NP 36

RECORD OF AMENDMENTS

The table below is to record Section IV Notice to Mariners amendments affecting this volume.
Sub paragraph numbers in the margin of the body of the book are to assist the user with corrections to this volume from these amendments.

Weekly Notices to Mariners (Section IV)

2005	2006	2007	2008

IMPORTANT – SEE RELATED ADMIRALTY PUBLICATIONS

This is one of a series of publications produced by the United Kingdom Hydrographic Office which should be consulted by users of Admiralty Charts. The full list of such publications is as follows:

Notices to Mariners (Annual, permanent, temporary and preliminary), Chart 5011 (Symbols and abbreviations), The Mariner's Handbook (especially Chapters 1 and 2 for important information on the use of UKHO products, their accuracy and limitations), Sailing Directions (Pilots), List of Lights and Fog Signals, List of Radio Signals, Tide Tables and their digital equivalents.

All charts and publications should be kept up to date with the latest amendments.

NP 36

INDONESIA PILOT VOLUME I

West Coast of Jawa, the north coast of Jawa eastwards to Tanjung Awarawar

South and east coasts of Sumatera

Selat Sunda, Selat Bangka, Selat Gelasa, Selat Karimata

South and west coasts of Kalimantan from Tanjung Puting to Pulau Pontianak

Pulau–pulau Badas and Tambelan, Pulau–pulau Lingga and Riau, with the various routes leading to Singapore and South China Sea

FIFTH EDITION
2005

PUBLISHED BY THE UNITED KINGDOM HYDROGRAPHIC OFFICE

To be obtained from Agents
for the sale of Admiralty Charts and Publications

Area formerly included as part of following previous editions:

Eastern Archipelago Pilot Volume IV.
First published in China Sea Directory Volume I, 1867, until the fifth edition, 1906; then included in China Sea Pilot Volume II, first edition, 1915. Revised and renamed Eastern Archipelago Pilot Volume IV in 1927 (First edition).

China Sea Directory Volume I
First published 1867
Second edition 1878
Third edition 1886
Fourth edition 1896
Fifth edition 1906

China Sea Pilot Volume II*
First published 1915

China Sea Pilot Volume II*
First published 1936
Second edition 1950
Third edition 1961

Eastern Archipelago Pilot Volume IV
First published 1927
Second edition 1939
Third edition 1953
Fourth edition 1966

Eastern Archipelago Pilot Volume II
First published 1893
Second edition 1904
Third edition 1913
Fourth edition 1923
Fifth edition 1934
Sixth edition 1949
Seventh edition 1961

Indonesia Pilot Volume I
First published 1975
Second edition 1996
Third edition 1999
Fourth edition 2002

* Denotes same title but area changes.

PREFACE

The Fifth Edition of Indonesia Pilot Volume I has been prepared by Mr D.H.Thomas. The United Kingdom Hydrographic Office has used all reasonable endeavours to ensure that this Pilot contains all the appropriate information obtained by and assessed by it at the date shown below. Information received or assessed after that date will be included in *Admiralty Notices to Mariners* where appropriate. If in doubt, see *The Mariner's Handbook* for details of what *Admiralty Notice to Mariners* are and how to use them.

This edition supersedes the Fourth Edition (2002), which is cancelled.

Information on climate and currents has been based on data provided by the Met Office, Exeter.

The following sources of information, other than UKHO Publications and Ministry of Defence papers, have been consulted:

British

Lloyds List Ports of the World 2005
Fairplay Ports Guide 2005–2006
Whitaker's Almanack 2005
Statesman's Year–Book 2005

Indonesian

Indonesian Ports Information 1994
Indonesian Oil Terminals & Harbours Volume I 1997
Handbooks of Port Authorities
Indonesian Charts

United States

Sailing Directions (Publications 163 and 174) 2002–2004

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England
31st March 2005

PREFACE

to the Fourth Edition (2002)

The Fourth Edition of *Indonesia Pilot Volume I*, has been prepared by Captain K J Bolden, Master Mariner, from the latest information received in the United Kingdom Hydrographic Office to the date given below.

This edition supersedes the Third Edition (1999), which is cancelled.

Information on climate and currents has been based on data provided by the Meteorological Office, Bracknell.

The following sources of information, other than UKHO Publications and Ministry of Defence papers, have been consulted:

British

Fairplay Ports Guide 2001–2002
Lloyd's List Ports of the World 2002
Lloyd's Maritime Guide 2001–2002
The Statesman's Year Book 2002
Whitaker's Almanack 2002

United States

Sailing Directions (Publication 120) 2001

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England
14th May 2002

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CONTENTS

EXPLANATORY NOTES

Admiralty Sailing Directions are intended for use by vessels of 12 m or more in length. They amplify charted detail and contain information needed for safe navigation which is not available from Admiralty charts, or other hydrographic publications. They are intended to be read in conjunction with the charts quoted in the text.

This volume of the Sailing Directions will be kept up-to-date by the issue of a new edition at intervals of approximately 3 years, without the use of supplements. In addition important amendments which cannot await the new edition are published in Section IV of the weekly editions of *Admiralty Notices to Mariners*. A list of such amendments and notices in force is published quarterly. Those still in force at the end of the year are reprinted in the *Annual Summary of Admiralty Notices to Mariners*.

This volume should not be used without reference to Section IV of the weekly editions of Admiralty Notices to Mariners.

CD–ROM

Status. A compact disc is provided at the back of this volume. The paper publication of Sailing Directions satisfies the requirements of Chapter V of the International Convention for the Safety of Life at Sea. The CD version does not satisfy these requirements and should only be used in conjunction with the paper publication and any amendments affecting the paper publication. Where any discrepancy exists between data on the CD and in the paper publication of Sailing Directions, the paper publication (inclusive of amendments) is to be relied upon.

Disclaimer. Whilst the UKHO has made all reasonable efforts to ensure that the data on the CD was accurate at the time of production, it has not verified the data for navigational purposes and the CD is not suitable, and is not to be relied upon, for navigation. The use of the CD for this purpose is at the user's own risk. The UKHO accepts no liability (except in the case of death or personal injury caused by the negligence of the UKHO) whether in contract, tort, under any statute or otherwise and whether or not arising out of any negligence on the part of the UKHO in respect of any inadequacy of any kind whatsoever in the data on the CD or in the means of distribution.

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References to hydrographic and other publications

The Mariner's Handbook gives general information affecting navigation and is complementary to this volume.

Ocean Passages for the World and *Routeing Charts* contain ocean routeing information and should be consulted for other than coastal passages.

Admiralty List of Lights should be consulted for details of lights, lanbys and fog signals, as these are not fully described in this volume.

Admiralty List of Radio Signals should be consulted for information relating to coast and port radio stations, radio details of pilotage services, radar beacons and radio direction finding stations, meteorological services, radio aids to navigation, Global Maritime Distress and Safety System (GMDSS) and Differential Global Positioning System (DGPS) stations, as these are only briefly referred to in this volume.

Admiralty Maritime Communications is a comprehensive guide on all aspects of maritime communications for the yachtsman and small craft user. It provides general information on Global Maritime Distress and Safety System (GMDSS), the management of VHF, Maritime Safety Information, NAVTEX, Inmarsat and Radio Facsimile, and detailed information and procedures for marinas and harbours used by small craft.

Annual Summary of Admiralty Notices to Mariners contains in addition to the temporary and preliminary notices, and amendments and notices affecting Sailing Directions, a number of notices giving information of a permanent nature covering radio messages and navigational warnings, distress and rescue at sea and exercise areas.

The International Code of Signals should be consulted for details of distress and life-saving signals, international ice-breaker signals as well as international flag signals.

Remarks on subject matter

Buoys are generally described in detail only when they have special navigational significance, or where the scale of the chart is too small to show all the details clearly.

Chart index diagrams in this volume show only those Admiralty charts of a suitable scale to give good coverage of the area. Mariners should consult NP 131 *Catalogue of Admiralty Charts and Publications* for details of larger scale charts.

Chart references in the text normally refer to the largest scale Admiralty chart but occasionally a smaller scale chart may be quoted where its use is more appropriate.

Firing, practice and exercise areas. Except for submarine exercise areas, details of firing, practice and exercise areas are not mentioned in Sailing Directions, but signals and buoys used in connection with these areas are sometimes mentioned if significant for navigation. Attention is invited to the Annual Notice to Mariners on this subject.

Names have been taken from the most authoritative source. When an obsolete name still appears on the chart, it is given in brackets following the proper name at the principal description of the feature in the text and where the name is first mentioned.

Tidal information relating the daily vertical movements of the water is not given; for this *Admiralty Tide Tables* should be consulted. Changes in water level of an abnormal nature are mentioned.

Time difference used in the text when applied to the time of High Water found from the *Admiralty Tide Tables*, gives the time of the event being described in the Standard Time kept in the area of that event. Due allowance must be made for any seasonal daylight saving time which may be kept.

Wreck information is included where drying or below-water wrecks are relatively permanent features having significance for navigation or anchoring.

Units and terminology used in this volume

Latitude and Longitude given in brackets are approximate and are taken from the chart quoted.

Bearings and directions are referred to the true compass and when given in degrees are reckoned clockwise from 000° (North) to 359°
Bearings used for positioning are given from the reference object.
Bearings of objects, alignments and light sectors are given as seen from the vessel.
Courses always refer to the course to be made good over the ground.

Winds are described by the direction from which they blow.

Tidal streams and currents are described by the direction towards which they flow.

Distances are expressed in sea miles of 60 to a degree of latitude and sub-divided into cables of one tenth of a sea mile.

Depths are given below chart datum, except where otherwise stated.

Heights of objects refer to the height of the structure above the ground and are invariably expressed as "... m in height".

Elevations, as distinct from heights, are given above Mean High Water Springs or Mean Higher High Water whichever is quoted in *Admiralty Tide Tables*, and expressed as, "an elevation of ... m". However the elevation of natural features such as hills may alternatively be expressed as "... m high" since in this case there can be no confusion between elevation and height.

Metric units are used for all measurements of depths, heights and short distances, but where feet/fathoms charts are referred to, these latter units are given in brackets after the metric values for depths and heights shown on the chart.

Time is expressed in the four-figure notation beginning at midnight and is given in local time unless otherwise stated. Details of local time kept will be found in *Admiralty List of Radio Signals Volume 2*.

Bands is the word used to indicate horizontal marking.

Stripes is the word used to indicate markings which are vertical, unless stated to be diagonal.

Conspicuous objects are natural and artificial marks which are outstanding, easily identifiable and clearly visible to the mariner over a large area of sea in varying conditions of light. If the scale is large enough they will normally be shown on the chart in bold capitals and may be marked "conspic".

Prominent objects are those which are easily identifiable, but do not justify being classified as conspicuous.

ABBREVIATIONS

The following abbreviations are used in the text.

AIS	Automatic Indentification System
ALC	Articulated loading column
ALP	Articulated loading platform
AMVER	Automated Mutual Assistance Vessel Rescue System
°C	degrees Celsius
CALM	Catenary anchor leg mooring
CBM	Conventional buoy mooring
CDC	Certain Dangerous Cargo
CVTS	Co–operative Vessel Traffic System
DF	direction finding
DG	degaussing
DGPS	Differential Global Positioning System
DW	Deep Water
dwt	deadweight tonnage
DZ	danger zone
E	east (easterly, eastward, eastern, easternmost)
EEZ	exclusive economic zone
ELSBM	Exposed location single buoy mooring
ENE	east-north-east
EPIRB	Emergency Position Indicating Radio Beacon
ESE	east-south-east
ETA	estimated time of arrival
ETD	estimated time of departure
EU	European Union
feu	forty foot equivalent unit
fm	fathom(s)
FPSO	Floating production storage and offloading vessel
FPU	Floating production unit
FSO	Floating storage and offloading vessel
ft	foot (feet)
g/cm^3	gram per cubic centimetre
GMDSS	Global Maritime Distress and Safety System
GPS	Global Positioning System
GRP	glass reinforced plastic
grt	gross register tonnage
gt	gross tonnage
HAT	Highest Astronomical Tide
HF	high frequency
HMS	Her (His) Majesty's Ship
hp	horse power
hPa	hectopascal
HSC	High Speed Craft
HW	High Water
IALA	International Association of Lighthouse Authorities
IHO	International Hydrographic Organization
IMO	International Maritime Organization
ITCZ	Intertropical Convergence Zone
JRCC	Joint Rescue Co–ordination Centre
kHz	kilohertz
km	kilometre(s)
kn	knot(s)
kW	kilowatt(s)
Lanby	Large automatic navigation buoy
LASH	Lighter Aboard Ship
LAT	Lowest Astronomical Tide
LF	low frequency
LHG	Liquefied Hazardous Gas
LMT	Local Mean Time
LNG	Liquefied Natural Gas
LOA	Length overall
LPG	Liquefied Petroleum Gas
LW	Low Water
m	metre(s)
mb	millibar(s)
MCTS	Marine Communications and Traffic Services Centres
MF	medium frequency
MHz	megahertz
MHHW	Mean Higher High Water
MHLW	Mean Higher Low Water
MHW	Mean High Water
MHWN	Mean High Water Neaps
MHWS	Mean High Water Springs
MLHW	Mean Lower High Water
MLLW	Mean Lower Low Water
MLW	Mean Low Water
MLWN	Mean Low Water Neaps
MLWS	Mean Low Water Springs
mm	millimetre(s)
MMSI	Maritime Mobile Service Identity
MRCC	Maritime Rescue Co-ordination Centre
MRSC	Maritime Rescue Sub-Centre
MSL	Mean Sea Level
MV	Motor Vessel
MW	megawatt(s)
MY	Motor Yacht
N	north (northerly, northward, northern, northernmost)
NATO	North Atlantic Treaty Organization
Navtex	Navigational Telex System
NE	north-east
NNE	north-north-east
NNW	north-north-west
No	number
nrt	nett register tonnage
NW	north-west
ODAS	Ocean Data Acquisition System
PEL	Port Entry Light
PLEM	Pipe line end manifold
POL	Petrol, Oil & Lubricants
RCC	Rescue Co–ordination Centre
RMS	Royal Mail Ship
RN	Royal Navy
Ro-Ro	Roll–on, Roll-off
RT	radio telephony
S	south (southerly, southward, southern, southernmost)
SALM	Single anchor leg mooring system
SALS	Single anchored leg storage system
SAR	Search and Rescue

Satnav	Satellite navigation
SBM	Single buoy mooring
SE	south-east
SPM	Single point mooring
sq	square
SS	Steamship
SSE	south-south-east
SSW	south-south-west
SW	south-west
teu	twenty foot equivalent unit
TSS	Traffic Separation Scheme
UHF	ultra high frequency
UKHO	United Kingdom Hydrographic Office
ULCC	Ultra Large Crude Carrier
UN	United Nations
UT	Universal Time
UTC	Co-ordinated Universal Time
VDR	Voyage Data Recorder
VHF	very high frequency
VLCC	Very Large Crude Carrier
VMRS	Vessel Movement Reporting System
VTC	Vessel Traffic Centre
VTMS	Vessel Traffic Management System
VTS	Vessel Traffic Services
W	west (westerly, westward, western, westernmost)
WGS	World Geodetic System
WMO	World Meteorological Organization
WNW	west-north-west
WSW	west-south-west
WT	radio (wireless) telegraphy

GLOSSARY

The following words, found on charts and in Sailing Directions, have replaced the former Dutch equivalents on the charts of the Republic of Indonesia. They are for the most part of Malay origin but are subject to modification in the dialects of some islands in the archipelago.

INDONESIAN

Indonesian	*English*
Advarsel	warning
air, ayer	water, river
alur pelayaran	channel, passage
ambang sungai	shoal, bank, bar
angin	wind
api	fire, flame
bandar	harbour, port
bandara	airport
barat	west, western
barat daya	south–west
barat laut	north–west
baru	new
batang	mainstream (of river)
batu	stone, rock, islet
batu–batu	group of rocks, islets
berbahaya	dangerous, hazardous
berlabuh	anchorage, anchor
besar	large, great
beting	reef, sandbank, shoal
biduk	river boat
biru	blue
bom laut	depth–charge
buaya	crocodile
bukit	hill
bulan	moon
burung	bird
cetek	shallow (river)
ci	stream, small river
daerah	area, zone, region
dalam	deep, inside, interior
danau	lake
dangkal	shallow
darat	land, shore
delapan	eight
dengan	accompanying, with
dermaga	jetty, quay, pier
diangkat	remove, delete
didasar laut	seabed
dilarang	prohibited
dua	two
empat	four
enam	six
gelap	eclipse, dark
gosong	shoal, sandbank
gosong–gosong	group of shoals, sandbanks
gunung	mountain
gunung api	volcano
hijau	green
hitam	black, dark
ikan	fish
Inggeris	English
jalan	street, road
kali	small river
kampung	village
kapal	ship, vessel
kapal amunisi	vessel carrying explosives
kapal barang	freighter, general cargo vessel
kapal karantina	vessel in quarantine
kapal penambang	ferry
kapal penumpang	passenger vessel
kapal perbaikan	vessel undergoing repairs
kapal tangkar	tanker
kapal tunda	tugboat
karang	coral, reef, atoll
karang–karang	goup of reefs, atolls
kecil	small, little
kelelap	submerged, sunk
kepulauan	archipelago
kering	dry
kota	town, city, fort
kuala	estuary, river mouth, confluence of two rivers
kulon	west (Jawanese)
kuning	yellow
labuhan/labven	anchorage
larangan	prohibited
latihan	practice (area)
laut	sea, seaward
lapangan (lap)	reported
lima	five
malam	night
malim	pilot
merah	red
mesiu	ammunition
minyak	oil
muara	estuary, river mouth
nol	nought, zero
nusa	island
Nusantara	Indonesian archipelago
pancang	stake, pile, pole
pangkalan	quay, anchorage
panjang	long
pantai	coast, coastline
parit	small stream
pasang	rise (of tide)
pasir	sand, sandy beach
pegunungan	mountain range
pelabuhan	harbour, port anchorage
pembuangan	dumping (ground)
peta	chart
pipa air minum	fresh water pipe(line)
prau	boat, local craft
pulau	island
pulau–pulau	group of islands
puncak	peak, summit
puri	town
putih	white
rawa, rawah	swamp, marsh
rencana	progamme, plan
rendah	shallow (water)
rintangan (rint)	obstruction
rumah	house
satu	one
sekitar	around, surrounding
selat	strait
selatan	south, southern
selatan daya	south–west
sembilan	nine

Indonesian	*English*
sempitan	narrow passage
sepuluh	ten
suar	light
suar terhalang	light obstructed
sumur	well
sungai	river
syarbandar	harbour master
tanjung	point, cape
teluk	bay
tempat	place, spot, location, ground
tengah	middle
tenggara	south–east
tepi	bank, side
tepi laut	shore (sea)
terumbu	rock awash at low water
terusan	canal
tiang	mast, pole, post
tiga	three
timur	east
timur laut	north–east
tinggi	high, tall
tohor	dries
tokong	rocky islet, reef
tongkang	barge, lighter
tua	old
tujuh	seven
ujung	cape, promontory, headland
utara	north, northern
utara barat	north–west
wai	river (place name)
wetan	east

Abbreviations used:
Gu — Gunung, Gg — Gosong
Pu — Pulau, Tg — Tanjung

STANDARDISATION OF ORTHOGRAPHY

The Indonesian and Malaysian Governments have adopted a single orthography for what is virtually a common language (Malay but called Bahasa Indonesia within Indonesia). This volume has been written in the new orthography, however, there will be a delay before all charts show the common interpretation and as a consequence of this the changes are given below:

Malaysia	*Indonesia*	*Common orthography*
CH	TJ	C
J	DJ	J
SH	SJ	SY
KH	CH	KH
GH	G	GH
NY	NJ	NY
Y	J	Y
E (2nd Syllable)	I (2nd Syllable)	I
O (2nd Syllable)	U (2nd Syllable)	U
’	K	K

INDONESIAN PRONUNCIATION

Indonesian orthography normally allows for unequivocal interpretation of the pronunciation. The stress usually falls on the penultimate vowel; an exception to this rule occurs when the penultimate syllable contains e, in this case the stress falls on the last syllable. for example taman (*park*) is pronounced táman and teman (*friend*) is pronounced temán, the accent illustrates the stress.

Vowels:

	Frontun rounded	*Central unrounded*	*Back rounded*
High	i		u
Middle	é	e	o
Low		a	

i *is sounded like the English* ee *in* see, *but shorter. Like* i *in* pit *in closed syllable* [i]. Indonesian spelling shown as i.
é *is like the English* e *in* pet *or like* a *in* make *but shorter.* Indonesian spelling e.
a *is like the English* a *in* father *but much shorter.* Indonesian spelling a.
e *is like the English* a *in* sofa. Indonesian spelling e.
o *is like the English* o *in* coat *but shorter*; *or like* aw *but shorter.* Indonesian spelling o.
u *is like the English* oo *in* food. *In closed syllables like* oo *in* book. Indonesian spelling u.

Diphthongs

éy *similar to the English* ay *as in* pay. Indonesian spelling ai.
ow *similar to the English* ow *as in* mow. Indonesian spelling au.
oy *similar to the English* oy *as in* boy. Indonesian spelling oi.

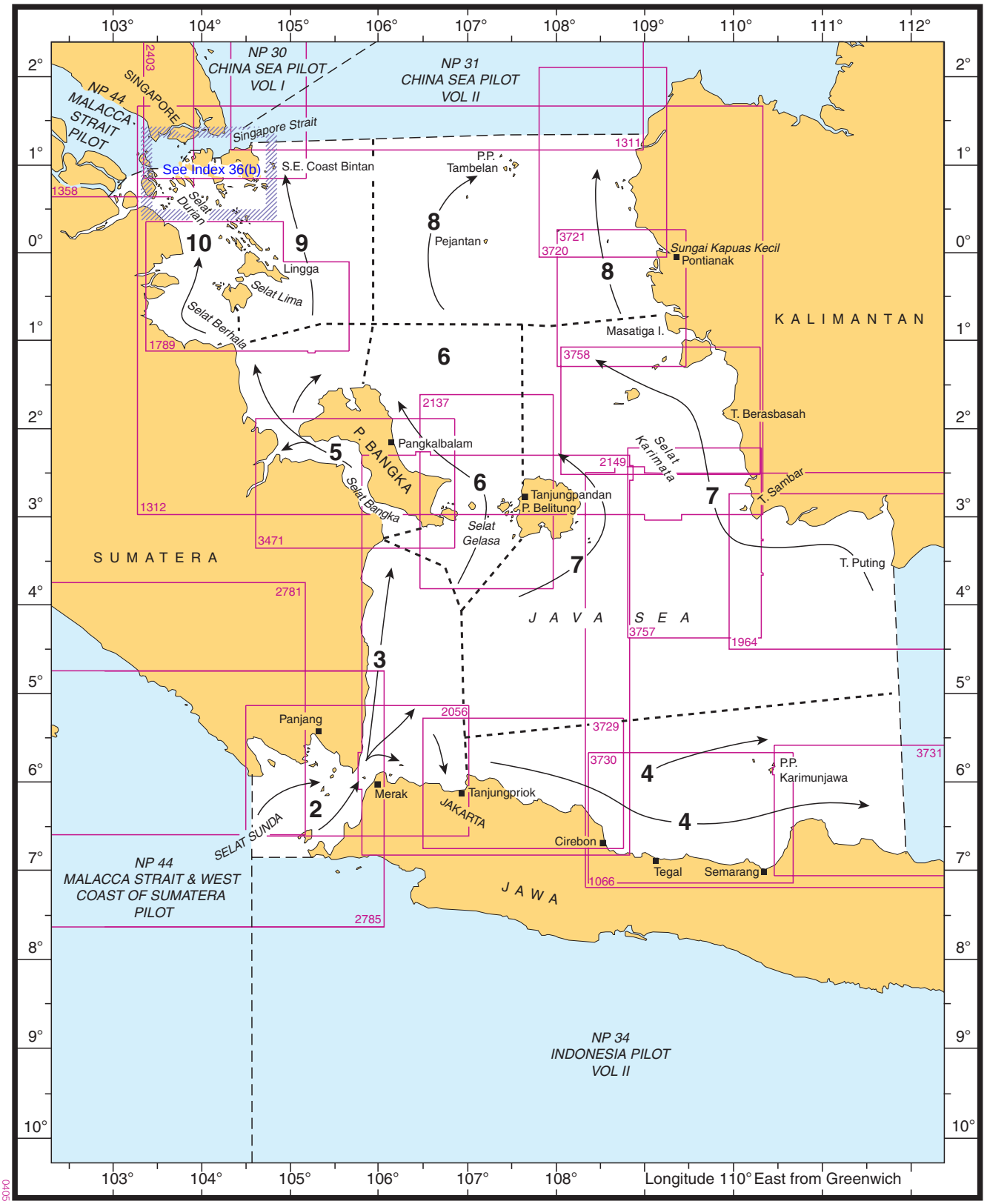
Consonants

	Labial	*Apico dental*	*Palatal*	*Dorso velar*	*Glottal*
Voiceless stop	p	t	c	k	?
Voiced stop	b	d	j	g	
Spirant	f	s	sy	kh	h
Nasal	m	n	ny	ng	
Liquids	w	r,l	y		

The following individual letter pronunciation should be noted:
b *similar to* b *in the English* rub; *example* batu (*stone*). Indonesian spelling shown as b.
p *similar to* p *in* lip; *example* asap (*smoke*). Indonesian spelling p.
d *similar to* d *in* red; *example* jihad (*holy war*). Indonesian spelling d.
t *similar to* t *in* let *but without puff of air*; *example* tujuh (*seven*). Indonesian spelling t.
g *similar to* g *in* dog; *example* gaji (*wage*) *or in final position similar to* k *as* bedug (*drum*). Indonesian spelling shown as g.

k *similar to* k *in* like *but without puff of air*; *example* kabar (*news*). Indonesian spelling k.
j *similar to* j *but without the* zh *sound; example* jalan (*street*). Indonesian spelling j.
c *similar to* ch *in church but without the* sh *sound*; *example* cari (*to seek*). Indonesian spelling c.
m *similar to* m *in* main; *example* minta (*to want*). Indonesian spelling m.
n *similar to* n *in* noon; *example* nama (*name*). Indonesian spelling n.
ny *similar to* ny *in* canyon; *example* nyanyi (*to sing*). Indonesian spelling ny.
f *similar to* f *in* fan; *example* fihak (*side*). Indonesian spelling f or v.
s *similar to* s *in* send; *example* sumur (*well*). Indonesian spelling s.
sy *similar to* sh *in* shoot; *example* syukur (*thanks*). Indonesian spelling sy.
z *similar to* z *in* zeal; *example* zat (*substance*). Indonesian spelling z.
ng *similar to* ng *in* singer; *example* dengan (*with*). Indonesian spelling ng.
l *similar to* l *in* leave. *Tongue more advanced than English* l (*hill*); *example* lima (*five*). Indonesian spelling l.
r *similar to* r *in* very *or* tt *in* butter. *Sometimes trilled strongly; example* roda (*wheel*) *or* kiri (*left*). Indonesian spelling r.
w *ranges between* v *in* vane *and* w *in* wane. *Example* wasit (*referee*) *or* lawan (*opponent*). Indonesian spelling w.
y *similar to* y *in* you. *Example* yang (*the one that*). Indonesian spelling y.
h *similar to* h *in* hope. *Example* hal (*thing*). Indonesian spelling h.
kh *voiceless velar spirant similar to the sound made by a mild clearing of the throat. Often pronounced* h *or* k. *Example* akhir (*end*). Indonesian spelling kh.
? *produced by holding one's breath for a fraction of a second and then releasing it: the glottal stop. Example* baik (*fine*) *or* tunjukkan/tunju?kan (*point*). Indonesian spelling k or ' *as shown in* rakyat/ra'yat (*people*).

Chapter Index Diagram



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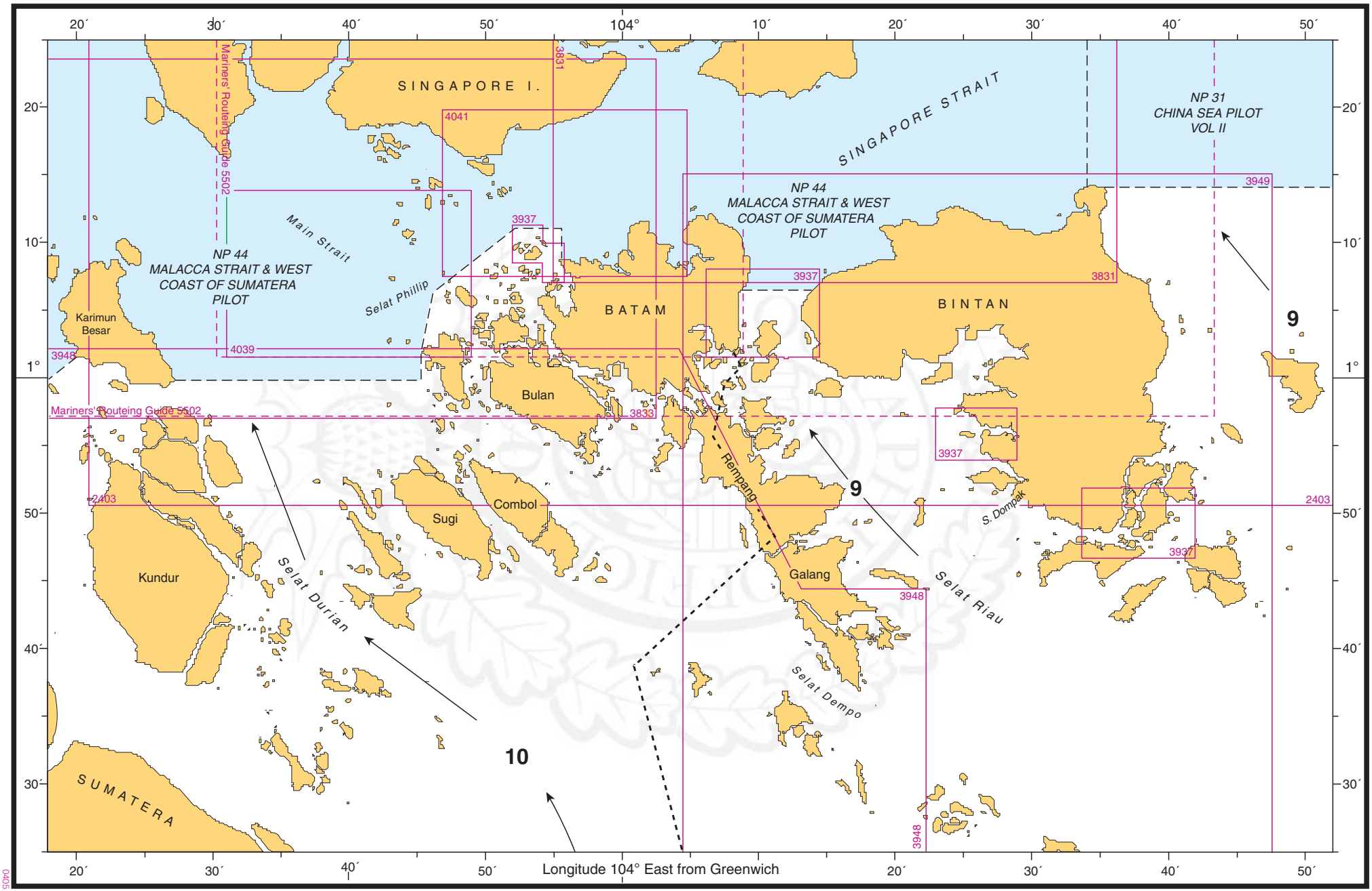
Chapter Index Diagram



While, in the interests of safety of shipping, the United Kingdom Hydrographic Office makes every endeavour to include in its hydrographic publications details of the laws and regulations of all countries appertaining to navigation, it must be clearly understood:

(*a*) *that no liability whatever will be accepted for failure to publish details of any particular law or regulation, and*

(*b*) *that publication of the details of a law or regulation is solely for the safety and convenience of shipping and implies no recognition of the international validity of the law or regulation.*

INDONESIA PILOT VOLUME I

CHAPTER 1

NAVIGATION AND REGULATIONS
COUNTRY AND PORTS
NATURAL CONDITIONS

NAVIGATION AND REGULATIONS

LIMITS OF THE BOOK

Chart 941A

1.1

1 **Area covered**. This volume contains a description of the S and E coast of Sumatera from Tanjung Cukubalimbing Balimbingpamancasa (5°55′·5S, 104°33′·5E) to Tanjung Medangkeluar (0°53′N, 103°10′E) (chart 1358), the W and N coast of Jawa from Tanjung Guhakolak (6°50′S, 105°15′E) to Tanjung Awarawar (6°46′S, 112°03′E), the S and W coast of Kalimantan from Tanjung Puting (3°31′S, 111°46′E) N to Pulau Pontianak (1°16′N, 108°59′E). The description includes all the islands and waterways, within Java and South China Seas, that link the Indonesian E Archipelago between Singapore Strait and the N coast of Jawa, and those contained within Selat Sunda.

2 The seaward limits of this volume are defined below:

	Lat S	*Long E*
From Tanjung Guhakolak	6°50′	105°15′
Along the W and N Coast of Jawa to Tanjung Awarawar	6°46′	112°03′
Thence N to Tanjung Puting	3°31′	111°46′
	Lat N	*Long E*
3 Along the S and W coasts of Kalimantan to close N of Pulau Pontianak	1°16′	108°59′
Thence W to Tanjung Berakit	1°14′	104°34′
Thence WSW along the N coast of Pulau Bintan to Tanjung Sebong	1°07′	104°15′
4 Thence W across Selat Riau and through Pulau Batam to Tanjung Pinggir	1°09′	103°55′
Thence N to	1°11′	103°55′
Thence W to Batu Berhanti Light	1°11′	103°53′
Thence SW to	1°07′	103°46′
Thence SSW to Tanjung Jerih	1°02′	103°45′
Thence S to	1°00′	103°45′
Thence W along parallel 1°00′N to close N of Tanjung Rambut	1°00′	103°27′
Thence along the SW coast of Pulau Karimun Besar to Pelawan	1°03′	103°19′
Thence SW to Tanjung Medangkaluar	0°53′	103°10′
	Lat S	*Long E*
5 Thence across Sumatera to Tanjung Cukubalimbing Balimbingpamancasa	5°56′	104°33′
Thence S to	6°50′	104°33′

Thence E to Tanjung Guhakolak.

1.2

1 The area known as Java Sea lies S of a line joining Tanjung Kait (3°14′S, 106°05′E) to Tanjung Nangka, the SW extremity of Pulau Bangka, thence through this island to Tanjung Berikat (2°34′S, 106°51′E), the E extremity, thence onto Tanjung Binga (2°36′S, 107°37′E), the NW extremity of Pulau Belitung, thence along the N coast of this island to Tanjung Burungmandi (2°46′S, 108°16′E),

thence across Selat Karimata to Tanjung Sambar (3°00′S, 110°19′E), the SW extremity of Kalimantan.

Above this line lie the waters of South China Sea.

NAVIGATIONAL DANGERS AND HAZARDS

Coastal conditions

General

1.3

1 Excepting the S coastline of E Sumatera which presents several high peaks inland and prominent islands the remaining coastal areas of Indonesia contained in this volume are generally low, often densely wooded, and it is only some of the many off-lying islands which offer useful landmarks. The W and N coasts of Jawa are not high, but there are high peaks inland which are usually only visible in the monsoon but are occasionally seen for a few hours in the morning during the hazy atmosphere of the SE monsoon.

2 The S and W coasts of Kalimantan consist of a few bold headlands, but are mainly low with detached hills some distance inland; the entire coastline is fronted by shoal water with the most extensive area, Gosong Aling, lying off its SW coast. Once clear of Selat Sunda the coastlines fronting Sumatera and Jawa are fronted by mud flats and shoal water. For coasts already surveyed but seldom visited it is best to navigate in deep water until close to the point of destination then proceed to it.

Navigation in areas of coral

1.4

1 Navigation in waters where coral formations exist necessitates particular precautions, especially in areas where the hydrography is uncertain. Many of these dangers lie in the waters around the islands and straits bordering South China Sea and Java Sea and when surrounded by deep water render soundings useless when approaching them. The most up to date chart is the best guide.

For further details see *The Mariner's Handbook*.

Debris

1.5

1 **Sediment.** The area covered by this volume is one of rapid coastal accretion, a process due to the large quantity of sediment brought down by the many rivers which flow into the sea between points of land. Thus, extension of both land points and coastal banks should always be expected; an extreme example is the delta of Sungai Jambi which is reported to be extending seaward by as much as 75 m annually. Such points of land therefore should not be rounded by bearing and distances alone, but by using soundings as well, generally keeping in deeper water.

2 **Driftwood** brought down by the rivers is also in evidence, usually after periods of strong winds and heavy rain, particularly on the E coast of Sumatera.

Former mined areas

1.6

1 Some areas are still considered dangerous due to mines laid in the 1939–1945 war. Details of these areas, and where applicable directions for safe passage through them, are given in Appendix I.

Air lights

1.7

1 Mariners are warned that lights (with definite characteristics), which are not ordinary navigational aids, may be displayed for the use of aircraft from structures near the coasts described in this volume.

2 The lights are often of great luminous power and elevation, and may be the first lights or loom of lights sighted when making a landfall at night. Air lights, which appear likely to be visible from seaward, are shown on the charts, and are described in *Admiralty List of Lights*. As they are subject to change, of which prompt notification to the mariner may not always be possible, care should be taken that they are not confused with marine navigational aids.

Piracy and Armed Robbery

General

1.8

1 Attacks on vessels by armed thieves can take place in international waters as piracy or, more commonly, as armed robbery in the territorial waters of a coastal state. These attacks are usually made from fast motor boats approaching from astern. Laden vessels with low freeboard are particularly vulnerable; however vessels with a high freeboard and travelling in excess of 17 kn have been boarded. Attacks usually take place under cover of darkness, most often between 0100 and 0600 hours.

Locations and methods of attack

1.9

1 Within the limits of this volume, a large proportion of attacks on ships when underway have occurred in the vicinity of Selat Phillip (1°05′N, 103°43′E) and other channels used by vessels making passage to and from Malacca Strait. Attacks have also taken place along the N shores of Pulau Bintan (1°05′N, 104°27′E), in the approaches to Selat Gelasa (3°00′S, 107°15′E) and Selat Baur (3°00′S, 107°18′E), and from other locations within South China Sea especially in areas covered by Indonesian waters.

2 Other incidents have occurred within certain harbour limits, especially Tanjungpriok (3.130), Semarang (4.77) and Cigading (2.60).

Kuala Lumpur Centre

1.10

1 There is a Piracy Reporting Centre at Kuala Lumpur, Malaysia, which broadcasts daily reports of pirate activity to all world piracy hotspots. It is able to receive reports from vessels about suspicious or unexplained craft movements and armed robbery from vessels.

For further information, including recommended precautions and reporting details, see under 'Piracy and Armed Robbery' in *Admiralty List of Radio Signals Volume 1(2).*

Routes

General

1.11

1 Because of the complex nature of routes within Indonesian waters and the fact that some parts are made hazardous by the existence of oilfield platforms, or are relatively unsurveyed or have not been recently surveyed, mariners are warned that isolated dangers might exist and that shoals are liable to form.

2 Navigation through the area can, therefore, become difficult, particularly for deep draught vessels. Depths of 11 m in Selat Bangka, 20 m in Selat Karimata, and 28 m in Selat Baur can be carried in these straits and their approaches, but there are many shoals and dangerous

wrecks to be avoided. The ship's position must be known as accurately as possible at all times, and this is rendered difficult by strong currents and the reported lack of reliable navigational aids in the area. Vessels having a draught of 28 m and therefore unable to use Malacca Strait or any other straits mentioned above should enter or leave Java Sea from E or SE using Selat Lombok (*Indonesia Pilot Volume II*).

1.12

1 Directions for the various straits and passages leading from Selat Sunda N to Singapore Strait, NE to South China Sea, and E to areas of E Jawa are given in their appropriate places in the body of the book. A brief account of the through tracks usually taken by vessels on these routes is given below.

Archipelagic Sea Lanes

1.13

1 Archipelagic Sea Lanes, as defined by the United Nations Convention on the Law of the Sea, have been designated within certain of the waters described in this volume. See Appendix II of this volume and Chapter 3 of *The Mariner's Handbook* for further details.

Selat Sunda to Singapore

1.14

1 The shortest route for vessels proceeding from Selat Sunda (2.16) or from Tanjungpriok (3.88), to Singapore is through Selat Bangka (5.10), Selat Berhala (10.10), and Selat Durian (10.55). Instead of passing through Selat Durian vessels often proceed through Selat Pengelap (9.55) or Selat Abang (9.56) thence Selat Riau (9.71) or they can pass E of Pulau-pulau Lingga thence through Selat Riau.

2 Small vessels proceeding N in December, January and February will find that the route W of Pulau-pulau Lingga is preferable to that E of them; W of these islands is calmer. Instead of proceeding through Selat Durian, many small vessels prefer the route through Selat Abang and Selat Riau, so as to avoid the W part of Singapore Strait, where they may be delayed by strong headwinds and anchoring is difficult owing to the great depths. Selat Bulan (10.110) is sometimes used by vessels wishing to avoid the bad conditions likely to be experienced in the E part of Singapore Strait with strong NE winds.

The passage between Selat Sunda and Selat Bangka can involve transiting an area of offshore oilfield activity (3.12).

3 Small vessels can also use Selat Leplia (6.56) during the NW monsoon and Selat Baur (6.14) during the SE monsoon, the currents thus being less unfavourable; the former provides better opportunity for anchoring and there is calmer water during the NW monsoon. Selat Baur is, however, the safer channel being the broadest and having no dangers in the fairway. With thick weather Selat Gelasa, which includes the above two straits, is difficult and dangerous to make, and Selat Bangka is preferable under such conditions.

For routes within Singapore Strait see *Malacca Strait and West Coast of Sumatera Pilot*.

1.15

1 **Selat Sunda to South China Sea.** When proceeding to South China Sea from Selat Sunda or Tanjungpriok, vessels usually use Selat Baur and thence pass E of Pulau Pengikik Besar (8.10). Part of this passage may involve the transiting of an area of oilfield activity (3.12). Small vessels follow the same route N from April to September, although with rainy weather or bad visibility it is better to go through Selat Bangka; during the remainder of the year the route E of Kalimantan, through Selat Makasar is generally taken.

2 Between October to February, small vessels S-bound from South China Sea follow the route from Pulau Pengikik Besar in the reverse order. In March, April and the first part of May they may proceed through Alur Pelayaran Api (*China Sea Pilot Volume II*), through Selat Karimata (7.7) and thence to Pulau Jagautara (5°12′S, 106°27′E) (3.44) or Outer Channel (5°50′S, 106°34′E) (3.50).

