.

A vessel can also anchor in the N part of the bay, in a depth of 36.6m, about 0.1 mile offshore and 0.3 mile SW of the brown hill.

Directions.—From a position about 1 mile E of Malpaglen Island, steer 180° until the rocky point on the N side of Port Caltom bears 270°, distant 0.5 mile. Change course to 246° for the mouth of the **Pangauaran River** (12°11'N., 120°06'E.), and when the entrance point of the river is abeam, change course to 217° for the anchorage.

The channel is about 91m wide at the entrance, and the W side should be favored as there are shoals off the E side.

The anchorage in the N part of the bay is easy of access and can be approached by keeping about 0.1 mile off the N shore.

10.16 Aram (12°07'N., 120°10'E.) lies about 6 miles SE of Port Caltom. A pier in ruins lies off the village.

A beacon marks a 0.9m patch lying 0.5 mile NW of the pier. A second beacon marks the edge of a reef W of the pier.

Coconongon Point (12°14'N., 120°13'E.) is located 7 miles ENE of Port Caltom. The point is the steep, rocky, and cliffy N end of a peninsula. A rock, 2m high, lies about 1 mile NW of the point.

A mountain, rising just within the point, is a prominent cone-shaped wooded landmark.

Cabilauan Island (12°10'N., 120°10'E.) lies in the bay between Coconongon Point and Port Caltom. A number of islands and several below-water reefs lie between the SW side of the island and the coast.

Good anchorage can be taken off the SE end of the island, in depths of 12.8 to 26m, subject to weather and visibility.

Several islets and numerous rocks lie between this island and Busuanga Island. From N to SE the principal islets are: Dicapadiac Islet, 68m high, Dimalanta Islet, 87m high, Lauit Islet, 83m high, and Liatui Islet, 62m high.

10.17 The **Nanga Islands** (12°20'N., 120°16'E.), two in number, lie about 7.5 miles NNE of Coconongon Point. The islands are hilly and encircled by coral reefs and detached rocks. The channel between the islands is foul, but can be used by small craft at HW.

A rocky islet lies 1 mile NE of the N Nanga Island.

Camanga Island (12°18'N., 120°16'E.) lies about 2 miles S of the S Nanga Island. The island is wooded and fringed by coral reefs as far as 0.1 mile offshore. A bold rock lies 0.5 mile off the W side of the island. A steep-to rock, awash, lies almost 0.5 mile NE of the island.

Tara Island (12°17'N., 120°22'E.) lies about 4.5 miles ESE of the Nanga Islands. The island is made up of light brown colored hills, bare of trees, and appears as a number of islands when seen from the offing.

The W shore of the island is a sandy beach, bound by a wide coral reef. The E shore is rocky with steep bluffs.

Anchorage can be taken off a village on the W side of the island, in depths of 18.3 to 31.1m.

Lagat Island (12°15'N., 120°22'E.) lies about 0.75 mile SW of Tara Island. The island is barren and fringed by a coral reef. The island is also very steep and has nearly bare eroded cliffs, which show red or white through sparse vegetation.

The channel between the island and Tara Island is 0.5 mile wide and clear of dangers except for a 2.1m patch off the N end of Lagat Island.

Bantac Island (12°13'N., 120°23'E.) lies about 2 miles SSE of Tara Island. The island is connected to Calanhayaun Island by a drying coral reef. Both islands are dark-colored except during bright sunlight when they show up as red and yellow. A light is shown from the SW end of the island.

Lubutglubut Island (12°11'N., 120°23'E.) is situated about 1 mile SW of Calanhayaun Island. The island appears dome-shaped from the E and is a good landmark.

Brown Rocks are dark, bare, and lie about 1.3 miles to the S of Lubutglubut Island.

10.18 Depagal Island (12°10'N., 120°15'E.) lies about 4 miles SE of Coconongon Point. The island is connected by a reef to Napuscud Island, close S of it. There are high peaks in the middle of both islands.

Minangas Bay (12°08'N., 120°15'E.) lies on the NE side of Busuanga Island, close S of Napuscud Island. The entrance to the bay is about 0.5 mile wide and can be identified from a distance by several long reddish-brown scars, where small landslides have occurred, on the E end of Napuscud Island.

Shoals of 0.5m and 2.2m, lying S and SE of the S end of Napuscud Island, are in the middle of the bay.

Anchorage can be obtained about 0.3 mile NW of the S end of Napuscud Island, in a depth of 22m, mud.

Directions.—From a position about 0.3 mile E of the NE point of Napuscud Island, steer a course of 218°, which leads midway between the island and the 2.2m shoal patch.

Keep within 0.1 mile of the E side of Napuscud and round the S end of the island and anchor W. The shoal patches are visible or show discolored water.

10.19 The coast between Minangas Bay and Alonon Point, 7 miles SE, consists of high, cliffy points with low, mangrove bights.

Mount Minangas (12°05'N., 120°18'E.) is the highest and northernmost of three peaks close together, which form part of a saw-tooth range extending SE from the bay.

Anchorage for small vessels can be taken during the Southwest Monsoon in small bays lying SE of **Demelias Island** (12°06'N., 120°18'E.) and NW of **Salung Island** (12°05'N., 120°20'E.). The first bay has depths of 18 to 53m SE of the island; the second bay has depths of 15 to 24m over a width of 0.25 mile.

Alonon Point (12°03'N., 120°20'E.), the E extremity of Busuanga Island, is reef-fringed and backed by hilly terrain. Lungaon, a large fishing village, lies on the N shore of a bay, 1.5 miles N of Alonon Point.

Mount Tundalara (12°02'N., 120°15'E.), 464m high, the

highest summit on Busuanga, is conspicuous except when obscured by clouds.

Port Borac (12°03'N., 120°19'E.), a small inlet, lies about 1.5 miles SW of Alonon Point. The inlet is about 0.3 mile wide at its entrance, with a depth of 24m, decreasing to 6.7m at its narrowest part. The inner basin is filled with mud flats. There are two piers in ruins.

Bocao Point (12°00'N., 120°20'E.), the SE extremity of Busuanga Island, is rocky and encircled with coral reefs for a distance of 0.3 mile. Two rocky islets lie near the outer edge of the reef.

Dinaran Island lies about 1.5 miles E of Port Borac. The channel between the island and Busuanga Island is deep except for a 3.2m patch lying 0.5 mile E of Alonon Point.

10.20 Mataya Reef (12°01'N., 120°22'E.) lies close E and SE of Dinaran Island.

The reef consists of coral and sand, and partly dries at LW. A small island lies on the E side of the reef. Vessels should stay at least 2 miles off the island.

The narrow channel between Dinaran Island and the reef has a controlling depth of 16.5m, but is not recommended due to shoals near the S end.

Dibatuc Island (11°58'N., 120°19'E.) lies about 1.8 miles SW of Bocao Point. The island is high and rocky on all sides. It has very little vegetation and is uninhabited.

The island is a good landmark when entering the E end of Coron Island.

Coron Island (11°55'N., 120°15'E.) lies close S of Busuanga Island. The island is high, rocky, and very precipitous. The E side of the island is indented by several small and unprotected bays, which are used mainly by fishermen.

Calis Point, the S extremity of the island is steep-to and formed by a high vertical cliff with an overhanging base caused by erosion. A bay, situated 2.5 miles NNW of the point, is about 0.3 mile in extent with depths of 13 to 24m, but the entrance is constricted and has a depth of 7m. The basin just N of Calis Point is obstructed by a sand bar. A ridge, containing shoals, extends about 6 miles NE from the E coast of Coron Island.

10.21 Balolo Point (11°57'N., 120°12'E.) forms the NW extremity of Coron Island. The point is fringed by reefs and should not be passed less than 0.25 mile off.

Between Balolo Point and Limaa Point, the coast is rugged, steep, and mostly indented. There are some sandy beaches where boats can land.

Coran Reef (11°53'N., 120°12'E.) lies about 2.5 miles off the SW coast of Coran Island. The reef lies at the N end of an underwater ridge extending SE on which there are several shoals. The reef is awash at LW.

Delian Island (11°50'N., 120°19'E.) lies about 3 miles E of the SE coast of Coron Island. The E side of the island is rocky and indented. An islet lies off the S extremity of the island. The island has been reported to be a good radar target up to 21 miles. A light is shown from SE end of the island.

10.22 Alpha Shoal (11°52'N., 120°23'E.), with a least depth of 5.8m, lies about 4 miles E of Delian Island. Shoal water lies close N and S of Alpha Shoal.

Magallanes Bank (11°51'N., 120°26'E.), with a least depth of 6.7m, lies about 6.5 mile E of Delian Island.

Narvaez Bank, about 0.8 mile long and with a least depth of 6.4m, lies about 3 miles S of Magallanes.

Aguirre Reef (11°44'N., 120°34'E.), with a least depth of 5.5m, lies about 9 miles ESE of Narvaez Bank.

Beta Shoal, with a least depth of 8.5m, lies about 6.7 miles SSE of Delian Island.

Areta Shoals (11°39'N., 120°47'E.) consists of a 9.1m patch, lying about 15.5 miles ESE of Aguirre Reef and a 10.3m patch about 3 miles SW of the above patch.

The **Cabulauan Islands** (11°25'N., 120°08'E.) consist of a group of five islands that lie between Salimbubuc Island and Alipio Reef. The group consists of Cabulauan Island, Nanga Island, Nangalao Island, Magranting Island, and Tubug Island. The islands are all high, rocky, sparsely wooded, and rather steep-to.

10.23 Cabulauan Island (11°23'N., 120°06'E.) has a conspicuous round summit near its E shore. Two rocky islets lie close together about 1.3 miles S of the island.

A detached 6.7m shoal lies 2.5 miles SE of the islets and an 8.2m patch lies 3.5 miles NE of the islets.

Panay Bank (11°33'N., 120°20'E.), with a depth of 12.8m, lies about 18 miles ENE of the N extremity of Nangalao Island.

Loreto Reef (11°30'N., 120°11'E.), with a least depth of 6.4m, lies about 1.8 miles N of the N end of Nangalao Island. Bache Reef, a coral head, lies about 3.3 miles NNE of Loreto Reef, and has a least depth of 4.5m. An 8.5m coral shoal, with a dangerous wreck, lies about 4 miles NE of Bache Reef.

Tuna Reef (11°36'N., 120°12'E.), with a least depth of 5.5m, lies about 3 miles N of Bache Reef.

Alipio Reef (11°30'N., 120°04'E.), with a least depth of 7.6m, lies about 6.75 miles WNW of Nangalao Island. Basco Reef, 1.25 miles NE of Alipio Reef, has a least depth of 7.3m. Sambino Reef, with a depth of 8.5m, lies about 3.75 miles W of Alipio Reef.

Salimbubuc Island (11°18'N., 120°14'E.) lies about 9.5 miles SSE of the E extremity of Nangalao Island. Depths of 11 to 18.3m are found on a bank which extends 1.5 miles N from the island.

Solitario Rock (11°17'N., 120°20'E.), lying about 5.3 miles E of Salimbubuc Island, is steep-to and round-topped.

Canaron Island lies about 4 miles SE of Salimbubuc Island. The island lies on foul ground which extends 0.75 mile N of the island. High rocks rise from the foul ground area and also lie as far as 0.5 mile S and SE of the island.

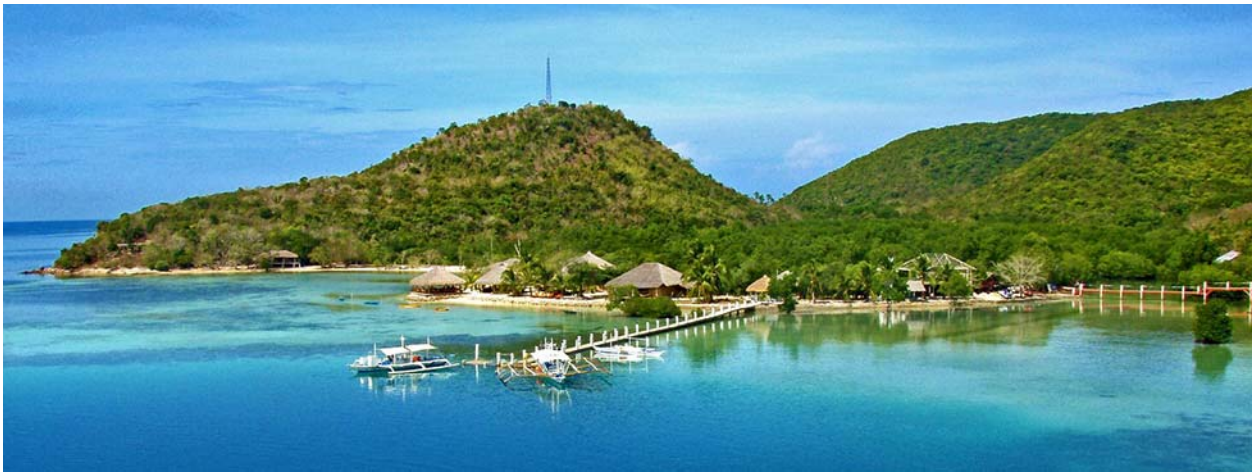
Patterson Reef (11°13'N., 120°08'E.) lies about 8.5 miles WSW of Canaron Island. There is a least depth of 2.1m at the reef. The reef is 0.5 to 0.75 mile in extent.

Linapacan Strait

10.24 Linapacan Strait (11°37'N., 119°57'E.), deep and clear of dangers, lies between the S end of the Calamian Group and the group of islands off the N end of Palawan.

The strait is about 3 miles wide between Dicabaito Island and Dicapululan Island.

The strait has depths of over 55m in the fairway. Tidal currents, with a speed of up to three knots, set ESE on the flood



Popototan Island

and WNW on the ebb. Tide rips are experienced in the strait.

An offshore platform stands in approximate position 11°59'N, 119°18'E, 38 miles WNW of the strait.

Binalabag Island (11°35'N., 119°56'E.) lies on the S side of Linapacan Strait, about 1.5 mile SE of Dicapululan Island. The island is fairly steep-to on its E side.

Depths of less than 11m extend 0.3 mile from its NE side.

There is partially sheltered anchorage for small craft in a bay on the S side of the island.

Pangaldauan Island (11°36'N., 119°52'E.) lies on the S side of the approach to the W entrance of Linapacan Strait. The island is rocky and has some prominent cliffs. Boulders lie on a reef which fringes the island. Beacon Rocks, a cluster of steep-to rocks, lies about 0.8 mile N of Pangaldauan Island.

Dimanglet Island (11°33'N., 119°49'E.) lies about 4 miles SW of Pangaldauan Island. The island has two peaks, separated by a low neck. The red cliffs of the W and highest peak are prominent from the W.

Inapupan Island (11°33'N., 119°51'E.) lies 1.5 miles E of Dimanglet Island. Bolina Island and Manlegad Island lie 0.75 mile NE and E respectively, from Inapupan Island. A number of small islands lie farther E of the above islands.

Culion Island

10.25 Culion Island (11°50'N., 120°00'E.), the second largest island of the Calamian Group, is separated from Busuanga Island by a navigable strait 3 to 4 miles wide. Small islands in the strait constrict the channel to 0.5 mile at its narrowest part.

The N and E sides of the island are very irregular, whereas the W side is regular with steep and rocky projecting points. Mount Oltaloro, the highest peak on the island, stands near the SE end of the island.

Culion Reservation, for the segregation of lepers, consists of Culion Island and adjacent smaller islands. It is unlawful for any vessel to visit these islands or to land without permission from the Chief of the Culion Leper Colony, Bureau of Health.

10.26 Port Culion (11°53'N., 120°01'E.) lies on the NE side of Culion Island. The port is a narrow inlet about 0.1 mile wide and 0.5 mile long, and opens into Coron Bay.

There are depths of 14.6 to 18.3m in the middle of the inlet, with depths of 30m or more in the outer harbor and approaches. A drying reef is marked by a beacon on each side of the entrance. A light is shown on the NW entrance point. A pier is situated near the light.

A small wooden pier stands 0.5 mile W of the above light. The head of this pier had a reported depth of 9.4 to 10.1m. Three fixed red lights are shown near the root of the pier from 1800 to 2200.

Anchorage can be taken, in depths of 27 to 33m, about 0.3 mile NE of the above pier. Small vessel can find anchorage within the inner harbor of Port Culion.

Vessels should approach the pier from the NE and maneuver to go alongside port side to. Small vessels, with a maximum draft of 3.1m, can berth alongside the outer face of the pier. Larger vessels should approach the pier with caution and anchor well off its face.

Numerous islands lie off the NW, N, NE, and SE coasts of Culion Island. Relative positions, one to each other, are best seen on the chart.

10.27 Popototan Island (12°00'N., 119°51'E.) lies off the NW coast of Culion Island. The shores of the island are fringed by coral reefs which bare at LW.

Foul ground extends as far as 1.25 miles NE and SW of the island. The channel between Popototan Island and Galoc Island has a navigable width of 0.25 mile and depths of 9.6 to 16.5m. Anchorage for small vessels can be taken anywhere in this channel.

Galoc Island (11°57'N., 119°50'E.) lies with its NW extremity 0.5 mile S of the S side of Popotoan Island. The island is about 5 miles long and is narrow. It is reef fringed, with steep cliffs on several salient points. The constricted channel between the island and Culion Island is foul and is not recommended.

10.28 Calumbuyan Island (12°01'N., 119°56'E.) lies about

4 miles ENE of the E end of Popototan Island. The island is fairly steep and fringed by a narrow coral reef which can safely be passed about 0.2 mile off.

The channel between this island and Lajo Island is deep and free of dangers. It is the preferred channel on a W approach to Coron Bay. A ruined pier lies on the SE side of Calumbuyan Island.

Lajo Island (11°59'N., 119°57'E.) lies about 0.8 mile S of Calumbuyan Island. Lajo Island, Marily Island, and Chindonan Island, all lying S of the main channel, have several smaller islands adjacent to them.

Manglet Island (11°59'N., 119°57'E.), lying on the S side of the main channel to Coron Bay, is steep-to on all sides and has several summits. S of the island is the entrance to a large, irregular bay formed by several islands.

10.29 Dunaun Island (11°52'N., 120°05'E.) lies close off the E extremity of Culion Island. The two islands are connected by a coral reef.

Several detached rocks and coral reefs, above and below-water, lie SE of Dunaun Island and at the W side of Coron Bay.

Tampel Pass (11°47'N., 120°07'E.) lies between the NW side of Bulalacao Island and the SE side of Malcapuya Island.

The passage is deep, free of dangers, and at least 0.75 mile wide.

Bayuan Bay (11°47'N., 120°09'E.), indenting the N side of Bulalacao Island, has shores fringed by reefs and fronted by shoals. The outer part of the bay is deep and clear of dangers.

Anchorage can be taken, in depths of 11 to 25m, in the E part of the bay sheltered from the Southwest Monsoon (May to September) and partially sheltered from the Northeast Monsoon.

Guintungauan Island (11°46'N., 120°13'E.) lies about 1 mile E of the E side of Bulalacao Island. The island is rocky and fringed by a coral reef. Vessels entering Coron Bay should pass at least 1.5 miles off Guintungauan Island.

Lapulapu Reef, with a least depth of 2.7m, lies about 7.5 miles S of Bulalacao Island. Tres Reyes are four steep-to rocky islets lying 3.5 miles NW of Lapulapu Reef.

Coron Bay (11°54'N., 120°07'E.) lies between Culion Island, Busuanga Island, and Coron Island. This wide bay has three main entrances. These channels are the N, W, and S entrance channels.

The S entrance channel lies between Calis Point and Guintungauan Island. It is about 3 miles wide, deep, and clear of dangers. Vessels should favor Calis Point, giving it a berth of about 1 mile. The N and W channels are discussed in other places.

Coron Light (11°59'N., 120°13'E.) stands on a point of land about 0.8 mile W of East Maquinit Island.

Anchorage can be taken throughout the bay, but protected anchorage for smaller vessels may be taken in Port Uson, Dipulao Cove, and Coron Harbor.

Culion Island—Southwest Coast

10.30 Dicabaito Island (11°39'N., 119°58'E.), lying close off the S end of Culion island, is steep, rocky, and irregularly shaped, with high cliffs. The island is a good landmark. Dicabaito Channel lies between the island and Culion Island.

The channel has a navigable width of 0.1 mile with a depth of 18.3m in the fairway. Anchorage, in the outer part of a bay indenting the N coast of Dicabaito Island, can be taken, in depths of 12.8 to 16.5m, sand. A light is shown from the SSW end of the island.

Alava Island (11°44'N., 119°56'E.) lies about 4.5 miles NNW of the NW extremity of Dicabaito Island. The island is high, rocky, and steep, tapering to a sharp point at its S end. The island is surrounded by large boulders, with several high islets lying on foul ground which extends S from the island.

10.31 Halsey Harbor (11°46'N., 119°58'E.) is an irregularly shaped bay which indents the SW coast of Culion Island for 5 miles in a NE direction. The head of the harbor branches into North Arm and East Arm, with several islands between them. The N and NE parts of North Arm and the whole of East Arm are shallow.

South Channel, the S entrance to Halsey Harbor, leads between Alava Island and the main coast. The channel has a navigable width of 91m and a depth of 24m. Research Channel, the entrance channel N of Alave Island, has a navigable width of 0.5 mile with depths of 38 to 48m.

Anchorage can be taken, in 27m, in the middle of the S part of the bay, about 0.4 mile SE of the E point of Gage Island. Sheltered anchorage can be taken, in 24m, mud, N of the highest hill on Gage Island. Halsey Harbor, protected from all winds, is a designated typhoon anchorage.

Directions.—From a position 0.4 mile S of the S rock lying on foul ground off the S end of Alava Island, steer 025°, in mid-channel, for the 156m hill near the N shore of the channel.

When the 134m hill on Rhodes Island bears 095°, change course to 065°. When the W tangent of Gage Island bears 000°, change course to 030° with the E point of the island ahead.

Vessels entering the harbor via Research Channel should clear Saddle Rock by at least 0.5 mile, and bring the 134m hill on Rhodes Island between the two peaks of Mount Maus on a 095° bearing and steer on this bearing.

When the 156m hill on the N side of the channel bears 025°, change course to 065° and follow the directions for South Channel.

Saddle Rock (11°46'N., 119°53'E.) lies about 2 miles W of the N entrance point of Halsey Harbor. It has the appearance of a saddle when viewed from N or S. Two rocks, awash, lie on the E side of the bank 0.5 mile E of Saddle Rock.

Busuanga Island—South and West Coasts

10.32 Coron Passage (11°59'N., 120°15'E.) separates the N coast of Coron Island from the SE coast of Busuanga Island. The passage is about 0.5 mile wide at its narrowest point. Depths are variable, with a least depth of 26m in the fairway. Currents, generally weak, set E and W on the flood and ebb. A 3.6m patch lies about 0.8 mile E of Limaa Point.

East Maquinit Island (11°59'N., 120°14'E.) lies in Coron Passage, 0.5 mile SW of Limaa Point. The island divides the passage into two channels, each about 0.5 mile wide.

The Maquinit Islands, lying 0.5 mile WNW of East Maquinit Island, consists of several islets in a compact group which are surrounded by a reef with 4.1m depth.

These dangers can be avoided by keeping close to East Ma-

Coron

quinit Island. A shoal, with a depth of 4.1m, lying about 0.5 mile SE of Coron Point, consists of live coral and should be avoided. Other unmarked shoals are charted as far as 1.25 miles SW of the point.

A finger reef extending off the SE end of **Uson Island** (11°59'N., 120°10'E.) is not easily seen at HW.

Directions.—Foreign vessels calling at Coron or at ports in Palawan and intending to use this passage should obtain the services of a pilot from Manila.

When approaching Coron Passage from the E, pass 2.5 miles E and S of **Mataya Island** (12°01'N., 120°23'E.), then pass close N or S of Dibutac Island. Then, while keeping close to the NE side of Coron Island, round Limaa Point at a distance of 137m.

Then steer to pass the same distance NE of East Maquinit Island.

If proceeding through Coron Passage, steer to pass 0.1 mile SE of the reef, awash, extending SE from the SE extremity of Uson Island, and then the same distance NW of the reef off Balolo Point.

If bound for Coron, after passing East Maquinit Island, and when **Coron Point** (11°59'N., 120°13'E.) bears 000°, steer on a course of 314°. This will lead to the outer anchorage.

10.33 Coron Harbor (12°00'N., 120°12'E.) is formed between the S coast of Busuanga Island and the NE coast of Uson Island. The harbor is approached through a narrow passage marked by beacons, leading through the dangers off the E end of Uson Island.

Coron (12°00'N., 120°12'E.), the principal town on Busuanga Island, is situated about 1.5 miles NW of Coron Point. Access to the port is through Coron Passage.

A new concrete pier replaced the old wooden pier; it is 123m long and 12m wide, with depths alongside of 10m.

A reef close SE of the pier head extends 150m from the shore. A stake usually marks its extremity. A white church spire is a good landmark in Coron.

Pilots may be obtained from Manila. Vessels usually anchor about 0.3 mile S of the pier, in depths of 18.3 to 22m, mud. This anchorage is constricted and untenable in heavy weather. A more sheltered anchorage is available W of town and mid-

Coron Town Bay

way between Canitauan Island and Uson Island, where there are depths of 11 to 12.8m, mud.

The channel to this anchorage is unmarked and should not be attempted without local knowledge.

Uson Island (11°59'N., 120°10'E.) has an irregular coastline backed by hills. An isthmus connects the E and W parts of the island which is reef fringed and fronted by several islands. Port Uson lies between the N shore of Uson Island and the S shore of Baquit Island.

There are two channels leading into Port Uson. The approach channel is tortuous, has several scattered shoals, and is 7.3m deep. The preferred W approach channel is at least 0.2 mile wide with a least depth in the fairway of 16.5m and general depths of 24 to 27m. A dangerous wreck lies 0.5 miles S of Upson Island and can best be seen on the chart.

Anchorage can be taken in Port Uson between Uson Island and Baquit Island, in depths of 15 to 17m, mud.

Anchorage can also be taken in the NW part of Port Uson, N of Pinas Island.

10.34 Port Luyucan (11°59'N., 120°07'E.) is an inlet formed between the NE side of Apo Island and Busuanga Island. The entrance is about 137m wide and has a depth of 12.3m.

Anchorage can be taken, in depths of 7 to 15m, in the inlet,

except in the area of a 2.3m shoal in the middle of the inlet.

Tangat Island (11°59'N., 120°04'E.) lies about 0.5 mile W of Apo Island. An above-water rock lies about 0.5 mile SW of the N extremity of Tangat Island. Lusong Island lies about 2.25 miles W of Tangat Island.

A dangerous wreck and a drying reef lie close S of **Lusong Island** (11°59'N., 120°01'E.).

The **Dipuyoy River** (12°01'N., 119°59'E.), emptying at the SW corner of Busuanga Island, has an irregular basin off its mouth, with depths of 7.3 to 14.6m.

The mast of a sunken wreck in the entrance to the river is a good landmark and can best be viewed on the chart. There are several piers in ruins within the basin.

From the basin entrance off the Dipuyoy River, the coast leading NNW to **Detobet Point** (12°09'N., 119°51'E.) is irregular with few prominent points. Numerous small islands are scattered from a few meters to 8.5 miles offshore.

Conception (12°03'N., 119°58'E.) is a small town situated about 2 miles N of the mouth of the Dipuyoy River. The town schoolhouse is conspicuous. Small craft use the town landing at HW.

Salvacion (12°08'N., 119°56'E.), a small town, lies 5.25 miles NNW of Conception. The town has a pier about 47m long where boats may berth alongside at HW. The town schoolhouse is a good landmark. It can be easily identified from NW.

The church steeple is visible from SW over the tops of the trees.

10.35 Gutob Bay (12°10'N., 119°53'E.) is entered between Salvacion Island and Detobet Point. Depths at the entrance are 25.6m. Several above and below-water rocks and shoals lie in the bay. Depths in the bay range from 7.3 to 18.3m.

Gutob Anchorage (12°10'N., 119°52'E.) lies on the W side of Gutob Bay. The S entrance to the anchorage has depths of 29.3m and is marked by buoys. The N entrance to the anchorage is very constricted and has a depth of 9.6m. The E entrance to the anchorage has a least depth of 11.4m.

Gutob Anchorage, sheltered from all winds, has an area about 0.4 mile wide, and a depth of 16.5m in the middle.

Talampulan Island (12°06'N., 119°51'E.) lies about 1 mile SSW of Detobet Point. The island is encircled by a reef on which there are several rocks. Buoys mark the S and N ends of the reef line E of the island. A lighted radio mast, painted red and white, with several buildings nearby, is conspicuous from offshore.

Capare Island (12°08'N., 119°52'E.), a large island bordering the W side of Gutob Bay, is formed by a high ridge which is highest at the N end. The island is fringed by a reef and numerous rocks.

Two buoys mark the outer edges of the coastal reef, about 0.5 mile E of Detobet Point and 0.4 mile E of the same point.

10.36 Busuanga (12°09'N., 119°55'E.) is a small settlement on the E shore of Gutob Bay, just within the entrance to the Busuanga River. Small craft can cross the entrance bar at HW and berth alongside a stone pier.

Anchorage can be taken S of the town, in depths of 7.3 to 14.6m, mud. Several detached shoals lie 0.75 to 1.5 miles W of the river mouth.

West Nalaut Island (12°03'N., 119°47'E.) lies 6.5 miles SW of Detobet Point. The island is steep, rocky, and cliffy on its W side and is low, wooded, and sandy on its E side.

East Nalaut Island lies 2.5 miles ENE of West Nalaut Island. The island is small, rugged, and steep.

The **Pamalican Islands** (12°05'N., 119°52'E.) consist of several small islets lying on detached coral reefs. The islets appear as a cluster of trees. Shoals lie as far as 1 mile off the principal islet.

Horse Island (12°03'N., 119°54'E.) lies about 2.5 miles SSE of the Pamalican Islands. The island is wooded and fringed by reefs and shoals, which extend at least 1 mile offshore.

Maltatayoc Island lies about 0.5 mile W of Horse Island.

North Malbinchilao Island (12°01'N., 119°53'E.) lies 1 mile S of Horse Island. The island is joined to South Malbinchilao Island by a drying reef.

The coasts of the island consist of sandy beaches and rocky point.

Rat Island (12°01'N., 119°54'E.) is separated from North Malbinchilao Island by a constricted channel with a depth of 7.3m. A coral reef, about 0.4 mile in extent, lies 0.75 mile SE of Rat Island. The reef has several rocks, and a sand bar, awash, on its W and E ends.

Directions.—Coron Bay may be approached from NW by three routes, as follows:

1. **North of West Nalaut Island.—**From a position 0.9 mile NE of West Nalaut Island, steer 118° with the summit of North Malbinchilao Island ahead. When the hill on the W end of Maltatayoc Island bears 000°, alter course to 104° until the summit of Pass Island bears 146°, when it should be steered for, passing between North Malbinchilao Island and Rat Island on the W side and Malcatop Island (12°02'N., 119°55'E.) on the E side.

   A good lookout should be kept for reefs on either side of the channel. When 1 mile from Pass Island, alter course to 094° with the 189m high hill on Busuanga Island ahead. When the summit of Darab Island bears 180°, course should be altered to 122°.

2. **South of West Nalaut Island.—**From a position 1.75 miles S of West Nalaut Island, steer 103° with the summit of Pass Island ahead, passing midway between Popototan Island and Manganguei Island. When the summit of Rat Island bears 000°, alter course to 078° with a 125m high hill on the SW extremity of Busuanga Island ahead, and kept so until the W extremity of Lajo Island bears 190°. Then alter course to 094° and proceed as described in 1 above.

3. **Between Popototan Island and Galoc Island.—**No directions are necessary for the channel between Popototan Island and Galoc Island. The channel is only 0.2 mile wide at its narrowest part.

10.37 The W coast of Butuanga, between **Detobet Point** (12°09'N., 119°51'E.) and **Macachin Point** (12°20'N., 119°54'E.), is very irregular and is fringed by a reef extending at least 0.5 mile offshore.

A small cove, formed by a break in the reef, indents the coast about 5 miles from Detobet Point.

Buluang (12°14'N., 119°52'E.), a settlement, is located at the head of the cove which is exposed to W winds.

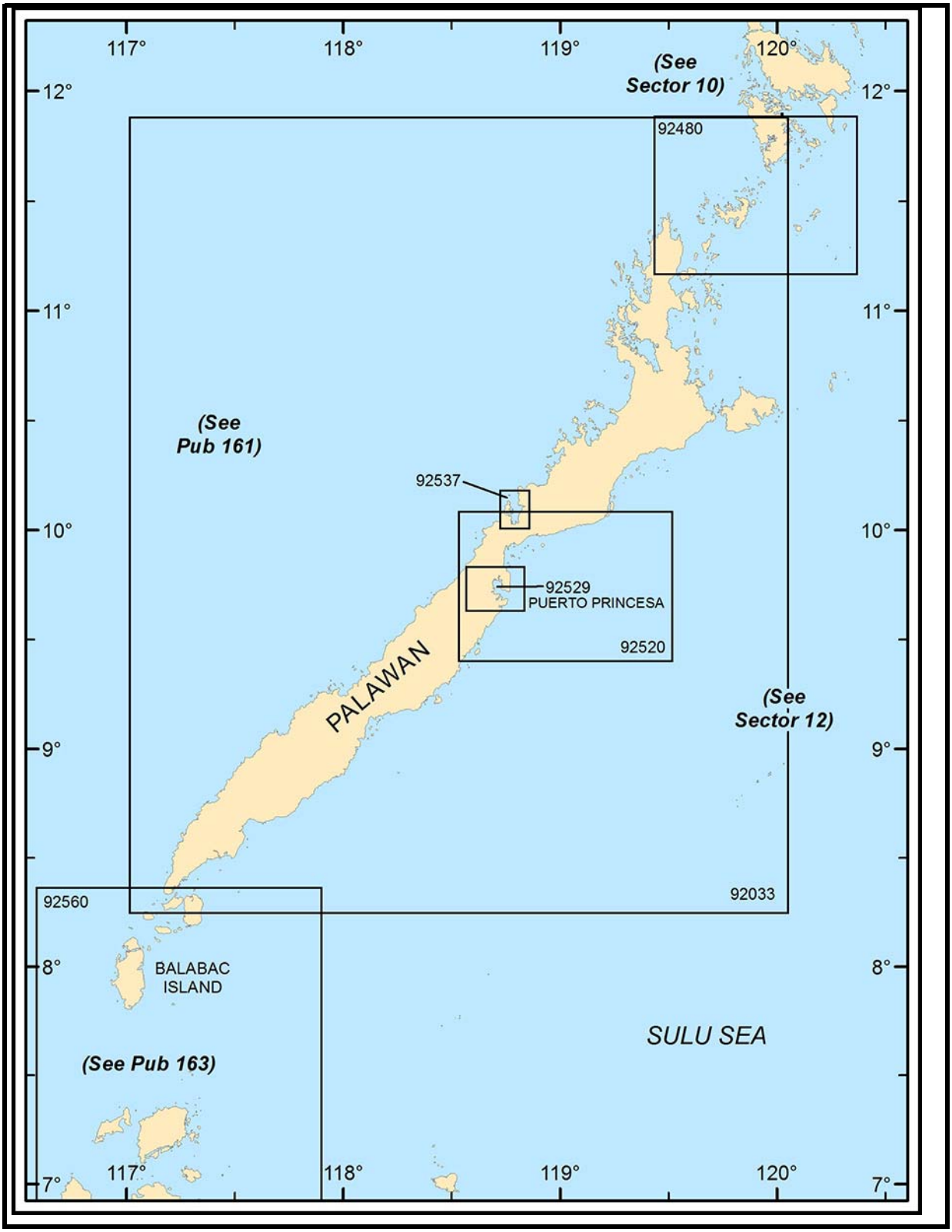
Coral reefs restrict the navigable area of the cover to 0.3 mile with clear depths of 11m in the middle. Small vessels use the cove.

Illultuk Bay (12°16'N., 119°53'E.) lies about 7.5 miles NNE of Detobet Point. Depths in the bay decrease regularly from 18m in the entrance to drying mud flats at the E end.

A small pier, with a depth of 0.6m at its outer end, lies on the N side of the bay near its entrance. There is anchorage for vessels with local knowledge, 1.25 miles within the entrance, in depths of 11 to 13m, mud.

Elinibinid Point (12°19'N., 119°52'E.), the NW extremity of Busuanga Island, is low, rocky, and fringed by a coral reef for at least 0.1 mile.

Pinnacle Rock lies about 1.3 miles NW of Elinibinid Point. Vessels are cautioned not to pass inshore of Pinnacle Rock.



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

SECTOR **11** — CHART INFORMATION

SECTOR 11

PALAWAN, PALAWAN PASSAGE, AND BALABAC STRAIT

Plan.—This sector describes Palawan Passage, the E and W coasts of Palawan, off-lying islands, and Balabac Strait. The sequence of description is N to S.

General Remarks

11.1 Palawan, the fifth largest island of the Philippine Archipelago, separates the Sulu Sea from the China Sea. The island is mountainous and steep with many peaks attaining heights of over 900m. The mountain peaks are good landmarks, but the higher ones are usually covered by clouds. They are almost always clear for a brief period in the early morning and late evening except in stormy weather. The island is sparsely inhabited and little is known of the interior.

The W coast of Palawan consists mostly of hills and mountain spurs from the high central range. These spurs terminate in steep slopes or cliffs. The coast is generally irregular, especially in the N part where there are many small islands and deep bays. There are some coastal lowlands which are seldom over 2 or 3 miles wide. There are no important ports on the W coast of Palawan. Malampaya Sound, one of the best natural harbors in the Philippine Islands, indents the NW coast of the island.

Within the 200m curve, which lies about 33 miles W of Libro Point and trends SW to a position about 23 miles W of Cape Buliluyan, the W coast of Palawan is fronted by numerous shoals and reefs. Some of the area has not been thoroughly examined and additional dangers are frequently reported. Vessels are advised to remain outside the 200m curve unless they have local knowledge.

Winds—Weather.—The W coast of Palawan is entirely exposed to the Southwest Monsoon. It is sheltered from the Northeast Monsoon and from the trade winds by the mountainous terrain. The monsoons on this coast are subject to so much interruption that it is difficult to state exactly when they begin. The Northeast Monsoon generally prevails from November to April. Moderate NE and E winds are experienced during this season. In November and December the weather is variable with the prevailing winds changing at times to SE. In November it is not unusual to experience a SW gale with dark cloudy weather and rain.

The transition period occurs during May and the early part of June. It brings the best weather with land and sea breezes predominating. The land breeze blows from the S and SE in the morning and the sea breeze from the N and NW in the afternoon.

The Southwest Monsoon generally prevails from June to October. Toward the end of June and through July unsettled weather can be expected. A slight fall of the barometer, after fine weather, frequently indicates the approach of squalls from the WSW.

These squalls usually last a week and are followed by a period of fine weather with NW and SW winds. In September and October strong WSW winds are experienced with dark cloudy weather. Off the SW coast of Palawan it is not unusual, particularly during squalls, for the wind to veer to the WNW and NW and to blow violently. Between squalls the wind frequently shifts to the SE.

Land and sea breezes are prevalent in coastal waters when the prevailing monsoon is weak. Even when the monsoon season is fully developed the winds give way at sundown to a land breeze.

Thunderstorms are frequent near land between May and October. They are accompanied by severe squalls and heavy rain.

Typhoons are not frequent off the W coast of Palawan. Only about 7 per cent of the more serious typhoons that affect the Philippine Islands are experienced in this area.

October and November are the months when typhoons are most likely to be experienced. Palawan is considered to be in the typhoon area from December to June.

However, there is little chance of a typhoon passing off this coast, as there are not many typhoons during these months and most of them recurve NE before reaching Palawan.

There are two distinct seasons, one dry in the winter and spring and the other wet occurring in the summer and autumn. During the wet season (July, August, and September) the average monthly rainfall exceeds 500mm.

During the dry season (January, February, and March) the average monthly rainfall is less than 38mm. The average annual rainfall on the W coast of Palawan averages about 3,051mm. The climate is reported to be hot and humid. Visibility is generally good, fog being rare.

Temperatures are uniformly high, but they seldom exceed 35°C or fall below 18°C. Maximum temperatures occur in April, May, and June. The coolest months are December, January, and February. Relative humidity is comparatively high. The annual average is not more than 80 per cent, with minimum values recorded in April.

Tides—Currents.—The tidal currents in the South China Sea set from N to S along the W coast of Palawan and enter the Sulu Sea through Linapacan Strait and Balabac Strait. The force and direction of the prevailing wind are the principal factors influencing the currents off this coast. Off the NW coast of Borneo and in Palawan Passage, between the parallels of 2°N and 11°N, currents may set in any direction throughout the year with rates of up to 1 knot or more.

These currents have caused stranding of vessels on either side of the passage.

During the Northeast Monsoon, the current is variable and seldom runs strong in any direction unless strengthened by strong winds. At the height of this monsoon, a strong NW and W set occurs in the S part of Palawan Strait because of the strong W currents that set through the straits N and S of Balabac Island.

During the Southwest Monsoon, the current sets N and toward the shore. On occasions there is no perceptible current, and near the shore the current is mostly weak. A SW set may

occasionally occur in Palawan Passage.

Tidal currents of a local nature are described with the local features.

Caution.—Parts of the W coast of Palawan and the bank off it have not yet been thoroughly surveyed, and lesser depths may exist on some of the shoals that are charted.

Ships are advised to stay seaward of the 200m curve unless proceeding to an anchorage off this coast and having local knowledge.

Vessels bound for ports in mainland China should use Palawan Passage in preference to the route on the E side of Palawan.

When making Palawan Passage from the SW, during the Northeast Monsoon, a NW set is often experienced resulting in the possible grounding on the various shoals including Royal Captain Shoal.

Visibility may be reduced by heavy rain squalls. The light driving rain of the "collas" is like a mist and reduces visibility. During these squalls, which sometimes last for as much as 10 days off the S coast of Palawan, it is difficult to make the narrowest part of Palawan Passage between Royal Captain Shoal and the shoals to the E because Palawan is usually obscured. At such times it is advisable to pass this shoal during daylight hours.

The area bound by the following coordinates is declared off limits to all ships and watercraft:

a. 11°37'N, 118°51'E.
b. 11°37'N, 119°10'E.
c. 10°46'N, 118°32'E.
d. 10°46'N, 119°04'E.

Tankers, prior to calling at Matinloc Marine Terminal and Nido Marine Terminal, which are situated off Palawan within the boundaries of the above restricted area, should obtain copies of Port Information and Regulations from:

Philippines-Cities Service, Inc.
P.O. Box 2283, MCC
Makati, Metro Manila 3117
Philippines

Entry is restricted throughout the greater arc of a circle, radius 5 miles, centered from position 11°49'N, 119°7'E, where a lighted storage tanker vessel is located.

Palawan Passage

11.2 Palawan Passage (9°00'N., 117°00'E.), the alternate route through the S part of the China Sea, is a deep passage between the 200m curve and wide bank which fronts the W coast of Palawan, and the E side of the "Dangerous Ground," which lies about 30 to 50 miles farther W.

This route, indicated on the charts, is recommended for low powered vessels during the Northeast Monsoon season (October to March). The passage, about 265 miles long with depths over 183m, is entered W of **Libro Point** (11°25'N., 119°29'E.) or W of **Cape Melville** (7°48'N., 117°00'E.) if heading N, and is the direct route between Sunda Strait and Manila.

The most constricted and dangerous part of Palawan Passage is about 29 miles NNW of **Cape Buliluyan** (8°20'N., 117°12'E.) and abeam of Royal Captain Shoal where the passage is 29 miles wide between dangers.

The NE extremity of the danger area that forms the W side of Palawan Passage lies about 108 miles WSW of Libro Point. From this position the E side of the area, which is represented by a dotted line on the charts, trends 40 miles S and then 165 miles SW to a position about 70 miles W of the N extremity of Balabac Island.

Vessels should not enter this area as it has not been examined and is known to contain numerous dangers. The existence of uncharted patches of coral and shoals is likely; the positions of charted banks and shoals cannot be relied upon.

Seahorse Shoal (10°50'N., 117°47'E.), the N known danger on the W side of Palawan Passage, is a pear-shaped reef with a least depth of 8.2m at its N end and 11m at its S end. Within the lagoon formed by the curving reef there are depths of 35 to 57m.

Sandy Shoal (11°02'N., 117°38'E.) and **Fairie Queen** (10°38'N., 117°38'E.), the positions of which may be doubtful, are charted close within the line shown on the charts designating the large danger area.

Carnatic Shoal (10°06'N., 117°21'E.) has a depth of 6.4m and lies close within the danger area. Its position is doubtful.

Bombay Shoal (9°26'N., 116°55'E.), lying about 58 miles WNW of **Hummock Point** (9°16'N., 117°54'E.), consists of a steep-to reef which completely encloses a lagoon. Depths of 29 to 33m, sand bottom, are found in the lagoon. On the reef are several rocks which dry about 0.6m. Madagascar Rock, which dries 0.6m, lies near the NE end of the reef. Two stranded wrecks lie 0.5 mile apart on the NE side of Bombay Shoal. The N wreck has been reported to be breaking up.

There is a tidal range of about 1.2m over Bombay Shoal and the tidal current was observed to set NE on a rising tide.

11.3 Royal Captain Shoal (9°03'N., 116°40'E.) lies on the W side of the most constricted part of Palawan Passage. This shoal consists of a narrow, unbroken, and steep-to reef which encloses a lagoon. Numerous coral heads and a few drying rocks are found on the reef.

Observation Rock, which dries about 1.2m, lies on the NW corner of the reef. Depths of 27 to 31m sand and coral, are found in the lagoon. Coral heads exist. There is no entrance channel to the lagoon, but boats can cross the reef at HW under favorable weather conditions. A W set of about 0.75 knot has been experienced around the shoal.

Two stranded wrecks lie on the NW and SW sides of Royal Captain Shoal.

Investigator Northeast Shoal (9°10'N., 116°25'E.), which dries, lies about 17 miles WNW of Royal Captain Shoal. The shoal reef encloses a lagoon which is probably accessible to boats at HW.

A rock, whose existence is doubtful, lies 4.5 miles WNW of Investigator Northeast Shoal.

Half Moon Shoal (8°52'N., 116°16'E.), lying 63 miles NW of Cape Buliluyan, consists of a belt of coral reef, awash, that forms a lagoon. An inclined rock, 1m high, lies on the E side of the shoal. The lagoon affords good shelter to small craft and has an average depth of about 27m, although there are several coral heads with depths of 0.3 to 5.5m.

The entrance of the lagoon is about 0.1 mile wide, with a depth of about 12.8m, located on the SE side of the reef about 0.4 mile SW of the inclined rock.

Entry during the strength of the Northeast Monsoon would probably be impossible. No anchorage is available off the

shoal. There is a tidal rise of 1.2m over Half Moon Shoal.

Directions.—Southbound vessels through Palawan Passage should follow the recommended track line as shown on the charts. This line, which parallels the 200m curve fronting the W coast of Palawan, lies from 20 to 7 miles W of that curve.

Vessels obtaining depths of less than 183m should head for deeper water immediately.

Vessels following the recommended track will pass about 25 miles E of Seahorse Shoal, about 21 miles SE of Carnatic Shoal, about 15 miles SE of Bombay Shoal, and about 11 miles SE of Royal Captain Shoal.

Vessels approaching Palawan Passage from S, if uncertain of the position, can close **Balabac Island** (8°00'N., 117°00'E.) to 12 miles, during clear weather, in order to obtain a fix.

During the thickest weather the land is reported seldom totally obscured and is usually well defined between squalls.

The safest part of the 183m bank lies NW of Balabac Island between 8°05'N and 8°30'N, with Balabac Peak bearing between 120° and 160°.

When soundings are obtained on the edge of the bank vessels should haul NW and give the 200m curve a berth of 10 miles.

Then the reverse of the directions as given in the preceding paragraph should be followed.

Caution.—All the dangers on the E side of Palawan Passage are contained within the 200m curve that fronts the W coast of Palawan. The curve lies about 31 miles W of Libro Point and trends SW to within 18 miles of the coast in the vicinity of **Mapankal Point** (8°57'N., 117°33'E.).

From this position it continues SW and passes about 23 miles W of Cape Buliluyan. Then it trends S to a position about 18 miles W of **Cape Melville** (7°48'N., 117°00'E.).

The 200m curve rises abruptly in many places and there are several depths of less than 7.3m lying close within the curve.

Shoals and other dangers lying within the curve are described with their related features.

Palawan—West Coast—Libro Point to Bacuit Bay

11.4 Libro Point (11°25'N., 119°29'E.), the N extremity of Palawan, rises to a height of 145m close SE. The 18.5m curve lies about 0.1 mile N and 0.75 mile W of the point. A rock, awash, lies 91m N of Libro Point.

Calitan Island (11°25'N., 119°28'E.) lies W of the point. A sharp double-edged rock lies on a reef extending 0.2 mile E of the island. The passage between the island and Libro Point is foul. Cabuli Point and Cabuli Island are described with the E coast of Palawan, in paragraph 11.49 and paragraph 11.50, respectively.

Between Libro Point and **Patuyo Point** (11°21'N., 119°26'E.), the coast is bold and rocky, with occasional sandy beaches fringed with coral. The 9.1m curve lies about 0.3 mile offshore.

Diapila Bay is entered 1 mile SSE of Calitan Island; it is encumbered by shoals and drying rocks. A rock, awash, lies about 0.3 mile W of the N entrance point.

Diapila Island, 66m high, lies close within the 20m curve, 1 mile SW of the S entrance point of Diapila Bay.

Base Bay is entered between Patuyo Point and a point 4 miles NE. A 7.6m patch lies in the bay 3.25 miles NE of Patuyo Point, with a 10.4m patch, 0.5 mile WSW of it.

Barotoan Bay (11°20'N., 119°27'E.) is formed between steep bluffs, with a sandy beach at its head. A rock, 2.4m high, lies off the W entrance point. A grass-covered plain extending several miles SE from the head of the bay is backed by mountain ranges leading N to Libro Point. The plain is bound S and SW by mountain ranges leading from Patuyo Point.

11.5 Patuyo Point (11°21'N., 119°26'E.) is the NW end of a steep headland with cliffy shores, which rises to a height of 159m, 0.75 mile S.

Lalutaya Island, 122m high, lies 1.25 miles NW of Patuyo Point. The island is steep-to except on its W side where there is a bay with a depth of 5m, and on the E side where coral reefs extend 0.2 mile offshore. A shoal, with a depth of 0.9m, lies 0.5 mile NW of the NE extremity of the island.

Crawford Point (11°19'N., 119°25'E.) is a narrow headland, 49m high, located 2.5 miles SSW of Patuyo Point. The intervening coast is a sandy beach backed by heavily wooded hills. The 20m curve lies 0.25 mile off this point. A rocky islet, 34m high, lies 0.3 mile N of the point. Bury Islet, 18.3m high, lies 0.9 mile NNW of Crawford Point; a rock, 21m high, lies close W of the islet.

A peak, 366m high, stands 4.75 miles ENE of Crawford Point. From this peak a ridge extends 3.5 miles N to **North Hill** (11°24'N., 119°30'E.) and another hill, 294m high, near the W side of the island. Both hills are conspicuous.

Emmit Point (11°15'N., 119°25'E.) consists of steep bluffs rising abruptly from the shore and backed by wooded hills. A distinctive conical hill rises 1 mile NNE of the point. The central mountain range of Palawan rises to its highest elevation, 658m, about 4 miles E of Emmit Point.

The coast between Crawford Point and Emmit Point is steep and rugged, with hills rising abruptly from the shore. Depths of less than 9m are found up to 0.25 mile offshore.

11.6 Ipil Point (11°11'N., 119°22'E.) is the sharp SW extremity of a rugged headland rising steeply from shore. Between Emmit Point and Ipil Point, there is a wide, level valley that lies between the range of hills extending SE from Emmit Point and the steep, rugged range that extends W from **Mount Ynantagung** (11°10'N., 119°27'E.) to Mount Bubulugan, located 2 miles E of Ipil Point.

The coast between the two points is fringed by a partly-drying reef extending 0.25 mile offshore in places. The 10m curve lies up to 0.75 mile offshore, and there are numerous dangers lying within the curve. Also, there are several shoal patches, with depths less than 11m, lying within 1.5 miles of the coast.

Bacuit (El Nido) (11°11'N., 119°23'E.), the most important town on the W coast of Palawan, is situated close E of the peninsula of which Ipil Point is the SW extremity. The town situated at the head of a small bay which is fringed by a drying reef and fronted by foul ground as far as 0.5 mile off its head.

A stone causeway, its outer end in ruins, is located at the W end of town where a church is a prominent landmark.

Anchorage can be taken 1 mile N of town, in depths of 15 to 16.5m, mud, protected from all but N winds.

Occasional variable squalls of hurricane force blow through the gaps in the highlands making the anchorage untenable.

Vessels approach the anchorage from W via the narrow pas-

sage between the headland and **Cadlao Island** (11°13'N., 119°22'E.). From the N, the approach lies E and SE of this island.

Palawan—Off-lying Islands

11.7 Caverna Island (11°17'N., 119°21'E.) is the farthest N island of a group of high and rugged islands of limestone formation lying N of Ipil Point. A pinnacle rock, lying close N of the island, is conspicuous from E and W. A reef, awash, extends 0.2 mile S of the island.

Cauayan Island (11°16'N., 119°21'E.) has two prominent, high peaks with the terrain between them dropping almost to sea level. High cliffs forming the shoreline are deeply underscored by sea action. The navigable channel between Cauayan Island and Cadlao Island is divided into two passages by an islet. The S passage has a least depth of 12.8m.

Cadlao Island (11°13'N., 119°22'E.) has a table-topped summit which is conspicuous from the W.

The Loggerheads, two high peaks rising SE of the summit, drop almost vertically. A spit, with a depth of 4.9m, extends 0.1 mile from the SE end of the island.

A deep channel, about 0.3 mile wide, lies between the spit and the headland of Ipil Point.

The E and W points of the island are reported to be conspicuous. There are sandy beaches at the heads of the bays. Most of Cadlao Island is fringed by coral reef.

11.8 Dilumacad Island (11°12'N., 119°20'E.) has a conspicuous group of needle peaks near its S end. The W coast of the island consists of overhanging cliffs; the E coast is sandy beach fronted by a spit and fringing reefs.

The channel between the island and the SW end of Cadlao Island is deep.

Anchorage can be taken, sheltered from NE winds, in depths of 29 to 36m, S of Cadlao Island and E of Dilumacad Island.

There is good anchorage protected from SW winds, near **Mitre Island** (11°14'N., 119°22'E.), in 31m, mud.

Additional anchorage can be taken, in depths of 16 to 22m, close E of Abrupt Point.

Tapiutan Island (11°13'N., 119°16'E.) is the NW island of a group of islands which form the W side of the approach to Bacuit Bay; they extend about 7.75 miles NNW and 7 miles W from a position about 1.5 miles N of Custodio Point. The group is prominent due to their limestone formation and their rugged appearance. The sides of the islands consist of bare, vertical cliffs of various colors. The bases of the cliffs have been eroded by the sea. The summits of the islands consist of small clusters of needle peaks.

Matinloc Island (11°11'N., 119°17'E.) consists of a narrow ridge of barren limestone almost divided into three parts by deep gaps. Mount Horn, prominent near the middle of the island, resembles a horn when seen from N or S.

Ilog Bay, on the E side of the island beneath Mount Horn, affords shelter to small vessels having local knowledge during the Southwest Monsoon (May to September). An islet lies near the S side of the bay entrance.

Tapiutan Strait (11°12'N., 119°16'E.), 0.1 mile wide, with depths of 27 to 38m, separates the islands of Matinloc and Tapiutan.

Inambuyod Island (11°12'N., 119°18'E.) is separated from Matinloc by a deep channel. Inambuyod Island, from a distance, appears like a large turtle in the water with its head facing N. Landing can be effected along sandy beaches on the W side of the island. A high rock and an islet lie 0.1 mile N and 1 mile N, respectively, of Inambuyod Island.

11.9 Miniloc Island (11°09'N., 119°19'E.) is high, with coasts consisting of cliffy heads and steep crags. The S and E sides of Miniloc are indented by several coves.

A NE cove is deep, but fronted by a reef. Small, high islets lie off the NW and E sides of the island, and landing can be effected on the S and W sides.

There are several small islands lying between Miniloc Island and Custodio Point. These islands consist of **Paglugaban** (11°08'N., 119°19'E.), Entalula, Popolcan, **Jip Rocks** (11°07'N., 119°19'E.), **Guintungauan** (11°07'N., 119°18'E.), and Pangulasian Island.

The **Guntao Islands** (11°08'N., 119°15'E.), two in number, have densely-wooded tops and bare slopes. The islands are connected by a coral reef, bare at LW.

Destacado Rocks (11°07'N., 119°13'E.) are a group of rocks, awash, lying on a small reef. The rocks have the appearance of two boats. Other reefs lie within 1 mile N and 0.25 mile SW of the rocks.

Palawan—West Coast—Bacuit Bay to Cape Ross

11.10 Bacuit Bay (11°07'N., 119°22'E.) is entered between Ipil Point and **Custodio Point** (11°06'N., 119°19'E.), and extends about 7.5 miles SSE.

The bay is protected W by a high, wooded peninsula terminating at Custodio Point. Rugged, limestone islands front the bay and a mountain range dominates the E shore.

Depths of 14.6 to 37m exist throughout the bay, with deeper water off the bay entrance and between the off-lying islands. The shore reef extends as far as 0.25 mile off the W side of the bay and 0.5 mile off the head of the bay. There are many detached reefs and shoals within 0.5 mile of the coast. The many bights indenting the shores of Bacuit Bay are foul and fronted by mangroves. Islands and rocks within the bay are mostly high and sheer.

Caution.—Dangers are numerous throughout the bay. Only those in or adjacent to the main channel are described. A 13.1m patch lies in the middle of the entrance to Bacuit Bay, 1.75 miles SW of Ipil Point.

A 14.6m coral patch lies about 0.75 mile E of **Entalula Island** (11°08'N., 119°20'E.). A reef, with a depth of 3.6m, and a shoal, with a depth of 3.5m, lie 1 mile S and SSE, respectively, of Ipil Point.

A group of shoals, with a least depth of 9.1m, lies up to 1 mile NW of **Inabuyatan Island** (11°07'N., 119°23'E.).

A dangerous steep-to coral patch (11°07'N., 119°22'E.), depth 6.9m, lies 1.25 miles W of Inabuyatan Island.

11.11 Lagen Island (11°05'N., 119°24'E.), the largest and highest island in the bay, has two summits with a deep gap between them. The shores are sandy beaches alternating with sheer cliffs.

Between the island and **Malpacao Island** (11°06'N.,

119°24'E.), 0.5 mile NE, is a channel with depths of 14.8 to 22m, clear of dangers. Malpacao Island is a prominent, high limestone formation. It appears from the offing as a double island. Drying reefs lie SE and E of the S end of the island. The channel between the island and the point E is foul.

Coast Hill (11°05'N., 119°20'E.), **Mount Maateg** (11°01'N., 119°23'E.), **Shark Fin Peak** (11°04'N., 119°28'E.), and the high peak close NE of Ipil Point are all excellent landmarks approaching Bacuit Bay.

Sheltered anchorage can be taken, in depths of 11 to 13m, close SE of Malpacao Island, clear of the reefs in the vicinity.

Small vessels with local knowledge can anchor in Corong-corong Bay, close with Ipil Point, and communicate with the town of El Nido while being protected from N winds.

Additional anchorage can be taken in the area SE of **Pinsail Island** (11°05'N., 119°23'E.) and **Ninepin Island** (11°05'N., 119°23'E.), and S of Lagen Island, in depths of 16.5 to 18.3m, but is subject to sudden wind changes.

Vessels approaching Bacuit Bay from S should use the passage between **Paglugaban Island** (11°08'N., 119°19'E.) and Entalula Island, 0.6 mile E.

From N, the best approach is between **Inambuyod Island** (11°12'N., 119°18'E.) and **Dilumacad Island** (11°12'N., 119°20'E.). If proceeding to the anchorage SE of Malpacao Island, avoid the 7m coral patch, 1.25 miles W of Inabuyatan Island, and pass between Malpacao Island and Lagen Island.

If proceeding to the anchorage SE of Pinsail Island, pass fairly close to the W side of Lagen Island and then between the island and Ninepin Island.

Between Custodio Point and **Signal Head** (11°02'N., 119°19'E.), 4.25 miles S, the coast is bold and rocky with several reddish-colored landslides. The mountain ranges running down to these points are steep and densely wooded. Ragged Island, 18.3m high, lies close offshore, 3 miles S of Custodio Point.

Difficult Point (11°03'N., 119°20'E.) lies about 0.6 mile SE of Ragged Island, and Black Rock Point lies about 0.75 mile SSE of Difficult Point. Together these points form the entrance to a narrow inlet which recedes about 1 mile NE.

There are depths from 18.3m in the entrance of the inlet to 6.7m at its head. A patch, with a depth of 0.9m, lies in the middle of the inlet 0.25 mile from its head.

11.12 Port Cataaba (11°01'N., 119°21'E.) is a bay entered between Black Rock Point and Signal Head, 0.5 mile SW. The bay affords good shelter for small vessels and is free from dangerous winds blowing off the mountains.

The peninsulas forming the bay are high and densely wooded, while the shores are alternately rocky points and small coves backed by mangrove swamps.

The head of the bay dries, but there are depths of up to 27m in the outer part. A spit, with an islet on its NE end, lies about 0.5 mile within the W entrance point of the bay.

Pin Point (11°01'N., 119°20'E.), 1.25 miles SSE of Signal Head, is prominent as is Beehive Head, 0.5 mile S of Pin Point. White Point Island lies on the drying coastal reef close S of Pin Point.

Anchorage can be taken E of Pin Point, where there are depths of 9.1 to 12.8m, mud. The anchorage is reported to be free of the dangerous winds that funnel through the mountain passes.

The entrance to Port Cataaba should be approached either between **Tent Island** (11°04'N., 119°18'E.) and Saddle Island, 1.25 miles S or E of both of these islands.

A mid-channel course should be steered, avoiding the dangers which extend up to 0.2 mile E of Saddle Island.

Dangers exist in the approach to Port Cataaba and Endeavor Strait. Tent Island, steep-sided, lies on a drying reef 2.5 miles SSW of Custodio Point. A below-water reef extends 0.3 mile N of the island; it has several above-water rocks on it.

Saddle Island (11°03'N., 119°18'E.) has two high rounded hills, the one farthest S is prominent. The island is fringed by above-water and below-water reefs. Camago Island lies on the reef 0.25 mile S of Saddle Island; the reef extends about 0.2 mile S of the island. Needle Rocks, lies in the N entrance to Endeavor Strait, about 0.9 mile SW of Signal Head.

There are depths of 9 to 13m between Needle Rocks, and a drying rock about 0.3 mile N. Anato Island, 59m high, about 0.1 mile S of Needle Rocks, is separated from the rocks by a passage 7m deep.

Tuluran Island (10°59'N., 119°17'E.), separated from the mainland by Endeavor Strait, is about 4.5 miles long in a N to S direction and is about 2.5 miles wide; it is the largest island fronting the W coast of Palawan.

Peaked Point (11°01'N., 119°16'E.) is the NW extremity of Tuluran. Peaked Island lies 0.1 mile NW of the point. Rocks, awash, lie 0.1 mile NW of the island. The channel between the island and point is 3.7m deep.

North Tuluran Peak and South Tuluran Peak rise conspicuously near the middle of Tuluran.

Thumb Peak, with a table-topped summit, rises 0.75 mile NW of **Pillar Point** (10°57'N., 119°18'E.), the SE extremity of the island.

11.13 Between Signal Head and Cape Ross, 8.5 miles SW, the coast is indented by Malampaya Sound, one of the best natural harbors in the Philippine Islands. It extends about 20 miles SE and near its head it is only 2.5 miles from the E coast of Palawan.

The sound, which affords safe anchorage for a large number of deep draft vessels, is divided into two parts by the headlands projecting from the shore and by several islands.

The shores of the sound are generally steep and densely wooded, rising abruptly from a beach intersected by many bold headlands, rocky points and small areas of mangrove swamp.

Tuluran Island, the largest island fronting the W coast of Palawan, lies in the outer entrance of Malampaya Sound.

Worcester Strait, the main channel, leads SW of the island and Endeavor Strait leads E of the island which is rugged and densely wooded.

Pyramid Rocks (11°01'N., 119°15'E.) lie about 1 mile W of Peaked Point, the NW extremity of Tuluran Island.

A detached coral rock, with a depth of 1.2m, lies about 0.2 mile NE of the highest rock.

Endeavor Strait (10°59'N., 119°18'E.) is approached from N between Signal Head and Peaked Point. The strait has a least depth of 8.7m in the fairway, is about 5 miles long, and has a least width of 91m about 1.7 miles SSW of Signal Head. The mangrove lined shores of the strait are fronted by above and below-water coral reefs for 0.1 mile. The W entrance point of

the strait lies 1 mile SE of **Conical Head** (11°01'N., 119°17'E.). A bank extending 2.5 miles N from this point contains Anato Island and Saddle Island.

Relinquish Head (11°00'N., 119°18'E.) and Exertion Point, about 1.2 miles S of the head, form a bay. A group of drying rocks lies in the middle of the bay entrance.

Good anchorage can be taken in the bay, in depths of 18 to 22m, mud.

Liminangcong (11°00'N., 119°18'E.), a small town, is situated on the E side of the strait close E of Chase Head, where the strait is most constricted. A spit, with a depth of 5m, extends 0.1 mile NW of Chase Head. The least depth in the strait fairway, lies 0.4 mile S of Chase Head.

Good anchorage can be taken, in a depth of 12.8m, about 0.2 mile N of town.

Endeavor Point (10°57'N., 119°19'E.) is the SE entrance point of Endeavor Strait. A 2.3m and 3.2m patch lie 0.2 mile N and 0.5 mile NE of the point.

Pirates Hold, a sheltered cove, is entered between **Bando Point** (10°57'N., 119°19'E.) and Endeavor Point.

Vessels proceeding S through the strait should keep in midchannel. Caution should be exercised when rounding Chase Head to avoid being set on the spit by tidal currents which are strong at times.

11.14 Worcester Strait (10°58'N., 119°15'E.), the main entrance to Malampaya Sound, lies between Tuluran Island and the **Capoas Peninsula** (10°50'N., 119°17'E.). The strait, nearly 0.75 mile wide, has depths over 37m.

Worcester Strait is approached between **Diente Point** (10°57'N., 119°13'E.) and Peaked Point. The terrain S of the latter point is bold, precipitous, and features Tuluran Point, and **Bold Head** (10°59'N., 119°16'E.).

White Round Island (10°59'N., 119°15'E.), steep-to, lies 1.25 miles WNW of Bold Head. It is a useful landmark when approaching the strait from NW.

Diente Shoal (10°58'N., 119°13'E.), with a depth of 5m, lies almost 1 mile N of Diente Point. The channel between is deep and clear of dangers.

Notch Island (10°58'N., 119°14'E.), lying on a drying reef 0.6 mile ENE of Diente Point, is conspicuous from offshore. Above-water rocks lie 0.1 mile N of the island.

Several dangers lying N and E of Notch Island include Pillar Rock, Entrance Rock, Largon Island, Largon Rock, and Cone Island.

These charted dangers lie on several extensive reefs and foul ground on the SW side of the entrance to Worcester Strait.

Tidal currents in the strait are strong. In the sound the tidal range is 1.1m. With contrary winds there are heavy tide rips in the strait.

Bolalo Bay (10°56'N., 119°15'E.), entered S of Cone Island and W of **Parmidiaran Point** (10°57'N., 119°16'E.), is deep and clear of dangers, but in stormy weather is open to wind squalls from the encircling hills.

The shores of the bay consist mainly of coral and mangroves. Drying reefs extend 0.5 mile or more off the head of the bay which is separated from **Inlulutoc Bay** (10°54'N., 119°14'E.) by a narrow isthmus.

Anchorage can be taken, in 29 to 42m, mud, within the entrance of the bay.

Vessels approaching Bolalo Bay should pass either E or W of Largon Island and Cone Island; the former should be given a wide berth.

Vessels entering Worcester Strait should favor the Tuluran Island side of the channel with the N extremity of **Malapina Island** (10°56'N., 119°19'E.) bearing 122° leading through the strait, passing NE of Entrance Rock and Largon Rock and SW of the shoal which lies 0.9 mile NE of Largon Island.

Malampaya Sound is divided into Outer and Inner Sounds which are connected by an inner strait. The sound is entered from N via Endeavor and Worcester Straits in the vicinity of Lookout Point, Pillar Point, and Endeavor Point. Because of the numerous islets, rocks, and reefs in the strait connecting the two sounds, the navigable passage is reduced to a width of about 0.2 mile.

The W side of Outer Sound, between Lookout Point and **Pugguiauan Point** (10°53'N., 119°18'E.), 3.75 miles SSE, is indented by three bays, all of which afford safe anchorages.

11.15 Pirate Bay (10°56'N., 119°17'E.), the northernmost bay of the three bays, is entered between Lookout Point and Slip Point, the N extremity of **Tenabian Island** (10°55'N., 119°17'E.). There are depths over 18.3m in the bay.

Anchorage can be taken, in a depth of 27m, mud. A constricted passage, with a least depth of 11m, separates Tenabian Island from the mainland. A reef, with a depth of 1.2m, extends 0.2 mile NW of Slip Point.

Taitai Bay (10°54'N., 119°17'E.) is entered between Taitai Island and **Bullock Head** (10°54'N., 119°18'E.). The head of the bay is divided into two mangrove-fringed coves by Middle Point.

Huron Rock (10°54'N., 119°18'E.), with a depth of 5m, lies in the approach to Taitai Bay and close W of the fairway to Inner Sound.

Anchorage can be taken in Taitai Bay, in depths of 18 to 20m, mud. On entering the bay from N, round Taitai Island within 0.5 mile. From S, round Bullock Head within 0.5 mile to avoid Huron Rock.

Turung Bay (10°53'N., 119°17'E.), with general depths of 9.1 to 18.3m, is entered between Bullock Head and Pugguiauan Point. Turung Island, on the N side of the entrance, is encircled by shoals and has a drying rock lying 91m NW, and a detached 5m shoal lies 0.2 mile NE, respectively, of its N end. A spit, with depths less than 8.5m, extends 0.2 mile NE from Pugguiauan Point.

Anchorage can be taken in the middle of Turung Bay, in depths of 11 to 15m, mud.

11.16 The E side of Outer Sound, between Endeavor Point and **Calabuctung Point** (10°54'N., 119°20'E.), 3.25 miles SSE, is indented by **Northeast Bay** (10°56'N., 119°21'E.).

Shoals extend up to 0.5 mile from the shores of the bay which are fringed by mangroves. The bay is encumbered by islands and shoals. Malapina Island lies in the entrance of the bay. Two reefs, with a least depth of 11.4m, lie between 0.5 mile and 1 mile SE of the island.

Boat Rock (10°55'N., 119°20'E.), with a depth of 0.3m, lies near the middle of a shoal 1.25 miles E of Malapina Island. Drying rocks lie at the N and S ends of the shoal.

Anchorage is not recommended in Northeast Bay for deep

draft vessels because of the swell which sometimes sets in from Worcester Strait. Small vessels can take sheltered anchorage in the inner part of the bay.

11.17 Binaluan (10°56'N., 119°21'E.), a small village with a sawmill situated in the SE part of Northeast Bay, is a temporary base for some of the fishing fleet operating in Malampaya Sound.

The inner strait, separating Malampaya Outer and Inner Sounds, is 2 miles wide between Pugguiauan Point and Calabuctung Point. The strait is encumbered by shoals and islands, between which there are several navigable channels.

The W side of inner strait, between Pugguiauan Point and **Alcade Point** (10°49'N., 119°21'E.), 4.5 miles SE, is indented by Alligator Bay and Malipu Bay.

Mount Capoas (10°48'N., 119°17'E.) is a dominating feature.

Alligator Bay (10°51'N., 119°17'E.) is entered between **Green Head** (10°52'N., 119°18'E.), 0.45 mile SE of Pugguiauan Point, and **Balulu Point** (10°51'N., 119°19'E.). Palcocotan Island lies about 0.3 mile E of Green Head, and Johnstone Point marks the S extremity of the head. The bay affords excellent shelter for vessels.

Several islands lie just outside the bay entrance and along its shores. There are numerous dangers. Vessels should keep at least 0.25 mile off salient points and the shores of the bay.

A shoal, with a least depth of 4.1m, lies almost 0.25 mile SSE of Johnstone Point. There are depths of 11 to 16.5m and 11 to 7.3m in the N and S parts of the bay.

Alligator Island (10°51'N., 119°18'E.), wooded, lies on the S side of the bay. A prominent white rock lies 137m E of the NE end of the island. Durangan Island lies in the navigable channel through the strait leading to Inner Sound, about 1 mile NE of Alligator Island.

Anchorage can be taken in the middle of the bay, between Johnstone Point and Alligator Island, in depths of 15 to 16m, mud.

11.18 Malipu Bay (10°50'N., 119°20'E.) is entered between Balulu Point and Alcade Point. It is separated from Alligator Bay by a narrow ridge of hills. There are depths of 9.1 to 18.3m in the outer part of the bay and 7.5 to 8.2m in the E part.

Bartoc Island (10°51'N., 119°20'E.), 0.75 mile E of Balulu Point, and Malaoton Island, 0.75 mile E of Bartoc Island, lie in the approach to the bay. Foul ground encircles both islands.

Chinicaran Island (10°50'N., 119°20'E.), the largest in the bay, is separated from the shore by a narrow passage with a least depth of 3.2m.

Damao Island (10°50'N., 119°20'E.), with Micota Island lying close SE, are separated from a peninsula of the mainland by constricted Damao Channel. The channel, encumbered with rocks and islets, has a depth of 9.1m.

Cinaran Bay (10°49'N., 119°20'E.), lying at the head of Malipu Bay, is fronted by a drying mud flat and depths of 5.5m.

Anchorage can be taken in the outer part of Malipu Bay, about midway between Chinicaran Island and Malaoton Island, in depths of 11 to 14.6m, mud. Smaller vessels can find more sheltered anchorage E of Chinicaran, in a depth of 7.3m.

The E side of the inner strait between Calabuctung Point and **Balauan Point** (10°52'N., 119°22'E.), 3 miles SE, is irregular and fronted by many islands, rocks and shoals. The inner strait channel leads W and SW of the islands.

Tacbolo Island (10°53'N., 119°19'E.), thickly wooded and partly cultivated, lies in the entrance of the strait. Wedge Head is the prominent bluff on the NW extremity of the island.

The two small Calabuctung Islands lie between Wedge Head and Calabuctung Point.

Passage Island (10°52'N., 119°20'E.) forms the SE side of Tacbolo Passage; Tacbolo Island forms the NW side of the passage. The passage is 137m wide and has a depth of 8.7m.

A constricted shoal channel separates the E end of Passage Island from the NW side of the peninsula that forms **Passage Point** (10°52'N., 119°21'E.).

11.19 Passage Island Bay (10°53'N., 119°21'E.) is entered between Wedge Head and the Calabuctung Islands. Depths of 9.1 to 18.3m exist in this sheltered bay. A 6.4m coral patch lies 0.2 mile N of Cliff Point, the NE extremity of Passage Island. Shoals lie NE of this patch.

There are several navigable channels between the shoals and islands that are used with local knowledge.

Anchorage, sheltered, can be taken near the middle of Passage Island Bay, in depths of 13 to 18m, mud.

Directions.—Vessels approaching Malampaya Inner Sound from N steer a course of 159° for **Wedge Head** (10°53'N., 119°19'E.), until the N extremities of the Calabuctung Islands are aligned 105°.

This alignment leads E of **Huron Rock** (10°54'N., 119°18'E.), steep-to with a depth of 4.9m. The course is then shaped to pass E or W of Palcocotan Island and Durangan Island.

When in transit of the channel E of Palcocotan Island, keep on the W side of the channel between Passage Island and Durangan Island, thus avoiding the dangers SW of Passage Island. Durangan Island should be passed at least 0.1 mile distant. Pass between Malaoton and Ibelbel.

An alternate route can be taken by passing W of Palcocotan Island and Durangan Island, in mid-channel between Balulu Point and Calonhogon Island, S of Bartoc Island and Gull Rock, and N of Peaked Island.

Caution.—Dangers W and SW of Passage Island are best seen on the chart. These dangers include **Flat Rock** (10°52'N., 119°19'E.), above-water, lying on a spit extending about 0.25 mile W of Passage Island. Eniaran Island lies on the same spit. A 4.6m patch lies in the channel 0.15 mile S of Flat Rock. Cansea Rock, drying, and Balolo Rock, above-water, are to be avoided in transit of the channel.

Between Passage Point and Balauan Point there are several off-lying islands fringed by rocky shoals.

11.20 Malampaya Inner Sound (10°50'N., 119°23'E.) is entered between **Alcade Point** (10°49'N., 119°21'E.) and **Balauan Point** (10°52'N., 119°22'E.).

The shores of the sound are indented by coves and bights that afford shelter to small craft.

Several rivers empty into the various bights causing shallow, muddy depths of less than 5.5m in the sound between **Cliff Point** (10°48'N., 119°21'E.) and **Rocket Point** (10°52'N., 119°23'E.), 4 miles NNE.

The outer part of Inner Sound has depths of 9.1 to 16.5m. It is free of dangers except for **Coloma Rock** (10°50'N., 119°24'E.), which lies in the middle of the bay, with a depth of

Malampaya Terminal

0.6m.

Other inshore dangers may be avoided by keeping at least about 0.25 mile off the islands and points. The 10m curve lies close NE of Alcade Point and the 5.5m curve lies about 0.25 mile NE of **Cap Rock** (10°48'N., 119°23'E.).

Anchorage for large vessels can be taken anywhere in the outer part of Inner Sound, taking care to avoid the vicinity of Coloma Rock. Many of the bays and coves afford shelter to small craft.

A charted restricted area lies about 10 miles offshore, in the approaches to Malampaya Sound, and is bound by lines joining the following positions:

a. 10°46'N, 118°32'E.
b. 10°46'N, 119°04'E.
c. 11°37'N, 119°10'E.
d. 11°37'N, 118°51'E.

Malampaya Terminal (11°31'N., 119°07'E.), operated by Shell, consists of a lighted platform, established in the N portion of this restricted area, and an SBM moored 1.5 miles NW of the platform. The Malampaya submarine gas pipeline extends to this platform from seabed wells, located 15 miles W, and continues ENE through Linapacan Strait to the terminal in **Batangas Bay** (13°44'N., 121°03'E.).

The terminal SBM should be approached from N, passing W of a coral patch, 3.5 miles ENE of the buoy, which has a depth of 12.8m. Approach from the S is not recommended due to the numerous shoals, platforms, and buoys, some of which are uncharted, lying S of the platform.

Pilotage is compulsory. Pilots board 3 miles N of the platform for mooring in daylight only. The vessel's ETA should be sent 72 hours, 48 hours, 24 hours, and 12 hours prior to arrival. A final notice should be sent when within 15 miles of the terminal. Departures from the mooring may be taken day or night.

Vessels must obtain permission prior to approaching the terminal within a distance of 3 miles. Permission to enter the restricted area, as charted, is advised.

The terminal can be contacted, as follows:

1. Call sign: Malampaya Control
2. VHF: VHF channels 16 and 67
3. E-mail: spex-marine-advisor@shell.com
   spex-platform-oim@shell.com

Anchorage may be taken 9 miles from the platform on a bearing of 153°.

During the Northeast Monsoon, strong winds and swell may be experienced at the terminal. Strong winds and squalls occur during the Southwest Monsoon.

South Nido Oil Field, consisting of two production platforms, a storage vessel, and a submarine pipeline, lies within the above restricted area and is centered 27.5 miles W of Tuluran Island. A radio beacon transmits from the storage vessel and fog signals are sounded by the SW platform.

Cadlao Oil Field also lies within the prohibited area and is centered 30 miles NW of Tuluran Island. This field consists of three production platforms and an SBM, from which lights are shown, connected by submarine pipelines. A storage tanker is permanently moored to the SBM; a tug is available to assist with berthing. A lighted SBM (11°20'N., 118°59'N.) is moored 7 miles S of the production platforms.

West Linapacan Oil Terminal (11°49'N., 119°07'E.), a floating production and storage tanker, is moored about 45 miles W of Culion Island. Vessels should send their ETA 72, 48 hours, 24 hours, and 4 hours in advance; the ETA should be confirmed 24 hours and 4 hours in advance, or if the ETA changes by more than 1 hour. The terminal should be called on

VHF channel 16 when within 4 hours of arrival. The pilot boards 2 miles W of the terminal. A restricted area, best seen on the chart, surrounds the terminal.

West Linapacan Oil Terminal, consists of a production and storage vessel the FPSO II, moored to an SPM by a stern yoke. Lights are shown from the vessel. There is no designated anchorage; waiting vessels should lie off about 5 miles W of the terminal.

A lighted storage tanker is located in approximate position 11°49'N, 119°7'E. Entry is restricted throughout the greater arc of a circle, radius 5 miles, centered from the tanker's position.

Palawan—West Coast—Cape Ross to Northwest Head

11.21 Cape Ross (10°56'N., 119°13'E.), the NW extremity of the Capoas Peninsula, is a prominent steep-to headland. A narrow coral reef fringes the cape, and the 20m curve lies about 0.1 mile offshore.

Between Cape Ross and Northwest Head, about 55 miles SSW, the coast is indented by many bays which provide sheltered anchorage from NE winds.

The 20m curve lies up to 2.5 miles off this sector of the coast; the 200m curve lies up to 35 miles offshore. There are numerous isolated shoal patches, with depths of 4.8 to 16.4m, charted in this area.

Between Cape Ross and **Emergency Point** (10°46'N., 119°16'E.), about 11 miles SSE, the coast is rugged, irregular, and is formed by the W side of the Capoas Peninsula.

The peninsula is formed by mountain ranges with short spurs extending to the coast forming rocky points.

Mount Capoas (10°48'N., 119°17'E.), a landmark on the peninsula about 9 miles SSE of Cape Ross, has a high and a low sharp nipple on its W shoulder and a considerable landslide on its W face.

When seen from the S it appears to be table-topped with steep sides. There is a conspicuous waterfall on the N side of the mountain.

Inlulutoc Bay (10°54'N., 119°14'E.) is entered between **Wreck Head** (10°54'N., 119°13'E.), a bold rocky head, and Inlulutoc Head, about 1.8 miles SSE.

Entrance to the bay may be identified by **Saddle Hill** (10°55'N., 119°14'E.), 1.5 miles NE of Wreck Head, and Chinongab Peak, about 2 miles farther NE. Chinongab Peak is made prominent by a sharp ridge.

The shores of the bay are reported to be fringed by visible coral reefs. Depths of 18.3m existing as far as 0.5 mile offshore contain many dangers. A 12.8m coral patch lies in the center of the bay.

Anchorage, in depths of 27 to 29m, mud, can be taken with offshore winds in the entrance to a cove between Anchorage Islet, on the N side of the bay, and Teodore Point, about 0.5 mile WNW.

The bay affords good shelter during the Northeast Monsoon (October to March).

11.22 Tanghilahan Bay (10°52'N., 119°13'E.) is entered between Inlulutoc Head and Cape Capoas, a bold projecting headland with two peaks located about 1.5 miles SW.

The inner part of the bay is encumbered with reefs and shoals. Above-water rocks lie in the S part of the bay which has depths over 18.3m.

Enterprise Point (10°51'N., 119°13'E.), a steep cliffy headland, is the SW prong of Cape Capoas. Between Enterprise Point and Cotteral Point, 3.75 miles SE, the coast is indented by three small open bays. The shores of the bays are reef-fringed, and are suitable for small craft only.

White Islet, 119m high, steep and conical in shape, lies 1.75 miles SE of Enterprise Point; it is connected to the coast on its E side by a drying reef. An islet and an above-water rock lie about 0.5 mile W of White Islet.

11.23 Menapla Cove (10°49'N., 119°16'E.), entered between Grave Point and Cotteral Point, 1.5 miles SSE, affords shelter from NE winds. A reef, awash in places, extends 0.5 mile SW from a cliff at the head of the bay.

Anchorage, sheltered from the Northeast Monsoon, can be taken in the outer part of the cove, in depths of 9 to 18.3m.

Binga Bay is entered between Emergency Point, 3 miles SSE of Cotteral Point, and Binga Point, 3.25 miles SE. The land rises to a height of 188m close NE of Emergency Point. An island lies on a rocky drying reef, about 1.25 miles E of Emergency Point. The island lies inside the 20m curve.

Anchorage, sheltered from NE winds, can be taken about 2 miles E of Emergency Point, in depths of 13 to 18.3m, mud.

Small vessels anchor, in 7.3m, about 0.75 mile SE of Binga Point. The village of Tor lies 0.5 mile N of this anchorage.

Imuruan Bay (10°40'N., 119°15'E.) is entered between Emergency Point and Pagdanan Point, 13.25 miles SSW.

Amalingat Point lies 16 miles farther SW. The bay is fully exposed to W and NW winds. Binga Bay lies close within the N entrance of this bay.

The coast from Emergency Point to Binga Point is rocky; a sandy beach extends 3 miles farther S. From the S end of the sandy beach, the coast is bold and rocky from 2.5 miles. The 20m curve lies up to 2 miles off the shore of Imuruan Bay, but lies as close as 0.1 mile off Emergency Point and 0.4 mile off Bullock Point.

Wedge Island (10°44'N., 119°12'E.), 68m high, lies in the entrance to Imuruan Bay, 4.75 miles SW of Emergency Point. A bank, with depths of less than 9m, extends 0.1 mile S and E from the island.

The Bay Islands, comprised of Imuruan Island, 158m high, and Lampinigan Island, 86m high, are located 4.25 miles SSE of Emergency Point. A reef extends 0.6 mile E from Imuruan Island, and a channel 0.7 mile wide, with a least depth of 7.3m, lies between this reef and the coastal reef.

Coral shoals, with depths of 7.3m and 9.1m, lie 0.4 mile SW and 0.4 mile SE, respectively, of Imuruan Island.

A narrow channel, with a least depth of 6.7m, separates the two Bay Islands.

A point of land, located 4.25 miles S of Imuruan Island, rises to a height of 121m about 0.2 mile inland; a waterfall marks this height.

11.24 Rocky Islet (10°36'N., 119°19'E.), 15.8m high, lies close off the coast 1 mile SSE of the above point.

Islet Head is located 1.5 miles SSW of Rocky Islet; it rises to a height of 48m. The coast SSW of Islet Head is heavily wooded.

A drying rock lies 0.75 mile SW of Bokbok Point, about 0.4 mile offshore.

Bullock Point (10°33'N., 119°15'E.), a narrow rocky headland, is located 4.75 miles SW of Bokbok Point. A shoal, with a depth of 2.1m, lies about midway between these two points. Below-water rocks lie close off Bullock Point.

Pagdanan Point (10°33'N., 119°14'E.), 0.75 mile SW of Bullock Point, is the extremity of a reddish colored peninsula of the mainland, 143m high. An islet, 14m high, lies near the outer end of a foul spit which lies 0.4 mile NW from the point.

Pagdanan Bay (10°31'N., 119°15'E.) is entered between Pagdanan Point and Milner Head, the NE extremity of Cacnipa Island; this is a common entrance with Port Barton. The bay affords shelter from NE winds, but with winds from SW to NW, a heavy swell is experienced.

The sandy beach lying at the head of Pagdanan Bay is fringed by above and below-water reefs which extend 1 mile offshore. Double Island, nearly connected to shore at LW, lies near the W end of the reefs. Depths of at least 18.3m exist in the outer bay. A range of mountains rise to a height of 703m, 4 miles E of the head of the bay.

11.25 Boayan Island (10°35'N., 119°09'E.) is the largest of a group of islands that extend WNW from Pagdanan Point. Boayan is densely wooded and lies in the entrance to Pagdanan Bay, dividing it into two channels. Another group of islands extend NW from **Caramatan Point** (10°27'N., 119°11'E.).

Saddle Island, 66m high, lies 0.5 mile SSW of the SW extremity of Boayan Island in the outer entrance to Pagdanan Bay. Royalist Shoal, with a depth of 4.6m, lies 0.8 mile SE of Saddle Island.

Isthmus Cone (10°31'N., 119°08'E.), the NW extremity of Albaguen Island, lies on the S side of the outer entrance, 2 miles SSE of Saddle Island.

Village Bay (10°34'N., 119°07'E.) indents the W side of Boayan Island. There are depths of 35m in the bay, shoaling to 3.7m near its head.

Anchorage, sheltered from N and E winds, can be taken near the middle of the bay, in 35m.

Anchorage, sheltered from SW winds, may be taken 0.75 mile N of the E extremity of Boayan Island, in a depth of 26m.

11.26 Niaporay Island (10°33'N., 119°12'E.) lies on foul ground 0.6 mile S of the E extremity of Boayan Island. Niaporay Rock lies 0.6 mile SE of Niaporay Island; Pagdanan Rock lies about 1 mile ENE of the same island. These rocks have depths of 3.6 and 1.8m. A patch, with a depth of 1.8m, lies 0.5 mile NE of Niaporay Rock.

An anchorage, protected from SW winds, may be taken in the outer part of Pagdanan Bay, in depths of 29 to 33m, mud, 1 mile NNW of Caramatan Point. During NE winds, anchorage may be taken about 2.5 miles S of Pagdanan Point, in a depth of 18.3m.

Directions.—Vessels approaching either of the above anchorages should keep the S peak of **Saddle Island** (10°33'N., 119°07'E.) bearing more than 315° until the summit of **Catalat Island** (10°26'N., 119°01'E.) is seen between **Dalaga Point** (Baboy Daraga Point) (10°29'N., 119°05'E.) and the S extremity of **Cacnipa Island** (10°30'N., 119°04'E.), bearing 231° in order to clear Royalist Shoal.

11.27 Port Barton (10°28'N., 119°08'E.) is entered SW of Albaguen Island, which lies between Pagdanan Bay and Port Barton. Albaguen Island, 192m high, has a prominent reddish-colored stripe on its NW side. From this island the NE side of Port Barton is formed by foul ground, which extends 3.5 miles SE to Caramatan Point.

Cacnipa Island (10°30'N., 119°04'E.), bold and steep with a double summit, lies off the NW side of the entrance to Port Barton. The SE end of the island is separated from the NW end of the rocky headland between Port Barton and Mayday Bay by a channel 0.5 mile wide. Passage Reef, with above-water rocks, lies in the middle of this channel.

Anchorage in Queens Bay, Port Barton, protected from the Southwest Monsoon, can be taken 2 miles SSW of Albaguen Island, in 37m, stiff mud. Anchorage, sheltered from NE winds, may be taken about 3 miles SSE of the above anchorage, in a depth of 22m, mud. Care must be taken to avoid the reefs at the head of Port Barton.

11.28 Mayday Bay (10°27'N., 119°03'E.) is entered between the N extremity of Catalat Island and Dalaga Point, 4.75 miles NE. Cacbolo Island, 150m high, lies 0.75 mile NW of Catalat Island, in the entrance to the bay. Cacbolo Island has bold, steep cliffs along its N and W sides. A reef, awash, lies close off the NE end of the island. Catalat Island is connected to the mainland to the S by a narrow, foul ridge.

Two above-water rocks stand on this ridge. The E side of Mayday Bay is protected by the Dalaga Peninsula, a continuation of Mayday Range.

Conical Head, one of several steep and rugged headlands forming the shores of the bay, divides the head of the bay into two small, sandy bays; the SW one is named Santa Cruz Bay.

Watering Bay (10°25'N., 119°02'E.) is located 1.75 miles SW of Conical Head.

Anchorage, which is sheltered except during NW winds, can be taken in the S part of Santa Cruz Bay, in depths of 18 to 27m, soft mud. Good anchorage is also available off the entrance to Watering Bay, in a depth of 35m.

Crater Shoal (11°01'N., 118°50'E.), with depths from 8.7 to 18.3m, lies with its E extremity about 21 miles WNW of Cape Ross. Several patches, with depths of 5.8 to 11m, lie within 5 miles E and SE of Crater Shoal.

Detached shoals, mostly steep-to and with depths of 8.5 to 18.3m, extend 35 miles NE from the N end of Crater Shoal. The shallowest patch lies 23 miles WNW of **Libro Point** (11°25'N., 119°29'E.). The outermost shoals lie within the 200m curve which trends 26 to 30 miles offshore.

Capoas Cluster (10°55'N., 118°53'E.), a group of coral reefs and shoals, with depths of 6.9 to 16.5m, lies 5 to 19 miles NNE of Crescent Reef. Several shoals, with depths of 5.5 to 11m, lie within 5 miles E of Capoas Cluster.

11.29 Crescent Reef (10°40'N., 118°43'E.) lies about 23 miles NW of **Amalingat Point** (10°25'N., 118°59'E.), a bold, steep headland. The reef is a narrow steep-to strip of coral about 0.75 mile long, with a least depth of 7.3m.

Numerous shoals and reefs, with depths of 5 to 11m, lie near the 200m curve as it trends N and S, respectively, of Crater, Capoas and Crescent Shoals.

Amalingat Point (10°25'N., 118°59'E.), a steep bold head-

land 334m high, is located 1.5 miles SW of Catalat Island. A rock lies close off the point and a reef, awash, lies 0.1 mile W of the rock.

Peaked Point (10°22'N., 118°58'E.), located 3 miles SW of Amalingat Point, is cliffy and is formed by a range terminating in a 383m high peak. A detached rock, 31m high, lies close off the point.

11.30 Jibboom Bay (10°20'N., 118°58'E.) is entered between Peaked Point and Long Point, located 3.75 miles S. Bay Island is the largest and farthest W island of a group of islands that lie in the entrance of the bay. Underwater ledges connect this island with the E island in the group.

Foul ground, with above and below-water rocks and reefs, fill the bights on either side of Long Point, and in a heavy swell the sea breaks over an 8.5m patch lying 0.3 mile W of the point.

The inner parts of two coves forming the NE part of Jibboom Bay are completely foul. A small sandy bay is formed between Long Point and a point 1.75 miles NE.

Vessels occasionally call here to load timber from Caruray, which is situated 1 mile inland.

Anchorage, exposed to the Southwest Monsoon, can be taken 2.5 miles ENE of Bay Island, in a depth of 18m, mud. Greater protection may be obtained in the cove close NE.

Anchorage can also be taken off Caruray, in depths of 7 to 15m, gray sand and mud, in an area about 0.5 mile in extent.

11.31 Cliff Head (10°18'N., 118°56'E.), a long wooded promontory terminating in a steep cliff, with Panganakan Point located 1 mile SW, separate Jibboom Bay from St. Paul Bay. A small bay, with depths of 7.3 to 10.9m, lies between Panganakan Point and Paodat Point, which is located 1.25 miles S.

Stripe Peak (10°12'N., 119°02'E.) rises to a height of 1,470m, 7 miles SE of Paodat Point; it has a distinct drop off to N from its summit. Another inland landmark is Mount Saint Paul, which lies 6.25 miles SSW from Paodat Point.

St. Paul Bay (10°14'N., 118°54'E.) is entered between **Paodat Point** (10°16'N., 118°56'E.) and Capoas Point, 5 miles SW. The S shore of the bay is bold, but E and N of Capoas Point, the shores are sandy with several low, rocky points.

Depths of more than 15m exist in the outer part of St. Paul Bay; within the charted 20m curve, which trends up to 2 miles offshore, there are many rocks, reefs and shoals. St. Paul Rock, off Paodat Point, and a tower-shaped rock, 3 miles S, are prominent.

Vessels calling at **Sabang** (10°12'N., 118°54'E.), in the SE part of St. Paul Bay, can anchor, in depths of 15 to 17m, sand and coral, about 1.75 miles SW of Paodat Point.