For general routeing within the central part of South China Sea see *China Sea Pilot Volumes I or II*.

1.16

1 **Selat Sunda to East Jawa.** Vessels bound from Selat Sunda to East Jawa, or vice-versa, usually proceed S of Pulau Tunda (5°49′S, 106°17′E) thence through Outer Channel (3.50), passing outside of the restricted area containing numerous offshore oilfield platforms (4.10), thence clear of Sverre (6°02′S, 110°21′E) and E to a position S of Pulau Bawean (5°48′S, 112°40′E).

For a description of Pulau Bawean and routes further E see *Indonesia Pilot Volume II*.

1.17

1 **East Jawa to Singapore.** Vessels bound for Singapore from East Jawa have the option of passing through Selat Gelasa or Selat Karimata (7.7) and Selat Riau, though there is a further option, if using Selat Karimata, to pass E of Pulau Bintan and enter Singapore Strait from E. Small vessels usually follow the same routes.

2 Low powered vessels passing through Selat Karimata should hold the coast of Kalimantan in both monsoons and follow either the passage through Greig Channel (7.79) or, with suitable draught, the inner route (7.81) E of Pulau-pulau Layah (1°30′S, 109°23′E), as it is difficult to pass through the main channel W of Pulau Serutu (1°43′S, 108°45′E), where there is a strong current caused by the prevailing monsoon.

For a description of the routes within Singapore Strait see *Malacca Strait and West Coast of Sumatera Pilot*.

TRAFFIC AND OPERATIONS

Traffic

1.18

1 Regular traffic makes use of the straits lying between Indian Ocean and Java Sea and between Java Sea and South China Sea and from the S part of South China Sea to either Malacca Strait or Singapore Strait.

There is considerable traffic in and out of Tanjungpriok, the port for Jakarta, and along the N coast of Jawa. The E part of Singapore Strait also gives access to the various straits leading S to Indonesian waters and vice versa.

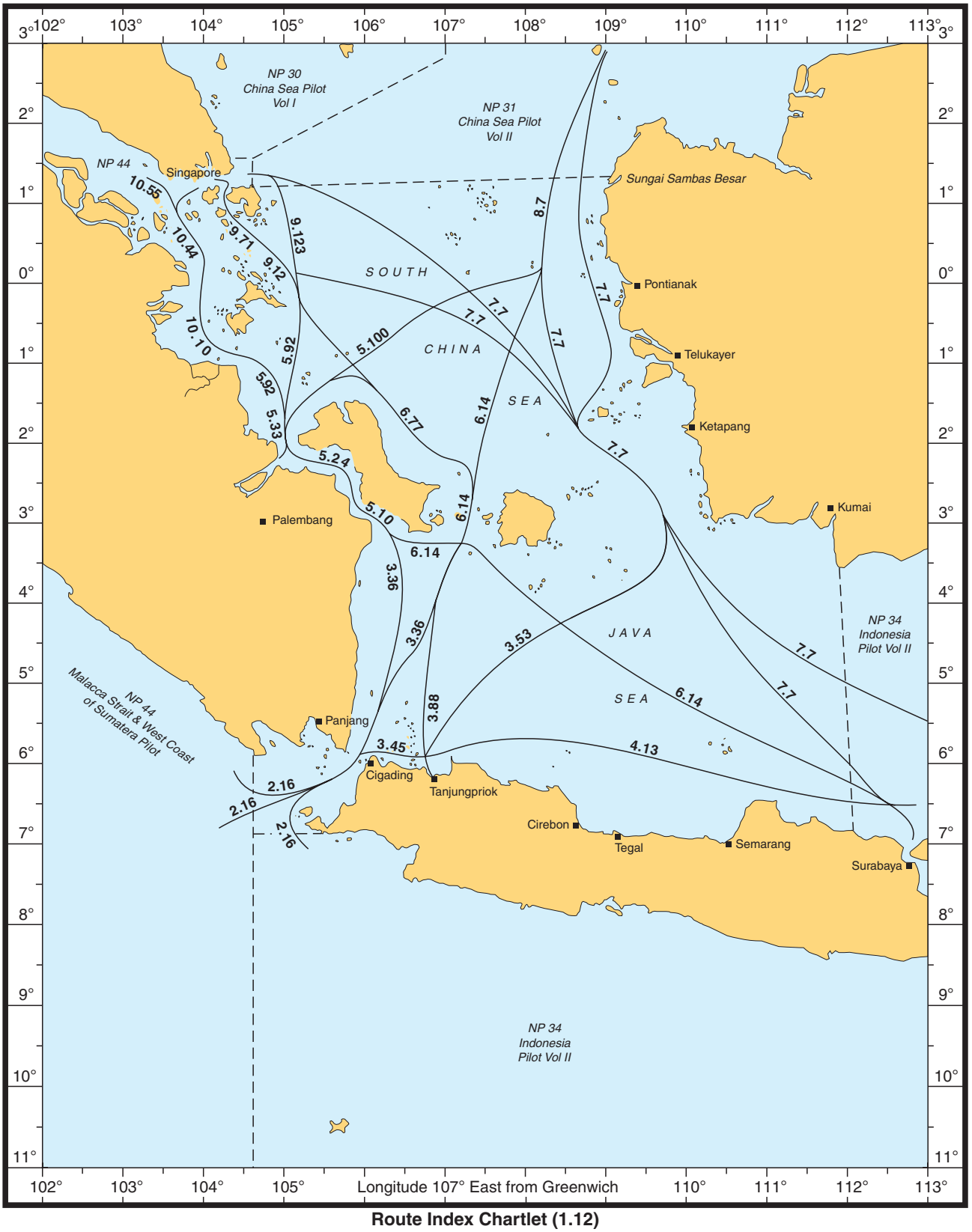
2 An increasing number of yacht marinas are being constructed in Indonesian waters; some are shown on the chart. Two areas where this type of craft may be evident are in the waters off Jakarta (3.151) and off the E side of Selat Riau (9.116).

Fishing

General

1.19

1 Fishing is a major industry of the Indonesian archipelago and one of the main sources of food. Fish are abundant, with little evidence of migration, but certain grounds have seasonal fishing due to their exposure to the monsoons.



Route Index Chartlet (1.12)

Pekalongan (6°52′S, 109°41′E), situated on the N coast of Jawa is the leading fishing port in SE Asia and is the centre for pelagic fishing in Java Sea.

Method of fishing employed

1.20

1 Traps, seine and drift nets, lines, lures, and bottom trawls are all employed methods of fishing in the area. However, there are several areas where, excepting for nationals, trawling is prohibited; such areas, which are not charted, comprise Selat Sunda, the S part of Java Sea and central parts of South China Sea from a distance of at least 50 miles W of the Kalimantan shore.

Fishing craft vary in size between 3 to 15 m in length. In coastal waters large concentrations may be encountered, and even in open water the occasional lone fisherman may be found tending lines.

Fish havens

1.21

1 Mariners are advised that these may be laid on the seabed, at intermediate mid-layer depths or floating on the surface. They are numerous in the waters off the coast of Kalimantan, and may also be encountered off any coastline covered by this volume.

Fishing stakes

1.22

1 On some of the outlying banks and off many parts of the coasts mentioned in this volume, particularly off the mouths of rivers, fishing stakes and enclosures will be met in depths of from 5 to 10 m, and in some cases in greater depths.

2 These enclosures, known as *seros* and *jermals*, are constructed of wooden poles or bamboos firmly driven into the banks and interlaced with branches and form a considerable danger to vessels navigating at night near the depths mentioned. They may last for many years, and to those with local knowledge are good landmarks for making the river mouths, especially on the E coast of Sumatera, where there are but few prominent objects.

3 The positions of fishing stakes are subject to considerable change, and are only charted where their permanence and positions are known.

Exercise areas

Submarine exercises and operations

1.23

1 Submarines exercise both surfaced and dived in an area of Java Sea bounded by the parallels 5°34′S and 5°49′E, and the meridians 106°15′E and 106°25′E to the W of Pulau-pulau Seribu, as shown on the chart.

Surface ships exercising with submarines show a red flag from the masthead; passing vessels should always give a wide berth. See also *Annual Summary of Admiralty Notices to Mariners* No 8.

Minecountermeasure vessels

1.24

1 Minecountermeasure vessels are periodically involved in exercises and operations that are held in sea areas contained within limits of this volume. The areas are not shown on British Admiralty charts but where known are referred to within the chapter text.

Indonesian vessels engaged in mineclearance show the signals as prescribed in Rule 27 of *International Regulations for Preventing Collisions at Sea (1972).*

Firing practice areas

1.25

1 Firing exercises usually take place off the N coast of Pulau Madura (7°03′S, 113°23′E) (*Indonesia Pilot Volume II*) and points further E and do not generally affect the area contained within the limits of this volume. However, occasionally, exercises can occur around the coasts mentioned in the body of this volume. They are not charted; exercises are promulgated in Indonesian Notice to Mariners. When known, vessels are requested to leave the area immediately.

Exercise areas are marked with buoys (blue and white stripes; lettered DB).

Marine exploitation

Development of offshore oil and gas

1.26

1 **General.** Various types of ships, craft and fixed structures (platforms), used in the development of oil and gas fields, and the supply of oil and gas, may be encountered in the N bays of Selat Sunda, on the W side of Java Sea and off the N coast of Jawa. Occasionally, they may be encountered in the higher reaches of navigable rivers such as Sungai Biduk (2°37′S, 104°08′E) (5.81) and Sungai Lalang, situated, close together, on the E coast of Sumatera.

2 Methods, search and production conform in general to those prescribed in *The Mariner's Handbook*. Seismic and other survey vessels carrying out surveys in search of deposits of oil and gas may be encountered throughout the whole area contained within the limits of this volume.

Seismic survey methods are outlined in *The Mariner's Handbook*.

Platforms and storage vessels are charted, where known, and are mentioned where necessary in the respective chapters of this volume.

1.27

1 **Drilling rigs** operate in Java Sea throughout the year. Buoys, lighters and other equipment associated with drilling operations are often laid near the rigs, and wires may extend up to 1½ miles from them. Mobile rigs on station are not charted, but their positions are announced by NAVAREA XI messages, when known, and are listed in *Admiralty Notices to Mariners*.

The positions of buoys laid near rigs are not usually announced, even if known, as the buoys are seldom laid for long enough in one position.

2 **Wells** no longer required for exploratory drilling are sealed off below the seabed, and the sites certified by divers as clear of obstructions. Suspended wells at which pipes and valve gear project, usually from 2 to 6 m and in some cases up to 15 m above the seabed, are charted; they are shown on charts either as obstructions or as a danger circle enclosing the depth over the wellhead, if known, and marked "Well".

For details on NAVAREAS see *Annual Summary of Admiralty Notices to Mariners* and *Admiralty List of Radio Signals Volume 3(2).*

Oil and gas fields

1.28

1 Production platforms and associated structures, including tanker moorings, storage tankers and platforms on pipelines, generally display Mo (U) lights, aircraft obstruction lights, and audible fog signals. Unauthorised navigation is prohibited within 500 m of all structures, including storage tankers which can swing about their

moorings. Tankers manoeuvring in the vicinity of platforms and moorings should be given a wide berth. For further information see *The Mariner's Handbook*.

For offshore oil fields situated in the W Java Sea see 3.12, and for the offshore oil and gas fields situated off the coast of N Jawa see 4.10; for Ramba Oil Fields, see 5.81.

CHARTS

Admiralty charts

1.29

1 Excepting 941A, all charts covering the area of this volume are in metric units.

Most of the charted information is taken from Netherlands Government charts up to 1949. Since that date the Indonesian Government has been responsible for publishing its own charts, but there has been relatively little recent hydrographic surveying.

Although more modern maps are now available, many charts have not yet been revised to incorporate the latest topography.

Accuracy of charted depths

1.30

1 Many depths contained in the charts of Indonesian waters originate from relatively old surveys or passage soundings. It should be appreciated that such information is rarely comprehensive and is certainly not up-to-date or comparable with modern surveying standards. Whenever possible, an indication of the original source and age of the depth data included in charts is given in the title notes and Source Diagrams of charts. For further information on the use of charts see *The Mariner's Handbook*.

2 In particular, depths originating from Netherlands surveys prior to 1930 may be shoaler than charted due to uncertainties in their reduction for tidal ranges. Similarly Admiralty charts referenced to LAT may be affected throughout, no matter what source has been used. Such depth reductions could be as much as 0·3 to 0·9 m in Indonesian waters described in this volume.

Due regard must always be given to achieve adequate under-keel clearance, especially in waters that have not been recently surveyed.

Indonesian charts

1.31

1 Charts of Indonesian coastal waters and ports are published by Dinas Hidro-Oseanografi (Dishidros). In some cases these charts are of a larger scale and more recent date than the equivalent British Admiralty charts, though they are not necessarily compiled from more recent information. However, for certain smaller ports and/or navigational areas where coverage by British Admiralty chart alone is considered inadequate, larger scale Indonesian charts may have been used to compile additional information for these Sailing Directions. If this has been the case, the British Admiralty chart reference for the text concerned will be succeeded by (*see 1.31*). Indonesian charts are not quoted as reference charts in the text, which has been written on the assumption that mariners wishing to navigate in those areas will have provided themselves with suitable charts on which to do so.

2 Indonesian charts may be obtained from the publishing authority given below and in the *Catalogue of Admiralty Charts and Publications*; they are not issued by the Hydrographic Office, nor are they corrected by *Admiralty Notices to Mariners*.

Publishing authority:

Dinas Hidro-Oseanografi,
Jalan Pantai Kuta V No 1,
Ancol Timur
Jakarta 14430.
Indonesia.

Datums

Horizontal datum

1.32

1 Differences in geographical positions, in some cases as much as 1 minute of longitude, exist between British Admiralty charts, based on early surveys, and more recent charts, British and foreign, based on modern datum. Satellite derived positions are normally referred to World Geodetic System (WGS) and the difference between this and the horizontal datum of the published chart is given on the chart, except in Indonesian waters where the differences cannot be determined. Therefore in the area contained within the limits of this volume, when transferring positions between charts based on different horizontal datums, it is advisable to do so by bearing and distance from a common reference object, and not by latitude and longitude.

Vertical datum

1.33

1 Vertical datum used for the reduction of soundings equates approximately to LAT and is indicated on the chart. Indonesian charts adopt a water level decreased to Low Water Springs which indicates the lowest water level over a 6 month period.

For an explanation of LAT see *Admiralty Tide Tables*.

Elevations

1.34

1 On British Admiralty charts, elevations are usually given above MHWS or MHHW; Indonesian charts adopt MSL as their datum.

Orthography

1.35

1 Throughout this volume every effort has been made to use the correct orthography from the most up-to-date sources. Within the area of the Indonesian archipelago there are many languages and dialects written and spoken which often produce several variations of a place name. From a charting point of view this can be confusing to the mariner. In recent years the Indonesian authorities have begun to standardise generic forms of words on their charts.

AIDS TO NAVIGATION

Buoys

1.36

1 The IALA Maritime System (Region A) is in force for the area contained within the limits of this volume. However, in some areas, obsolete systems may still be in use.

For further details on buoyage including illustrations, see *The Mariner's Handbook*.

Beacons

1.37

1 Channel beacons and light-beacons follow the same colour coding and topmarks as buoys mentioned above. Occasionally, port hand beacon topmarks carry two cans and starboard hand topmarks two cones (point up).

Both buoys and beacons may be fitted with radar reflectors but radar reflectors are, themselves, not charted; it can be assumed that most major buoys and beacons are fitted with them.

Caution. In Indonesian waters, lights, light-buoys and light-beacons are unreliable, being frequently irregular or extinguished, and buoys are often missing from, or off, their station.

Landmarks

1.38

1 Caution is necessary when evaluating the descriptions given in this volume concerning landmarks, such as trees, and the colour and shape of buildings etc. New buildings may have been erected and old trees or houses destroyed, so that marks, which may at one time have been conspicuous on account of their isolation, shape or colour, may no longer exist or may now be difficult to identify.

PILOTAGE

General

1.39

1 Every port of any consequence within the area covered by this volume has its own authorised pilot service and pilotage is compulsory. At some ports, however, pilots may be available but the service is not necessarily compulsory; in minor ports where pilots are not available local fishermen or boatmen will act as a pilot if requested.

Pilotage arrangements are described in the appropriate places in the volume and in *Admiralty List of Radio Signals Volume 6(4)* for places equipped with port radio.

Visual signals requesting a pilot at ports not equipped with VHF can be made on arrival.

Signals

1.40

1 The following are signals for requesting a pilot:

By day	*Meaning*
	The national flag, surrounded by a white border, displayed at the foremast head.
	The pilot signal UC of *The International Code of Signals*.
	Code flag G of *The International Code of Signals*.
	The distant signal, consisting of a cone, point up, with two balls above.
2 *At night*	A blue light every 15 minutes.
	A bright white light flashed or shown just above the bulwark at frequent intervals of one minute.
	The morse signal G by lamp.

The above signals must be shown until the pilot is on board or until an answering signal has been made.

Vessels arriving at night, but not wishing to enter harbour, shall show the pilot signal at daybreak.

Pilot vessels

1.41

1 The pilot service flag is blue with a white star in its centre.

RADIO FACILITIES

Electronic position fixing systems

Satellite navigation systems

1.42

1 **Global positioning system.** The Navstar GPS, a military satellite navigation system owned and operated by the United States Department of Defence, provides world wide position fixing. The system is referenced to the datum of the World Geodetic System 1984 (WGS84) and therefore positions obtained must be adjusted, if necessary, to the datum of the chart being used.

2 **Global Navigation Satellite System.** The Russian Global Navigation Satellite System (GLONASS) is similar to GPS in that it is a space-based navigation system which provides world wide position fixing. The system is referenced to the Soviet Geocentric Co-ordinate System 1990 (SGS–90) and as for GPS positions must be adjusted, if necessary, to the datum of the chart being used.

3 **DGPS** compares the position of a fixed point, referred to as the reference station, with positions obtained from a GPS receiver at that point. The resulting differences are then broadcast as corrections to suitable receivers to overcome the inherent and imposed limitations of GPS.

Within the area covered by this volume DGPS data is broadcast from Raffles Light (Singapore) (1°09′·6N, 103°44′·6E).

4 **Caution.** Satellite navigation systems are under the control of the owning nation, which can downgrade the accuracy to levels less than that available from terrestrial radio navigational systems. Therefore satellite based systems should only be utilised at the user's risk. For full details on the above systems see *Admiralty List of Radio Signals Volume 2*.

Loran C

1.43

1 The South China Sea Chain provides skywave coverage of the NW coast of Kalimantan.

Other radio aids to navigation

1.44

1 Full details of the radio aids to navigation outlined below are given in *Admiralty List of Radio Signals Volume 2*. Individual stations and services which may be of assistance to the mariner are listed as necessary within the text of this volume.

Racons are fitted to many light-structures, light-floats and buoys.

Radio stations

1.45

1 For full details on all radio stations which transmit in the area covered by this volume see *Admiralty List of Radio Signals Volumes 1(2) and 6(4).*

Radio navigational warnings

Long range warnings

1.46

1 The waters covered by this volume lie in Navarea XI. The Area Co-ordinator is Japan and navigation warnings are issued by Japan Coast Guard. Warnings are broadcast through the International SafetyNET Service via an Inmarsat Coast Earth Station (CES).

Coastal navigation warnings

1.47

1 Coastal navigation warnings are broadcast in English at scheduled times from coast radio stations.

Navtex, which fulfils an integral role in the GMDSS (1.72), is an automated direct-printing service, broadcast on 518 kHz, for the promulgation of navigational and meteorological warnings to ships. It has been developed to provide a low cost, simple, means of receiving marine safety information onboard ships at sea and in coastal waters. It is available from some stations in the area covered by this volume.

For further details see *Admiralty List of Radio Signals Volumes 3(2)* and *5*.

Radio weather reports

1.48

1 The World Meteorological Organization has established a global service for the transmission of high seas weather warnings and routine weather bulletins. through the Enhanced Group Calling International SafetyNET Service. The waters covered by this book lie in METAREA XI.

Much of the Indonesian archipelago is also covered by the High Seas Forecast (Northern) from Australia; transmissions are provided from VMC, Australia Weather East (Charleville) and VMW, Australia Weather West (Wiluna).

For further details see *Admiralty List of Radio Signals Volume 3(2).*

Radio medical advice

1.49

1 Mariners may obtain medical advice by radio through the International Radio Medical Centre (CIRM) in Rome.

For further information see *Admiralty List of Radio Signals Volume 1(2).*

REGULATIONS

Submarine pipelines and cables

Submarine pipelines

1.50

1 The W part of Java Sea is crossed by a large number of submarine pipelines linking the offshore oil and gas fields with the N Jawa shore, and are shown on the chart with the appropriate legend (oil or gas).

1.51

1 Gas from a damaged oil or gas pipeline could cause an explosion, loss of a vessel's buoyancy or some other serious hazard. Pipelines are not always buried and their presence may effectively reduce the charted depth by as much as 4 m. They may also span seabed undulations and cause fishing gear to become irrecoverably snagged, putting a vessel in severe danger. Mariners should not anchor or trawl within 500 m of a pipeline.

See *Annual Notice to Mariners* No 24 and *The Mariner's Handbook* for a full description of pipelines.

Submarine cables

1.52

1 The area is crossed by a large number of submarine cables which are shown on the chart.

See *The Mariner's Handbook* for information on *The International Convention for the Protection of Submarine Cables*.

Pollution of the sea

1.53

1 In the area covered by this volume, pollution of the sea by oil or mixtures containing oil is prohibited. See *The Mariner's Handbook* for information on *The International Convention for the Prevention of Pollution from Ships 1973* (MARPOL 1973) and the 1978 Protocol to MARPOL 1973 to which the Republic of Indonesia is a signatory to Annexes I and II of the Convention.

2 Indonesian Government Laws also prohibit the discharge of dirty ballast, refuse, garbage, and waste matter into the sea.

Reception of oily waste. Within the limits of this volume, Tanjungpriok and Semarang are the only ports which can offer limited facilities for the reception of oily waste from ships.

Traffic separation schemes

1.54

1 There are no direct TSS covered by this volume. However, the TSS in Malacca and Singapore Straits are IMO-adopted and Rule 10 of *International Regulations for Preventing Collisions at Sea (1972)* applies; see *Malacca Strait and West Coast of Sumatera Pilot*.

National regulations

Flying of the national flag

1.55

1 The Indonesian national flag should be flown at sea when in Indonesian territorial waters (1.78). It should be flown not lower than any other flag, and it should not be smaller than the vessel's national ensign or any other flag displayed.

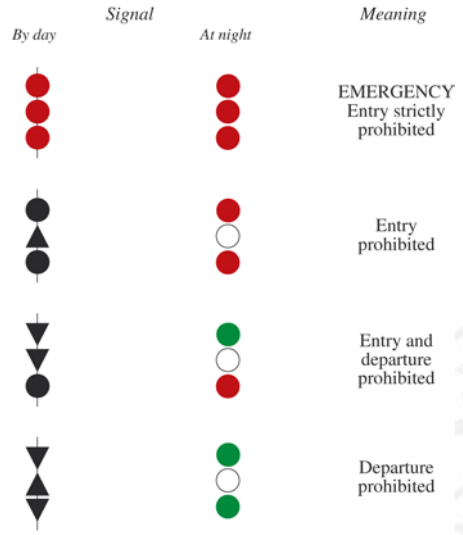
Closure of ports

1.56

1 Should it become necessary to control the entrance of ships into, and the movement of ships within, certain ports under the control of the Indonesian government, the signals (Diagram 1.56) will be displayed from some conspicuous position in or near the approaches to the ports concerned and may also be displayed by an Examination or Traffic Control Vessel operating in the approaches.

Should entry be prohibited, a vessel must proceed, wind and weather permitting, to the examination vessel

displaying the same signal, stationed at the entrance to the port.



Closure of Port Signals (1.56)

1.57

1 Permission or refusal to enter will be given after examination. A vessel is then only allowed to enter provided she is in charge of a pilot, or is preceded by a naval vessel or pilot vessel. From the time the signals are shown all exemptions from taking a pilot cease. Masters of vessels are to carry out the instructions of the officer from the examination vessel and are to obey all signals.

2 If a warning shot is fired from the examining vessel, all vessels in the vicinity of the examination vessel must stop immediately, in so far as safety permits. Failure to comply with these regulations may result in danger to the vessel and the crew. As a general rule, permission to enter at night will not be granted.

3 If a signal is made from the shore to intimate that vessels are subject to examination and there is no examination vessel in the entrance to the fairway, then vessels must anchor or lie off.

The coming into operation of these regulations at any particular fairway or harbour will not be announced beforehand.

Port entry procedures

1.58

1 **Appointment of an Agent.** Every vessel which is scheduled to call at a port in Indonesia must officially appoint an agent; this can be arranged using telex or facsimile communications. An official letter of appointment, however, must be mailed direct to the Agent.

2 On obtaining a letter of appointment, the Agent will arrange Clearance Approval (PKKA), issued by the Directorate General of Sea Communications (1.73). Once obtained, a copy of the clearance will be forwarded to the port, or ports concerned.

A vessel failing to obtain a PKKA will not be allowed to sail from Indonesia.

1.59

1 **Summary of procedures.** A letter of appointment should be forwarded to arrive at least 5 days prior to the vessel's arrival. If an agent has already been appointed, a telex copy will suffice.

2 The vessel should supply the following details to the appointed Agent:

Port(s) or terminal(s) to be called at.
Type of commodity and quantity.
Complete details of the vessel.
Crew list.
Copy of loading/discharging arrangements.

3 On receipt of the above the Agent will confirm cargo details and berthing details and any other valuable information.

Prior to arrival the Master should forward ETA cables in accordance with Owner/Charterers instructions.

1.60

1 **Declaration forms.** It is most important that care is taken in the completion of store lists and personal declaration forms as the Indonesian authorities are liable to carry out a detailed check and any discrepancies can lead to heavy fines.

Vessels trading in Indonesian waters should obtain an Indonesian Health Record Book, and an Indonesian Military Book, which must be produced to the authorities on arrival at each Indonesian port. Similarly, Indonesian Harbour Reports and Health declarations are required in duplicate at most ports.

Quarantine and Customs regulations

1.61

1 **General.** Vessels arriving at any port in Indonesia are subject to Indonesian Quarantine and Customs Regulations.

1.62

1 **Quarantine.** The following quarantine rules apply:-

1. Every vessel arriving from any foreign country is under quarantine.
2. Every vessel arriving from any harbour and/or district of Indonesia which has been determined to have carried a specified quarantine disease, is under quarantine.

2 3. Every vessel accepting passengers and/or cargo from any other vessel affected by paragraphs 1 and 2, is under quarantine.

4. Any vessel affected by paragraphs 1, 2 and 3 is free of quarantine when it has been issued with a certificate of free pratique.

3 The Master of a vessel under quarantine is prohibited from disembarking or embarking people, cargo, plants and animals, before having obtained a certificate of free pratique.

1.63

1 **Procedures.** Vessels destined for Indonesian ports must apply, well in advance, for Provisional Free Pratique to the Quarantine Section, Department of Health, Jakarta. This can be arranged through the appointed Agent; see 1.58.

2 Vessels arriving at an Indonesian port without prior advice must first call at a Port of Entry to obtain Free Pratique. Within the limits of this volume only Tanjungpriok is such a port; other Ports of Entry lying outside of the limits are: Belawan (Medan) (3°47′N, 98°42′E), Tanjungperak (Surabaya) (7°14′S, 112°42′E) and Ujungpandang (Sulawesi) (5°10′S, 119°25′E).

3 Port Health clearance is issued after a vessel's arrival and is also valid for departure clearance. If Provisional Free Pratique is not granted a Port Health Officer will be appointed.

1.64

1 **Customs.** Vessels loading or discharging cargo at an Indonesian port should obtain a Customs Permit. Copies of Bills of Lading, Cargo Manifest, Ship's Stores List, Personal Effects and Crew List should be delivered to

Customs and Port Administration which will include Immigration.

2 It is most important that the lists concerning personal effects, stores and crew are completed with great care as the Port Authorities are liable to carry out a detailed check and any discrepancies can lead to heavy fines. After a vessel is secure storerooms are sealed.

If arriving from a foreign port the local Agent will prepare the General Cargo Declaration; if arriving from an Indonesian port, Form 5B issued at the last Indonesian port will be retained by the Customs and the Arrival Clearance is thus granted.

Protection of wildlife

1.65

1 Indonesia has a very extensive system of National Parks, Nature Reserves and Protected Forests which come under the jurisdiction of the Directorate-General of Forest Protection, based in Bogor, W Jawa. Six per cent of the nation's land has been set aside for conservation, particularly of fauna and flora and the protection of wildlife. Visiting a reserve is only permitted by arrangement and under strict control; many of the areas of conservation are not easily accessible.

For the purposes of this volume only those conservation areas lying in or around coastal areas, which are charted, and are of direct interest to the mariner are mentioned.

Photography

1.66

1 Photography of Indonesian harbours and installations is prohibited.

SIGNALS

Storm signals

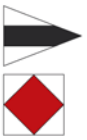
1.67

1 No visual storm signals are in force for the area covered by this volume. For details of radio warnings see *Admiralty List of Radio Signals Volume 3(2)*.

Berthing signals

1.68

1 The flag signals (Diagrams 1.68.1 and 1.68.2) may be used in the harbours of the Republic of Indonesia in addition to those laid down in *The International Code of Signals*.

Signal	*Meaning*
	Your berth is No 1.
	Your berth is No 2.
	Your berth is No 3.
	Your berth is No 4.
	Your berth is No 5.
	Your berth is No 6.
	Your berth is No 7.
	You must anchor in the anchorage area.
	No communication owing to bad weather.

Berthing signals on shore (1.68.1)

Displayed on shore

2 When two or more vessels are entering a harbour at the same time, the berthing signal for one particular vessel can be indicated by hoisting the company or national flag of that vessel below the signal.

Displayed onboard

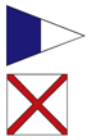
3 The last of these signals must be hoisted when a vessel enters the limits of the port or anchorage. If the vessel requires medical assistance, it may display the company flag above the International code flag W.

Signal	*Meaning*
	Ship wishes to enter harbour.

Please send motor boat.

Request fresh water.

Have passenger(s) who has come directly or indirectly from outside of Indonesia requesting disembarkation.



Request refuse barge.

Onboard or during the voyage, there were one or more cases of contagious disease, or disease that was thought to be contagious (other than cholera or yellow fever).

Berthing signals on shore (1.68.2)

Tidal stream signals displayed on shore

1.69

Slack water.

Out-going stream

In-going stream.

Dumping of explosives at sea

1.70

1 Vessels employed in dumping ammunition or other explosives at sea show the following:

By day: a red flag not less than 4 m above the upper deck.

At night: a red light.

Mariners are requested to keep a safe distance from such activities.

Surveying vessels

1.71

1 Surveying vessels of the Indonesian government engaged on hydrographic or oceanographic surveys display the same signals as prescribed by *International Regulations for Preventing Collisions at Sea (1972)*. Vessels should not pass between surveying boats carrying out a sweep and should give them a wide berth. These boats show the same signals as prescribed for the surveying vessel. In some cases the pair of sweeping boats may be followed by a third vessel over the sweep; this vessel will only show a red flag.

For signals and further details see *The Mariner's Handbook*.

DISTRESS AND RESCUE

Search and rescue organisation

Global Maritime Distress and Safety System

1.72

1 The concept of the GMDSS is that search and rescue authorities ashore as well as shipping in the immediate vicinity of the ship, or persons, in distress, will be rapidly alerted to a distress incident so that they can assist in a co-ordinated search and rescue operation.

2 For full details including diagrams, and a list of MF and HF-Digital Selective Calling stations which can be used within, or near, the limits contained in this volume, see *Admiralty List of Radio Signals Volume 5*.

Indonesian Search and Rescue operations

1.73

1 SAR operations in Indonesia are the responsibility of the Ministry of Communications together with Basarnas (National Search and Rescue) covering air, land, and sea emergencies. Within the Ministry of Communications, the Government authority responsible for sea emergencies is the Directorate of Sea Communication, based in Jakarta, where there is a command centre (MRCC) operating a communication network. In case of a serious accident a Basarnas (SAR) team (1.74) is called in to the command centre to supervise and coordinate the rescue operation.

1.74

1 The Basarnas (SAR) team consists of members from different organisations such as the Coastguard, Navy and Air Force, depending on the type of emergency. Under Basarnas there are regional rescue organisations:

KKR (rescue and coordination offices) based in Jakarta, Surabaya, Ujungpandang (Sulawesi) and Biak (Papua).

2 SKR (sub-rescue coordinating offices) which report to the KKR.

Both KKR and SKR are involved in all types of emergencies, but for sea related incidents they are always supported by the Coastguard and local Basarnas (SAR).

For a diagram of the Indonesian Search and Rescue Region (SRR) and associated national regions, and further details on distress, search and rescue, see *Admiralty List of Radio Signals Volume 5*.

Indonesian Coastguard

General information

1.75

1 The coastguard service of Indonesia is usually grouped with Basarnas (SAR), when a marine related rescue is in operation; they have, and deploy, their own equipment and craft in the case of an accident.

Coastguard network

1.76

1 Within the limits of this volume, coastguard stations are situated at the following locations:

Jakarta

Tanjunguban.

COUNTRY AND PORTS

REPUBLIC OF INDONESIA

General description

1.77

1 The Republic of Indonesia consists of the islands of Sumatera, Jawa, Madura, Nusa Tenggara, Kalimantan (S and E part of Borneo), Sulawesi, the Moluccas, Papua (the W part of New Guinea) and some 3000 smaller islands and islets. Situated between 6°N and 11°S and between 95° and 141°E, the Republic covers a total area of 1 904 569 square km.

2 Described within the limits of this volume are the E coast of Sumatera, the W and N coasts of Jawa, the S and W coasts of Kalimantan, the islands of the Riau-Lingga archipelago, Pulau Bangka and Pulau Belitung and numerous off-lying islands and islets.

National limits

1.78

1 Territorial sea: 12 miles
Contiguous zone: 24 miles
Exclusive economic zone: 200 miles.

Indonesia has acceded to the UN Convention of the Law of the Sea; this country also claims archipelago status. For further details on archipelagic states and the Law of the Sea see *The Mariner's Handbook*.

For details on national claims to maritime jurisdiction see *Annual Summary of Admiralty Notice to Mariners* No 12.

History

1.79

1 Knowledge of the first Indonesian kingdoms of the Classical or Hindu period is very shadowy, gleaned solely from old stone inscriptions and vague references in ancient Chinese, Indian and Classical texts. However, the first specific references to Indonesian rulers and kingdoms are found in written Chinese sources and Sanskrit stone inscriptions dating from the early fifth century. Also in the fifth century, Fa Hsien, a Chinese Buddhist monk who was shipwrecked on Jawa on his way home from India, highlighted the feature of Indianised Indonesia — a combination of Hindu and Buddhist kingdoms.

2 In subsequent years Jawa prospered having the benefits of a strong agricultural economy and lucrative overseas trade. During the fourteenth century the Jawanese became shipbuilders and mariners and, by doing so, controlled the sea lanes throughout the Indonesian Archipelago.

3 In the sixteenth century Portuguese traders, in the quest for spices, settled in some of the islands of Indonesia, but were ejected by the British, who in turn were ousted by the Dutch in 1595. From 1602, the Netherlands East India Company conquered the Dutch East Indies, and ruled them until the dissolution of the company in 1798. Thereafter the Netherlands Government ruled the colony from 1816 to 1941, when it was occupied by the Japanese until 1945.

4 Indonesia was proclaimed an independent republic in 1945.

Transfer of sovereignty of the major part of the colony from the Netherlands to the Republic of the United States of Indonesia took place in 1949 after much bitter fighting and negotiations. In 1950, a new provisional constitution came into force, and the country so transferred was named the Republic of Indonesia.

Government

1.80

1 In 1959, by Presidential decree, the constitution of 1945, was reinstated and the constituent Assembly dissolved. In 1960 President Sukarno took control of all political parties, and established the National Front, and a supreme state body called the People's Consultative Assembly. Local administrations nominated 130 members representing political parties and 153 members representing functional groups, formed the new House of People's Representatives.

2 A Communist attempt to overthrow the government in 1965 was suppressed by the army, and in 1966 the military commanders under the leadership of General Suharto took over the executive power while leaving General Sukarno as Head of State. The Communist party was at once outlawed and the National Front dissolved.

3 In 1967, President Sukarno handed over power to General Suharto, who in 1968, was elected by the People's Consultative Assembly (composed of the House of People's Representatives together with 500 government appointees) as President and has since been re-elected at every presidential election until May 1998, when in the face of mounting opposition he resigned in favour of his vice president, B.J. Habibie. President Habibie offered new democratic reforms, culminating in 110 million people going to the polls in June 1999, the first multi-party elections since 1955; these have continued since.

Population

1.81

1 In 2004 the Republic of Indonesia had a total population of about 220 million increasing at an annual rate of 1·6%; in the same year the major islands of Sumatera had a population of about 46 million, Jawa nearly 130 million, and Kalimantan nearly 12 million.

The majority of the population are Muslims, but there is religious liberty to all denominations; about 10% are Christians.

Languages

1.82

1 Within the limits of this volume, the principal ethnic groups, each with its own local language, are the Acehnese, Bataks and Minangkabaus in Sumatera, the Jawanese and Sundanese in Jawa, and the Dayaks in Kalimantan.

Although there are over 350 local languages and dialects, the official language of Indonesia is *Bahasa Indonesia* which is based on Malay. It has changed rapidly over the past few decades to meet the needs of a modern nation.

Physical features

1.83

1 **Jawa**. A range of volcanic mountains traverses the entire length of Jawa, the peaks varying in elevation from 900 to 3400 m; many of these are in a state of more or less activity. Earthquakes are frequent, and there are many warm mineral springs. There are numerous rivers, especially on the N side of the island, but none of them are navigable for vessels of any size, and only a few are suitable for boats. The entrances to all the rivers are more or less obstructed by bars of sand and mud.

2 The soil of Jawa is rich in phosphates, calcium and nitrogen, so that in some areas two crops of rice a year can be grown. Jawa has plenty of flat land for farming, not only on the wide coastal plains, but on the terraced hillsides and mountain valleys. Land up to 760 m is used for growing rice, corn, tobacco, copra, rubber, sugar, kapok,

fruit and vegetables. Between 760 and 2300 m, coffee, cloves, rice, tea, quinine, cocoa, fruits and vegetables are grown.

3 Jawa is by far the most important island in the Republic of Indonesia; it is also the most populated. Divided into three provinces, and, excluding Jakarta, two of them lie in the area covered by this volume:

Province	*Capital City*
West Jawa (Jawa Barat)	Bandung
Central Jawa (Jawa Tengah)	Semarang

1.84

1 **Sumatera**. The E part of Sumatera covered by this volume comprises part of the great alluvial plain which forms the E portion of the island. This plain, which is generally swampy and only broken up by many water courses, is 600 miles long, and from 60 to 110 miles wide and is only a few metres above sea level. The SE extremity of the island is little better than a forest of mangroves growing out of a morass. A large part of the island is a sterile or intractable wilderness, and is very thinly populated.

2 The island is divided into eight provinces of which four come within the area covered by this volume:

Province	*Capital*
Riau	Pekanbaru
Jambi	Jambi
South Sumatera	Palembang
Lampung	Telukbetung

1.85

1 **Kalimantan**, Indonesian Borneo, occupies about two-thirds of the world's third largest island. The remainder of former Borneo is divided into the E Malaysian states of Sarawak and Sabah, plus the tiny oil-rich sultanate of Brunei.

Kalimantan, which occupies a central position in Indonesia, represents 28% of the nation's land mass but holds less than 5% of her population. Perhaps, because of its climate and vegetation, the high central mountains and vast swamps, it is the least developed and least visited in Indonesia.

2 The part of Kalimantan, between Tanjung Puting (7.52), and Pulau Pontianak (8.62), which is covered by this volume, is mostly low, marshy, and densely wooded. Several rivers flow out along this coast, the principal ones being Sungai Kapuas Kecil (8.38) and Sungai Sambas Besar (8.65). The mouths of most rivers are only accessible by small craft at HW, with the exception of some of the mouths of the delta of Sungai Kapuas Besar (8.35) which forms parts of the inner routes to Pontianak. The area is divided into two provinces (common name in bracket):

Province	*Capital*
West Kalimantan (Kalimantan Barat — known also as Kalbar)	Pontianak
Central Kalimantan (Kalimantan Tengah — known also as Kalteng)	Palangkaraya

Fauna and flora

1.86

1 The wild life of Indonesia, with the exception of Papua, reflects that of Asia. There are many mammals amongst which are tigers, monkeys, apes, and the rare Jawan rhinoceros; the largest reptile in the area is the highly dangerous estuarine crocodile whose habitat lies within the Ujung Kulon National Park, in the SW corner of Jawa, and the tidal zones of Kalimantan.

There are many varieties of birds and insects.

2 Most of the islands are covered with dense rain forest, but in the vast tidal zones of E Sumatera and W and S parts of Kalimantan there are mangrove swamps and marsh-peat forests. There are a vast abundance of trees, bamboos, vines, orchids and carnivorous plants, such as the pitcher plant and strangler fig. Some trees reach heights of 60 m. Two of the strangest plants are the corpse plant, so named because of its stench of rotten flesh, and the largest flower in the world, the parasitic rafflesia, found only in S Sumatera, the bloom of which reaches a diameter of 1 m across.

Regulations concerning fauna and flora are given at 1.65.

Industry and trade

1.87

1 Indonesia is an agricultural nation involving nearly 70% of its inhabitants working with such products as timber, rubber, rice, palm oil and coffee. The country is also rich in natural resources; oil and liquefied natural gas, coal and bauxite are the principal products, with tin, silver and gold to a lesser extent.

2 Exports include oil and liquefied natural gas (constitutes 80% of export earnings), plywood, and manufactured goods; major markets being Singapore, Japan, Taiwan, South Korea and the United States.

Imports include food, chemicals, capital goods and consumer goods shipped mainly from Japan and United States and Thailand.