This anchorage gives protection from the Southwest Monsoon, but there is no protection from NW winds.

Piedras Point (10°11'N., 118°48'E.), a bluff rocky promontory, lies 3.25 miles WSW of Capoas Point; steep ridges extend SSE from the point.

11.32 Ulugan Bay (10°07'N., 118°48'E.) is approached between Piedras Point and Northwest Head, 4.25 miles SSW. The coast in the vicinity of **Broken Head** (10°07'N., 118°49'E.), 4 miles S of Piedras Point, the E entrance point of the bay, is composed of reddish-brown cliffs.

Cleopatra Needle (10°07'N., 119°00'E.), a prominent, sharp peak, is the farthest SE of four conspicuous peaks which form a good landmark.

Black Rock (10°10'N., 118°48'E.) is the outermost and largest of a group of rocks extending 137m offshore, 1.5 miles S of Piedras Point.

Watering Bay (10°09'N., 118°49'E.), a slight indentation in the shoreline, is entered between Black Rock and Bentoan Point, 1 mile S. With offshore winds, temporary anchorage can be taken in the bay, in 11m, 0.2 mile or more offshore.

Camungyan Island (10°09'N., 118°46'E.) is the largest of two islets, along with an above-water rock, which lie 1.25 miles N of Northwest Head. A ledge, with depths less than 6m, extends from the islets almost to Northwest Head. A light is shown from the islets.

Camungyan Island Light

Rita Island, a narrow island steep-to on its E side, lies on the W side of Ulugan Bay, 2 miles SSE of Northwest Head. The N part of the channel between the island and mainland is foul; the S part has a least depth of 18.3m. It has been reported (2011) Rita Island extends 500m N of its charted position.

The W side of Ulugan Bay is high, broken by three inlets. The shoreline is rocky, steep, and cliffy. Several small rivers flow through mangroves and empty into the head of the bay.

Channels lead into the rivers, so that small craft with local knowledge at HW, can reach some inland villages. The farthest N inlet of the three inlets has a channel 11m deep leading towards its head.

The E side of Ulugan Bay, S of **Dalrymple Point** (10°07'N., 118°49'E.), is low and covered with mangroves. From Dalrymple Point S to Wood Point, 5 miles SSW, depths of less than 5.5m exist on the foul rocky ground lying as far as 0.75 mile offshore.

A Philippine Naval Station (10°01'N., 118°47'E.) is estab-

Philippine Naval Station

lished at the head of Ulugan Bay near the Baheli River. The station consists of a white tank and several buildings with a pier, 200m long.

11.33 Oyster Inlet (10°04'N., 118°46'E.), on the W side of Ulugan Bay, is entered W of the S end of Rita Island. Depths decrease from 35m in the entrance to 16.5m at points lying 1 mile from the head of the bay.

The Philippine Navy has established a fueling pier in the deeper water of Oyster Inlet.

Anchorage can be taken 0.25 mile S of Rita Island during the Southwest Monsoon, in a depth of 37m, stiff mud. A better anchorage is available in Oyster Inlet with the N entrance point aligned 071° with **Tidepole Point** (10°04'N., 118°47'E.).

Directions.—Vessels approaching Ulugan Bay from the N can identify the entrance by the valley between Mount Peel and the high land SW of Cleopatra Needle. The low land at the head of the bay is invisible until fairly close to Piedras Point. The 11.4m patch lying 3.5 miles N of Piedras Point should be avoided.

When approaching the bay from the S, endeavor to be in a position about 35 miles 269° from Northwest Head at daybreak. From this position, vessels can identify the entrance of the bay at considerable distance by Mount St. Paul and Cleopatra Needle on its N side and Mount Peel on its S side.

Care must be exercised to avoid the 11m and 9.1m patches lying about 29 miles W of Northwest Head; the reefs and shoals extending 37 miles SW from Crescent Reef; **Duhme Shoals** (10°06'N., 118°31'E.), and **Gode Shoal** (10°13'N., 118°26'E.).

If bound for Ulugan Bay, or for any harbor N of it on the W side of Palawan, do not approach the coast within a depth of 183m S of the parallel of 10°07'N.

When entering Ulugan Bay vessels should pass about 1 mile N and E of Camungyan Island and 0.25 mile E of Rita Island.

Caution.—Numerous fish traps are encountered in Ulugan Bay. Numerous coral heads may be encountered along the W side of the bay.

Ulagan Bay is a military reservation area. All vessels wishing to enter the area 10°59.0'N, 117°11.4'E must seek approval from the Armed Forces of the Philippines- Western Command (AFP-WESCOM) fourteen days before entering the area.

11.34 Northwest Head (10°08'N., 118°46'E.) is the end of a bold and precipitous promontory that forms the W side of Ulugan Bay.

The head rises about 0.25 mile inland to Northwest Hill and a high rock stands on the N extremity of the head.

Prominent landmarks along this mountainous coast include **Mount Peel** (10°00'N., 118°43'E.), a bold and rocky peak with sharp ridges and deep ravines extending from its N and W sides.

Karsoglan Hill (10°03'N., 118°44'E.), near the coast, is angular and connected to Mount Peel by a low ridge.

Mount Airy (9°57'N., 118°41'E.), with twin summits, stands on a low ridge connecting Mount Peel with **Mount Herschel** (9°55'N., 118°38'E.).

Mount Beaufort (Mount Bauifort) (9°48'N., 118°38'E.), the northernmost peak of a mountain range extending to the head of Ulugan Bay, has a depression in its dome-shaped summit.

Thumb Peak (9°48'N., 118°36'E.), with a dome-shaped summit, is prominent.

Mount Stavely (9°44'N., 118°33'E.), with a pinnacle summit rising from the center of its table top, is the southernmost peak of three remarkable peaks.

Anepahan Peaks (9°37'N., 118°27'E.) are two peaks of equal height with the N peak the sharper of the two. Several round-topped hills, standing on sloping terrain between the peaks and **Long Point** (9°39'N., 118°20'E.), are usually visible when mountains and peaks are hidden in clouds.

A high range of prominent mountains extend from the SW side of Ulugan Bay to a position about 12 miles ENE of Long Point. The rocky coast to Table Point is formed of cliffs rising high close inland.

Table Point (10°00'N., 118°39'E.) is a conical hill with a detached rock lying close off it. There is a conspicuous square patch on a hillside about halfway between Northwest Head and **Escabrosa Point** (10°04'N., 118°44'E.).

Within the 200m curve which lies about 35 miles W of Northwest Head and about 18 miles NW of Hummock Point, there are numerous coral patches with depths of 0.3 to 18.3m. Many of the detached, isolated shoal patches are subject to changes of position through reported observations and without doubt, uncharted dangers exist in the area.

Because of the multiplicity of these dangers, no attempt is made to describe them. Vessels are advised to remain outside the 200m curve unless possessed of local knowledge.

11.35 The **Hen and Chickens Islands** (9°58'N., 118°37'E.), a small group of islets and rocks, lie 1.5 miles W of **Sprat Point** (9°58'N., 118°39'E.).

The coast from Table Point forms an open bight ending at **Bluff Point** (9°55'N., 118°36'E.), a spur of Mount Herschel.

The coast between Bluff Point and **Long Point** (9°39'N., 118°20'E.) is rocky and backed by high mountains.

Penacosa Point (9°46'N., 118°31'E.) is the site of a pier about 40m long with a depth of 3.4m alongside its outer end.

The settlement of Napsahan (Anepahan) is located about 3 miles SW of the pier and close E of a rocky point.

Off wooded and rocky Long Point lie North Rock and **South Rock** (9°42'N., 118°23'E.), the former nearly covers at HW, the latter is high and steep-to. There are detached shoal patches, with a least depth of 3.7m, lying as far as 2 miles offshore in the vicinity of Napsahan.

From Long Point, the coast trends in a SW direction about 35 miles to Hummock Point. The 20m curve lies about 0.2 mile off Long Point and up to 2.5 miles in other places. Isolated depths less than 18.3m lie 10 to 12 miles offshore; their positions may best be seen on the chart.

From the impressive **Victoria Peaks** (9°22'N., 118°20'E.), 1,709m high, a range extends 12 miles NE to high land SE of Long Point. Many minor ranges and spurs, divided by densely wooded ravines and gorges, lead to the coast.

End Peak, 1,357m high, a conspicuous double-tipped peak, rises 7.5 miles SW of Victoria Peak.

Cuckold Hill (9°29'N., 118°13'E.), high and prominent, rises close to the coast 13 miles SW of Long Point.

Palawan—West Coast—Northwest Head to Hummock Point

11.36 Apurauan Point (9°36'N., 118°20'E.), a low bluff 3 miles S of Long Point, forms one entrance point of a small bay. Close within the point is Apurauari, a village. The coast in the vicinity of the point, and as far as 1 mile offshore, is foul.

Hamburger Rock, awash, lies 1 mile offshore, 3.25 miles SW of Apurauan Point. Several other dangers lie between this rock and Apurauan Point.

Moorsom Point (9°33'N., 118°17'E.), located about 4.75 miles SW of Apurauan Point, is a moderately-high and prominent headland. There are above and below-water rocks lying up to 1 mile offshore.

Peaked Island (9°30'N., 118°12'E.), 6 miles SW of Moorsom Point, lies on a partly drying reef extending E to the coast; the area around the island is foul.

Bluff Point is located 5 miles SW of Moorsom Point, and Steep Point lies 4 miles farther SSW.

Bahia Honda is entered between Steep Point and Bahia **Honda Point** (9°24'N., 118°07'E.), 4.25 miles SW. The bay has depths of 18.3 to 22m, 0.5 mile off the shores. A shoal, with a depth of 3.7m, was reported to lie approximately 2.75 miles NNW of Bahia Honda Point.

An isolated patch, with a depth of 0.6m, is charted midway between Steep Point and Bahia Honda Point; other dangers are charted in the area. Local knowledge is required to enter, however, it is reported that **Back Cap** (9°17'N., 118°05'E.), bearing 196°, open of the low land near Bahia Honda Point, leads W of the dangers between Peaked Island and Bahia Honda Point.

From Bahia Honda Point the coast trends SSW 4.5 miles to an unnamed point; **Double Island** (9°22'N., 118°05'E.) lies in the bay formed between these points.

Treacherous Bay, formed between the unnamed point and **Durudeen Point** (9°18'N., 118°02'E.), 4.25 miles SW, is fronted by reefs, and encumbered with shoals; it should be avoided. Devils Cap, a prominent yellow cliff, and Back Cap, back the low, densely wooded coast.

11.37 Palm Island (9°23'N., 118°03'E.), 30m high, lies off the entrance to the bay, 4.75 miles WSW of Bahia Honda Point. Patelan Island and Tidepole Island lie 1 mile SE and 1.25 miles SSW, respectively, of Palm Island. There are several shoal patches W and NW of Palm Island.

Bajallanura Island (9°18'N., 117°59'E.), which is low and flat, lies 3 miles WSW of Durudeen Point. Reefs, which dry in places, fringe the island and extend 0.25 mile N and NW from it.

11.38 Malanut Bay (9°17'N., 118°00'E.), affording shelter to vessels of moderate draft with local knowledge, is entered between Bajallanura Island and Albion Head, 1 mile SW. Albion Head is a bold, sheer, and thickly wooded headland with several high hills.

A reef, with depths of less than 1.8m, lies in mid-channel N of Albion Head, and a patch, with a charted depth of 0.6m, lies 1 mile NE of Bajallanura Island.

The channel NE of the reef N of Albion Head is 0.15 mile wide, with depths of more than 11m. The best time to enter the bay is at LW, when the reef fringing the W side of Bajallanura Island is dry. The N extremity of Albion Head should be given a wide berth.

11.39 Quezon (9°15'N., 117°59'E.), a town, stands at the head of Malanut Bay near the site of Alfonso XIII, an old military post. There are settlements nearby. A pier, reported in ruins, its outer end drying at LW, is located at Quezon.

A light is shown from the shallows, in 1.5m, 0.4 mile N of the jetty.

Triple Cima Island (9°19'N., 117°56'E.), the outer island in the approach to Malanut and Nakoda Bays, is located 2.75 miles NW of Albion Head.

The island has three peaks which rise to 50m. It is fringed by a reef, and depths of less than 5.5m extend 137m from its SE end; a 5.5m patch lies 0.1 mile SSW of the same extremity.

Numerous shoals lie in the vicinity of Triple Cima Island, some of which are reported to be steep-to; their positions may best be seen of the chart.

Nakoda Island, Mariquit Island, and Maricaban Island extend S from a position about 1 mile S of Triple Cima Island; Sirinao Island, 85m high, lies with its NW extremity, 0.6 mile NE of Nakoda Island.

Nakoda Bay (9°17'N., 117°57'E.) is formed by the above islands on the N, NW, W, and SW sides and by the peninsula which extends SW from Albion Head. The bay may be entered between Albion Head and Sirinao Island, about 0.9 mile NW.

This passage, about 0.1 mile wide with a least depth of 7.3m, passes close S of Sirinao Island.

The preferred entrance is between Sirinao Island and Nakoda Island; it is 0.4 mile wide with a depth of 12m.

An isolated reef, which uncovers, lies 0.4 mile SSE of the N extremity of Nakoda Island.

Small vessels, with local knowledge, can anchor 0.2 mile SW of the S extremity of Sirinao Island, in a depth of 7.3m; it is protected from the Northeast Monsoon.

In the Southwest Monsoon, vessels should anchor SE of Nakoda Island, taking care to avoid the reef to the E.

Palawan—West Coast—Hummock Point to Cape Buliluyan

11.40 From **Hummock Point** (9°16'N., 117°54'E.), the

coast trends in a general SW direction about 72 miles to Cape Buliluyan, the S extremity of Palawan. The 20m curve lies up to 4.5 miles off parts of this coast and the 200m curve lies up to 18 miles offshore.

There are many isolated shoal patches, with depths of 2.7m and less, between the 20m and 200m curve and breakers everywhere. A wooded mountainous range exists near the center of Palawan, terminating about 27 miles N of Cape Buliluyan.

Hummock Point rises close inland to Point Hill; it is the farthest N peak of a low range extending 5 miles in a SW direction, terminating in a hill with three summits. A high wooded mound rises from the plain SW of this range; other hills of nearly the same elevation lie between this range and False Sharp Peak.

Marantao Island (9°16'N., 117°52'E.), 75m high, lies near the edge of the coastal reef, 1 mile W of Hummock Point. Malapackun Island, located 1.5 miles SW of Marantao Island, rises to a height of 104m; the island has a tree covered double summit. Malapackun Island was reported to lie 0.75 mile S of its charted position.

Isabel Point (9°10'N., 117°47'E.) lies 9.5 miles SW of Hummock Point. The coast between these points is low and indented by bays, and are separated by low abrupt points from which drying reefs extend up to 0.4 mile.

These bays are mostly free of reefs, with depths of 3.7 to 5.5m close to the shore.

Caution.—Within the 200m curve, which lies 18 to 20 miles NW of Hummock Point and Isabel Point, there are numerous coral heads, some breaking, and all dangerous to navigation. Vessels are advised to remain seaward of the 200m curve without local knowledge.

Among the dangers off this stretch of coast are **Collingswood Shoal** (9°12'N., 117°32'E.), two coral heads with depths of 2.7m and 3.2m. There are many shoals, best seen on charts of the area, lying within 10 miles N and S of Collingswood Shoal.

Scalesby Castle Shoal (9°05'N., 117°18'E.), steep-to, has a least depth of 5.5m. A chain of shoals, with depths of 6.9 to 11m, extend 20 miles NE from Scalesby Castle Shoal and close within the 200m curve. Other off-lying shoals are described with related coastal features.

11.41 Tagbuaya Point (9°08'N., 117°46'E.) lies 2.75 miles SSW of Isabel Point. The point is low and wooded with a small coconut grove near its extremity. A reef extends 0.25 mile from the point; reefs and shoals, with depths less than 5.5m, lie within 1.75 miles WNW and NNW of it. A 1.8m patch lies 1 mile SW of the point.

Tagbuaya Bay is located close S of Tagbuaya Point; the shores of the bay are heavily wooded. Depths in the bay decrease from 15m at the entrance, to a sandy beach at the head. Small vessels with local knowledge can take anchorage in the bay when winds are from the N.

Eran Bay (9°06'N., 117°43'E.) is entered between Tagbuaya Point and Eran Point, 4.75 miles SW. The bay is open to the N and W and is identified by the wedge-shaped and prominent Mount Eran Quoin, which stands 3 miles SW of Eran Point. There are depths of 11 to 16.5m in the bay, however, there are detached shoals, visible at LW, with depths less than 5.5m.

Within Eran Bay there are several smaller bays. In addition to Tagbuaya Bay, which is the farthest W bay, are Bonog Bay, Tagnipa Bay, Banisi Bay and Iraan Bay. These bays are separated by low abrupt points.

Iraan Bay (9°05'N., 117°42'E.) lies between Eran Point and Banisi Point, a low, wooded point about 2 miles SE.

This bay lies in the SW part of Eran Bay. A drying reef extends 1.25 miles N from Banisi Point, but the bay is open N. It affords good anchorage in S winds.

Drying coral reefs lie on both sides of the bay which has a sandy beach at its head. Depths in the bay decrease from 14.6m gradually towards the beach.

Eran Point (9°05'N., 117°41'E.) is low, narrow, and densely wooded. A drying reef extends 0.5 mile offshore from the point; mangroves cover the inner end of the reef.

Between Eran Point and Mapankal Point, 12 miles SW, the coast is low and densely wooded, and is fronted by numerous dangers which lie up to 18 miles offshore. Reefs, which dry in places, extend up to 0.75 mile offshore. A number of small bays, entered through breaks in these reefs, indent this coast.

11.42 Mantaya Bay (9°05'N., 117°41'E.) is entered between Eran Point and Mantaya Point, a low, wooded point 1.75 miles SSW. Depths decrease from 9m at the entrance to the sandy beach at the head. Coral heads, with depths of less than 9m, extend 2.75 miles N of Mantaya Point.

Punta Baja Harbor (9°03'N., 117°38'E.) is entered between **Baja Point** (9°04'N., 117°39'E.) and Tarumpitao Point, located 1 mile SW.

A black can buoy, with radar reflector, marks the 5.5m curve, 1 mile NW of Baja Point. The harbor entrance, 137m wide, has depths of 16.5 to 18.3m while there are depths of 7m in the middle of the harbor. Only one small coastal vessel at a time can be accommodated. Only vessels with local knowledge should attempt entry.

Kinalang Bay (9°02'N., 117°37'E.) is entered between Tarumpitao Point and a point 1 mile SSW. This very small bay affords shelter from W and NE winds. There are extensive shoals, with a least depth of 4.1m, lying 0.75 mile NW of the entrance. The bay has a depth of 14.6m in the entrance and is deep within where there is a pier, with a depth of 1.8m alongside.

Tarumpitao Point (9°03'N., 117°38'E.) is the site of a Loran station which is no longer in operation. The buildings and radio masts, the latter painted in red and white and marked by obstruction lights, stand on the point. The cove entrance adjacent to the point is free of dangers as far as two buoys which mark the passage through the reef. Only small vessels with local knowledge should enter the cove and only then during daylight hours and under the most favorable conditions. Anchorage can be taken, in depths of 9 to 11m, in the middle of the cove.

Directions.—The following directions have been submitted by a U.S. Coast Guard vessel traversing the inner route between the Loran station at Talampulan Island and the Loran station at Tarumpitao Point.

This vessel no longer uses Palawan Passage as it is very difficult to take bearings from a position 20 to 30 miles offshore and approach the coast through the reefs with any degree of safety. This is especially so as the summits of the mountains are usually cloud covered.

This vessel consistently uses a passage between the offshore

reefs and the shore reefs. This passage has been made at night by radar, but it is desirable to arrive off **Table Point** (10°00'N., 118°39'E.) in order to arrive at Tarumpitao Point before dark.

No attempt should be made to enter the cove at Tarumpitao Point at night. Depths of not less than 29m have been found along the inner passage.

Vessels depart Talampulan Island on a S course to position 12°03.2'N, 119°50.8'E; then a course of 217° is steered to a position 11°15.2'N, 119°14.1'E.

The course is changed to 208°, passing abeam of **Tapiutan Island** (11°13'N., 119°16'E.), at a distance of 1.75 miles. The island is prominent and makes an excellent radar target.

A long straight run on the last-named course with good radar targets for night navigation is available. Mount Capoas is prominent.

All the islands and points make good radar targets at night and visual bearings during the day.

Mount Peel is a perfect pyramid shape at a great distance.

11.43 Dry Reef (10°00'N., 118°36'E.) should be passed at a distance of 2.75 miles. Bluff Point and **Shirt Point** (9°51'N., 118°34'E.) afford good radar targets. At position 9°51.7'N, 118°29.6'E the course should be altered to 224° passing Long Point at a distance of 1.75 miles.

South Rock (9°42'N., 118°23'E.) is visible and is a radar target.

At position 9°34.5'N, 118°13.5'E, the course should be altered to 235°. Peaked Island can be used for ranges and bearings. Cuckold Hill is conspicuous and stands in the center of a valley. Palm Island, three pyramid hills, Marantao Island and Malapackun Island afford good bearings and radar ranges, even the small rock inshore of the latter island is conspicuous.

Devils Cap and Back Cap are also prominent. Having arrived 4.5 miles WNW of Hummock Point or at position 9°19.1'N, 117°50.8'E, the course should be altered to 226° so as to pass abeam of Isabel Point at a distance of 2.75 miles to a position 3.5 miles NNW of Eran Point.

Mount Eran Quoin, the site of an old air strip, is prominent and appears to rise straight up and sloping back at the far side, appearing as a wedge. Shoal water has been sighted in the vicinity of the 2.7, 6.8, and 5m patches.

The inshore area between Malapackun Island and Tarumpitao Point is dangerous and should not be approached closer than 2 miles. When the center of the Loran station buildings bears 125°, course should be altered to 130°.

On approaching the shore the two buoys marking both sides of the channel entrance will be sighted. Vessels should steer in between the two buoys, using great caution to avoid the dangers on either side.

Malakibay Bay (8°58'N., 117°34'E.) is entered between Campong Olay Point, located 5 miles SSW of Tarumpitao Point, and Mapankal Point, 2.5 miles SW.

The bay affords shelter for small vessels from SW winds. There are numerous dangers fronting the bay and adjacent coast that lie as far as 18 miles offshore. Drying reefs lie up to 0.75 mile seaward.

The W part of the bay is encumbered with shoals; the E part is clear, with depths of 9m decreasing to the shore which is fringed by a drying reef.

Mount Landargun and **Mount Gantung** (8°58'N., 117°49'E.) are the two highest mountains in the central range which extends 20 miles NE from **Mount Mantalingajan** (8°49'N., 117°49'E.).

False Sharp Peak, which may be mistaken for Sharp Peak, rises close inland of Eran Bay.

Mount Calibugon (8°59'N., 117°49'E.) is a table-topped mountain with a sharp nipple on its summit. Waterfall Peak, a bare, rocky shoulder, from which there is usually a waterfall, is located between False Sharp Peak and Mount Gantung.

11.44 Pampandugang Point (Mapankal Point) (8°57'N., 117°33'E.) is fronted by shoal water to a distance of 1.25 miles; the 20m curve lies 2 miles offshore. Tatub Point lies about 17 miles SSW of Mapankal Point.

From Mapankal Point, the coast trends 5.25 miles SSW to Sicud Point (Jervois Point), at low sandy point. A reef which dries at LW springs, extends 0.4 mile WNW from the point.

Culasian Bay (8°52'N., 117°29'E.) is entered between **Sicud Point** (8°53'N., 117°29'E.) and Bacao Bacao Point, about 2.5 miles SSW. The bay has a sandy beach backed by a wooded plain.

The Culasian River discharges through the reef close E of Bacao Bacao Point. The Conduaga River enters the bay about 1 mile NE of the point.

Brechtel Shoal (8°53'N., 117°26'E.), with a least depth of 5.5m, lies in the approach to the bay. Numerous reefs, some partly drying, lie between Brechtel Shoal and the head of the bay.

Three high hills rising within 3.5 miles NE and SW of the bay entrance points, as well as one hill within each entrance point, are good landmarks.

Anchorage can be taken, in a depth of 7.3m, 0.5 mile NNW of the entrance to the Conduaga River.

Arapitan Point (8°48'N., 117°26'E.), also known as McLean Point, is located 3.75 miles SSW of Bacao Bacao Point. From Arapitan Point the coast trends 1.75 miles SW to Balintang Point; a reef extends up to 0.5 mile offshore between these points.

11.45 Marasi Bay (8°46'N., 117°24'E.), charted as Bulaloc Bay, is entered between Balintang Point and Tatub (Pinos) Point, a bluff head 4 miles SW.

Dita Dita Island lies about 1 mile W of Balintang Point and is joined to the point by a drying reef.

Datag Islet and Bucid Islet are two sandstone islets lying on a drying reef, 1 and 1.5 miles ENE, respectively, of Tatub Point. Reefs that are visible extend E and W from these islets. A constricted winding channel, with a least depth of 3.7m, leads between these reefs and the foul ground S. Numerous dangers, best seen on the chart, lie in the approach to Marasi Bay which is encumbered with shoals.

A channel, with a least depth of 18.3m, leads 1.5 miles SW of Dita Dita Island and through an opening 0.1 mile wide, in the reef extending WSW from Balintang Point.

This opening leads to an excellent anchorage for small vessels, in a reported depth of about 18.3m, ESE of Bucid Islet. Protection from N is afforded by a reef which has some above-water rocks on it.

Between **Mapankal Point** (8°57'N., 117°33'E.) and Tatub Point include **Vanguard Shoal** (8°55'N., 117°16'E.), 17 miles

WSW of Mapankal Point; Merlin Shoal Patches, 3 miles SSW of Vanguard Shoal, with depths of 3.2 to 11m; and **Paragua Ridge** (8°57'N., 117°12'E.), 4 miles NW of Vanguard Shoal, a narrow, elongated coral ridge with a least depth of 9.1m. An isolated 10.1m patch lies 1.5 miles SW of this ridge.

11.46 From Tatub Point the coast trends SSW 13 miles to **Gandan Point** (8°34'N., 117°14'E.), which is the cliffy termination of a wooded promontory.

Cliff Point (8°42'N., 117°20'E.), marked with a red cliff, lies 3.5 miles SSW of Tatub Point. A hill rises to a height of 102m, 1.25 miles SE of the point.

Tagbita Bay (8°41'N., 117°20'E.) is entered between Cliff Point and Providencia Point, 3 miles SSW; the coast between these points is fringed with drying coral reefs.

The bay is fronted by dangerous reefs. Perigee Shoal, lies 3.25 miles SW of Cliff Point and breaks during strong winds. Coloby Shoal, with a charted depth of 5.5m, lies 3.5 miles NW of Cliff Point. Many shoals, with depths of 1.2 to 9.1m and covered with seaweed, lie in the approach to Tagbita Bay. In the bay there are depths of 13 to 15m.

Anchorage, protected from the Northeast Monsoon, can be taken, in a depth of 14.6m, SW of Cliff Point.

Latud Point (8°38'N., 117°16'E.) lies 2.25 miles SW of Providencia Point. The coast between these points is fringed by a drying reef which extends up to 0.6 mile offshore.

Simagup Bay, its entrance almost closed by reefs, lies between Latud Point and Siacle Point, 1 mile SW. Siacle Point may be identified by wooded hills and by a steep cliff. Above and below-water shoals extend off both points.

Canipan Bay, fronted by a drying reef and encumbered with shoals, is entered between Siacle Point and Gandan Point, the end of a cliffy promontory. At HW, small vessels transit the river emptying into the head of the bay.

There are several dangers lying off the coast between Tatub Point and Cape Buliluyan; these shoals are named from N to S.

Northeast Antelope Shoal (8°46'N., 117°14'E.), steep-to, with a least depth of 3m, lies 8 miles WNW of Tatub Point.

Antelope Shoal, an extensive area of shoals and coral heads, with a least depth of 2.7m, is located close SW of Northeast Antelope Shoal.

Breaker Reef (8°41'N., 117°09'E.), with a least charted depth of 1.5m, is about 0.3 mile in extent; it lies 8.5 miles WNW of Providencia Point. North Regent Shoal, with a depth of 2.7m, lies 5 miles SW of Breaker Reef, and Herefordshire Shoal lies 5 miles farther SW.

South Regent Shoal (8°32'N., 117°05'E.), 9 miles WSW of Gandan Point, has a depth of 2.7m and breaks. Breakers form on a shoal area with a charted depth of 3.7m, 3 miles NE of South Regent Shoal.

Kamonga Shoal, with a depth of 3.7m, lies 3.5 miles ESE of South Regent Shoal. Shallow Shoal, a 5.5m patch with possibly less depth, lies 3.5 miles S of South Regent Shoal. A shoal patch, depth unknown, lies 1 mile NW of Shallow Shoal.

11.47 Neritopsis Reef (8°39'N., 116°55'E.), approximate position, lies 23 miles W of Providencia Point. It has a depth of less than 1.8m.

Murex Shoal (8°29'N., 116°56'E.) lies 19 miles WSW of Gandan Point; this position is doubtful. So far as is known, Murex Shoal is the farthest S of the outer dangers off the W coast of Palawan.

From Gandan Point the coast trends SSW 6.5 miles to **Reposo Point** (8°28'N., 117°13'E.). The intervening coast is mostly bordered by mangroves and is fringed by a steep-to reef, which dries and extends 0.75 mile seaward in places. From Reposo Point the coast extends 8 miles farther SSW to Cape Buliluyan.

Mount Wangle (8°27'N., 117°14'E.) rises to a height of 262m, 1.75 miles SE of Reposo Point. It is a prominent peak with a small triple summit.

Escarpado Peak, 11 miles NNE of Mount Wangle, reddish colored with a long smooth summit, is the highest peak of the Bulanjao Range.

Canipan Hill (8°36'N., 117°18'E.), a steep conical hill with two peaks 295m high, lies near the E side of Simagup Bay, 9 miles NNE of Mount Wangle; it is the most prominent landmark, with the exception of Bulanjao Range, on this part of the coast.

Reposo Point, which may be identified by a sandy beach, is fronted by a drying reef and has shoals extending 3 miles seaward.

Anchorage can be taken about 0.7 mile N of the point, in depths of 7.3 to 9.1m. The anchorage is sheltered from the Northeast Monsoon and the reefs provide some shelter from the Southwest Monsoon.

Capyas Island (8°26'N., 117°11'E.), 21m high, lies on the E side of a reef, 2 miles SSW of Reposo Point. Foul ground and drying reefs lie between the island and the coast, 1 mile E.

Under favorable conditions anchorage can be taken about 0.75 mile E of the island; the approach is through a tortuous channel, and should only be attempted with local knowledge.

Cape Buliluyan (8°20'N., 117°12'E.), the S extremity of Palawan Island, is a low shelving point fronted by mangroves.

The S and E sides of the cape have depths of more than 7m close to, but the W side is fringed by a drying reef which extends up to 0.5 mile offshore, with depths of 11m, mud, close to the edge. There are several coral patches, with depths of 7.3 to 13.7m, between the W side of Cape Buliluyan and the bank extending N from **Patonggong Island** (8°19'N., 117°08'E.).

Palawan—East Coast—General Remarks

11.48 The E coast of Palawan is indented by several open bays backed by lowland areas ranging from 1 to 6 miles inland. Many small rivers flow down from steep, mountain ranges inland to the lowlands. The mouths of these rivers are fronted by continually shifting sand bars.

Puerto Princesa (9°44'N., 118°44'E.), the principal port on the E coast, is an excellent natural harbor with fertile terrain surrounding it and is described in paragraph 11.73.

The approaches to the E coast of Palawan are difficult due to the numerous small islands, reefs, and shoals which lie as far as 20 miles offshore. The mountain peaks, when visible, and the many coastal islands, afford ready marks for navigating the various channels.

Winds—Weather.—The Northeast Monsoon and the Southwest Monsoon each prevail about 5 months of the year in Palawan and vicinity. Interruptions in the monsoons are more frequent in the S part of the island, and the topography may modify the prevailing wind. Along the E coast of Palawan the

Northeast Monsoon and the Southwest Monsoon are replaced at sundown by the land breezes which are felt up to 15 miles offshore. This occurs even when the monsoon season is fully developed.

The Northeast Monsoon commences in October and is fully established by the early part of November. It continues until April. The direction of the wind is mainly between N and NE. Towards the end of the season it becomes more easterly. The most steady winds occur during January and attain a velocity of 15 knots.

The Southwest Monsoon, following a transition period of variable winds and calms, prevails from June to October.

Generally speaking the winds of this monsoon are not as steady as those of the Northeast Monsoon. The most steady winds occur in July and August and attain a velocity of 10 to 15 knots. In S Palawan the close of the season of the Southwest Monsoon invariably brings strong and violent winds during the first days of October. A further transition period precedes the onset of the Northeast Monsoon.

Squalls and thunderstorms are prevalent during the Southwest Monsoon particularly near the land. Strong and squally SW or W winds (known locally as collas) sometimes blow for 10 days at a time during summer and early autumn. These squalls are accompanied by a fine driving rain which has the density of mist in S Palawan.

Waterspouts are found between Palawan and the Cuyo Islands and occur in the coastal area N of Tami Point.

Typhoons move from E to W but are not frequent over the greater part of Palawan. The frequency increases with the latitude. Between the parallels of 8° to 11°N, only about 7 per cent of the serious typhoons are experienced in the Palawan area.

Between the parallels of 11° to 13°30'N, typhoons are more frequent and often more destructive. About 19 per cent of the serious typhoons are experienced in this area which includes the N part of Palawan.

The main track of the typhoons moves progressively N from February until the middle part of August and then S again until January. This results in typhoons moving W of winter and spring generally striking the Philippines S of the parallel of 15°N.

In the N and S parts of Palawan there are two pronounced seasons, the dry season occurring in winter and spring and the wet season occurring in summer and autumn. In the central part of the E coast of Palawan there is no pronounced rainy season. There is a short dry season that lasts from 1 to 3 months. This season sometimes occurs between January and April. Often there is no rain during February and March.

Tides—Currents.—Tides are mainly diurnal, HW and LW occurring once a day. However, on a few days in each month there are two HWs and two LWs. At springs, from June to August, the highest tides are about 1.5m above datum. At these times the lowest water is about 0.2m below datum. Lowest tides occur at springs from December to February when the tide may fall nearly 0.5m below datum.

The currents off the E coast of Palawan depend chiefly on the force and direction of the prevailing wind. During the Northeast Monsoon the current sets strongly S between Palawan and the Cuyo Islands, the maximum velocity being about 1.5 knots. Because of this current, vessels bound for ports in China are advised to use Palawan Passage.

The flood current sets ESE and the ebb current sets WNW in the channel between Linapacan Island and adjacent islands and the N part of Palawan. The maximum rate is 3 knots.

Along the N part of the E coast of Palawan, the flood current sets S and the ebb current sets N. The maximum rate is 1.5 knots. The flood current sets SE along the S part of the E coast of Palawan.

The E current entering through Balabac Strait turns NNE well offshore of the E coast of Palawan and spreads itself like a fan over the Sulu Sea in a NE and E direction. It forms the E current between the Cuyo Islands and Panay. This current is reported to meet the flood current from Surigao Strait approximately on the meridian of the Cagayan Islands.

This area generally experiences medium to low seas and moderate to low swells from the NE from November to April. The most disturbed sea conditions occur during this period because wind velocities are higher than at any other time of the year. From May to October the sea and swell are predominately from the SW.

Caution.—Vessels not wishing to communicate with ports on the E coast of Palawan should give the coast a wide berth. Vessels bound for China should use Palawan Passage in preference to the E coast route.

The directions given for approaching and entering the various E coast ports are used by the surveying vessels and have been found safe, but they are not intended in any way to lessen the necessary precautions which are required by good seamanship in navigating through reef-strewn waters.

Palawan—East Coast—Cabuli Point to Flechas Point

11.49 Cabuli Point (11°25'N., 119°30'E.), the NE extremity of Palawan, is located 1.75 miles ESE of Libro Point, the N extremity of the island. Cabuli Point is a wooded high headland with steep cliffy shores. From this point the coast trends in a S direction about 63 miles to Flechas Point. In the intervening coast there are numerous coves and bays, with many off-lying islands and dangers.

Reefs, which bare at LW, are reported to lie up to 0.75 mile offshore. The 20m curve lies up to 8 miles offshore and encompasses several islands and shoal patches.

North Hill (11°24'N., 119°30'E.), with a flat summit, rises to a height of 285m just over 1 mile S of Cabuli Point, and a hill 294m high, 1.25 miles W, are both prominent. To the S of these hills lies a ridge rising to a height of 366m. The coast of the promontory is bold, with only two small stretches of mangroves on the E side, the rest is either rock or steep sandy beaches fringed with coral.

11.50 Cabuli Island (11°26'N., 119°30'E.) is separated from Cabuli Point by a narrow channel with a charted depth of 10.4m; a rock, awash, lies in the fairway. The island is 139m high, with a flat summit, and is steep-to on all sides.

The **Brother Islands** (11°24'N., 119°31'E.), two islets, lie about 0.5 mile apart, with the N islet 1 mile SE of Cabuli Point. The channel between the two islets has a depth of 22m. Shoals lie off the S part of the S islet.

Darocotan Island (11°22'N., 119°32'E.), 70m high, lies 1 mile offshore, 1.75 miles SSE of the Brother Islands.

Darocotan Point, a rocky headland rising to 206m, 0.75 mile S of its N extremity, forms the S entrance point to Darocotan Bay.

A shoal spit and detached shoal patches lie between the island and NW toward the mainland.

Rocks, awash, lie on a foul area extending 1 mile S from the island.

Anchorage can be taken, in a depth of 14.6m, mud, in midchannel between the W side of Darocotan Island and the village of Tiniguiban, about 1.25 miles WSW. The approach should be made from the NE by passing about 0.5 mile NW and W of the island. A least depth of 9.1m is found in this approach.

Darocotan Bay (11°21'N., 119°32'E.) is fringed by reefs and fronted by shoals. The S part of the bay is foul. There are two islets close N of Darocotan Point and two rocks lying as far as 2.5 miles SE of the point. A rock, awash, lies 4 miles SSE of the same point.

From **Darocotan Point** (11°21'N., 119°33'E.) the coast trends 8.5 miles S to Imorigue Bay, which is foul, and lies between the NW side of Batas Island and Palawan.

From the N entrance to Imorigue Bay the coast trends in a general S direction for a distance of 3 miles to Silanga Point.

The coast between these points is fronted by many islands and dangers.

11.51 East Peak (11°18'N., 119°32'E.) rises to a height of 525m, 3 miles SSW of Darocotan Point. It is a cone shaped mountain that is prominent from N and E, but not generally visible from W until a considerable distance offshore. Silanga Peak, 468m, lies 3 miles NNW of Silanga Point and Shark Fin Peak, 554m high, lies 5 miles WNW of Silanga Peak. A ridge extends 3.5 miles SSW to a sharp shoulder 335m high.

The islands and dangers lying within an imaginary line drawn in an ESE direction from the N extremity of Cabuli Island to the E end of Barangonan Island, then in a SSE direction to the E extremity of Dumaran Island, are described with related coastal features. Vessels not bound for the various bays or anchorages on the NE coast of Palawan usually pass seaward of these islands and dangers.

Linapacan Island (11°27'N., 119°49'E.), 13 miles ENE of Cabuli Point, is the largest of an extensive group of islets, rocks, islands, and reefs lying between the NE coast of Palawan and the S end of Culion Island.

The island has an extremely irregular coast which consists almost entirely of a series of bays separated by high steep and salient points. The head of the various bays have sandy beaches backed by mangroves. The island is rugged and mountainous.

Linapacan Strait and the islands and dangers N of Linapacan Island are described beginning in paragraph 10.24.

11.52 North Bay (11°29'N., 119°48'E.), entered SW of **Bulawan Point** (11°31'N., 119°49'E.), the steep-to N extremity of Linapacan Island, has an entrance about 2.5 miles wide. The bay, mostly deep with some 10.1 to 12.8m patches in the middle, is open to NW winds. The head of the bay is divided into three small coves by two projecting points.

Vanguardia Islet (11°32'N., 119°44'E.), a small steep-to islet, lies in the immediate approach to North and Northwest Bays. The islet is a good landmark.

Alerta Rock (11°31'N., 119°45'E.), lying about midway between the entrances to North and Northwest Bay, is a good entrance landmark.

Above and below-water rocks lie on a bank which extends S and SE to a point on the coast. Several other off-lying dangers lie off the NW part of Linapacan Island. These dangers can be avoided by giving the coast a berth of not less than 1 mile.

Anchorage can be taken, in depths of 10m and over, in the middle of North Bay. Small craft anchor in the outer part of three coves at the head of the bay, in depths of 11 to 12.8m, mud.

11.53 Northwest Bay (11°29'N., 119°45'E.), close W of North Bay, has an entrance about 2 miles wide and general depths of 27 to 42m. A small, low island lying on the E side of the entrance constricts the entrance channel to a width of about 1 mile. The bay is open to NW winds.

Sheltered anchorage can be taken in the E arm of the bay in an area about 0.4 mile wide, where the depths are 33 to 35m, mud. Care must be taken to avoid the rocky spit extending from shore about 0.5 mile SE of the small, low island in the entrance.

The coast between Bulawan Point and the NE extremity of the island consists of a series of reef-filled coves, fronted by the 20m curve which trends about 0.2 mile offshore. The E coast, about 8 miles long, terminates at high, bold **Sidsid Point** (11°23'N., 119°50'E.). An above-water rock lies about 2 miles NE of the point, and a cluster of similar rocks lie 0.75 mile SW.

Patoyo Island (11°30'N., 119°53'E.), easily recognized by the twin peaks rising near its N end, is the largest of the three islands lying close off the NE end of Linapacan Island. The island is reef-fringed.

Maapdit Island and **Ile Island** (11°29'N., 119°52'E.), lying close together SW of Patoyo, form a small bay bound E and W by Patoyo Island and Linapacan Island.

The channel between Patoyo Island and Maapdit Island is about 0.3 mile wide with a depth of about 35m in the middle. The small bay has an area of 0.2 mile with depths of 12.8 to 16.5m.

Anchorage, protected from SW winds, can be taken, in 24 to 31m, in the bay off the town of **San Miguel** (11°30'N., 119°52'E.). Moderate tide rips occur E of Ile Island.

Sabino Reef (11°30'N., 120°00'E.), Bacang Bank, Hidong Island, and Mayokuk Island are all dangers lying within 6 miles of the E side of Patoyo Island.

The SW side of Linapacan Island is about 9 miles long between its NW end and **Sidsid Point** (11°23'N., 119°50'E.), its SE extremity.

11.54 Colaylayan Bay (11°27'N., 119°44'E.), entered 2 miles SE of the NW extremity of Linapacan Island, is reduced in size by fringing reefs; it affords good anchorage to small vessels, in a depth of 27m.

Cagdanao Island (11°27'N., 119°43'E.), and an islet 0.75 mile W, lie in the entrance of the bay. A deep, clear channel lies between Linapacan Island and Cagdanao Island.

Gintu Island (11°25'N., 119°43'E.) lies 1.5 miles S of Cagdanao Island. Gintu is reef-fringed, with an islet lying 0.75 mile NNW of its N end. Rocks, reefs, and detached shoal patches, best seen on the chart, lie in the channel between Gintu Island and Calibang Island, lying about 3 miles W.

South Bay (11°24'N., 119°47'E.) is entered about 1 mile SE

of **Bubulauan Point** (11°24'N., 119°46'E.), the W entrance point. Depths of over 18.3m exist in the middle of the bay which consists of two arms. The bay is reef-fringed and fronted by dangers including two islands lying close off the E shore. Foul ground extends almost 1 mile W of the E entrance point; Goson Reef, lying 1.25 miles SW of the same point, is an approach danger.

Sheltered anchorage can be taken in the outer part of the NE arm of South Bay, where there are depths of 26 to 33m, mud.

Base Rock (11°33'N., 119°39'E.), with two other above water rocks, lie up to 6 miles NW of the NW end of Linapacan Island.

Malubutglubut Island (11°30'N., 119°41'E.) is separated from Linapacan Island by a deep channel clear of dangers except for a 16.5m, or less, shoal patch. A strong wind-driven current sets through the channel.

Three small islands lie on a reef extending 1.75 miles SW from the S end of Malubutglubut. Islets and a high rock lie close off the SW island.

Calibang Island (11°25'N., 119°39'E.) is the largest island off the W side of Linapacan Island. Emilia Bay indents the N side of the island. Rocks, above and below-water, lie N and as far as about 1.5 miles SE of Calibang Island. The channel E of the island is obstructed by detached shoal patches.

Barangonan Island (11°21'N., 119°42'E.) has a conspicuous double-peaked, barren hill on its SW side.

There are high hills on the E and NW sides of the island. A depth of 11m was reported to exist 0.2 mile SW of the SW end of the island. Dado Rock, with Dado Bank, lie 1.5 and 2.5 miles SE of the island. Primo Reef and Benito Shoal lie 10 and 8.5 miles SE and E, respectively, of Barangonan Island.

Ubaldo Reef, with a depth of 4.9m, lies 5.5 miles SE of Bagambangan Island (described in paragraph 11.56) and Bera Bank, over which a depth of 12.8m is charted. Bera Bank lies 2 miles W of Ubaldo Reef. These dangers are all steep-to.

Tejada Reef (11°08'N., 119°52'E.) is a small steep-to shoal 5.5 miles SE of Ubaldo Reef. Filemon Bank, small and detached, lies 6.5 miles SW of Tejada Reef. All of these islands, rocks and reefs are shown on the chart.

11.55 The **Dalanganem Islands** (10°40'N., 120°15'E.) consisting of two islands and five islets, are rugged, rising vertically from the sea. They lie on the W side of Cuyo West Pass about midway between the NE coast of Palawan and the Cuyo Islands. Calandagan Island is the S and largest island of the group. Mount Dalanganem, at the S end of the island, is a triple-peaked ridge rising steeply, with its S and E slopes barren, showing large boulders along the lower slopes.

The N slope consists of a series of saw-toothed hills. Tudela, a village, stands on a neck of low land connecting the two parts of the island. Nasolot Island and an islet lie close N of Calandagan and appear as a continuation, although separated by a narrow shallow channel.

Maducang Island, lying about 1 mile NNE of Calandagan Island, is separated by a channel 16.5m deep, which provides anchorage under the lee of either island.

Anas Islet, Casirahan Island, Cauayan Island, and **Cambari Island** (10°33'N., 120°05'E.) make up the remainder of the Dalanganem Islands. Cauayan Island, rising in sheer cliffs, lies 2 miles NNW of Casirahan.

Anchorage can be taken, in 16.5 to 20.1m, coral and sand, off the NE side of Calandagan Island. Vessels can also anchor, in 7.4 to 9.1m, on the shoal spit that extends 0.75 mile S of the SW end of the island. These are open roadsteads.

The coast between these two points is fronted by many islands and dangers. The 20m curve, lying from 1.25 to 5.5 miles offshore, encloses Batas Island and Maytiguid Island. The shores, within the curve, are foul.

Iloc Island (11°18'N., 119°40'E.), 256m high, lies 6.25 miles ESE of Darocotan Point. The island has two distinct ranges of hills, separated by a valley; it is thickly wooded, but there is some cultivated land on the S side.

Reefs fringing the island contain rocks and islets off the N and E coast. Detached shoal patches extend off the N extremity of Iloc. Munoz Bay indents the NW side of the island and is backed by a mangrove swamp. A 2.1m shoal lies in the middle of the bay.

11.56 Bagambangan Island (11°15'N., 119°43'E.), 168m high, lies 1.75 miles SE of Iloc Island; it is wooded and fringed by a narrow reef. A rock, 23m high, lies close NE of the island and a rock 27m high, lies on the fringing reef on the W side.

Cone Rock (11°13'N., 119°42'E.), reddish in color, lies 0.75 mile off the SE side of the island.

Little Maosonon Island (11°16'N., 119°42'E.), 42m high, lies 0.7 mile NW of Bagambangan Island.

Maosonon Island, 94m high, partly cultivated, lies 1 mile SW. Both islands are fringed by reefs, except on the W side, which is steep-to; foul ground extends off the S side of each island.

Binulbulan Island (11°15'N., 119°38'E.), 2 miles SE of Iloc Island, may be identified by three distinct peaks which reach a height of 201m. Reefs and shoals encircle the island and foul ground extends 1 mile SSE from the island.

A rocky islet, 47m high, stands on the S extremity of the foul ground, with a 31m islet 0.5 mile N of the above islet.

Deribongan Island (11°11'N., 119°40'E.), 100m high, is a small reef-fringed island situated 3.75 miles SE of Binulbulan Island. An islet, 37m high, surrounded by foul ground, lies 1 mile NNE of Deribongan.

Batas Island (11°10'N., 119°35'E.), 1 mile off Palawan, has two densely wooded peaks; the W one reaches a height of 444m. The island, fringed by reefs, is encircled by many shoals and above and below water rocks.

Imorigue Bay, mostly foul, lies between the NW side of Batas and Palawan.

Malonao Rock (11°13'N., 119°35'E.) lies in the bay's entrance.

Imorigue Island (11°10'N., 119°33'E.), rising vertically, lies midway between Batas Island and Palawan.

Talaotauan Island (11°10'N., 119°32'E.), lying close W of Imorigue Island, is separated from Palawan by a tortuous channel, 0.15 mile wide and 9.1 to 12.8m deep, that connects Imorigue Bay with Shark Fin Bay.

The channel between Talaotauan Island and Imorigue Island is 0.1 mile wide and 3.7m deep.

Maytiguid Island (11°03'N., 119°36'E.), 335m high in its S part, lies 2.5 miles S of Batas Island and is separated from Palawan by Tanguingui Channel, which is foul and has a least width of about 0.1 mile. The shores are fringed with man-

groves, except at the various reefs which extend up to 1.25 miles offshore.

11.57 Shark Fin Bay (11°07'N., 119°35'E.) is formed by Batas, Maytiguid, and the adjacent coast of Palawan. The bay, 6.5 miles long and 2.5 miles wide, has an irregular shoreline mostly fringed by mangroves fronted by coral reefs.

There are numerous detached reefs and shoals on the N and S sides of the bay which is entered through channels from N, NE, and S.

Depths of 14.6 to 37m exist in clear areas leading to the head of the bay, and at least 13m in the NW corner anchorage area.

Oton (11°07'N., 119°30'E.), a village, is located on the shore W of the anchorage.

In the bay, dangers include a detached reef, with several above and below-water rocks nearby, lying 1 mile S of the SW extremity of Batas Island.

Two rocks, awash, lie 1 and 1.5 miles SW of the same point with **Macuao Islet** (11°07'N., 119°32'E.) lying 2 miles SW. Reefs and foul ground extending N and NE from the islet constrict the channel reach leading to the anchorage.

Foul ground and a rock, awash, lie about 1 mile and 2.5 miles N and NNE of the NE end of Maytiguid Island. The fairway leads between these dangers.

Miraya Islet (11°09'N., 119°38'E.), with attendant rocks, reefs and shoals, lies close to the channel within the NE entrance to the bay.

Maalequequen Island (11°10'N., 119°39'E.) lies at the NE entrance and close E of the channel. The area between the island and **Cagdanao Island** (11°10'N., 119°40'E.) is foul.

11.58 Dinit Island (11°01'N., 119°40'E.), in the S approach to Shark Fin Bay, constricts the channel to a least width of 1 mile. There are numerous islands, rocky shoals, and detached patches, best seen on the chart, lying near the approach channels to Shark Fin Bay.

Anchorage can be taken about 1 mile SSW of the S end of Imorigue Island, in depths of 14.6 to 18.3m, mud, with the SW extremity of Batas Island bearing 100°. Smaller vessels can anchor about 0.7 mile NE of Oton, in 7.3m, mud. These anchorages are considered to be the best in this part of Palawan during the typhoon season.

Directions.—Vessels from N should pass in mid-channel between Binulbulan Island and Iloc Island and then pass in mid-channel between the 47.3m islet, located 1 mile SSE of Binulbulan Island, and the 12.5m patch 1.75 miles E. Then they should pass about 0.7 mile E of the E extremity of Batas Island, being careful to avoid the 10m patch located 1.7 miles W of Deribongan Island.

Miraya Islet, in range 192° with the sharp, double pointed peak showing midway in the mountain gap to the S, leads in mid-channel between Batas Island and Maalequequen Island. When the N end of the latter island bears 045°, the course should be altered to 225°, passing about 0.4 mile W of Miraya Islet.

When on range, bearing 251°, between Miraya Islet and Macuao Island, with the S tangent of Batas Island bearing 270°, the course should be altered to about 248°, keeping the N tangent of Miraya Islet dead astern. Vessels are cautioned against getting N of this range because of the many dangers on the N side of the bay.

When the SW tangent of Imorigue Island bears 340°, steer for it until **Malapari** (11°09'N., 119°33'E.) bears 070°.

Then the course should be altered to 280° for a distance of 0.5 or 0.75 mile to the recommended anchorage.

Vessels from S should pass in mid-channel between Dadaiten Island and Binatican Island. Then they should pass either E or W of the reef that lies 2 miles SW of **Dadaliten Island** (11°00'N., 119°42'E.).

Having cleared this reef, vessels should alter course so as to pass in mid-channel between Dinit Island and the SE end of Maytiguid Island. Then a course of 000° should be steered until the S tangent of Malotamban Island bears 090°. Then the course should be altered to 315°, with the 444m summit of Batas Island ahead.

When Miraya Island bears 045°, the course should be altered to 260° with Macuao Island ahead. This course should be held until the SW tangent of Imorigue Island bears 340°, then the previously-given directions should be followed.

11.59 Taytay Bay (10°55'N., 119°33'E.) is entered between Negra Point, the S extremity of Maytiguid Island, and **Santa Cruz Point** (10°49'N., 119°36'E.) 10.5 miles SSW. Nabat Island, 69m high, lies close S of Negra Point; tide rips form in this area.

The bay is cluttered by numerous islands, islets, rocks, and detached shoals. These dangers restrict the navigable channels and are best seen on the chart. Reefs fringe the shore and are fronted by shoals extending up to 2 miles offshore; the shores are mostly mangrove fringed.

A mountain range, with several prominent peaks from 430 to 460m high, extends parallel with the W coast of Taytay Bay, about 2 miles inland.

Depths are ample for coastal vessels in the constricted channels leading to anchorages off the local villages, and the town of **Taytay** (10°50'N., 119°31'E.), which has an old Spanish fort that is prominent, where medical services are available.

Silanga Bay (11°01'N., 119°35'E.) is located in the N part of Taytay Bay, and is formed between Maytiguid Island and Silanga Point. The N and E parts of the bay are foul and the W shore is fringed by a drying coral reef. Depths of 22 to 29m exist in the outer part of the bay, clear of a 3.2m shoal patch.

Anchorage can be taken in Silanga Bay, about 0.75 mile SE of Silanga, in depths of 18.3 to 22m, mud.

Mesecoy Bay, located in the NW side of Taytay Bay, lies close W of Silanga Point.

11.60 Binatican Island (10°57'N., 119°43'E.), about 5 miles SE of Negra Point, rises to a height of 174m near its N end, and a height of 101m near its S end. The land between these two heights is low.

Apulit Island (10°57'N., 119°37'E.), 5.25 miles W of Binatican Island, is 178m high. Reefs and foul ground extend 0.75 miles W and 1.5 miles E to Royalist Reef, which has a least depth of 1.2m.

The Pabellon Islands, 2.75 miles S of Apulit Island, consists of Elephant Island, 197m high, and Castle Island, 189m high. Dangerous shoals extend 1 mile E from Elephant Island; dangerous isolated shoals lie 2.5 miles WNW of the same island.

One of the dangers in the SE approach to Taytay Bay is

Icadambanauan Island (10°49'N., 119°38'E.), about 1 mile E of Santa Cruz, which has two hills. The hill farthest S rises to a height of 156m. A white rock, 15.2m high, lies 0.25 mile SW of a wooded islet, 91m high, lying 0.3 mile SE from the island.

11.61 Hart Reef (10°48'N., 119°52'E.) is a large area of shoal ground extending in a N-S direction with the least depth, a 1m patch, lying 13 miles E of the S end of Icadambanauan Island. The approach channel leading to Taytay passes 1 mile N of the N edge of Hart Reef.

There are three detached patches, with a least depth of 4m, lying in the area about 5.5 miles E of the above-named island and SE of the channel. A 3.6m patch lies 2 miles S of the island and 0.5 mile S of the fairway.

Directions.—The best channel for entering Taytay Bay leads between Binatican Island and **Debangan Island** (11°01'N., 119°44'E.), 3 miles NNE. From a position about 1 mile S of Debangan Island, steer 250° for the S end of Apulit Island.

When Nabat Island bears 315°, change course to 207°, with the E tangent of **Castle Island** (10°53'N., 119°37'E.) ahead.

When the S tangent of Apulit Island bears 270°, change course to 233°, passing between Apulit Island and Elephant Island, and continue on course to the anchorage about 1.5 miles E of **Taytay Head** (10°52'N., 119°30'E.).

Vessels approaching from Shark Fin Bay, steer 180° from a position 0.5 mile W of Dinit Island. When the S end of Apulit Island bears 270°, change course to 233° for the anchorage off Taytay Head.

Vessels bound for the anchorage in the N part of Taytay Bay should pass Dinit Island, as above, and when **Nabat Island** (10°59'N., 119°38'E.) bears 300°, steer 266° passing 0.5 mile S of that island for a distance of about 4.7 miles.

Pass midway between a small island on the N and a rock that bares, 1 mile S. From between these two dangers steer 256° to the anchorage 0.45 mile S of **Talacanen Island** (10°58'N., 119°32'E.).

On a S approach to this anchorage, a vessel should pass 1 mile S of Apulit Island and steer for the E end of Talacanen Island on course 297°.

With the E end of Talacanen ahead, about 0.9 mile distant, change course to 270° and proceed to the anchorage.

Vessels entering Taytay Bay from S should steer for the summit of **Calabadian Island** (10°52'N., 119°38'E.), 0.75 mile N of Icadambanauan Island, on a course of 270° which leads N of Hart Reef.

When Calabucay Island, about 3.5 miles SSE of Icadambanauan Island, bears 225°, the course should be altered to that bearing until the S tangent of Icadambanauan bears 271°.

The course should be altered to 254° and held until the W tangent of Icadambanauan bears 354°, when a course of 345° should be steered.

When the 335m peak in the S part of Maytiguid Island bears 359°, it should be steered for on that bearing.

This course leads midway between the W extremity of Icadambanauan Island and an isolated shoal patch, with a depth of 0.3m, 0.7 mile NE of Santa Cruz Point.

When the N tangent of Icadambanauan Island bears 091°, the course should be altered to 315° for about 1.5 miles and then altered to 275° for about 3.5 miles to the anchorage. Caution should be used to keep N of a line joining Taytay Head with the S end of Caladian Island in making the initial approach to the anchorage.

Vessels can take anchorage, in depths of 33 to 37m, mud, with **Taytay Head** (10°52'N., 119°30'E.) bearing 273°, and the fort at Taytay bearing 211°.

11.62 From Santa Cruz to **Esfuerzo Point** (10°31'N., 119°43'E.), about 19 miles SSE, the general trend of the coast is SSE. The coast is indented by several inlets and bays and is fronted by small islands, detached shoals, and reefs. High, wooded mountains lie close to mangrove lined shores on this coast. The several salient points are rocky.

Limbangan Point (10°44'N., 119°36'E.) lies 5.25 miles S of Santa Cruz Point; there are three shallow coves formed between these points. Foul ground, with depths of 0.3m, lie up to 1 mile offshore.

Calauag Bay (10°42'N., 119°36'E.) is entered between Limbangan Point and Pangkang Point, 3.25 miles SE.

Bay Point (10°40'N., 119°40'E.), 2.75 miles SE of Pangkang Point, is the E extremity of a rugged peninsula that forms the S side of the bay entrance. Local knowledge is necessary to enter the bay because of the many dangers.

Depths of 11 to 29m exist in the narrow channel leading to the head of the bay. Foul ground extends nearly 1 mile N and 1.25 miles NE from Pangkang Point, close to the entrance channel.

Ibobor Island (10°43'N., 119°38'E.), rising to a height of 183m, lies on foul ground in the entrance to Calauag Bay, about 1.2 miles N of Pangkang Point. The entrance channel, S of the island, is about 0.2 mile between the foul ground.

Cagdanao Island lies 0.5 mile N of Ibobor; foul ground lies between these islands. A dangerous coral reef, with a depth of 0.3m, lies 0.5 mile NE of Cagdanao. The channel from Taytay Bay passes between the island and reef and then SE, changing course to a W direction to pass S of Ibobor Island to the anchorage in Calauag Bay.

Anchorage can be taken in the SW part of Calauag Bay, midway between Tomandang Island and Babarocon Island, in depths of 11 to 12.8m, mud. Local knowledge is required to enter the bay.

Paly Island (10°42'N., 119°42'E.), 186m high, is located 3 miles ENE of Pangkang Point. The outer slopes of the island are steep-to and sparsely wooded. The coast is rocky, with stretches of sand, shingle or boulders.

Shoals lie N, E, and S of the island. The W side of the island is steep-to except for a 0.9m shoal lying 1.25 miles from the N extremity.

From Bay Point to **Esfuerzo Point** (10°31'N., 119°43'E.), 9 miles SSE, the coast is indented by numerous coves and is fronted by shoal water.

Isolated shoal patches, which may be seen on the chart, lie off this coast.

11.63 The coast between Esfuerzo Point and **Flechas Point** (10°22'N., 119°34'E.), 12.5 miles SW, is fronted by numerous shoals and reefs which lie up to 8 miles offshore. Densely wooded mountains, with well defined peaks, lie along the coast in the vicinity of Flechas Point.

Drake Peak (10°30'N., 119°37'E.), 384m high, rises 5.75

miles W of Esfuerzo Point. Mount Baring, 626m high, and Mount Ilian, 661m high, lie 2.5 and 3.75 miles NNW, respectively, from Flechas Point.

Dumaran Island (10°30'N., 119°50'E.) is a large irregularly shaped hilly island, 206m high, separated from Esfuerzo Point by Dumaran Channel. The island has no conspicuous features; the hills are mostly 75 to 150m high. The coast is mainly fringed with mangroves, with drying reefs on nearly all sides.

Numerous dangers lie between Dumaran Island and the coast of Palawan, with some of the rocks and reefs which bare at LW. A shoal, with a depth of 4.8m, the position of which is doubtful, has been reported 4.5 miles SE of Calasag Point on the S side of the island.

11.64 Pirata Head (10°34'N., 120°00'E.), the E extremity of Dumaran Island, is 72m high and wooded. A drying reef extends 1 mile SSE from the point to Maraquit Island, and 11.5 miles WNW to North Point.

North Point (10°39'N., 119°50'E.), the N extremity of Dumaran Island, is prominent and terminates in a white cliff. The point is steep-to on its N and W sides and affords good protection in the Northeast Monsoon, but shoals and foul ground extend 3.5 miles ENE from its E face.

The NW side of the island from North Point to **Dumaran Point** (10°31'N., 119°45'E.), 9.25 miles SSW, is fronted by numerous islets, reefs, and rocky shoals.

The area N and NW of North Point, as far as Cacbucao Island, about 2.5 miles N, and Paly island, 8 miles WNW, is also filled with dangerous shoals and reefs, which may best be seen on the chart. Navigable channels lead through these dangers.

11.65 Cotad Island (10°32'N., 120°01'E.), 105m high, is separated from Maraquit Island by a channel 0.4 mile wide between the shoals lying off each island.

Cambari Island lies 4 miles ENE of Cotad. Cambari Island is 70m high and has bare overhanging cliffs on its W side.

Langoy Island (10°30'N., 120°00'E.), 100m high, is marked by a light on its summit. Mantulali Island is located about midway between Langoy and Cotad islands.

There are two shoal patches between Cotad and Mantulali, with depths of 2.1m and 5.5m. The channel between Mantulali and Langoy is clear of dangers.

Cynthia Bay (10°33'N., 119°59'E.) is entered SW of Maraquit Island. Its shores are fringed by mangroves and drying coral shoals extending offshore.

Baliog Point (10°32'N., 119°59'E.) is the S entrance point. Araceli, a town on Araceli Point, has a dispensary with a physician. The town, located 1.25 miles SW of Pirata Head, is nearly obscured by coconut trees.

Araceli Point (10°33'N., 119°59'E.), a low bluff, is the E entrance point of Araceli Bay which lies NW of town. Araceli Reef, with a depth of 0.5m, lies 0.5 mile E of Baliog Point and is marked by a red conical buoy.

A drying reef, on which lie large boulders and a prominent rock at its S extremity, extends 0.5 mile S of town and forms protection to the anchorage. The remains of a stranded wreck lies 0.25 mile W of the rock.

Araceli Bay, NW of town, is a N basin that forms an excellent typhoon anchorage for small vessels, in depths of 3.7 to 5.5m. The channel leading to the N basin has a least depth of 3.7m. At Araceli, a jetty extends from the shore to the edge of the reef.

Anchorage can be taken, in depths of 7.3 to 9.1m, mud, in a S basin about 0.5 mile SW of Araceli Point.

Vessels are recommended to approach the anchorage between Langoy Island and Mantulali Island and then pass W of Araceli Reef. The conspicuous rock, S of Araceli Point, aligned with tuft on a hill 3 miles inland, bearing 346°, leads W of the reef.

11.66 Bacaran Bay (10°31'N., 119°56'E.), **Langcan Bay** (10°31'N., 119°55'E.) and **Calasag Bay** (10°28'N., 119°53'E.) are adjoining bays separated by blunt, wooded promontories. The shores of the bays are generally lined by mangroves and fronted by above and below-water coral reefs.

The inner or N part of the bays are foul and filled with mud flats. There are depths of 5.5 to 12.8m in the middle and outer areas of the bays. Several sunken dangers, coral heads, and pinnacle rocks, with depths of 2 to 5.5m, lie up to 3 miles offshore in the approaches.

There are several towns, the largest **Bohol** (10°29'N., 119°53'E.), located on the various shores of the three bays.

Langcan Point (10°31'N., 119°55'E.) is a prominent landmark.

In Langcan Bay, there is anchorage SW of Dagsauay, a village, in a depth of 5.5m, mud. In Calasag Bay there is anchorage NNE of Calasag Point, in depths of about 7.3 to 9.1m. These anchorages are sheltered from the Northeast Monsoon.

From Calasag Point the S coast of Dumaran Island trends WSW about 6 miles to **Piyaui Point** (10°27'N., 119°46'E.), the SW extremity of the island.

Between **Calasag Point** (10°28'N., 119°52'E.) and **Maranog Point** (10°27'N., 119°48'E.) the shore is very densely wooded, high, and fringed with several coral reefs. Dangerous shoals lie up to 1.5 miles offshore.

11.67 Sharp Hill (10°27'N., 119°50'E.), standing close to shore, is a prominent landmark for vessels approaching from the S. A shoal, with a depth of 4.8m, the position of which is doubtful, has been reported 4.5 miles SE of Calasag Point.

From Maranog Point to Piyaui Point, the coast is low, sandy, and reef-fringed. Detached reefs lie up to 2 miles off the latter point.

A large shoal area, with a least depth of 3.3m, lies over 3 miles S and SSW of Sharp Hill.

Dumaran Point (10°31'N., 119°45'E.), 4.75 miles NNW of Piyaui Point, is the W extremity of Dumaran Island.

The coast to **Dumaran** (10°32'N., 119°46'E.), a village, is fringed with mangroves fronted by coral reef, bare at LW. A foul, small bay is formed between Dumaran and Dumaran Point.

Anchorage, with local knowledge, can be taken, in 5.5 to 7.3m, mud, in the bay but the approach is difficult.

11.68 Dumaran Channel (10°30'N., 119°44'E.), between Dumaran Island and Esfuerzo Point, is much contracted by reefs, rocks, and shoals. Numerous dangers lie in the N and S approaches to the channel and there are several islets and reefs in the N entrance of the channel.

There are deep, unmarked channels leading between these dangers. A channel from E, leading to the approach channels to

Calauag Bay and Dumaran Channel, passes S of the dangers between Paly Island and North Point.

However, there is a detached reef, with a least depth of 2.7m, on the S side of the channel about 2.7 miles SE of Paly Island. Another dangerous reef, with a least depth of 0.6m, lies 1.5 miles SE of **Bay Point** (10°40'N., 119°40'E.).

Macabalan Island, Central Island, Bivouac Island, North Channel Island, South Channel Island, Capsalon Island, Maruyogruyog Island, and South Island all lie in the N entrance of Dumaran Channel.

All these islands are encircled by reefs and foul ground which may be navigated with local knowledge.

Capayas (10°28'N., 119°39'E.), situated on the coast 5 miles SW of Esfuerzo Point, has buildings that are conspicuous from offshore; above and below-water reefs lie over 1 mile off the town. Capayas Reef, a large area that dries, lies 1 to 3 miles ESE of town. Alvina Reef lies 1.25 miles S of Capayas Reef.

Anchorage can be taken in mid-channel between Capayas and Capayas Reef, in depths of 11 to 12.8m, mud.

Palawan—East Coast—Flechas Point to Maasin Point

11.69 From Flechas Point, the E coast of Palawan trends in a SW direction about 77 miles to Maasin Point. Green Island Bay and Puerto Princesa, the most important port on this coast, are situated on this coast. Steep-to shoals lie up to 20 miles offshore.

Flechas Point (10°22'N., 119°34'E.), a steep bare point, is the termination of a spur from Mount Baring. From S and SE the point appears to merge into higher mountains inland and is not prominent. The coast W of the point consists of rocky, steep bluffs.

Bay Peak (10°23'N., 119°31'E.), 547m high, rises 3.5 miles W of Flechas Point.

The coast between Flechas Point and **Bold Point** (10°02'N., 119°09'E.) is regular, with sandy stretches interspersed by river mouths.

There are several villages. A sharp, conical hill located almost 2 miles NW of **Rizal** (10°14'N., 119°15'E.) is an excellent landmark as is a conical peak, wooded and with a small knob on its W side, rising 10.5 miles W of Bay Peak.

Roxas, a town close within **Barbacan Point** (10°19'N., 119°21'E.), has an airstrip 1.25 miles NNE of the same point. Copra and cattle are exported via inter-island vessels.

Caramay (10°11'N., 119°14'E.) is a port of call for coastal vessels. Dangers fronting the coast between Flechas Point and Bold Point are best seen on the chart.

North Verde Island (10°06'N., 119°14'E.) and **South Verde Island** (10°05'N., 119°14'E.), low and flat, are separated from Palawan by the narrow, tortuous **Pascoe Channel** (10°07'N., 119°14'E.).

The N end of the channel is fouled by an extensive above and below-water reef which divides the channel into two passages. The W passage is preferred. The S entrance to the channel lies between the N end of South Verde Island and a reef. The unmarked channel and entrance should not be attempted without local knowledge.

11.70 Green Island Bay (10°10'N., 119°20'E.), a large open bay of varying depths, contains numerous islands, banks, and shoals. High mountains, obscured by clouds except for their peaks, back the bay. Bold Point, about 32 miles from Flechas Point, forms the SW entrance point of the bay. Under favorable conditions the bottom is visible at 14.6m, but depth changes occur with very little warning. There are many shoals lying as far as 14 miles offshore.

The intricate unmarked inner passages leading to anchorages in Green Island Bay and Honda Bay, with least depths of 9.1m, should only be used when local knowledge is available.

A light is shown in position 10°19.1'N, 119°21.0'E.

Green Island (10°16'N., 119°30'E.) and **Johnson Island** (10°15'N., 119°23'E.), two of the many small islands and islets in the bay, are visible from 6 to 8 miles offshore.

The other islets and attendant dangers are best seen on the chart. Many of the islets afford good landmarks for vessels in transit of the channels leading to the various anchorages.

Anchorages off the shores of Green Island Bay are partially protected from the sea by the reefs and shoals.

Vessels bound for **Taradungan** (10°22'N., 119°32'E.) and **Tumarbong** (10°23'N., 119°27'E.) anchor 1 to 2 miles off these villages, in depths of 5.5 to 7.3m.

There is good anchorage NW of **Shell Island** (10°18'N., 119°23'E.), in 5.5 to 9.1m, mud. Vessels can anchor, in 5.5 to 7.3m, mud and sand, between **Stanlake Island** (10°15'N., 119°20'E.) and **Malcampo** (10°17'N., 119°17'E.).

Vessels bound for **Rizal** (10°14'N., 119°15'E.) can anchor in 5.5 to 9.1m, about 1 mile SE of town.

Vessels can also anchor, in 5.5 to 11m, mud, between **Reinard Island** (10°09'N., 119°15'E.) and Caramay, or, in 20.1m, between the island and Palawan.

There is excellent typhoon anchorage, in 11m, in the N part of Pascoe Channel, W of N Verde Island.

Off-lying dangers include **Charybdis Shoal** (10°02'N., 119°32'E.), a small reef with a least depth of 3.4m, which lies about 18.5 miles ESE of South Verde Island.

Constancia Shoal, with a least depth of 3m, lying 7.5 miles SW of Charybdis Shoal; Pasig Shoal, with a depth of 1.8m, lying on the same foul ground as Constancia Shoal, and 5.5 miles SE of that shoal.

Pasig Shoal is steep-to on its E side. West Pasig Shoal is isolated, with a least depth of 3.7m, located 4 miles WSW of Constancia Shoal.

11.71 Bold Point (10°02'N., 119°09'E.), 4 miles SW of South Verde Island, may be identified by Sharp Peak and Dome Peak, each about 915m high, standing from 2 to 2.5 miles N.

A bold range of hills backs the coast from Bold Point, which is steep and rocky. In places steep cliffs slope down to the beach. There are several rivers and minor points along this coast.

Mangrove Point (10°01'N., 119°04'E.), 4.5 miles W of Bold Point, has the only prominent clump of mangroves along this part of the coast. Emmit Point, 0.6 mile WSW of Mangrove Point, is higher, but not conspicuous. Coral reefs extend 0.3 mile from both points; a sheltered cove, suitable for small craft, lies between them.

Pasco Point (10°00'N., 119°01'E.), 2.75 miles WSW of Emmit Point, is low with a few scattered mangroves. A shoal, with a depth of 1.5m, lies midway between Mangrove and Pasco

Points.

Panglima Reef (9°56'N., 119°04'E.), with a depth of 5.5m, lies 4.75 miles SE of Pasco Point. An extensive bank, with a least depth of 1.5m, lies 2.5 miles S of Pasco Point.

Tanabag, a small village 1.5 miles W of Pasco Point, is not visible from seaward. A reef, awash, lies 0.75 mile SW of the entrance to the river which flows out by the village.

Castillo Point (9°59'N., 118°56'E.), 4.75 miles W of Pasco Point, has a rocky protuberance on the brow of the hill backing it. The hill marks the W end of the coastal range.

Honda Bay (9°50'N., 118°50'E.) is a large bight between Castillo Point and Bancaobancaon Point, about 19 miles SW. The N shore of the bay is backed by high hills as far as Addison Point, about 8.5 miles WSW of Castillo Point; low hills back the remainder of the bay.

There are numerous islands, banks, shoals, and reefs, with navigable channels between them, in the bay and up to 10 miles offshore. The N shore of the bay consists of sand and coral beaches, while its head and W shores are fringed with mangrove fronted by mud and coral reef.

Tapul Bay (9°56'N., 118°47'E.) and **Mangrove Inlet** (9°55'N., 118°45'E.), mostly foul, are fronted by numerous dangers. Bush Island lies in the entrance of Tapul Bay. The entrance channel lies between the island and a drying reef extending off **Addison Point** (9°56'N., 118°48'E.). The village of Tapul is located on a river emptying into the bay.

11.72 Fondeado Island (9°56'N., 118°55'E.), high and reef-fringed, lies at the S end of numerous drying reefs between the island and shore. Detached shoals, best seen on the chart, lie as far as 4 miles E and SE of the island.

There are above and below-water reefs off **Pasco Point** (10°00'N., 119°01'E.), and about 4 miles W of **Arrecife Island** (9°55'N., 118°53'E.), which lies on a drying reef.

Dangerous patches, lying 2.5 and 3 miles SW and S of the island, are close to the approach channels leading to anchorages. The entire area between Arrecife and the shores N, W, and SW is generally foul with several deep channels.

Anchorage.—Vessels can anchor, in 20.1m, mud, with the SE point of Fondeado Island bearing 240° and Pasco Point bearing 012°. The approach should be made from the S, with the 936m peak located about 2.5 miles N of the mouth of the **Tinabog River** (10°00'N., 118°59'E.), ahead on a course of 351°. When about 2 miles from the river mouth, the course should be altered to the NNE for the anchorage.

Vessels with local knowledge can anchor, in 12.8 to 18.3m, S of the entrance of the Tinabog River, with the reef awash SW of the entrance bearing 270°, distant 0.5 mile.

Vessels with local knowledge can anchor, in 16.5 to 18.3m, sand, in a position about 0.5 mile N of the extremity of Fondeado Island, between the island and an extensive drying reef to the NE. Anchorage can also be taken, in about 29m, in a position about 0.5 mile SW of the W extremity of the island.

Vessels with local knowledge can anchor, in 11 to 18.3m, from 1 mile to 1.5 miles S of the mouth of the Babuyan River, or they can anchor, in 9.1 or 11m, mud, in the NE part of Tapul Bay.

11.73 Puerto Princesa (9°44'N., 118°44'E.) (World Port Index No. 59270), the port city, is situated within the N entrance of the bay on the E side. The bay opens off the S end of Honda Bay and is entered between Bancaobancaon Point and Panagtaran Point, 2 miles S.

Puerto Princesa is the capital and only important port on Palawan Island; it is a Port of Entry.

Depths—Limitations.—The shores of the bay are densely wooded and are backed by a chain of mountains. Several rivers empty into the bay; the Iwahig River lies W of Puerto Princesa City.

Depths in the approach to Puerto Princesa are charted over 55m, and depths of 20 to 27m are charted off the pier head at Puerto Princesa City. The entrance to the bay is constricted to 0.8 mile between the reefs on either side.

A concrete pier extends about 130m NW from the shore close N of Princesa Point; the berthing face is 295m in length, with a depth of 8.1m alongside. There is a secondary berth, 94m in length.

There are works in progress close S of Princesa Point, including the construction of additional concrete piers and other improvements (2019).

Aspect.—It was reported that two fixed red lights are shown from the top of a water tank standing close NE of the root of the pier.

Thumb Peak from SE appears as a steep conical mountain with a knob on the summit. The twin spires of the church, 2.5 miles WNW of Bancaobancaon Point, are conspicuous. A light is shown from a concrete tower, 11m high, situated on the point. A wreck lies close SW.

The point is fringed with mangroves. These mangroves nearly extend to Tidepole Point, a reddish cliff 6m high, 2 miles WNW. A light is shown on this point from a white, metal framework tower on a white house, 8m high.

An ore-loading installation is located on the N shore, 1.5 miles W of Bancaobancaon Point; it consists of a wooden pier, with a depth of 1.8m alongside its head.

In the approach to Puerto Princesa, **Table Head** (9°39'N., 118°44'E.), 3 miles SW of Panagtaran Point, is a good coastal landmark. Mount Beaufort, 11 miles NW of Bancaobancaon Point and Thumb Peak, 2.75 miles SSW of Mount Beaufort, are prominent when not obscured by clouds.

Pilotage.—ETA and requests for pilotage, which is compulsory, should be sent to the Port Authority at least 24 hours before arrival. The pilots board in positions, as follows:

1. 9°43.5'N, 118°43.4'E (inbound).
2. 9°44.5'N, 118°43.5'E (inbound).
3. 9°44.2'N, 118°43.3'E (outbound).

Regulations.—Philippine Coast Guard requires all foreign vessels to provide a 48 hour ETA to include crew and cargo manifests.

Signals.—Storm signals are shown from a mast at the foot of the pier.

Contact Information.—The Port Authority can be contacted, as follows:

1. VHF:VHF channel 16
2. Telephone:63-48-4332351
3. Facsimile:63-48-4322716

Anchorage.—Three anchor berths lie within the harbor. A foreign vessel anchorage has been established centered on position 9°43.2'N., 118°43.5'E, in depths of 20 to 27m. A domestic vessel anchorage is centered on position 9°44.0'N.,

Puerto Princesa

Church spires WNW of Bancaobancaon Point

118°43.1'E, in a depths 16 to 22m. A rock, with a least depth of 10.8m, has been reported 300m SW of this anchorage. Vessels can anchor N of the pier head in position 9°44.8'N., 118°43.6'E. It is well protected and is recommended as a good typhoon anchorage in depths from 16 to 18m, mud.

A quarantine anchorage has been established 1 mile WNW of Tidepole Point.

Directions.—In the approach to Puerto Princesa, vessels should steer to a position about 3 miles SE of the light on Bancaobancaon Point and then steer 304° for the light on **Tidepole Point** (9°44'N., 118°44'E.).

When mid-channel between the entrance points, change course to 290° until the light bears 040°, when course should be changed to 349°. When the pier head at Princesa Point bears 079°, steer for the inner anchorage as required.

It should be noted that in a night approach the lights at Canigaran, 1 mile N of Bancaobancaon Point, are visible long before the lights in Puerto Princesa.

Bancaobancaon Light

Caution.—Gedeon Shoal (9°45'N., 118°43'E.), with a depth of 0.8m, lies 0.4 mile W of the pier head at Puerto Princesa. A 3.7m shoal lies 0.5 mile WSW of the pier. A 0.9m shoal lies 0.6 mile NW of the pier head. Foul ground lies NNW of a line passing through this shoal and the entrance to the Iwahig River. Vinagre Reef, with rocks, awash, lies 1.25 miles SSW of Gedeon Shoal. An isolated patch, with a depth of 9.5m, lies

outside the 20m curve 0.5 mile E of the rocks awash. It has been reported that the safe water buoy is missing at the entrance to TSS and harbor entrance not marked with charted NAVAIDS.

11.74 From **Panagtaran Point** (9°41'N., 118°46'E.) the coast trends SSW about 3 miles to Table Head, which stands 0.2 mile inland and rises to a height of 167m. Table Head is the termination of a gradually ascending range of hills extending SW.

Binunsalian Bay (9°39'N., 118°44'E.), entered close N of Table Head, is foul and is exposed to the winds. From the head of the bay, a narrow channel leads to Turtle Bay, which affords excellent Anchorage for small craft with local knowledge, in a depth of 11m.

The coast from Table Head to the S is backed by steeply rising ground as far as **Tagbarunis Point** (9°34'N., 118°40'E.), low and covered with mangroves. A conical peak, rising 4.5 miles W of the point, is conspicuous.

A widening bank leading S in the vicinity of the point extends 3.5 miles offshore and contains dangerous shoal patches. Tide rips often mark the edge of the bank. Off **Inagauan** (9°33'N., 118°39'E.), a coastal village backed by a plain and fronted by a sandy beach, there is anchorage, in 9.1m, mud.

When approaching this anchorage from E, care must be taken to avoid the shoals, with depths of 5.5 to 9m, which lie on a spit extending 3 miles SSE from the mouth of the Inagauan River.

Palawan—East Coast—Maasin Point to Cape Buliluyan

11.75 The general trend of the coast, from Maasin Point to Cape Buliluyan, is SW. In places the coast between the points is low and fringed with mangroves.

Numerous drying reefs lie within the 20m curve and there are many isolated patches outside the curve with least depths of 0.9m.

Inner passages leading to the various anchorages along this coast have depths of over 9.1m, however, local knowledge is required to transit these unmarked, intricate passages.

The flood current sets SE along this coast. The E current entering through Balabac Strait turns NNE well off this coast and spreads fanlike over the Sulu Sea in a NE and E direction.

Maasin Point (9°30'N., 118°38'E.) is low and covered with mangroves; a drying reef fringes the point. The coast between the two points is also low and fringed with mangroves. Numerous dry reefs and shoals lie within the 20m curve which lies 1 to 3 miles offshore. A 4.9m patch lies 2.25 miles SE of Maasin Point.

Village Bay, entered between Maasin Point and the Puntog Islands, 1 mile SSW, is encumbered with coral reefs making it unsafe to enter. The Puntog Islands are two small mangrove islands lying close offshore on the coastal bank.

A reef, which dries at low water, extends 0.6 mile SSE from the islands.

11.76 Malanao Island (9°27'N., 118°37'E.) is a flat island covered with mangroves that are 21m high; it lies 1 mile S of the Puntog Islands. The channel between Malanao and Palawan is foul and intricate; it lies between many drying reefs. The channel should only be attempted by small vessels with local knowledge.

Anchorage may be taken off the SW side of Malanao, with **Cutter Point** (9°27'N., 118°35'E.), on Palawan, bearing 270°, 0.9 mile distant, in 6.7m, mud.

The Aborlan River flows out either side of an island, 1.5 miles SW of Cutter Point. The N mouth is deeper and boats can cross the bar which has a depth of 0.9m at half-tide, and reach the wharf at Aborlan, about 1 mile within the entrance.

The usual commercial anchorage is off the mouth of the river, in depths of 7 to 9m, mud and sand.

11.77 Calver Point (9°21'N., 118°32'E.), marked by a light, a double pronged promontory, lies 3.75 miles SW of the Aborlan River. Lola Bay lies between the extremities of the promontory; it has a light yellow sandy beach which is a useful mark for approaching the anchorage near the point.

Sombrero Island (9°22'N., 118°35'E.), a sand cay lying on a reef 2.5 miles E of Calver Point, is 36m high to the top of the trees. Several drying reefs lie W of a line joining the island with Malanao Island, 3.5 miles NNE.

Anchorage can be taken, in 9.1 to 14.6m, between Sombrero Island and Calver Point. Small vessels with local knowledge can find protection from the Southwest Monsoon by anchoring, in 7.5m, mud, NNE of the point.

Vessels can approach these anchorages by steering 277° with the previously-mentioned light yellow beach In Lola Bay ahead. This course leads S of the reef fringing Sombrero Island, between it and a 0.9m patch located 1 mile SSW of the island.

A bank of sand and coral, with a least charted depth of 6.1m, extends 11 miles S from a position 3.25 miles E of Malanao Island. A 7.9m patch lies 2 miles S of Sombrero Island and a 10.1m patch lies 3.5 miles SE of the same island.

11.78 Apoapuraguan Point (9°20'N., 118°31'E.), 2 miles SSW of Calver Point, is low, covered with mangroves, and has low coral cliffs on its S side. The Malasgao River, navigable by boats for 2 miles, discharges 1.5 miles SW of the point.

Native Point (9°17'N., 118°29'E.), 1.25 miles SSW of the Malasgao River, is low, heavily wooded, and fringed by a reef. Arena Island, 19.8m high to the top of the trees, lies on the W part of a reef, 2.5 miles SSE of Native Point.

Two 9.4m patches lie 4.5 and 6 miles NE, respectively, of Arena Island.

From Native Point the coast trends nearly 3 miles SW to Panacan Point and then 2.25 miles farther SSW to **Casuarina Point** (9°15'N., 118°25'E.), which is low and fringed by mangroves.

A sand spit extends 0.3 mile E of Casuarina Point, and Rasa Island; mangrove swamps on a coral reef, lies the same distance E of the spit. Rasa Island blends in with the coastline and is difficult to identify from seaward.

Between the island and mainland W is Mantaquin Bay, affording anchorage and containing several very small islands with adjacent detached coral heads. The 20m curve closely skirts Rasa Island to the E and continues NE to Sombrero Island.

There are numerous, dangerous shoal patches lying in the vi-

cinity of Rasa Island, **Arena Island** (9°15'N., 118°30'E.), and the 20m curve. These dangers, as well as off-lying shoals, many of them marked by tide rips, are best seen on the chart.

11.79 Island Bay (9°05'N., 118°10'E.) indents the coast between **Bivouac Point** (9°11'N., 118°21'E.) and **Nariz Point** (8°53'N., 118°00'E.). The coast between Casuarina Point and Bivouac Point is low and has several sandy beaches.

Numerous islets, reefs, and dangerous shoals lie in the bay and its approach.

Mountains back the shores of the bay as far as **Pescado Point** (8°57'N., 118°02'E.), then the coastal plain extends up to 6.5 miles inland.

The 20m curve lies 2 miles offshore between Bivouac Point and **Relief Point** (9°10'N., 118°13'E.). Separation Point, 4.5 miles WSW of Relief Point, is marked by an old blockhouse.

The coast to **Ingiaran Point** (9°03'N., 118°06'E.) is fringed by mangroves and fronted by many islands, shoals, and reefs. Crawford Cove, with the town of Labog at its head, is entered between Ingiaran Point and **Scott Point** (9°02'N., 118°05'E.). The coast between Scott Point and Nariz Point is low and intersected by several small rivers emptying into coves.

Dangers in the form of islets, reefs, and shoals lie as far as 17 miles off the shores of Island Bay. There are unmarked, intricate channels leading between these dangers and those inshore.

Uncharted dangers may exist, so that even with local knowledge, extreme caution is advised in the bay area. Numerous shoals, best seen on the chart, lie E, S, and SSW of Bivouac Point.

11.80 Altnacraig Shoal (9°00'N., 118°20'E.), with a least depth of 0.9m, is marked by tide rips and discolored water. An 8.2m patch and an 8.8m patch lie 5 miles N and 3.5 miles NW, respectively, of Altnacraig Shoal. A dangerous wreck lies 1.5 miles SW of Altnacraig Shoal.

Marabout Shoal (8°57'N., 118°19'E.), lying 3 miles SSW of Altnacraig Shoal, has a least depth of 5.2m.

Tagalinog Island (8°53'N., 118°15'E.), reef-fringed, lies about 5 miles SW of Marabout Shoal.

Barracuda Reef (8°54'N., 118°07'E.), with a least depth of 5.5m, and **Talakitok Reef** (9°00'N., 118°10'E.), with a depth of 4m, are other inshore dangers. A chain of low flat reef-bound islets extend SW between Relief Point and Ingiaran Point.

Nariz Point (8°53'N., 118°00'E.), low and covered with mangroves, is located 10 miles SSW of Scott Point; it has a small hill behind it. A small bay, which offers anchorage to small craft with local knowledge, is entered 1 mile N of the point.

The coast SW of Nariz Point is low and heavily wooded. The coast farther SW to Iglesia Point, about 38 miles distant, is also low, densely wooded and indented by many open bights. The coast is bordered by a reef, and shoals extend nearly 2 miles offshore.

11.81 Filantropia Point (8°51'N., 117°56'E.), 5 miles SW of Nariz Point, is fringed by a reef which extends 0.4 mile offshore.

Sir John Brooke Point (8°46'N., 117°50'E.), marked by a light shown from a pole on the SE side of a blockhouse, is a low inconspicuous point located 7 miles SW of Filantropia Point. Addison Peak, rises to a height of 1,024m, 5.5 miles WNW of Sir John Brooke Point; it is usually clear of clouds and makes a good landmark on approaching the point and adjacent bay.

Brooke's Point, a growing settlement located 0.5 mile NW of Sir John Brooke Point, had a stone pier with a reported depth of 1.2m off its outer end. A concrete pier, close N of the light, dries alongside.

A red-roofed warehouse is conspicuous when approaching from S.

There is a radio station and coastal vessels call regularly to the point. There are medical services.

Anchorage can be taken SW of the town in **Ipolote Bay** (8°46'N., 117°49'E.), where there are depths of 5.5 to 9.1m, mud. The bay affords shelter from N and NE winds.

On entering the bay, avoid the coral reef extending about 0.3 mile S and SW of the point.

Dougal Point (8°41'N., 117°43'E.) is located about 9 miles SW of Sir John Brooke Point. The intervening shore is low and fronted with sand and swamp.

The **Segyam Islands** (8°39'N., 117°38'E.) are two large clumps of mangroves, 0.5 mile apart, lying on the coastal reef. Several rocks, awash, lie 0.5 mile off the islands.

The best passage along this part of Palawan is close to the coastal reef inside the many shoals lying about 3 miles offshore, but is only to be used by vessels with local knowledge.

11.82 San Antonio Bay (8°38'N., 117°35'E.) is entered between the Segyam Islands and Sarap Point, 8 miles SW. The approach to the bay is encumbered with numerous reefs and shoals, but the inner part, NW of a line from the Segyam Islands to the mouth of the Iwahig River, is comparatively free from dangers.

Discolored water from several rivers which flow into the bay make these dangers difficult to distinguish. Reefs and shoals on the W shore of the bay dry at LW for a distance of 1 mile. Bonobono, on the N shore, is the most important settlement.

Dangers fronting San Antonio Bay include **Huevo Shoals** (8°37'N., 117°40'E.), with a least charted depth of 1.8m, located 2.25 miles SSE of the Segyam Islands; Gull Reef, which dries and is steep-to on its SE side, lies 3.5 miles E of Sarap Point; Egg Reef, which has a small sand cay on it, lies 1.75 miles NNE of Gull Reef, and **Pirate Island** (8°33'N., 117°33'E.) lies 1.5 miles offshore, SE of Sarap Point.

There is an anchorage sheltered from SW winds for small vessels with local knowledge, N of Pirate Island, in a depth of 27m, mud.

Unless bound for San Antonio Bay, do not close this part of the coast nearer than 8 miles, as local knowledge is essential for safe navigation among the numerous coral shoals of this region.

11.83 Iglesia Point (8°30'N., 117°29'E.), 5.5 miles SSW of Sarap Point, is low and flat, consisting primarily of mangrove. A flat-topped hill close N of the point is a good landmark in this area. The coast from Sarap Point to Iglesia Point is fronted by a coral reef which dries at LW; the reef extends about 1 mile SE from Iglesia Point.

The coast between the point and cape is slightly indented

and densely fringed by mangroves. A narrow, drying reef fronts the coast which is intersected by many rivers.

The 20m curve lies from 0.5 to 2 miles offshore; many banks and detached dangers lie as far as 40 miles offshore. The channel between Palawan and Pandanan, connecting Coral Bay with the South China Sea, has depths over 18.3m, but it is unmarked and difficult to transit.

Depths of 18.3m and more exist in Coral Bay, but the approaches from E and NE are mostly foul.

The flood current sets SW at a velocity up to 2 knots in the channel between Pandanan Island and Palawan. Strong tidal currents and tide rips are found in the various channels leading between the islands off the S end of Palawan.

Off-lying dangers include **Wakefield Shoal** (8°19'N., 117°52'E.), steep-to on its W side, with a least depth of 3.6m; the shoal lies 24.5 miles ESE of Iglesia Point. Wright Shoal, a detached steep-to shoal with a least depth of 1.8m, lies 12 miles W of Wakefield Shoal.

Argyll Shoal, 4.25 miles WNW of Wright Shoal, has a least charted depth of 4m.

Ursula Island (8°20'N., 117°31'E.) is low, sandy, and densely covered with vines and trees which reach a height of 30m. A reef surrounds the island.

Dickens Shoals, about 3 miles SSW of Ursula Island, consists of two detached reefs lying 1 mile apart.

The W reef has a least depth of 4.3m and the E reef has a least depth of 6.7m.

A depth of 4m was reported to lie about 13 miles SSW of Wakefield Shoal. Additionally, it was more recently reported to have a depth of 4.5m, the position of which lies approximately 14.7 miles SSW of Wakefield Shoal.

11.84 Coral Bay (8°25'N., 117°20'E.) lies between the SE end of Palawan and the N shores of Pandanan Island and Bugsuk Island. The bay is encumbered with innumerable shoals and reefs, the latter frequently having sand cays near their W edges. These reefs break the swell coming from the Sulu Sea during the Northeast Monsoon, but leave a choppy sea in the bay.

The area between **Arrecife Island** (8°26'N., 117°26'E.) and the N end of Bugsuk Island is extremely foul. A clear area in the middle of the bay has depths of 18.3 to 33m.