PRINCIPAL PORTS AND ANCHORAGES

1.88

Place and position	*Remarks*
Jawa	
1 Anyer Terminal (2.45) (6°02′S, 105°56′E)	Commercial port; large oil and petrochemical terminal
Ciwandan (2.54) (6°01′S, 105°57′E)	Commercial port; medium size bulk carrier/general cargo
Cigading (2.60) (6°01′S, 105°57′E)	Commercial deep-water port for large bulk carriers importing iron ore; Krakatau Steelworks
2 Merak (2.68) (5°56′S, 106°00′E)	Sheltered ferry terminal; small oil terminal; anchorage; multi-purpose terminal
Suralaya (2.79) (5°53′S, 106°02′E)	Commercial port; mainly general cargo; power station
Tanjungpriok (3.130) (6°06′S, 106°54′E)	Major commercial port comprising an inner and outer harbour. Large anchorage.
Balongan Terminal (4.47) (6°16′S, 108°28′E)	Oil terminal; anchorage
Ardjuna Oil Terminal (4.46) (5°55′S, 107°44′E)	Major oil terminal; anchorage
3 Cirebon (4.60) (6°42′S, 108°34′E)	Commercial port: handles mainly general cargo

	Tegal (4.69) (6°51′S, 109°08′E)	Small commercial port which mainly handles local traffic
	Semarang (4.77) (6°57′S, 110°25′E)	Major commercial port. Handles bulk commodities, general cargo; oil terminal
	Sumatera	
4	Teluk Semangka (2.101) (5°34′S, 104°37′E)	Deep-water oil terminal; storage tankers; anchorage
	Panjang (2.137) (5°28′S, 105°19′E)	Commercial port; mainly bulk and general cargo; small oil terminal; ferry terminal
	Cinta Terminal (3.16) (5°27′S, 106°15′E)	Deep-water oil terminal; anchorage
5	Widuri Terminal (3.21) (4°40′S, 106°39′E)	Deep water oil terminal; approach from SE; anchorage
	Palembang (5.71) (2°59′S, 104°46′E)	Major commercial river port; general cargo; oil and petrochemical berths at Plaju and Sungaigerong
	Jambi (10.34) (1°35′S, 103°37′E)	Commercial river port; oil cargoes; general cargo
	Tembilahan (10.43) (0°20′S, 103°10′E)	Logging port; river anchorage
	Pulau Bintan	
6	Tanjunguban (9.82) (1°04′N, 104°12′E)	Deep-water oil terminal; also handles LNG cargoes; naval harbour
	Tanjungpinang (9.108) (0°56′N, 104°27′E)	Commercial anchorage port; considerable sea with S and SW winds.
	Kijang (9.133) (0°51′N, 104°37′E)	Commercial port; bauxite terminal; small general cargo
	Pulau Batam	
7	Sambu (10.128) (1°10′N, 103°54′E)	Deep-water oil terminal
	Kabil (9.92) (1°05′N, 104°08′E)	Commercial port; vegetable oil terminal
	Kalimantan	
8	Telokayer (8.32) (0°44′S, 109°33′E)	Logging port; river anchorage
	Pontianak (8.38) (0°01′S, 109°21′E)	Commercial port; mainly general cargo; anchorage

PORT SERVICES — SUMMARY

Docking facilities

1.89

1 The summary below lists ports with docking facilities and when available the dimensions of the largest vessel that can be accommodated. Details of dock sizes are given at the reference.

Tanjungpriok (3.168). Dry dock: length 225 m, breadth 50 m; floating dock: 8000 dwt.
Cirebon (4.68). Dry dock: 650 dwt.
Tegal (4.75). Patent slip.
Semarang (4.91). Dry dock: 8000 dwt.
Palembang (5.78). Slipway: 6000 dwt.

Other facilities

Salvage services

1.90

1 Tanjungpriok (3.169).
Semarang (4.91).

Compass adjustment

1.91

1 Compass adjustment can be carried out by Hidral (Hydrographic Department of the Indonesian Navy) at Tanjungpriok.

Deratting

1.92

1 Deratting and deratting exemption certificates:
Banten: Anyer Terminal (2.51), Cigading (2.64), Ciwandan (2.59), Merak (2.71).
Batam: Kabil (9.99), Pulau Sambu (10.141).
Cirebon (4.68).
Palembang (5.78).
Panjang (2.146).
Pontianak (8.57).
Semarang (4.91).
Tanjungbalai (10.84).
Tanjungpriok (3.169).

1.93

1 Exemption certificates only:
Jambi (10.38).
Pangkalpinang (6.99).
Tanjungpinang (9.115).
Tembilahan (10.43).

NATURAL CONDITIONS

MARITIME TOPOGRAPHY

Chart 941A

Seabed

1.94

1 The area covered by this volume forms part of Sunda Shelf, one of the largest shallow sea areas in the world. At the W end of Selat Sunda, the edge of the shelf falls steeply towards the floor of the Indian Ocean. Elsewhere within the area, the seas are shallow. In South China Sea, extending N from Pulau Belitung (2°55′S, 107°55′E), the typical depth range is from about 20 to 37 m, increasing further N to between 29 and 61 m, while in Java Sea, S of the island, the typical depths range from about 40 m or less in the W part, to as much as 60 m in the E part. These shallow seas have, for the most part, a very gently sloping bottom, covered with a layer of unconsolidated sediment (chiefly soft mud, but in some places mud and sand) through which rocky outcrops (predominantly of granite) rise abruptly to form groups of islands or shoals.

2 In some parts, chiefly along the coasts of Kalimantan, Sumatera and Jawa, where large rivers flow into the sea, the water is too muddy, or too fresh, for the growth of corals; but elsewhere the rocky shoals and shores are generally encrusted with coral. Some fairly extensive coral platforms do occur, notably in the areas of Pulau-pulau Seribu, NW of Jakarta, and in the vicinity of Pulau Bangka and Pulau Belitung.

3 **Extending coastlines.** River deltas situated on the N coast of Jawa are probably the most severely affected by deposits of alluvial sediment causing coastline extensions seawards; Selat Bangka experiences both extension and recession of coastline. Depths around the areas of river entrances may be less than charted and should always be treated with caution.

1.95

1 In some shallower parts, chiefly in the vicinity of island groups and on the sills which separate South China Sea and Java Sea, there are large stretches of sandy bottom; these are chiefly areas where the tidal streams are relatively strong, and in some cases, for example, off Tanjung Sambar, the SW extremity of Kalimantan, and in Selat Bangka, there are elongated sandbanks aligned with the direction of the tidal streams, with muddy channels between them. Only in such places, however, is a sharp dividing line between sand and mud likely to be found; more typically, the sand passes gradually into mud, and there are large areas where both these constituents occur together. These latter areas occur chiefly off the coasts of Kalimantan, Sumatera, and Jawa (except where freshly deposited river mud occurs) and in South China Sea in the general vicinity of Pulau-pulau Tambelan (1°00′N, 107°30′E).

2 In some parts, particularly inshore, clay has been reported, suggesting the existence of a firmer type of mud. Patches of shell, overlying other sediments, are chiefly associated with the sandy areas. There are a few rocky or stony patches, particularly in the vicinity of islands and shoals, but nowhere very extensive; the largest stony area occupies the narrows of Selat Sunda, whilst the largest area of rocky bottom appears to be the bank extending S from Tanjung Cukubalimbing (5°55′S, 104°33′E), the SW extremity of Sumatera. Among the islands which lie between South China Sea and Malacca Strait, the seabed appears to present a complex pattern of relatively small patches of differing constituents; however, this may reflect the fact that this area has been relatively well surveyed, whereas in contrast, the central part of Java Sea, for example, has not been examined at all closely.

Sandwaves

1.96

1 Sandwaves are particularly in evidence in Selat Karimata (7.16) and depths shoaler than charted may be encountered.

Volcanic activity

1.97

1 All the islands of the Indonesian archipelago are relatively young; the earliest dates only from the end of the Miocene, 15 million years ago. Since that time the whole area has been the scene of violent tectonic activity producing earthwrenching volcanic explosions; the process continues today.

2 The importance of volcanoes in Indonesia cannot be overstated. The archipelago contains 128 centres of volcanic activity, the majority of these lie along the arc formed by the islands; several, however, lie on the sea bed. Many of the volcano land sites are seen to smoke continuously whilst others will suddenly erupt. Current eruptions, and hardly a year passes without a major one, are almost all explosions with scorching ash clouds, white hot lava flows and steam. The "ladu", an Indonesian word meaning avalanches of ashes and lava, with temperatures reaching 800°C, and "lahar", flows of cold and hot mud, are particularly dangerous. When Gunung Galunggung (*Indonesia Pilot Volume II*) erupted in 1982 in W Jawa, many people were killed and several million lost their homes; however, this eruption was only small compared to that of the 1883 eruption on Pulau Rakata (Krakatau) (2.9).

For general information on volcanoes, see *The Mariner's Handbook*.

Seismic activity

1.98

1 The area described in this volume lies in the middle of one of the earth's most active seismic zones. Geologically, all the islands of the archipelago were created along several fault lines where the various tectonic plates of the earth collided and folded at the edges producing a great seismic instability of the region.

Most of the islands, with the exception of large parts of Kalimantan, have been subjected to destructive earthquakes. In recent years the area has been subjected to about twenty earthquakes of moderate to large intensity each year.

For further details on earthquakes, see *The Mariner's Handbook*.

CURRENTS, TIDAL STREAMS AND FLOW

Currents

General

1.99

1 The currents in the area covered by this volume change direction in phase with the onset of both NW and SE monsoon winds.

Currents diagrams

1.100

1 In the currents diagrams, 1.100.1 and 1.100.2, arrows indicating the Predominant Direction, Average Rate and Constancy are shown, which are defined as follows:

Predominant Direction. The mean direction within a continuous 90° sector containing the highest proportion of observations from all sectors.

2 Average Rate as indicated by the figures in the diagrams. It is emphasised that rates above or below those shown may be experienced.

Constancy, as indicated by the thickness of the arrows, is a measure of its persistence, eg low constancy implies marked variability in rate and, particularly, direction.

Current directions and rates

1.101

1 In the open sea the direction of the predominant surface current generally sets in the same direction to which the monsoon wind is blowing. From November to March the currents set SSE in the area N of Selat Karimata and ESE in Java Sea with an average rate of between ¾ and 1¼ kn. Between May and September the direction of the current is reversed with a WNW set in Java Sea, and NNW set in the area N of Selat Karimata, and with an average rate of about ¾ kn. Maximum rates are usually less than 2 kn but on relatively rare occasions, during either monsoon, rates of 3 kn have been recorded. During April and late October to November, the months of transition between the NW and SE monsoons, the currents are usually variable over the whole open sea covered by this volume. The constancy of the predominant directions is high during the height of the monsoon seasons and moderate to low in the months either side of transitional periods.

Tidal streams

1.102

1 Tidal streams in the area covered by this volume have a marked diurnal inequality which generally increases E. One stream of the day in each direction is markedly stronger than the other and, in many cases, there is only one stream of any strength in each direction per day. Also the strength of the tidal streams, in general, decreases from W to E of the area; whereas rates exceeding 3 kn occur in many channels in Pulau-pulau Lingga and Pulau-pulau Riau, rates rarely attain 1 kn off Pulau Belitung and W coast of Kalimantan.

2 In the open sea, the tidal streams are generally weak and, in general, negligible compared with the seasonal currents described in 1.101.

Even in the straits where the tidal streams are strong, the seasonal currents are not negligible and their contribution to the flow of water should not be neglected. Full details of the tidal streams and coastal currents are given in the appropriate places in the body of this volume.

Details of tidal predictions for the area, where known, are given in *Admiralty Tide Tables*.

Flow

1.103

1 The flow of water through the region is almost entirely derived from the Pacific Ocean. During the NW monsoon, from November to March, Pacific water enters the region via South China Sea, and during the SE monsoon, from May to September, via Flores Sea.

SEA LEVEL AND TIDES

Sea level

1.104

1 Marked seasonal changes in weather, such as occur during monsoons, result in changes of sea level due to the effect of wind and/or barometric pressure. Where sufficient data is available the changes are given in *Admiralty Tide Tables* and are taken into account in predictions.

For further details on some common effects of weather on sea level see *The Mariner's Handbook*.

Tides

1.105

1 The tides in Selat Sunda and round the islands on the S side of Singapore Strait are semi-diurnal, the mean spring range in the former being not more than 1·0 m, and in the latter about 1·5 m at the E end, increasing to 3·0 m at the W end.

2 Throughout the remainder of the area covered by this volume, the tides are predominantly diurnal. On the N coast of Jawa the range seldom exceeds 0·5 m. On the E coast of Sumatera and the coasts of Pulau Bangka and Pulau Belitung, the range is mostly between 1·0 and 1·5 m but it increases to over 2 m at the outer bar of Sungai Palembang (2°12′S, 104°56′E) and off the coast N of Kuala Niur (0°55′S, 103°48′E).

3 On the S and W coasts of Kalimantan, the range of the tide seldom exceeds 1·0 m, but is as much as 1·5 m in the vicinity of Teluk Sukadana (1°26′S, 109°50′E).

Further information affecting the area covered by this volume is given in *Co-tidal Atlas for South East Asia* and *Admiralty Tide Tables*.

SEA AND SWELL

General remarks

1.106

1 For general information on sea and swell, see *The Mariner's Handbook*.

Sea conditions

1.107

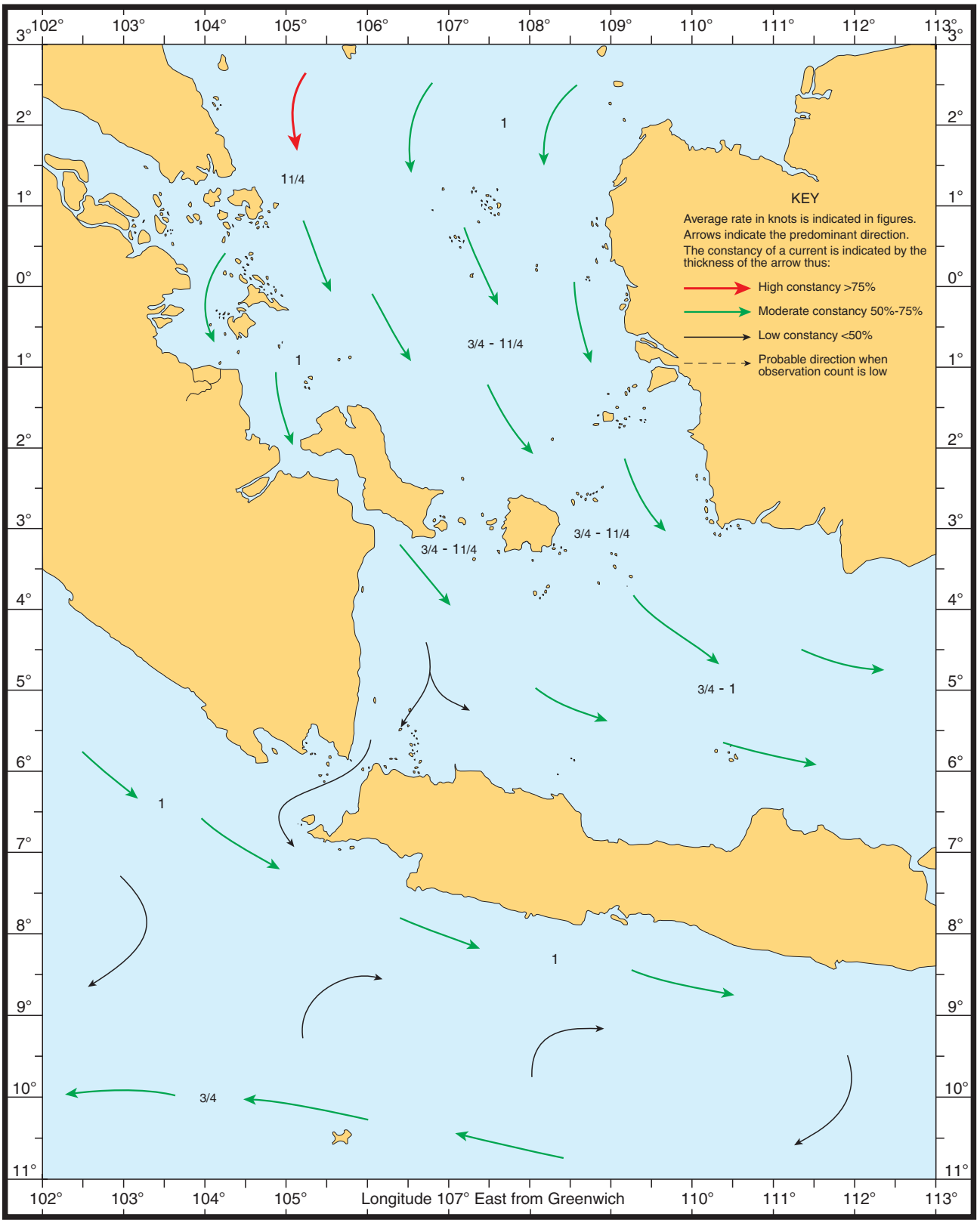
1 Sea waves are generated locally by the wind and can be very variable in direction, especially in the transitional months (April and late October to November) between the NW and SE monsoons. Throughout the year the height of the sea waves are frequently less than 1 m. During the transitional months moderate or higher seas are reported on less than 3% of occasions. In January moderate or higher seas are reported on around 10 to 14% of occasions in the extreme N and SE of the area, and about 4 to 8% in central areas. During August the figures are around 5 to 7% of occasions in the S and 3 to 5% in the N.

Swell conditions

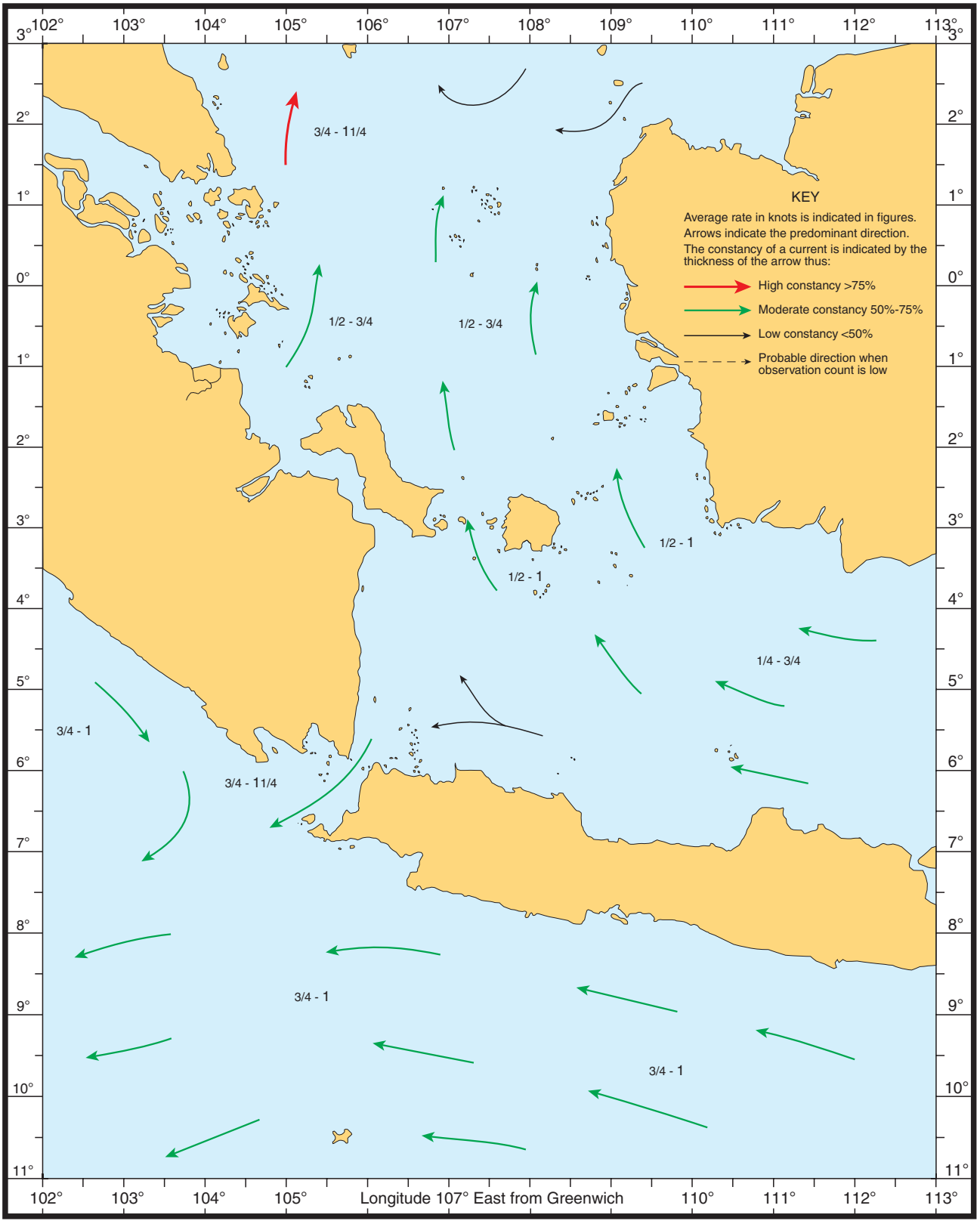
1.108

1 In the N of the area in January, swell waves from between N and NE are not uncommon, although swells of 2 m and over are only reported on about 5 to 8% of occasions. In central areas swell waves are most frequent from between N and NW, and in the SE of the area from WNW. Swell heights of 2 m and over are reported on around 5 to 10% of occasions in the S and SE.

2 In August swell heights of 2 m and over are reported on less than 2% of occasions in central and N areas, and on about 2 to 4% in the S and SE. The predominant direction



Predominant surface currents NOVEMBER to MARCH (1.100.1)



Predominant surface currents MAY to SEPTEMBER (1.100.2)

of the swell is from ESE in the S of the area becoming SSE in the N.

SEA WATER CHARACTERISTICS

Density and salinity

1.109

1 For explanations of density and salinity as applied to sea water, see *The Mariner's Handbook*.

Throughout the area described, surface salinity is extremely variable and contrasts with the uniformity of the sea temperature. The distribution of surface salinity is affected by the monsoons. Salinity is at its maximum during the SE monsoon (May–September) and at its minimum during the NW monsoon (November–March).

Low salinity values and rapid changes along the coasts covered by this volume may result from land drainage, river discharge, heavy rains and shallow depths.

2 The typical density of water, at the principal ports in the area covered by this volume, is shown as follows:

Port	*Dock/harbour*	*Density g/cm^3*
Cigading	Ore berth	1·022
Cirebon	Alongside	1·025
Kijang	Bauxite berth	1·020
Palembang	Plaju/Sungaigerong	1·000
Panjang	Alongside	1·025
Pontianak	River berths	1·010
Pulau Sambu	Oil berths	1·025
Ramba	Jetty	1·000–1·010
Semarang	Tanjungemas	1·025
Tanjunguban	Oil berths	1·025
Tanjungpriok	Inner harbour	1·025

Sea surface temperature

1.110

1 Diagrams 1.110.1 to 1.110.4 show the mean sea surface temperature for January, April, July and October. The sea surface temperature reaches a maximum of between 28° and 29° in April and May and a minimum of between 27° and 28° in September. The mean temperature of the sea is usually between 0° and 1°C higher than the overlying air over the open sea but with greater air temperature variations in coastal waters.

Variability

1.111

1 In shallow coastal waters and inlets, variations in the sea surface temperature may differ from the mean by about 4°C.

Colour and transparency

1.112

1 In general most of the reefs and isolated rocks of the area covered by this volume can be identified by some form of discolouration of the water; however, some do not give away their position readily and will only produce a discolouration over them under the most favourable circumstances. Discolouration may vary from dark brown, brown, and green depending on depth and clarity of sea water in the area. In the vicinity of Selat Gelasa (3°00′S, 107°18′E) brown patches of fish spawn may be mistaken for the discolouration over reefs.

2 In the S part of Selat Karimata, ridges of sand, in 5 m of water or less, will produce a light green discolouration over them whilst in the vicinity of Gosong-gosong Timur (0°40′N, 103°50′E), 480 miles NW, ridges of sand in similar depths produce no discolouration whatsoever.

CLIMATE AND WEATHER

General information

1.113

1 The following information on climate and weather should be read in conjunction with the information contained in *The Mariner's Handbook* which explains in more detail many aspects of meteorology and climatology of importance to the mariner.

Weather reports and forecasts, that cover the area, are regularly broadcast in English and Indonesian; for details see *Admiralty List of Radio Signals Volume 3(2)*.

General conditions

1.114

1 The region covered by this volume has a tropical monsoon climate. Temperature and humidity are high with small seasonal variation. Rainfall is high, particularly in the N of the area. In the S of the area the wettest period, from November to March, has about four to five times as much rain as the driest period, from June to September. Winds are frequently light to moderate although fresh to strong winds are more likely between November and March. Gale force winds are rare.

2 Fog is also rare over the open sea although visibility may fall to near fog levels during thunderstorms; this area having a very high frequency of thunderstorm activity. Radiation fog is possible in some coastal areas towards dawn but generally clears soon after sunrise.

Apart from rain, visibility is usually excellent in the NW monsoon.

Pressure

Average distribution

1.115

1 The average pressure distribution at MSL in January and July is shown in the accompanying Diagrams 1.115.1 and 1.115.2. In general, the average pressure only varies by about 1 to 2 hPa throughout the year.

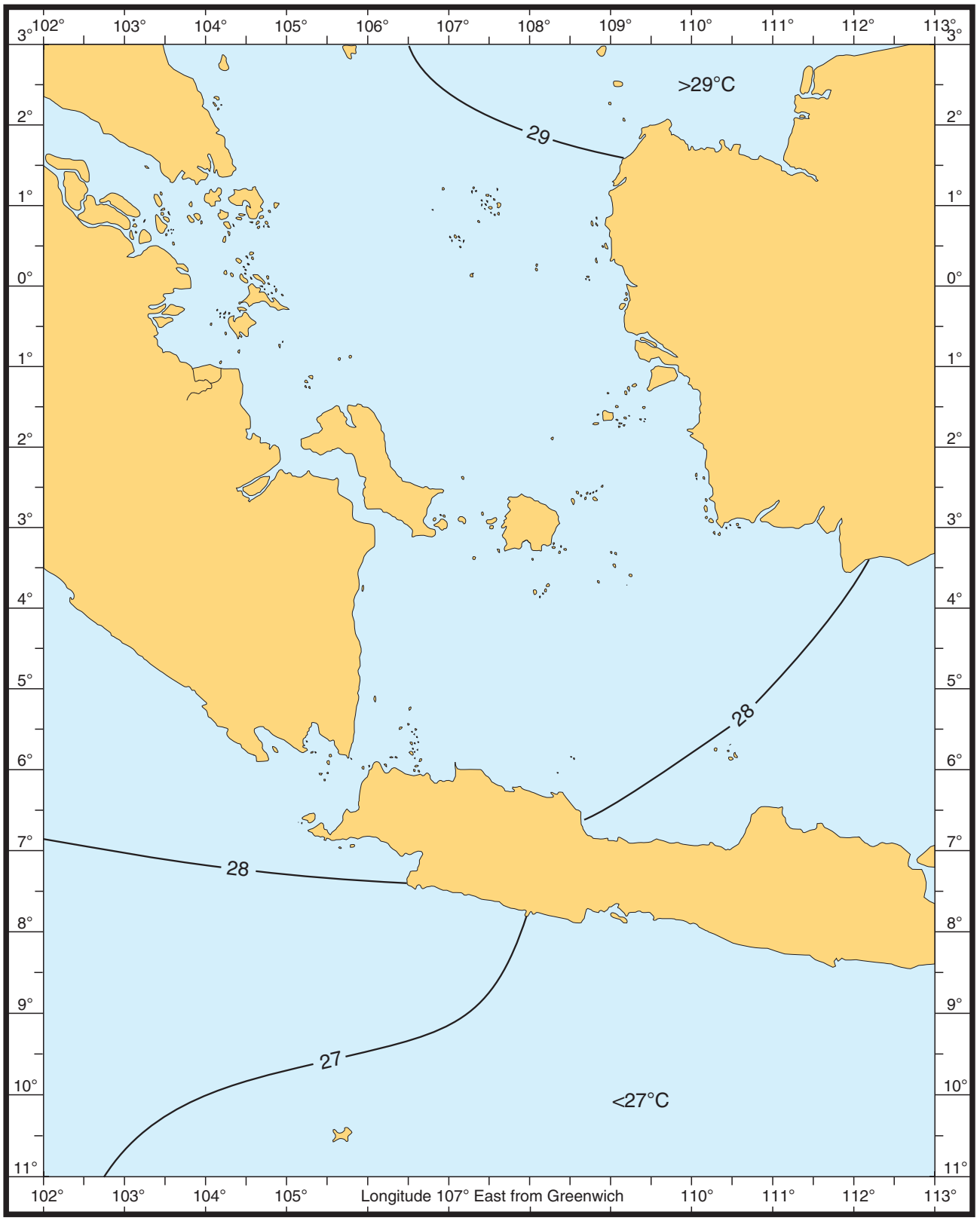
Variability

1.116

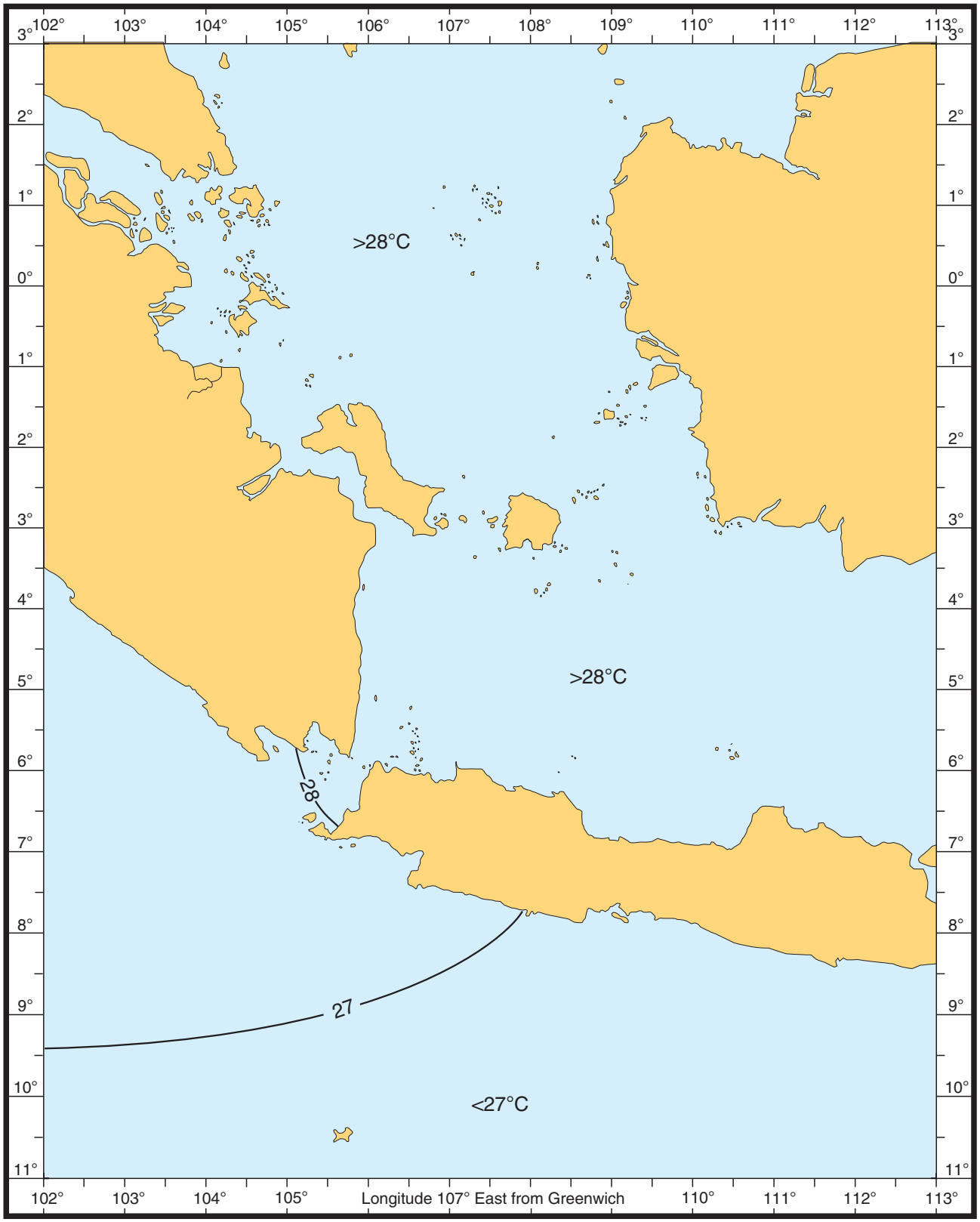
1 Day to day variations are small but are more marked in the extreme S of the area, especially when the semi-permanent anticyclone, centred well to the S of the area covered by this volume, strengthens during the period June to August. Sudden large falls in pressure occasionally occur in the extreme S of the area when a tropical cyclone moves across the open waters to the S of Jawa.

Mean sea surface temperature (°C) JANUARY (1.110.1)

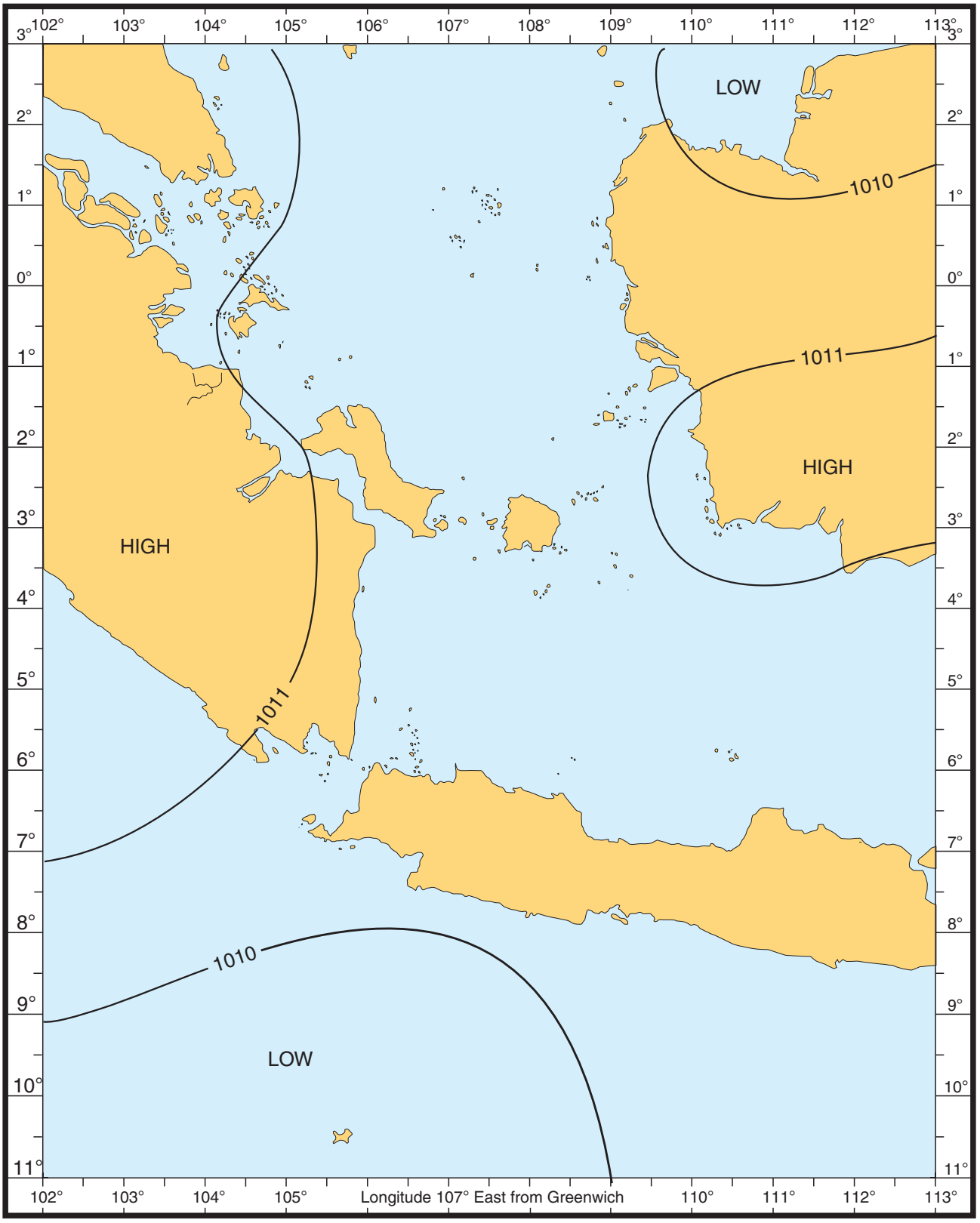
Mean sea surface temperature (°C) APRIL (1.110.2)



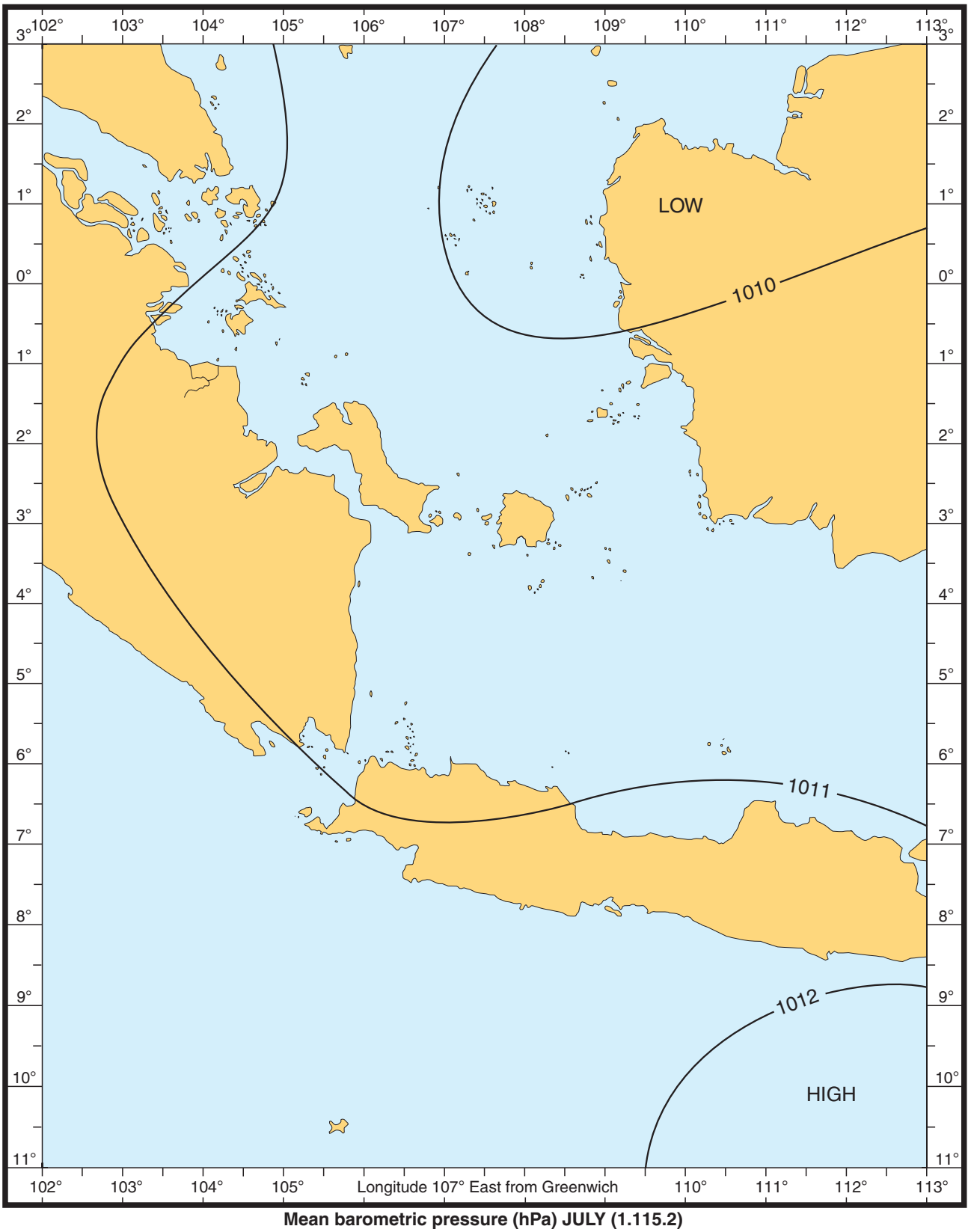
Mean sea surface temperature (°C) JULY (1.110.3)



Mean sea surface temperature (°C) OCTOBER (1.110.4)



Mean barometric pressure (hPa) JANUARY (1.115.1)



Mean barometric pressure (hPa) JULY (1.115.2)

Diurnal variation

1.117

1 There is a regular diurnal variation of about 3 hPa, and with maxima at 1000 and 2200 and minima at 0400 and 1600. The following table gives the correction in hPa to be applied at each hour to the observed pressure to allow for diurnal variation:

Local time	*Correction*	*Local time*	*Correction*
Midnight	–0·7 hPA	Noon	–0·5 hPA
0100	–0·2	1300	+0·2
0200	+0·2	1400	+0·9
0300	+0·6	1500	+1·4
0400	+0·7	1600	+1·6
0500	+0·5	1700	+1·5
0600	+0·1	1800	+1·1
0700	–0·5	1900	+0·5
0800	–1·0	2000	–0·1
0900	–1·3	2100	–0·7
1000	–1·3	2200	–0·9
1100	–1·1	2300	–0·9

Tropical revolving storms

1.118

1 On infrequent occasions a tropical storm may track between WSW and SW to the S of Jawa between November and April although other directions are possible. For example Tropical Cyclone "Emma" in December 1995 tracked towards the ESE. See *The Mariner's Handbook* for a full description of these types of storm and appropriate avoiding action.

Fronts

General

1.119

1 The well marked frontal boundaries between warm and cold air of temperate latitudes, are not experienced in this tropical area. Nevertheless, belts or zones do occur, which are similar in some respects to the fronts of higher latitudes; the most important of these is the ITCZ (1.120).

Intertropical Convergence Zone

1.120

1 The ITCZ or Intertropical Front represents the boundary between the wind circulations of the N and S hemispheres or, in the area covered by this volume, the zone between the NW and SE monsoons. The ITCZ is orientated approximately from E to W but is not a well defined boundary but rather one of varying width with light variable winds. The weather along the boundaries of the ITCZ is often marked by heavy cumulonimbus cloud and thunderstorms but in other parts of the zone thundery activity may be relatively low. In January, the ITCZ lies just S of Jawa, then moves slowly N across the area during the period between early February and early May, and by August the ITCZ has moved N across the whole of South China Sea. The ITCZ starts to move S again in September and slowly recrosses the area during the period between late October and December.

2 The mean positions of the ITCZ are indicated on Diagrams 1.121.1 to 1.121.4. Apart from the ITCZ, convergence zones or tropical fronts also develop within the SE or NW monsoon, and are characterised by squally showers and/or thunderstorms.