It is reported that vessels load bulk ore (nickel silicate) off the **Rio Tuba** (8°30'N., 117°26'E.), 3 miles W of Iglesia Point. Loading is carried out from lighters, using ship's gear.

The anchorage is reported to be about 1.5 miles N of Arrecife Island, in a depth of about 18m.

There are two entrance channels into Coral Bay. Vessels from N enter the bay by passing about 1.5 miles N of Arrecife Island, using the sand cays to fix position while in transit. This channel has a general depth of 31m.

Vessels from the W or S enter the channel S of Cape Buliluyan and between Pandanan Island and Palawan.

The channel has depths of 51 to 42m. The current sets SW on the flood, with a velocity of 2 knots in this channel.

There is a shoal patch of 3.2m and a reef, awash, in about the middle of the channel and a 4.6m patch in the channel about 3.5 miles N of **Bowen Island** (8°21'N., 117°19'E.).

All are shown on the chart. Local knowledge is absolutely necessary in transit of this area.

Pilotage is compulsory and the pilot is provided from Puerto Princesa, which is required at least 24 hours notice of ETA. The pilot boards from a canoe, about 5 miles NNE of Ursula Island.

Anchorage can be taken in the middle of Coral Bay, in depths over 18.3m, mud. There is a good typhoon anchorage in 12.8m, sticky mud, close W of the largest **Cabugan Island** (8°24'N., 117°16'E.).

11.85 Cape Buliluyan (8°20'N., 117°12'E.), the S extremity of Palawan, has depths of 7.3 to 14.6m off its S side. The cape is reef-fringed and partly drying. Between the E side of the cape and the N end of Pandanan there are depths of 51 to 60m.

Pandanan Island (8°17'N., 117°13'E.), separated from the SE end of Palawan by a channel about 1 mile wide, is flat and densely wooded. Its shores consist of both mangroves and rocks. Drying reefs almost completely encircle the island and extend up to 2.5 miles offshore in places.

Malinsunu Island (8°18'N., 117°11'E.), low and sandy, lies 1 mile off the NW side of Pandanan Island on the SE side of a coral reef. A deep channel, clear of dangers in the fairway, runs between these islands.

Patonggon Island lies on the S end of a reef, 2.5 miles W of Malinsunu Island. Shoal water, with depths of 5.5 to 6.4m, extends 2.5 miles N from the island.

Tangkahan Island (8°17'N., 117°07'E.), lies on the SE side of a coral reef which dries, 1.5 miles SW of Patonggon Island. There is a narrow channel, clear of dangers in the fairway, between these two islands that appears to be the best approach to the channel leading along the NW side of Pandanan Island.

Bugsuk Island (8°15'N., 117°18'E.) is the largest of a group of islands lying on a reef S of Palawan. It is flat and densely wooded.

Bancalan Island (8°14'N., 117°06'E.), a low wooded island, lying on the N side of North Balabac Strait, 6 miles SW of Pandanan Island. A drying reef extends 1 to 2 miles W and NW from the W side of the island.

Numerous, dangerous shoal patches, shown on the chart, lie between the island, Pandanan Island, and Tangkahan Island. Patawan Islet, reef-fringed, lies 1.25 miles E of Bancalan.

Mantangule Island (8°10'N., 117°10'E.) is densely wooded and fringed by drying reefs for 1.25 miles off its S and W sides. Foul ground lies in the vicinity of the island, extending to Masalangan Island 1 mile E and to Bancalan Island, 2.5 miles NNW.

Timbayan Island is low, densely wooded, and is connected to Mantangule Island, 1.4 miles to the S, by a drying reef.

11.86 Canabungan Island (8°07'N., 117°08'E.) lies 1.5 miles S of Mantangule Island. It is low and wooded, and lies on a drying reef extending NW and SE.

Detached shoal patches, lying off the S and SW sides of the reef, are contained within the 40m curve which closely parallels the island.

The channel between Pandanan Island and Malinsunu Island and the Palawan coast is frequented by coasting vessels. It is deep and about 0.7 mile wide. This channel branches into two deep channels SE of Patonggon Island and permits passage to the South China Sea.

The N channel, with depths of 31m and deeper, is about 0.2 mile wide between the reefs that fringe Patonggon Island and Tangkahan Island.

This channel follows closely along the edge of the reef surrounding the latter island and appears to be the best approach to the channel that leads along the NW side of Pandanan Island.

The channel S of Tangkahan Island enters from the W and follows closely along the edge of the reef that fringes that island and then passes about 0.5 mile E of that island.

The channel is about 0.3 mile wide between the dangers lying off the N coast of Bancalan Island and the reef that fringes Tangkahan Island. It is very deep in the fairway, but should be attempted only when the reefs are plainly visible.

Vessels with local knowledge can anchor, in 12.8 to 27m, mud and sand, anywhere within the area between Pandanan Island, Bancalan Island, and Mantangule Island. The channels leading to the anchorages are intricate, with strong tidal currents and rips in them.

During rough weather, vessels with local knowledge can anchor in the S entrance of the channel, or in the channel itself, which leads between Bugsuk Island and Pandanan Island.

Inter-island vessels, calling at Bugsuk to load copra, anchor about 1.7 miles S of the S end of Bugsuk Island.

During the Northeast Monsoon, the best anchorage is SE of Patawan Island, in 16.5 to 24m, taking care to avoid the shoals E of Bancalan Island and Patawan Island.

During the Southwest Monsoon, vessels can anchor, in 16.5 to 27m, mud and sand, in a position with the SE extremity of Tangkahan Island bearing 000°, distant 1.75 to 2.5 miles.

Directions.—Vessels coming from the South China Sea should pass well N of the reefs and shoals that extend 2 miles NW from the NW extremity of Bancalan Island. A course of 103°, with the S extremity of Pandanan Island ahead, leads through the entrance channel.

When Patonggon Island opens E of Tangkahan Island the course should be altered to 090° and held until the SE extremity of Tangkahan Island bears 000°. Then, the course should be altered to 037°, passing about 0.5 mile E of Tangkahan Island. This course leads into the main channel NW of Pandanan Island.

Southbound vessels for the anchorages in the vicinity of Patawan Island should alter course to 160° when the E tangent of Tangkahan Island bears 000°. This course leads between a 0.3m reef, located 1 mile S of the SE extremity of Tangkahan Island, and a 8.6m shoal located 0.75 mile SSE of the same extremity.

In order to clear these dangers, vessels should keep the E extremity of the Bancalan Islands always W of S. Having cleared these dangers, vessels can pass fairly close W and S of Patawan Island and anchor as convenient.

North Balabac Strait—Balabac Island

11.87 North Balabac Strait (8°11'N., 117°04'E.) is bounded on the NE by Bancalan Island, Matangule Island, and Canabungan Island. Secam Island, Ramos Island, and Candaraman Island form the SW side of the strait.

North Balabac Strait has a least navigable width of 2 miles, a length of about 14 miles, and is clear of dangers in the fairway. The strait has depths of 32 to 112m in the channel and connects the South China Sea with the Sulu Sea. Bate Channel, deep and about 1.7 miles wide, connects North Balabac Strait with the waters to the W. The strait is used by inter-island vessels bound for harbors on both coasts of Palawan and by vessels navigating between Palawan Passage and the Sulu Sea.

Strong currents exist in the constricted part of North Balabac Strait. Velocity and direction depend to a great extent on the force and direction of the monsoon. The maximum velocity is 2.5 knots. The flood current sets SE through the strait; the ebb, NW.

In Bate Channel, the flood and ebb currents set E and W, respectively, with a maximum velocity of 2.5 knots.

Strong rips and eddies occur in the strait and channel, especially in the vicinity of **Encampment Point** (8°07'N., 117°03'E.).

Secam Island (8°10'N., 117°01'E.), on the W side of the N approach to the strait, is low, narrow, and wooded.

A drying coral reef fringes the island, and shoal ground, with a least depth of 8.2m, extends 2 miles NW.

Anchorage, partially sheltered from SW sea and swell, can be taken, in depths of 35 to 37m, sand and coral, about 1 mile N of the island, with the E extremity bearing 180°.

Ramos Island (8°06'N., 117°01'E.), mostly low with high hills in the interior, is separated from Secam Island by **Bate Channel** (8°09'N., 117°01'E.), about 2 miles wide with depths of 35 to 93m. The W, N and E sides of the island are reef-fringed. An 8.5m patch lies 1.7 miles NNW of Encampment Point.

North-west Shoals (8°06'N., 116°56'E.) is an extensive shoal, with depths of 3.7 to 9.1m, lying W of Ramos Island and separated from it by a deep water channel.

11.88 Candaraman Inlet (8°05'N., 117°03'E.), tortuous and with a least width of 0.1 mile, separates Ramos Island and Balabac Island. **Albay Islet** (8°05'N., 117°02'E.), foul ground, and detached shoals lie in the inlet and its entrances. Local knowledge is required.

Strong tidal currents set E during the flood and W during the ebb. Heavy tide rips and eddies form during spring tides. The dangers within the inlet are visible on a rising tide.

Candaraman Island (8°05'N., 117°06'E.), low and flat, lies on a steep-to reef at the most constricted part of North Balabac Strait.

Caxisigan Island (8°05'N., 117°04'E.), lying between Candaraman and the SE end of Ramos Island, is encircled by shoals, but deep, constricted channels lie between Caxisigan and the islands of Ramos and Candaraman.

Anchorage.—Ramos Island Anchorage is located 1.5 miles SW of Cape Disaster in 7 to 11m, sand. The anchorage is used by vessels loading lumber.

Directions.—From a position about 8 miles NNW of Secam Island steer a course in a SE direction which leads mid-channel between Secam Island, Bancalan Island, Canabungan Island, and Candaraman Island.

11.89 Balabac Island (7°57'N., 117°01'E.), lying 17 miles SSW of Cape Buliluyan, is thickly wooded. High hills stand in the N part of the island and there are several ranges of hills in the S part. Steepfall Range has several high table-topped hills

with steep sides, rising to a height of 289m. Balabac Peak, with a height of 569m, lies 10.8 miles S of the N extremity of the island. It was reported to be a good radar target at 36 miles. The island was reported to give good radar returns at 21 miles distant.

A weak current flows S and close inshore along the E coast of Balabac. The tidal currents off the W and SW sides of the island follow the general trend of the reef edges at a rate of 1 to 1.5 knots. The ebb setting SW and W off Cape Melville and NW and N along the edges of the reefs creates tide rips and confused seas when opposing a N breeze.

The N coast of Balabac lies between **Padre Point** (8°04'N., 117°00'E.) and Andeyro Point, 4.8 miles ENE; the coast is lined by mangroves.

Sanz Island (8°04'N., 117°01'E.) lies in the W entrance to Candaraman Inlet, close N of Padre Point. Albay Islet lies in the same inlet about 1.7 miles ENE of Sanz Island.

11.90 Andeyro Point (8°05'N., 117°04'E.) is the NE extremity of Balabac Island. From this point of the island the coast trends 12.7 miles SSE, then about 7.5 miles SSW to Cape Melville, the S extremity of the island.

There are few indentations along this coast, which is fairly steep-to. Andeyro Point and the E extremity of the island are fringed by reefs. A small bay is formed about 4.3 miles S of Andeyro Point; it is about 0.3 mile wide in the entrance, but the channel is reduced to about 137m by drying reefs which extend from both entrance points.

The shores are bordered with mangroves and backed by wooded hills. Small vessels may anchor in the NW corner of the bay, in a depth of 16m, mud.

Calandorang Bay (8°00'N., 117°04'E.) is entered between Sarmiento Point and Espina Point, about 1 mile farther S. This bay is separated from the small bay described above by a peninsula formed by high hills.

A light is shown on Espina Point and a conspicuous white fuel tank stands 0.2 mile S of the light. Reefs extend 0.1 mile off the S shore of the bay and off Espina Point.

A mooring buoy is laid about 0.2 mile W of the lighthouse.

There is a depth of at least 5.5m in the bay, with an entrance 0.4 mile wide and 37m deep.

11.91 Balabac (7°59'N., 117°04'E.), Balabac is a small town located on the S shore of Calandorang Bay. There is a stone pier in ruins, however, there is a loading T-head conveyor pier for the export of copper ore. Pilings, set out as an extension of the pierhead, allow for 122m of berthage. Mooring buoys beyond the lines of pilings are used to secure the vessel. The depth alongside the T-head and pilings is 7.6 to 9.1m at MLW. A maximum draft of 7.6m is allowed.

Vessels must first proceed to Batangas for Customs clearance and the embarking of a coastal pilot. It is a port of call for inter-island trade. The tidal range is about 1.3m. A 150m long rock causeway extending N from shore has a stair landing and depths of about 3m alongside. There is a radio station in town.

Anchorage.—Vessels can anchor, in 14.6m, mud, with Espina Point bearing 109°, distant about 0.25 mile, sheltered from the Southwest Monsoon. During the Northeast Monsoon, better protection is afforded in the N part of the bay. Vessels can also anchor NE of the pier, in 7.3 to 14.6m, mud.

Directions.—Balabac Harbor is an easy access. Vessels should come to a position with the light structure bearing 240°, distant 0.4 mile, and steer a mid-channel course of 270° through the entrance.

When the light structure bears 159°, the course should be altered to 233° heading for the bluff W of the town.

Caution.—Vessels are cautioned to proceed slowly as the depths decrease sharply when within the 20m curve.

11.92 Espina Point (7°59'N., 117°04'E.), marked by a light, is dominated by a hill 32m high. From this point the coast trends SSE 6.9 miles to the N entrance point to Dalawan Bay.

Dalawan Bay is entered between **Minagas Point** (7°54'N., 117°05'E.) and Timbangan Point, 1.5 mile SSW.

The entrance points are fringed with mangroves and the shores are densely wooded. The bay may be identified by the low land extending WNW, separating the high land in the vicinity of Balabac Peak from Transept Hill, a conspicuous hill 1.6 miles W of Timbangan Point.

Depths of 33m in the entrance shoal gradually to the head of the bay. Reefs, partly drying, extend 0.25 mile from the entrance points.

Buoy Rock, drying at LW, marks the S edge of the reef off the N entrance point. A least depth of 0.9m exist on the reef extending from the S point.

Anchorage can be taken in the middle of the bay, 0.5 mile from its head, in a depth of 16.5m, mud.

11.93 Clarendon Bay (7°49'N., 117°01'E.), 6.1 miles SSW of Timbangan Point, is entered between Inanacule Point, the N entrance point, and Barong Barong Point, about 0.3 mile S. There are depths of 7.3 to 11m, mud, in the bay.

The entrance channel is about 400m wide between the reefs on either side.

A T-shaped stone jetty at the NW corner of the bay is used for landing supplies for Cape Melville Light.

Anchorage by small vessels can be taken, in 8.2 to 9.1m, mud, about 0.5 mile NNW of Barong Barong Point.

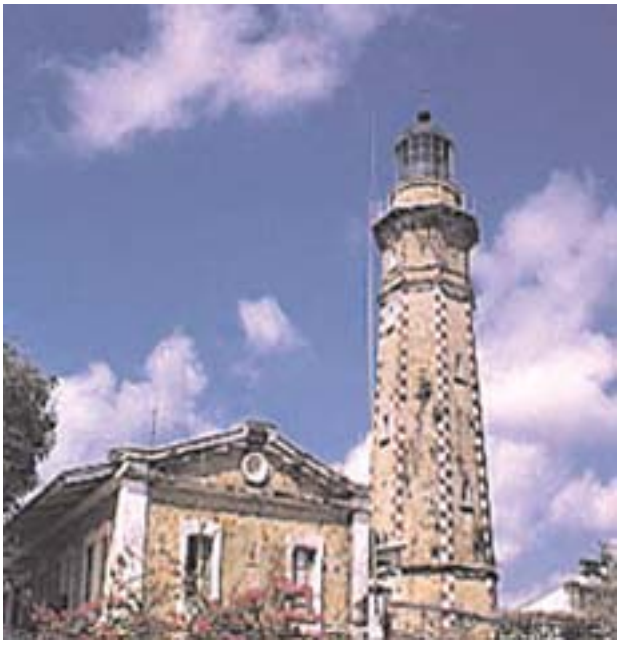
Cape Melville (7°48'N., 117°01'E.), the S extremity of Balabac Island, is fringed by a drying reef that extends 0.5 mile offshore. Numerous detached shoal patches of less than 13.7m are enclosed by the 20m curve trending about 4 miles offshore. Tide rips are prevalent seaward. A light stands 1.5 miles NW of the cape extremity. Cape Melville is a good radar target from 17 miles distant.

From Cape Melville, the W coast of Balabac trends 11 miles NNW to **Ligas Point** (7°56'N., 116°56'E.), then 8.6 miles NNE to Martinez Point, the NW extremity of the island.

The W coast is low and mostly fringed with mangrove swamps. It is fronted by many detached dangers which lie at least 8 miles offshore. Vessels should keep outside the 91m curve when navigating off this coast.

South-western Bank, with a least charted depth of 5m, located 7 miles WSW of Cape Melville Light, extends in a ESE to WNW direction for a distance of 8 miles. Tide rips may be seen on this bank.

11.94 Gnat Reef (7°51'N., 116°58'E.), a large area of drying reef with a sand cay in its center, lies 3 miles NW of Cape Melville Light.



Cape Melville Light

Balabac Great Reefs, which dry, lie with their S extremity 6 miles WNW of Cape Melville Light. This reef extends 10.6 miles N and lies 1.5 miles W of Ligas Point near its center.

Western Shoals (7°58'N., 116°50'E.), with a least charted depth of 4.9m, sand and coral, lie with the least depth 5.5 miles WNW of Ligas Point. These shoals parallel Balabac Great Reefs at a distance of 6 miles.

A deep passage lies between Western Shoals and Balabac Great Reefs, but there are several shoal spots within it. This passage should not be attempted without local knowledge.

A detached bank, with a depth of 12.5m, lies 10.7 miles WSW of Ligas Point. Another bank, with a least depth of 14.5m, lies 10.7 miles WNW of the same point.

Ada Reef (8°02'N., 116°55'E.), which dries, lies 4 miles WSW of Martinez Point. Foul ground, with below-water rocks and drying rocks, lies between the reef and point.

Pasig Bay (7°51'N., 117°00'E.), a small shallow bay partly filled with mud flats, lies 2 miles NNW of Cape Melville light. The bay can be entered by small craft with local knowledge.

Anchorage can be taken in the entrance of Pasig Bay, protected by Gnat Reef, but open SW, in depths of 12 to 16m. Ligas Point, the prominent W extremity of Balabac, lies 7.5 miles NNW of Pasig Bay.

Catagupan Bay (7°58'N., 116°57'E.) indents the coast between Ligas Point and Sigumay Point, 4.7 miles NNE.

The bay, fouled by detached reefs and shoals, can be entered by channels from W and S, but local knowledge is essential.

The W approach leads 0.75 mile S of Ada Reef, through a break in the reef 1.5 miles W of Sigumay Point.

Sharp Peak (7°54'N., 116°59'E.) is a good landmark.

The tidal currents are fairly strong throughout the entire coastal reef area.

Caution is essential, especially after rainfall, when reef visibility is poor.

11.95 Martinez Point (8°03'N., 116°58'E.), 3.9 miles NNE of Sigumay Point, was reported to be a good radar target at 35 miles distant. A spit, which has many rocks awash and below-water, extends 2.25 miles N from the point, and a rock 9.1m high, lies 0.2 mile N from the point.

Port Ciego Bay is entered between Martinez Point and **Paz Island** (8°05'N., 116°59'E.), 2 miles NNE. The passage into the bay is deep, constricted by rocks and reefs and is only suitable for small vessels with local knowledge.

Padre Point, the W extremity of the N coast, lies 2.3 miles ENE of Martinez Point. The shores of the bay between these points are fringed with mangroves, and drying reefs extend up to 1.25 miles offshore.

Anchorage can be taken about 2 miles W of **Sigumay Point** (8°00'N., 116°57'E.), in depths of 26m, mud, taking care to avoid the 5m patch W of the anchorage.

Balabac Strait

11.96 Balabac Strait (7°40'N., 117°00'E.) connects the South China Sea and the Sulu Sea. It is deep and clear of dangers in its W part, but its E part is encumbered with numerous islets, reefs, and dangers. Several navigable channels lead through these dangers; from N to S they are North Channel, Nasubata Channel, Comiran Channel, Lumbucan Channel, Simanahan Channel, Middle Channel, Mangsee Channel, and Main Channel.

Winds—Weather.—Between Palawan and Borneo, the Northeast Monsoon prevails from November to March and has the strongest and most consistent winds. Strong winds and heavy rains occur during November and December.

The Southwest Monsoon prevails from May to October and is characterized by periodic winds and much rain. Variable winds are experienced during April.

The Balabac Strait area is outside the regular typhoon belt; however, in 1932, a severe typhoon caused extensive damage.

Tides—Currents.—From December to March, the currents produced by the Northeast Monsoon are constant and set W through Balabac Strait and E from September to November. The currents are variable and often indefinite and depend to a great extent on the wind blowing at the time.

During the months of October and November, after a period of W winds, the current was observed to be setting constantly E, slackening only during the period of the W tidal current. During the month of July, after a period of light E and SE winds, the current was observed to be setting W with a mean velocity of 1.75 knots.

In North Channel and Nasubata Channel, the currents are strong. This is especially true during the strength of the monsoon when the current and tidal current are combined and sweep through the channels in the general direction of North Balabac Strait.

Regulations.—A reporting system, operated by the Philippine navy, applies to all vessels, including pleasure craft and seaplanes on the water, transiting the area. Vessels should establish contact on VHF channel 16 with Balabac Coast Watch Station (call sign: Coast Watch Balabac), when entering or departing Balabac Strait or passing Balabac Island.

Vessels should report the following information:

1. Vessel name.
2. Call sign.
3. Course and speed.
4. Port of registry and nationality.
5. Type of vessel.
6. Type of cargo on board.
7. Port of destination and ETA.
8. Last port of call.
9. Number of crew on board.
10. Master's name.

Caution.—Numerous logs, driftwood, roots of palm trees, and other debris dangerous to shipping are found in Balabac Strait and its approaches.

Numerous dangerous submerged rocks, which can best be seen on the chart, are present in the strait. Additional dangerous submerged rocks that are present may not be charted and mariners should proceed with caution.

A depth of 24m was reported to lie in the W approach to Balabac Strait in position (approximate) 7°32.5'N, 116°32'E.

11.97 North Channel (8°04'N., 117°14'E.), lying SE of the North Balabac Strait, has a least width of about 5.5 miles between Nasubata Reef and the shoals and reefs extending SE from Canabungan Island. Depths in the channel mostly exceed 46m, however a 9.1m shoal depth, whose position is doubtful, lies about 4.2 miles N of the Nasubata Islands, while a depth of 17m lies about 2 miles NE. During the strongest months of the summer monsoon season, currents attain a considerable velocity.

The **Nasubata Islands** (8°01'N., 117°10'E.), the farthest N and highest is a cleft rock of sandstone formation 27m high to the top of the trees, lie 5.9 miles E of Sarmiento Point. The islands are located at the N end of Nasubata Reef.

Roughton Island lies about 3.4 miles E of the Nasubata Islands. The island lies in the NW part of Roughton Reef, which is partly awash at LW. The NE side of the reef is fronted by a bank which extends about 0.6 mile offshore, all other areas are steep-to. The channel between Nasubata and Roughton Reef is deep and clear of charted dangers.

Nasubata Channel (7°57'N., 117°14'E.) is formed between Nasubata Reef and Roughton Reef on the N side, and Comiran Island and associated dangers on the S. This channel, which has depths over 48m, is the recommended channel for vessels in transit between the South China Sea and the Sulu Sea.

Nasubata Channel is 5.6 miles wide between Roughton Reef and Comiran Island.

Caution must be exercised because at times the tidal stream, when combined with the current, sweeps through the channel in the direction of North Balabac Strait at a considerable rate.

Comiran Island (Comiaran Island) (7°55'N., 117°13'E.), lies NE of Comiran Danger Bank, 6.7 miles S of Roughton Island. This low, flat island is encircled by coral reef which bares at LW.

Caution.—A shoal, with a depth of 2.1m, lies on Comiran Danger Bank, 1.3 miles SSW of Comiran Island. A shoal, with a depth of 3.5m, lies 1.3 miles E of the island. It was reported (1990) that a least depth of 85m was recorded in a position 2.8 miles N of Comiran Island.

11.98 Comiran Channel (Comiaran Channel) (7°53'N., 117°14'E.) contains numerous scattered shoals and strong currents. This passage is navigable, but it is not recommended as there are better channels in the vicinity.

Lumbucan Island (7°40'N., 117°13'E.) is triangular shaped and is about 30m high; it lies 6.2 miles S of Comiran Island. The island is encircled by reefs and shoal water, but has been reported to be a good radar target at 15 miles. Several parts of the reef are bare at low water. The dangers in the vicinity of the island are called Lumbucan Danger Bank and were reported to extend eastward (1935).

These dangers include Northeast Shoal, with a least depth of 2.1m, lying 3.4 miles NE of the E extremity of Lumbucan Island; East Shoal and South Shoal, with depths of 4.5m and 2.1m, lie E and S, respectively.

Lumbucan Channel (7°47'N., 117°15'E.), between Lumbucan Danger Bank on the N side, Ellis Shoal and Simanahan Reef on the S side, is about 2.6 miles wide at the most narrow spot between East Shoal and Doorly Patches with depths of 29 to 60m. Detached patches of 11.2 to 16.5m lie mid-channel between Ellis Shoal and South Shoal.

Doorly Patches (7°48'N., 117°21'E.), with depths of 11 to 18.3m, are steep-to and lie in the middle of the E entrance to the channel.

Ellis Shoal (7°44'N., 117°10'E.) consists of a number of coral heads, with a least depth of 3.2m, lying at the S side of the W entrance to the channel.

Simanahan Reef (7°45'N., 117°19'E.), about 6.6 miles long, lies within the 20m curve. The center of the reef dries at LW over a length of 1.8 miles. At HW, discolored water marks the drying area. Outside this area, depths of less than 4.1m exist on the reef.

Simanahan Channel (7°43'N., 117°19'E.), 9 miles SE of Lumbucan Island, lies between Simanahan Reef and the N part of Great Danger Bank; it is 1.5 miles wide and deep in the fairway. Ellis Shoal lies approximately 9.5 miles W of the channel center. The channel is seldom used.

Great Danger Bank (7°37'N., 117°19'E.) is composed of numerous reefs and shoals; many of the reefs dry. No vessel should approach it closely.

11.99 North Patches (7°42'N., 117°19'E.), with a least charted depth of 6.4m, lie near the N end of Great Danger Bank, 10.9 miles SSE of Lumbucan Island.

North-west Shoals, with depths from 2.7 to 5.5m, lie at the NW end of the bank, 3 miles SW of North Patches.

Middle Shoals, 5 miles S of North Patches, and **South-east Shoals** (7°35'N., 117°25'E.), 8.5 miles SE of Middle Shoals, comprise several coral patches, with depths of 3 to 8.2m. A shoal, with a depth of 20.1m, the position of which is approximate, lies 5 miles NE of South-east Shoals.

A sand cay, the only part of Great Danger Bank above water, lies close W of South-east Shoals.

Middle Channel (7°34'N., 117°18'E.) separates the S edge of Great Danger Bank from Mangsee Danger Bank. The channel is about 1 mile wide, with depths of 29 to 66m.

Ray Bank (7°40'N., 117°09'E.), in the NW approach to the channel, has a least depth of 5.5m.

Mangsee Danger Bank (7°33'N., 117°17'E.) lies between Great Danger Bank and Mangsee Great Reef, about 5 miles

SSW. The bank is comprised of the Mangsee Islands, Loxdale Shoal, Jessie Shoal, and Salingsingan Island.

11.100 Loxdale Shoal (7°34'N., 117°13'E.), the farthest W of the dangers located on Mangsee Danger Bank, has a least charted depth of 4m.

Salingsingan Island, about 4 miles E of Loxdale Shoal, is low, flat, and wooded. Shoals and foul ground encircle the island and a bank, nearly awash in places, extends about 2 miles W from the island.

In 1991, a shoal (position approximate) was reported to exist about 2 miles N of the E end of Salingsingan Island, lying on the N side of the fairway.

Jessie Shoal (7°32'N., 117°21'E.), on the E side of the bank, 3 miles ESE of Salingsingan Island, has a depth of 1.8m.

North Mangsee Island (7°31'N., 117°18'E.), 2.5 miles S of Salingsingan Island, is wooded and rises to an elevation of 40m. Reefs and shoals extend 3.6 miles ESE and 3.8 miles WNW from the island.

South Mangsee Island (7°30'N., 117°18'E.), marked by a light, is low, flat and wooded; it is fringed by a reef. The island lies in the SE part of the bank; it was reported to be a good radar target at 17 miles distant.

Mangsee Channel (7°30'N., 117°17'E.), separating Mangsee Great Reef and Mangsee Danger Bank, is about 1 mile wide at its narrowest part. The depths in the channel fairway are irregular, but deep throughout. Steep-to reefs lie on both sides of the channel which is considered secondary; it is rarely used by ships.

Directions.—Nasubata Channel is the recommended route for vessels passing through Balabac Strait enroute to the Sulu Sea and Philippine Island ports.

From a position with Cape Melville Light bearing 344°, distant 6 miles, steer a course of 035° for about 15 miles which leads to a position with Espina Point Light, bearing 300°, distant about 7 miles. From this position a course of 074° will lead through the fairway of Nasubata Channel and into the Sulu Sea.

Caution.—A danger area encompasses Mangsee Channel and the Mangsee Islands. The area has not been thoroughly swept clear of mines.

There are many affirmed and doubtful depths in the area E of Balabac Strait. In fact, the area W of the strait has not been closely examined, so there could be uncharted dangers existing both E and W of the strait. No attempt will be made to list all the reported positions of doubtful depths as they are all shown on the chart.

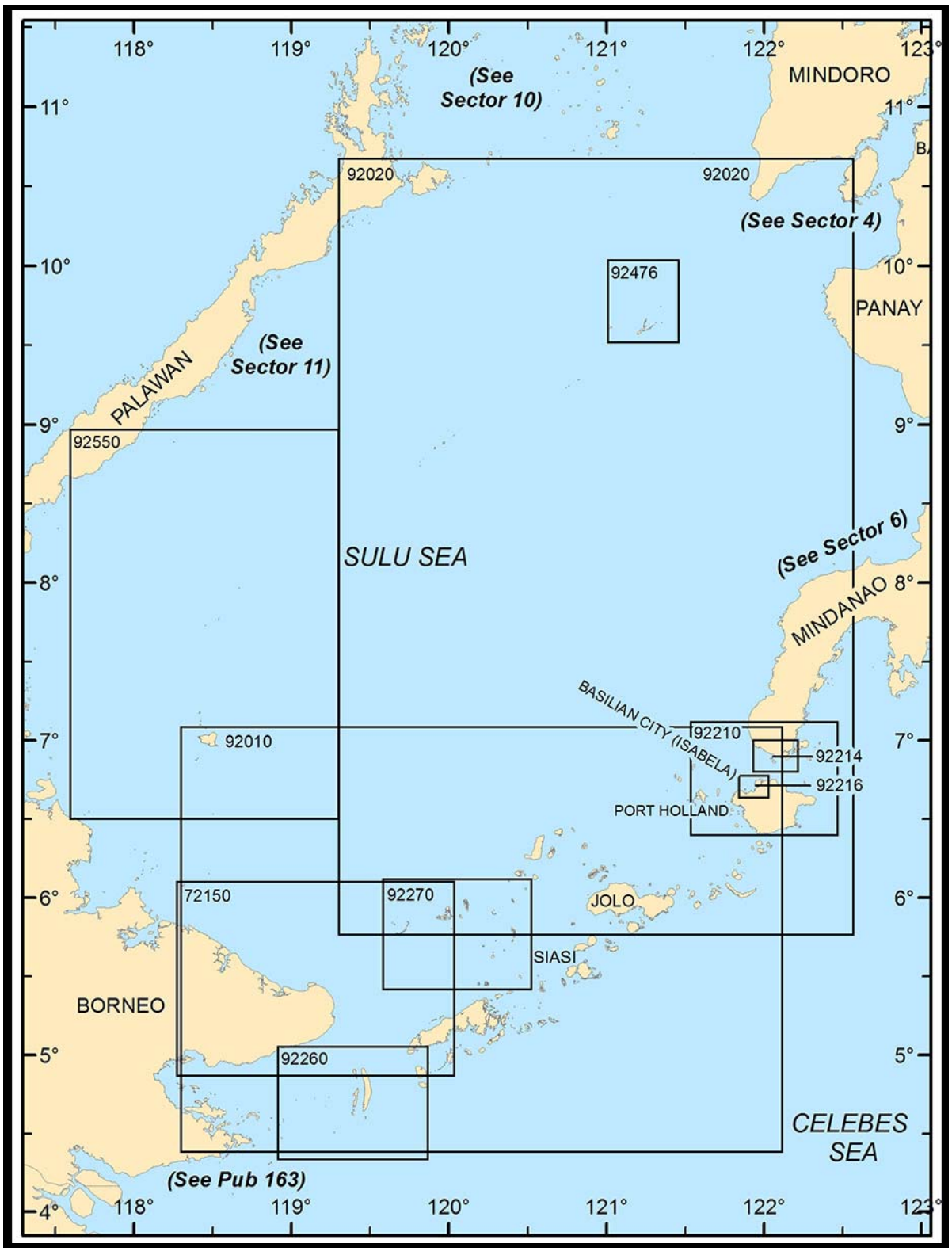
11.101Borneo Bank (7°40'N., 117°37'E.) is a patch of discolored water with the bottom visible and with a depth of 12.8m or less. Two shoals, with a depth of 18.3m, were reported to lie 24 and 26 miles SE of Borneo Bank.

Kestrel Rock (7°28'N., 117°23'E.) is a rocky shoal with a depth of 6.4m. An 8.2m patch lies 1 mile SSE. A group of rocks, awash, is reported (1899) to lie 8.7 miles E of Kestrel Rock, but their existence is doubtful.

Borneo Shoal (7°22'N., 117°32'E.), with a depth of 3.7m, lies about 18 miles, bearing 123° from South Mangsee Island.

A 5.9m patch and a 7.3m shoal lie 4.2 and 3.7 miles SE and S, respectively, of Borneo Shoal.

Fearless Shoal (7°23'N., 117°37'E.), with a depth of 7.3m, lies about 23 miles, bearing 112° from South Mangsee Island. There are numerous shoal spots, best seen on the chart, 6 to 18 miles SE of Fearless Shoal.



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

SECTOR **12** — CHART INFORMATION

SECTOR 12

THE SULU SEA AND THE SULU ARCHIPELAGO

Plan.—This sector describes the islands and dangers in the Sulu Sea with the descriptive sequence from W to E, and then continues with a description of the island groups, dangers, and passages of the Sulu Archipelago. The sequence of description is from N to S.

General Remarks

12.1 Winds—Weather.—In the Sulu Sea, E winds and fine weather prevail in October, and the Northeast Monsoon is not established before November. The latter gradually increases in strength and lasts until about the end of April.

In January and February, the Northeast Monsoon is fully developed, but does not have the force of the winds in the South China Sea. Its force normally does not exceed that of a fresh breeze and is strongest in the areas W of Panay Gulf and the Mindanao Sea.

During the period of the Northeast Monsoon, the winds are not steady and are often variable. Near Mindanao, the N winds never become fresh, and light variable winds frequently displace them for several days. This often occurs near the end of January.

May is the month of transition and during its later part the Southwest Monsoon commences. It is fully established by the end of June and lasts until October. Variable winds prevail during May and June and are accompanied by fine and clear weather.

In July and August, the Southwest Monsoon is accompanied by heavy rain squalls and stormy weather.

In September, heavy mists are found off the coast of Mindanao. Considerable rain falls in the vicinity of Palawan, the Calamian Group, and Panay during the Southwest Monsoon.

Typhoons pass occasionally over the N part of the Sulu Sea, but they usually cover only a small area. During July and August squalls and SW winds of the outer zones of the typhoons affect this area. Periods of fine and clear weather occur frequently.

After such periods, the winds sometimes shift to N and NW, accompanied by a gradual drop of the barometer and followed by squally and stormy weather. It should be noted that NW winds are frequent in Mindoro Strait and that they are not usually followed by periods of squally weather.

Tides—Currents.—Little is known of the currents in the Sulu Sea because of the small number of observations.

The currents are reported to depend to a great extent on the strength and force of the wind and are variable, especially during the Southwest Monsoon. The rate seldom exceeds 1 knot.

During the months of December to February, SW currents, produced by the Northeast Monsoon, are rather constant.

At this time water flows directly from the North Equatorial Current into the Sulu Sea, through San Bernardino Strait and Surigao Strait, and from the Sulu Sea into the Celebes Sea. It also passes from the Sulu Sea to the South China Sea via Balabac Strait.

Two tidal currents enter the Sulu Sea and passages between the Philippine Islands from opposite directions, one from the South China Sea through the W openings, and the other from the Pacific through the E openings.

These tidal currents meet in the many channels between the S islands. The tidal current from the South China Sea passes from N to S along the W coast of Luzon and Palawan and through Verde Island Passage, Mindoro Strait, Linapacan Strait, and Balabac Strait.

Between the Calamian Group and the N end of Palawan, the tidal currents set in a SE and opposite direction.

The E tidal current from the South China Sea SE passes through Balabac Strait and turns NNE well off the E coast of Palawan and spreads itself like a fan over the Sulu Sea in a NE and E direction. It forms the E current between the Cuyo Islands and Panay, and also that which sets S of the Cagayan Islands, where it is reported to meet the tidal current from Surigao Strait approximately on the meridian of Cagayan Island.

The **Sulu Sea** (9°00'N., 120°00'E.) lies between Palawan on the NW; Mindoro, Panay, and Negros on the NE; Borneo on the SW; and the Sulu Archipelago and Mindanao on the SE. The Sulu Sea is deep throughout, especially its E part.

The three groups of islands in the sea include the Cuyo Islands; the Cagayan Islands, lying in the central part of the sea; and the Cagayan Sulu Islands, lying in the SW part.

Navigable straits and passages connect the Sulu Sea with the South China Sea, the Celebes Sea, and the Pacific Ocean.

The Sulu Sea—Southwest Part

12.2 Bancoran Island (7°58'N., 118°40'E.), lying about 96 miles E of Balabac Peak, is a densely-wooded islet, 30m high to the tops of the trees. Reefs extend from the E and W sides of the island.

A shoal, with a depth of 12.8m, lies 1.5 miles NNW of the island. The reef between the island and this shoal was recently reported to extend farther N. The island was reported to give a good radar return at 17 miles distant.

The **San Miguel Islands** (7°45'N., 118°30'E.), consisting of four islets and several off-lying dangers, lie 16.5 miles SW of Bancoran Island. There is no safe anchorage around these islands.

Bancauan Islet (7°46'N., 117°32'E.), the largest of the San Miguel Group, is 24m high. It is eroded and nearly divided by the sea about 0.2 mile from its NE point.

A small coral islet lying 0.75 mile N is connected to the island by a reef with sand cays and large boulders.

Manuc Manucan Islet, 0.9m high, is reported as barren and covered with white sand; it lies 5.25 miles WSW of Bancauan Islet. Manuc Manucan is connected by a reef to a small islet lying 0.5 mile S.

A reef, above and below-water, extends 1.5 miles NNW

from the small islet. Shoal ground connects Manuc Manucan Islet with a 4m coral patch 2.25 miles NW. A 4.3m patch lies 1.5 miles NNE of the islet.

Moyune Shoal (8°03'N., 118°07'E.), 29.5 miles NW of Bancauan Islet, has a least charted depth of 5.8m. Shoals, position approximate and doubtful, lie 5 miles SW; 10 miles N; 1 mile NNE; 8 miles E, and 6.5 miles E of Moyune Shoal. Whirlpools form in an area 10 miles SE of the shoal.

Maeander Reef (8°06'N., 119°18'E.), lying 60 miles E of Moyune Shoal, is a sand cay about 2.4m high, encircled by a steep-to reef. A radar conspicuous wreck has been reported on the NW side of the reef.

Valparaiso Shoal (7°51'N., 118°27'E.) is located 7.5 miles NW of Bancauan Islet; it is reported to be 2 miles in extent, with a charted depth of 5.5m. The coral bottom near the shoal is clearly visible at a depth of 11m. A coral reef extending approximately 4 miles E to W was reported to lie 2 miles S of Valparaiso Shoal.

12.3 **Java Reef** (7°50'N., 118°34'E.), 7 miles ESE of Valparaiso Shoal, is a small dangerous reef with a depth of 4.5m. Discolored water and tide rips mark the extent of the reef and shoal ground. It is reported to dry.

West Bank (7°43'N., 118°23'E.), with least depth of 10.9m near its center, lies 4.5 miles W of Manuc Manucan Islet. The bank extends 3 miles NNW and the same distance SSE from the 10.9m depth.

Southwest Bank (7°40'N., 118°20'E.), lying about 6 miles SW of Manuc Manucan, extends ESE to WNW for about 8 miles. A least depth of 16.5m exists at the SE end of the bank. The coral and sand bottom of the bank is visible at depths of 24 to 31m. Anchorage, good holding ground, can be taken on the bank.

A shoal with a charted depth of 7.3m was reported (2000) to lie 2 miles S of Southwest Bank.

Don Juan de Austria Shoals (7°38'N., 118°11'E.) is comprised of several shoal patches with charted depths of 3.6m. A dangerous submerged rock was reported (2006) to lie among the shoals.

A shoal covered with large boulders, some of which were nearly awash, was reported to lie about 11.5 miles SSW of Manuc Manucan Island. A sounding of 7.3m was obtained on this shoal, and a sounding of 12.8m was found near its edge which appeared to be steep-to. A 12.8m patch lies about 18 miles SW of the same island.

A vessel reported (1996) grounding on a soft coral reef, in the vicinity of position 7°40.6”N, 118°11.6'E.

Vessels are advised to give Don Juan de Austria Shoals a wide berth.

12.4 **Memnon Shoal** (7°27'N., 118°25'E.), lying about 16.5 miles S of Manuc Manucan Island, has a reported depth of 10.9m coral and sand, but could be shallower.

Tides—Currents.—Currents over Memnon Shoal have been reported to set SSW and NNW at a maximum rate of 1.25 knots. Heavy tide rips are reported to mark the NE edge of the shoal. Breaking tide rips, extending 7 miles NE to SW, were encountered about 25 miles SSE of Manuc Manucan Islet.

Small banks of 18.3 and 20.1m were reported to lie 22 and 20 miles SSW and S, respectively, of Manuc Manucan Islet.

From Memnon Shoal to Cagayan Sulu Island, a line of reported shoals exists, best seen on the chart.

The Cagayan Sulu Islands, a group of islands, islets, reefs, and shoals, lie in the SW part of the Sulu Sea, between 32 and 51 miles S of Manuc Manucan Island. The islands are inhabited except for Bintut, Mandah, and the smaller islets. Tidal currents are negligible.

Cagayan Sulu Island (7°00'N., 118°29'E.), the largest island of the group, is mountainous and lies with its NW extremity, **Tavotavo Point** (7°01'N., 118°24'E.), 26 miles S of Memnon Shoal; **Banga Point** (7°03'N., 118°31'E.) is the NE extremity. Mount Ledan, the summit of the island, standing in the NE part, slopes gradually to the sea.

The mountain is reported to be a good radar target at 26 miles distant. The S coast of the island contains fresh water crater lakes. A prominent hill rises 1 mile S of Mount Ledan. There is a radio station and airstrip on the island.

12.5 Except for its NW and SE extremities, Cagayan Sulu Island is fringed by a partly drying coral reef extending 0.75 mile offshore in places.

Tandotao Point (6°58'N., 118°32'E.), the SE extremity of the island, is a finger-like extension of the coast which has a 100m high hill near its extremity. A white concrete tower, from which a light is shown, stands on high ground close W of the point.

Gunboat Harbor, 1.5 miles W of Point Tandotao, is small and shallow.

Cagayan de Sulu, located on the N side of Gunboat Harbor, is a sub-port of entry administered by the Bureau of Customs for enforcing customs laws.

The port facility consists of a rock causeway about 238m in length, with a steel pile wharf, 30m in length at its seaward end. There were reported depths of 3.7m at its head, and lesser depths on both sides. A radio tower stands about 0.5 mile NW of the wharf.

Anchorage can be taken, sheltered during the Northeast Monsoon, in a depth of 18.5m, about 0.5 mile offshore of Lake Singuan, the farthest W lake of the fresh water crater lakes along the S shore.

The best anchorage during the Northeast Monsoon is at Southwest Anchorage, off the W side of the island, in depths of 16 to 20m, with Tavotavo Point bearing 350°, distant 1.25 miles. During the monsoon, a heavy swell sets around the point and the sea breaks along the reef.

12.6 **Jurata Bay** (6°59'N., 118°28'E.), its entrance nearly blocked by a reef, lies 3.5 miles W of Tandotao Point. A rock, below water, lies 1 mile SW of the entrance to the bay. Jurata village is located on the E side of the bay.

Lapunlapun Island, an islet, lies on the N edge of a detached reef, about 3.25 miles ENE of Tavotavo Point.

Silimusian Island, a smaller islet, lies 0.3 mile NW of Lapunlapun.

Anchorage can be taken, in depths of 33m, with Lapunlapun Island bearing 058° and Kamutyajan Point, located 0.75 mile SW of the island, bearing 193°.

Bulingis Point, located 0.6 mile S of Lapunlapun Island, aligned with a prominent hill 244m high, which stands 1 mile SE of Mount Ledan, leads to the anchorage.

Keenapusan Island (7°11'N., 118°25'E.), the farthest N of the Cagayan Sulu Islands, lies 8.25 miles NNW of Cagayan Sulu; it is fringed by a reef which extends 0.3 mile off its S side. The 40m curve lies 0.5 mile off the N and E sides, but up to 2 miles off the other sides of the island.

Anchorage can be taken off the SW side of the island with its summit bearing 041° and the summit of Pamelikan Island bearing 153°, in a depth of 12.8 to 18.3m, sand and coral.

There are a number of islands lying on a line SSE from Keenapusan Island to Cagayan Sulu. From N to S they are Pamelikan Island, Bintut Island, Bohan Island, and Mandah Island. Mandah is reported to be the highest of these islands. The position of the islands may best be seen on the chart.

12.7 **Northwest Bank** (7°13'N., 118°22'E.), with a least depth of 7.3m, lies with its SE extremity 3.25 miles NW of Keenapusan Island. The bank is steep-to and vessels should not anchor on it.

A small unexamined bank, with a depth of 25m, was reported 7 miles N of Keenapusan Island. A depth of 5.8m was reported 3.5 miles farther NW.

Northeast Bank (7°12'N., 118°28'E.), with a depth of 7.3m, lies 3 miles NE of Keenapusan Island. Fair anchorage can be taken on the E or SW sides of the bank.

An area reported to contain many shoals is charted S of Northeast Bank. Many shoals exist W of the islands N of Cagayan Sulu Island, and may best be seen on the chart.

Willcox Bank (6°55'N., 118°28'E.) is steep-to with a least depth of 4.8m; it lies about 5 miles SW of Tandotao Point. The bottom over the bank is clearly visible.

12.8 The **Muligi Islands** (6°53'N., 118°24'E.) are two islands, the largest rising to a height of 120m, located 7 miles SSW of Cagayan Sulu Island. Both islands are inhabited and have coconut plantations on them. The channel between the two islands is clear, but transit should not be attempted.

A 14.6m patch was reported to lie 16.5 miles NW of the Muligi Islands; a 14.9m patch was reported to lie 2.5 miles S of the 14.6m patch.

Muligi Patches (6°55'N., 117°58'E.), with a depth of 9.1m, are located 24.5 miles W of Muligi Islands. Included in these dangers are two small detached reefs, with depths of 8.5m and 7.6m, lying about 15 miles WSW and 18 miles W, respectively, of Muligi Island.

Monmouth Shoals (6°43'N., 118°09'E.), located 7 miles S of the 8.5m depth above, consists of a group of several detached shoals with depths of 3.9 to 14.6m. Depths of 22m and 18.3m, were reported to lie 4.25 miles and 11 miles E, respectively, of Monmouth Shoals.

Schuck Reef (6°49'N., 117°52'E.), with a depth of 6.4m, lies in an uncharted area 15.5 miles NW of Wanderer Shoal.

Mambahenauhan Islet (6°32'N., 118°31'E.), a brown rock with trees on its summit, rises to a height of 44m; it lies 21 miles SSE of the Muligi Islands.

Caution.—Many dangers are charted on, and SW of a line connecting Monmouth Shoal and Shuck Reef. Less water than charted may exist over these dangers.

The Sulu Sea—Central Part

12.9 There are three main groups of islands and dangers lying in the central part of the Sulu Sea. The Cagayan Islands, the N group, lie on the S part of an extensive steep-to group of reefs that extend about 30 miles SSW from a position in 10°00'N, 121°24'E. The Cagayan Islands are wooded and partly cultivated.

The islands are reported to consist of smooth level-topped hills. Depths about 183m from the edge of the reefs are over 183m. Tidal currents are weak around the island.

The reefs extending N from the islands dry at LW, as may best be seen on the chart.

Cavili Island and Arena Island, lying 27 to 35 miles SW of Cagayan Island, and Tubbataha Reefs, lying 47 to 64 miles SW of Arena Island, form the remaining groups.

Cagayan Island (9°36'N., 121°14'E.), the largest of the group, lies about 60 miles W of Negros Island. Cagayan is about 5.5 miles long, and has a smooth ridge, with a maximum height of 62m, extending nearly its entire length. A reef, which dries at LW, extends 0.9 mile SSW from the S extremity of the island.

A reef which dries, lies about 1.25 miles ESE from the S extremity of Cagayan. An extensive foul ground which may be seen on the chart lies between the island and the reef. A wreck, which may best be seen on the chart, lies approximately 4.5nm NE of Cagayan Island.

Cagayancillo (9°35'N., 121°13'E.) stands on the SE side of Cagayan Island, near its S extremity. The ruins of a fort stand on a bluff on the E side of town; there is a school and church nearby. A pier, suitable for boats at HW, extends into a cove on the NE side of the town.

Calusa Island (9°37'N., 121°01'E.), flat, sandy, and covered with coconut trees, lies 10 miles WNW of the S extremity of Cagayan Island.

The island is reef-fringed for about 0.2 mile. Several nipa houses stand on the S side of the island, but Calusa is not permanently inhabited.

The island was reported visible at 15 miles and reported to be a good radar target at 26 miles distant. The channel between Calusa Island and Cagayan Island is wide, deep, and clear of dangers.

12.10 **Calalong Island** (9°35'N., 121°14'E.) consists of a group of low hills with a steep rocky bluff on the S side, separated from the SE side of Cagayan Island by a narrow drying channel.

Anchorage can be taken by small vessels, with local knowledge, about 0.1 mile S of Calalong Island, in a depth of 9.1m. The anchorage is approached from the E through a constricted, unmarked channel.

Dondonay Island (9°36'N., 121°15'E.), about 3 miles long and narrow, lies with its SW end 0.5 mile E of the E extremity of Calalong Island. A foul channel separates the two islands. Dondonay has a bluff and rocky coast fringed on the SE by reefs.

Volata Island (9°39'N., 121°15'E.) and Tanusa Island are separated from the N end of Cagayan Island, and from each other, by constricted, foul channels, impassable even by small boats. Volata is low and flat; Tanusa is similar to Cagayan in

appearance. A steep-to reef extends 0.25 mile off the W side of Tanusa.

Dauisan Reef extends 8.25 miles N from Tanusa Island. Some above-water rocks on its N and W sides mark the outer edge of the reef by day. A stranded wreck lies on Dauisan Reef, 7.5 miles N of Tanusa Island.

Boombong Island (9°45'N., 121°20'E.), the farthest NE of the Cagayan Islands, lies 7 miles NE of Tanusa Island.

The island, which is about 152m high to the top of the trees, is surrounded by a coral reef which extends 0.4 mile NE and 0.2 mile SE.

Manucan Island (9°39'N., 121°21'E.), small and reef-fringed, lies on a detached coral reef about 3.5 miles ENE of Dondonay Island. The island is flat and sandy, and is marked by a light. Shoal water extends 0.75 mile E of the reef.

Langisan Islands is a bare rock lying on a drying reef, 2 miles W of Manucan Island. Anuling Island, similar to Langisan, is located on the same drying reef, 0.9 mile SSW of that island.

Igcauayan Reef, partly drying, is about 6 miles long; its S end lies about 0.6 mile NNW of Langisan Island.

The area between Igcauayan Reef and Dauisan Reef is foul.

Cabantayan Reef, which dries, extends 1.75 miles NW from a position 2.5 miles WNW of Boombong Island.

Foul ground extends NW from this reef to the NE extremity of Dauisan Reef, about 1.5 miles distant. Tide rips occur in the bight formed between Igcauayan Reef on the S and Cabantayan Reef on the N.

12.11 Catimogan Shoals (9°48'N., 121°20'E.), consisting of several patches with depths of 4 to 14.6m, lie with their S end 2.75 miles NE of Boombong Island and extend 7 miles N. There are considerable depths between the patches. A small reef, with a depth of 10.1m, lies about 9 miles NNE of Boombong Island. There is also an isolated reef, with a depth of 12.8m, located about 4.5 miles farther NNE.

Sultana Shoals (9°57'N., 121°23'E.) consist of a number of reefs and shoals, with depths of 1.5 to 18.3m, extending 5.6 miles N from a position about 10 miles N of Boombong Island. Several 2.7m patches exist near the N end of the shoals. There is deep water between the various Sultana Shoals.

Both Catimogan Shoals and Sultana Shoals are steep-to on their W sides, with depths of 183m within 0.5 mile.

Queen of the Sea Bank (10°24'N., 120°29'E.), lying 63 miles NW of the Cagayan Islands, has a charted depth of 6.4m. The S and W sides of the shoal are steep-to, but on the N and E sides the bottom slopes gradually so that soundings give ample warning of an approach to the bank.

The bank seldom breaks in heavy weather. Breakers were reported about 2.5 miles W of the bank.

Piedra Blanca (10°26'N., 121°01'E.), a small prominent white rock, 3m high, lies about 30 miles E of Queen of the Sea Bank. The rock lies on the S edge of a shoal, with depths of 7.3 to 14.6m, which extends 0.5 mile E and 1.25 miles NW from the rock. The shoal is steep-to with depths over 91m existing a short distance from the edge of the shoal.

Sombrero Rocks (10°43'N., 121°34'E.), lying about 36 miles ENE of Piedra Blanca, appear as two black rocks of about the same height. When approaching from the N or S, the rocks appear to be in two parts, of which the W, 6.7m, is the higher.

The rocks are reported to be radar conspicuous at a range of 15 miles.

12.12 Cavili Island (9°17'N., 120°50'E.) and Arena Island are two coral islets lying on fringing reefs 28 and 32 miles, respectively, from the Cagayan Islands. Cavili is 30m to the top of the trees and Arena Island is about 18m to the top of the trees.

It was reported that a prominent white tower was situated on Arena Island. Several detached sand cays lie on the reef S and W of Arena Island. A deep channel lies between the islets, but the reefs are steep-to and vessels should navigate with caution in their vicinity.

Cavili Island is reported to be a good radar target at 15 miles distant.

12.13 Tubbataha Reef (8°50'N., 119°53'E.) are two extensive and dangerous reefs separated by a channel 4 miles wide, lying about 48 miles SW of Arena Island.

North Islet (8°56'N., 120°02'E.), a rock 1.2m high, covered with grass and guano, lies near the N end of the NE reef. This reef, which is steep-to, encloses a lagoon in which there are depths of 5.5 to 33m; there is no entrance to the lagoon. A stranded wreck lies on the SE extremity of the reef.

Central Islet, North Islet, and several small black rocks are the only objects on the NE reef that are above HW. At LW there are numerous sand cays or ridges, each about 91m long, visible along the entire length of the reef.

South Islet (8°44'N., 119°49'E.), about 1.6m high, lies at the S end of the SW reef. Black Rock, and several other black rocks and sand keys, all above-water, lie at the N end of this reef. The islet is marked by a light. A stranded wreck is reported to lie 0.5 mile NE of the light.

Courtesy of Philippine Mapping Authority

Tubbataha South Islet Light from S

A depth of 262m was reported 13 miles SW of South Islet. It has been reported that the reefs appeared to have extended and

Courtesy of Philippine National Mapping and Resource Information Authority
Tubbataha South Islet Light from close W

increased in height. Extensive white-colored patches of sand and coral, together with numerous palm trees, were sighted on the N and NE extremities of the NE reef, and three stranded wrecks were sighted on the W side. The lighthouse was difficult to identify in daylight.

Jessie Beazley Reef (9°02'N., 119°48'E.), a reef of broken coral about 1.8m high, encircled by a white sand cay near the middle, lies 14 miles NW of North Islet. The reef dries over a considerable distance.

Caution.—Tubbataha Reef and its surrounding waters have been declared a natural park. Entry into the area is restricted unless a valid permit is obtained from the Tubbataha Management Office. Mariners are advised to remain well clear of the reefs.

It has been reported (2005) the reefs extend up to 1.5 miles further seaward than charted.

The Sulu Archipelago

12.14 The Sulu Archipelago consists of a chain of islands and dangers that extend about 220 miles SW from Basilan Strait to Alice Channel off the NE coast of Borneo.

There are reported to be more than 300 islands comprising the archipelago. Numerous passages between the islands connect the Sulu Sea and Celebes Sea.

The Sulu Archipelago is divided into principal groups, and several smaller allied groups, for descriptive purposes. At the NE end of the island chain lie the Basilan Group, Jolo Group, and the Tapul Group in the center, and the Tawitawi Group and the Sibutu Group at the SW end.

The most important ports are Isabella and Port Holland, on Basilan Island; Siasi, on Siasi Island; Jolo and Parang, on Jolo Island; and Port Bongao, on Tawitawi Island.

Winds—Weather.—The Northeast Monsoon prevails from November to April. Its direction is mainly between N and NE, tending more E during the close of the season. When fully established the Northeast Monsoon is very steady, but it is not as strong as the winds found farther N.

Freshening winds are generally of shorter duration and become less frequent as the Northeast Monsoon draws to a close.

Interruptions to the monsoon are more common in the vicinity of the Sulu Archipelago than elsewhere in the Philippine Islands. These interruptions are generally associated with shallow low pressure systems or typhoons.

The Southwest Monsoon is established by June, following a transition period of variable winds (mainly between NE and S), and continues until October. The winds are steadiest in July and August. They do not blow as steady as the winds of the Northeast Monsoon.

The transition period before the onset of the Northeast Monsoon is more gradual than that before the onset of the Southwest Monsoon.

Squalls are somewhat prevalent during the Southwest Monsoon, especially near the land. During these squalls the wind is gusty and sometimes reaches gale force. These squalls are often associated with thunderstorms.

Occasionally strong and squally SW or W winds blow for several days in a row in summer and early autumn, and at times even later in the year. These winds, known locally as Collas, are generally associated with typhoons centered farther N. They are usually accompanied by rain.

During this period, shallow atmospheric depressions sometimes give rise to squally SW winds. Land and sea breezes are prevalent, especially when the prevailing monsoon is weak.

Typhoons form at times, especially in autumn and early winter, and bring rain. Their occurrence is rare as only 1 per cent of all typhoons occur S of the parallel of 8°00'N.

There are no pronounced wet and dry seasons in the Sulu Archipelago, the rainfall being fairly evenly distributed over the year. Normally the average number of days with rain per month is not less than 10 in spring and exceeds 15 from June to December.

Some rain always falls in each month from July to October, and February and April are known to have been rainless months. Torrential rains of short duration sometimes occur in spring and summer during thunderstorms.

Cloudiness is high in all months, but it appears to be at a minimum in April. The amount of clouds tends to increase with the warm and moist S winds.

Overcast skies, with low bases and poor visibility, occur when SW winds blow uninterruptedly for several days.

Visibility is generally good, except during heavy rain squalls. The occurrence of fog is rare. Continuous rain and low clouds may be responsible for only moderate visibility.

Temperatures are reported to be moderately high throughout the year. The difference in the mean temperature during the summer and winter does not exceed 17°C. The yearly average temperature is 26°C and the average maximum temperature is 30°C. The temperature seldom exceeds 35°C and seldom falls below 18°C.

Tides—Currents.—The tides are chiefly diurnal in the Sulu Archipelago. The diurnal range varies from 0.6 to 1.8m and the mean range varies from 0.6 to 1.7m.

The direction and velocities of the tidal currents in the various channels and passages are described with the particular area.

In general, strong tidal currents are experienced in the Sulu Archipelago because of the movement of the water over the shelf between the Sulu Sea and the Celebes Sea.

The currents in the Sulu Sea and Celebes Sea are not reckoned with in navigating in the close proximity of the Sulu Archipelago.

The Sulu Archipelago—North Part

12.15 The islands, reefs, and dangers which form the N part of the Sulu Archipelago may be roughly divided into two groups, namely the Pilas Group and the Pangutaran Group. They extend about 143 miles WSW from a position about 5 miles ENE of Teinga Island.

A deep channel, about 15.5 miles wide, separates the NE end of the Pilas Group from the SW end of Mindanao.

Pearl Bank, at the SW end of the Pangutaran Group, is separated from Talantam Shoal to the SW, by a deep channel which has a least width of 9 miles.

The Pilas Group, which lie W and NW of Basilan Island, extend 30 miles S and 26.5 miles WSW from **Teinga Island** (6°54'N., 121°35'E.).

The Pangutaran Group, and adjacent banks and shoals, extend 111 miles WSW from a position about 29 miles WSW of Teinga Island.

Extensive banks, as defined by the 20m curve, extend from and are found in the vicinity of the Pilas Group and the Pangutaran Group.

Numerous reefs, shoals, and dangers exist on these banks.

Tides—Currents.—Between Teinga Island and Basilan Strait, the flood current sets NW and the ebb SE.

In the channels between Pilas Island and Basilan Island the tidal currents are strong and attain a rate of 6 knots at springs. The flood current sets N and the ebb S.

Amongst the islands and banks of the Pilas Group, the tidal currents flow in various directions. Their general direction, when unobstructed, is NW during the rising tide and SE during the falling tide.

The tidal currents set in various directions near the islands and shoals of the Pangutaran Group.

In the unobstructed areas the currents set NNW during the rising tide and SSE during the falling tide. The rate seldom exceeds 2 knots. Slack water generally occurs about 1 hour after HW and LW.

On the extensive bank which lies NE of Pangutaran Island the tidal currents are strong and irregular. They set NW during the rising tide and SE during the falling tide, except where interrupted.

The flood current sets WNW and the ebb current sets ESE through the fairway of Pangutaran Passage. The maximum rate is 4 knots. In the W and E approaches to the channel the flood current sets W and the ebb E at about the same rate. In the channel E of Pangutaran Island the flood currents sets N and the ebb S.

In the channels between the islands E of Pangutaran Island the flood current sets NW and the ebb current sets SE; the rate is from 2 to 3 knots.

Among the islands and banks between Pangutaran Passage and Pearl Bank, the tidal currents take various directions. Their direction, when unobstructed, is NNW during the rising tide and SSE during the falling tide.

The tidal currents over the extensive bank lying between Pangutaran Passage and Cap Island are reported to be strong. They set NW during the rising tide and SE during the falling tide, except when modified by the numerous reefs and shoals in the area.

In the vicinity of **Sail Rock** (5°57'N., 120°13'E.), the flood current sets N and the ebb current S at a rate of 3 to 4 knots and are generally semidiurnal in character.

The tidal currents are strong between Cap Island and **Laparan Island** (5°54'N., 120°00'E.). The flood current sets N and the ebb S.

In the channel between Doc Can Island and Pearl Bank, the flood current sets NNW and the ebb SSE at a rate of about 3 knots.

Strong rips and swirls are found in the channel. North of Pearl Bank the tidal current sometimes attains a rate of 6 knots. Off the W side of Doc Can Island the tidal currents follow the general direction of the 40m curve.

During the flood current a NW set was observed at a position about 4 miles SW of the island, a N set was observed W of the island, and a NE set was observed N of the island. The ebb current follows the reverse of the above directions. S of Doc Can Island and inside the 200m curve the ebb current was observed as setting ESE.

Slack water usually occurs in the above channel from 1 hour before to 1 hour after local HW or LW, but the time interval varies occasionally from 2 to 3 hours either way.

In the channel between Pearl Bank and Talantam Shoal the flood current sets NW and the ebb SE at a rate of about 1.75 knots.

The Pilas Group

12.16 The Pilas Islands are a group of islands lying W and NW of Basilan Island.

Pilas Channel, between Pilas Island on the W and Mataja Island and Balukbaluk Island on the E, is 3.5 miles wide, deep and clear of dangers. The tidal current at springs sets N and S at a reported velocity of 6 knots.

Pilas Island (6°38'N., 121°36'E.), the largest island of the Pilas Group, is densely wooded. Two high hills lie near the N end of the island, but S of the hills the land is flat and almost submerges at HW.

Tamila Rock, 1.2m high, lies about 0.5 mile NW of the island. Several dangers lie off the N and NE sides. Detached patches, with depths 3.7 to 4m, lie 3.25 miles and 5 miles SW and WSW of the S extremity of Pilas. A narrow bank of shoals extends 10 miles SSE of Panducan Point, the S extremity of the island.

Tagutu Island (6°39'N., 121°38'E.) lies about 0.5 mile E of Pilas Island; they are separated by a channel that is deep and free of charted dangers.

Mataja Island (6°34'N., 121°41'E.), a heavily-wooded island, lies 4.25 miles ENE of Panducan Point. A spit, with a depth of 2.7m at its outer end, extends 0.6 mile N of the island. A light is shown on the SE side of Mataja Island. A shoal, with a charted depth of 7.3m, lies 2.5 miles SSW of the light.

Balukbaluk Island (6°40'N., 121°42'E.), 3.5 miles NNE of Mataja Island, rises to a height of 160m in its N extremity; its S end is low. Tide rips form off the N end, and SE side of the island.

12.17 **Manangal Island** (6°38'N., 121°35'E.) lies within the 20m curve, 0.5 mile W of Pilas Island; it rises to a height of 115m in its SW part. Two shoal patches, as may best be seen on the chart, lie in the S part of the channel between Pilas Island and Manangal Island.

Anchorage, protected from wind and sea, except for a narrow sector from due S, may be taken in the channel between Pilas Island and Manangal Island, in depths of 9 to 11m, sand and coral.

Anchorage may also be taken 0.5 mile N of Manangal, in a depth of 20m. Tidal currents are weak at the anchorages.

Minis Island (6°37'N., 121°31'E.), 3.25 miles WSW of Manangal Island, is the farthest W of several small islands lying W of Pilas Island; their positions may best be seen on the chart.

Puju Reef (6°40'N., 121°34'E.), a small drying reef, lies 3.25 miles W of the W extremity of Pilas Island; foul ground extends about 1 mile N from the reef. The Bantolinos Islets lie 2.5 miles W of Puju Reef.

Mindoro Shoal (6°35'N., 121°27'E.), with a least charted depth of 5.5m, lies 4.25 miles SW of Minis Island.

There are detached shoal patches charted NE, W, and SW of Mindoro Shoal.

The **Sangboy Islands** (6°50'N., 121°33'E.) are two small islands separated by a deep, constricted channel, located 8.25 miles NNW of Pilas Island. Each island is low in its S part but the W island rises to a height of 245m and the E island rises to a height of 168m.

The shores are sandy except in their N parts which are rocky; the islands give a good radar return at 22 miles distant. Swirl Reef, 0.5 mile W of the W island, has a charted depth of 4m. Tide rips form off the N sides of the islands.

12.18 **Teinga Island** (6°54'N., 121°35'E.), a low densely wooded island, lies 3 miles NNE of the Sangboy Islands. A 10.4m patch lies 2.5 miles NE of Teinga Island.

Dassalan Island (6°45'N., 121°28'E.), 5.75 miles SW of the Sangboy Islands, has several sandy beaches. There is a lagoon on the W side which small boats may enter at HW.

Kaludlud Island, 1 mile WNW of Dassalan Island, is low, flat, and densely wooded.

A bank, with depths less than 5.5m, extends 2.75 miles W from Kaludlud Island. Griffin Rocks, with a depth of 3m, lie near the outer end of the bank.

Brutus Reef (6°45'N., 121°20'E.), with a least charted depth of 2.1m, lies 3.75 miles WSW of Griffin Rocks.

Salkulakit Island (6°41'N., 121°23'E.), 18m high, lies 5.5 miles SW of Dassalan Island. The Lakit Islets comprise three small rocky islets which lie 1 mile NW of Salkulakit Island.

There are several isolated shoal patches, with depths of 4.9 to 8.5m, lying between the above islands and Griffin Rocks, 5 miles N; these shoal areas may best be seen on the chart.

Halcon Rock (6°25'N., 121°23'E.), which dries 1.5m, lies 17 miles SW of Pilas Island; the rock is steep-to. Tide rips form in the vicinity of Halcon Rock.

Pabunuan Shoal, with a least charted depth of 3.7m, lies 5 miles SW of Halcon Rock. The water in the vicinity of the shoal is clear and the bottom can usually be seen up to 18.3m. Tide rips and strong and irregular currents are found in the area of the shoal.

The Pangutaran Group

12.19 The many islands of the Pangutaran Group, reefs, rocks, and shoals, extend WSW for a distance of about 100 miles, from a position about 35 miles W of Pilas Island.

The islands of this group are low, 2 to 6m high, and densely wooded with mangroves and other trees. The characteristic clumps of trees on these islands form excellent landmarks.

Between the islands of the Pangutaran Group generally set in a NNW and SSE directions following the various channels.

There are no typhoon anchorages over the various banks ad-

jacent to the group, but anchorages, dependent on the direction of the wind and sea, are given.

Caution is advised as tide rips, and strong tidal currents exist throughout this area, as may best be seen on the chart.

Pangutaran Island (6°19'N., 120°32'E.), the largest of the group, is 6m high, and densely wooded. The N and E sides of the island are fringed by coral, with sandy beaches backed by low coral cliffs; there is a long stretch of mangrove on the E side.

Panducan Island (6°17'N., 120°39'E.), 2.5 miles E of Pangutaran Island, is low and densely wooded. The island lies on the W edge of a bank that extends about 43 miles NE.

Kulassein Island (6°25'N., 120°42'E.), 5 miles NNE of Panducan Island, consists of a mangrove swamp with a small area of densely wooded solid land on the N and W sides. The island is fringed with coral and is steep-to on the N side.

A shoal, with a least depth of 6.4m, lies about midway between Panducan Island and Kulassein Island.

Tide rips occur in the area W of Kulassein and off the N end of Pangutaran.

Teomabal Island (6°20'N., 120°51'E.), 10.5 miles ENE of Panducan Island, lies near the SW end of a bank which has a least depth of 7.6m. The island consists of a coral and sand beach fringing a mangrove swamp, which encloses a large lagoon. Boats may enter the lagoon from the NW at HW.

Teomabal Bank, with a least depth of 8.5m, lies 6.5 miles NE of the island. Tide rips, whirlpools, and eddies form in the vicinity of these banks.

Tubigan Island (6°26'N., 120°47'E.), 3.5 miles E of Kulassein Island, is above water on the W side, but consists of mangrove swamp and a salt water lagoon on its E side. Foul ground extends 0.75 mile NNW of the island. A shoal area, with least depths of 3.4m, lies 1.75 miles NNE of the island. Tubigan is said to give a good radar return at 14 miles distant.

Pangutaran Reef (6°33'N., 120°58'E.), a large area of shoals marked by tide rips and breakers, occupies the SW part of the bank extending NE from Panducan Island.

There is a least depth on the reef of 2.1m, which exists 12.5 miles NE of Tubigan Island. Tidal currents on the bank are strong and irregular, but generally set N and S.

12.20 Favorite Bank (6°38'N., 121°04'E.), at the NE end of the aforementioned bank, has a least depth of 7.6m. A 9.1m patch lies at the N extremity.

Heavy tide rips mark the bank, especially during the Northeast Monsoon, or when tide and wind are in opposition. It is not advisable for vessels to cross the bank.

Pangutaran Passage (6°12'N., 120°30'E.), nearly 4 miles wide between the 20m curves, is a deep passage used by vessels enroute between Jolo and **Sandakan** (5°50'N., 118°07'E.), on the NE coast of Borneo.

Although the islands bordering the passage are low, the characteristic clumps of trees form excellent landmarks.

The N side of the passage is formed by the steep-to S sides of Pangutaran Island and Panducan Island. The S side is formed by North Ubian Island, Ticul Island, and Usada Island.

An 8.5m shoal, 1.5 miles NW of Usada Island, is the only offshore danger in Pangutaran Passage.

Tidal currents run with the channel and attain a maximum rate of 4 knots.

12.21 North Ubian Island (6°09'N., 120°26'E.), 5 miles SSW of Pangutaran Island, is reef-fringed and bordered by mangroves and shows a light. Soang Buna, a small settlement, stands on the W side of a shallow lagoon, entered from the E side of the island by two channels.

Ticul Island, planted with coconut palms, 34m to the top of the trees, lies 1 mile E of North Ubian Island, with a clear and deep channel between them.

Usada Island, 3 miles E of Ticul Island, is fringed with coral. The greater part of the island consists of mangrove, with only a strip on the E side being solid land.

Tidal currents over the extensive bank extending SW from North Ubian Island and Usada Island are strong, setting NW and SE, but both rate and direction are modified by the numerous shoals in the area.

A bank, as defined by the 20m curve, extends about 18 miles SW and S of North Ubian Island. There are several small islands and shoals on this bank; it should not be crossed without local knowledge.

Apo Lambu Reef (6°00'N., 120°28'E.), 8.5 miles S of North Ubian Island, is the farthest SE of these dangers.

This dangerous reef has a depth of 2.1m. Basbas Island and Cunilan Island lie 3.5 and 6.5 miles NNE, respectively, of Apo Lambu Reef.

Tubalubac Island (5°59'N., 120°24'E.) is located on a bank, 2.75 miles WSW of Apo Lambu Reef. A shallow lagoon is formed in the island.

Caution.—A dangerous submerged rock lies about 3.8 miles NW of the NW end of the island.

12.22 Tablas Shoal (5°55'N., 120°21'E.), which is dangerous and steep-to on its SE side, lies 3.25 miles SW of Tubalubac Island. There is a least depth of 5.8m in the S part of the shoal. The shoal's sand bottom can generally be seen.

The **Datubato Islands** (5°55'N., 120°17'E.), a group of islets on an extensive reef, lie 1.25 miles W of Tablas Shoal. A lagoon, with depths up to 3.7m, is formed within the islets.

Sail Rock (5°57'N., 120°13'E.), which is prominent, is an excellent landmark; it is 20m high. Above and below-water rocks lie within 0.1 mile of Sail Rock, and a patch with a depth of 0.3m, lies 0.25 mile SW of the rock on the edge of the 20m curve.

Tidal currents W of Sail Rock set N and S at a velocity of 3 to 4 knots.

Cap Island (5°58'N., 120°07'E.) lies 5.5 miles W of Sail Rock. It is a low, coral atoll consisting chiefly of mangrove swamps and shallow lagoons.

The coast, except for short stretches of sand and coral beaches at the N and S ends, consists of mangroves covered at HW. Coral reefs extend about 0.15 mile offshore from the island.

Vessels have ample room to pass between Cap Island and Sail Rock, clear of a 10m shoal in mid-channel.

Vessels passing W of Cap Island keep at least 1 mile offshore.

Deatobato Island (5°33'N., 120°04'E.), low, wooded with trees from 11 to 15m high, is located 3 miles SW of Cap Island. A large part of the interior of the island is submerged at HW. The coast is fringed by coral and sand beaches. Coral reefs extend from 45 to 91m off the W, N, and NE sides of the island's HW line.

A spit, with depths of 0.3 to 5.5m, extends 2.25 miles NNW from the island. A 5.8m shoal lies 0.4 mile S of the island. The S end of Deatobato Island should be given a berth of at least 0.75 mile.

There is anchorage off the E and NE sides of Deatobato Island and off the E side of Cap Island, but anchorage is not recommended off the W sides of these two islands due to strong tidal currents and poor protection.

12.23 Laparan Island (5°54'N., 120°00'E.), 3 miles W of Deatobato Island, is a large coral atoll reef overgrown with mangroves. A narrow, coral reef about 1m high, continuous except for one break, lies up to 137m off the mangroves on the S and SE sides.

Drying coral reefs extend 0.3 mile off the other sides of the island, including a detached clump off the NW side.

It was reported that the island is a good radar target at 10 miles distant. Anchorage off the E side of the island is not recommended.

Doc Can Island (5°53'N., 119°56'E.) is the farthest W of the islands forming the Pangutaran Group. The interior of this low, wooded island consists of salt ponds and swamps in the E part and a large lagoon is the W part.

The E half of the S side of the island is fringed by a coral barrier reef. Reefs extend 0.25 mile beyond the HW line on the N and E sides.

Anchorage can be taken off the NW and S sides of the island. Strong tidal currents and tide rips occur in the channel between the Doc Can Island and Laparan Island and off the shoal extending NW from Doc Can Island.

Pearl Bank (5°50'N., 119°42'E.) is an extensive shoal of atoll formation located 10.5 miles WSW of Doc Can Island. The greater part of the bank covers at some stage of the tide, but drying reefs define the outer limits. The N and S sides of Pearl Bank are fairly steep-to.

Pearl Bank is a good radar target at 13 miles distant.

A chain of wooded, low coral islets lie along the E, SE, and S sides of the bank. A narrow coral barrier reef, 1m high, lies 0.25 mile off the S side. The most conspicuous of the wooded islets are Zau Island and Lahangan Island on the E side of the bank, and Taja Island, on the W side.

Pearl Bank Light stands on the NE end of Zau Island. The interior of Pearl Bank consists of scattered reefs and shallow lagoons. Shoals, with a least depth of 2.7m, lie 1 to 1.5 miles SW of Taja Island.

Anchorage can be taken on the banks NE, SE, and W of Pearl Bank.

When approaching Pearl Bank the higher SW islands of the Pangutaran Group will be sighted 10 to 12 miles distant. Pearl Bank is identified by the chain of low islands along its SE edge, as well as by the lighted tower.

Pearl Bank should be approached with caution and passed on the E side, with due regard for the irregular strong tidal currents in the area.

A group of nine small islands and adjacent dangers lie about 8 miles SSE of **Datubato Island** (5°55'N., 120°17'E.), and extend SSW for a distance of 14.5 miles.

The islands, of coral atoll formation, are about 1.8m high and extend from Dammai to Bambannan.

The S side of the nine islands, with the exception of Bilangan, are fringed with steep coral or sand beaches which afford good landing for boats.

The other sides of the islands are fringed with mangroves and strewn with rocks or bound by coral barrier reefs.

Numerous shoals lying between the islands are visible in good weather, as discolored water is reported to mark their location.

12.24 Dammai Island (5°48'N., 120°24'E.), the farthest N of these islands, lies at the E end of an extensive bank bound by the 20m curve. The interior of the island is lagoons bound by mangrove swamps. The 20m curve lies 0.15 mile off the SE side of the island. Singaan Island and Dasaan Island lie on this same bank 0.5 mile S and 2.75 miles SSW, respectively, from Dammai Island. A 4m patch lies on the bank, 1.75 miles W of Singaan.

Mamanuc Island (5°40'N., 120°21'E.) is located on a small bank 4 miles SSW of Dasaan Island. Walan Island lies 4.5 miles NW of Mamanuc Island. The 20m curve lies within 0.3 mile of Walan. A shoal, with a depth less than 1.8m, lies 2 miles NW of Walan.

Bambannan Island (5°38'N., 120°17'E.), the farthest S of these islands, lies 4.5 miles SW of Mamanuc Island.

The island is fringed by a reef except for the mangroves at the N end. Two small islets lie about 0.4 mile and 1.2 miles N of Bambannan Island.

Bilangan Island (5°42'N., 120°13'E.), 4.75 miles NNW of Bambannan Island, is the westernmost island of the group. A coral reef, partly above water, lies 1 mile W.

Tidal currents set in various directions near shoals and islands of this group, but in unobstructed areas the currents set NNW to SSE with a velocity of about 2 knots.

Anchorage, in moderate weather, can be taken by vessels with local knowledge off Bambannan Island and Bilangan Island and off the NE and SW side of Dammai Island, coral and sand bottom.

Caution.—Less water than charted has been reported (2014) about 4 miles SW of Bilangan Island.

Basilan Island and Basilan Strait

12.25 The Basilan Group, the Tapiantana Group, and the Samales Group lie at the NE end of the Sulu Archipelago. The islands lying in Basilan Strait, off the coasts of Basilan Island, are described with that island as part of the Basilan Group.

Winds—Weather.—In the vicinity of **Basilan Strait** (6°50'N., 122°00'E.) E and NE winds, accompanied by clear weather, occur in January. The same conditions prevail during February, March, and April, but there are occasional NW breezes of short duration.

In May and June the wind blows from the SE and is more or less variable. Squalls occur during June, and towards the end of the month, fresh SW breezes commence. SW winds of some strength blow during July, August, and September.

These winds are accompanied by rain and foul weather. Gales occurring at this time seldom last more than 3 or 4 days. N and NE winds occur during November and December and the Northeast Monsoon becomes more or less steady during the latter month.

Throughout the year, when the seasonal wind is not strong,

land and sea breezes are prevalent.

Tides—Currents.—Tidal currents in Basilan Strait follow the direction of the channel, and near the islands and shoals they follow the edges of the reefs. Their general direction, when unobstructed, is W during the rising tide and E during the falling tide. The rate is 2 to 3 knots at neaps from 5 to 6 knots at springs. The flood strength occurs about 3 hours after LW at Cebu, and the ebb strength occurs about 3 hours after HW at the same port.

The tidal currents have been observed setting in the reverse directions during the months of November and December. They have also been observed as setting in the same direction for 24 hours even though two high and two low tides occurred on that day.

The turn of the currents takes place later in Basilan Strait than at Zamboanga. The change begins first on the coast of Mindanao, then in Basilan Strait, and finally on the coast of Basilan Island.

Strong and irregular tidal currents and rips are found in the vicinity of the shoals and banks off the NW side of Basilan Island. Close W of Malamaui Island the currents set N on the rising tide and S during the falling tide, the rate diminishing as the distance from the island increases.

Strong and irregular tidal currents are found off the W coast of Basilan Island. These currents, which attain a rate of 3 knots, set N during the rising tide and S during the falling tide. Swirls and rips mark the shoals and the projecting points of the various islands. Between Mataja Island and Sicagot Island slack water occurs at about the time of high and LW at Cebu.

The strength of flood occurs about 3 hours after LW at Cebu and the strength at ebb occurs about 2 hours after HW at that port. Between Basilan Island and Tamuk Island, slack water occurs about 1 hour before high and LWs at Cebu. The strength at flood occurs about 2 hours after LW at Cebu, and the strength at ebb occurs about 2 hours after HW at that port.

The tidal currents in Bihintinusa Channel and Tapiantana Channel are strong. They set W during the rising tide and E during the falling tide. In the channels among the islands of the group, the tidal currents are strong but very irregular.

Eddies are sometimes found along the shores of the islands. Slack water occurs about 45 minutes before high and LW at Cebu. The strength at flood occurs about 2 hours 30 minutes after LW at Cebu and the strength at ebb occurs about 2 hours after HW at that port.

The tidal currents in the channels between the islands of the Samales Group are strong. They set in a general W and NW direction during the rising tide and in opposite directions during the falling tide. A rate of 3 knots has been observed between the NW extremity of Tonquil Island and Mamad Island.

The currents turn from 30 minutes to 2 hours after high and LW. The tidal currents are very strong in the narrower channels, especially in those with the main axis lying in a NW to SE direction. The tidal currents are weak in Ton Sandungan Channel, between Bucuta Island and Bulan Island.

Overfalls and rips, dangerous to small craft, are found in the vicinity of shoals and in areas where there are abrupt changes of depth. This is especially so in the N part of the Samales Group.

Strong tidal currents, whirls, and eddies are found in the channel separating the Samales Group from the Jolo Group.

Depths—Limitations.—Basilan Strait, which connects the Sulu Sea with Moro Gulf and separates Basilan Island from Mindanao, has depths of 18.3m and over in the fairway. Santa Cruz Bank and the Santa Cruz Islands, on the Mindanao side of the strait, and Luzon Reef, on the Basilan Island side of the strait, greatly reduce the navigable width of the strait and divide it into two deep channels.

The channels between Basilan Island and the various islands lying N and NE of the E end of that island are deep and clear of dangers in the fairway. The channels between the various islands are also deep and clear of dangers.

The channels between the W side of Basilan Island and the various islands off that coast are deep and clear of dangers in the fairway. Deep channels separate the various islands, but numerous dangers lie in their vicinity.

Tapiantana Channel has depths of 12.2m and over in the fairway. The 200m curve lies close to the S side of the Tapiantana Group.

The channels between the various islands of the group are fairly deep in the fairway, but some dangers exist in their vicinity.

Irregular depths of 12.2m and over are found in the channel separating the Tapiantana Group from the Samales Group.

The 200 curve lies close off the S side of the Samales Group. Broken ground and numerous dangers lie N of the group and between the islands of the group.

The channel between Tatalan Island and Bucutua Island, which is used by vessels plying between Mindanao and Jolo, is deep and clear of dangers in the fairway.

There are other deep channels lying between some of the islands of the group, but they are not recommended because of the strong tidal currents and rips in their vicinity.

The channel separating the Samales Group from the Jolo Group is deep and clear of dangers in the fairway.

Regulations.—A coastal reporting station, operated by the Philippine Navy, applies to all vessels, including pleasure craft and seaplanes on the water transiting the Basilan Strait around Zamboanga. Vessels should establish contact on VHF channel 12 or 16 with Balabac Coast Watch Station (call sign: Coast Watch Zamboanga) when transiting the Basilan Strait around Zamboanga.

Vessels should report the following information:

1. Vessel name.
2. Call sign.
3. Course and speed.
4. Port of registry and nationality.
5. Type of vessel.
6. Type of cargo on board.
7. Port of destination and ETA.
8. Last port of call.
9. Number of crew on board.
10. Master's name.

Caution.—A wreck dangerous to navigation, reported 1997 lies in position 6°53'N, 122°03'E, close E of Little Santa Cruz Island.

Basilan Island

12.26 Basilan Island (6°33'N., 122°04'E.) is separated from Mindanao Island by Basilan Strait which is 8.5 miles wide.

Basilan is the largest and most important of the Basilan Group.

Basilan Peak (6°33'N., 122°04'E.), 1,011m high, near the center of the island, is the highest and most conspicuous point on this densely wooded, mountainous island.

The shores of the island are low, consisting of a fringing belt of sand and coral, on which mangrove swamps have formed. There are no large rivers and many of the small rivers emptying into the sea can only be entered at HW. Basilan Island is a Sub Port of Entry.

Mount Matanal (6°37'N., 122°18'E.), rising to a height of 630m, 1.5 miles W of the island's E extremity, is also prominent. Mount Sining Capan and Mount Cobung, which is cone shaped, lying 5.75 miles WNW and 7.75 miles WSW, respectively, of Mount Matanal, are prominent. Clouds obscure the higher peaks.

Batupare Point (6°45'N., 122°04'E.), at the N end of Basilan Island, is low and partly wooded. The terrain within the point rises to a heavily wooded peak, 216m high, about 1 mile inland. The 20m curve lies close off the point.

Luzon Reef (6°47'N., 122°04'E.), with a least charted depth of 6.4m, lies on the S side of Basilan Strait, 1.75 miles N of Batupare Point.

A patch, with a depth of 10.4m, lies 2 miles ENE of Batupare Point. There are tide rips on Luzon Reef, and the shoal point above.

12.27 Calagusang Point (6°43'N., 122°07'E.) is located 3 miles SE of Batupare Point. In the bay between these points there are several shoals and a rock, awash.

Look Sambang Bay is 3 miles SE of Calagusang Point. The Gubauan River and the Ligundi River empty into the S part of the bay.

Lamitan (6°40'N., 122°08'E.), located 1.25 miles up the Gubauan River, is the principal town on the NE coast of Basilan Island. It is a port of call that is for coastal shipping. Logs are towed in rafts and brought alongside vessels anchored in the bay. There is a lumber mill near town. Philippine Coast Guard requires all foreign vessels to provide an ETA 48 hours prior to arrival to include crew and cargo manifests.

A pier, with a berthing face 12m long, with a depth alongside of 6.4m, is located at **Kulibato Point** (6°40'N., 122°10'E.).

Anchorage, exposed to N and E weather, can be taken in Look Sambang Bay. There are depths of 13.1 to 27m, but the recommended anchorage in the bay lies 0.25 mile off the pier, in a depth of 18.3m.

Coco Island (6°44'N., 122°15'E.) lies 6.75 miles NE of Kulibato Point. The island is reef-fringed and densely wooded; it rises to a height of 140m. Little Coco Island lies 0.25 mile N of Coco Island. The 20m curve encircles both islands and lies within 0.1 mile of Little Coco Island.

Lanhil Island (6°45'N., 122°22'E.), 6.5 miles ENE of Coco Island, rises to a peak 171m high in its SW part; the E part of the island is low-lying.

Sibago Island (6°45'N., 122°24'E.) lies 1.5 miles SE of Lanhil Island; they are separated by a deep channel clear of dangers. Sibago, low and covered by vegetation, has two high hills. The hill farthest E, marked by a light, is 192m high. A drying reef fringes the island and a spit extends off its SE side.

12.28 Matanal Point (6°38'N., 122°20'E.), the E extremity of Basilan Island, is located 10.5 miles ESE of Kulibato Point. The coast between the two points is backed by some of the highest peaks on the island. Tide rips form off the point.

Port of Lamitan

Takut Tangug Bay (6°32'N., 122°14'E.) indents the coast from a position 2.5 miles SW of Matanal Point, to the SE extremity of Basilan Island, about 10 miles distant.

The shores of the bay are lined by mangroves and fringed by a narrow reef. Wooded eminences are prominent which are backing the coast.

Extensive shoals, with depths of 0.3 to 11m, extend SW across the bay where a narrow, deep channel at the NE end leads across the shoals to an anchorage area.

Depths of 18 to 37m exist at the anchorage, which is open E and SE, but protected from sea and swell.

A small sheltered anchorage for small craft is available in the mouth of the **Kandiis River** (6°36'N., 122°16'E.), where the depth is 3.7m, mud.

Bojelebung Channel (6°31'N., 122°12'E.), a deep passage 0.2 mile wide, leading through drying reefs to the anchorage off Bojelebung, is entered 3.5 miles N of the SE extremity of Basilan Island.

Anchorage.—Anchorage can be taken off **Bojelebung** (6°31'N., 122°11'E.), the principal town on the E coast of Basilan, about 0.2 mile offshore, in depths of 29 to 31m.

Anchorage may also be taken about 1.25 miles SSE of Bojelebung, W of the drying reef extending SSE from the channel, in a depth of 22 to 27m, sand. Local knowledge is required.

Takippamasilaan Island is a small, crescent, narrow ridge of sand and coral, lying at the SE end of the drying reef, above. It lies 2.25 miles SE of Bojelebung.

Directions.—When approaching Bojelebung Channel, steer for the grassy hill 207m high rising SW of town, bearing 268°, which leads in mid-channel between the reefs; then change course to the N or S for the anchorages.

12.29 Kauluan Island (6°28'N., 122°13'E.), close E of the SE extremity of Basilan and just over 1 mile SSW of Takippamasilaan, is mostly a mangrove swamp, encircled by a dry-

ing reef.

Kauluan Channel, entered about 1 mile SW of the W end of the islands, leads 4 miles N between the W side of Kauluan Island and the drying reef N of Takippamasilaan. The channel, which is 91m wide in places, is tortuous and has a depth of 6.4m in the S entrance.

From Kauluan Channel, the S coast of Basilan Island extends 14.5 miles WSW to Mangal Point, the S extremity of the island. The coast is fringed by mangrove swamps which several rivers discharge through. The E side of the S shore is steep-to, with the 20m curve lying about 0.2 mile off the mangrove swamps.

Amoyloi Reefs (6°26'N., 122°08'E.) consist of two drying reefs lying 0.5 mile offshore. An islet lies on the E reef and shoals extend N from this reef to the coast of Basilan.

Amoyloi Village (6°26'N., 122°07'E.) is located on the coast N of the W reef. Anchorage can be taken S of the village, in depths of 27 to 38m. The anchorage is approached between the bank extending 0.5 mile W from the W reef and the 2.7m shoal lying 1.5 miles WSW of the village. The channel between dangers is 0.1 mile wide.

The E approach channel, leading between shoals 0.5 mile E of Amoyloi, is only used by craft with local knowledge.

Bihintinusa Island (6°24'N., 122°02'E.) lies 5.75 miles WSW of Amoyloi Reefs. It is separated from Basilan by Bihintinusa Channel, which is 0.75 mile wide between the shore reefs.

A bank, with depths less than 4.5m, extends 1.75 miles ENE of Bihintinusa Island.

The **Mangal River** (6°25'N., 121°58'E.) empties into the sea 5.25 miles W of Tumajubun Point. Shallow draft vessels can reach the village of Mangal.

Abongabong Peak (6°30'N., 121°59'E.), rises to a height of 912m, about 5 miles NNE of Mangal; the peak is conspicuous.

Mangal Point (6°24'N., 121°57'E.), 1 mile W of the Mangal River, is the S extremity of Basilan Island. The point is a densely wooded strip of sand.

A pier, with a depth of 3m at its head, lies 0.5 mile E of the point.

12.30 The SW coast of Basilan extends about 7.5 miles NW to **Sahap Point** (6°30'N., 121°52'E.). From Sahap Point the coast trends in a N direction for 2.75 miles to Port Holland. The coast is fringed by a mangrove swamp which has several rivers flowing through it to the sea.

Some of the rivers are used for logging operations and launches towing rafts of logs are frequently met off this coast.

Lahatlahat Island (6°26'N., 121°55'E.) lies at the NW end of a coral reef, 0.5 mile offshore, 2.5 miles NW of Mangal Point. Canas Island, separated from Basilan by a deep narrow channel, lies 1 mile NW of Lahatlahat Island.

Canas Shoal, with a depth of 4.5m, lies 0.5 mile W of Canas Island.

Cancuman Island is located 3 miles W of Canas Island.

Tamuk Island (6°28'N., 121°49'E.), 45m to the top of the trees, lies 1.25 miles W of Cancuman Island.

12.31 Port Holland (6°33'N., 121°52'E.) (World Port Index No. 59780), a lumber export harbor, is located at the SE end of Maluso Bay. The harbor is small and exposed to winds from the S and W.

Tides—Currents.—Tidal currents, with a velocity of 2 to 3 knots, change from a NE set on the flood to a SW set on the ebb tide.

The change occurs 0.5 hour after high and LW, with the stronger SW current setting across the face of the principal wharf.

Depths—Limitations.—Depths of 9.1m and more exist in the entrance channels to the port.

Great Gounan Island (6°33'N., 121°52'E.), lying 0.1 mile NW of the main wharf, is a wooded but cultivated small island.

There is a depth of 11.9m in the channel from the island to the main wharf.

Little Gounan Island, lying 0.25 mile NW of Great Gounan, is partly cleared. A reef, with a depth of 8.5m, lies 0.35 mile N of Little Gounan Island and a wreck, with mast showing, lies 1.25 miles NNW of the island.

Port Holland Wharf is 61m long. A T-head pier, 18m long, is located 30m W of the wharf. A row of dolphins extends from the wharf to the pier and 27m beyond it, giving a total berthing face of 137m.

There were reported depths of 9.1m at the W end of the berths and 7.3m at the E end. Mooring lines are run to pile clusters E of the wharf and to a small boat landing 61m W of the pier.

Pilotage.—Pilotage is optional, but is recommended for vessels not having local knowledge. The pilot from Isabela will board inbound vessels off Little Gounan Island if advance notice is given.