Winds

Average distribution

1.121

1 Wind roses showing the frequency of winds of various directions and speeds for January, April, July and October are given in Diagrams 1.121.1 to 1.121.4.

Open sea

1.122

1 Winds over the open sea are governed by the seasonal pressure changes and the position of the ITCZ.

Between November and March the ITCZ lies to the S of Jawa with the NW monsoon affecting areas to the N. Winds in the N of the area, to the N of the equator, are mainly NNE but slowly back NW in central areas and then to the WNW in the S. Between June and September the ITCZ lies well to the N of the area, and with mainly ESE winds in the S that slowly veer to the SSE in the N.

2 Average winds strength ranges from around force 2 to 4 during the NW monsoon and slightly less with the SE monsoon. Between November and March the frequency of winds of force 5 and above is about 10 to 14% in the N and S of the area, and 5 to 8% in central areas. Between June and September the frequency of winds of force 5 and above are about 3 to 5% in the N and 5 to 7% in central and S areas.

3 During the transitional months the winds are frequently light and variable as the ITCZ first moves N across the region in April and May and then S between late October and November.

Coastal areas

1.123

1 Topography has a major influence on the strength and direction of the wind. See *The Mariner's Handbook* for further details on the modification of both wind speed and direction in coastal waters.

Land and sea breezes

1.124

1 Land and sea breezes affect most of the coastline covered by this volume at some time. Onshore winds are increased by afternoon sea breezes, while offshore winds are strengthened, but usually to a lesser extent, by overnight land breezes. Air flowing seaward from high ground close to the coast, during the night, may however, greatly accentuate an offshore wind.

2 Land or sea breezes are often felt up to 30 miles from the coast of SE Sumatera, but rarely more than 15 miles off the coast of Jawa.

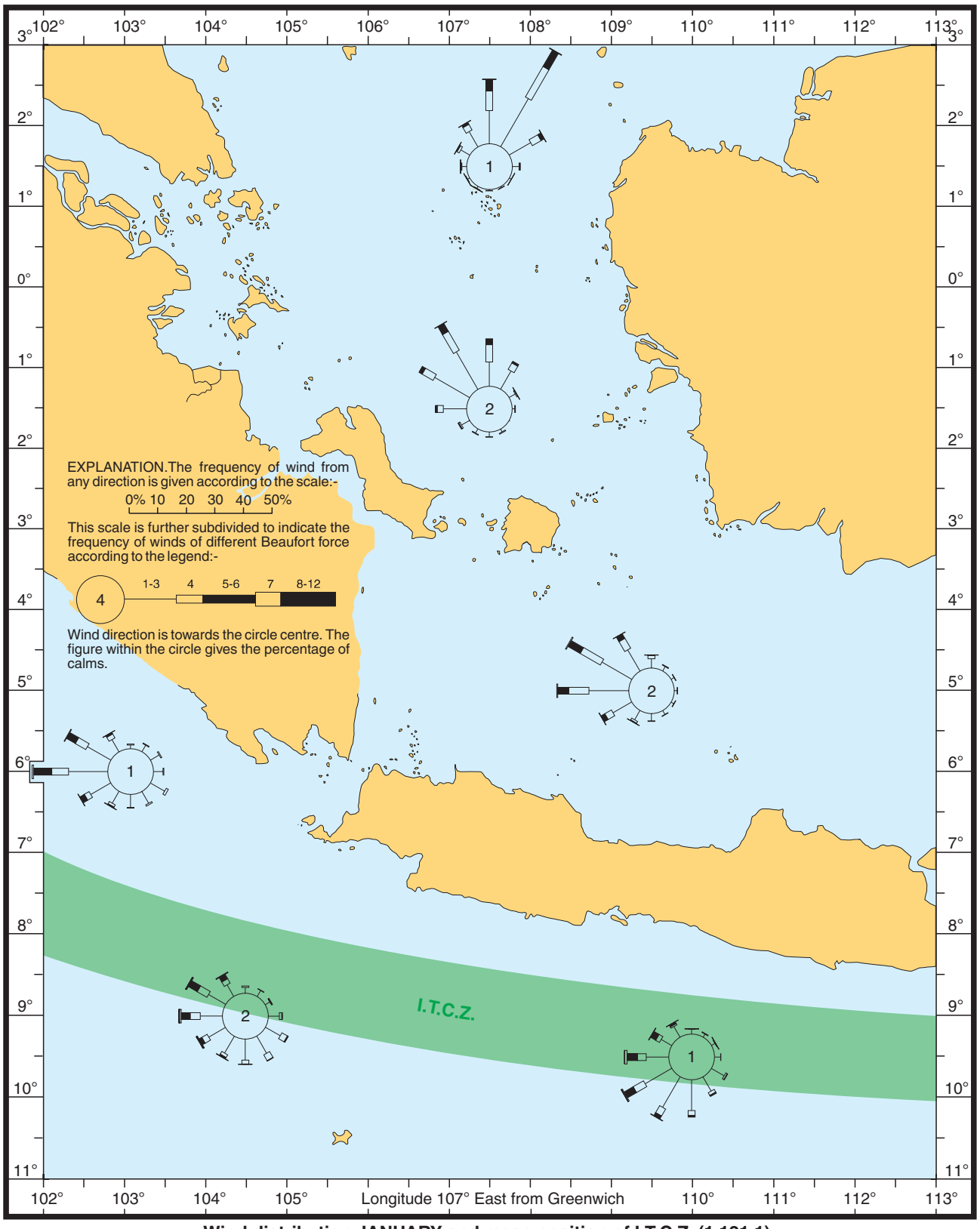
Additional notes on wind and weather changes, which develop along the coast, are given in *The Mariner's Handbook*.

Gales

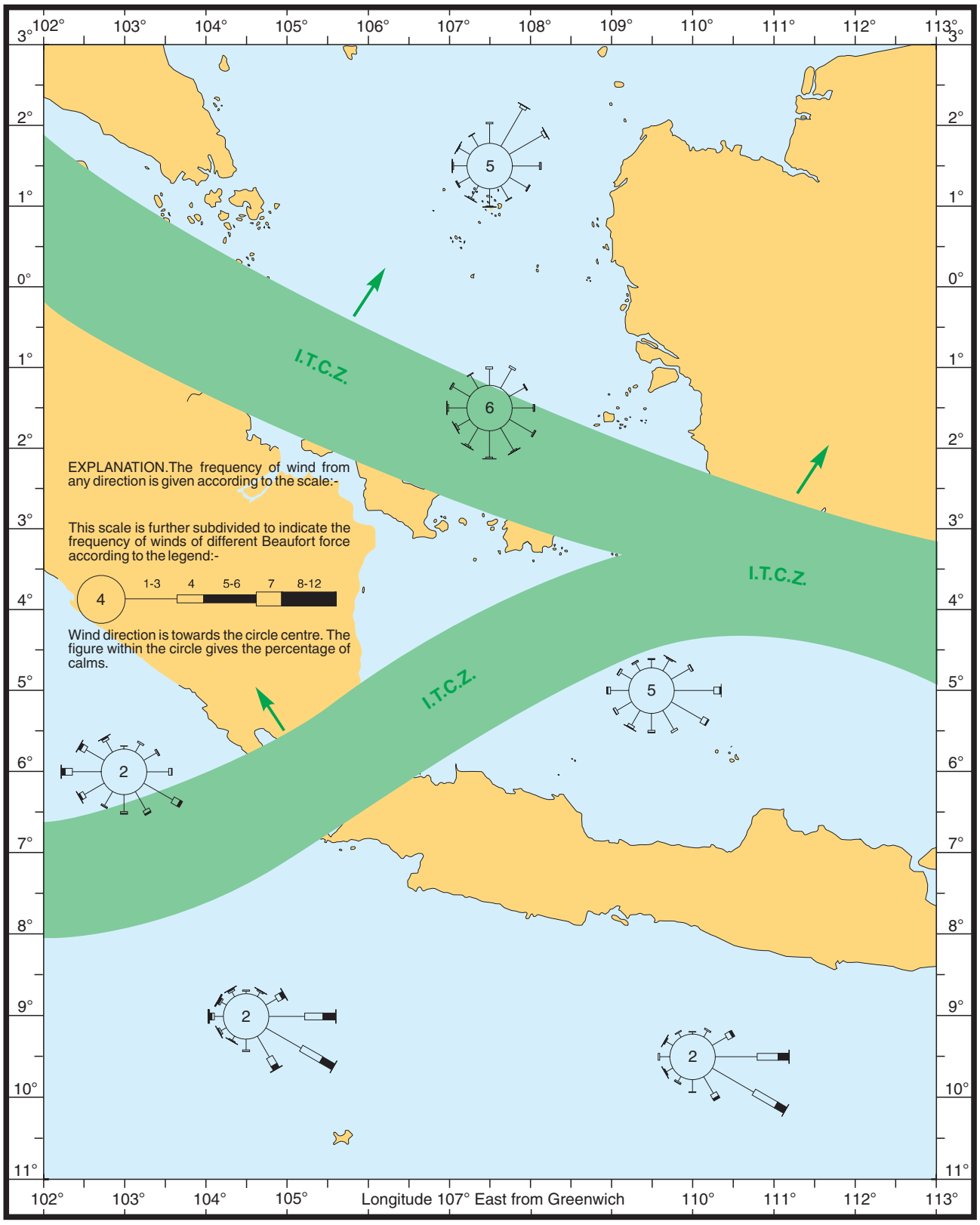
1.125

1 The annual frequency of occurrence of gale force winds for the whole of the area covered by this volume is less than 2%, and less than 1% during the transitional months. Gales, though rare, are more likely to occur in the extreme S of the area when there is a tropical cyclone to the S of Jawa, or in the N of the area when a typhoon tracks W at an unusually low latitude.

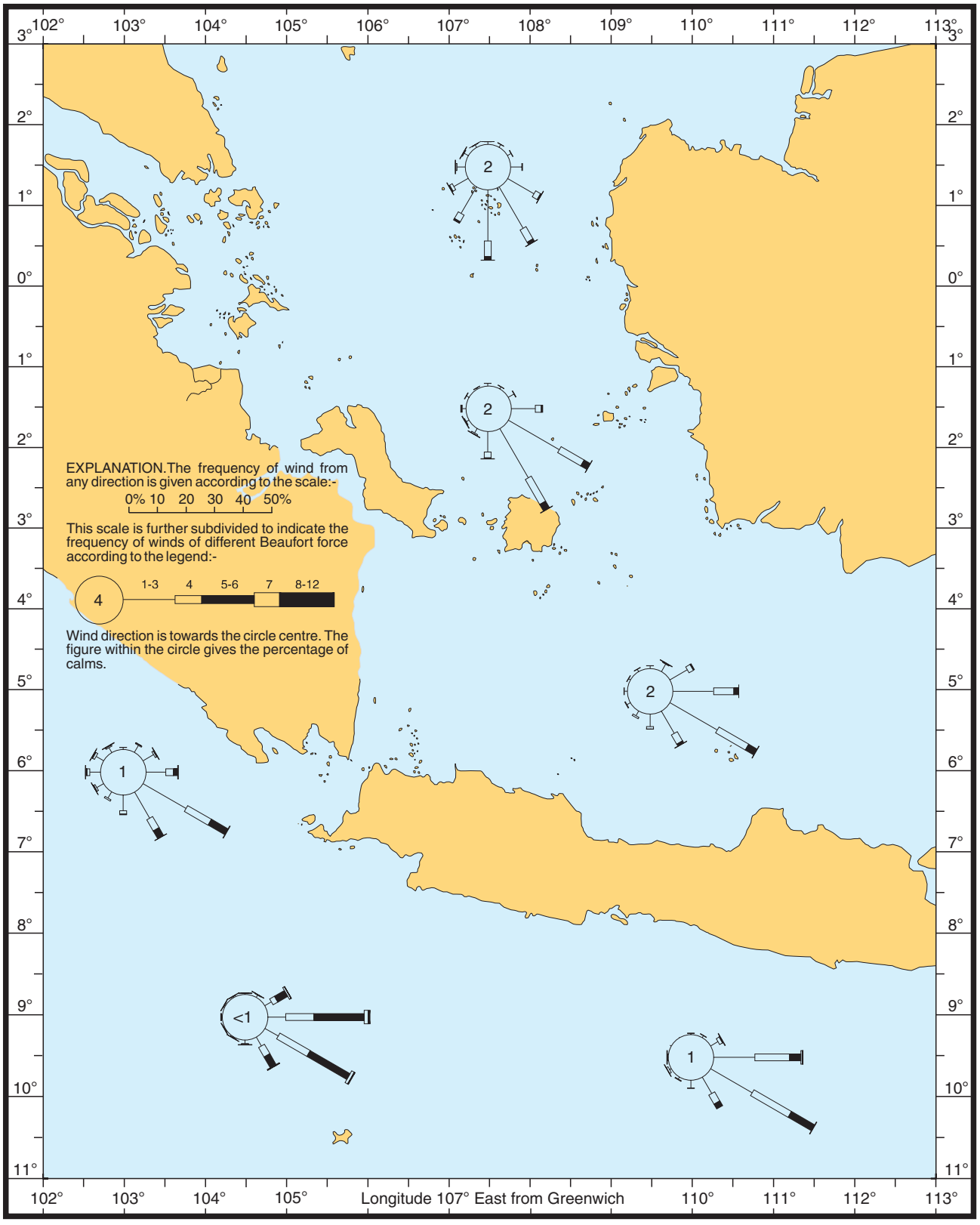
On occasions winds may temporarily reach gale force near thunderstorms or rain squalls, particularly those moving offshore from high ground.



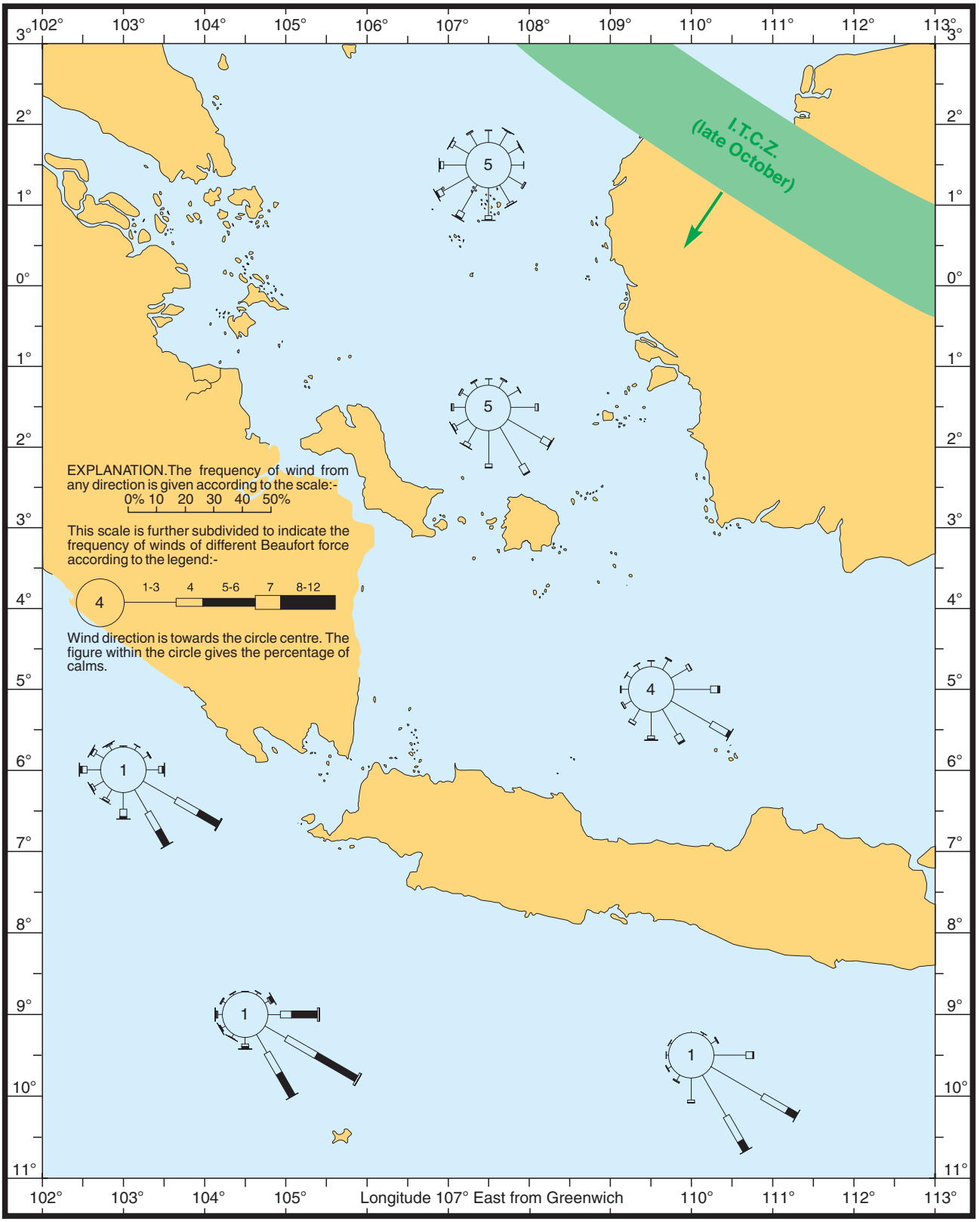
Wind distribution JANUARY and mean position of I.T.C.Z. (1.121.1)



Wind distribution APRIL and mean position of I.T.C.Z. (1.121.2)



Wind distribution JULY (1.121.3)



Wind distribution OCTOBER and mean position of I.T.C.Z. (1.121.4)

Cloud

Open sea

1.126

1 The average cloud amount from November to March is between 5 and 6 oktas, and from June to September 4 to 5 oktas in the N and 3 to 4 oktas in the S. Cloud tends to increase over the open sea towards dawn and then decrease slightly during the day.

Coastal waters

1.127

1 The average cloud amount for a number of coastal stations is included in the climatic tables (1.137). Clouds tend to increase on windward coasts, especially near high ground, and decrease in the lee. In addition, cumulus clouds usually become more extensive during the day and reach a maximum during the late afternoon together with an increase in the frequency of squally showers and thunderstorms.

Precipitation

General

1.128

1 The climatic tables (1.137) give the average amounts of precipitation for each month at a number of coastal stations and the mean number of days in each month when significant precipitation is recorded.

Rainfall

1.129

1 Rainfall is abundant in all parts covered by this volume. Amounts are even greater inland, and some of the highest rainfall values in the world have been recorded in the mountainous areas of the interior. In hilly coastal areas rainfall is generally highest with onshore monsoon winds, and lowest in the lee of high ground. Most of the rainfall is the result of heavy showers and thunderstorms although prolonged periods of rain are uncommon.

2 In the N of the area, the wettest period is usually between November and April and with maximum rainfall during December; on the N coast of Jawa, the wettest months are January and February. The driest period, particularly in the S half of the area, normally occurs between June and September, although the seasonal variation is smaller near the equator.

Thunderstorms

1.130

1 Thunderstorms are common and are reported on most days in some parts of the area, and with the highest frequency usually occurring during the months of April, May, October and November. The worst and most prolonged storms occur over the mountainous interior which are credited with being some of the world's most thundery areas.

The number of days when thunder has been experienced at several coastal stations is given in the climatic tables (1.137).

Fog and visibility

1.131

1 Visibility is generally good except in thundery showers when the visibility may fall to near fog limits. Fog is rare over the open sea although patchy radiation fog may form on coasts towards dawn, particularly near the marshy estuaries of W Kalimantan and E Sumatera, but generally clears soon after sunrise. Fog does occur at Palembang (see 5.53) particularly during the dry season, and, in Jakarta light fog is occasionally seen, during the evening, after heavy showers followed by cloudless skies.

2 Visibility is often excellent during the NW monsoon but there can be considerable haze during the SE monsoon when mountains can become indistinct with the usual blue skies turning grey. The haze can, on occasions, thicken towards the end of the season when drought conditions exist over NW Australia.

Air temperatures

Open sea

1.132

1 The mean air temperature over open waters lies between 26·5° and 28·5°C throughout the year, and with the lowest temperatures experienced in the extreme N of the area in January. In general, the mean air temperature over the sea is between 0° and 1°C below that of the mean sea surface temperatures shown in Diagrams 1.110.1 to 1.110.4. Sudden temporary decreases in temperature are possible during thundery showers but the diurnal variation is very small.

Coastal areas

1.133

1 Mean air temperatures, in the coastal waters covered by this volume, are slightly more variable than over the open sea. Although sea breezes, and increasing afternoon cloud, tend to prevent extreme rises in the air temperature during the day. The climatic tables (1.137) give mean temperatures for a number of coastal stations.

Humidity

General

1.134

1 Humidity is closely related to air temperature and generally decreases as the temperature increases. During the early morning, when the air temperature is normally at its lowest, the humidity is generally at its highest, and falls to a minimum in the afternoon.

Open sea

1.135

1 The mean humidity is about 82% in January and around 78% in July over the whole of the open sea area, and with only a small diurnal variation.

Coastal areas

1.136

1 In coastal waters, and inland, the diurnal variation is much larger and is greatly affected by the direction of the wind. The humidity is generally markedly lower in those coastal areas in the lee of high ground, and highest around dawn near marshy areas with light or calm winds.

Average humidity readings are shown for several coastal stations in the climatic tables (1.137).

Climatic tables

1.137

1 The climatic tables which follow give data for several coastal stations (Diagram 1.137) which regularly undertake weather observations. Some of these stations have been re-sited and so the position given is the latest available.

It is emphasised that these data are average conditions and refer to the specific location of the observing station and therefore may not be totally representative of the conditions over the open sea or in approaches to ports in their vicinity.

2 The following comments briefly list some of the differences to be expected between conditions over the open sea and those at the nearest reporting station (see *The Mariner's Handbook* for further details):

Wind speeds tend to be higher at sea than on land, although funnelling in narrow inlets can result in an increase in wind strength.

3 Precipitation along hilly wind facing coasts can be considerably higher than at sea to windward. Similarly, precipitation in the lee of high ground is generally less.

Air temperature over the sea is less variable than over the land.

Topography has a marked effect on local conditions.

Location of climatic stations (1.137)

1.138

WMO No 96745

JAKARTA OBSERVATORY (06°11′S, 106°50′E) Height above MSL – 8 m

Climatic Table compiled from 16 to 30 years observations, 1960 to 2004

Month	Average pressure at MSL	Temperatures				Average humidity		Average cloud cover		Precipitation		Wind distribution – Percentage of observations from																Mean wind speed		Number of days with			
		Mean daily max.	Mean daily min.	Mean highest in each month	Mean lowest in each month	0700	1300	0700	1300	Average fall	No. of days with 0.3mm or more	0700									1300											
												N	NE	E	SE	S	SW	W	NW	Calm	N	NE	E	SE	S	SW	W	NW	Calm	0700	1300	Gale	Fog	Thunder
	hPa	°C	°C	°C	°C	%	%	Oktas		mm																				Knots				
January	1010	30	24	32	23	89	71	7	7	381	20	1	⊕	0	⊕	1	12	19	2	65	15	4	1	2	2	6	43	23	4	2	7	⊕	⊕	3
February	1010	30	24	32	23	89	70	7	7	302	18	1	1	1	2	3	12	19	4	58	15	⊕	1	1	2	7	46	24	4	2	8	⊕	0	3
March	1010	32	25	34	23	87	66	7	7	240	16	1	⊕	3	2	2	7	9	1	74	29	6	7	1	3	5	29	15	5	1	7	0	0	3
April	1010	32	25	34	24	87	63	7	7	119	11	1	0	4	2	3	6	6	1	77	29	20	16	3	4	3	13	10	2	1	7	0	0	2
May	1010	32	25	34	23	85	61	6	6	113	10	2	2	7	2	4	1	2	0	81	28	22	31	3	3	2	3	4	3	1	7	⊕	0	2
June	1010	32	25	33	23	84	58	6	6	94	7	0	1	9	5	5	2	1	0	76	22	17	37	5	6	3	2	4	3	1	7	0	0	1
July	1010	32	25	33	23	82	57	6	6	59	5	1	1	4	5	5	2	0	0	84	26	23	37	3	3	1	2	3	2	1	7	0	0	⊕
August	1011	32	25	34	23	81	55	6	6	58	5	⊕	⊕	4	7	6	2	2	0	78	32	16	35	7	4	1	2	4	1	1	7	⊕	0	1
September	1011	32	25	34	24	81	56	6	6	67	5	1	0	6	2	6	5	1	0	80	42	18	17	4	6	2	3	5	2	1	8	⊕	0	1
October	1010	32	25	34	23	82	60	6	7	95	8	1	⊕	2	3	7	2	1	1	83	52	16	8	5	4	1	4	9	1	1	8	⊕	0	2
November	1010	32	25	33	23	84	63	7	7	130	12	2	1	2	4	4	7	5	0	75	36	9	7	2	4	8	17	10	6	1	7	⊕	⊕	2
December	1010	31	25	34	23	86	65	7	7	115	15	1	⊕	⊕	1	2	19	16	4	57	19	4	2	⊕	3	11	40	19	2	2	7	⊕	⊕	2
Means	1010	32	25	35 *	22 §	83	62	6	7	_	_	1	1	3	3	4	6	7	1	74	29	13	16	3	4	4	17	11	3	1	7	_	_	_
Totals	_	_	_	_	_	_	_	_	_	1773	132	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	1	⊕	22
Extreme values	_	_	_	36 †	19 ‡	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
No. of years observations	16	16		16		16		16		30		16									16									16		16	16	16

* Mean of highest each year
§ Mean of lowest each year

† Highest recorded temperature
‡ Lowest recorded temperature

⊕ Rare
⊖ All observations

1.139

WMO No 96797

TEGAL (06°51′S, 109°09′E) Height above MSL – 10 m

Climatic Table compiled from 15 to 30 years observations, 1960 to 2004

Month	Average pressure at MSL	Temperatures				Average humidity		Average cloud cover		Precipitation		Wind distribution – Percentage of observations from																		Mean wind speed		Number of days with			
		Mean daily max.	Mean daily min.	Mean highest in each month	Mean lowest in each month	0700	1300	0700	1300	Average fall	No. of days with 0.3mm or more	0700									1300													
												N	NE	E	SE	S	SW	W	NW	Calm	N	NE	E	SE	S	SW	W	NW	Calm	0700	1300	Gale	Fog	Thunder	
	hPa	°C	°C	°C	°C	%	%	Oktas		mm																				Knots					
January	1009	31	24	33	22	92	75	7	6	354	17	0	0	1	4	10	16	7	4	59	16	3	0	1	1	7	11	59	2	2	7	⊕	0	12	
February	1010	31	24	32	23	93	76	7	6	328	15	1	0	⊕	4	7	7	8	9	64	16	2	0	⊕	1	1	7	69	3	1	7	⊕	0	10	
March	1009	31	24	33	23	92	72	6	6	248	13	0	0	1	4	10	15	3	1	67	32	15	1	1	1	5	2	43	2	1	6	0	⊕	14	
April	1009	32	24	33	22	91	69	6	5	107	8	1	1	1	2	18	20	1	⊕	58	30	35	3	1	2	6	2	17	3	1	6	⊕	⊕	14	
May	1010	32	24	34	23	89	66	5	5	138	8	⊕	1	2	5	18	25	1	1	47	29	43	3	3	1	6	1	11	4	2	6	⊕	⊕	10	
June	1010	32	24	33	22	89	64	5	5	74	6	0	1	⊕	5	22	19	1	0	53	22	45	7	2	3	7	2	8	5	1	5	0	⊕	7	
July	1010	31	23	34	21	87	62	5	4	74	5	⊕	0	1	4	24	28	⊕	1	42	28	37	5	3	3	11	1	8	4	2	6	0	0	4	
August	1011	31	23	33	21	84	60	5	4	55	3	0	⊕	1	1	27	43	1	⊕	27	27	40	2	1	4	15	1	7	2	3	7	⊕	0	2	
September	1011	32	23	34	21	82	59	5	4	41	3	⊕	⊕	1	1	29	46	⊕	0	23	33	48	2	2	2	5	2	5	1	3	7	⊕	0	3	
October	1010	32	24	34	23	83	62	5	5	54	4	⊕	⊕	0	1	32	43	0	⊕	23	36	38	2	2	3	6	2	9	2	3	6	0	⊕	6	
November	1009	32	25	34	23	85	67	6	6	115	7	0	⊕	1	3	27	39	1	⊕	28	34	25	2	2	3	14	1	13	4	3	6	⊕	⊕	11	
December	1009	32	24	34	23	87	69	6	6	250	14	⊕	1	1	2	13	37	5	2	40	27	8	1	⊕	3	15	6	38	2	2	6	0	⊕	14	
Means	1010	32	24	35 *	20 §	88	67	6	5	_	_	⊕	⊕	1	3	20	29	2	1	44	27	29	2	2	2	8	3	24	3	2	6	_	_	_	_
Totals	_	_	_	_	_	_	_	_	_	1838	103	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	1	1	107	_
Extreme values	_	_	_	_	39 †	18 ‡	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
No. of years observations	15	15				15		15		30		15									15									15		15	15	15	_

* Mean of highest each year
§ Mean of lowest each year

† Highest recorded temperature
‡ Lowest recorded temperature

⊕ Rare
⊖ All observations

1.140

WMO No 96839

SEMARANG/AHMAD YANI (06°59′S, 110°23′E) Height above MSL – 3 m

Climatic Table compiled from 21 years observations, 1984 to 2004

Month	Average pressure at MSL	Temperatures				Average humidity		Average cloud cover		Precipitation		Wind distribution – Percentage of observations from																		Mean wind speed		Number of days with		
		Mean daily max.	Mean daily min.	Mean highest in each month	Mean lowest in each month	0700	1300	0700	1300	Average fall	No. of days with 0.3mm or more	0700									1300												
												N	NE	E	SE	S	SW	W	NW	Calm	N	NE	E	SE	S	SW	W	NW	Calm	0700	1300	Gale	Fog	Thunder
	hPa	°C	°C	°C	°C	%	%	Oktas		mm																				Knots				
January	1010	31	24	32	22	90	71	6	6			⊕	⊕	4	6	5	2	9	2	72	20	2	2	⊕	1	2	22	50	⊕	1	9	⊕	⊕	15
February	1010	31	24	32	22	90	71	7	6			0	1	2	5	3	2	12	2	72	17	2	1	1	1	1	26	51	1	1	10	⊕	⊕	14
March	1010	32	24	34	22	88	67	6	6			⊕	⊕	9	15	6	1	2	1	66	30	4	8	3	⊕	1	10	43	1	1	8	⊕	⊕	16
April	1010	32	24	34	22	86	62	6	6			⊕	1	15	22	7	⊕	1	0	55	28	13	22	7	1	1	2	25	1	2	8	⊕	⊕	13
May	1010	33	24	35	23	85	58	5	5			0	1	21	25	4	0	⊕	⊕	47	19	12	40	12	1	1	1	14	1	3	8	⊕	⊕	9
June	1010	33	24	34	21	84	56	5	5			0	1	19	26	6	0	1	⊕	48	15	11	42	17	3	⊕	2	8	2	3	7	⊕	⊕	5
July	1011	33	23	34	21	82	52	4	4			0	1	18	27	3	0	⊕	0	51	11	10	43	20	2	⊕	1	13	1	2	8	0	0	3
August	1011	33	23	35	21	81	47	4	4			⊕	⊕	20	22	4	1	⊕	0	52	20	12	40	13	1	⊕	2	11	1	2	8	⊕	0	2
September	1011	34	23	36	21	80	48	4	4			0	1	17	16	4	1	0	⊕	62	23	13	29	12	1	⊕	2	20	1	2	9	⊕	⊕	4
October	1011	33	24	36	22	81	54	5	5			⊕	1	11	12	3	⊕	⊕	⊕	71	31	6	19	8	2	1	4	30	⊕	1	8	⊕	⊕	9
November	1010	32	24	35	22	85	63	6	6			1	2	8	9	3	⊕	1	1	76	30	6	10	7	2	1	7	35	2	1	8	⊕	⊕	15
December	1010	31	24	33	23	87	69	6	6			1	1	7	9	4	2	4	1	73	28	5	3	1	2	2	14	44	2	1	8	⊕	⊕	16
Means	1010	32	24	37 *	19 §	85	60	5	5	_	_	⊕	1	13	16	4	1	2	1	62	23	8	22	8	1	1	8	28	1	2	8	_	_	_	_
Totals	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	2	1	121	_
Extreme values	_	_	_	40 †	14 ‡	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
No. of years observations	21	21		21		21		21		_		21									21									21		21	21	21	_

* Mean of highest each year
§ Mean of lowest each year

† Highest recorded temperature
‡ Lowest recorded temperature

⊕ Rare
⊖ All observations

1.141

WMO No 96221

PALEMBANG/S. M. BADARUNDIN II (02°54′S, 104°42′E) Height above MSL – 10 m

Climatic Table compiled from 21 to 30 years observations, 1960 to 2004

Month	Average pressure at MSL	Temperatures				Average humidity		Average cloud cover		Precipitation		Wind distribution – Percentage of observations from																Mean wind speed		Number of days with			
		Mean daily max.	Mean daily min.	Mean highest in each month	Mean lowest in each month	0700	1300	0700	1300	Average fall	No. of days with 0.3mm or more	0700									1300											
												N	NE	E	SE	S	SW	W	NW	Calm	N	NE	E	SE	S	SW	W	NW	Calm	0700	1300	Gale	Fog	Thunder	
	hPa	°C	°C	°C	°C	%	%	Oktas		mm																				Knots					
January	1011	31	23	33	22	96	71	6	7	255	19	3	⊕	1	1	⊕	3	9	9	75	27	4	⊕	⊕	1	1	9	51	8	1	6	⊕	1	8	
February	1011	31	23	33	22	96	68	6	6	265	16	2	1	⊕	⊕	1	3	8	7	77	23	4	⊕	⊕	1	2	12	49	9	1	6	⊕	1	9	
March	1011	32	23	34	22	97	68	6	6	309	18	1	1	1	⊕	2	2	3	4	87	16	7	4	5	5	3	14	25	21	1	4	⊕	2	15	
April	1010	32	24	34	22	96	68	6	6	285	16	1	⊕	1	1	3	4	3	1	87	5	7	9	10	16	8	8	12	26	1	4	⊕	3	14	
May	1010	33	24	35	22	96	67	5	6	155	12	0	⊕	⊕	3	6	4	2	⊕	85	2	4	11	23	24	5	4	3	24	1	4	⊕	2	11	
June	1011	32	23	34	22	95	65	5	6	128	9	0	⊕	⊕	3	9	2	1	⊕	83	1	3	13	34	27	5	1	1	14	1	5	0	2	6	
July	1011	32	23	34	22	95	63	5	6	102	7	0	⊕	1	6	13	3	1	0	76	⊕	3	18	37	28	3	1	⊕	10	1	5	⊕	2	6	
August	1011	33	23	34	22	94	59	5	6	86	8	⊕	0	⊕	11	10	3	1	⊕	74	⊕	3	19	45	21	1	1	⊕	8	1	6	⊕	3	5	
September	1011	33	23	35	21	94	58	5	6	85	8	⊕	0	1	6	13	4	1	⊕	74	1	3	29	34	18	2	3	1	9	1	6	0	3	6	
October	1011	33	23	35	22	95	61	6	6	202	12	1	⊕	1	2	4	4	2	⊕	85	3	6	18	21	16	6	6	6	21	1	4	0	3	10	
November	1011	32	23	34	22	95	65	6	6	343	16	⊕	⊕	0	1	4	7	5	3	78	9	4	5	10	9	9	13	21	20	1	4	⊕	2	12	
December	1011	31	23	33	22	95	70	6	6	265	20	1	⊕	1	⊕	1	4	11	10	72	12	3	1	2	2	4	18	45	13	1	5	⊕	1	12	
Means	1011	32	23	36 *	21 §	95	66	6	6	_	_	1	⊕	1	3	5	4	4	3	79	8	4	11	19	14	4	7	18	15	1	5	_	_	_	_
Totals	_	_	_	_	_	_	_	_	_	2480	161	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	1	25	114	_
Extreme values	_	_	_	40 †	17 ‡	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
No. of years observations	21	21		21		21		21		30		21									21									21		21	21	21	_

* Mean of highest each year
§ Mean of lowest each year

† Highest recorded temperature
‡ Lowest recorded temperature

⊕ Rare
⊖ All observations

1.142

WMO No 96195

JAMBI/SULTAN TAHA (01°38′S, 103°39′E) Height above MSL – 25 m

Climatic Table compiled from 21 to 30 years observations, 1969 to 2004

Month	Average pressure at MSL	Temperatures				Average humidity		Average cloud cover		Precipitation		Wind distribution – Percentage of observations from																		Mean wind speed		Number of days with		
		Mean daily max.	Mean daily min.	Mean highest in each month	Mean lowest in each month	0700	1300	0700	1300	Average fall	No. of days with 0.3mm or more	0700									1300									0700	1300	Gale	Fog	Thunder
												N	NE	E	SE	S	SW	W	NW	Calm	N	NE	E	SE	S	SW	W	NW	Calm					
	hPa	°C	°C	°C	°C	%	%	Oktas		mm																				Knots				
January	1011	31	23	32	22	96	73	7	7	224	17	1	0	0	0	0	0	1	1	97	24	6	1	1	1	1	2	23	42	<1	3	0	⊕	3
February	1011	31	23	33	22	96	69	7	7	200	14	⊕	0	⊕	0	0	0	1	1	97	25	5	1	1	1	⊕	2	20	46	<1	3	0	⊕	2
March	1011	32	23	33	22	96	69	7	7	267	17	0	0	0	⊕	1	⊕	1	⊕	97	10	3	1	1	2	2	6	14	62	<1	2	0	1	4
April	1010	33	23	33	22	96	68	7	7	250	16	0	0	⊕	1	1	⊕	⊕	1	97	4	1	2	4	5	3	4	8	70	<1	2	0	1	5
May	1010	33	23	34	22	96	68	7	7	189	13	⊕	0	1	1	2	1	1	⊕	94	1	1	2	14	15	3	2	1	62	<1	2	0	1	4
June	1011	32	23	33	21	96	66	7	7	128	10	⊕	0	0	1	2	1	1	1	94	⊕	1	2	22	22	2	2	1	48	<1	3	0	1	2
July	1011	32	22	32	21	96	65	7	7	110	9	⊕	0	⊕	2	2	⊕	⊕	0	95	⊕	1	3	23	24	4	1	0	44	<1	3	0	1	2
August	1011	32	23	33	21	95	63	7	7	147	11	0	0	1	2	3	⊕	1	0	93	1	1	3	26	23	2	1	1	43	<1	4	0	1	2
September	1011	33	23	34	21	95	64	7	7	161	11	0	0	0	⊕	3	⊕	1	0	96	1	1	2	26	20	3	1	1	46	<1	3	0	2	2
October	1011	32	23	34	22	96	65	7	7	237	15	0	0	0	0	1	⊕	2	⊕	97	1	⊕	1	12	9	3	2	5	67	<1	2	0	2	4
November	1011	32	23	33	22	96	68	7	7	290	18	1	⊕	⊕	⊕	⊕	1	1	2	93	5	2	1	3	4	4	3	10	68	<1	2	0	1	4
December	1011	31	23	33	22	95	70	7	7	267	19	1	⊕	0	⊕	0	⊕	1	3	94	14	5	2	⊕	1	1	4	23	50	<1	3	0	⊕	3
Means	1011	32	23	34 *	20 §	96	67	7	7	_	_	⊕	⊕	⊕	1	1	1	1	1	95	7	2	2	11	11	2	2	9	54	<1	3	_	_	_	_
Totals	_	_	_	_	_	_	_	_	_	2470	170	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	0	11	37	_
Extreme values	_	_	_	40 †	19 ‡	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
No. of years observations	21	21		21		21		21		30		21									21									21		21	21	21	_

* Mean of highest each year
§ Mean of lowest each year

† Highest recorded temperature
‡ Lowest recorded temperature

⊕ Rare
⊖ All observations

1.143

WMO No 96179

SINGKEP/DABO (00°29′S, 104°35′E) Height above MSL – 31 m

Climatic Table compiled from 21 to 30 years observations, 1960 to 2004

Month	Average pressure at MSL	Temperatures				Average humidity		Average cloud cover		Precipitation		Wind distribution – Percentage of observations from																Mean wind speed		Number of days with		
		Mean daily max.	Mean daily min.	Mean highest in each month	Mean lowest in each month	0700	1300	0700	1300	Average fall	No. of days with 0.3mm or more	0700									1300											
												N	NE	E	SE	S	SW	W	NW	Calm	N	NE	E	SE	S	SW	W	NW	Calm	0700	1300	Gale	Fog	Thunder
	hPa	°C	°C	°C	°C	%	%	Oktas		mm																				Knots				
January	1010	31	22	33	21	93	73	7	7	181	10	29	2	1	⊕	⊕	1	1	1	65	71	11	2	1	2	1	3	3	7	3	9	⊕	⊕	2
February	1011	31	22	34	20	92	70	7	7	115	6	34	4	0	0	⊕	⊕	1	1	60	66	13	3	1	2	1	2	4	9	3	9	⊕	0	2
March	1010	31	22	33	20	94	74	7	7	171	8	15	2	1	⊕	1	0	2	1	77	39	14	10	3	6	1	5	3	19	2	7	0	0	7
April	1010	31	22	33	20	95	76	7	7	154	7	2	0	1	1	5	⊕	4	1	87	10	5	15	10	23	1	6	2	28	1	5	0	0	9
May	1009	31	22	33	20	93	78	7	7	230	13	1	1	3	6	14	1	2	⊕	72	2	2	6	16	46	2	5	2	19	2	6	0	⊕	11
June	1010	31	22	33	20	92	75	7	7	165	10	1	1	2	10	25	1	2	⊕	58	1	1	6	17	55	2	2	1	15	3	7	0	⊕	7
July	1010	31	22	32	21	90	76	7	7	204	11	⊕	⊕	2	18	34	1	2	1	41	⊕	1	2	19	61	1	2	1	13	4	8	⊕	0	6
August	1010	31	22	32	20	89	74	7	7	199	10	⊕	1	2	21	34	1	1	⊕	40	1	1	2	25	59	1	⊕	1	12	5	8	⊕	⊕	5
September	1010	31	22	33	20	91	75	7	7	133	9	⊕	1	2	15	23	2	2	1	54	1	1	4	18	58	3	1	1	13	3	7	0	⊕	6
October	1010	31	22	33	20	94	76	7	7	146	10	⊕	⊕	1	5	7	1	5	1	80	4	2	7	15	37	3	9	2	23	1	6	0	⊕	10
November	1010	31	21	32	20	95	78	7	7	164	11	4	⊕	1	1	4	1	3	2	85	11	2	7	4	18	3	16	9	30	1	5	⊕	⊕	8
December	1010	30	21	32	20	94	76	7	7	268	16	17	1	⊕	0	⊕	2	3	4	72	43	7	3	1	4	2	10	12	18	2	8	⊕	⊕	7
Means	1010	31	22	35 *	19 §	93	75	7	7	_	_	9	1	1	7	12	1	2	1	66	21	5	5	11	31	2	5	3	17	3	7	_	_	_	_
Totals	_	_	_	_	_	_	_	_	_	2130	121	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	1	1	80	_
Extreme values	_	_	_	41 †	16 ‡	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
No. of years observations	21	21		21		21		21		30		21									21									21		21	21	21	_

* Mean of highest each year
§ Mean of lowest each year

† Highest recorded temperature
‡ Lowest recorded temperature

⊕ Rare
⊖ All observations

1.144

WMO No 96091

TANJUNGPINANG/KIJANG (00°55′N, 104°32′E) Height above MSL – 18 m

Climatic Table compiled from 21 to 30 years observations, 1960 to 2004

Month	Average pressure at MSL	Temperatures				Average humidity		Average cloud cover		Precipitation		Wind distribution – Percentage of observations from																		Mean wind speed		Number of days with		
		Mean daily max.	Mean daily min.	Mean highest in each month	Mean lowest in each month	0700	1300	0700	1300	Average fall	No. of days with 0.3mm or more	0700									1300												
												N	NE	E	SE	S	SW	W	NW	Calm	N	NE	E	SE	S	SW	W	NW	Calm	0700	1300	Gale	Fog	Thunder
	hPa	°C	°C	°C	°C	%	%	Oktas		mm																				Knots				
January	1012	30	23	32	21	94	72	6	7	314	12	6	2	0	0	0	0	0	0	91	42	35	2	1	1	1	1	4	13	<1	8	0	⊕	3
February	1012	31	23	32	21	94	68	6	7	195	11	2	2	⊕	⊕	0	0	⊕	0	96	39	41	4	1	1	1	1	4	9	<1	8	0	⊕	2
March	1011	31	23	33	21	96	71	6	7	230	11	⊕	1	⊕	0	1	⊕	0	0	97	18	36	11	2	3	4	5	1	20	<1	7	0	⊕	8
April	1010	31	23	33	22	96	75	6	7	298	20	1	0	0	0	1	1	1	⊕	97	4	12	8	3	14	8	9	3	39	<1	5	0	⊕	12
May	1010	31	24	33	22	96	75	6	7	254	18	⊕	0	⊕	1	2	1	1	0	96	2	4	7	10	27	16	5	1	27	<1	6	⊕	⊕	12
June	1010	31	24	33	22	96	72	6	6	222	15	⊕	⊕	0	⊕	1	1	⊕	⊕	96	1	1	5	12	40	12	5	1	24	<1	6	0	⊕	9
July	1011	31	23	32	22	95	72	6	7	208	14	⊕	0	⊕	0	2	⊕	⊕	⊕	97	⊕	2	4	14	48	9	4	1	18	<1	7	0	⊕	7
August	1011	31	23	32	21	95	71	6	7	214	14	⊕	0	1	1	2	1	1	⊕	94	1	1	5	17	53	7	4	⊕	13	<1	8	0	⊕	7
September	1011	31	23	32	21	96	71	6	7	239	12	0	0	⊕	1	0	⊕	1	0	97	1	2	6	15	42	12	4	1	17	<1	7	0	0	8
October	1011	31	23	33	22	96	74	6	7	283	13	1	0	⊕	0	1	1	1	1	94	2	4	6	3	18	19	16	3	29	<1	5	0	⊕	14
November	1011	30	23	33	22	96	77	7	7	312	16	1	1	⊕	⊕	⊕	1	2	⊕	94	14	6	3	1	6	8	16	5	42	<1	4	0	⊕	14
December	1012	30	23	32	22	95	75	6	7	336	19	5	1	⊕	0	⊕	⊕	1	1	90	34	17	3	1	2	3	8	8	24	<1	6	⊕	⊕	8
Means	1011	31	23	34 *	19 §	95	73	6	7	_	_	1	1	⊕	⊕	1	1	1	⊕	95	13	13	6	7	21	8	6	3	23	<1	6	_	_	_	_
Totals	_	_	_	_	_	_	_	_	_	3105	175	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	⊕	2	104	_
Extreme values	_	_	_	46 †	11 ‡	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
No. of years observations	21	21		21		21		21		30		21									21									21		21	21	21	_

* Mean of highest each year
§ Mean of lowest each year

† Highest recorded temperature
‡ Lowest recorded temperature

⊕ Rare
⊖ All observations

1.145

WMO No 96237

PANGKAL PINANG (02°10′S, 106°08′E) Height above MSL – 33 m

Climatic Table compiled from 21 to 30 years observations, 1960 to 2004

Month	Average pressure at MSL	Temperatures				Average humidity		Average cloud cover		Precipitation		Wind distribution – Percentage of observations from																Mean wind speed		Number of days with			
		Mean daily max.	Mean daily min.	Mean highest in each month	Mean lowest in each month	0700	1300	0700	1300	Average fall	No. of days with 0.3mm or more	0700									1300												
												N	NE	E	SE	S	SW	W	NW	Calm	N	NE	E	SE	S	SW	W	NW	Calm	0700	1300	Gale	Fog	Thunder	
	hPa	°C	°C	°C	°C	%	%	Oktas		mm																				Knots					
January	1010	30	23	32	22	96	78	7	7	295	19	3	0	0	0	⊕	2	7	3	85	42	23	3	0	1	2	10	10	10	<1	7	0	⊕	3	
February	1010	31	23	32	22	96	74	7	7	232	15	3	1	0	0	1	0	6	2	89	38	31	5	1	1	1	6	10	8	<1	7	⊕	0	3	
March	1010	31	23	33	22	96	74	7	7	250	16	1	0	⊕	0	1	1	4	1	90	17	26	21	3	1	2	11	6	12	<1	6	0	0	6	
April	1009	32	24	33	22	95	72	6	7	251	16	1	0	0	1	5	1	3	1	88	7	14	35	7	9	1	11	3	13	<1	6	0	0	7	
May	1009	32	24	33	23	94	71	6	7	206	17	⊕	0	1	4	17	1	2	⊕	75	1	7	42	21	13	2	5	2	8	1	7	⊕	0	6	
June	1009	32	24	33	23	92	69	6	6	160	13	0	⊕	1	7	30	1	2	⊕	59	1	4	40	26	17	2	4	⊕	7	2	7	0	⊕	3	
July	1010	31	24	33	22	92	69	6	6	141	11	1	0	1	9	40	1	1	1	47	1	3	46	25	16	1	3	0	5	3	8	⊕	0	3	
August	1010	32	24	33	22	91	64	6	6	118	10	⊕	⊕	2	15	41	⊕	1	0	42	⊕	3	49	31	13	1	1	1	1	3	9	⊕	0	2	
September	1010	32	24	34	23	91	65	7	6	118	9	⊕	1	2	10	37	1	2	0	48	1	2	56	22	9	2	4	⊕	4	2	9	⊕	0	3	
October	1010	32	24	33	22	93	67	7	7	160	12	⊕	0	1	5	19	1	3	1	69	4	7	44	15	11	2	6	1	9	1	7	0	⊕	5	
November	1010	31	23	33	22	95	73	7	7	232	18	0	⊕	⊕	1	5	1	8	2	83	7	12	21	4	8	5	20	9	15	1	5	0	0	7	
December	1010	30	23	32	22	96	78	7	7	319	22	1	0	1	⊕	1	1	10	4	82	25	10	6	1	1	2	24	15	16	1	6	0	0	6	
Means	1010	31	24	34 *	21 §	94	71	7	7	_	_	1	⊕	1	4	17	1	4	1	71	12	11	31	13	8	2	9	5	9	1	7	_	_	_	_
Totals	_	_	_	_	_	_	_	_	_	2482	178	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	1	⊕	54	_
Extreme values	_	_	_	40†	18‡	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
No. of years observations	21	21		21		21		21		30		21									21									21		21	21	21	_

* Mean of highest each year
§ Mean of lowest each year

† Highest recorded temperature
‡ Lowest recorded temperature

⊕ Rare
⊖ All observations

1.146

WMO No 96249

TANJUNGPANDAN/BULUH TUMBANG (02°45′S, 107°45′E) Height above MSL – 44 m

Climatic Table compiled from 21 to 30 years observations, 1960 to 2004

Month	Average pressure at MSL	Temperatures				Average humidity		Average cloud cover		Precipitation		Wind distribution – Percentage of observations from																		Mean wind speed		Number of days with			
		Mean daily max.	Mean daily min.	Mean highest in each month	Mean lowest in each month	0700	1300	0700	1300	Average fall	No. of days with 0.3mm or more	0700									1300													
												N	NE	E	SE	S	SW	W	NW	Calm	N	NE	E	SE	S	SW	W	NW	Calm	0700	1300	Gale	Fog	Thunder	
	hPa	°C	°C	°C	°C	%	%	Oktas		mm																				Knots					
January	1010	30	23	31	22	96	77	7	7	279	16	12	2	1	1	1	⊕	7	8	68	36	2	2	1	1	3	19	31	5	2	8	⊕	⊕	7	
February	1010	30	23	32	22	96	73	6	7	153	11	13	1	1	1	1	1	1	9	73	41	1	1	0	1	1	19	32	4	1	8	⊕	⊕	6	
March	1010	31	23	33	22	97	74	6	7	201	13	4	1	1	1	1	1	3	3	87	24	4	4	4	5	4	28	21	8	1	6	0	0	11	
April	1009	31	23	33	22	97	76	6	7	267	17	1	1	2	2	1	1	⊕	⊕	92	9	5	12	10	16	6	19	9	14	⊕	6	⊕	⊕	14	
May	1009	32	23	33	22	96	73	6	7	248	16	1	1	4	3	2	⊕	⊕	0	89	5	7	19	27	19	2	7	1	12	1	6	⊕	⊕	13	
June	1009	32	23	33	21	96	69	6	7	178	13	0	1	5	11	2	⊕	1	0	80	3	5	17	37	24	2	4	1	6	1	8	⊕	⊕	8	
July	1010	31	22	33	21	95	65	6	6	173	12	⊕	1	7	12	4	1	0	0	75	2	4	19	44	24	2	1	⊕	4	1	9	⊕	⊕	6	
August	1010	32	22	33	21	94	60	6	7	167	10	0	1	4	23	6	0	0	0	67	1	2	21	53	18	1	1	⊕	3	2	10	⊕	0	4	
September	1010	32	23	34	21	94	62	6	7	150	11	1	1	4	16	3	0	⊕	0	75	3	2	20	54	14	1	2	0	4	1	10	0	⊕	6	
October	1010	32	23	34	21	96	69	6	7	258	16	⊕	1	3	4	5	1	1	⊕	85	6	4	15	24	20	3	13	4	11	1	7	0	⊕	12	
November	1010	30	23	33	22	96	78	7	7	370	20	3	1	1	2	3	2	4	2	84	7	3	6	6	14	11	31	9	14	1	6	0	⊕	13	
December	1010	30	23	32	22	96	79	7	7	393	21	8	1	1	1	1	1	7	7	74	22	2	1	2	3	4	37	22	7	1	7	⊕	⊕	13	
Means	1010	31	23	35 *	20 §	96	71	6	7	_	_	4	1	3	6	2	1	2	2	79	14	3	11	22	13	3	15	11	8	1	8	_	_	_	_
Totals	_	_	_	_	_	_	_	_	_	2837	176	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	1	1	113	_
Extreme values	_	_	_	42 †	17 ‡	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
No. of years observations	21	21		21		21		21		30		21									21									21		21	21	21	_

* Mean of highest each year
§ Mean of lowest each year

† Highest recorded temperature
‡ Lowest recorded temperature

⊕ Rare
⊖ All observations

1.147

WMO No 96581

PONTIANAK/SUPADIO (00°09′S, 109°24′E) Height above MSL – 3 m

Climatic Table compiled from 21 to 30 years observations, 1960 to 2004

Month	Average pressure at MSL	Temperatures				Average humidity		Average cloud cover		Precipitation		Wind distribution – Percentage of observations from																Mean wind speed		Number of days with			
		Mean daily max.	Mean daily min.	Mean highest in each month	Mean lowest in each month	0700	1300	0700	1300	Average fall	No. of days with 0.3mm or more	0700									1300											
												N	NE	E	SE	S	SW	W	NW	Calm	N	NE	E	SE	S	SW	W	NW	Calm	0700	1300	Gale	Fog	Thunder	
	hPa	°C	°C	°C	°C	%	%	Oktas		mm																				Knots					
January	1011	32	23	34	21	97	70	7	7	285	17	1	1	1	1	⊕	1	⊕	1	95	9	10	5	2	3	6	14	10	42	<1	3	⊕	2	13	
February	1011	32	23	34	21	96	67	7	7	233	15	1	⊕	1	1	⊕	1	1	⊕	96	12	7	3	1	1	5	12	12	46	<1	3	⊕	2	11	
March	1011	32	23	34	22	96	66	7	7	237	14	⊕	1	1	1	⊕	0	⊕	⊕	95	5	6	5	2	4	8	21	5	44	<1	3	0	2	14	
April	1010	33	23	34	22	96	68	7	7	275	17	1	1	2	1	0	⊕	⊕	0	95	3	7	4	4	7	11	16	3	44	<1	3	0	2	16	
May	1010	33	23	34	22	95	68	6	7	272	17	⊕	1	1	2	1	0	1	⊕	95	2	3	9	9	9	8	8	2	51	<1	3	0	2	15	
June	1010	33	23	34	22	96	66	6	7	256	13	⊕	1	1	2	1	0	⊕	0	96	1	4	10	16	12	5	5	1	47	<1	3	⊕	3	12	
July	1010	33	23	34	21	96	65	6	7	192	12	0	⊕	2	1	1	1	⊕	0	95	1	3	14	20	17	5	4	2	36	<1	3	⊕	4	10	
August	1010	33	23	34	21	96	64	6	7	193	12	0	⊕	2	1	1	0	0	0	95	2	3	14	21	20	4	3	1	32	<1	4	⊕	4	10	
September	1011	32	23	34	21	96	67	7	7	298	15	⊕	1	2	1	⊕	⊕	⊕	0	95	1	6	10	17	11	5	4	2	45	<1	3	⊕	4	14	
October	1011	32	23	34	22	96	68	7	7	330	20	0	1	3	1	⊕	⊕	⊕	0	94	3	3	5	7	10	12	14	4	42	<1	3	0	2	17	
November	1010	32	23	34	22	96	72	7	7	393	21	0	1	3	1	1	1	⊕	⊕	93	4	3	1	4	8	16	26	6	33	<1	4	0	1	15	
December	1011	31	23	33	22	96	72	7	7	321	20	1	1	1	1	0	⊕	1	⊕	95	7	5	1	2	5	10	28	10	31	<1	4	0	1	12	
Means	1011	32	23	35 *	20§	96	68	7	7	_	_	⊕	1	2	1	1	⊕	⊕	⊕	95	4	5	7	9	9	8	12	5	41	<1	3	_	_	_	_
Totals	_	_	_	_	_	_	_	_	_	3285	193	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	1	29	159	_
Extreme values	_	_	_	43†	19‡	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
No. of years observations	21	21		21		21		21		30		21									21									21		21	21	21	

* Mean of highest each year
§ Mean of lowest each year

† Highest recorded temperature
‡ Lowest recorded temperature

⊕ Rare
⊖ All observations

1.148

WMO No 96615

KETAPANG/RAHADI USMAN (01°51′S, 109°58′E) Height above MSL – 9 m

Climatic Table compiled from 15 to 30 years observations, 1960 to 2004

Month	Average pressure at MSL	Temperatures				Average humidity		Average cloud cover		Precipitation		Wind distribution – Percentage of observations from 0700									Wind distribution – Percentage of observations from 1300									Mean wind speed		Number of days with		
		Mean daily max.	Mean daily min.	Mean highest in each month	Mean lowest in each month	0700	1300	0700	1300	Average fall	No. of days with 0.3mm or more	N	NE	E	SE	S	SW	W	NW	Calm	N	NE	E	SE	S	SW	W	NW	Calm	0700	1300	Gale	Fog	Thunder
	hPa	°C	°C	°C	°C	%	%	Oktas		mm																				Knots				
January	1011	31	24	32	23	94	74	7	6	310	10	13	4	2	0	0	⊕	2	5	74	18	⊕	⊕	2	4	3	18	28	28	1	4	0	⊕	6
February	1011	31	24	32	23	93	74	7	6	264	11	16	3	1	0	0	0	2	7	72	25	1	⊕	0	2	4	14	31	22	2	4	0	⊕	4
March	1011	31	24	33	22	95	73	6	6	302	12	4	5	3	1	0	0	⊕	3	84	13	1	2	0	4	6	18	24	32	1	4	0	⊕	8
April	1010	32	24	33	23	96	73	6	6	277	10	2	5	7	⊕	⊕	⊕	0	⊕	84	8	1	5	1	6	11	20	9	39	1	3	0	⊕	10
May	1010	32	24	34	22	95	70	5	6	225	9	1	3	14	3	0	⊕	1	1	78	3	3	24	6	15	6	10	1	33	1	4	0	⊕	8
June	1010	32	24	33	22	95	69	5	5	175	7	1	2	12	3	0	0	⊕	0	82	3	3	31	11	16	3	5	2	28	1	4	0	0	5
July	1010	32	23	33	21	95	67	5	5	155	8	1	1	25	4	1	⊕	1	0	66	2	2	35	18	15	2	3	1	22	2	5	0	0	5
August	1011	31	23	33	21	95	65	5	5	115	5	⊕	1	26	7	⊕	⊕	⊕	0	65	1	2	33	16	30	1	3	0	13	2	6	0	0	4
September	1011	31	23	33	22	94	66	5	6	103	6	⊕	1	20	7	1	0	⊕	⊕	70	2	1	25	12	32	4	4	0	20	1	5	0	⊕	6
October	1011	31	24	33	22	95	72	6	6	121	5	2	3	9	2	1	0	0	⊕	83	4	0	9	5	21	8	14	6	34	1	4	0	⊕	11
November	1010	31	24	32	23	96	75	7	6	191	8	3	8	7	⊕	0	⊕	1	1	80	10	2	⊕	⊕	10	9	24	10	34	1	4	0	⊕	11
December	1011	30	24	33	23	95	76	7	7	260	12	10	3	3	0	1	1	4	4	75	12	1	1	0	3	6	27	20	31	2	4	0	⊕	6
Means	1011	31	24	35 *	20 §	95	71	6	6	_	_	4	3	11	2	1	⊕	1	2	76	9	1	14	6	13	5	13	11	28	1	4	_	_	_	_
Totals	_	_	_	_	_	_	_	_	_	2498	103	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	0	1	84	_
Extreme values	_	_	_	_	37 †	19 ‡	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
No. of years observations	15	15				15		15		30		15									15									15		15	15	15	_

* Mean of highest each year
§ Mean of lowest each year

† Highest recorded temperature
‡ Lowest recorded temperature

⊕ Rare
⊖ All observations

1.149

WMO No 96645

PANGKALAN BUN/ISKANDAR (02°42′S, 111°42′E) Height above MSL – 25 m

Climatic Table compiled from 21 to 30 years observations, 1960 to 2004

Month	Average pressure at MSL	Temperatures				Average humidity		Average cloud cover		Precipitation		Wind distribution – Percentage of observations from																		Mean wind speed		Number of days with		
		Mean daily max.	Mean daily min.	Mean highest in each month	Mean lowest in each month	0700	1300	0700	1300	Average fall	No. of days with 0.3mm or more	0700									1300												
												N	NE	E	SE	S	SW	W	NW	Calm	N	NE	E	SE	S	SW	W	NW	Calm	0700	1300	Gale	Fog	Thunder
	hPa	°C	°C	°C	°C	%	%	Oktas		mm																				Knots				
January	1010	32	23	34	22	97	70	7	7	240	13	14	3	2	⊕	0	⊕	2	2	77	30	3	3	1	9	3	22	11	19	1	4	0	5	18
February	1010	32	23	34	22	97	67	7	7	243	12	13	2	1	⊕	1	0	2	2	80	33	4	1	1	9	3	19	13	17	1	5	0	5	16
March	1010	33	23	34	22	97	70	7	7	274	14	13	3	2	0	⊕	⊕	2	2	79	27	5	5	2	13	4	16	8	20	1	4	0	5	19
April	1010	32	23	34	22	96	69	7	7	271	11	12	6	5	1	1	0	1	1	74	16	6	16	6	16	4	11	6	20	1	4	0	4	18
May	1010	32	23	34	22	95	69	6	7	245	11	7	4	7	1	2	⊕	⊕	1	77	7	7	20	10	26	2	4	3	22	1	4	0	5	17
June	1010	32	23	34	21	96	67	6	7	177	8	6	3	6	1	2	⊕	0	⊕	80	7	5	20	14	31	2	3	1	18	1	5	0	4	14
July	1011	32	22	33	20	96	65	6	7	147	8	4	2	3	1	4	0	⊕	0	86	3	3	22	15	41	2	2	1	11	1	5	0	5	13
August	1011	32	22	34	20	95	63	6	7	139	8	3	1	3	2	4	0	⊕	⊕	86	2	3	14	15	51	2	2	1	11	1	6	0	5	9
September	1011	32	22	34	20	95	64	6	7	148	7	4	2	5	1	3	1	0	1	84	5	4	13	15	49	2	3	1	10	1	5	0	8	13
October	1011	32	23	34	21	95	65	7	7	203	9	11	3	3	1	2	⊕	1	⊕	78	6	5	11	9	34	3	8	3	21	1	4	0	7	17
November	1010	32	23	35	22	95	71	7	7	248	14	20	4	3	⊕	1	0	1	3	67	17	3	6	6	20	6	17	6	20	1	4	0	4	19
December	1010	32	23	34	22	96	70	7	7	300	16	19	3	1	⊕	⊕	⊕	5	4	67	25	1	3	2	10	4	25	13	17	1	5	⊕	5	20
Means	1010	32	23	35 *	20 §	96	67	7	7	_	_	11	3	3	1	2	⊕	1	1	78	15	4	11	8	26	3	11	5	17	1	5	_	_	_	_
Totals	_	_	_	_	_	_	_	_	_	2635	131	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	⊕	62	193	_
Extreme values	_	_	_	38 †	17 ‡	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
No. of years observations	21	21		21		21		21		30		21									21									21		21	21	21	_

* Mean of highest each year
§ Mean of lowest each year

† Highest recorded temperature
‡ Lowest recorded temperature

⊕ Rare
⊖ All observations

1.150

METEOROLOGICAL CONVERSION TABLE AND SCALES

Fahrenheit to Celsius

°Fahrenheit

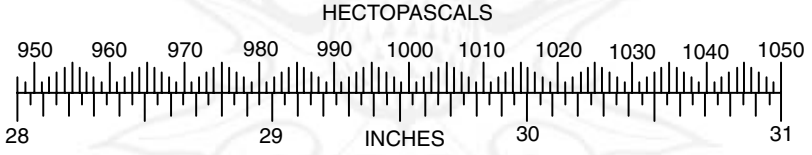
	0	1	2	3	4	5	6	7	8	9
°F				Degrees Celsius						
−100	−73·3	−73·9	−74·4	−75·0	−75·6	−76·1	−76·7	−77·2	−77·8	−78·3
−90	−67·8	−68·3	−68·9	−69·4	−70·0	−70·6	−71·1	−71·7	−72·2	−72·8
−80	−62·2	−62·8	−63·3	−63·9	−64·4	−65·0	−65·6	−66·1	−66·7	−67·2
−70	−56·7	−57·2	−57·8	−58·3	−58·9	−59·4	−60·0	−60·6	−61·1	−61·7
−60	−51·1	−51·7	−52·2	−52·8	−53·3	−53·9	−54·4	−55·0	−55·6	−56·1
−50	−45·6	−46·1	−46·7	−47·2	−47·8	−48·3	−48·9	−49·4	−50·0	−50·6
−40	−40·0	−40·6	−41·1	−41·7	−42·2	−42·8	−43·3	−43·9	−44·4	−45·0
−30	−34·4	−35·0	−35·6	−36·1	−36·7	−37·2	−37·8	−38·3	−38·9	−39·4
−20	−28·9	−29·4	−30·0	−30·6	−31·1	−31·7	−32·2	−32·8	−33·3	−33·9
−10	−23·3	−23·9	−24·4	−25·0	−25·6	−26·1	−26·7	−27·2	−27·8	−28·3
−0	−17·8	−18·3	−18·9	−19·4	−20·0	−20·6	−21·1	−21·7	−22·2	−22·8
+0	−17·8	−17·2	−16·7	−16·1	−15·6	−15·0	−14·4	−13·9	−13·3	−12·8
10	−12·2	−11·7	−11·1	−10·6	−10·0	−9·4	−8·9	−8·3	−7·8	−7·2
20	−6·7	−6·1	−5·6	−5·0	−4·4	−3·9	−3·3	−2·8	−2·2	−1·7
30	−1·1	−0·6	0	+0·6	+1·1	+1·7	+2·2	+2·8	+3·3	+3·9
40	+4·4	+5·0	+5·6	6·1	6·7	7·2	7·8	8·3	8·9	9·4
50	10·0	10·6	11·1	11·7	12·2	12·8	13·3	13·9	14·4	15·0
60	15·6	16·1	16·7	17·2	17·8	18·3	18·9	19·4	20·0	20·6
70	21·1	21·7	22·2	22·8	23·3	23·9	24·4	25·0	25·6	26·1
80	26·7	27·2	27·8	28·3	28·9	29·4	30·0	30·6	31·1	31·7
90	32·2	32·8	33·3	33·9	34·4	35·0	35·6	36·1	36·7	37·2
100	37·8	38·3	38·9	39·4	40·0	40·6	41·1	41·7	42·2	42·8
110	43·3	43·9	44·4	45·0	45·6	46·1	46·7	47·2	47·8	48·3
120	48·9	49·4	50·0	50·6	51·1	51·7	52·2	52·8	53·3	53·9

Celsius to Fahrenheit

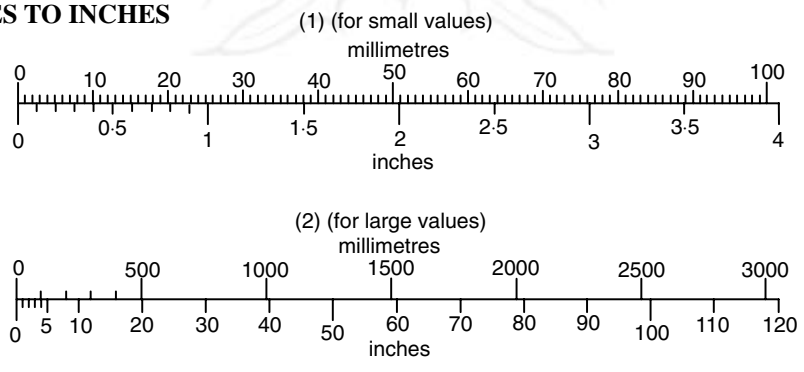
°Celsius

	0	1	2	3	4	5	6	7	8	9
°C				Degrees Fahrenheit						
−70	−94·0	−95·8	−97·6	−99·4	−101·2	−103·0	−104·8	−106·6	−108·4	−110·2
−60	−76·0	−77·8	−79·6	−81·4	−83·2	−85·0	−86·8	−88·6	−90·4	−92·2
−50	−58·0	−59·8	−61·6	−63·4	−65·2	−67·0	−68·8	−70·6	−72·4	−74·2
−40	−40·0	−41·8	−43·6	−45·4	−47·2	−49·0	−50·8	−52·6	−54·4	−56·2
−30	−22·0	−23·8	−25·6	−27·4	−29·2	−31·0	−32·8	−34·6	−36·4	−38·2
−20	−4·0	−5·8	−7·6	−9·4	−11·2	−13·0	−14·8	−16·6	18·4	−20·2
−10	+14·0	+12·2	+10·4	+8·6	+6·8	+5·0	+3·2	+1·4	−0·4	−2·2
−0	32·0	30·2	28·4	26·6	24·8	23·0	21·2	19·4	+17·6	+15·8
+0	32·0	33·8	35·6	37·4	39·2	41·0	42·8	44·6	46·4	48·2
10	50·0	51·8	53·6	55·4	57·2	59·0	60·8	62·6	64·4	66·2
20	68·0	69·8	71·6	73·4	75·2	77·0	78·8	80·6	82·4	84·2
30	86·0	87·8	89·6	91·4	93·2	95·0	96·8	98·6	100·4	102·2
40	104·0	105·8	107·6	109·4	111·2	113·0	114·8	116·6	118·4	120·2
50	122·0	123·8	125·6	127·4	129·2	131·0	132·8	134·6	136·4	138·2

HECTOPASCALS TO INCHES

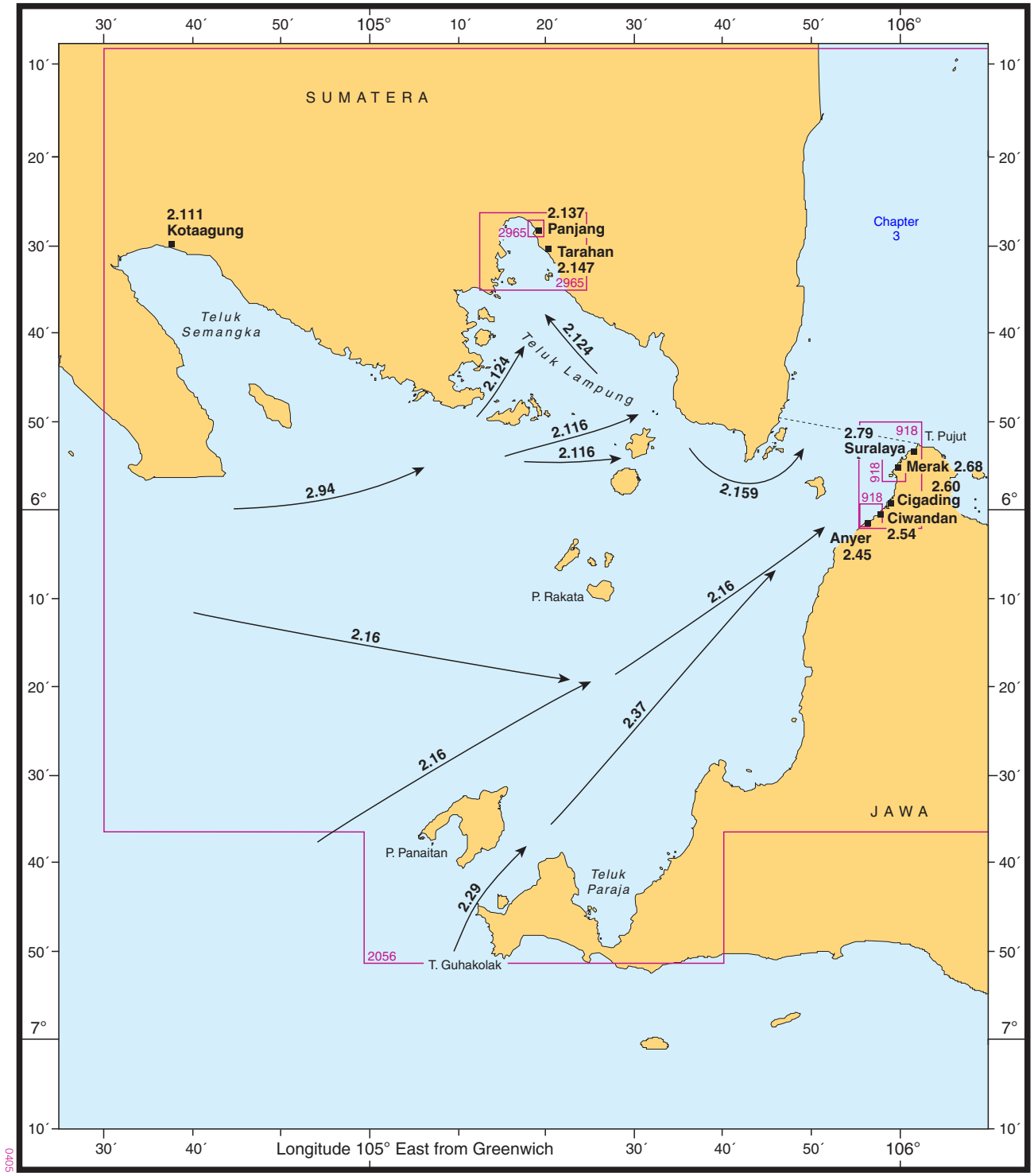


MILLIMETRES TO INCHES



NOTES

Chapter 2 - Selat Sunda including Teluk Semangka and Teluk Lampung



CHAPTER 2

SELAT SUNDA INCLUDING TELUK SEMANGKA AND TELUK LAMPUNG

GENERAL INFORMATION

Charts 2785, 2056

Scope of the chapter

2.1

1 In this chapter are described the passages and routes through Selat Sunda (2.16) between Tanjung Guhakolak (6°50′S, 105°15′E) *(Indonesia Pilot Volume II)* and Tanjung Pujut (5°53′S, 106°03′E), forming the W coast of Jawa, and between Tanjung Cukubalimbing Balimbingpamancasa (5°55′·5S, 104°33′·5E) and Tanjung Sumurbatu (5°50′S, 105°47′E), forming the S coast of Sumatera.

The description also includes the ports, harbours and anchorages associated with the passages and routes which lie along the SE and NW sides of Selat Sunda.

2 Although there are no major ports in this area there are several ports of importance including Merak (2.68) and Panjang (2.137), which form the ferry terminals for the railway systems of Jawa and Sumatera respectively, Cigading (2.60), Ciwandan (2.54) and Anyer Terminal (2.45). There is also an offshore oil terminal at the head of Teluk Semangka on the Sumateran coast.

Routes

2.2

1 Archipelagic Sea Lanes have been designated within certain of the waters described in this chapter. For further information see Appendix II.

Topography

2.3

1 The coast of Sumatera, which forms the N side of Selat Sunda, slopes gently down to the sea; it is densely wooded and has several high peaks inland, including Gunung Tanggamus (2.19) at the head of Teluk Semangka. This peak and the peak of Pulau Tabuan (5°49′S, 104°50′E) (2.100), an island in the centre of the same bay, are the first prominent landmarks to be made out when approaching Tanjung Cukubalimbing Balimbingpamancasa (5°55′·5S, 104°33′·5E) lying at the SW end of the unnamed W promontory.

2 The Jawa coast is in general not as high; it has a low coastal district over a great portion of its length backed in places by high ground; it is also densely wooded but cultivated in places.

There are several high islands in the strait.

Depths

2.4

1 **West entrance.** Between Tanjung Guhakolak (6°50′S, 105°15′E), the SW extremity of Jawa and Tanjung Cukubalimbing Balimbingpamancasa, 69 miles NW, the waters are very deep in the S part, but in the N part a bank, with depths of 50 m and less, extends for nearly 30 miles S from the S end of the W promontory of Sumatera when it falls suddenly into depths of over 200 m. In the middle of this entrance there are depths in excess of 1800 m.

2 **Inside** the strait the depths decrease rapidly and there are not more than 100 m between Tanjung Lesung (6°28′S, 105°40′E), in Jawa, and Pulau-pulau Legundi off the Sumatera shore.

Channels, with depths of more than 75 m, have been scoured out by the current on either side of Pulau Sangiang (5°57′S, 105°51′E), thereby forming a bank with depths of less than 30 m, which extends 6 miles SW of that island.

3 **North-east entrance** to Selat Sunda from Java Sea is between Tanjung Pujut (5°53′S, 106°03′E), the NW extremity of Jawa, and Tanjung Sumurbatu on the SE coast of Sumatera, 16 miles WNW. The channel E of Pulau Sangiang and Pulau Tempurung (5°54′S, 105°56′E) provides the best water; Terumbu Koliot (2.165) and Terumbu Gosal (2.165) are dangers to be avoided in the W channel.

4 In the W part of the strait, the bottom consists of sand and mud, with patches of hard ground; in the vicinity of Pulau Sangiang it is sandy or hard ground; at the E part of the strait N of Tanjung Pujut the bottom is hard ground and sand close inshore, and sand, stones and shells further N.

Hazards

2.5

1 **Fishing.** Trawling is prohibited throughout the length of Selat Sunda; see 1.20.

Fishing stakes may be encountered at any time, particularly in depths of less than 20 m.

Former mined area. Throughout the sea area of Selat Sunda, there is a residual risk from mines broken from their moorings. See Appendix I.

Submarine cables

2.6

1 Three submarine cables lying in the fairway of Selat Sunda pass on either side of Pulau Tempurung, thence SE of Pulau Sangiang and NW of Pulau Panaitan.

Another submarine cable is laid from Tanjung Cikoneng (6°04′S, 105°53′E) (2.21) Jawa, to Kaliandak (5°44′S, 105°35′E) (2.158) Sumatera.

Piracy

2.7

1 See 1.8.

Conservation areas

2.8

1 Pulau Panaitan (6°35′S, 105°13′E).
Ujung Kulon (6°45′S, 105°20′E).
Pulau Sangiang (5°57′S, 105°51′E).
For details on conservation areas see 1.65.

Gunung Rakata

Pulau Rakata from W, 19 miles distant (2.9)

(Original dated 1990)

Natural conditions

Volcanic activity

2.9

1 Volcanic activity has been reported in the waters between Pulau Rakata (6°09′S, 105°26′E) and Pulau Sebesi, 10 miles N; owing to the possibility of volcanic eruption, this area is considered unsafe for shipping. See 1.97.

Detailed information of the islands within, and around, this volcanic eruption area is given as follows:

2 **Krakatau eruption of 1883.** Pulau Rakata (Krakatau) has an active volcano, Gunung Rakata. It was in eruption in 1680 and then remained in a state of quiescence for upwards of 200 years. On May 20th 1883 the volcano burst out with great violence, accompanied by earthquakes, which were severely felt in Jakarta, and at the same time vast showers of pumice and ashes were projected to a great distance. A vessel, 300 miles SW of Selat Sunda, experienced dust from the eruption.

3 On August 26th of the same year, Rakata erupted again, and it was of such a violent nature that miles of the coast on both sides of the strait were wholly devastated, and multitudes of people perished. The next day, a succession of earthquake waves swept the shores of the strait utterly destroying the towns of Anyer, Merak, Caringin, and Telukbetung, together with some lighthouses on both shores. This remarkable disturbance of the sea made itself felt in various parts of the world upon the same date, notably in Australia, in South Africa, and at Karachi.

4 The vast amount of pumice which lay on the surface of the sea, in some places metres thick, gave an appearance as if the ocean bed had appeared above water.

The steam from the volcano was estimated to have been driven to a height of more than 12 miles, and the rain of ashes fell all over Southern Sumatera and N to Singapore, E to Jakarta, and SW to Cocos Islands; finer particles of dust floating in the upper atmosphere enveloped the earth, and caused brilliant sunsets up to December of that year. The sound of the explosions was heard at Perth in Western Australia, in New Guinea, Sri Lanka, and in Mauritius.

5 The seismic sea wave, where obstructed, increased greatly in volume and was observed at Pulau Tempurung to rise 22 m; at Merak, between the island and the mainland to 36½ m; and from Tanjung Tua to Telukbetung, on the Sumateran coast, the average height was 24½ m. Every object on the shore as far inland as the first range of hills, was levelled to the ground, and where the land was low the sea penetrated 5 miles inland. At Telukbetung the water rose to the square of the Resident's House 36 m above high water, and the government steamer *Berouw* was swept over the pier into the Chinese quarter of the town, a distance of 2 miles from the anchorage. The undulation was felt on the N coast of Jawa; in Jakarta Roads the water rose 2½ m, and in Tanjungpriok, on August 27th from 1230 to 1330 it suddenly fell 5½ m.

6 The island, for 30 m up, remained a mass of glowing lava and stones, all animal and vegetable life was destroyed, and it was 5 years before verdure again returned. Before the eruption, which completely destroyed that portion N of the highest peak, the island was 5 miles by 3 miles in extent; the N side of the island now rises perpendicularly from the sea, and the remainder is covered in vegetation.

7 According to the official report, 36 417 persons perished.

Danger signal. In the event of threatened eruption within the Krakatau area, Jakarta Radio will broadcast the necessary warning in Indonesian and English, see *Admiralty List of Radio Signals Volume 3(2)*.

2.10

1 **Pulau Anakrakata** (6°06′S, 105°25′E), an islet, appeared midway between Pulau Sertung and Pulau Rakata Kecil (see below) in 1928, where formerly a bank with a depth of 27 m was charted. In 1929, this islet disappeared again, but resurfaced by eruptions in 1930, and after heavy eruptions in February 1933, appeared to have increased in size. In 1935 this islet was almost circular in shape with a diameter of about 1200 m, and a height of 63 m, and in 1940, it was 125 m high. In 1948 there were a few casuarina trees on the N extremity of the islet; in 1955 the island had a elevation of 155 m and, viewed from S was devoid of vegetation. In 1959, it was in eruption and emitted thick black smoke to an estimated height of 600 m. In 1982 the island was 125 m high.

Volcanic activity on Pulau Anakrakata was last observed in 1993.

2.11

1 **Pulau Sertung** (6°05′S, 105°23′E), 3½ miles NW of Pulau Rakata, is also an active volcano, and is nearly three times larger in area than formerly.

Pulau Rakata Kecil, 1¾ miles N of Pulau Rakata, does not appear to have altered much, but the channel between it and Pulau Rakata has widened considerably.

2 **Karang Serang**, a rock, lies 8 cables WSW of Pulau Rakata Kecil, and rises from great depths.

Terumbu Muhamad Basir, 6 miles N of Pulau Sertung, consists of two steep-to rocks, 9 m high, lying close together and visible from a great distance; the S and larger rock has a cleft in it, and the sea breaks heavily on it.

2.12

1 **Pulau Sebesi**, a circular shaped island surrounded by reefs, which lies 7 miles N of Pulau Rakata Kecil at the N limit of volcanic eruption area appears as a mountain with

two peaks, the SW peak being the higher of the two. Pulau Kasueng, an islet, lies 4 cables off the S side of the island. Batu Karang Menggunang, a reef, extends from the NE side of the island.

2 A great bank, formed by the eruption of Gunung Rakata, lying between Pulau Rakata Kecil and Pulau Sebesi, has a least depth of 4·3 m over it.

Pulau Sebuku, lying 1¼ mile N of Pulau Sebesi, is described at 2.117.