Anchorage.—The recommended anchorage lies in mid-channel N of the wharf, in depths of 11 to 22m, but the swinging room is limited.

Vessels can also anchor in the outer part of Maluso Bay, in depths of 9.1m and over.

Directions.—Port Holland Wharf can be approached N or S of Great Gounan Island. Several numbered oil drums buoy the sides of both channels. However, the drums are often missing from their stations.

The N approach channel should be used during the period of rising tide, the S channel during the falling tide.

Local knowledge is necessary in the N channel due to shoals lying adjacent. Vessels in transit of the N approach, pass 0.5 mile N of Little Gounan Island, avoiding the 8.5m patch, and follow the buoyed channel (black buoys to port).

In the S approach, pass in mid-channel between Great Gounan Island and the small peninsula forming Port Holland. No. 1 Buoy is moored close S of the island; No. 2 Buoy and No. 4 Buoy mark the channel.

12.32 From Port Holland the coast of Basilan trends NNW for a distance of 6 miles then continues NNE for a distance of 5 miles to Basilan Point.

Maluso Bay (6°34'N., 121°51'E.) is formed between a point close S of Great Gounan Island, and a point about 3 miles NNW.

The shores of Maluso Bay consist of mangrove swamps which several small rivers empty into. Within the 20m curve there are several dangerous rocks and shoals.

There are coral heads, awash, at the head of the bay. A bank, with depths of 8.5 to 11m, fronts the middle part of the bay,

about 1 mile offshore. Anchorage can be taken in the bay.

Numerous small, low islands with adjacent shoals lie in the approaches to Maluso Bay.

Takela Island (6°32'N., 121°50'E.) and Goreno Island lie 1.75 miles offshore, **Langas Island** (6°32'N., 121°46'E.), 6.5 miles offshore. Several islands lying between the inner and outer islands have navigable channels between them.

A bank, with depths of 4 to 8.2m, extends 1 mile SE from **Kaluitan Island** (6°36'N., 121°47'E.). A shoal, with a depth of 7.3m or less, lies 2.25 miles W of Langas Island. The shoals are generally marked by swirls and tide rips.

12.33 Landugan (6°35'N., 121°49'E.) is situated close N of Maluso Bay. The logging camp has a T-head pier with a face about 15m long and depths of 4 to 5m alongside. Logs are shipped by barge to Zamboanga.

Pangasahan Island (6°37'N., 121°48'E.), about 1 mile in length, is located in a bight 1.75 miles NW of Landugan. It is separated from Basilan by a narrow channel with a least depth of 7.6m at the N end. A 5.5m patch lies 1 mile NNW of the island. A wooden pier, located close W of the mouth of the Pangasahan River, has a berthing face about 29m long with depths of 3.7 to 5.5m alongside.

Sibakel Island (6°37'N., 121°45'E.), a small island 37m high, lies 2 miles W of Pangasahan; it is heavily wooded.

The coast of Basilan from Pangasahan Island NNE to Basilan Point, 4 miles distant, is heavily wooded.

12.34 Basilan Point (6°41'N., 121°51'E.) is low and covered by woodland; it is fronted by coral reefs. From Basilan Point to Batupare Point, about 14 miles ENE, the low coast is intersected by small rivers emptying into the sea through shores lined by mangroves.

Lampinigan Island (6°41'N., 121°53'E.), 57m high, lies 1.75 miles ENE of Basilan Point.

There is landing, with a depth of 2.7m, at Lampinigan village, on the S side of the island.

Pamelukan Bank (6°43'N., 121°54'E.), with a depth of 1.2m, lies in the W approach to Malamaui Road, 2 miles NE of Lampinigan Island. The bank is worked by tide rips. Isolated banks, with depths of 6.7m, lie 1.75 miles NW and NNW of Lampinigan Island.

Balatanai Island lies 0.1 mile offshore, 2 miles ESE of Lampinigan Island. San Rafael Bay, with shoal water throughout, lies close ESE of Balatanai Island.

Malamaui Road (6°42'N., 121°56'E.), SW of Malamaui Island and 6 miles ENE of Basilan Point, provides safe anchorage with good holding ground, protected from strong winds.

The shores of Malamaui Road are low and bordered by coral reefs. Abreast the currents there is usually sufficient depth over the reef at HW for boats to enter.

The best anchorage is off San Rafael Bay, E of Balatanai Island. Small craft may anchor close inshore E of the island. There is also good anchorage S of Lampinigan Island.

Caution.—When poor visibility exists on entering Malamaui Road from N, it is advisable to pass about 1 mile W of Pamelukan Bank and steer for Lampinigan Island, before anchoring in the roads.

12.35 Malamaui Island (6°44'N., 121°58'E.) rises to a height of 113m near its center. Panigayan is a settlement located near the SW end of this densely wooded island. Moro Islet lies 0.2 mile off the S end of Malamaui.

A drying reef, marked by tide rips, driftwood, and three pile beacons, lies close SE of Moro Islet; a 3m shoal lies 1.25 miles SW of the islet; and an 0.9m shoal lies 0.2 mile ESE of the drying reef.

There are several beacons on the SW side of Malamaui and two range beacons stand on the S side of the island. Many of these beacons have been reported missing. A lighted concrete tower marks the E extremity of Malamaui Island.

Isabela Channel (6°44'N., 121°59'E.), separating Malamaui Island from the NW side of Basilan Island, has a least width and depth in the fairway, of 0.1 mile and 9.1m. The sides of the channel consist of coral rising vertically and topped by mangroves, so that vessels can approach within a boat's length. The NE entrance is unmarked, fringed by dangers, and used by vessels with local knowledge during the hours of daylight.

The NE current in Isabela Channel has a velocity of 4 to 5 knots and runs much longer than the SW current and has a greater velocity. Strong tide rips are encountered at channel entrances with wind and current in opposition. Tidal currents set across the channel S of Moro Islet and vessels must exercise caution not to be set onto the drying reef SE of the islet.

Pilotage is optional, but recommended for vessels not having local knowledge. A pilot from Isabela boards the vessel, by previous arrangement, about 1 mile W of Moro Islet.

Kalut Island (6°44'N., 121°59'E.) lies in a bight on the E side of Malamaui, just within the NE entrance.

The SW entrance to the channel is marked by Moro Islet and the drying reef SE, which divide the channel into two parts N and S of these dangers. Transit is recommended only during daylight hours with local knowledge. The channels and adjacent dangers are marked by beacons and buoys, but they are often missing.

12.36 Isabela (6°42'N., 121°58'E.) (World Port Index No. 59770), situated on the NW coast of Basilan, is the most important port on the island. There are numerous rubber and coconut plantations nearby, and lumber is shipped from the port.

There are berths in Isabela up to 106m in length with depths alongside of 8 to 9m. The maximum length that is permitted alongside is 99m with a draft of 6m.

The concrete wharf is being extended and reclamation work is in progress. An ore transit shed is being constructed. The stack of a lumber sawmill is prominent.

There is anchorage, for vessels with local knowledge, in the channel N of Kalut Island, in a depth of 13.7m, mud, but the swinging room is limited and larger vessels secure their hawsers to the mangroves.

A preferred anchorage is W of the stack, in depths of 11 to 14.6m, sand and coral. A regular launch service between Zamboanga City and Basilan is maintained.

Isabela can be approached from the NE or W. Because of strong tidal currents and the constricted channel, the NE entrance is used only by coastal vessels with local knowledge.

It is recommended that vessels entering should stem the tide and proceed only during daylight hours.

Approaching Isabela from the W, if passing N of Moro Islet, keep well clear of the NE point of the islet as the current sets

Isabela

onto the reef which extends off the point.

A pair of white, triangular beacons, in range 067°, lead through the channel N of the islet. In transit of the channel leading between Basilan and the drying reef SE of Moro Islet, a course of 081° leads in mid-channel to the piers.

The tidal current sets onto the drying reef which is marked by three beacons near its E end. Buoys, often missing, mark the sides of the N and S channels.

The W entrance is generally used by ocean vessels calling at Isabela. Because of the geographical situation and natural hazards, night entry is reported to be not recommended. Pilotage is available. The pilot station is in Isabela.

Regulations.—Philippine Coast Guard requires all foreign vessels to their ETA 48 hours prior to arrival to include crew and cargo manifests.

12.37 The **Tapiantana Group** (6°20'N., 122°00'E.) consists of several inhabited small islands and reefs lying off the S coast of Basilan Island.

Tapiantana Channel (6°22'N., 122°00'E.), which has a least depth of 12.8m, separates the group from Basilan Island. The principal islands of the group are Bubuan Island, Saluping Island, Linawan Island, and Tapiantana Island. Depths of 192m, and over, exist close S of Tapiantana Island. Depths W of the group are irregular, but no dangers have been found.

Currents in the channels between the islands of the group and Basilan Island are irregular in direction. In Tapiantana Channel the currents are strong and set E and W. At times, there are eddies inshore and tide rips on the banks. Heavy rips, which often resemble breakers, occur in the S entrances of the channels between the various islands and in those channels leading to anchorages. In the open water to the W of the island group, the tidal currents set in a NW to SE direction.

Bubuan Island (6°21'N., 121°58'E.), 3 miles S of Basilan Island, is the farthest N of the Tapiantana Group. Mount Bulutbulibato, rises to a height of 224m in the NW part of the island. Bubuan, fringed by coral, is densely wooded on its S side and the E and S sides consist of mangrove swamps.

Anchorage can be taken off the S extremity of Bubuan Island, in a depth of 12.2 to 14.6m, sand and coral.

Saluping Island, which is low and flat, lies 2 miles ESE of Bubuan Island. It lies on an extensive coral reef, that bares, on the NE and S sides. A chain of disconnected islets lies on the outer edge of the reef; Timbungan, about 1.5 miles in length and the largest of these islets, lies on the SE side of the reef.

12.38 Tapiantana Island (6°18'N., 121°59'E.) is located on the S side of the group, about 1 mile S of Saluping Island. Mount Bancaobancao, which is wooded, rises to a height of 249m. The E part of the island is a mangrove swamp; however, a coral reef, which bares at low water, extends 2.5 miles E.

Tolonpisa Island, is a narrow sand and coral spit extending along the SE side of the coral reef, and nearly joins the S extremity of Tapiantana Island. Haluluko Island, a small mangrove islet, lies on a drying reef 0.25 mile NE of Tapiantana.

Linawan Island (6°19'N., 121°55'E.) lies 1.5 miles WNW of Tapiantana Island. The island has a peak 112m high, in its W part; it is fringed by sandy beaches except on the NW side where rocky ledges extend offshore. The E and S parts of the island are cultivated. A bank with depths of 1.8 to 7.3m extends 0.7 mile SSE from the island; tide rips form over the S part of this bank.

Pababat Shoal (6°18'N., 121°52'E.), 3 miles WSW of Linawan Island, is a bank of white coral sand, with a least charted depth of 14.6m.

The Samales Group of islands lie on a bank which extends 25 miles SW from a position 6.25 miles SW of Linawan Island. Fishermen are the primary inhabitants of these sparsely settled islands.

Currents in the channels between the islands are strong, with a velocity of 3 knots observed between the NW end of Tonquil Island and Mamad Island. Overfalls and rips occur near shoals and where there are radical depth changes.

Tatalan Island (6°13'N., 121°50'E.), the NE island of the Samales Group, is densely wooded and has a prominent summit near its N part; the S part is low and a light is shown from its S extremity.

A spit, with a depth of 2.5m, extends 2 miles SE of the island. Mandi Rock, 4m high and steep-to, lies 2 miles W of the NW side of Tatalan Island. The channel between the rock and the island has depths of 8.7 to 16.4m.

12.39 The **Bolod Islands** (6°16'N., 121°36'E.), the farthest NW islands of the Samales Group, lie 13 miles WNW of Tatalan Island; the group consists of two small, densely wooded islands.

East Bolod Island (6°16'N., 121°37'E.) has a dome shaped summit which rises to a height of 161m.

A spit, with a depth of 4.1m, extends 0.3 mile N of the island and Tirana Rock, above-water, lies 0.2 mile farther N. A shoal, with a least depth of 5.5m, extends 1.5 miles SSE of East Bolod Island.

West Bolod Island (6°15'N., 121°35'E.), 152m high, lies 1.25 miles SW of East Bolod Island. This island is steep-to except on its S side. The channel between the two islands is deep and clear of dangers.

Sungu Shoal (6°14'N., 121°41'E.) has a least depth of 1.8m and is located 4.25 miles SE of East Bolod Island. Depths of 8.7m and 8.2m lie on the bank 0.5 mile E and 0.8 mile ENE, respectively, from the 1.8m depth.

Sibarut Bank (6°12'N., 121°31'E.), with a depth of 12.3m, sand and rock, lies 5.5 miles SW of West Bolod Island.

Bucutua Island (6°09'N., 121°49'E.) is low and rises to a height of 89m on its SE side. The E coast of the island is sandy and clear of dangers, except for a shoal spot, with depths of 5.9 to 9.1m, lying 1 mile ENE. Butakalut Shoal, with a depth of 5m, lies 0.5 mile W of Bucutua.

The channel between Bucutua and Tatalan Island, 2.75 miles NNE, is deep and clear of dangers in the fairway. It is used by vessels in transit between Jolo and SE Mindanao ports.

Ton Sandungun Channel, narrow and with a least depth of 0.9m at its SW end, separates Bucutua Island and Bulan Island. The channel affords shelter for small craft, especially within the NE entrance where anchorage can be taken.

Anchorage can be taken off the NE entrance, in depths of 14 to 18m, loose coral and sand. This anchorage is clear of strong tidal currents and affords fair protection.

12.40 Bulan Island (6°08'N., 121°50'E.), densely wooded and low has a conspicuous peak at its center. A black rock stands at the NE end of the island.

The two small Dipolod Islands lie 1.25 miles off the NE side of Bulan Island. The narrow channel between the islands has a depth of 5.5m.

Mamad Island (6°08'N., 121°46'E.) lies 1.5 miles W of the SW part of Bucutua Island; it is wooded, with a height of 39m. There is less than 8.7m all around the island with another 8.7m spot 0.5 mile SE.

Tongquil Island (6°03'N., 121°51'E.) is low, flat and densely wooded. Sagui Point, the NW extremity of the island, lies 3.5 miles SW of Bulan Island. The NW extremity is low and fringed by a coral reef. The SW side is fronted by a barrier reef with several narrow entrances leading to a shallow lagoon.

The S and SE coasts to **Eguet Point** (6°03'N., 121°57'E.) are steep-to. The N side of the island is fringed by a partly drying coral reef and fronted by shoals with depths less than 5m. Gumila Reef, which dries, lies 4.75 miles WSW of Eguet Point.

Vessels with local knowledge can anchor N and E of Gumila Reef, good holding ground, in 11 to 16.5m, sand and coral.

Caution.—Caution is advised as the S and SE side of this island are steep-to. A vessel has been reported to have run aground about 0.75 mile E of the island's S extremity. The vessel was reported to have a draft of 7.3m.

12.41 Parol Island (6°04'N., 121°43'E.), 2.5 miles W of the W extremity of Tongquil Island, is low and fringed by coral reefs. Shoal depths extend about 0.7 mile SE and 1 mile NW. Mananoc Island, which is also low and fringed by coral reefs, lies 2 miles WNW of Parol Island.

Balanguingui Island, low, uninhabited, and reef-fringed, lies about 1 mile SW of Parol Island.

Bunotpasil Island lies close W of Balaguingui Island, while Dawildawil Island lies close SW.

Suligan Shoal (6°00'N., 121°38'E.), with a least depth of 5.9m lies about 2.4 miles NE of Simisa Island.

Bangalao Island (6°01'N., 121°32'E.), lying at the W end of the Samales Group, 2.75 miles NW of Simisa Island, along with Manungut Island, 1 mile farther NW, are both reef-fringed. Both islands are fronted by shoals enclosed by the 10m curve. Manungut Island rises to a height of 80m.

The Jolo Group and the Tapul Group

12.42 The Jolo Group and the Tapul Group lie between the Samales Group and the Tawitawi Group. The Jolo Group consists of the large, important Jolo Island and the smaller adjacent islands. The Tapul Group consists of four rather large islands and numerous smaller islands lying between Jolo Island and Tapaan Passage, about 30 miles SSW.

The islands are rugged and well cultivated. Tapaan Passage separates the Tapul Group from the Tawitawi Group. There are several good anchorages on Jolo Island.

Winds—Weather.—The islands of the Jolo Group and the Tapul Group are seldom, if ever, visited by gales, although strong winds and heavy rains are not uncommon.

The percentages of calms are higher than anywhere else in the Sulu Archipelago. At Jolo, NW winds are more frequent than E winds.

Thirty consecutive rainless days have been experienced at Jolo during January and February. Monthly rainfall amounts in excess of 444mm have been reported at Jolo in January, February, June, and November. At Jolo nearly 263mm of rain has fallen during a 24-hour period in June.

Tides—Currents.—The tides on the N coast of Jolo Island are chiefly diurnal, whereas on the S coast they are semi-diurnal. The tidal range is from 0.6 to 1.5m.

Strong tidal currents are found in the various channels leading between the islands of the Jolo Group and the Tapul Group. They set in a general W and NW direction on the rising tide and in opposite directions on the falling tide.

Off the N coast of Jolo Island the tidal currents set W on the rising tide and E on the falling tide, at a rate of about 2 knots.

In the vicinity of Jolo the direction is somewhat modified by the contour of the land, the current setting SW and NE.

Strong tidal currents are found in the channels between the islands lying off the NE and NW coasts of Jolo Island. Strong rips are found in this area.

The edge of the bank on which the Sulu Archipelago lies comes close to the SE sides of the Jolo Group and the Tapul Group. Strong rips are usually found in areas where there are abrupt changes in depths.

The tidal currents follow the coasts of the various islands and are strong, up to 6 knots being experienced in the narrower channels. The currents set in a general W and NW direction on the rising tide and in an opposite direction on the falling tide.

The tidal currents attain a rate of 2.5 knots between Pata Island and Taluk Island, setting NW on the rising tide and SE on the falling tide. Between the former island and Dongdong Island the currents set in similar directions and attain a rate of 3 knots.

Tidal currents are strong and irregular off Maimbung Bay. They set W on the rising tide and E on the falling tide, the change occurring from 30 minutes to 2 hours after time of HW and LW.

The tidal currents are strong in the channel between the SW coast of Jolo Island and Sulade Island, a maximum rate of 5 knots being experienced. The strength at flood occurs about 2 hours 30 minutes after LW at Cebu, and the strength at ebb occurs about 1 hours 30 minutes after HW at that port. Slack water precedes the times of HW and LW at Cebu by about 45 minutes.

The currents set NW on the rising tide and SE on the falling tide.

The tidal currents are very strong in the narrow channels separating the various islands of the Tapul Group and strong rips are found in their vicinity.

12.43 Bitinan Island (6°04'N., 121°27'E.) rises to a height of 205m in the S part. Bitinan Island is the farthest NE of the Jolo Group, and is located 3.25 miles WNW of Manungut Island of the Samales Group.

Capual Island (6°02'N., 121°24'E.), about 1 mile SW of Bitinan Island, rises to a height of 312m in its SE part, and is separated from the N side of Jolo Island by Capual Channel. The N and W parts of the island are low and wooded; the coast is mostly fringed by a sandy beach interspersed with coral ledges.

A ledge, with a depth of 3m at its outer end, extends 0.4 mile N from the NW point of the island.

A reef extends about 0.2 mile W from the W extremity of Capual Island.

Goitya Shoal (6°03'N., 121°22'E.), with a least charted depth of 2.7m, lies about 1 mile offshore, N of the W extremity of Capual. Two shoals, with least depths of 8.7 and 5.5m lie about 0.5 mile SW and 0.4 mile NE, respectively, off Goitya Shoal.

Capual Channel (6°01'N., 121°24'E.), with a least width of 0.25 mile, is deep at the E end, but in the narrow part there are depths of 2.1m. Isolated depths of 1.2m lie 0.15 mile and 0.5 mile NE of the E extremity of Bulicutin Island. Tidal currents are strong.

Anchorage can be taken anywhere in the channel, but the preferred anchorage is N of the village Liangliang, in a depth of 14.6m, sand.

Jolo Island (6°00'N., 121°10'E.), the largest of the Jolo Group, is composed of a series of hills and valleys.

The highest peak is **Mount Tumatangas** (6°00'N., 120°58'E.), 812m high, located 6 miles NE of the W extremity of the island. The coasts are mostly wooded, and clear of dangers.

The SE coast is especially steep-to with the 200m curve within 0.3 mile in places; the off-lying islands are also steep-to. Tide rips are usually found in the vicinity of abrupt depth changes.

Anchorage can be taken in several bays that are along the coast.

12.44 Tandu Peak (5°58'N., 121°24'E.), a grassy hill 400m high, is located about 1.25 miles inland from the E extremity of the island. Tandu Panuan, a village, stands on the coast 1.75 miles S of Tandu Peak.

A bay, which recedes about 1 mile, is formed between a point close E of Tandu Panuan and Tandican Point, 3 miles SSW. The entire bay dries to a distance of 1.5 miles offshore.

Tandican Point (5°54'N., 121°23'E.), the SE extremity of Jolo Island, is low, fringed with mangroves, and backed by high hills. The coast SW of the point, as far as **Karangdato Point** (5°52'N., 121°17'E.), is indented by **Pitogo Bay** (5°54'N., 121°20'E.), deep and open to the S.

There is a landing in a break in the fringing reef 2.5 miles NE of Karangdato Point.

Tutu Bay (5°55'N., 121°12'E.), entered between Karangdato Point and Putic Point, 13 miles W, is separated from a bay on the N side of Jolo Island by a low isthmus, 2.5 miles wide. Tutu Point is located 4.5 miles NW of Karangdato Point.

The head of the bay is encumbered with shoals, and reefs which dry, from Tutu Point to **Mabahay Point** (5°55'N., 121°08'E.), 5.5 miles W.

Several settlements and villages are located on the shores of Tutu Bay, which is protected by Pata Island.

Serantes Shoal (5°54'N., 121°07'E.), with a least depth of 2.7m, lies 0.5 mile offshore, 3 miles ENE of Putic Point. Anchorage can be taken in the outer part of Tutu Bay, in a depth of 18.3m, sand and coral.

12.45 Pata Island (5°49'N., 121°10'E.), fronting Tutu Bay, is 422m high. The coasts are fringed by a coral reef which on the E side extends about 2 miles and encircles Kamawi Island.

Dongdong Island lies on a bank 1.25 miles NE of Pata Island, and Tambulian Island lies on the same bank 0.75 mile NW of Dongdong Island.

These islands are fringed by partly drying reefs, and are separated from each other and Pata Island by navigable channels. The navigable channel between Tambulian Island and Dongdong Island is 0.3 mile wide, with a least depth of 5.9m.

Damocan Island (5°51'N., 121°08'E.), 41m high, lies about 0.5 mile W of the N part of Pata Island; they are separated by a deep channel. Lumbian Island lies 1.25 miles W of Damocan Island.

Garcia Shoal (5°50'N., 121°06'E.), with a depth of 6.4m, lies 0.25 mile SW of Lumbian Island.

Patian Island (5°51'N., 121°05'E.), 154m high, lies 0.5 mile NW of Lumbian Island.

12.46 Teomabal Island (5°50'N., 121°02'E.), 2.75 miles W of Patian Island, low and fringed by a coral reef, is the farthest W of these offshore islands. A bank, with depths of 7 to 9m, extends 2.25 miles SE from the island.

Villamil Rock (5°52'N., 121°04'E.), steep-to with a depth of 0.9m, lies in mid-channel 0.75 mile NNW of Patian Island.

Maimbung Bay, entered between **Putic Point** (5°53'N., 121°05'E.) and Cabalian Point, 8 miles W, affords good shelter during the Northeast Monsoon, but is exposed to heavy squalls and swells during the Southwest Monsoon.

The E side of the bay is covered by mangroves, and the W side is wooded with cleared spaces.

Mount Matatal (5°57'N., 121°01'E.), 140m high, is located about 1.5 miles N of the head of the bay.

12.47 Maimbung (5°56'N., 121°02'E.), a town, stands on piles at the head of the bay, on the outer edge of the bar at the mouth of the Maimbung River. The bar has a depth of 0.3m. A building with a dome stands on the point S of the town.

Dry Bank (5°55'N., 121°01'E.), with a least depth of 3m, lies about 1.3 miles S of Maimbung. Two reefs, best seen on the chart, lie about 0.4 mile NW.

Marban Bank lies about 0.5 mile SE of Dry Bank. Other shoal depths in this area may be seen on the chart.

Batolaqui Bank (5°53'N., 120°57'E.) is composed of many shoal patches lying 1.25 miles E and SE of Cabalian Point. There are depths of 3.1 to 5m on the bank, with a drying rock

on the W edge.

A narrow channel, with a depth of 11m in the fairway, leads between the bank and Cabalian Point. Bunga Point bearing 309°, open SW of Tubingantan Point, leads SW of Batolaqui Bank.

Tidal currents within the bay are weak, but off the entrance they are strong, irregular, and set E to W.

Anchorage can be taken anywhere in the bay. The usual anchorage is 0.5 mile S of the town, in depths of 15 to 17m, coral sand, with the middle of Dry Bank bearing 232°.

Smaller vessels can anchor close inshore, directly off the mouth of the river, in a depth of 13m, mud and sand.

Directions.—Two channels lead to the anchorages. The E and best channel leads between Marban Bank and the E shore of the bay, in a least depth of 9m.

When approaching from SE, after passing Patian Island, steer for Mount Matatal (1.5 miles NNW of town), bearing 340°, which will lead to the anchorage. The W channel between Marban and Dry Banks should only be used with local knowledge.

12.48 Cabalian Point (5°53'N., 120°56'E.) is low, but the terrain rises quickly to Mount Tukay, 620m high, 2.75 miles NNE. The coast between Cabalian Point and Bunga Point, 4 miles NW, is low.

Parang (5°55'N., 120°54'E.), 2.5 miles NW of Cabalian Point, is the commercial center for the entire area. The town is built on piles over the water. There is an L-shaped concrete pier which extends 38m WSW and then 75m NW.

A rock causeway leads to the pier. Pile clusters stand at intervals along the inner leg and about 0.3 of the way to the pierhead. There were reported depths of 9.8 to 11.3m on the S side of the outer leg, and 4.3 to 5.8m on the N side.

There were reported depths of 6.1 to 9.6m about 6m off the pilings on the S side of the inner leg; 1.2 to 3m about 7.9m off the N side pilings.

Anchorage can be taken about 0.3 mile off Parang, with the galvanized iron roof of a store in town bearing 010°, and **Tubingantan Point** (5°54'N., 120°55'E.) bearing 130°, in a depth of 16m, sand and coral. This anchorage is exposed to the Southwest Monsoon.

Parang Island lies on a bank, close offshore, about 1 mile NW of Parang.

12.49 Sulade Island (5°50'N., 120°47'E.), 7 miles SW of Bunga Point, consists of coral and sand, surrounding a shallow lagoon; boats can pass the entrance on the S side at HW. The island is swampy and 12.2m high to the tops of the trees.

Tidal currents between Sulade Island and Jolo Island set NW and SE, and attain a rate of 5 knots.

There is anchorage over the bank extending from the W side of the island, in depths of 11 to 16.5m, coral and sand. There is some protection from the Northeast Monsoon but it is exposed to the Southwest Monsoon.

Bunga Point (5°55'N., 120°53'E.), the SW extremity of Jolo Island, is fringed by a coral reef. An isolated 5.5m patch lies 0.5 mile W of the point; the 20m curve lies about 0.5 mile farther W.

The low coast between Bunga Point and Silangan Point, 2 miles NNW, is fringed by a coral reef and backed by coconut trees.

From **Silangan Point** (5°57'N., 120°52'E.), the W end of Jolo Island, the coast trends about 3.5 miles NNE to Pulaluaac Point, then 3 miles NE to Candea Point.

This part of the coast is backed by the slopes of **Mount Tumatangas** (6°00'N., 120°58'E.) which rises to a height of 812m. The coast between Candea Point and Daingapic Point, 5.25 miles NE, is steep-to, fringed with coral and backed by mountains in the interior.

Matos Shoal (5°59'N., 120°53'E.), with a depth of 7.3m, lies 1.5 miles N of Silangan Point.

12.50 Tulian Island (6°01'N., 120°53'E.), 35m high, lies 1.25 miles offshore NW of Pulaluaac Point. Busson Rock, awash, lies 0.25 mile NW of Tulian Island, about 0.1 mile inside the 200m curve.

Numerous islands and shoals lie in the NW approach to Jolo.

Minis Island (6°12'N., 121°03'E.) is the farthest NE; it is small, wooded, and steep-to. Pantocunan Island, small, wooded, and reef-fringed, lies 10.5 miles W of Minis Island; it is the farthest NW of these islands. Heavy tide rips exist near Pantocunan as the outer reef edge is steep-to.

12.51 Bubuan Island (6°11'N., 120°58'E.), 3 miles WSW of Minis Island, is low, but a peak in its N extremity rises to a height of 89m. A bank, with a depth of 8.2m, extends about 1 mile NW from the island. Cabucan Island, the largest in the group, lies 1.5 miles SW of Bubuan Island.

This island is reported to be low, swampy, and uninhabited. A small wooded island lies on a reef, close off the NE side of Cabucan.

The channel between the islands is fouled by a reef with a least depth of 3.7m.

Hegad Island lies in this group, 0.75 mile SE of Bubuan, and Tawi-Tawi Island, quite small, lies close W of Hegad.

Aguirre Bank (6°07'N., 120°51'E.), with a depth of 7.6m, is steep-to; it lies 2.25 miles WSW of Cabucan Island.

Pangasinan Island (6°08'N., 120°59'E.), with a hill 123m high in the S part, has steep-to sides with S and W coasts fringed with sand. A 6.4m shoal lies 0.75 mile NE of the island.

Marungas Island, 0.4 mile SW of Pangasinan Island, is low but has a hill 64m high in its W extremity. Strong, irregular currents flow through the channel between this island and Pangasinan.

Anchorage can be taken in this channel about 0.1 mile off either coast, in depths of 11 to 22m, but the tidal currents are strong.

Jolo (6°03'N., 121°00'E.)

World Port Index No. 59800

12.52 Jolo is the capital of Sulu Province, which comprises the whole of the Sulu Archipelago. The town, a walled city, is partially built on a long pier situated W of the town. The port is administered by the Philippine Ports Authority, Jolo, Sulu, Philippines and is a Port of Entry.

Winds—Weather.—Local weather conditions are generally good, with the incidence of typhoons very infrequent. The

strongest winds occur in October and early November during the Southwest Monsoon.

These winds last for 2 or 3 days and cause a heavy beam swell at the pier. Storm warning signals are displayed at the weather station.

Tides—Currents.—The tides are chiefly diurnal, range about 0.8m. Tidal currents off the town set NE and SW. The strength of the current sets W and E about 2 hours after LW and 2 hours after HW at Cebu. Slack water occurs about 1 hour before HW and LW at Cebu. Currents in the harbor area and off the pier have a velocity of 1 to 2 knots and at times run counter to the normal offshore currents.

Depths—Limitations.—The approach to the anchorage and pier is clear and free from hazard, except the shoal at the NE end of the pier. The U-shaped Government Pier is about 88m long at the NW seaward face.

Berthing space at the main wharf is reserved for large foreign vessels and domestic vessels.

The maximum permissible draft at MLLW is 4m with a length of 60m. At the Caltex, Mobil, and Petron Oil Depot, the maximum permissible draft is 6m.

The basin, enclosed by the three arms of the U-pier, has landings on the NE and NW sides. There is a depth of 2m in the entrance. A private jetty has been constructed close NE of the main wharf and is able to accept vessels with a maximum draft of 6m. An associated oil depot stands close NE of the town.

Jolo

Aspect.—Mount Tumatangas, 4 miles SW of town, is prominent. A dome standing 0.1 mile SE of Jolo Light, and another dome of a concrete mosque which stands 0.3 mile SSW of the mole are both conspicuous. There is a high, white cross 0.2 mile ENE of the mosque dome. A water tower and a radio mast, both showing lights, stand 0.2 mile ESE of the lighthouse and 0.75 mile S of the mole.

Pilotage.—Pilotage is compulsory. Pilots request a 3 day advance notice of ETA and board vessels 0.4 mile NW of the pier. A customs launch assists in docking and undocking provided sufficient notice is given. Towage is available. Pilots are stationed at nearby Zamboanga City.

Anchorage.—The anchorage lying NE of Belan Point and NW of the pier is open to the N and W, and as the coastal bank is steep and tidal currents are strong, it is not considered a safe anchorage. During the Northeast Monsoon, it may be necessary to take shelter under the lee of Marungas Island. Depths of 22 to 26m are found in the anchorage area.

Merchant and naval vessels must anchor W and E of a line drawn in a 351° direction from Jolo Light. All foreign vessels entering port should anchor 4 miles NW of the pier and await the boarding officials. Entry is permitted only between sunrise and sunset. Quarantine inspection is usually held alongside the pier.

Anchorage is available W of the Caltex Depot. Large vessels can obtain anchorage in approximate position 6°04.8'N, 121°00.4'E, located close SW of Daingapic Point.

Directions.—When about 0.5 mile from Jolo Light, change course to the SW for the anchorage or for the approach to Jolo Pier. The approach channel to the pier is about 0.2 mile wide between the shoals on either side. The pier should be approached from the W, as there is shoal water off its NE end.

12.53 Daingapic Point (6°05'N., 121°01'E.) lies 2 miles NNE of Jolo. Pandanan Point is located 6.5 miles E of Daingapic Point; from this point the coast trends 2 miles SE to Igasan Point. This entire coastal area is fringed with coral and is steep-to. There are several mountain peaks rising to heights of 789m within 3 miles of the coast.

From Igasan Point to **Baverstock Point** (6°01'N., 121°18'E.), the coast is indented by an open bay, with sand and coral beaches backed by high hills. Caduayan, a village, is located at the head of the bay.

The 20m depth contour extends 2 miles NNE of Caduayan, but is 0.65 mile offshore close N of the village.

Bancungan Island (6°04'N., 121°10'E.), 0.5 mile E of Igasan Point, is partly wooded and rises to a height of 138m. The channel between the island and Jolo Island has depths of 26 to 29m.

The island is steep-to except off its NW side where an above-water rock lies at the outer end of a spit. Panganaa Island, steep and rocky, lies 1 mile ESE of Bancungan Island.

Gujangan Island (6°05'N., 121°16'E.), 5 miles E of Bancungan Island, has two wooded hills, the highest one being 122m, with a narrow strip of low land between them.

The island is steep-to, except on its E side, where an extensive drying reef fronts a lagoon.

12.54 Dalrymple Harbor (6°00'N., 121°19'E.), indenting the N coast of Jolo Island, close W of Baverstock Point, is closely fronted by Tulayan Island. The island has a cone-shaped peak 160m high, which is a good landmark from the N and E. Several shoals lying between Tulayan Island and the harbor have depths less than 10m.

An approach from the NE provides the safest passage to Dalrymple Harbor, between Martin Bluff on the E side of Tulayan

Island and Petley Point. The W entrance to Dalrymple Harbor, is formed between Baverstock Point and Tulayan Island. It is constricted by a bank extending N from the point and other shoal patches.

Tandu Bato (6°00'N., 121°18'E.), a village 0.3 mile SSE of Baverstock Point, is connected with Jolo by a good road. There is a stone mole off the village, but the ruins of a pier obstruct the use of the mole.

Anchorage can be taken SE of Tulayan Island, in depths of 14.6 to 16.5m, sand, but it is exposed to the NE. During strong NE winds, better protection is afforded under the lee of the island.

To approach the anchorage, pass about 0.5 mile E of Tulayan, avoiding the 5.5m patch lying SE of **Martin Bluff** (6°02'N., 121°20'E.) and the 4.6m patch lying 0.75 mile farther E.

When the S extremity of the island bears 270°, steer for it on that bearing and anchor when Martin Bluff bears between 000° and 030°. If entering from the W by White Passage, keep 0.25 mile off the W and S sides of Tulayan Island, then steer for anchorage as above.

Petley Point (6°01'N., 121°21'E.), about 2 miles E of Baverstock Point, is fronted by a drying reef. Patotol Bay is entered about 1.25 ESE of Petley Point.

12.55 Patotol Bay (6°00'N., 121°22'E.) has a narrow tortuous entrance between reefs on either side.

Bulicutin Island (6°01'N., 121°22'E.), low and swampy, fronts the entrance to Patotol Bay. A draft of 3.6m can be carried through the channel W of Bulicutin.

The E channel is deeper but is encumbered with rocks and shoals. Tidal currents average about 2.5 knots in the channels.

Liangliang (6°01'N., 121°23'E.) is located on Jolo, 0.6 mile E of the E extremity of Bulicutin Island. The shore from the E entrance of Patotol Bay to the village of Liangliang is fronted by reefs; the reefs close W of the village dry at LW. Liangliang lies at the W end of Capual Channel.

The Tapul Islands are a group of four large islands and several smaller islands, lying to the SSW of Jolo Island are rugged, fertile, and well cultivated.

Taluk Island (5°44'N., 121°00'E.) and Kabingaan Island, the farthest NE of the islands lying on the same drying reef, lie 9.5 miles SSW of Jolo Island. Kabingaan is covered mangroves. Sibabag, a Moro settlement built on piles, lies midway between the two islands.

A boat passage leads to Sibabag from the E side of the reef. Pa'uia Island, fringed by a reef, is separated from the W side of Kabingaan by a deep passage 0.25 mile wide. A spit, with a depth of 3.3m at its outer end, extends 1.7 miles SSE from Pa'uia Island.

12.56 Tapul Island (5°44'N., 120°54'E.), about 3.5 miles W of Taluc Island, is circular in shape and presents a rugged appearance.

It rises to **Mount Dakut** (5°44'N., 120°54'E.), a grassy summit 474m high near the center. Coral reefs fringe the S end of Tapul, and there are numerous coastal settlements on the island.

12.57 Lugus Island (5°41'N., 121°51'E.), SW of Tapul Island, is rugged, mountainous, and wooded. Mount Biubugnan rises to a height of 297m at the W side of the island. An extensive drying reef extends 1.75 miles E of the E end of the island. Strong tidal currents set through the narrow channel between Lugus Island and Tapul Island; there is a least depth of 2.3m in the fairway.

Lugus Shoal (5°38'N., 120°46'E.), with a charted depth of 4.2m, lies about 2 miles SW of Lugus Island.

Siasi Island (5°32'N., 120°52'E.) lies 4.25 miles S of Lugus Island. Gorro of Siasi, 483m high near the center, is the highest point on the island. It has a prominent clump of dark trees on its summit.

There are several fishing villages within the reefs that fringe the E and SW coasts of the island. A village situated at the W end of the island has a pier, with an along side depth of 6.4m.

Tara Island (5°36'N., 120°52'E.), is separated from the N side of Siasi Island by a channel 0.25 mile wide, with a least depth of 12.5m in the fairway, but there is a depth of 15.3m in the E approach.

A lagoon lies on the N side of the island, with depths of 16.5 to 21.5m; the lagoon is protected from the N by foul ground. Tincalan Island, 1m high, lies on the foul ground; when seen from a distance it resembles a canoe under sail.

Taratara Island, 24m high, lies close off the NE side of Tara Island. The channels between the islands are narrow and tortuous, and only suitable for launches.

12.58 Laminusa Island (5°33'N., 120°55'E.), lying off the E point of Siasi Island, is low and has a village at its NW point. North Gusun Reef, partly drying, and Gusun Reef, drying, lie off the N and SW sides of Laminusa Island, respectively. Other dangerous reefs lie close N and 2 miles NW of North Gusun Reef.

Anchorage between Laminusa Island and the reefs extending off the E end of Siasi Island has depths of 11 to 16m, sand, sheltered with good holding ground. The reef on the SW side of the anchorage partly dries and is steep-to, but is not easily distinguished.

Tidal currents at springs are strong and set W and then N along the coast of Siasi.

Sumbasumba Island (5°30'N., 120°58'E.), 3.25 miles SSE of Laminusa Island, is the farthest SE of a group of low, thickly wooded islands which extends 4 miles SE from the E extremity of Siasi Island.

A dangerous steep-to reef extends E from Basbas Point, the S extremity of Siasi, to Sumbasumba and then 2.5 miles N. In places the 200m curve lies about 0.1 mile off the dangerous reef. A reef which dries 0.3 to 0.6m, extends 3.25 miles SW from Basbas Point.

Manubul Island (5°28'N., 120°48'E.) is located on a reef formed of grass, sand and coral, 3.5 miles WSW of Basbas Point. A channel, with a depth of 9m, leads between Manubul and the reef extending SW from Basbas Point. Small vessels, with local knowledge, can transit this channel which is about 0.1 mile wide. The tidal currents set through the channel at a maximum velocity of 5 knots.

12.59 Siasi (5°33'N., 120°49'E.) (World Port Index No. 59820) is situated on the W extremity of Siasi Island; it is approached from the N and S through a narrow channel.

From the N, **Sungu Shoal** (5°37'N., 120°50'E.), with a depth of 5m, and Langon Shoal, with a least depth of 11m, lie in the N approach to Siasi in positions 2 miles NW and 3.75 miles WNW; respectively, from Siasi Island.

The N approach to Siasi is formed between Siasi Island and Lapak Island. A mid-channel course is recommended to the anchorage, which is in mid-channel SW of Siasi Pier, in depths of 11 to 15m.

There is a maximum current through the channel of 5 knots.

Depths—Limitations.—A concrete pier, 29m long and 15m wide, has a depth of 5.4m alongside. A wooden marginal wharf 38.4m long with depths alongside of 1.8 to 4.3m is situated S of the concrete pier. A light is shown from the root of the wharf.

Pilotage.—Pilotage is compulsory. Requests for pilotage should be made to Jolo Pilots Association 3 days prior to arrival.

Lapak Island (5°32'N., 120°47'E.), separated from Siasi Island by a channel about 0.3 mile wide, has two prominent peaks, with a deep, cultivated valley between them, so that from NW it appears as two islands. Several villages are located on the W coast of the island.

Luangat Point (5°34'N., 120°48'E.), the N extremity, is rocky and steep-to; Buslac Point, 0.5 mile W of Luangat Point, is formed of large conspicuous rocks.

Sirum Island (5°35'N., 120°44'E.), a small island 30m high, lies 4 miles WNW of Luangat Point. The island is fringed by a reef which extends 0.2 mile from its W side.

Pandami Island (5°33'N., 120°45'E.), low, sandy, and covered with coconut trees, lies close off the NW side of Lapak Island; the channel between the islands is foul at its N end.

Anchorage for vessels with local knowledge can be taken SW of the island, in depths of 13 to 22m, sand and coral.

Tapaan Island (5°28'N., 120°44'E.), the farthest SW of the Tapul Group, is separated from Lapak Island by a deep channel about 2 miles wide.

The channel is free of dangers except for a rocky patch with a depth of about 8.8m reported to be 1 mile NNE of Tapaan Island.

Tapaan is a low island, with a shallow lagoon on the W side, protected by a barrier reef. Banks extend from the N, E, and S sides of the island.

12.60 The Tawitawi Group of islands extends SW from Bubuan Island and Maningkulat Island for 58 miles to **Bongao Island** (5°01'N., 119°45'E.).

The group consists of more than 30 islands, as well as numerous small islets, boulders, and rock and reef formations above and below-water. Most of the islands are densely wooded and mountainous; some islands consist mainly of mangrove swamps.

Tapaan Passage (5°30'N., 120°40'E.), which separates the Tapul Group from the Tawitawi Group, is 7.5 miles wide between Bubuan Island on the W and Tapaan Island on the E, with depths over 18.3m in the fairway. There are two shoals of 7.5 to 9.1m in the fairway, but there are clear passages on either side of them.

Tapaan Shoal (5°26'N., 120°40'E.), with a least depth of 8.5m, and Crest of Wave Shoal, with a depth of 7.3m, are two dangers lying in Tapaan Passage.

Discolored water and tide rips are reported to usually mark **Crest of Wave Shoal** (5°33'N., 120°37'E.).

Tides—Currents.—Currents set NW on the rising tide and SE on the falling tide with velocities of 3 to 7 knots.

Heavy tide rips occur at the channel entrances during rough weather. Tapaan Passage is convenient for sailing vessels; in light winds anchorage can be taken while awaiting the change of tide.

12.61 The **Parangan Islands** (5°30'N., 120°34'E.), 10.5 miles W of Lapak Island, are the farthest NE of the Tawitawi Group. They consist of two islets; the easternmost is 27m high, conical in shape, and covered with grass. The W islet is flat; a reef extends E, leaving a narrow passage between the islets.

Maningkulat Island (5°27'N., 120°35'E.), densely wooded, has a prominent peak, 227m high, at its N end which appears conical except when seen from the E or W. A village stands on the E shore, where a prominent spire is located. The shores, except for the S, are steep-to.

Maglumba Islet, 10.1m high, lies 1.25 miles E of the N extremity of Maningkulat Island; foul ground extends 0.2 mile S from the islet.

Bubuan Island (5°27'N., 120°34'E.), 137m high on its W side, is separated from Maningkulat Island by a channel 0.5 mile wide, with a depth of 6.4m in the fairway. A steep, rocky cliff stands at the E point of the island. A shallow lagoon fills the center of the island, and is entered N of the hill on the W side.

12.62 Sugbai Passage (5°25'N., 120°30'E.), formed between Bubuan Island and Sugbai, has a rocky steep-to 10.4m patch lying midway between the two islands. Two extensive shoals, with depths of 10.9 to 16.5m, lie in the N part of the passage.

Cacatan Island (5°30'N., 120°27'E.), 23m high, lies 7 miles NW of Maningkulat Island. Shoal ground, with a least depth of 8.5m, extends 2.5 mile SSE from the island.

Mid-channel Bank (5°27'N., 120°32'E.), with least depths of 1.8 to 6.7m, sand and coral, is an extensive bank lying between Maningkulat Island and Cacatan Island. A rock, awash, lies on the bank about 2.5 miles SW of the Parangan Islands. The shallowest parts of the bank are difficult to distinguish.

Sugbai Island (5°24'N., 120°23'E.), 235m high, has a summit consisting of twin peaks that appear as one when seen from E or W. There are rocky cliffs on the N side and E end. A lagoon, with no entrance, is located on the S side of the island. A shoal patch, with a depth of 4.6m, lies about 1 mile SE of the W extremity of the island.

Anchorage, with local knowledge, can be taken NE of the shoal patch, in a depth of 13.1m, sand and coral.

12.63 Magpeos Island (5°20'N., 120°35'E.), on the S side of Sugbai Passage, 11.5 miles SE of Sugbai Island, is steep, rocky and densely wooded. The island rises to a sharp cone 109m high. Some above and below-water rocks are located on a reef which extends about 0.1 mile E from the island. Twin pinnacle rocks lie close W of the SW end of Magpeos.

Tagao Island (5°18'N., 120°34'E.), 76m high, 1.5 miles SSW of Magpeos Island, is wooded, with shoal ground extending 0.75 mile ESE. The shores are fringed with coral and are

steep-to on the W and N sides. The channel between Tagao and Magpeos is deep and clear of dangers.

The Kinapusan Islands, lying on the S side of the E approach to Sugbai Passage, 4.5 miles S of Tagao Island, consist of three principal inhabited islands that are low, densely wooded, and fringed by above and below-water reefs.

Bintoulan Island (5°14'N., 120°38'E.) and Kinapusan Island, 0.6 mile SE, lie on the same partly drying reef; many islets lie on the reef.

Tabawan Island (5°13'N., 120°35'E.), separated from Bintoulan Island by a channel about 1 mile wide with a depth of 5.5m in the fairway, lies on the N side of a partly drying reef. The Nusa Islands, a group of islets, lie at the S edge of the reef. Other islands lie close W and S of Tabawan. The village of Guitong is situated on the N shore of Tabawan Island.

Tidal currents in the passage W of Kinapusan Island flow parallel with the axis of the channel, but N of the passages the currents set W with the N rising tide. In the area between Kinapusan Island and Tagao Island the tidal currents set WNW to ESE on the rising and falling tides.