Flow

2.13

1 **Current.** There is considerable variation of opinion as to the direction of the current through Selat Sunda, particularly during the NW monsoon. The following information is taken mainly from *Indonesian Sailing Directions* for the area:

Month	*Direction*	*Rate (kn)*
April to September	SW to S	¾
October to March	NE to N	¾

Should the winds prevail from some point between NW through N to ENE in either season, the current sets S to SW up to 1¼ kn.

2 **Tidal streams** in Selat Sunda, which must be combined with the current described above to get the horizontal movement of the water, in contrast to the weak and entirely semi-diurnal vertical movement, are strong and of a mainly diurnal character; but where the strait broadens out they fall off in rate very rapidly, and between Pulau Panaitan and Pulau Rakata are hardly appreciable.

3 Between Pulau Sangiang (5°57′S, 105°51′E) and Jawa mainland during the SE or NW monsoons, the average maximum current velocity including the tidal stream can reach 2¾ kn in a SSW or NNE direction respectively; in a period of N winds however, the maximum rate can reach 3½ kn and 1 kn respectively.

In Pelabuhan Merak (5°56′S, 106°00′E), the times at which the streams turn and reach their maximum rate are probably similar to those off Pulau Sangiang, while the rates are probably slightly less.

4 Off Tanjung Cikoneng (6°04′S, 105°53′E) the times at which the streams flow are 2 to 3 hours earlier than those off Pulau Sangiang.

In Java Sea the influence of the monsoon currents is predominant and the tidal streams are hardly appreciable.

The tidal streams in Selat Sunda E of Pulau Sangiang are predicted in *Admiralty Tide Tables*. They set roughly NE and SW. The predictions give the time of maximum rate in either direction. To the predicted tidal streams must be added the current described above.

5 **Tide-rips.** When the flow is strong to the SW, sharply defined tide-rips are often met in the N entrance to the strait. With such a flow the rates are very great along the NW and S sides of Pulau Sangiang (2.21), causing heavy tide-rips there and a whirlpool in the bay on the SW side of the island. Near Terumbu Koliot, 2 miles NW of Pulau Sangiang, strong eddies occur when the stream is flowing strongly; see also 2.165.

When the flow is strong, tide-rips are also formed over Karang Jawa (5°55′S, 105°59′E).

Local weather

2.14

1 The SE monsoon persists in the Selat Sunda area from April to September with a maximum constancy in August to September, but tend to be variable in the wider parts of the strait. The sea breeze reduces the SE monsoon along the Jawa coast, but the SE wind is increased by the land breeze at night. South-west winds are common in October. The NW monsoon arrives at the end of November. This results in WSW winds in December, W winds in January, and WNW winds in February. South-west squalls may give gusts of gale force winds, about once per month, and occasionally from N in February.

2 A high sea is more common in these confined waters than elsewhere in the area covered by this volume. The sea becomes unpleasantly rough when the tidal stream encounters a fresh SW wind. The NW monsoon begins to weaken in March.

2.15

1 **Caution.** Weather and sea conditions in Selat Sunda can be dangerous to small craft, and good local knowledge is required. All craft should be equipped with radio.

SELAT SUNDA — THROUGH ROUTE

GENERAL INFORMATION

Charts 2785, 2056

General description

2.16

1 Selat Sunda, which separates Jawa and Sumatera, is the SW and principal connection between Indian Ocean and Java Sea (see *Ocean Passages of the World*). An alternative route lies further E passing through Selat Lombok (*Indonesia Pilot Volume II*).

2 **Landfall.** Vessels making for Selat Sunda from Indian Ocean, and steering for the SW extremity of Jawa, will first sight Gunung Payung (6°49′S, 105°16′E), described in *Indonesia Pilot Volume II,* which may sometimes be seen from a distance of 40 miles; close in, the lower land comes into sight, as well as Pulau Panaitan, with the cone-shaped Gunung Raksa.

If making a landfall near Tanjung Cukubalimbing Balimbingpamancasa (5°55′·5S, 104°33′·5E) (2.3) on the Sumatera coast, Gunung Tanggamus (2.19) and the summit of Pulau Tabuan (2.100) will be sighted first.

3 For fuller details of coastline features mentioned N of Tanjung Cukubalimbing Balimbingpamancasa (5°55′·5S, 104°33′·5E), the SW extremity of Sumatera, see *Malacca Strait and West Coast of Sumatera Pilot*; for features mentioned on Ujung Kulon, a peninsula forming the SW extremity of Jawa, and its S coast E of Tanjung Guhakolak (6°50′S, 105°15′E), see *Indonesia Pilot Volume II*.

Hazards

2.17

1 **Ferries** ply on a regular basis at the E end of Selat Sunda between Merak (5°56′S, 106°00′E), Jawa, and Panjang (5°28′S, 105°19′E), Sumatera; also between Bakauhuni (5°52′S, 105°45′E), Sumatera, and ports on the N coast of Jawa.

Fishing stakes. See 2.5.

Volcanic activity

2.18

1 For information on volcanic activity in the area and the appropriate danger signal, see 2.9.

Principal marks

2.19

1 **Landmarks:**

Gunung Payung (6°49′S, 105°16′E) (*Indonesia Pilot Volume II*).

Gunung Tanggamus (5°26′S, 104°41′E), a very high inland peak with a regular sharp cone, standing at the head of Teluk Semangka; in good visibility it can be seen from a great distance.

Pulau Tabuan (5°49′S, 104°50′E) (2.100).

Gunung Raksa (6°36′S, 105°14′E) (2.30).

2 Gunung Rakata (6°09′S, 105°27′E) (2.9), a high and active volcano which can be seen from most of the strait.

Gunung Karang (6°16′S, 106°03′E) (2.26).

Gunung Pulasari (6°20′S, 105°59′E) (2.26).

Chimney (6°03′S, 105°55′E) (2.88).

3 **Major lights:**

Tanjung Cukubalimbing Balimbingpamancasa Light (white metal tower and dwelling) (5°55′·5S, 104°33′·5E).

Tanjung Layar Light (6°45′S, 105°13′E) (2.33) until obscured by Pulau Panaitan.

Tanjung Parat Light (white beacon, 23 m in elevation) (6°32′S, 105°16′E).

4 Tanjung Pantobinuangen Light (6°06′S, 105°53′E).

Tanjung Cikoneng Light (white metal tower, 58 m in height) (6°04′S, 105°53′E); obscured when bearing more than 216°.

Pulau Sangiang Light (5°58′S, 105°51′E), standing in the S part of the island.

Pulau Panjurit Light (white beacon, 6 m in height) (5°53′S, 105°47′E).

Other aids to navigation

2.20

1 **Racons:**

Tanjung Cukubalimbing Balimbingpamancasa Light (5°55′·5S, 104°33′·5E).

Pulau Tempurung Light (5°54′S, 105°56′E).

Pulau Panjurit Light (5°53′S, 105°47′E).

For further details see *Admiralty List of Radio Signals Volume 2*.

Directions

North-west approach

2.21

1 From a position SSW of Tanjung Cukubalimbing Balimbingpamancasa (5°55′·5S, 104°33′·5E), from where a light is displayed, the route through Selat Sunda leads ESE thence NE, for a distance of approximately 102 miles, passing:

SSW of Ujung Cukusaleman (5°57′S, 104°35′E), the most S point of Sumatera, with a dangerous reef (2.97) 2¾ miles ESE, thence:

2 SSW of Ujung Cukuredak (5°56′S, 104°44′E), a low point fringed by a reef, which is well outlined when seen from seaward, lying at the E end of an unnamed promontory of which Tanjung Cukubalimbing Balimbingpamancasa lies at its W end, thence:

SSW of the SW tip of Pulau Sertung (6°05′S, 105°23′E) (2.11), an active volcano, thence:

3 SSW and SE of Pulau Rakata (6°09′S, 105°26′E) (2.9), on which stands a light (white beacon); an underwater obstruction, reported in 1970, lies less than 1 mile off the SE point of the island, thence:

Clear of a reported (1979) underwater volcano (6°03′S, 105°48′E), thence:

4 NW of Tanjung Pantobinuangen (6°06′S, 105°53′E), on which stands a light (2.19), thence:

NW of Tanjung Cikoneng (6°04′S, 105°53′E), low and overgrown with brushwood, but may be identified by its light (2.19), thence:

SE of Pulau Sangiang (5°57′S, 105°51′E), an island fringed by reefs lying within a conservation area. The island, on which stands a light (2.19), is easily identified but from a distance it appears to consist of several islets. And:

5 NW of Pulau Ular, a rock which rises steeply from depths of 30 m, 4½ miles SE, covered with vegetation and from which a light (white beacon) is displayed, thence:

Between Pulau Tempurung (5°54′S, 105°56′E), a steep rock covered with vegetation, on which stands a light (white metal framework tower), and Karang Jawa, a detached shoal (2.78), lying 3 miles E of the island. There is deep water at a distance of 3 cables all round the rock; thence:

6 NW of Tanjung Pujut (5°53′S, 106°03′E), a narrow tongue of land 13 m high, which lies at the NW extremity of Jawa. When clear of the high land behind, the point can be discerned from a considerable distance.

7 **Caution.** Approaching Tanjung Cukubalimbing Balimbingpamancasa in thick weather, when the land can not be seen, the soundings are a good guide, but it is advisable to keep in a depth of not less than 40 m (22 fm).

In certain weather conditions Tanjung Cukubalimbing Balimbingpamancasa lighthouse (2.19) is reported to be difficult to distinguish on account of its colour and slimness.

South-west approach

2.22

1 From a position W of Gunung Payung (6°49′S, 105°16′E), the highest part of Ujung Kulon peninsula (*Indonesia Pilot Volume II*) and visible on occasions up to 40 miles, the route through Selat Sunda generally leads NE, passing:

NW of Tanjung Waton, the low W point of Pulau Panaitan (6°35′S, 105°13′E) (2.30), on which stands a light (white beacon). A stranded wreck, which is radar conspicuous, lies approximately 7 cables SSE of the point. Thence:

2 NW of Tanjung Parat, the N point of Pulau Panaitan, from where a light (2.19) is displayed, thence:

SE of Pulau Rakata and as directed at 2.21.

Useful marks

2.23

1 Gunung Cangkuang (6°50′S, 105°16′E), 388 m high, and prominent from W and E, standing 1½ miles

SSW of Gunung Payung (see *Indonesia Pilot Volume II*).
Gunung Tanggang (5°43′·0S, 105°06′·5E) (2.91).
Pulau Sebesi (5°57′S, 105°29′E) (2.12).

2 Gunung Aseupan (6°18′S, 105°56′E), a prominent inland mountain.
Gunung Rajabasa (5°47′S, 105°38′E) (2.91) from S and E when clear.
Jetty lights (5°58′S, 106°00′E) (2.66).
Chimneys standing at Suralaya (5°53′S, 106°02′E) (2.79).
Ujung Kanggalan Light (5°48′S, 105°48′E) (3.64).
(Directions continue for the routes to Selat Bangka or Selat Gelasa at 3.41 and for Outer Channel at 3.50)

Anchorage

2.24

1 A bank of sand, with depths of 12·6 to 28·5 m over it, extends 6 miles SW from Pulau Sangiang (5°57′S, 105°51′E), affording good anchoring ground.

SOUTH-EAST SIDE OF SELAT SUNDA — TANJUNG GUHAKOLAK TO TANJUNG PUJUT

GENERAL INFORMATION

Chart 2056

Scope of the section

2.25

1 In this section are described the coastal passages on the SE side of Selat Sunda between Tanjung Guhakolak (6°50′S, 105°15′E) and Tanjung Pujut (5°53′S, 106°03′E) including the passage through Selat Panaitan.

Also described are the ports, harbours and anchorages associated with these passages.

Topography

2.26

1 Ujung Kulon, a wooded peninsula forming the SW extremity of Jawa, is part described in *Indonesia Pilot Volume II* from E of Tanjung Guhakolak (6°50′S, 105°15′E) (2.30).

Tanjung Layar (6°45′S, 105°13′E), previously known as Java Head, the W point of the peninsula, is the S entrance point of the SW end of Selat Panaitan; it is low and rocky, gradually rising inland.

2 The immediate coastline of the W side of Jawa is in general, low, densely wooded, and consists of areas of cultivation and coconut groves. It is indented by two large bays, Teluk Paraja (2.83) and Teluk Miskam (2.84) backed by high ground in between. Teluk Miskam is, itself, backed by low ground but the land again rises further N towards a succession of high peaks, of which Gunung Karang (6°16′S, 106°03′E), with its triple peaks, and Gunung Pulasari, 6 miles SW, are the highest and most prominent.

3 Further N, Gunung Gede (6°08′S, 105°56′E) is the highest of a lower group of peaks, and inland between Tanjung Cikoneng (6°04′S, 105°53′E) (2.21), and Tanjung Leneng (2.60), 4½ miles NE, the low ground is broken only by a ridge of hills rising to a height of 275 m. A valley, with road and rail connections from the coast to Jakarta, separates this range of hills from Gunung Batur 8 miles NNE. Gunung Batur has a rocky and sharp summit and together with Gunung Gede (5°56′S, 106°04′E), flat topped, they are easily identified and form two of a group of lesser mountains lying at the N end of this W coastline.

4 Pulau Panaitan (2.30), a wooded island, lies off the NW coastline of Ujung Kulon peninsula.

Fishing

2.27

1 See 2.5.

Landmarks

2.28

1 Gunung Payung (6°50′S, 105°16′E) (*Indonesia Pilot Volume II*).
Gunung Raksa (6°36′S, 105°14′E) (2.30).
Gunung Rakata (6°09′S, 105°27′E) (2.9).

TANJUNG GUHAKOLAK TO TANJUNG ALANGALANG

General information

Chart 2056

Route

2.29

1 From a position W of Tanjung Guhakolak (6°50′S, 105°15′E) to a position NW of Tanjung Alangalang (6°39′S, 105°22′E), the coastal passage rounds the W headland of Ujung Kulon peninsula thence leads NE through the fairway of Selat Panaitan (2.34).

Preference may be given to passing W and NW of Pulau Panaitan (2.30).

Topography

2.30

1 The coastline W of Tanjung Guhakolak is somewhat barren with rocks extending up to 7 cables offshore; there is always a surf. Tanjung Gedeh, 5 miles N of Tanjung Guhakolak, is a prominent rocky headland separated from the main slope within it by a low tongue of land, and appears from S as a bluff with a small flat-topped hill inside and rocks outside.

2 The NW coast of Ujung Kulon consists mainly of the indentation of Teluk Peucang, the shore of the bay, which is backed by higher ground, is densely wooded, without habitation, and is fringed by a narrow coral reef. Pulau Peucang (6°44′S, 105°15′E), in the S part of the bay has a prominent summit; it is densely wooded, and is fringed by a coral reef. The N extremity of Ujung Kulon is low and wooded.

3 Pulau Panaitan (6°35′S, 105°13′E), is the largest island in Selat Sunda and is separated from the Jawa mainland by Selat Panaitan (2.34). The horseshoe shaped island, which lies in a conservation area (2.31), is hilly and densely wooded except in its SW part which comprises an open bay, and a small lagoon.

The SW extremity of the island is fringed by extensive reefs with some sandbanks and rocks which extend 5 cables further seawards.

Gunung Raksa, the highest peak, near the E coast, is visible from all directions.

Conservation areas

2.31

1 Conservation areas, best seen on the chart, have been created around Pulau Panaitan (6°35′S, 105°13′E) and the

peninsula of Ujung Kulon (2.26), Indonesia's premier nature reserve, at the E entrance to Selat Sunda.

For details on conservation areas, see 1.65.

Local weather

2.32

1 See 2.14.

Principal marks

2.33

1 **Landmarks:**

Gunung Cangkuang (6°50′S, 105°16′E) (2.23).
Pulau Peucang (summit) (6°44′S, 105°15′E) (2.30).
Gunung Raksa (6°36′S, 105°14′E) (2.30).
Wreck (6°38′S, 105°07′E) (2.22).

Major lights:

Tanjung Layar Light (white metal framework tower, 30 m in height) (6°45′S, 105°13′E).
Tanjung Parat Light (6°32′S, 105°16′E) (2.19).

Directions

Selat Panaitan

2.34

1 From a position W of Tanjung Guhakolak (6°50′S, 105°15′E) (2.30) the coastal route leads NE into Selat Sunda through the fairway of Selat Panaitan, for a distance of about 19 miles, passing (positions given from Tanjung Layar Light (2.33)):

NW of Tanjung Layar (2.26), on which stands a light, thence:

SE of Pulau-pulau Karangjajar (4 miles NNW), a group of islets and reefs off Tanjung Karangjajar (6°41′S, 105°11′E), thence:

2 NW of Tanjung Copong, the NW point of Pulau Peucang (2½ miles ENE), fringed by a coral reef with three rocks lying on it, thence:

NW of Tanjung Senini (8½ miles NE), the broad NW end of Ujung Kulon which is low and wooded with a prominent beach and surrounded by a narrow reef, thence:

3 NW of Tanjung Alangalang (11 miles NE), the N end of Ujung Kulon and W entrance to Teluk Paraja (2.83), low and wooded, with a noticeable patch of sand at its outer end. A light-beacon (special) stands on the point.

4 **Cautions.** If close in to the shore bound for Selat Panaitan, Tanjung Layar Light is obscured, between the bearings 343° and 007°, by Tanjung Gedeh (6°46′S, 105°13′E).

The Panaitan shore should not be approached within 1 mile on account of Pulau-pulau Karangjajar, previously mentioned, and the extensive coastal reef 3½ miles NE of these islets; these dangers are always marked by surf.

(Directions continue for the coastal route at 2.43)

North-west of Pulau Panaitan

2.35

1 From SE, preference may be given to entering Selat Sunda NW of Pulau Panaitan in which case the directions given at 2.22 for vessels entering Selat Sunda from SW should be followed.

There is deep water, up to 2 miles offshore, around the SW and NW coasts of Pulau Panaitan.

Anchorages and landings

2.36

1 **Anchorages.** There are no recommended anchorages for large vessels on this part of the coast. On the SW side of Pulau Panaitan (6°35′S, 105°13′E) there are convenient depths for anchoring in the inner part of Teluk Sarimo, a horseshoe shaped bay, which is entered between Tanjung Sabini and Tanjung Karangburung 3¼ miles SE; it is, however, entirely open to the heavy S swell. Two islets and a rock extend 8 cables SSE of Tanjung Sabini.

2 Small vessels can find sheltered anchorage in Legon Sabini, (6°35′S, 105°10′E), a lagoon at the head of the bay, N of the coastal reef which extends W from the E side of the shore.

Legon Kadam, a small bay (6°33′S, 105°13′E), entered between points with the same name, Tanjung Kadam, lies on the N side of Pulau Panaitan and offers limited anchorage for small vessels during the SE monsoon; fishermen from Labuhan (2.85) often use the bay during this period.

3 On the E side of Pulau Panaitan (6°35′S, 105°13′E), small vessels can obtain anchorage during the NW monsoon when there is not much swell, in Legon Pamageran, a small bay, 1¼ miles S of Tanjung Parat, the N end of the island; the best berth lies 1½ cables from the coastal reef in depths of 23 m, with Parat (6°33′·0S, 105°14′·5E), a hill, bearing 288°, and Gunung Raksa bearing 205°.

4 **Landings.** Local knowledge is required to obtain anchorage in a narrow passage which lies between Pulau Peucang (6°44′S, 105°15′E) and the mainland, but a reef lies in the N part of the passage. Supplies of fresh water may be obtained on the Jawa shore E of Pulau Peucang; it falls from a cataract onto the beach. Large boats may approach the spot at HW by a narrow channel through the reef. Landing can be effected on the sandy beach but this is rendered somewhat difficult by the almost continuous surf and the numerous rocks on the drying coastal reef.

5 On the E side of Pulau Panaitan, landings can always be effected in Legon Pamageran during the NW monsoon, where there is a deep channel, with depths of 12·8 m, through the coastal reef leading to the beach in the direction of Parat (2.36); also in Legon Semadang, a small bay close W of Tanjung Semadang (6°39′S, 105°14′E) provided there is not much swell, and, within Legon Sabini lying at the head of Teluk Sarimo.

TANJUNG ALANGALANG TO TANJUNG PUJUT

General information

Chart 2056

Route

2.37

1 From the inner, and NE end of Selat Panaitan to a position NW of Tanjung Pujut (5°53′S, 106°03′E), the coastal route generally leads NE a distance of approximately 60 miles. The route passes SE of Pulau Sangiang (5°57′S, 105°51′E) and Pulau Tempurung (5°54′S, 105°56′E).

Topography

2.38

1 See 2.26; much of the shoreline is fronted by coral reefs and within the bays there are many detached rocks. The coast between Merak (5°56′S, 106°00′E) and Tanjung Pujut, 4½ miles NE, is high and broken by steep points.

Conservation area

2.39

1 Pulau Sangiang (5°57′S, 105°51′E).

For details on conservation areas, see 1.65.

Natural conditions

2.40

1 **Volcanic activity.** For information in the area and the appropriate danger signal see 2.9.

Tidal streams. For information see 2.14.

Principal marks

2.41

1 **Landmarks:**

Gunung Raksa (6°36′S, 105°14′E) (2.30).
Gunung Rakata (6°09′S, 105°27′E) (2.9).
Gunung Karang (6°16′S, 106°03′E) (2.26).
Batucawar (6°31′S, 105°38′E), a very prominent hill.
Gunung Aseupan (6°18′S, 105°56′E) (2.23).
Gunung Pulasari (6°20′S, 105°59′E) (2.26).
Chimney (6°03′S, 105°55′E) (2.88).

2 **Major lights:**

Tanjung Layar Light (6°45′S, 105°13′E) (2.33).
Tanjung Parat Light (6°32′S, 105°16′E) (2.19).
Tanjung Cikoneng Light (6°04′S, 105°53′E) (2.19).
Pulau Panjurit Light (5°53′S, 105°47′E) (2.19).
Pelabuhan Suralaya Front Leading Light (5°53′N, 106°02′E).
Pelabuhan Suralaya Rear Leading Light (5°53′N, 106°02′E).

Other aids to navigation

2.42

1 **Racons:**

Pulau Tempurung Light (5°54′S, 105°56′E).
Pulau Panjurit Light (5°53′S, 105°47′E).

For further details see *Admiralty List of Radio Signals Volume 2*.

Directions

(continued from 2.34)

2.43

1 From the inner end of Selat Panaitan and in the vicinity of Tanjung Alangalang (6°39′S, 105°22′E) (2.34), to that of Tanjung Pujut (5°53′S, 106°03′E), the route leads NE, passing:

NW of Tanjung Lesung (6°28′S, 105°40′E), a low wooded point with a sandy beach, from where a light (white beacon, 23 m in elevation) is displayed; it has a hillock 14 m high on it. Batucawar (2.41) stands 3 miles SSW of the point. Thence:

2 SE of Pulau Rakata (6°09′S, 105°26′E) (2.9) with an obstruction, reported in 1970, lying 1 mile SE, thence:

NW of Pasangtenang (6°08′S, 105°51′E), two rocks, surrounded by a reef, which lie up to 7 cables offshore; they are visible from a distance of about 3 miles, thence:

Clear of a reported (1979) underwater volcano (6°03′S, 105°48′E), thence as directed at 2.21 from Tanjung Cikoneng.

Useful marks

2.44

1 Tanjung Soraga (6°10′S, 105°51′E), prominent on account of a rock on it and a hillock on the coast close N of it. Gunung Karang (2.26) lies 13 miles ESE.

Pinang (6°04′S, 106°06′E), a distant hill which, in clear weather, shows prominently over the low undulating land.

Jetty lights S of Merak (5°58′S, 106°00′E) (2.66).

Chimneys standing at Suralaya (5°53′S, 106°02′E) (2.79).

(Directions continue for a coastal route E to Tanjungpriok at 3.101)

Anyer Terminal

Charts 918 plans of Approaches to Merak and Cigading, Merak, Cigading, 2056

General information

2.45

1 **Position.** Anyer Terminal (6°02′S, 105°56′E), a petrochemical terminal situated 4 miles NE of Tanjung Cikoneng, comprises three jetties, each with an individual berth. All berths are exposed to winds from SW through W to NNE and may be affected by swell from the Indian Ocean. Asahimas Chemical Jetty, also at Anyer, is described below (2.52).

2 **Function.** The terminal is used mainly for the handling of petrochemical products for the chemical plant which, together with storage tanks, occupies an area near the root of the jetties. Chemical commodities are also exported. This busy terminal handles considerable tonnage each year and is constantly growing in size.

3 **Traffic.** In 2004 the terminal handled 69 vessels totalling 690 164 dwt.

Port Authority. Administrator Pelabuhan Banten, Jalan Raya Pulau Merak No 102, Merak — Banten, Jawa Barat, Indonesia.

Limiting conditions

2.46

1 **Maximum size of vessel**: is one of 80 000 dwt alongside No 1 Berth, on the N jetty, with 13 m maximum draught.

Weather. The berths are fully exposed to winds from SSW through W to NE, and even in calm weather there is a continual swell from NW. During most of the period of the NW monsoon (November to March) the berths can become unusable.

Arrival information

2.47

1 **Port radio.** Pilots and Port Authority operate on VHF.

Notice of ETA. Vessels should forward ETA 24 hours before arrival to their local Agent through Cigading or Jakarta Radios; see *Admiralty List of Radio Signals Volume 1 (2)*.

2 **Anchorage** with good holding ground lies from 5 cables to 1 mile off No 1 Berth (see below) in a depth of 20 m. There is a strong tidal stream in the area and a long scope of cable is recommended, see 2.48. A waiting area with good anchorage also exists approximately 2 miles SW of Pulau Ular (2.21) in depths of between 20 and 30 m, coral/sand bottom.

3 **Pilotage** is compulsory and arranged by the Harbour Master at Merak (2.68); it should be requested 24 hours in advance through the agent. Berthing is during daylight hours only, but vessels can depart at any time. Masters and/or their Agents should advise any change in ETA; a 24 hour service is available.

Tugs. Several tugs are available.

Asahimas Chemical Jetty from SW (2.52)

(Original dated 2000)

2.48

1 **Tidal streams** in the area are strong and rates are reported to attain 6 kn parallel with No 1 Berth.

Directions

2.49

1 Vessels normally berth port side alongside in daylight hours stemming the NE-going tidal stream. It is recommended that the approach course be nearly parallel with the line of the berth and that when 100 m off the berth an anchor be used, for hauling off, and the vessel hove into position alongside using head and stern lines.

Berths

2.50

1 **Nos 1 and 2 Berths.** The head of Jetty A, the N jetty, which lies 9 cables SW of Tanjung Leneng (6°01′·4S, 105°56′·4E) (2.60), extends 125 m NW from the shore and is T-shaped, runs SW-NE; it forms No 1 Berth, up to 120 m long at the loading platform with depths of 15 m alongside. No 2 Berth, with a depth of 12 m alongside, lies at the head of Jetty B situated on the seaward side of a loading platform ½ cable SW of No 1 Berth; orientated N-S, it extends 72 m from the shore, is 30 m long and is capable of accepting vessels of up to 3000 dwt. Berthing dolphins, from which lights are displayed, stand beyond either ends of these berth and between them; they are accessible by the use of catwalks. A catwalk connects Jetty A with Jetty B. Lights are also displayed from each jetty. Vessels berthing at No 1 Berth should allow 2 m clearance on account of the swell conditions and should have extra mooring lines available.

2 **Other berths.** Jetty C, is a single berth, 70 m long, approximately 1¾ cables SSW of Jetty A. This berth, with a depth of 8.3 m alongside, can accommodate vessels up to 10 000 dwt with a maximum draught of 7·0 m. Lights are displayed from the head of the jetty.

Port services

2.51

1 **Facilities** are limited.

Other facilities: medical assistance; deratting and deratting exemption certificates issued; crew repatriation.

Supplies: fresh water: bunkers, not available.

Asahimas Chemical Jetty

General information

2.52

1 **Position.** Asahimas Chemical Jetty lies 4 cables SW of Tanjung Leneng (2.60) and forms part of the Anyer complex of berths.

Port operations. Berthing is carried out during daylight hours only; unberthing at any time.

Pilotage is compulsory and arranged through the Harbour Master at Merak (2.68); it should be requested 24 hours in advance through the agent.

Tugs: available.

2 **Berths.** Two berths are situated on a T-shaped jetty extending from the shore.

Berth No 1 runs SW-NE and has a minimum draught alongside of 11 m. It can accommodate a vessel of 22 000 dwt and is mainly used for the discharge of ethylene and bulk salt. A light-buoy (special) is moored close W off the SW dolphin at No 1 Berth.

Berth No 2, orientated 078°–258°, is located 90 m NE of Berth No 1; it is 25 m long and can accommodate a vessel of 2000 dwt. It is mainly used for the discharge of caustic soda.

Arco Chemical Wharf

General information

2.53

1 **Position.** About 2 cables E of Tanjung Leneng (2.60).

Ciwandan (Banten)

General information

2.54

1 **Position.** Ciwandan (6°01′S, 105°57′E) lies nearly 7 cables E of Tanjung Leneng (2.60) and 2½ cables SW of Cigading Ore Jetty (2.60).

Function. The port of Ciwandan, constructed in 1995, consists of a general purpose berth and a coal berth.

Traffic. In 2004 the port was visited by 620 vessels totalling 4 548 447 dwt.

Port Authority. Perumpel II Cabang Banten, Jalan Raya Pelabuhan No 1, Ciwandan Banten, Indonesia.

Limiting conditions

2.55

1 **Maximum size of vessel handled.** The coal berth can accept vessels of 30 000 dwt, 150 m LOA, 12 m draught.

Density of water: 1·025 g/cm^3.

Approach to Ciwandan from N of Pulau Ular (2.57)

(Original dated 1995)

Arrival information

2.56

1 **Port operations.** The port is controlled from Merak (5°56′S, 106°00′E) (2.68). Berthing is undertaken during daylight hours only, unberthing at any time.

Port radio. See *Admiralty List of Radio Signals Volume 6(4).*

Notice of ETA. ETA together with the vessel's draught, pilotage service required for berthing and any other special requirements should be communicated to local Agents 3 days, 2 days and 1 day before arriving. Vessels and/or their Agents should advise the pilot station of any changes in ETA.

2 **Anchorage.** See 2.62.

Pilotage is not compulsory but recommended for vessels which do not use the port regularly. Pilots are arranged by the Harbour Master, Merak, as and when vessels call at Ciwandan. The pilot boat is equipped with VHF.

For further details see *Admiralty List of Radio Signals Volume 6(4),* under Cigading.

Tugs are available.

Directions

2.57

1 The port can be approached passing N or S of Pulau Ular (6°00′·5S, 105°55′·5E) (2.21) thence to the anchorage, or direct to the pilot boat.

Berths

2.58

1 The general purpose berth at Ciwandan consists of a concrete jetty, 120 m in length, lying parallel with the shore in a 050°–230° direction, with dolphin extensions at each end. Minimum depth alongside 10 m at LW; bottom of soft mud.

Caution. A vessel can experience rolling and surging alongside due to ground swell reflected from the shore.

Batu Bara Coal Berth, 200 m in length, lies in a small bay close SW of Cigading. It has a depth alongside of 13 m (LW).

Port services

2.59

1 **Facilities** are limited; fresh water by lorry, 12 tons capacity, on request through local agent; hospital at Cilegon, 12 km distant; deratting and deratting exemption certificates issued.

Supplies: provisions available.

Communications. Nearest airport is at Jakarta.

Cigading Ore Jetty

General information

2.60

1 **Position.** Cigading Ore Jetty (6°01′S, 105°57′E) is situated 1 mile ENE of Tanjung Leneng, a rocky point

Ciwandan Jetty (2.58)

(Original dated 1996)

Gg Karang

Cigading Ore Jetty berths (2.60)

Photograph – Capt. A.Dva *(Original dated 1995)*

fringed by a reef, and consists in the main of a substantial T-head jetty.

Function. Cigading is a port at which iron ore in bulk is imported and steel products exported; it is also used by container and general cargo vessels. An offshore berth for tankers importing oil for Krakatau Steel Works lies 1¾ miles NE of the jetty.

2 **Traffic.** In 2004 the port handled 270 vessels totalling 6 323 805 dwt.

Port Authority. Port Administrator, PT Krakatau Steel, Cigading, Jawa Barat, Indonesia.

Largest vessel handled at the jetty was one of 90 000 dwt; a vessel having a length of 245 m, beam 32 m and draught 13·7 m has berthed at the iron ore discharge section of the jetty.

3 **Port operations.** The port is controlled from Merak (2.68) Berthing during daylight hours only; unberthing arranged day or night. At the tanker berth (2.63) berthing and unberthing is arranged during daylight only.

Port radio. See *Admiralty List of Radio Signals Volume 6 (4)*. There is also a coastal radio station at Cigading, for details see *Admiralty List of Radio Signals Volume 1 (2)*.

4 **Notice of ETA** together with the vessel's draught, pilotage service required for berthing and any other special requirements should be communicated to the local Agents 3 days, 2 days and 1 day before arrival.

Anchorage. See 2.62.

5 **Pilotage** is not compulsory but recommended for vessels that do not visit the port regularly. Pilotage is arranged by the Harbour Master at Merak as and when any vessel calls at Cigading.

For further details see *Admiralty List of Radio Signals Volume 6(4)*.

Tugs are available.

Tidal stream sets NE-SW at rates of 3 to 4 kn off the Ore jetty.

Directions

2.61

1 **Approach from south-west.** Cigading ore jetty is approached from W or S, passing about 5 cables N or S of Pulau Ular (2.21) passing N of a reef, with a depth of 4·5 m over it, lying 2½ cables N of Tanjung Leneng (6°01′·4S, 105°56′·4E) (2.60), marked by a buoy (starboard hand) to the W and a light-buoy (starboard hand) to the E.

Approach from north-east. When approaching from E or N, vessels should pass NW of Gosong Serdang (2.69) in a depth of 30 m and NW of a light-buoy (port hand) off the SW end of Gosong Serdang.

2 **Entry leading lights.**

Front light beacon (triangle point up) (3½ cables SSE of Batubara Wharf) (2.58)

Rear light beacon (triangle point down) (174 m SE of the front light).

On the alignment (135°) of the leading lights, the track leads to a position WNW of Cigading ore jetty passing NE of Pulau Ular, keeping clear of a light-buoy (isolated danger) which lies 1 cable NE of the track, marking a shoal with a depth of 17·3 m over it.

Useful marks.

Pulau Ular Light (2.21).

Light (white beacon) (6°01′·1S, 105°57′·3E).

Berths

2.62

1 **Anchorage.** Vessels waiting to berth should anchor about 4 cables NW of the N end of the jetty, in depths of about 20 m. A long scope of cable is recommended for this berth.

2.63

1 **Alongside berths.** A T-headed concrete jetty projects 300 m from the shore with the head of the jetty orientated NE-SW. The main berthing face on the seaward side is 820 m in length, with a depth alongside of 14 m; the maximum vertical clearance is 15·9 m.

2 On the inside of the NE end there is a berth with a length of 200 m and a depth of 12 m alongside. A berth, 85 m in length, is situated on the SW side of the SW end of the jetty. It is customary to berth three vessels on the outer face and one on the inside NE face.

There is also a new wharf for small vessels inshore of the main jetty.

Precautions should be taken against rats.

3 **Tanker berth.** A berth for tankers, of up to 220 m in length, importing oil for the steel works or chemical plant nearby lies 5 cables offshore in a position approximately 1¾ miles NE of the jetty, as shown on the chart. A vessel is secured, using tugs, between four mooring buoys (bow NE) and pipelines are connected to the shore from her starboard side. Depth at the berth is approximately 18 m.

Port services

2.64

1 **Repairs** are limited.

Other facilities: medical assistance; deratting and deratting exemption certificates issued; crew repatriation; waste disposal by road transport.

Supplies: fuel in limited quantities; fresh water and provisions.

Communications. The nearest airport is at Jakarta, 120 km E.

Peni Jetty

General information

2.65

1 **Position.** Peni Jetty (5°58′·5S, 105°59′·5E) is situated about 2½ miles S of Merak.

Function. Vessels discharge ethylene and butene to a polyethylene plant.

Traffic. The berth handles about 50 vessels a year.

Port Authority. Banten Port Authority, JI Yos Sudarso No 102, Merak 42438 Banten, Indonesia.

Maximum size of vessel handled: 12 500 dwt.

2 **Port operations.** Berthing of LPG vessels is usually during daylight hours only. Vessels can depart at any time.

Anchorage may be obtained 8 cables W of the jetty, sheltered from NE to SSW winds. There is good holding ground, with a depth of 20 m.

Pilotage is available from Merak; see *Admiralty List of Radio Signals Volume 6 (4).* Pilots normally board in position 5°59′·5S, 105°55′·5E, but in bad weather board about 1 mile W of the jetty.

Tugs. Two tugs available.

3 **Directions.** The jetty is approached from S, passing either side of Pulau Ular (6°00′·5S, 105°55′·5E) (2.21) thence ESE of the light-buoy (port hand) moored 2½ cables SW of Gosong Serdang (2.69).

Peni berth, orientated 030°/210°, is 200 m in length and has a depth alongside of 11·5 m.

Repairs. Not available.

Other facilities. Deratting; medical facilities available.

Supplies. Bunkers not available.

Prointal LNG Terminal

General information

2.66

1 **Position.** Prointal LNG Terminal (5°57′S, 106°00′E) consists of two small piers 1½ miles S of Merak, off which lies a mooring buoy.

Function. Vessels load liquefied gas and chemicals from tanks near the piers; chemicals and liquified gas are also imported. The terminal is frequently used by foreign vessels throughout the year. There are no provisions for dry cargoes.

2 **Traffic.** In 2004 the terminal handled 125 vessels totalling 1 016 296 dwt.

Terminal Authority. Pelabuhan Khusus Pt Prointal, Jalan Raya Merak, Merak, Jatim, Indonesia.

Maximum size of vessel handled. 6000 dwt, length 90 m, draught 7·0 m.

Anchorage can be obtained 4 cables N of the piers in a depth of 12 m.

3 **Pilotage,** if required, is arranged through Merak. Radio communication with Merak Radio; locally, VHF daylight hours only.

Tugs: not available.

Facilities are limited; medical assistance is available.

Other berths

2.67

1 Between Prointal LNG terminal (2.66) and Peni Jetty (2.65) there are several jetties, namely Pt Dover (5°57′·6S, 105°59′·7E), Pt BMT (5°57′·8S, 105°59′·7E), Pt Unggul (5°57′·9S, 105°59′·6E), Bakri Kasei (5°58′·0S, 105°59′·5E) and an oil jetty (5°58′·3S, 105°59′·4E) off which lies 4 mooring buoys. These berths are used mainly for the import and export of bulk liquids and chemicals.

Merak

General information

2.68

1 **Position.** Merak (5°56′S, 106°00′E) is a small harbour protected by a breakwater which is situated on the Jawa shore.

Function. Merak is the ferry terminal for the railway system of Jawa and Sumatera; it also handles small tankers at a terminal operated by Pertamina (2.70).

For details of Merak Oil Terminal see 3.102.

2 **Topography.** Pulau Merak Besar (5°56′S, 105°59′E), a wooded island, fringed by coral and steep-to on its NW side, lies close W of Merak offering protection to the harbour from W.

Port Authority. Direktorat Perhubungan Darat (Indonesian State Railways), Jalan Raya Pelabuhan, Merak, West Jawa, Indonesia.

There is a resident Harbour Master who is also responsible for Cigading.

3 **Tidal levels.** See *Admiralty Tide Tables.* Mean spring range about 0·6 m; mean neap range about 0·2 m.

Maximum size of vessel handled: 2000 dwt having a length of 90 m and draught 4·5 m.

Port radio Merak has a coastal radio station, for details see *Admiralty List of Radio Signals Volume 1(2).*

Anchorage. There is sheltered anchorage in the E channel (2.69), where there is practically no swell as the island of Pulau Merak Besar and Karang Terumbu (2.69) act as a breakwater.

4 **Pilotage.** The pilotage division of Banten, an area of NW Jawa, controls all the ports in this area from Merak. Requests for a pilot should be made either direct to the Harbour Master Merak or via the local port agent 24 hours before arrival or 6 hours before departure.

Tugs. There are no tugs other than those provided at the various deep-water berths contained within the general text.

Tidal stream in the E channel is usually S-going, at a maximum rate of 2 kn.

Directions

2.69

1 Vessels may approach from S passing (positions from Pulau Merak Kecil (5°56′·5S, 105°59′·7E):

W of Pulau Merak Kecil, a low islet, thence:

Either side of Karang Terumbu (3 cables NNW), which lies on an extensive reef dividing the strait between the mainland and Pulau Merak Besar (2.68) into two channels.

2 Depths in either channel vary from 9 to 14 m. The E channel, which leads N to Merak, is marked by light-buoys. In the W channel, a light-beacon (port hand) stands close E off the NE side of Pulau Merak Besar.

A wreck, marked by a light-buoy (port hand), lies at the N end of the extensive reef.

Suralaya Power Station Chimneys

Pulau Merak Besar

Merak from SSW (2.68)

(Original dated 2000)

Entry to the harbour, which faces SE, is marked by a light-beacon (port hand), standing close off the head of the breakwater.

3 To the N of Pulau Merak Besar the channel is narrowed by a bank extending ¾ cable from that island and there is an 8·2 m patch nearly in mid-channel.

A passage also leads E into the harbour passing between the S end of Pulau Merak Besar and the N end of Gosong Serdang.

Useful marks:

Jetty lights (5°58′S, 106°00′E) (2.66) standing at Prointal Terminal, 1½ miles S of the harbour.

Summit of Cipala standing 2¼ miles E of Merak.

Oiltanks, standing at Pertamina Depot, 2 cables S of Merak.

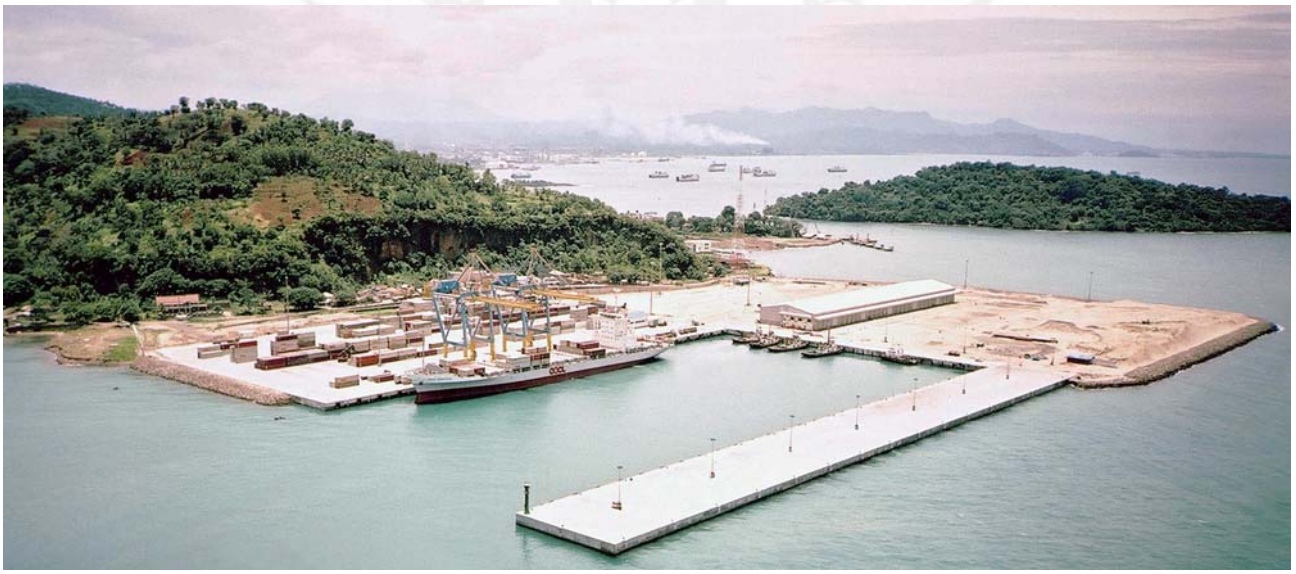
4 **Caution.** In the approaches to Merak, Gosong Serdang, consists of a bank of hard sand with a least depth of 5·2 m over it running parallel with the coast at a distance of 1½ miles from it, S of Pulau Merak Besar; a light-beacon (starboard hand) is moored at its NE end and a light-buoy (port hand) is moored off its SW end. A detached 10 m shoal lies 1¼ cables SSW of the latter buoy.

Berths

2.70

1 **Alongside berth** at the ferry terminal consists of a concrete quay 118 m long having a depth of 4·3 m alongside.

Tanker terminal for small vessels lies offshore at Depot Pertamina Merak where there are mooring buoys, 2 cables



Merak Mas Terminal (2.72)

(Original dated 2002)

SE of the ferry terminal; an underwater pipeline leads a short distance seaward from the vicinity of the depot.

Port services

2.71

1 **Facilities** are limited; deratting and deratting exemption certificates issued; fuel and fresh water are not available.

Communications. There is a regular ferry service between Merak and Panjang (2.137) in Sumatera. The nearest airport is at Jakarta 121 km E.

Merak Mas Terminal

General information

2.72

1 **Position.** Merak Mas multipurpose terminal (5°55′·4S, 105°59′·6E), consisting of a U-shaped basin, is situated ½ mile N of Merak (2.68).

Function. Export of paper products. The terminal handles break-bulk and container vessels.

Traffic. In 2004 the terminal handled 1039 vessels totalling 9 919 255 dwt.

Port Authority. Administrator Pelabuhan, Jalan Raya Pelabuhan, Penye Barangan, Merak, Jawa Berat.

Limiting conditions

2.73

1 **Deepest and longest berth.** Berths 4 and 5 (2.76).

Maximum size of vessel handled. Container vessel 25 000 dwt; bulk 40 000 dwt.

Arrival information

2.74

1 **Outer anchorage:** ¾ mile NW of Pulau Tamposo (5°54′·2S, 106°00′·5E) in depths of about 35–40 m, sand and mud, protected from NE-SSW winds. The holding ground is good.

Pilotage: available 24 hours. Pilot boards about 1 mile W of Pulau Tamposo, as shown on the chart.

Tugs: available.

Tidal streams

2.75

1 Tidal streams run NE and SW with rates up to 3 kn.

Berths

2.76

1 **Alongside berths.**

Nos 1 and 2: container berths, length 150 m, depth alongside 11 m.

No 3: barge berth, length 175 m, depth alongside 8 m.

Nos 4 and 5 (inside outer arm): bulk berths, length 175 m, depth alongside 11 m.

Port services

2.77

1 **Repairs** not available. Divers available.

Other facilities. Deratting; hospital in Cilegon, 20 km.

Supplies. All types of fuel oil; fresh water supplied by truck or barge; provisions and stores available.

Merak Petroleum Base

General information

2.78

1 **Position.** Merak Petroleum Base (5°55′S, 106°00′E), also known as Tanjung Sekong, is situated on the point having the same name, 1¼ miles NE of Pulau Merak Besar (2.68).

Function. It is an import terminal handling baryte and bentonite ores; it is also operated for fabricating equipment for offshore oil installations. Small tankers and LPG carriers also use the port.

2 **Traffic.** In 2004 the terminal handled 160 vessels totalling 2 530 259 dwt.

Base Authority. PT Santa Fe Pomeroy, Indonesia.
Email: sfmerak@indosat.net.id

The jetties are managed by the Port Administrator (Adpel Tanjung Sekong), Jalan Florida No 100, Merak. Jawa Barat. Indonesia.

3 **Anchorage** off the base, sheltered from NE to SSW, but otherwise very exposed, can be obtained 4 cables NW of the jetty berth, as shown on the chart, in a depth of 36 m with good holding ground.

Tidal streams in the anchorage run NE and SW at a rate of up to 2 kn at springs.

4 In the W approaches to the anchorage, Karang Jawa, a small coral patch with a depth of 8·9 m over it, and an isolated 9 m patch whose charted position is approximate, lie 7 cables W and 1¼ miles WNW respectively of Tanjung Sekong. A light-beacon (port hand) stands 2¼ cables S of the S jetty at Tanjung Sekong.

When the stream is running from 1 to 2 kn, Karang Jawa is marked by ripples, and sometimes by discoloured water.

5 **Pilotage** is available from Merak; entry is permitted during daylight hours only. Radio communication is carried out with Merak Radio on VHF.

Alongside berth, comprising two small jetties having a depth of 5·4 m alongside, can accommodate a vessel of up to 2000 dwt, 90 m in length, having a draught of 4·5 m.

Mooring. There are two mooring buoys for vessels up to 20 000 dwt in the bay S of Tanjung Sekong; their positions are shown on the plan chart.

6 **Repairs:** of a minor nature.

Other facilities: medical assistance; deratting and deratting certificates issued.

Supplies: fresh water; fuel.

Suralaya

General information

2.79

1 **Position and function.** Suralaya (5°53′S, 106°02′E) has been developed close E of Tanjung Kahal. The port serves a power station which has five prominent chimneys (red and white bands at the top; tallest displays a light) standing close SE of the berths (2.82).

Traffic. In 2004 the port handled 322 vessels totalling 8 135 679 dwt.

Pilotage

2.80

1 The port comes under the control of the pilotage district of Banten; pilotage is arranged by the Harbour Master at Merak (2.68).

Directions

2.81

1 The alignment (143½°) of leading lights, situated at the head of the berths, leads into the harbour. Lights are also displayed from either side of the harbour entrance. A light-buoy (port hand) is moored 2 cables NNW of the E entrance; a light-buoy (N cardinal) is moored 3 cables NNE of the E entrance.

Useful mark: Tanjung Kahal Light (beacon, 7 m in height) (5°53′·3S, 106°01′·2E).

Suralaya Power Station (2.79)

(Original dated 2000)

Berths

2.82

1 Berths are available alongside a tanker jetty extending NW from the S corner of the harbour and a pier for coal imports, with a berthing face of 180 m, lying almost parallel, extending from the N part and which is joined to the mainland in several places; depths between 10·5 and 12·8 m. Jetty and pier are joined at the head of the harbour where there are less depths alongside.

An L-shaped coal berth 300 m in length, with its head orientated 052°/232° and capable of handling Panamax size vessels, extends from a position ashore of 5°53′·2S, 106°01′·7E.

Anchorages, harbours and landings

Chart 2056

Teluk Paraja

2.83

1 **General description.** Teluk Paraja is entered between Tanjung Alangalang (6°39′S, 105°22′E) and Tanjung Palagan, 12 miles E; the beach at its head is separated from the S coast of Jawa by only a low neck of land less than 1 mile wide. In the NW monsoon, the whole of the W and S shores of the bay, which are visited by fishermen during the SE monsoon, are unpopulated and marshy; the E shore consists largely of sandy beaches and there are several small thickly wooded islands lying close offshore.

2 **Depths** in the entrance vary from 15 to 40 m; Karang Panter, a shallow reef, lies in the middle of the entrance, 5½ miles E of Tanjung Alangalang, and a coral patch with a depth of 5·5 m lies 2 miles WSW from the reef. Farther inside the bay there are many detached reefs with depths of 5 m or less over them. Small craft should not penetrate the bay without local knowledge.

3 **Anchorage** with good holding ground may be obtained, particularly on the W side of the bay, but it can only be described as moderately good as there is a turbulent sea in the SE monsoon, and also in the NW monsoon when the wind is from the N.

4 In 1989 *HMY Britannia* anchored in a position about 1 mile N of Pulau-pulau Handeuleum, a small group of islets lying off the W shore, 5 cables NE of Tanjung Kalong (6°46′S, 105°25′E).

Landing can be effected NW of Pulau-pulau Handeuleum, and on several sandy beaches on the E shore of the bay during the SE monsoon.

Teluk Miskam

2.84

1 **General description.** Teluk Miskam is entered between Tanjung Lesung (6°28′S, 105°40′E) (2.43) and Pulau Popole, a low sandy islet covered with vegetation, 9½ miles ENE and 8 cables offshore. Pulau Popole is easily recognised from a distance.

2 In the SW part of the bay the hills run down to the coast, but elsewhere there is a broad strip of low land. Several rivers run into the bay. Near the S shore, which is fringed by reefs, there are a few dwellings, the remainder of the coast is uninhabited. Pulau Liwungan, low and wooded, 3¼ miles ESE of Tanjung Lesung, is fringed by a reef; a detached sandbank, which partly dries, lies 3 cables NW of it and is usually marked by a surf. Pasir Gundul, a coral bank which is mostly above water and visible from a considerable distance owing to its white appearance, lies 1½ miles E of Tanjung Lesung.

3 **Anchorage** may be obtained in the SE monsoon, but although safe, it is unsuitable in the NW monsoon; the bottom within the 20 m contour consists of mud. Gosong Panjang, a bank, 1¼ miles SW of Pulau Popole, is steep-to and dangerous as the sea does not often break over it; a rock lies 1½ miles S of the bank.

Inshore channel. There is a boat channel, with depths of between 2·7 to 3·7 m, through the reef connecting Pulau Popole and the shore E.

Labuhan

2.85

1 Labuhan (6°22′·5S, 105°49′·5E) is a settlement situated near the mouth of a small river. It is connected by rail with Jakarta. There is a stone dam on the N side of the river

mouth; praus can pass in and out of the river at HW. A blue flag displayed denotes conditions are unfavourable.

Karang Kebua, 2 miles N of Pulau Popole (6°24′S, 105°49′E) (2.84), is a drying reef marked by breakers; a rock with 1·5 m over it lies between the reef and the coast.

Teluk Carita

2.86

1 Teluk Carita, a small bay, is entered between Tanjung Gelebeg (6°19′S, 105°50′E) and Tanjung Katapang, a rocky point, 1¼ miles further N. Inland E of this bay there are some prominent mountains (2.26).

Landing can be effected at Carita, a small settlement, 5 cables E of Tanjung Gelebeg.

Pasangtenang

2.87

1 There is a coastal bank, sand and clay, along the coast N of Pasangtenang (6°08′S, 105°51′E) and S of Tanjung Cikoneng, which provides good anchorage, being sheltered from S by the rocks and reef of Pasangtenang (2.43).

Landing can easily be effected at some places along this stretch of coast, including Muarapasangtenang, a village 1 mile E of the rocks where there is a shallow bay and high sloping sandy beaches.

Anyer Lor

2.88

1 An anchorage can be found off Anyer Lor (6°03′S, 105°55′E), a village connected to Jakarta by rail, 2½ miles NE of Tanjung Cikoneng, which can be identified by a conspicuous chimney (red and white bands) near the coast to the NE of it. The best berth is in 22 m, 3 cables from the drying coastal reef, with the lighthouse at Tanjung Cikoneng (2.19) bearing 230° and the summit of Pulau Sangiang (2.21) bearing 320°.

2 Small vessels can anchor in a depth of 7 to 9 m, in an inlet near Anyer Lor during the SE monsoon. This inlet was formed by the eruption of Rakata (2.9), and even as far out as a depth of 4 m the remains of houses and trees are to be found; although it provides shelter, it is dangerous owing to below-water rocks and heavy breakers.

Pulau Tamposo

2.89

1 Pulau Tamposo (chart 918) lies near the edge of the coastal reef midway between Merak and Tanjung Pujut (5°53′S, 106°03′E). As it is almost bare, it is difficult to distinguish. Praus and small craft find good shelter in the narrow channel between the islet and the coast, where there are depths of 4 to 9 m.

NORTH-WEST SIDE OF SELAT SUNDA

GENERAL INFORMATION

Chart 2056

Scope of the section

2.90

1 In this section are described the coastal passages and side channels which can safely be used on the NW side of Selat Sunda between Tanjung Cukubalimbing Balimbingpamancasa (5°55′·5S, 104°33′·5E) and Tanjung Sumurbatu (5°50′S, 105°47′E), a distance of 75 miles.

Also described are Teluk Semangka and Teluk Lampung, two large bay indentations which make up much of the coastline on this side of the strait. Included in this description are the ports, harbours and anchorages associated with these bays.

Topography

2.91

1 The S coast of Sumatera, which forms the NW side of Selat Sunda, consists of three large promontories between which are Teluk Semangka and Teluk Lampung.

The W of these three promontories is the lowest. It is traversed almost throughout its length by a range of hills on its E side terminating in low land to the S. On the central promontory high mountains rise steeply from the sea abreast Legundi Islands, and extend in a general NW direction eventually to enclose a valley, containing several rivers flowing into the head of Teluk Semangka, between the mountains and the range of hills.

2 On the mountain range of the central promontory are several high volcanoes: Gunung Tanggang lies near the S extremity, 36 miles ENE of Tanjung Cukubalimbing Balimbingpamancasa; Gunung Ratai with Gunung Pesawaran, close to it, lies on the E part of the central promontory 12 miles N of Gunung Tanggang; Gunung Tanggamus, 31 miles NNE of Tanjung Cukubalimbing Balimbingpamancasa, is described at 2.19.

3 The E promontory is highest in the S part. Gunung Rajabasa, a volcano with two summits, the SE of which is Gunung Barilang, lies 9 miles NW of Tanjung Tua (5°55′S, 105°43′E) and rises steeply from the sea.

The entire Sumateran coast is thickly wooded with occasional villages along the coast.

Fishing

2.92

1 Numerous fisherman's huts, nets and stakes have been reported to exist in Teluk Lampung. Fishing stakes may also be encountered close to the mainland in the channel between the Sumateran coast and Pulau-pulau Sumur (2.160).

Natural conditions

2.93

1 **Volcanic activity.** See 2.9.

Local weather. See 2.14.

TANJUNG CUKUBALIMBING BALIMBINGPAMANCASA TO BATU BELANTUNG

General information

Chart 2056

Route

2.94

1 The coastal route from a position S of Tanjung Cukubalimbing Balimbingpamancasa (5°55′·5S, 104°33′·5E) to Batu Belantung (5°49′S, 105°11′E), a rock at the W entrance to Selat Legundi, leads about 40 miles ENE.

Topography

2.95

1 See 2.91.

Principal marks

2.96

1 **Landmarks:**

Gunung Tanggamus (5°26′S, 104°41′E) (2.19).

Pulau Tabuan (5°49′S, 104°50′E) (2.100).
Pulau Tuntungkalik (5°48′S, 105°05′E), steep and surrounded by reefs.
Gunung Rakata (6°09′S, 105°27′E) (2.9).

Major lights:

Tanjung Cukubalimbing Balimbingpamancasa Light (5°55′·5S, 104°33′·5E) (2.19).
Pulau Serdang Light (5°49′·3S, 105°23′·5E) (2.119).

Directions

2.97

1 From a position S of Tanjung Cukubalimbing Balimbingpamancasa (5°55′·5S, 104°33′·5E) (2.3) to the vicinity of Selat Legundi, the route generally leads about 40 miles ENE, passing:

S of Ujung Cukusaleman (5°57′S, 104°35′E), the most S point of Sumatera, thence:
S of a dangerous reef, marked by breakers, lying 1 mile offshore and 2¾ miles ESE of the point, thence:

2 S of Ujung Cukuredak (5°56′S, 104°44′E) (2.21), thence:
SSE of Tanjung Batukebucung (5°51′S, 104°51′E) (2.100), thence:
SSE of Pulau Tuntungkalik (5°48′S, 105°05′E), a good landmark (2.96), thence:
SSE of Batu Belantung (5°49′S, 105°11′E), a rock standing at the W entrance to Selat Legundi, steep-to, with a depth of less than 2 m over it and only occasionally marked by breakers.

2.98

1 **Useful marks:**

Pulau Belantung (5°48′·5S, 105°11′·2E), very rocky and prominent; the island lies between Batu Belantung (2.97) and the coast NE.
Pulau Seserot (5°48′S, 105°15′E) (2.130).
Pulau Serdang Light (5°49′S, 105°24′E) (2.119) when clear of Pulau Legundi.

(Directions continue for the coastal route at 2.120 or Selat Legundi at 2.130)

TELUK SEMANGKA

General information

Chart 2056

General description

2.99

1 Teluk Semangka, entered between Ujung Cukuredak (5°56′S, 104°44′E) (2.21) and Tanjung Tuntungkalik, 23 miles ENE, is entirely open to SE winds, and, when these are blowing, affords anchorage in the N part only.

There is usually surf along the entire NE shore, becoming heavier towards Selat Sunda, owing to which the atmosphere is very hazy in the mornings, and the coast is difficult to distinguish. Gunung Tanggamus (2.19), at the head of the bay, the summit of Pulau Tabuan (2.100), and the steep rocky islet Pulau Hiu (2.113) can usually be identified.

Topography

2.100

1 The W shore is steep-to with depths from 14 to 50 m within 5 cables of it; the E side is less steep, and affords opportunity for anchoring as the depths are generally up to 50 m at 2 miles offshore.

2 At the head of the bay, which is low, marshy, and covered with tall trees, there is an offshore oil terminal (2.101). The spurs of the mountains E of Kotaagung (5°30′S, 104°37′E) (2.111) approach the coast, which rapidly becomes steep and rocky. In places where the mountains are intersected by valleys, there are usually bays and villages, although the latter frequently lie some distance inland and are not visible from seaward; usually coconut palms indicate their whereabouts.

3 Pulau Tabuan, in the middle of the entrance to the bay, with a prominent peak which appears sharp when viewed from N or S, is thickly wooded and steep on all sides. Tanjung Batukebucung, its SE extremity, lies 9 miles NE of Ujung Cukuredak. Except on the N side, Pulau Tabuan is fringed by a steep-to bank, but on the SE side a ridge, with depths over it of less than 30 m, coral and sand, extends up to 4 miles E.

Teluk Semangka Oil Terminal

General information

2.101

1 **Position.** The oil terminal, which is shown on the chart, lies between 2 and 6 miles S of Kotaagung (5°30′S, 104°37′E) at the head of the bay.

Function. Two storage tankers are permanently moored, in depths of 59 m, 4 miles S and 4 miles SW of the town. The vessel (ULCC) moored S of the town stores crude oil and industrial fuels; the other vessel (VLCC) stores gas oil and kerosene. Vessels berth alongside the starboard side of these storage tankers which are equipped with Yokohama fenders.

2 **Traffic.** In 2004 the terminal handled 286 vessels totalling 13 273 447 dwt.

Port Authority. PT Pertamina, Jakarta/Merak/Teluk Semangka, Jalan Dayak No 46, Tanjungpriok, Jakarta, Indonesia.

Maximum size of vessel

2.102

1 390 000 dwt; length 370 m; draught 22 m.

Arrival information

2.103

1 **Port operations.** Berthing and unberthing undertaken during daylight hours only; occasionally a vessel may be unberthed at night.

Port radio. See *Admiralty List of Radio Signals Volume 6(4)*.

Notice of ETA. Teluk Semangka Radio operates on VHF RT throughout 24 hours. ETAs are forwarded as per arrival Panjang Harbour (2.140) or they can be sent to Pertamina Jakarta through Jakarta or Pertamina Merak.

2 **Anchorage** can be obtained in the vicinity of the storage tankers in depths of 40 to 90 m, with good holding ground.

Pilotage is compulsory; a mooring master boards at the anchorage. There are two tugs available to assist berthing.

For further details, see *Admiralty List of Radio Signals Volume 6(4)*.

Directions

2.104

1 **Caution.** In the approach to the anchorage there are numerous fishing boats and rafts in the bay which are lighted at night.

Approach from south and west. From the position S of Ujung Cukuredak (5°56′S, 104°44′E) (2.21), see also 2.97, the track leads NNW for 30 miles passing, (with positions from Ujung Gunungdalam (5°44′S, 104°39′E)):

2 ENE of Ujung Cukuredak (13 miles SSE), thence:
WSW of Tanjung Batukebucung (14 miles ESE), the S point of Pulau Tabuan (2.100), thence:
ENE of Ujung Gunungdalam, thence:
To the pilot boarding position (2.103).

3 **Approach from east.** From a position S of Ujung Pamucukan (5°50′S, 105°14′E), the track leads NW for 45 miles passing, (with positions from Tanjung Batukebucung (5°51′S, 104°51′E)):
SW of Ujung Pamucukan (22¼ miles E) (2.119), thence:
SW of Tanjung Tuntungkalik (14¼ miles ENE) (2.96), thence:

4 NE of Tanjung Batukebucung, thence:
NE of Ujung Gunungdalam (14 miles WNW) (2.108), thence:
To the pilot boarding position (2.103).

Useful mark
Summit of Pulau Tabuan (2.100).

Port services

2.105

1 **Repairs:** not undertaken.

Other facilities: medical assistance by arrangement; fire-fighting services; disposal of oily waste, dirty ballast, not available.

Supplies: fresh water in small quantities; provisions in limited quantities; fuel by prior arrangement.

Communications. Branti Airport 55 km distant.

Anchorages on the south-west side of Teluk Semangka

Teluk Tampang

2.106

1 **General description.** Teluk Tampang, entered between Ujung Cukuredak (5°56′S, 104°44′E) and Tanjung Cukubatulunik, 6 miles N, is entirely open to SE winds but affords good anchorage in a depth of 25 m, sand, NE of Tampang, a village situated near the head of the bay. The village is difficult to distinguish from seaward, but the coconut palms give some indication of its position. There is a sandy beach along the shore of the bay.

Kaurgading

2.107

1 Kaurgading is a village 8 cables N of Tanjung Cukubatulunik, off which an anchorage for a small vessel may be obtained in a depth of 18 m, 2 cables offshore; the best berth is with a house with a zinc roof bearing 258°.

Karangberak

2.108

1 Karangberak, a village, which lies on the S side of Ujung Gunungdalam (5°44′S, 104°39′E), provides an anchorage within a bay in a depth of 33 m, 2¾ cables offshore.

Wainipah

2.109

1 Good anchorage can also be found off Wainipah, a village, 10 miles NW of Ujung Gunungdalam, in a depth of 20 m. This anchorage should be approached by sounding, with the low point immediately N of the village bearing 316°. Coral reefs extend 5 cables offshore between the village and Tanjung Betung (5°34′S, 104°33′E), a low point 2¼ miles NNW.

Tanjungan

2.110

1 There is good anchorage in a bay off Tanjungan (5°33′S, 104°32′E), a village 3½ miles NW of Wainipah, in a depth of 26 m, 7 cables from the shore, with the village bearing 230°. Sungai Waikerap, a small river, flows into the bay 1 mile N of the village. Anchorage for small craft may also be obtained close inshore off Betung (5°34′S, 104°33′E), a large village about 1 mile SE of Tanjungan, in a depth of 5 m.

Pelabuhan Kotaagung

2.111

1 **General information.** Kotaagung (5°30′S, 104°37′E) is a local administrative centre which is situated on the beach at the head of the bay. There is a pier which extends SSW from the shore and a T-shaped oil jetty which extends S from the shore close W of the pier. Kotaagung has a port radio service, and handles requests for the Semangka Oil Terminal berths, for details see *Admiralty List of Radio Signals Volume 6(4)* under Teluk Semangka.

2 **Anchorage** may be obtained in a depth of 9 m, mud and sand, 5 cables offshore SSW of the pier. The coastal reef, which extends 1¾ cables from the point situated 4 cables SE of the town, shelters the beach fairly well from the SE swell, so that landing can always be effected. In the NW monsoon the anchorage is unsuitable for small vessels, which should then anchor at Tanjungan (2.110).

Caution. Rocky patches with depths of less than 1 m, 5 m and 2·6 m lie 1 mile WSW, 4 cables WSW and 5 cables SE, respectively, of the pier.

Anchorages on the north-east side of Teluk Semangka

Teluk Kiluan

2.112

1 **General description.** Teluk Kiluan, on the N side of Tanjung Tuntungkalik (5°48′S, 105°05′E) (2.99), affords, after Teluk Kalumbayan (2.113), the best anchorage at the entrance to Teluk Semangka, although there is little room to swing; small vessels lie here sheltered from all winds. An islet lies 2½ cables SW of Tanjung Tuntungkalik.

Pulau Kiluan, with some large above-water rocks extending 5 cables SW from its SW extremity, lies in the middle of the entrance. A coral reef extends 1¼ cables from the N shore of the bay; and a small detached reef at the head of the bay is usually marked by discolouration.

2 **Directions.** To enter Teluk Kiluan, vessels should pass S of the rocks off the SW extremity of Pulau Kiluan, and then keep in mid-channel between that islet and the SE shore of the bay, thence keep close along the steep point E of Pulau Kiluan and obtain anchorage by eye, taking care to give the reef extending from the N shore of the bay a wide berth. There are some houses near the head of the bay, but they are not visible from the anchorage.

Teluk Kalumbayan

2.113

1 **General description.** Teluk Kalumbayan (5°44′S, 105°01′E) can be readily identified by Pulau Hiu, a steep rocky islet covered by vegetation, which lies 6½ cables SW of Tanjung Laguan, the SE entrance point. An islet lies 5 cables NW of Pulau Hiu, and another islet lies 3 cables E of it. The passages between these three islets and the coast are clear of dangers.

2 **Directions.** When proceeding into Teluk Kalumbayan, vessels should pass N of the islet lying to the NW of Pulau

Hiu, and obtain anchorage in a depth of 16 m, 2 cables offshore in the NE corner of the bay. The village at the head of the bay is not visible from seaward.

Teluk Umbar
2.114

1 **General description.** Teluk Umbar (5°43′S, 104°58′E) affords anchorage for small vessels, although it is exposed to the S swell. Two steep rocky islets, covered with vegetation, lie close offshore W of the entrance, and there are some above-water rocks on both sides of the bay; some rocks, which can be passed close to, also lie close S of the E entrance point.

The bay should be entered in mid-channel; local knowledge is necessary. The village of Umbar stands in the NE corner of the bay.

2 Teluk Paku, a small bay immediately S of Teluk Umbar, affords anchorage for only small craft. Pulau Paku (5°43′S, 104°59′E), an islet in the middle of the entrance, is a useful point of identification.

Close E of this islet is a hollow rock, locally known as Batu Njerbo, from which water spurts upwards like a fountain when there is a heavy swell, giving the appearance of a white sail when seen from a distance.

Sawangbalak
2.115

1 Anchorage for small craft may be obtained off Sawangbalak (5°46′S, 104°47′E), a village on the N side of Pulau Tabuan (2.100), which lies close SE of Ujung Cukupamunan, the NW extremity of the island; and also off the SE side.

BATU BELANTUNG TO TANJUNG KELAPA

General information

Chart 2056

Route
2.116

1 From Batu Belantung (5°49′S, 105°11′E) at the W entrance to Selat Legundi, to the vicinity of Tanjung Kelapa (5°50′S, 105°36′E) (2.120), the coastal route leads about 26 miles E passing N of Pulau Sebuku (2.117).

Topography
2.117

1 The S side of Pulau Legundi (5°50′S, 105°17′E) (2.130) on W side of the entrance to Teluk Lampung, consists of steep densely wooded slopes which are fringed by narrow reefs at the SW and SE ends. Pulau Legunditua, steep and covered with vegetation, lies off the S entrance to Selat Siuncal which separates Pulau Legundi from Pulau Siuncal, 8 cables E. Batu Karbau (2.120), a rock, lies 8 cables SE of Pulau Legunditua.

2 Pulau Sebesi and Pulau Sebuku are fairly mountainous and densely overgrown. Pulau Sebesi, the higher of the two islands, is described at 2.12; Pulau Sebuku, 1¼ miles N of Pulau Sebesi, is heavily indented by small bays and fringed in places by reefs. Pulau Sebuku Kecil, an islet 140 m high with a drying reef extending from the S side, lies 5 cables off the E coast of Pulau Sebuku; a steep-to coral reef partly above water extends from the N side.

Volcanic activity
2.118

1 See 2.9.

Principal marks
2.119

1 **Landmarks:**

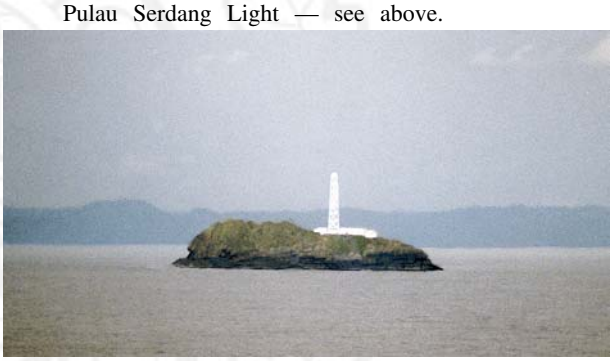
Two prominent rocks, covered with vegetation, which lie within 2½ cables of Ujung Pamucukan (5°50′S, 105°14′E) at the SW extremity of Pulau Legundi.

2 Pulau Serdang (5°49′S, 105°24′E), a high isolated steep rock covered with brushwood, from where a light (red lantern on white framework tower, 40 m in height) is displayed. In 1985 it was reported that a tall tower with a red top, similar to a radio tower, with several white buildings, stood on the island.

3 Terumbu Muhamad Basir (5°59′S, 105°23′E) (2.11).

Major light:

Pulau Serdang Light — see above.



Pulau Serdang Light from S (2.119)

(Original dated 1990)

Directions
(continued from 2.98)

Coastal route
2.120

1 From a position SSE of Batu Belantung, at the W entrance to Selat Legundi, to a position SW of Tanjung Kelapa (5°50′S, 105°36′E), the route initially leads about 25 miles ENE thence SE, passing (with positions relative to Pulau Serdang (5°49′S, 105°24′E)):

SSE of two prominent rocks (2.119), which lie off Ujung Pamucukan (9½ miles W), thence:

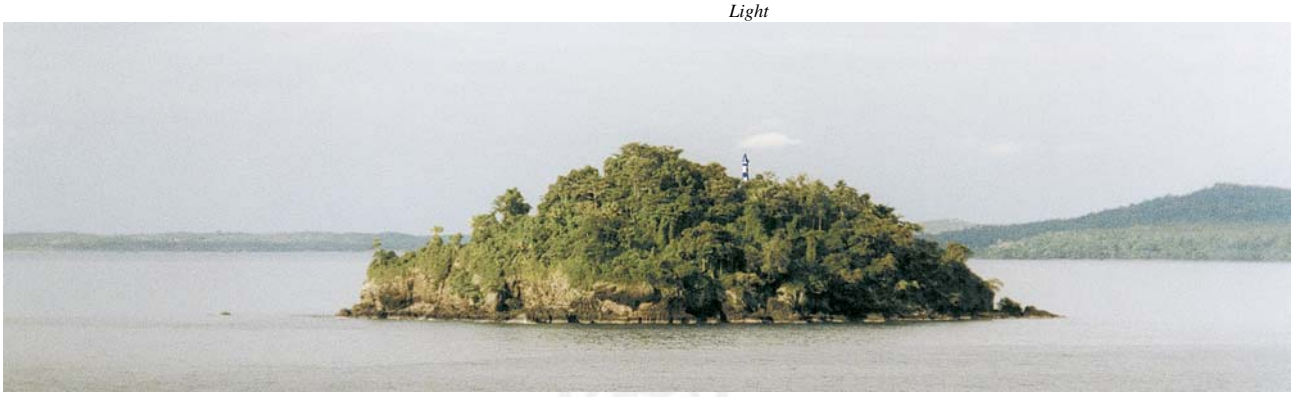
2 SSE of Pulau Batu Karbau (4 miles WSW), a rock which is steep-to with great depths around; the upper part is noticeably white with guano, thence:

SSE of Pulau Sijebi (3 miles W) (2.152) on which stands a light, thence:

SSE of Pulau Serdang (2.119) on which stands a light, thence:

3 Between the N coast of Pulau Sebuku at Ujung Cukubanding (8½ miles ESE), from where a light (white metal framework tower, 10 m in height) is displayed, and Pulau-pulau Tiga, three rocky islets, 2 miles NNE; a light (isolated danger topmark, on black GRP tower, red band, 15 m in height) is displayed from the SE islet. A reef, usually

Light



Southeast islet of Pulau–pulau Tiga from SSW (2.120)

(Original dated 1990)

marked by breakers, extends NW from the NW and largest islet. Thence:

4 SW of Tanjung Kelapa (13½ miles E), a low headland, which it has been reported, could be identified by a prominent plume of smoke rising from industrial works at the large village of Sukaraja close W of the point.

Side channel

2.121

1 From the position SSE of Batu Belantung, an unlit route leading E and between Pulau Sebesi and Pulau Sebuku may be used, passing:

S of Karang Serang, a large above-water rock which lies at the NW edge of a reef which extends 1½ miles W from Pulau Sebuku (5°53′S, 105°31′E), thence:

S of an obstruction 5 cables off the S point of Pulau Sebuku (5°54′·2S, 105°30′·3E), thence:

N of Batu Karang Menggunang (2.12) lying off the NE coast of Pulau Sebesi.

Useful mark

2.122

1 Tanjung Tua Light (5°54′·4S, 105°43′·0E) (2.165).

(Directions continue at 2.165)

Anchorages

2.123

1 Good anchorage for small vessels may be obtained in depths of 27 to 33 m, clay, between Pulau Sebuku (5°53′S, 105°31′E) and Pulau Sebuku Kecil, 5 cables E. With bad weather from W, large vessels can anchor in depths of 24 to 27 m, clay, E of Pulau Sebuku Kecil.

TELUK LAMPUNG AND APPROACHES

General information

Chart 2056

General description

2.124

1 Teluk Lampung is entered between Tanjung Tikus (5°48′S, 105°13′E) (2.130) and Tanjung Kelapa, 23 miles E, whence it extends N to its head, a distance of 22 miles.

The main approach to this bay from W lies through Selat Legundi (2.130).

Panjang Harbour (2.137), lies on the NE side of the head of the bay.

Topography

2.125

1 Gunung Tanggang, 8½ miles NW of Tanjung Tikus, and Gunung Ratai, 12 miles N of Gunung Tanggang are described at 2.91. The spurs from these mountains descend to the coast, forming a number of bays on the W shore with many good anchorages, although there are numerous dangers. This shore is fringed with reefs and is marshy in places; there are some fairly large villages, though these are seldom visible from seaward.

The E shore is also fringed with reefs and is generally high and steep-to with the highest land, that of Gunung Rajabasa (2.91) dominating and backing the S part.

2 Pulau-pulau Legundi, which lie across the W side of the entrance to Teluk Lampung, consist of a number of islands including Pulau Legundi, Pulau Seserot, Pulau Legunditua, Pulau Siuncal and Pulau Sijebi. They are all densely wooded and hilly, and are mostly fringed by narrow reefs which are steep-to on their S sides.

Pulau Serdang (2.119) lies 2¾ miles E of Pulau Sijebi, the E island of the Legundi group.

Hazards

2.126

1 **Exercise area.** A naval practice area is bounded by lines joining the following positions: 5°53′S, 105°24′E thence N to 5°43′S, 105°24′E thence NW to 5°34′S, 105°17′E (close E of Pulau Tegal) thence W to 5°34′S, 105°09′E thence SE to 5°53′S, 105°24′E; mariners should be advised of the possibility of encountering concentrations of naval craft in the area.

Fishing. See caution at 2.136.

Prohibited anchorage

2.127

1 A prohibited anchorage area lies on the inner W side of Teluk Lampung. The area can best be seen on chart 2965.

Tidal streams

2.128

1 Tidal streams in Selat Legundi are weak, setting NE with the in-going stream and SW with the out-going stream. There is usually a SE swell. In Selat Siuncal they flow in the direction of the strait; maximum strength of the stream has never exceeded 1½ kn.

Principal marks

2.129

1 **Landmarks:**

Gunung Tanggang (5°43′S, 105°07′E) (2.91).

Gunung Ratai (5°31′S, 105°06′E) (2.91).

Dandar, a hill, (5°35′S, 105°14′E).
Summit of Pulau Puhawang (5°40′·1S, 105°13′·6E) (2.155).
Summit of Pulau Kelagian (5°37′·7S, 105°13′·2E) (2.156).
2 Summit of Pulau Tegal (5°34′·0S, 105°16′·2E) (2.157).
Summit of Pulau Tangkil (5°30′·7S, 105°16′·2E) (2.142).

Major lights:
Kunyit Light (white beacon, 40 m in height) (5°27′S, 105°17′E).
Pulau Maitem Light (white structure, 42 m elevation) (5°36′S, 105°15′E).
Pulau Serdang Light (5°49′·5S, 105°23′·5E) (2.119).

Directions

(continued from 2.98)

West approach

2.130

1 Selat Legundi, between the Sumatera coast and Pulau Legundi, the largest of the Pulau-pulau Legundi group, is deep and clear of dangers. It is frequently used by vessels from W bound for Panjang or Tarahan Coal Terminal.

From the vicinity of Batu Belantung (5°49′S, 105°11′E) (2.97) the track through Selat Legundi leads NE passing:
SE of Batu Belantung, thence:
NW of Ujung Pamucukan (5°50′S, 105°14′E), with prominent rocks (2.119), thence:
2 SE of Tanjung Tikus (5°48′S, 105°13′E), inaccessible and fringed by rocks, and:
Clear of Pulau Seserot (5°48′S, 105°15′E), high and steep-to, lying in the middle of the strait. A rock lies 1½ cables S and 1½ cables NE of the SW and NE extremities, respectively, of the island, thence:
3 NW of Pulau Unangunang, (5°47′·5S, 105°16′·6E), an island partly covered with coconut palms, thence:
Clear of Karang Medusa, a coral reef, which lies off the NE entrance to the strait, 2 miles NE of Pulau Seserot. It is sometimes marked by discolouration and usually by ripples, but it never breaks; it is extremely dangerous to navigation.

Caution. See 2.136.

South approach

2.131

1 The channels between Pulau Sijebi and Pulau Serdang (5°49′S, 105°24′E), and Pulau-pulau Tiga (5°49′S, 105°33′E) are wide, deep and clear of dangers.

From a position N of Terumbu Muhamad Besar (5°59′S, 105°23′E) (2.11), the track leads N passing either side of Pulau Serdang (2.119).

Caution. See (2.136).

East approach

2.132

1 The channel into Teluk Lampung between Pulau Sebuku (5°53′S, 105°31′E) and the Sumateran coast may be safely used; vessels can pass either side of Pulau-pulau Tiga (2.120), a small group of islands lying 2 miles N of Pulau Sebuku.

Caution. See (2.136).

Central portion of Teluk Lampung

2.133

1 From the inner end of the approaches to Teluk Lampung, routes, for which the chart is sufficient guide, should continue between Pulau Tegal (2.157) and Pulau Condonglaut, passing E of Karang Medusa (2.156) lying off the SE point of Pulau Kelagian (5°38′S, 105°14′E).

Useful marks

2.134

1 Ujung Cukubanding Light (5°51′S, 105°32′E) (2.120).
Pulau-pulau Tiga Light (5°49′S, 105°33′E) (2.120).
Ujung Cukucimanuk Light (white beacon, 15 m in height) (5°40′S, 105°28′E).

Side channel

2.135

1 Selat Siuncal, deep and clear of dangers, lies between Pulau Legundi (5°50′S, 105°17′E) and Pulau Siuncal, the next island E, high at its S end and almost entirely covered in coconut palms. Local knowledge is necessary for passing through this strait.

An islet lies close off the N extremity of Pulau Siuncal; Pulau Legunditua (2.117), is situated off the S entrance of the strait and may be approached closely everywhere.

2 In 1985, a 41 000 dwt vessel transiting the strait from N to S reported that the strait opens on a bearing of 146° with a bare islet, black topped and plainly visible at the SE end, 3 cables NE of Pulau Legunditua. After passing Pulau Higo (5°48′·5S, 105°18′·3E), a steep and high islet covered in vegetation and connected to Pulau Legundi by a reef midway along its E side, this islet provides a good leading mark and can be approached close-to.

3 It was recommended that Selat Siuncal should be entered from N at not more than 18 kn, speed being reduced at the SE end to facilitate turning SW between Pulau Legunditua and the SE point of Pulau Legundi, thence out into the open sea and clear of Batu Karbau (2.120), lying off the S entrance to the strait.

Caution

2.136

1 Extensive fish traps exist off the W and E shores of Teluk Lampung; for 10 miles N of Kaliandak (5°44′S, 105°35′E) (2.158) they extend up to 3 miles from the coast.

In 1996, it was reported that numerous fish traps and huts extend almost completely across Teluk Lampung. Within the east approach (2.132), a channel about 1 mile wide is reported to be kept clear of traps and huts as far as the latitude of Pulau Tegal (5°34′S), though at night small unlit craft frequently cross the channel. A large area of fish traps and huts has also been reported N and W of Panjang anchorage (2.140).

(Directions for Panjang are given at 2.142)

Panjang

Chart 2965 plan of Approaches to Panjang and Tarahan, Panjang

General information

2.137

1 **Position.** Panjang Harbour (5°28′S, 105°19′E) lies inshore of a natural breakwater of sand and coral, formed by the extension of the coastal reef on the NE side of the head of Teluk Lampung.

2.138

1 **Function.** Panjang is the largest seaport on the S end of Sumatera, having superseded Pelabuhan Telukbetung, 2½ miles W, which is now only used by small vessels at an anchorage and praus closer inshore. In 1995, the port was undergoing considerable reclamation work and new container berths were being constructed on the N side of the entrance as part of an extension to Quay D (2.145).

Principal cargoes handled include rubber, coffee, palm oil, pepper and timber.

2 Telukbetung is the principal town and seat of government for the Lampung district.

Traffic. In 2004 the port handled 970 vessels totalling 12 510 102 dwt.