Anchorage can be taken N of Tabawan Island, in 24m, with the W extremity of Guitong bearing 160°, 0.75 mile distant.

12.64 Loran Island (5°12'N., 120°31'E.), 45m high at its steep-to N extremity, lies 3 miles WSW of Tabawan Island. The channel between these islands has a least depth of 11.3m in the fairway, but a depth of 18.3m can be carried by keeping to the W side.

The edges of the reefs on either side are visible at various stages of the tide. This is the preferred channel leading through this chain of islands.

Manote Island lies on the reef extending 0.6 mile S of Loran Island.

South Ubian Island (5°11'N., 120°30'E.) lies on a drying reef 0.75 mile SW of Loran Island. There is a least depth of 5m in the channel between the islands. An isolated patch, with a depth of 4.9m, lies about 1 mile SE of South Ubian Island.

Several islets, up to 2m high, are located on the drying reef SE of South Ubian Island.

Bacutcut Bank (5°11'N., 120°25'E.) is an extensive drying reef separated from the reef on the W side of South Ubian Island by a passage with a least depth of 7.9m. The reefs on each side of the passage are usually visible. There are clusters of above-water rocks and islets lying in the middle, N, S, and E sides of Bacutcut Bank.

Tabuan Island (5°09'N., 120°27'E.), inhabited, is the largest of the Tabuan Islands, a group of rocks and islets lying near the SE end of Bacutcut Bank.

Tacutboata Reef (5°09'N., 120°24'E.), which dries 0.6m, lies 0.75 mile SW of Bacutcut Bank and 2.25 miles W of Tabuan Island.

12.65 Kang Tipayan Dakula Island (5°27'N., 120°14'E.) and Kang Tipayan Diki Island lie 8 miles and 11 miles WNW, respectively, from Sugbai Island and about 5.5 miles N of Tawitawi Island. The islands are of coral formation, are covered with trees 12 to 30m high, and lie on an extensive bank.

Shallow salt water lagoons encumbered with reefs and mangroves lie in the interior of the islands. Drying barrier reefs block the entrance to the lagoons.

A coral reef fronts Kang Tipayan Diki Island on the NE side; a stretch of sand beach lies on the S side. Kang Tipayan Dakula Island is fronted on all sides by a coral reef. A 0.3m coral shoal lies midway between the two islands, with a deep channel on either side of the shoal.

Tumbagaan Island (5°23'N., 120°19'E.), 186m high, is hilly and wooded; a prominent hill stands on the E end.

There are rocky cliffs on the W, N, and E ends of the island, and above-water rocks lie 0.5 mile S and SE of the S extremity. Strong tidal currents and tide rips occur in heavy weather, in the passage between Tumbagaan Island and Sugbai Island.

Pandanan Island (5°19'N., 120°25'E.) and Tancolaluan Island are small coral islets lying on detached banks, 6.5 and 9.75 miles SE, respectively, from Tumbagaan Island.

Twin rocks, above-water, lie 0.2 mile W of Tancolaluan Island.

12.66 Calupag Island (5°16'N., 120°23'E.), 3 miles SW of Pandanan Island, is 84m high; it is the only island in the area not densely wooded. An islet, 6m high, lies 0.3 mile N of the island and a 1.8m patch lies 0.4 mile farther N.

Tandungan Island (5°15'N., 120°21'E.), 0.5 mile SW of Calupag Island, rises to a peak 151m high near its center. Pasegan Samal Island lies 2.5 miles SE of Tandungan Island, close N of Bacutcut Bank, and Pasegan Guimba Island lies 1 mile ESE of the same island.

Dundangan Island (5°13'N., 120°21'E.), close S of Tandungan Island, rises to a height of 116m about 0.6 mile S of its N extremity. Several small islets lie on the reef which encircles the island; their positions may be seen on the chart. An extensive reef, which dries, extends about 2.2 miles E from the S extremity of Dundangan.

This reef is separated from Bacutcut Bank by a deep channel 0.3 mile wide between the 9.1m lines. A tidal current, with a velocity of 6 knots, flows through this channel.

Tandubas Island (5°08'N., 120°20'E.) lies 1.5 miles S of Dundangan Island.

The island is low, with a dense jungle in the N part and cultivated land in the S part. The island is surrounded by a reef which dries in several areas.

Tandungan Channel (5°14'N., 120°20'E.), between Calupag Island, Tandungan Island, and Dundangan Island on the E, and Tandubatu Island on the W, has a least width of 0.3 mile. Vessels, with local knowledge and a maximum draft of 5.8m, can use this passage, but there are numerous reefs on either side.

The passage is sheltered from heavy seas during the Southwest Monsoon, and anchorage can be taken anywhere. Currents in the channel are strong.

12.67 Tandubatu Island (5°13'N., 120°17'E.) is separated from the E side of Tawitawi Island by Gallo Malo Channel, a foul and constricted channel. The E part of the island is high, rising to a height of 149m in the NE part.

The island is fringed by mangroves and coral reefs; a number of small islets are located on the reefs.

Situgal Hea Island is separated from the NE side of Tandubatu Island by a foul channel, 2.4m deep.

Basbas Island (5°21'N., 120°14'E.), separated from the NE extremity of Tawitawi Island by Basbas Channel, lies 4.25

miles NNW of Tandubatu Island. A hill, 70m high, is located in the central part of the W side of the island.

Tabolongan Island, 49m high, lies 0.5 mile SW off Basbas and close off Tawitawi Island. Pahumaan Island, low and wooded, lies 1.25 miles E of Basbas.

Anchorage can be taken in the fairway of Basbas Channel, about 0.5 mile N of Tabolongan Island, in a depth of 14.6m, sand and coral.

There are several islands located on foul ground, between Basbas Island and Tandungan Island, 7.5 miles SE. The positions of these islands and the associated dangers may be seen on the chart.

12.68 Tawitawi Island (5°10'N., 120°00'E.), the largest island of the Tawitawi Group, is mountainous, densely wooded, and sparsely populated.

The most prominent peak on the island is **Mount Sibankat** (5°10'N., 119°58'E.), 549m high, located in the SW part.

Prominent peaks stand close NE and SW of Mount Sibankat; these three peaks are often obscured by clouds.

Thumb Hill, 3 miles NE of the SW extremity of Tawitawi Island, rises to a height of 202m.

In the NE part of the island, **Mount Baluk Sampan** (5°13'N., 120°04'E.) rises to a prominent cone 320m high.

Mount Bud Bas, 349m high, lies 1 mile within the N coast, 5.75 miles NE of Mount Baluk Sampan, and Mount Bud Butau, 250m high, lies 4.25 miles farther NE.

Tidal currents off the N coast of Tawitawi Island are weak; they set SW on a rising tide off the N end of the island and join the NE current off Tongehatan Point.

Tarinen Point (5°21'N., 120°13'E.) is the NE extremity of Tawitawi Island. The coast between this point and Languyan Point, 9 miles WSW, is steep-to, wooded, and free of dangers.

The 40m line lies about 0.9 mile N of Tarinen Point and 0.25 mile off Languyan Point. A range of high hills back this coast.

From **Languyan Point** (5°17'N., 120°04'E.) the coast trends 6 miles WSW to Bacung Point. The coast is low, coral-fringed, and backed by dense woods.

Port Languyan, entered between Languyan Point and Tocanhi Point, 0.4 mile SW, is 0.15 mile wide throughout its winding length as an inlet. Anchorage can be taken at the turn of the inlet, in a depth of 12.8m, mud.

A mid-channel course from the entrance, which is difficult to distinguish until close inshore, will lead to the anchorage. A 7.6m patch lies 0.75 mile NW of Tocanhi Point.

Bugut Lapit Point (5°09'N., 119°50'E.) lies 10 miles SW of Bacung Point. This coast is low, coral fringed, and indented with small coves which afford shelter to small local vessels.

The remains of an abandoned settlement, and an old mole, are situated 3.5 miles SSW of Bacung Point, at the head of a small cove. Two reefs, less than 0.5 mile offshore, front the cove.

The Tataan Islands are a number of low coral islands lying 0.5 mile to 2.5 miles off the N coast of Tawitawi Island. The islands are wooded, with trees 15 to 18m high, and are fringed by coral reefs which are clearly visible.

The NW edge of these reefs are bound by coral barrier reefs, and except for the shallow area between **Tinagta Island** (5°12'N., 119°53'E.) and Sipayu Island at the SW end of the group, are dry except at HW.

The reefs form an excellent navigational aid when approaching the islands. Drying coral shoals extend from the SE side of the islands.

12.69 Cabancauan Island (5°14'N., 119°57'E.), the largest island of the group, lies 1.5 miles W of Bacung Point. Simalac Dakula Island and Simalac Sibi-Sibi Island lie 0.5 mile and 0.75 mile NE, respectively, of Cabancauan Island. An extensive shoal extends up to 0.75 mile NW of these islands.

Nusa Tacbu Channel, with a least depth of 10.1m in he fairway, leads through the barrier reef into Tataan Pass, 1 mile E of Basun Channel. The edges of the reef on either side are easily seen under favorable conditions, but care must be taken to keep in mid-channel at the S end to avoid shoals on either side.

Basun Channel has a least depth of 29m. It leads into the N side of Tataan Pass 1 mile W of Nusa Tacbu Channel. This channel is not recommended as the edges of the reefs on either side are difficult to distinguish. Two low wooded islands lie on the reef on the E side of Basun Channel.

Basun Sibi Sibi Island (5°13'N., 119°54'E.), Basun Dakula Island and Tinagta Island lie on the same barrier reef WSW of Basun Channel; the reef is about 3 miles in extent.

There is a channel close SW of the barrier reef leading into the W end of Tataan Pass with a depth of about 12.8m.

Sipayu Island (5°10'N., 119°51'E.), the farthest SW of the Tataan Islands Group, lies 0.5 mile offshore, 3 miles SW of Tinagta Island.

The channel leading into the W end of Tataan Pass leads S of Sipayu Island.

12.70 Tataan Pass (5°12'N., 119°54'E.) lies between the N coast of Tawitawi Island and the Tataan Islands.

The NE entrance channel, over 0.5 mile wide, has a least depth of 10.6m. Two narrow channels lead through the shoal ground and dangers lying in the W entrance of the pass. The N channel, which passes close SW and S of the reef enclosing Tinagta Island, is about 0.25 mile wide and has a least depth of 12.8m in the fairway.

The S channel, which leads S of the reefs and shoals extending W from Sipaya Island and thence S of the island, is narrow and has a least depth of 13.7m in the fairway. The tidal currents flow NE on the rising tide and SW on the falling tide at a rate of about 1 knot.

Vessels can anchor, in 10.7 to 31m, coral, sand, or mud anywhere in the middle part of Tataan Pass. The anchorage area is extensive and vessels can anchor as convenient or according to the direction of the prevailing wind.

Directions.—Vessels entering Tataan Pass from the NE have only to steer a mid-channel course between the reef enclosing Cabancauan Island and the coast of Tawitawi Island.

Vessels entering Tataan Pass from the NW should pass about 0.2 mile SW of the reef enclosing Tinagta Island. This channel should only be attempted when the reefs and shoals on either side are clearly visible.

Vessels entering Tataan Pass from the SW should steer 092° for the S side of Sipayu Island.

When **Bugut Lapit Point** (5°09'N., 119°50'E.) is abeam, the course should be altered to the SE, then E, so as to pass from 137 to 228m S of the island.

These courses lead about 0.1 mile S of the shoal ground ex-

tending 0.5 mile W from the reef enclosing the island. Having passed Sipayu Island, vessels can alter the course to the NE for the fairway of Tataan Pass.

The E and S coasts of Tawitawi Island are low, flat, fringed by coral reefs and bordered by mangroves. Islands, islets, dry and drying reefs, shoals and rocks front the entire coast. The numerous channels along the coast are intricate and require local knowledge to transit.

Tidal currents among the islands and shoals off the S coast set NW to SE on a rising and falling tide.

12.71 Tawitawi Bay (5°05'N., 120°07'E.) is a large area of water between the S coast of Tawitawi Island and the off-lying reefs and islands. The E end of the bay is encumbered with shoals interspersed by channels, but only vessels with local knowledge should enter this part of the bay. Much of the W part has depths of 22 to 37m, clear of dangers.

The W part of the Tawitawi Bay is easy to navigate. When approaching from W, Bongao Island should be given a berth of a least 0.5 mile.

Baliungan Island (5°10'N., 120°12'E.), fringed by mangroves, is separated from the SE end of Tawitawi Island by the Mlariguina River, the channel of which has a reported depth of 5.5m.

Mount Sipusok, on the E side, 324m high, is the summit of the island, but the W side is low. Cava Island, and three other islands, lie on the edge of the reef extending from the E side of Baliungan Island.

The **Taata Islands** (5°09'N., 120°09'E.), several low mangrove islands, lie in the estuary of the Dungun River close W of Baliungan Island. There are depths of 3.7m over the bar at the entrance to the river and for a distance of 4 miles up the river.

12.72 Buan Island (5°09'N., 120°03'E.), which is inhabited, lies close off Tawitawi Island, 6.25 miles W of Baliungan Island. Buan Bay lies W of the island, but the approaches are foul.

The coast between Buan Island and **Balimbing Point** (5°05'N., 119°58'E.), 6.25 miles SW, is low, mangrove fringed, and intersected by many small rivers.

Bud Sintingan Peak, 213m high, 0.75 mile N of Balimbing Point, is prominent, especially when the sun is shining on it, showing a reddish cliff.

This entire coastal area is foul. Lupa Island lies 0.5 mile offshore, 1.5 miles NE of Balimbing Point. The island is encompassed by a reef that extends 0.9 mile SSE.

Balimbing Channel (5°04'N., 120°00'E.), constricted and tortuous, connects the W part of Tawitawi Bay with the foul E part. The channel passes S of the coastal reefs off Balimbing Point and can carry a depth of 7.4m throughout. Local knowledge is essential.

Bunay Bunay Island (5°05'N., 119°57'E.), a small, low island, lies on a drying reef 0.35 mile W of Balimbing Point. The islet has a few coconut trees but is uninhabited.

Parangan Bay (5°05'N., 119°57'E.), small in extent but clear of dangers, is formed between Bunay Bunay Island and Tawitawi Island on the E, and Parangan Island on the W.

Anchorage may be taken in the bay, in depths of 14.6 to 18.3m, mud.

Parangan Island (5°05'N., 119°56'E.) lies 0.5 mile W of Bunay Bunay Island. Coral reefs fringe the island which close the narrow channel that separates the N extremity of the island from Tawitawi.

A hill, 61m high, shaped like the base of a cone, stands at the NE end of the island; a hill, 35m high, is located at the SW end. The island is inhabited and well cultivated.

Luuk Bay, formed between Parangan Island on the E side, and Tawitawi Island on the N and W sides, is encompassed on these sides by a drying reef. This small bay affords protected anchorage for small vessels with local knowledge, in a depth of 14.6m, mud.

12.73 Lebbukan Island (5°04'N., 119°55'E.), 0.5 mile SW of Parangan Island, is connected to Tawitawi Island by a drying mud and sand reef. Lebbukan is low and flat.

Borogan Island (5°04'N., 119°55'E.) lies at the S extremity of a reef that dries, extending 0.3 mile S from Tawitawi, 0.5 mile W of Lebbukan Island. The Malum River is entered close W of Borogan. The river is 0.5 mile wide at its mouth, but inside it narrows to a width of 30m, which is maintained for 3 miles.

Marukal Point (5°04'N., 119°53'E.) is located 1.25 miles WSW of Borogan Island. The 20m curve lies 0.2 mile S of the point. Reefs, which dry, fringe Marukal Point.

Batu Batu Bay (5°04'N., 119°53'E.) is entered between Marukal Point and Malaka Point, 0.5 mile SW. A reef, which dries, extends about 0.1 mile SSE from Malaka Point; a marker stands on the E extremity of the reef.

New Batu Batu (5°04'N., 119°53'E.) stands on the E side of the bay and is fronted by a hill. A pier, with a light at its head, extends 118m WSW from the shore. A pier in ruins extends SW from the root of the above pier.

There is a depth of 6.4m at the head of the pier, but it has been reported in disrepair and caution is required.

Anchorage can be taken in the middle of Batu Batu Bay, in depths of 9 to 18m, mud.

Luuk Sula Bay (5°03'N., 119°52'E.), a narrow inlet, is entered between Malaka Point and Patong Point, 1.25 miles SW. Two drying reefs, lying 0.4 mile ENE and NNE of Patong Point, afford protection from S seas.

The reefs are visible at all times and can be avoided by keeping to the N shore of the entrance. The shores W of Malaka Point and NNW of Patong Point are fringed by drying reefs.

Vessels with local knowledge can anchor in Luuk Sula Bay, in depths of 7 to 11m, mud.

12.74 Tangao Island (5°02'N., 119°50'E.), about 1.75 miles WSW of Patong Point, lies near the SE extremity of a spit extending SE from the E entrance point of Manalik Channel. The spit has a depth of 4.6m at its extremity, with less depths charted inshore.

Manalik Channel (5°05'N., 119°49'E.) lies between the SW end of Tawitawi Island and Sanga Sanga Island; it has a least depth of 1.4m in the fairway near Carmen Point, 1.5 miles within the S entrance. An isolated patch, with a depth of 1.5m, lies 0.25 mile N of Carmen Point.

The shores of the channel are bordered with mangroves. The channel is tortuous with several sharp and narrow turns. Tidal currents attain a velocity of 5 knots in the channel.

There is a well protected anchorage in the N part of Manalik Channel, known locally as Luuk Saul, in a depth of 7m.

Chongos Bay (5°03'N., 119°49'E.), formed between the SW extremity of Tawitawi Island and Sanga Sanga Island on the N, and Papahag Island on the SW, lies at the S entrance to Manalik Channel. Sanga Sanga Channel leads W from Chongos Bay toward Port Bongao.

The channel has a least depth of 11.3m in the fairway. A stranded wreck was reported to lie on the S side of the channel.

12.75 Papahag Island (5°02'N., 119°47'E.) lies 1.75 miles W of Tangu Island; it is 21m high on its N side and is densely wooded.

Bongao Island (5°01'N., 119°45'E.), separated from the W side of Papahag Island by a channel about 0.25 mile wide, may be identified by Bongao Peak which rises to a height of 314m. There are several peaks over 183m high in the vicinity of Bongao Peak.

The outer end of Dila Point, a sand spit extending toward Papahag Island, is marked by a light. The channel on the N side of the island, separating it from Sanga Sanga Island, is foul.

Aguada Bay (5°02'N., 119°47'E.), lying between the E coast of Bongao Island and W of Papahag Island, has a least depth of 7.5m in the fairway off Dila Point. The narrow approach channel to Port Bongao, lying between the reefs extending from Bongao Island and Papahag Island, has a least depth of 5.8m. Several charted depths lie in the fairway.

Anchorage can be taken in Aguada Bay 0.75 mile W of Matos Point, the S extremity of Papahag Island, in depths of 11 to 12.8m, coral and sand.

12.76 Port Bongao (5°02'N., 119°46'E.), is a small, but good harbor formed by Sanga Sanga Island, Bongao Island, and Papahag Island.

The town of Bongao, situated on Dila Point, includes a section built on stilts over the water. There is a concrete wharf about 15.2m long, with a depth of 4.3m alongside, connected to the shore by a narrow causeway on the NW side of Dila Point.

There is limited maneuvering room in the approach. A wooden T-head pier about 13.7m long, with a reported depth of 2.4m alongside its face, is situated 0.25 mile SW of Bongao lighted tower. Two concrete mooring posts stand on a short causeway leading to the pier. There are medical and radio facilities.

Directions.—Vessels approaching Port Bongao through Aguada Bay should bring Maangit Point, the E end of Papahag Island, in range 048° with Thumb Hill, and steer on this bearing until Bongao Light bears 333°.

Change course and steer 000° until the light bears 307° and then steer on this bearing until Lamion Point bears 227°. Change course to 318° and pass 91m NE of Bongao Light, when course is changed N for the anchorage.

Vessels from E should steer for Bongao Peak, bearing more than 270°, to clear the shoal extending from the S side of Papahag Island. When Bongao Light bears 307°, change course to that bearing and proceed as above.

Vessels approaching Port Bongao via Sanga Sanga Channel, vessels should not bring Thumb Hill to bear more than 039° until Matos Point bears 272°, to avoid the shoals off the SE side of Papahag Island.

Round the E end of Papahag about 0.5 mile off and the NE side about 0.25 mile distant. When Panijugan Point, on the N side of the channel, bears 265°, steer a mid-channel course of 263° through Sanga Sanga Channel.

12.77 Sanga Sanga Island (5°05'N., 119°47'E.) is separated from Tapitapi Island by Manalik Channel. The island of Sanga Sanga is densely wooded; an airstrip is located in the SW part of the island.

Sambilong Island lies in the N entrance of Manalik Channel, close NE of Sanga Sanga. Bakhan Dakula Island is located in the channel, 0.75 mile S of Sambilong Island.

Luuk Saul Anchorage is formed in the channel between the above islands and with Tawitawi Island on the E and Sanga Sanga on the W.

Sheltered anchorage can be taken in Luuk Saul, in about 7m. Anchorage may be taken in Pandan Bay, on the S coast of Sanga Sanga Island, N of Chongos Bay, in a depth of 16.5m, sand and coral.

Mandolan Island (5°07'N., 119°48'E.), located in the N entrance of Manalik Channel, lies 0.3 mile N of Sambilong Island. Mandolan Island lies on a drying reef which extends up to 0.5 mile N; sand cays lie on the extremity of the reef.

Sangasiapu Island (4°58'N., 119°50'E.), a low, flat islet, lies on a reef 5 miles S of Bongao Island. A beacon marks the E edge of the reef.

12.78 Laa Island (4°56'N., 119°52'E.) is covered with coconut trees. A buoy marks the W side of a 5.5m shoal lying 1 mile NW of the island. A beacon marks a sand cay between the shoal and Laa Island.

Sangasiapu Channel lies halfway between Sangasiapu Island and Laa Island. The S entrance of this deep channel is marked by a buoy on each side. Leading beacons on Simunul Island, aligned 205°, lead through the channel.

This channel and Laa Channel, the latter E of Laa Island, have been swept to a depth of 9m and are used to enter Tawitawi Bay in good visibility.

Tidal currents set NE to SW on a rising and falling tide, respectively, with a velocity of about 3 knots. Tide rips form in Laa Channel, SE of Laa Island.

12.79 Simunul Island (4°53'N., 119°49'E.) lies 2.5 miles SW of Laa Island; a shallow lagoon indents the NE side of the island. Simunul is fringed by a reef, and is steep-to, the 37m line lies no more than 0.2 mile off the fringing reef.

Manuk Manka Island (4°48'N., 119°50'E.), 1.75 miles S of Simunul Island, is fringed by a reef; it is the farthest S of the Tawitawi Group. Drying rocks mark the outer edge of the reef at the SE and S sides of the island. This island is steep-to; it has been reported to give good radar returns at 22 miles.

Tijitiji Reef (4°53'N., 119°53'E.), separated from the E side of Simunul Island by a channel about 1.5 miles wide, is mostly drying. The channel is deep and free of charted dangers; the edges are easily seen. Whirlpools and tide rips form at the S end of the channel.

The Tijitiji Islands are a group of small islands located within a barrier reef which extend 5.5 miles NE from Tijitiji Reef to

Bilatan Island. Balseyro Channel lies in a N-S direction between Tijitiji Reef and the Tijitiji Islands.

The tidal currents in this channel are strong and it is not recommended.

12.80 Bilatan Island (4°59'N., 120°00'E.), low, flat and densely wooded, lies NE of the Tijitiji Islands and on the same reef; the reef extends 4 miles N of Bilatan. The E and SE sides of the reef, on which the islands are located, are steep-to, with no reported off-lying dangers charted.

Biloc Biloc Reef (5°20'N., 120°00'E.) is a continuation of the reef N of Bilatan Island and forms the S side of **Balimbing Channel** (5°04'N., 120°00'E.). Above-water rocks mark the NW edge of the reef and are a good landmark for entering the channel from W. The N and E edges of the reef are steep-to and well defined. A rock, awash, lies on a spit 0.75 mile W of the rocks.

Basibuli Reef (5°03'N., 120°03'E.) is separated E of Biloc Biloc Reef by a deep channel. Small islands lie near the center and NE side of the reef.

Banaran Island (5°01'N., 120°07'E.), Sasa Island, and Mantabuan Island lie on the same extensive reef separated from the SE edge of Basibuli Reef by a channel 1 mile wide, with a depth of 6.9m in the fairway. A barrier of coral rock extends along the S side of the reef which is steep-to.

Anchorage can be taken NW of the NW end of Banaran Island, in depths of 11 to 13m, hard bottom, or, in 22m, sand, NE of the same point. The latter anchorage is protected from the swell, but affords little protection from the wind.

Directions.—Approaching these anchorages, enter Tawitawi Bay by the channel between Basibuli Reef and the NW end of Banaran Island, steering 024° through mid-channel.

If proceeding through Balimbing Channel, steer to pass 0.25 mile SW of **Balimbing Point** (5°05'N., 119°58'E.) and enter the channel on this course. A depth of 7.3m can be carried through the channel.

The anchorages N of Banaran Island are reached by this channel, or proceed to the open sea between Biloc Biloc Reef and Basibuli Reef. These channels should only be used by vessels with local knowledge.

12.81 Latuan Island (5°04'N., 120°16'E.), Secubun Island, and Tandubas Island lie on an extensive reef separated from Mantabuan Island by **Salong Channel** (5°03'N., 120°14'E.). The channel is 1 mile wide, with a least depth of 11m in the fairway, but lesser depths of 7.6 to 9.1m exist at the inner end. The islands are low, flat, and densely wooded in the interior, but cultivated along the coasts. The islands, except Latuan, are populated.

Bahang Channel (5°05'N., 120°16'E.), between Latuan Island and Secubun Island, is narrow and tortuous with a least depth of 22m, but the reefs on each side of the channel are easily seen. The tidal currents are strong.

12.82 Cambacamba Channel (5°11'N., 120°23'E.), with a width of 0.3 mile, extends in a N to S axis, about 3 miles NE of Tandubas Island; there is a least depth of 9.6m in the fairway. Tidal currents in the channel run at a maximum rate of 6 knots.

Ilag Bank, separated from the N end of Tandubas Island by a narrow channel, has drying reefs around its perimeter. Sipung Island stands on the N edge of the bank.

Sibutu Island (4°47'N., 119°29'E.), about 16.5 miles long in a N to S direction and about 2.5 miles in width, is largest of the Sibutu Group; it lies 18 miles W of Manuk Manka Island. The island is low and flat except for Sibutu Hill, which rises to a height of 137m, about 5.25 miles S of its N extremity.

The coast of the island consists of low cliffs of upraised coral, broken in places by sandy beaches. The fringing reef extends 4.5 miles from the S extremity, enclosing a shallow lagoon which has no apparent entrance. There is an airstrip 2 miles NW of Sibutu Hill, and the village of Sibutu is situated on the NW coast.

The Sibutu Group is separated from the Tawitawi Group by Sibutu Passage.

12.83 Sibutu Passage (4°40'N., 119°40'E.), which connects the Celebes Sea with the Sulu Sea, is deep and clear of dangers. The passage is at least 17 miles wide. The islands forming both sides of the channel are steep-to except for the drying reef SE and S of Sibutu Island. The only prominent landmarks are Bongao Peak on the E side and Sibutu Hill on the W side.

Tides—Currents.—Tidal currents set NNW on a rising tide and S on a falling tide with a velocity of 2 to 5 knots.

The S current may attain a velocity of 6 knots, presumably caused by the Borneo coastal current which flows SE into the passage and is most likely between October and December.

Off the NW coasts of Sanga Sanga Island and Bongao Island, the NNW current is sometimes deviated to an E and SE direction by the Borneo coastal current.

Generally, slack water occurs within 1 or 2 hours of high and LW, but the S current has been known to run several days.

During the Southwest Monsoon, the currents set N and S on a rising and falling tide. During the Northeast Monsoon, the current has been observed to set continuously S.

Caution.—A reporting system, operated by the Philippine Navy, applies to all vessels transiting the area. Vessels should establish contact on VHF channel 12 or 16 with Bongao Coast Watch Station (call sign: Coast Watch Bongao) when entering Sibutu Passage or passing Bongao Coast Watch Station (5°01.9'N., 119°46.2"E.).

Vessels should report the following information:

1. Vessel name.
2. Call sign.
3. Course and speed.
4. Port of registry and nationality.
5. Type of vessel.
6. Type of cargo on board.
7. Port of destination and ETA.
8. Last port of call.
9. Number of crew on board.
10. Master's name.
11. Nationalities of master and crew.

12.84 Saluag Island (4°35'N., 119°29'E.), 4.5 miles S of Sibutu Island and marked by a light, is the farthest S of the low, flat islets on the reef extending S of Sibutu.

Strong tidal currents set around the ends of the reef so that care must be taken to prevent the anchor dragging when the tidal current changes direction.

Anchorage can be taken about 1.5 miles SSE of the island.

Tumindao Island (4°44'N., 119°24'E.) lies 2.75 miles W of Sibutu Island; the islands are separated by Tumindao Channel, deep, wide, and clear of dangers.

Tumindao Island is low, flat, and reef-fringed on its E side. A chain of islands, similar to Tumindao, lie on the same reef which extends 8.5 miles N and 12 miles SSW. There are a number of villages situated on these islands.

Omapoy Island (4°54'N., 119°24'E.), 46m high, is the farthest N of the islands on the reef with Tumindao. Sipangkot Island, 58m high, lies 0.75 mile S of Omapoy Island.

12.85 Sitankai Island (4°40'N., 119°24'E.), 0.75 mile S of Tumindao Island, is the trading center for the island group and Bongao District. There is a landing on the edge of the reef, E of the island, which is available to launches at all stages of the tide. There is a concrete pier at Sitankai village with a depth of 4m alongside.

Gusi Island, 46m high, and Buli Nusa Island, 16.8m high, lie on the drying reef, 1 mile and 2.25 miles S, respectively, of Sitankai Island.

North Lagoon (4°48'N., 119°21'E.), on the NW side of Tumindao Island, is entered from the NW side of the reef; it gives access through Kabusan Channel to the village of Tumindao, on the NW side of the island of the same name.

There is excellent anchorage in the N part of the lagoon, in depths of 14.6 to 16.5m. There are strong tidal currents in the lagoon entrance; approach should only be attempted by vessels with local knowledge.

South Lagoon (4°31'N., 119°21'E.), 6.5 miles SSW of Buli Nusa Island, is located at the S end of an extensive reef. There are depths of 7.3 to 20.1m in the lagoon.

Two narrow channels lead from W into the lagoon, which consists of two basins that are connected by a deep channel. There is an opening on the E side of the E basin.

There are depths of 7.3m in the NW channel, which is about 0.2 mile wide.

There is a depth 7.3m in the E channel which is 0.1 mile wide; the SW channel is impassable. Anchorage can be safely taken in the E basin.

12.86 Andulinang Island (4°46'N., 119°15'E.), an islet, lies on the W edge of Andulinang Reef, 10.5 miles W of the N end of Tumindao Island. The islet is wooded, with a hill 27m high to the tops of the trees, the most noticeable feature in the area. A rock, 9m high, lies close N.

Purdie Patches (4°51'N., 119°15'E.), a small group of detached coral banks with depths of 14.6 to 16.5m, lie close off Andulinang Reef, 5 miles N of Andulinang Island. There is anchorage on these patches.

The maximum rate of the tidal currents experienced over Purdie Patches was 2 knots.

Maranas Island (4°44'N., 119°14'E.) lies on a detached reef, 2.75 miles S of Andulinang Island; a deep clear channel separates these two islands.

Chambers Knoll (4°49'N., 119°12'E.), an isolated patch with a depth of 16.5m, lies 3.75 miles NW of Andulinang Island.

Meridian Reef (4°38'N., 119°16'E.), 12 miles in length, is separated from Andulinang Reef by a channel 0.5 mile wide, with depths of 12.8 to 16.5m. A sand cay, which dries 1.2m, lies near the S end of Meridian Reef.

An excellent anchorage exists about 1.5 miles off the W side of the reef, in depths of 20 to 29m, coral and sand.

Meridian Channel (4°40'N., 119°17'E.), at least 1 mile wide, is deep and clear of dangers. It has depths of 113 to 229m. The channel is bound by Tumindao Reef on the E, with Meridian and Andulinang Reefs, on the W.

Tidal currents in Meridian Channel run at a rate of 2 to 4 knots.

Middle Reef (4°30'N., 119°16'E.), with a sand cay near its N extremity, lies 1 mile S of Meridian Reef. There is a depth of 12.8m in the channel between the two reefs, but it is too narrow and tidal currents are strong, making transit unsafe.

12.87 Frances Reef (4°27'N., 119°16'E.), close S of Middle Reef, lies on a long drying sand cay; it is the farthest S of the chain of reefs extending S from Andulinang Island.

The E side of Frances Reef is steep-to; the channel between Frances and Middle Reefs is foul.

Blake Reef (4°44'N., 119°13'E.), 1 mile W of Maranas Island, is the farthest N of Bulubulu Island, Payne Rock and James Patch, which are all aligned N to S, W of Meridian Reef; their positions may best be seen on the chart.

Anchorage can be taken E of Bulubulu Island, in depths of 24 to 31m, sand.

Siluag Island (4°43'N., 119°09'E.), 21m high, lies on a reef 3 miles W of Blake Reef. Riddells Reef, 4.5 miles S of Siluag Island, has two drying sand cays at its S end.

A coral shoal, with a depth of 5m, lies 3 miles S of Siluag Island.

Alice Reef (4°45'N., 119°04'E.), 4.5 miles WNW of Siluag Island, is steep-to off its NE point. The entrance to a lagoon lies on the W side, 2.75 miles from the S extremity.

Panguan Island (4°43'N., 119°02'E.), 18.3m high, is located on the S end of a reef, 1 mile W of the S end of Alice Reef.

12.88 Bajapa Reef (4°40'N., 119°05'E.), lying SE of Panguan Island, dries in patches. It encloses a lagoon with an entrance on the SW side. An 11.3m coral and sand shoal lies 5 miles S of the S extremity of Bajapa Reef.

The channel W of a line joining Blake Reef, Bulubulu Island, and Payne Rock, and E of Riddells Reef is 2.75 miles wide at its narrowest part.

This channel is the most direct route, although the tidal currents do not attain the same strength in the channels W.

The channel W of Siluag Island and Riddells Reef, and E of Bajapa Reef, has a least width of 1.5 miles.

The tidal currents run at a considerable rate in this channel, and they should be considered before using this route.

The S edge of the bank on which these reefs lie falls steeply to great depths and is clearly marked by tide rips and overfalls which at times give the appearance of shoal water.

Caution.—Mariners must bear in mind that the area S of a line drawn joining Bajapa Reef, Bulubulu Island, and Saluag Island remains as an incomplete survey area.

Filipino

FILIPINO	English
A	
agos	current
anim	six
apat	four
araw	day, daylight
B	
bahay	house
baibai	coast, seaboard
bakal	iron
balai	house
banka	boat
bapor	ship
barrio	village
bato	rock, stone
bayan	town
baybay-dagat	coast, seashore
baybayan	bank
bohangin	sand
bondog, bundok	mountain
buhangin	sand
burol	hill
D	
daan	road
dagat	sea
dalawa, dalwa	two
dali	inch
darung	ship
dumaong	anchor
H	
habagat	south
hangganan	boundary
hilaga	north
hilagang-kanluran	northwest
hilagang-silangan	northeast
I	
ilog	river
ilogan	mouth of a river
isa	one
K	
kahui	tree
kalonoran, kanluran	west
kauit	creek, bend
kitir	strait
kogon	a reed used for roofing houses
kota	fort
kubo	hut
L	
lalim	five
lima	five
linggo	week
losak	mud
luk	bay
lunday	boat
lungos	narrow headland
lupa	land
M	
mababa	low
madilim	dark
mahaba	long
maitim	black
malaki	large
minuto	minute
munti	little, small
N	
nayon	village
O	
ongot	cape, point
oras	hour
P	
pampang	bank
panatag	calm
pantalan	mole, jetty
pasangit	anchor
pito	seven
poio	island
S	
saglit	second
sampu	ten
sandaan	hundred
sasakyang-dagat	ship
silangan	east
simoy	breeze
sinipete	anchor
siyam	nine
T	
takut	shoal, sand
talampakan	foot
tangas	headland
taon	year
tatlo	three
timog	south
timog-kanluran	southwest
timog-silangan	southeast
tubig	water
tuyu	dry
W	
walo	eight

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 Boundaries diagram for the Sector. Plot the approximate position of the feature on this diagram.

To use as an Index of features described in the text note the Sector-Paragraph number at the right. The Sector-Paragraph number is then used to manually locate the feature. Each Index entry is also hot-linked to its location in the text.

Index—Gazetteer

	Position				Sec. Para
	°	'	°	'	
SIALAT POINT	13	40 N	124	01 E	5.60
SIASI	5	33 N	120	49 E	12.59
SIASI ISLAND	5	32 N	120	52 E	12.57
SIATON POINT	9	02 N	123	01 E	7.33
SIBAGO ISLAND	6	45 N	122	24 E	12.27
SIBAKEL ISLAND	6	37 N	121	45 E	12.33
SIBALE ISLAND	9	54 N	125	34 E	6.49
SIBALIC POINT	8	03 N	122	21 E	8.5
SIBALUN ISLET	13	55 N	122	30 E	2.70
SIBARUT BANK	6	12 N	121	31 E	12.39
SIBATON ISLAND	11	59 N	121	34 E	4.20
SIBAUAN ISLAND	13	59 N	123	31 E	5.48
SIBAY ISLAND	11	51 N	121	28 E	4.21
SIBOLON ISLAND	12	06 N	121	35 E	4.20
SIBONGA	10	01 N	123	37 E	7.42
SIBUGUEY BAY	7	25 N	122	35 E	9.7
SIBUKAUAN ISLAND	10	04 N	125	35 E	6.54
SIBUTU ISLAND	4	47 N	119	29 E	12.82
SIBUTU PASSAGE	4	40 N	119	40 E	12.83
SIBUYAN ISLAND	12	25 N	122	35 E	3.16
SICABA POINT	11	00 N	123	15 E	3.60
SICABA REEFS	11	01 N	123	16 E	3.61
SICOGON ISLAND	11	27 N	123	15 E	3.38
SICUD POINT	8	53 N	117	29 E	11.44
SIDSID POINT	11	23 N	119	50 E	11.53
SIETE PECADOS	10	46 N	122	41 E	3.50
SIGARIN POINT	6	32 N	125	33 E	9.41
SIGAYAN BAY	13	40 N	121	24 E	2.21
SIGAYAN BAY	7	43 N	123	45 E	9.22
SIGAYAN POINT	7	42 N	123	46 E	9.22
SIGNAL HEAD	11	02 N	119	19 E	11.11
SIGUMAY POINT	8	00 N	116	57 E	11.95
SILA POINT	12	24 N	125	20 E	6.3
SILAD BAY	11	14 N	124	23 E	6.126
SILAGUI ISLAND	16	27 N	119	55 E	1.37
SILAGUI ISLAND	7	17 N	122	51 E	9.15
SILANCAPO POINT	13	48 N	121	59 E	2.42
SILANGA BAY	11	01 N	119	35 E	11.59
SILANGA BAY	11	49 N	124	51 E	6.93
SILANGA POINT	8	33 N	123	46 E	8.16
SILANGAN PASS	14	00 N	122	11 E	5.23
SILANGAN POINT	5	57 N	120	52 E	12.49
SILANGUIN ISLAND	14	46 N	120	06 E	1.62
SILAQUI ISLET	16	27 N	119	55 E	1.37
SILAY	10	48 N	122	58 E	3.66
SILINO ISLAND	8	51 N	123	25 E	8.11
SILLA POINT	8	42 N	123	30 E	8.12
SILOM	12	30 N	122	36 E	3.17
SILONAY ISLAND	13	27 N	121	13 E	2.29
SILONG BAY	12	11 N	121	04 E	4.9
SILUAG ISLAND	4	43 N	119	09 E	12.87
SIMANAHAN CHANNEL	7	43 N	117	19 E	11.98
SIMANAHAN REEF	7	45 N	117	19 E	11.98
SIMARA ISLAND	12	48 N	122	03 E	3.6
SIMIO POINT	8	28 N	123	49 E	8.17
SIMO BANKS	14	05 N	120	21 E	1.88
SIMUNUL ISLAND	4	53 N	119	49 E	12.79
SINAPSAPAN POINT	10	35 N	122	31 E	3.55
SINDANGAN POINT	8	10 N	122	40 E	8.6
SINGAG ISLAND	8	33 N	126	23 E	9.63
SINIGUIAN POINT	18	31 N	122	14 E	1.13
SINONOG ISLAND	6	58 N	122	20 E	9.6
SIPACA POINT	9	01 N	124	52 E	8.37
SIPARAY ISLAND	11	02 N	121	08 E	10.6
SIPAYU ISLAND	5	10 N	119	51 E	12.69
SIQUIJOR	9	13 N	123	31 E	7.35
SIQUIJOR ISLAND	9	10 N	123	35 E	7.34
SIR JOHN BROOKE POINT	8	46 N	117	50 E	11.81
SIRAWAY POINT	7	33 N	122	07 E	8.2
SIRUMA BAY	14	01 N	123	14 E	5.43
SIRUMA ISLAND	14	02 N	123	13 E	5.43
SIRUN ISLAND	5	35 N	120	44 E	12.59
SISIMAN BAY	14	26 N	120	31 E	1.77
SISIRAN BAY	13	55 N	123	41 E	5.52
SITANKAI ISLAND	4	40 N	119	24 E	12.85
SIUARAGAN RIVER	10	35 N	122	07 E	3.51
SIXTEEN-FOOT SHOAL	14	48 N	120	15 E	1.66
SOCORRO	9	37 N	125	58 E	6.79
SOGOD	10	23 N	124	59 E	6.154
SOGOD BAY	10	15 N	125	00 E	6.153
SOGOD BAY	10	45 N	124	00 E	6.130
SOGOD POINT	10	28 N	125	11 E	6.34
SOGUICAY BAY	12	22 N	121	24 E	4.15
SOHUTAN BAY	9	36 N	125	54 E	6.77
SOJOTON POINT	12	19 N	124	20 E	2.137
SOJOTON POINT	9	59 N	122	27 E	3.78
SOLITARIO ISLET	13	01 N	123	21 E	2.83
SOLITARIO ROCK	11	17 N	120	20 E	10.23
SOLOT POINT	17	55 N	120	26 E	1.23
SOLVEC COVE	17	27 N	120	27 E	1.30
SOLVEC ROCK	17	27 N	120	26 E	1.30
SOMBOCOGON BAY	13	16 N	122	41 E	2.67
SOMBRERO ISLAND	9	22 N	118	35 E	11.77
SOMBRERO ISLET	13	42 N	120	50 E	2.15
SOMBRERO ISLETS	13	09 N	122	50 E	2.76
SOMBRERO ROCKS	10	43 N	121	34 E	12.11
SOROC	10	59 N	125	48 E	6.23
SORSOGON	12	58 N	124	00 E	2.88
SORSOGON BAY	12	55 N	123	55 E	2.85
SOUTH BAIS BAY	9	34 N	123	08 E	7.15
SOUTH BAY	11	24 N	119	47 E	11.54
SOUTH GIGANTE ISLAND	11	35 N	123	20 E	3.36
SOUTH ISLET	8	44 N	119	49 E	12.13
SOUTH LAGOON	4	31 N	119	21 E	12.85
SOUTH MANGSEE ISLAND	7	30 N	117	18 E	11.100
SOUTH PASS	13	30 N	121	04 E	2.31
SOUTH POINT	10	24 N	122	30 E	3.56
SOUTH REGENT SHOAL	8	32 N	117	05 E	11.46
SOUTH ROCK	9	42 N	118	23 E	11.43
SOUTH UBIAN ISLAND	5	11 N	120	30 E	12.64
SOUTH VERDE ISLAND	10	05 N	119	14 E	11.69
SOUTH-EAST SHOALS	7	35 N	117	25 E	11.99
SOUTHWEST BANK	7	40 N	118	20 E	12.3
SOUTHWEST SHOAL	17	46 N	120	22 E	1.27
SPRAT POINT	9	58 N	118	39 E	11.35
ST. PAUL BAY	10	14 N	118	54 E	11.31
STANLAKE ISLAND	10	15 N	119	20 E	11.70
STAYAN ISLAND	20	54 N	121	54 E	1.4
STRIPE PEAK	10	12 N	119	02 E	11.31
SUBA NIPA	7	18 N	122	51 E	9.15
SUBAANG BAY	13	26 N	121	02 E	2.27
SUBAN POINT	13	12 N	122	00 E	2.61
SUBIC	14	53 N	120	14 E	1.69
SUBIC BAY	14	50 N	120	14 E	1.63
SUBUNGUIN POINT	13	18 N	122	30 E	2.51
SUBUNGUIN REEF	13	20 N	122	28 E	2.50
SUESTE POINT	14	45 N	120	11 E	1.62
SUGBAI ISLAND	5	24 N	120	23 E	12.62
SUGBAI PASSAGE	5	25 N	120	30 E	12.62
SUGBUHAN POINT	10	04 N	126	04 E	6.87
SUGBUHAN REEF	10	06 N	126	02 E	6.87
SUGOT BAY	13	02 N	124	05 E	5.83
SUGUT BAY	7	24 N	124	14 E	9.26
SULADE ISLAND	5	50 N	120	47 E	12.49
SULAT BAY	11	50 N	125	28 E	6.10
SULAUAN POINT	8	37 N	124	29 E	8.26
SULIGAN SHOAL	6	00 N	121	38 E	12.41
SULTAN BANK	11	23 N	121	30 E	4.29
SULTANA SHOALS	9	57 N	121	23 E	12.11
SULU SEA	9	00 N	120	00 E	12.1
SULUAN ISLAND	10	46 N	125	57 E	6.32
SUMANGUL POINT	7	27 N	122	54 E	9.16
SUMBASUMBA ISLAND	5	30 N	120	58 E	12.58
SUMILON	9	26 N	123	23 E	7.45
SUMILON ISLAND	9	55 N	125	26 E	6.50
SUMLUG POINT	6	52 N	126	01 E	9.53
SUNGI POINT	10	55 N	125	50 E	6.21
SUNGU SHOAL	5	37 N	120	50 E	12.59
SUNGU SHOAL	6	14 N	121	41 E	12.39
SURIGAO	9	47 N	125	30 E	6.42
SURIGAO STRAIT	10	28 N	125	23 E	8.1
SUSO POINT	17	21 N	120	27 E	1.31
SUYAC ISLAND	10	57 N	123	27 E	3.59

T

TAATA ISLANDS	5	09 N	120	09 E	12.71
TABA BAY	7	34 N	122	48 E	9.13
TABACO	13	22 N	123	44 E	5.74
TABACO BAY	13	20 N	123	47 E	5.73
TABAHAN RIVER	9	46 N	124	30 E	7.58
TABAJIN BAY	13	42 N	120	14 E	2.6
TABANGO BAY	11	17 N	124	23 E	6.125

	Position				Sec. Para
	°	'	°	'	
WORCESTER STRAIT	10	58 N	119	15 E	11.14
WRECK HEAD	10	54 N	119	13 E	11.21
WYLLIE ROCKS	19	30 N	121	31 E	1.9

Y

YAO ISLAND	11	02 N	123	35 E	7.4
YAPUSAN POINT	13	43 N	120	13 E	2.6
YOG POINT	14	06 N	124	12 E	5.58
YOPOQUIT POINT	13	50 N	123	52 E	5.55

Z

ZAMBOANGA	6	54 N	122	04 E	9.4
ZAMBOANGUITA POINT	9	06 N	123	12 E	7.32
ZAPATO ISLANDS	11	45 N	123	01 E	3.26
ZUMARRAGA CHANNEL	11	38 N	124	50 E	6.96