Port Authority. Port Administrator, Jalan Kalimantan, Panjang, Bandar Lampung 35241, Sumatera, Indonesia.

For Pertamina berths the authority is Pertamina P&T UPDN 11 Panjang, Jalan Sumatera No 5, Panjang, Lampung. Indonesia.

Limiting conditions

2.139

1 **Deepest and longest berth**: Panjang Quay D No 2 (2.145).

Density of the water: 1·025 g/cm^3.

Maximum size of vessel handled: 28 000 dwt, 200 m LOA and draught 9·5 m.

Arrival information

2.140

1 **Port radio.** There is a coast radio station at Panjang and also a port radio service; for details see *Admiralty List of Radio Signals Volumes 1(2)* and *6(4)*.

Outer anchorage, as shown on the chart, lies 1½ miles SW of the entrance to the harbour. See caution at 2.136.

2 **Pilotage** is compulsory for vessels of 70 grt and over and is available throughout 24 hours. ETA should be confirmed 2 to 3 hours in advance. The pilot boards in-bound vessels, once identified, outside of the sheltering reef (2.137) as shown on the chart. For further details see *Admiralty List of Radio Signals Volume 6(4)*.

Tugs are available; they are compulsory for vessels over 70 m in length.

Harbour

2.141

1 **General layout.** Within the confines of the coastal reef (2.137), the harbour, which is entered between the N end of the reef, is shaped like a reversed letter E; there are general depths of from 9 to 13 m. The N, and main half, of the harbour contains several concrete built quays lettered from A to D used for bulk, container or general cargoes; the S half contains two oil jetties for small tankers.

2 There is a ferry terminal situated at the short central pier, as shown on the chart.

Tidal streams. Scarcely any stream is perceptible in the roadstead outside of the harbour, and vessels tend to lie to the wind.

Major lights.

Panjang Direction Light (white triangle, point up, on white metal framework tower, 6 m in height) (5°27′·6S, 105°18′·7E)

Kunyit Light (5°27′S, 105°17′E) (2.129).

Directions for entering harbour

2.142

1 **Approach.** From a position midway between Pulau Tegal (5°34′·0S, 105°16′·5E) (2.157), and Pulau Condonglaut, the SW island of a group of three, 3¾ miles E, from where a light (green metal framework structure, 15 m in height) is displayed, the track to the head of the bay leads NNW, passing (positions from Pulau Tegal):

ENE of Pulau Tangkil (3 miles N), covered with coconut palms, thence:

2 WSW of Srengsem (5 miles NE), a village with a ferry pier close N, thence:

To the anchorage area, as shown on the chart, or if proceeding to the pilot boarding position at the entrance to the harbour, into the white sector (057°–067°) of Panjang Direction Light (5°27′·6S, 105°18′·7E) (2.141).

2.143

1 **Entry.** From the pilot boarding position the track into the harbour leads N of the coastal reef (2.137) marked on its NW side by a light-buoy (starboard hand) and on its NE side by a light-beacon (starboard hand). The N side of the entrance is marked by a light-buoy and a light-beacon (port hand) standing at the corner of reclaimed land 3 cables S of Panjang Direction Light (2.141).

2 Depths at the entrance are between 10 to 15·7 m; the deeper water lying close to the N side.

Caution. The approach to Panjang should be made in daylight owing to the existence of unlighted fishing stakes, particularly in depths of less than 20 m, which are dangerous to navigation. See 2.92.

2.144

1 **Useful marks:**

Structure, on which there is a radio dish whose position is approximate, stands 2 miles ENE of Gunung Kunyit (5°26′·7S, 105°16′·8E) and is marked by an obstruction light.

Light (red metal framework tower; 13 m in height) standing on a reef 6 cables ESE of the low lying island of Pulau Pasaran (5°28′S, 105°16′E).

2 Pulau Sulah, a high and steep rock, lies 4 cables N of Pulau Condonglaut; Pulau Condongdarat lies 2 cables SE of Pulau Sulah and 4 cables NE of Pulau Condonglaut (2.142).

Tarahan Coal Pier (5°30′·9S, 105°20′·4E) (2.147). A light is displayed from the pier.

Alongside berths

2.145

1 Dry cargo quays are lettered and are shown on the chart.

Quay D, 487 m in length, situated in the N part of the harbour consists of three berths with depths of from 9 to 12 m alongside; the longest berth has a length of 200 m and the shortest a length of 87 m. Bulk and container cargoes are handled here In 1995 the quay was being extended NW to create further container berths, and in the inner part of the quay there was a small area of reclamation.

2 Quay B, which is situated S of Quay D, is 210 m long and has a depth of 8·4 m alongside; vessels up to 6500 dwt having a maximum length of 110 m can berth here.

Quays A and C are situated on the NE side of the central pier of the harbour and contain the railway ferry berths. On the S side of this pier there is a small L-shaped oil jetty, 20 m in length and with a depth of 5·5 m alongside at MLWS; vessels always berth head to sea at this berth. In 1995, Quay C was being extended approximately 65 m NW.

3 In the S part of the harbour an oil jetty, constructed of concrete pilings, extends WNW from the shore, the head of which contains a single berth for small tankers. Vessels berth head to sea at this berth.

Port services

2.146

1 **Repairs**: of a minor nature; radar and radio repairs possible.

Other facilities include medical assistance with a hospital at Tanjungkarang, 13 km distant; deratting and deratting exemption certificates issued.

Supplies: fresh water at the berths only; provisions; fuel not available.

2 **Communications.** Panjang is the terminus of the railway system from Palembang and there is a regular ferry service to Merak which connects to the railway system of W Jawa. Telukbetung (2.138) is the S terminus of the Trans-Sumateran Highway which runs the whole length of the island.

The nearest airport is at Branti situated 28 km NW of the port.

Tarahan Coal Terminal

General information

2.147

1 **Position.** Tarahan Coal Terminal (5°31′S, 105°21′E) lies 3 miles SE of Panjang and consists of an L-shaped concrete pier, with a dolphin off each end, which extends a short distance from the shore.

Function. At the head of the pier there is a single berth for vessels loading coal.

Traffic. In 2004 the terminal handled 32 vessels totalling 645 924 dwt.

2 **Largest vessel** which can be accommodated at the pier is one of 40 000 dwt having a length of 160 m, beam 27 m and a draught of 8·0 m.

Piracy. It has been reported that piracy has taken place at the Coal berth.

Berths. Coal berth: length 174 m having a depth of 12 m alongside; distance between dolphins 240 m. Coal can be loaded at a rate of 5000 tons per hour.

A ferry berth 70 m long is also in use at the terminal.

Facilities are limited; supplies are available from Panjang.

Anchorages in Pulau-pulau Legundi

Chart 2056 (see 1.31)

Labuhan Agung

2.148

1 Labuhan Agung, the W of two bays on the N side of Pulau Legundi (5°50′S, 105°17′E) which afford very good anchorage, with local knowledge, entirely sheltered from W and SE winds, is clear of dangers. A rock awash lies 3 cables W of its SW entrance point which lies 1½ miles NE of Ujung Pamucukan (2.119), the SW extremity of the island.

Directions. Anchorage for small vessels can be obtained 1¾ cables offshore, with the alignment (331°) of the SW entrance point with the SW extremity of Pulau Seserot (2.130). There is a small village at the head of the bay.

Labuhan Kramat

2.149

1 The NE entrance point of Labuhan Agung (2.148) forms the W entrance of Labuhan Kramat, the E bay, which is somewhat narrow, whilst the space is further restricted by the rocky islet Pulau Pertapaan, partly planted with coconut palms and with a reef extending NE, lying in the middle of the bay. There is a small village at the head of the bay.

2 **Directions.** When making for the anchorage, small vessels should steer for Pulau Pertapaan, bearing 146°, until past the W entrance point where the bay is well open, thence in mid-channel W of Pulau Pertapaan. Anchorage can be obtained in 15 m, 1½ cables from the coastal reef at the head of the bay on the alignment (011°) of the W side of Pulau Pertapaan with the E side of the island lying off the NW side of Pulau Legundi, 8 cables N. With local knowledge, the anchorage can also be reached from N by passing E of the latter island, bearing in mind that the coastal reef extends 1 cable E from the island, and the same distance NE of Pulau Pertapaan.

East side of Pulau Legundi

2.150

1 Anchorage may also be obtained, in calm water with little stream effect, on the E side of Pulau Legundi (5°50′S, 105°17′E) and within Selat Siuncal, close N of Pulau Higo (2.135); there is a village abreast this anchorage.

Teluk Kedah

2.151

1 During the NW monsoon there is safe anchorage for vessels in Teluk Kedah (5°48′S, 105°19′E), on the E coast of Pulau Siuncal; small vessels should keep at least 1¼ cables offshore.

Selat Sijebi

2.152

1 Selat Sijebi lies between Pulau Siuncal and Pulau Sijebi, 4 cables E. Pulau Sijebi, the E island of Pulau-pulau Legundi, is covered almost entirely with coconut palms, and is highest at its S end, from where a light is displayed. Because of its dangers, Selat Sijebi is only suitable for small craft.

Anchorages and landings on the west side of Teluk Lampung

Charts 2056, 2965 plan of Approaches to Panjang and Tarahan

Teluk Pedada

2.153

1 **General description.** Teluk Pedada, which affords good anchorage, is entered between Ujung Cukucapah (5°47′S, 105°13′E), the SE extremity of the peninsula separating Teluk Semangka from Teluk Lampung, and Ujung Cukucambai (5°44′S, 105°13′E), 3 miles N.

A reef with a depth of 3 m over it lies in the middle, and just inside of, the entrance to the bay, 2 miles NW of Ujung Cukucapah and is the principal danger.

2 Off Ujung Cukucambai, two islands are separated S from the headland by a navigable channel with surrounding rocks; Pulau Lalangga Lunik, a small islet, lies 2 miles ENE of the headland.

Within the bay, there are two islands planted with coconut palms, lying in the W part, and there are several detached reefs all marked by surf.

3 Anchorage can be obtained anywhere SW of the islands in deep water between the islands and the fringing reef of the S shore; local knowledge is required for the anchorage.

Teluk Benuangan, a small bay which lies 2¾ miles W of Ujung Cukucapah, also provides a good anchorage for small craft.

4 There is a confined but very excellent anchorage in Teluk Pagar (5°46′S, 105°12′E), a small bay on the S side of the entrance to Teluk Pedada, 1¼ miles NW of Ujung

Cukucapah; two rocks, which lie close N of the E entrance to the bay, can be passed close-to.

Teluk Merica

2.154

1 **Landing.** Teluk Merica, a bay entered between Tanjung Lubuk (5°48′·2S, 105°11′·6E) and Tanjung Tikus (2.130), 1½ miles ENE, has a noticeable steep group of rocks in the middle, with some others close off its W shore. There is nearly always a turbulent sea in the bay but, when there is little swell, landing can be effected in a small cove with a sandy beach N of Tanjung Lubuk.

Teluk Pondoh

2.155

1 **General description.** Teluk Pondoh, W of Pulau Puhawang (5°41′S, 105°13′E), an island with a prominent summit, has a marshy coast. Pulau Puhawanglunik is connected to the E side of Pulau Puhawang by a reef.

In the S approach to the bay, which lies between Pulau Puhawang and the mainland S, there are several detached reefs with depths of less than 3 m. In the N approach between Pulau Puhawang and the mainland NW, there are also several detached reefs which in some places dry out; local knowledge is required for this passage.

2 **Anchorage** may be obtained 2 miles within the bay, W of the main island, in depths of 9 to 11 m, 2¾ cables NE of a shed which stands where a wide road meets the coast, about 6 cables N of the entrance to Sungai Punduh, a small river which flows into the S part of the bay; although the weather is usually hot the anchorage is free from mosquitoes. A drying reef, shown on the chart, which extends NE from the S side and is plainly marked by discolouration, lies ESE of the anchorage.

Caution. Fishing stakes may be encountered in this bay.

Teluk Ratai

2.156

1 **General description.** Teluk Ratai, N of Teluk Pondoh (2.155), is the largest and most important of the bays on the W side of Teluk Lampung. Pulau Kelagian, with a prominent summit, lies 6 cables NE of the S entrance point, and there is a clear channel into the bay on either side of it. Pulau Kelagianlunik, a small islet with a reef extending 1 cable from its E side, lies close off the SW side of Pulau Kelagian; there is a reef with a depth of less than 1 m over it, 1¾ cables off the SE extremity of the same island. Pulau Maitem (5°36′S, 105°15′E), 1¾ miles NE of the N extremity of Pulau Kelagian, lies off Ujung Cukucentiga, the N entrance point of the bay. Muara Suak, a small river, with a mudbank at its mouth, discharges into the head of the bay.

2 In the bay itself there are no dangers except for Gosong Mawing, a reef which lies within 5 cables of the NW extremity of Pulau Kelagian, and which is always marked by discolouration.

Anchorage, free from mosquitoes, may be obtained off Piabung, a village near the head of the bay and on its SW side, in a depth of 13 m, 3 cables offshore; there is deep water close inshore.

Landing. Piabung has a small pier.

Caution. In the approaches to Teluk Ratai, Karang Medusa, a drying reef with deep water all round lies 1¾ miles ESE of the SE extremity of Pulau Kelagian; it is always marked by ripples at HW.

Pulau Tegal

2.157

1 There is a bay on the E side of Pulau Tegal (5°34′·0S, 105°16′·5E), an island with a prominent summit, entirely covered with coconut palms; local knowledge is necessary in order to find a safe anchorage.

Deep and narrow channels suitable for small craft lie either side of a reef, with a sandbank, which lies between Pulau Tegal and the coast W.

Anchorages of the east side of Teluk Lampung

Pelabuhan Kaliandak

2.158

1 Pelabuhan Kaliandak (5°45′S, 105°35′E), off Kaliandak, affords anchorage in a depth of 12 m, mud, on the alignment (112°) of a flagstaff at the root of the pier with the head of the pier. A rock lies 3¼ cables NW of the pierhead and 3 cables offshore.

Anchorage may be obtained off Canti, a comparatively large town 3½ miles S of Kaliandak, in a depth of 15 m, mud, with the SE islet of Pulau-pulau Tiga (2.120), bearing 236°.

TANJUNG KELAPA TO TANJUNG SUMURBATU

General description

Chart 2056

Route

2.159

1 The route from Tanjung Kelapa (5°50′S, 105°36′E) to Tanjung Sumurbatu (5°50′S, 105°47′E) initially leads SE, rounding Tanjung Tua (5°55′S, 105°43′E), at the SE extremity of Sumatera, thence NE for a distance of about 17 miles, passing NW of Pulau Sangiang.

Topography

2.160

1 Between Tanjung Kelapa and Tanjung Tua the coast recedes to form a bay, on the shore of which stand a few villages. Two islets, Pulau Mengkudu (5°51′S, 105°41′E) and Pulau Sekepel 7 cables E, consist of light yellow sandstone, lie close to the coast at the head of the bay but are difficult to identify. The W of the islets is covered with brushwood near its extremities whereas the other is entirely bare and fringed by a coral reef. From abreast these islets the coast becomes less dominated by the high ground of Gunung Rajabasa, with hilly ridges sloping gradually down to Tanjung Tua.

Terumbu Serdang (2.165), an above-water reef, lies 1½ miles NW of Tanjung Tua.

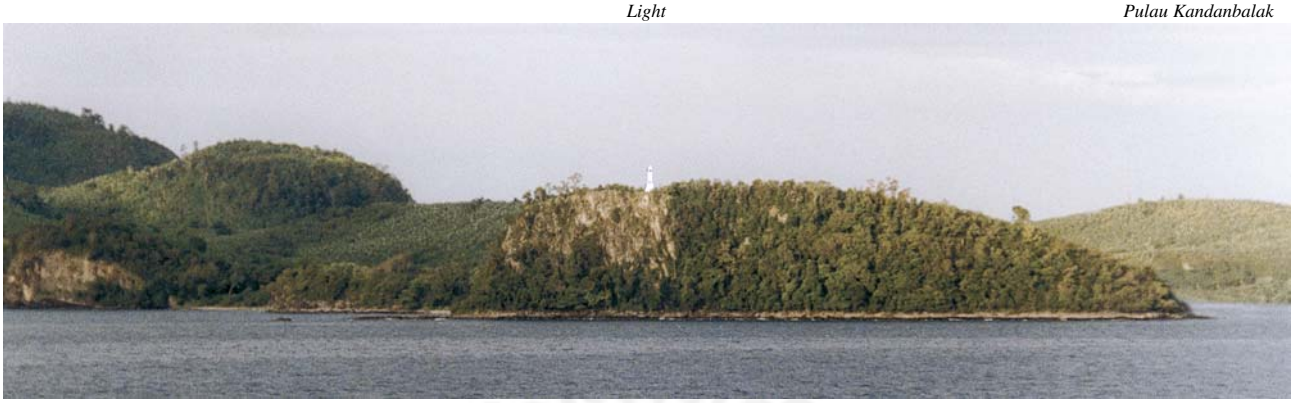
2 Between Tanjung Tua (5°55′S, 105°43′E) and Tanjung Bawang, 5 cables NE, the coast forms a small bay fringed by a narrow reef, thence for a further 5 cables NE it is steep and rocky. From here the coast becomes more or less flat as far as Tanjung Sumurbatu, the mountains lying a short distance inland; it is fringed by a coastal reef with some rocks on it.

Pulau-pulau Sumur are a group of four islands and a number of islets lying within 2½ miles of the Sumatera coast between Tanjung Tua and Tanjung Sumurbatu; most of the islands are high, and for the greater part are densely wooded.

Fishing

2.161

1 See 2.5.



Tanjung Tua Light from SSW (2.165)

(Original dated 1990)

Tidal streams

2.162

1 During the NW monsoon, the NE-going stream may attain a rate of 4¾ kn between the islands of Pulau-pulau Sumur (2.160), and to the E of them. The times of maximum stream are roughly the same as for Selat Sunda (2.16). It is advisable to give the islands a berth of at least 1½ miles.

Tide-rips are in evidence between the NW side of Pulau Sangiang (5°57′S, 105°51′E) and Terumbu Koliot, 2 miles NW, and may be dangerous to small vessels; a stream with a rate of 6 kn has been observed abreast the rock; see also 2.165.

Principal marks

2.163

1 **Landmarks**:

Pulau Sebesi (5°57′S, 105°29′E) (2.12).

Pulau Sangiang (5°57′S, 105°51′E) (2.21).

Chimney (6°03′S, 105°55′E) (2.88).

Pancong (5°50′S, 105°46′E), a saddle-shaped hill rising W of Tanjung Sumurbatu.

2 Cikur (5°51′S, 105°44′E) with a round summit covered with grass, which is very prominent owing to its light green colour especially when the sun shines on it.

Tanjung Karangbatang, the prominent SE extremity of Pulau Panjurit (5°53′S, 105°47′E).

Major lights:

Pulau Panjurit Light (5°53′S, 105°47′E) (2.19).

Tanjung Cikoneng Light (6°04′S, 105°53′E) (2.19).

Other aids to navigation

2.164

1 **Racons:**

Pulau Tempurung Light (5°54′S, 105°56′E).

Pulau Panjurit Light (5°53′S, 105°47′E).

For further details see *Admiralty List of Radio Signals Volume 2*.

Directions

(continued from 2.122)

2.165

1 From the vicinity of Tanjung Kelapa (5°50′S, 105°36′E) (2.120) to that of Tanjung Sumurbatu (5°50′S, 105°47′E), a distance of about 17 miles, the coastal route initially leads SE thence NE after rounding Tanjung Tua (5°55′S, 105°43′E) (positions given from Tanjung Tua):

SW of Terumbu Serdang (1½ miles NW), a small reef, 2 m high, which can be seen from a distance of about 3 miles; there is deep water all round, thence:

2 SW and SE of Tanjung Tua, a high, rocky, and wooded point from where a light (white metal framework tower, 15 m in height) is displayed, joined to the higher land behind by a low bare ridge; it is more readily identifiable from E than from W. A rock lies close W of the point and there is deep water close inshore. Thence:

3 SE of Pulau Kandangbalak (1¾ miles ENE), the SW island of Pulau-pulau Sumur, with two separate hills, the SW being the highest; elsewhere the island is flat, the E coast is mostly rocky. Pulau Kandanglunik which lies close NE of Pulau Kandangbalak has a narrow flat strip on its N and W sides; Pulau Panjukut, a bare rock lies 1 cable S of the former island. And:

4 NW of Terumbu Koliot (6 miles E), a rock which is always marked by breakers; there is deep water on all sides at a distance of 3¼ cables. Sometimes strong eddies (see caution below) and discoloured water in the vicinity of this rock make it appear as though it were joined to Pulau Sangiang (5°57′S, 105°51′E), 2 miles SE, by a ridge, although this is not the case. Thence:

5 SE of Pulau Panjurit (4 miles ENE), the triangular shaped E island of the Sumur group, from where a light (2.19) is displayed. The island lies 7 cables ESE of the N end of Pulau Kandangbalak and has a ridge of hills along its S side terminating at Tanjung Karangbatang (2.163). The N and E sides are flat; the S coastline is rocky. Thence:

6 SE of Pulau Rimaubalak (5 miles NE), the largest and highest of Pulau-pulau Sumur. The island has three summits, the SW having the greatest elevation and being very noticeable. Pulau Rimaulunik, an island with a sharp summit at its NE end, lies 1¼ cables NE. And:

W of Terumbu Gosal (11½ miles ENE), which lies 4½ miles NE of the N extremity of Pulau Sangiang; it is marked by discolouration and tide-rips and is steep-to within a distance of ¼ cable.

7 **Caution.** Vessels coming from places on the W coast of Sumatera and taking the N passage through Selat Sunda must exercise the utmost caution when passing Terumbu Koliot and Pulau-pulau Sumur (2.160). The tidal streams

here are very strong with many eddies, attaining a rate of 6 kn at times near the rock; the passage in this area should never be used at night.

Chart 2056 (see 1.31)

Side channel

2.166

1 A navigable channel, which lies between the Pulau-pulau Sumur group of islands (2.160) and the Sumateran mainland, exists for small vessels. However, a current of up to 3 kn passes through this channel causing strong eddies, and there are numerous unmarked reefs.

Vessels should pass E of Gosong Usumbra (5°51′·7S, 105°46′·0E), a mid-channel reef which shows at HW, lying between Pulau Rimaubalak and the mainland.

Local knowledge is essential.

Anchorage. See 2.169.

Useful marks

2.167

1 Ujung Cukubanding Light (5°51′S, 105°32′E) (2.120).
Pulau-pulau Tiga Light (5°49′S, 105°33′E) (2.120).
Pulau Ular Light (6°00′·5S, 105°55′·6E) (2.21).
Chimneys, standing at Suralaya (5°53′S, 106°02′E) (2.79).

(Directions continue for the coastal route N at 3.64; directions for the route leading to Selat Gelasa are given at 3.43; directions leading to Tanjungpriok and points further E are given at 3.50)

Bakauhuni Harbour

General information

2.168

1 **Position.** Bakauhuni Harbour (5°52′S, 105°45′E), a sizable town and small port, lies 3 miles NE of Tanjung Tua.

Function. In 1994 the port was only handling ferry traffic from Merak on the NW coast of Jawa.

Port Authority. See under Panjang (2.137).

2 **Directions.** The port is entered between Pulau-pulau Dua, two islets close together 5 cables NNE of Pulau Kandangbalak (2.165), and Gosong Barak, a reef on which stands a light-beacon (special), lying close off the S coast of Pulau Rimaubalak; thence S of a detached dangerous reef, marked by a light-beacon (special) which lies 6 cables NE of Pulau Kelapa, a small islet, 3 cables SSE of the harbour. For further details of the numerous light-beacons marking the approach to Bakauhuni, see *Admiralty List of Lights*.

3 Vessels depart the port passing S and E of Pulau Kelapa which is marked at its SW end by a light-beacon (S cardinal) and at its NE end by a light-beacon (port hand), thence through the channel leading S of Pulau-pulau Dua.

Useful marks:

Pulau Panjurit Light (5°53′S, 105°47′E) (2.19).
Pulau Dua Light-beacon (port hand) (5°52′·4S, 105°46′·0E).

4 Bakauhumi Light-beacon (starboard hand) (5°52′·3S, 105°45′·1E).
Tanjung Katila Light (starboard hand) (5°52′·1S, 105°45′·8E).

Berth. The port consists of a Ro-Ro terminal with a single wharf backed by blue-roofed buildings; ferries up to 5000 dwt regularly call at the port.

Communications. A road system links Bakauhuni with Panjang, 56 km NW.

Anchorage and landing

2.169

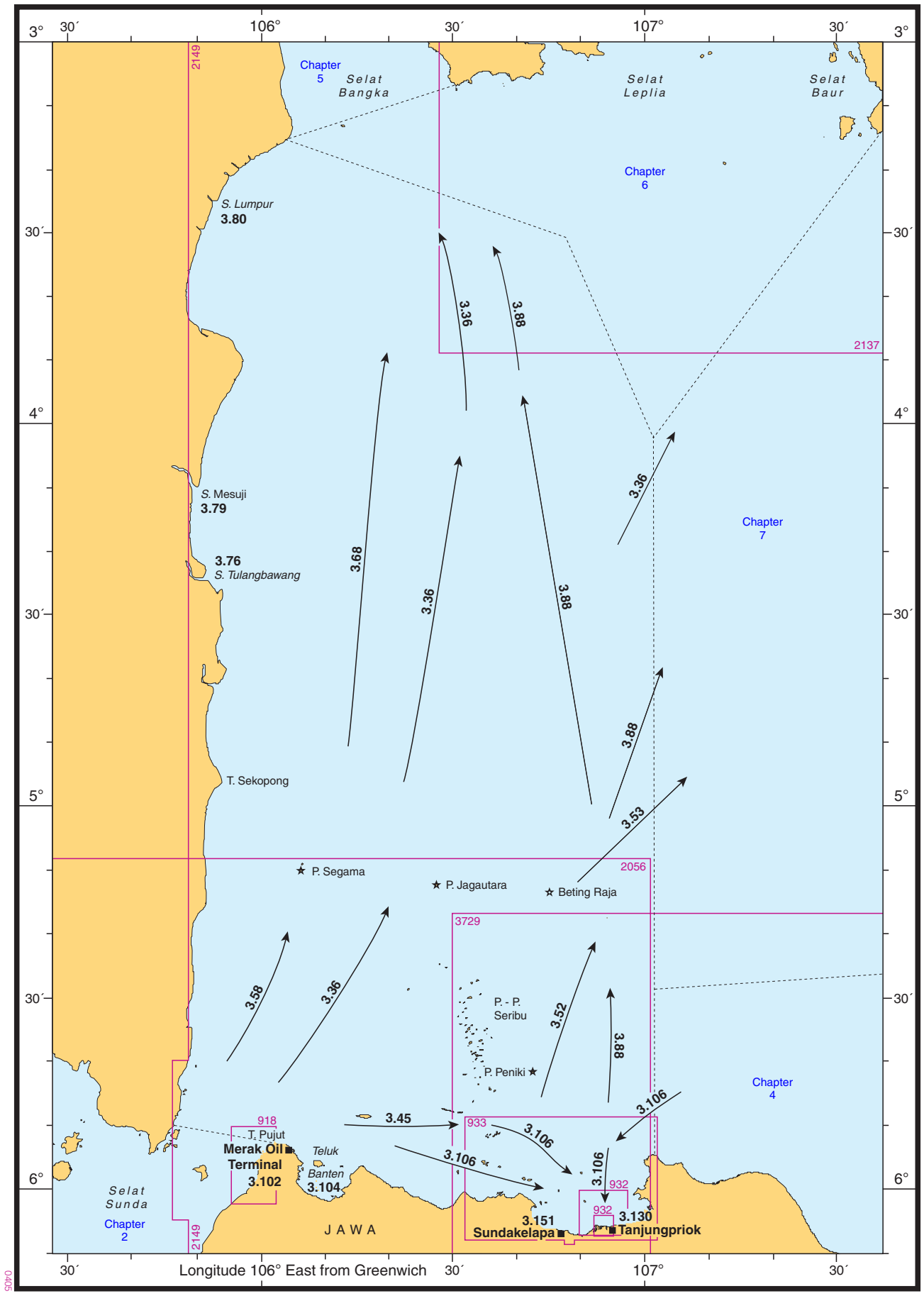
1 **Anchorage.** Fairly good anchorage may be obtained in a depth of 6 m, S of Pulau Sindu, a hilly islet which lies 1¾ miles NE of Tanjung Tua (5°55′S, 105°43′E) (2.165).

The best berth lies on the alignment (052°) of the SE extremity of Pulau Sindu with the summit of Pulau Rimaubalak (2.165) and the S extremity of Pulau Kandangbalak bearing 123°. This anchorage is open to the S swell, but in the SE monsoon vessels lie here better than E of Pulau-pulau Sumur (2.160).

2 **Local knowledge** is required.

Landing can be effected NW of Pulau Sekepel (5°51′·0S, 105°41′·5E) (2.160), lying 3½ miles NNW of Tanjung Tua, although there is usually a heavy swell off this part of the coast.

Chapter 3 - Java Sea - Western part including the port of Tanjungpriok



CHAPTER 3

JAVA SEA — WESTERN PART INCLUDING THE PORT OF TANJUNGPRIOK

GENERAL INFORMATION

Charts 2056, 2149

Scope of the chapter

3.1

1 In this chapter are described:

Offshore oilfields of the W Java Sea (3.12).

Pulau-pulau Seribu (3.26), a large area reserved for conservation.

Through routes (3.36) for vessels on ocean passage from the N entrance of Selat Sunda, N to the approaches to Selat Bangka or Selat Gelasa, and E towards Tanjungpriok and destinations further E using Outer Channel (5°50′S, 106°34′E).

2 East coast of Sumatera, including a coastal passage between Selat Sunda and the approaches to Selat Bangka (3°30′S, 106°40′E).

North coast of Jawa, including an offshore route between Tanjungpriok and Selat Gelasa; the approaches to, and port of, Tanjungpriok (6°06′S, 106°54′E), part of the city of Jakarta.

Routes

3.2

1 Archipelagic Sea Lanes have been designated within certain of the waters described in this chapter. For further information see Appendix II.

Topography

3.3

1 **East coast of Sumatera** between Tanjung Sumurbatu (5°50′S, 105°47′E) and Tanjung Kait, 160 miles N, is generally low and difficult to distinguish unless close inshore. There are few prominent hills except along the S part. On occasions the tops of tall trees can be seen in clear weather from a distance of 14 miles.

North coast of Jawa between Tanjung Pujut (5°53′S, 106°03′E) and Tanjung Krawang, 58 miles E, is generally low, marshy and thickly wooded, except for the mountains S of Tanjung Pujut, and the islands off Teluk Banten, described later. There are few prominent landmarks along this stretch of coast.

Hazards

3.4

1 **Submarine exercise area**. Submarines frequently exercise within the area bounded by the parallels 5°34′S and 5°49′S, and the meridians 106°15′E and 106°25′E to the W of Pulau-pulau Seribu, as shown on the chart; submarines exercise both surfaced and dived in the area. See *Annual Summary of Admiralty Notices to Mariners No 8*.

Fishing. See 1.20.

Former mined area. Throughout Java Sea there is a residual risk from mines broken from their moorings. See Appendix I.

Wrecks

3.5

1 Wrecks are numerous throughout Java Sea and some, particularly in the shallower parts, may be a danger to shipping. The positions of wrecks are best seen on the charts.

Submarine cables

3.6

1 Submarine cables, which are shown on the chart, lie W between Jakarta and the N entrance to Selat Sunda and N between Jakarta and Selat Gelasa.

Piracy

3.7

1 See 1.8.

Conservation area

3.8

1 The area surrounding Pulau-pulau Seribu (5°35′S, 106°33′E) (3.26), as shown on the chart, is reserved for the conservation of flora and fauna; see also 1.65.

Natural conditions

Flow

3.9

1 Except under the Sumatera coast, the horizontal movement of the water in Java Sea is mainly caused by the wind and is, therefore, monsoon current; the maximum rate of which is 2 kn. See also 1.99 and 2.13.

Under the Sumatera coast there is a weak diurnal tidal stream which runs N with the rising tide and S with the falling tide; the change from S-going to N-going occurs practically at low water, and the stream turns anti-clockwise. The monsoon currents modify the directions of these streams as follows:

2 During the SE monsoon the combined water flow is towards SSW or SW on the falling tide, and towards NNW or NW during the rising tide.

During the NW monsoon the combined water flow is towards SSE or SE on the falling tide, and towards N or NNW on the rising tide.

In both monsoons the S-going tidal stream is strengthened by the monsoon, and the N-going stream is weakened.

3 In the open sea near Pulau-pulau Seribu the water movement is almost entirely caused by the monsoons, and the rate never exceeds 2 kn.

This movement is as follows:

January	E-going current
February	E-going current strongest
March	
April	Transition period

May	W-going current starts
June	W-going current strongest
July	
August	W-going current
September	
October	Transition period
November	E-going current starts
December	E-going current

4 During some period of any month in the year, there may be no noticeable current.

Amongst Pulau-pulau Seribu the currents caused by the monsoons start somewhat earlier and attain their maximum rate a month earlier. The W-going current gains the upper hand in March and is strongest in April and May; the E-going current starts in November and is strongest in December. The E-going current is always the stronger; in December it has double the strength of the W-going current in April and May.

5 In the vicinity of Selat Bangka, as far as Tanjung Menjangan (3°50′S, 105°58′E), during the strength of the NW monsoon, the N-going tidal stream may be overcome by the S-going monsoon current, so that the resultant flow of water is sometimes to the S for days together, with rates up to a maximum of 2¼ kn. On other days the water only sets N for 4 hours at the most during a complete day, with a maximum rate of ½ kn.

Swell

3.10

1 Considerable swell comes from South China Sea, particularly during the strength of the NW monsoon, from November to March, and a turbulent sea, particularly attributable to varying currents running in opposition to the wind, is frequently experienced.

Local weather

3.11

1 Along the E coast of Sumatera, between Selat Bangka and Selat Sunda, the SE monsoon prevails from April until November; the months July to October are the driest. The wind near the coast backs to ENE by day and shifts to SW at night.

During the SE monsoon the weather is good with much sunshine and clear skies, although some haze may occur.

2 The NW monsoon, in progress by December, gives W winds, which gradually veer to NW by February. The strongest winds occur in January. Although the winds are mainly light to moderate, short periods of stronger winds are not uncommon, and violent squalls are encountered especially near the coast.

3 The period from October to April can be very wet. Most of the rain occurs in heavy downpours. Thundery areas tend to persist during the night over much of the sea area. Exceptionally heavy falls of rain are reported along the coast, and visibility is frequently reduced temporarily below fog limits.

Fohn type winds from W, with bright periods and high temperature, reach the coastal plain from the Barisan (SW Sumatera) mountains at times.

OFFSHORE OILFIELDS

Charts 2056, 2149

General information

3.12

1 The major offshore oilfields which lie within the limits of this chapter can be found in two areas of the W part of Java Sea and are constantly being extended. The majority of the fields lie between latitudes 5°37′S and 4°48′S and between longitudes 106°04′E and 106°40′E. A smaller group lies 20 miles NNE of this area centred on 4°37′S, 106°40′E.

2 **Submarine pipelines** carrying either oil or gas generally link up each platform with export terminal outlets.

Submarine cables, as shown on the chart, link Duma, Gita, Krisna, Nora and Zelda Oilfields with Pulau Pebelokan (5°29′S, 106°24′E) (3.30); Widuri Oilfield is linked with the solitary platform of the Karmila Oilfield (4°59′S, 106°32′).

Restricted areas

3.13

1 Restricted areas, surrounding the oilfields, have been established. Numerous structures, some marked by lights, not all of which are charted, other unlit objects and submerged obstructions, sometimes marked by buoys, exist in these areas.

2 Within these areas, which are shown on the charts, unauthorised navigation is prohibited within 500 m of all such structures, submerged pipelines, and storage tankers which can swing about their moorings. See 1.26 and 1.50.

Amendments to these areas are promulgated in *Admiralty Notices to Mariners*.

Caution. A vessel entering a restricted area may be challenged by Indonesian air and sea patrols which operate in this part of Java Sea.

Regulations

3.14

1 Vessels using the loading terminals or nominated anchorages should fly the Indonesian flag by day throughout the vessel's stay in the area.

Customs and Immigration officials board a vessel as soon as possible after arrival to give inward clearance and pratique. Indonesian Government regulations are strictly enforced. Smuggling, illegal possession or landing of narcotics, liquor, cigarettes, ammunition, sheath knives, similar weapons or other contraband is subject to severe penalty and may delay the vessel concerned.

Listed oilfields

3.15

1 In alphabetical order the fields are as follows:

Name	*Position*		*Remarks*
	Lat S	*Long E*	
AA Field	5°13′	106°33′	
AVS Field	5°09′	106°31′	AVA Field 2 miles N
2 Bima-zu	5°23′	106°33′	
Cinta	5°27′	106°15′	See 3.16
Duma	5°26′	106°28′	
Farida	5°11′	106°19′	
Gita	5°22′	106°23′	

	Name	Position Lat S	Long E	Remarks
	Indri	4°39′	106°36′	
3	Intan	4°35′	106°40′	
	Karmila	4°59′	106°32′	
	Kitty	5°31′	106°11′	
	Krisna	5°12′	106°13′	
	Nora	5°30′	106°19′	
	Rama	5°27′	106°20′	
4	Selatan	5°35′	106°11′	
	Sundari	5°00′	106°13′	
	Tita	5°10′	106°24′	
	Wanda	5°23′	106°21′	
	Widuri	4°40′	106°39′	See 3.21
	Yvonne	5°12′	106°13′	
	Zelda	5°11′	106°23′	

Cinta Oil Terminal

General information

3.16

1 **Position.** Cinta Oil Terminal (5°27′S, 106°15′E) lies about 30 miles NE of the N entrance to Selat Sunda (2.16).

Traffic. In 2004 the terminal handled 20 vessels totalling 1 639 345 dwt.

Port Authority. Maxus South East Sumatera Inc, Five Pillars Office Park, JI Mount Haryono No. 58, PO Box 2759, Jakarta, Indonesia.

Maximum size of vessel handled

3.17

1 Maximum size 175 000 dwt, 325 m LOA, 31·5 m draught.

Arrival information

3.18

1 **Port operations.** The terminal operates 24 hours a day. Tankers berth during daylight hours only but can depart at any time.

Notice of ETA should be sent 72 hours in advance. See *Admiralty List of Radio Signals Volume 6(4).*

Anchorage is situated 2 miles W of the terminal, as shown on the chart.

Pilotage. Compulsory within the terminal limits. The pilot boards in the anchorage area.

Tugs. Available.

Regulations concerning entry. For information on regulations, including restricted areas, see 3.13 and 3.14.

Berths

3.19

1 **Berths:** two SBMs.

Port services

3.20

1 **Facilities.** Ballast/slop reception not available. Emergency medical facilities available at Pulau Pebelokan, about 10 miles ESE of the terminal.

Supplies. Fresh water, bunkers not available.

Communications. Nearest airport at Jakarta, 50 miles.

Widuri Marine Terminal

General information

3.21

1 **Position.** Widuri Marine Terminal (4°40′S, 106°39′E) lies off the SE coast of Sumatera.

Approach and entry. The terminal is approached from SE, through an unmarked channel (depth 21 m), as shown on the chart.

Traffic. In 2004 the terminal handled 29 vessels totalling 1 466 638 dwt.

Port Authority. Maxus South East Sumatera Inc, Five Pillars Office Park, JI Mount Haryono No. 58, PO Box 2759, Jakarta, Indonesia.

Maximum size of vessel handled

3.22

1 Maximum size 178 000 dwt, 15·2 m draught.

Arrival information

3.23

1 **Port operations.** The terminal operates 24 hours a day. Vessels berth during daylight hours only but can depart at any time.

Port radio. The terminal has VHF radio.

Notice of ETA should be sent 72 hours in advance. See *Admiralty List of Radio Signals Volume 6(4).*

Anchorage is situated 1 mile SE of the terminal, as shown on the chart.

Pilotage is compulsory; the pilot boards in the anchorage area.

Tugs: available.

Regulations concerning entry. For information on regulations, including restricted areas, see 3.13 and 3.14.

Berths

3.24

1 **Berths:** two SBMs.

Port services

3.25

1 **Facilities.** Ballast/slop reception facilities not available.

Supplies. Fresh water, bunkers, not available.

PULAU-PULAU SERIBU

General information

Chart 2056, 3729 (see 1.31)

General description

3.26

1 Pulau-pulau Seribu (5°35′S, 106°33′E), which front the approach to Selat Sunda from NE, are about eighty islands in number, in addition to many reefs, rocks and drying banks, extending in a N and S direction over a distance of 23 miles, with a number of more widely separated islets and reefs extending a further 16 miles WNW from the N end. All the islets are low and wooded, but there are some with very high trees, visible at a distance of 16 miles. They are very much alike and are, therefore, difficult to identify.

2 Only a few of the islets, situated near the centre of the group, are permanently inhabited, but there are temporary fishermen's settlements on some of the others.

A National Park has been established among Pulau-pulau Seribu. In 1986 facilities, including air communication, in support of tourism were being developed. The NE, SE, SW and NW limits of the conservation area are marked by light-buoys (special).

3 Vessels are advised not to attempt to pass through this area of conservation and entry to certain locations is prohibited; see 3.28.

The NW and S ends of Pulau-pulau Seribu are of special significance, due to their location, to vessels navigating across Java Sea from Selat Sunda to destinations further N or E.

Special light-buoys are moored at various locations around Pulau-pulau Seribu; they may possibly be removed or relocated without warning.

Hazards

3.27

1 **Submarine exercise area.** See 3.4.

Offshore oilfield development areas. A number of oilfields, together with their respective platforms and wells, lie within, and bordering, the N part of the conservation area, as shown on the chart. See 3.12.

Traffic regulations

3.28

1 **Prohibited entry.** Conservation areas into which entry is prohibited are shown on the chart in the vicinity of:

Gosong Rengit (5°28′S, 106°26′E).
Pulau Penjaliran Barat (5°28′S, 106°33′E).
Pulau Bira Besar (5°36′·7S, 106°34′·5E).

Prohibited anchorage. The N half of Pulau-pulau Seribu lies within an area of prohibited anchorage, as shown on the chart.

Winds

3.29

1 Winds are stronger amongst Pulau-pulau Seribu than under the Jawa coast, especially in the SE monsoon, and are then often strongest and least steady during the night. There are appreciable land and sea breezes from and towards Jawa.

Pulau-pulau Seribu — North-west group

3.30

1 Karang Pematan (5°25′S, 106°16′E), which lies outside the conservation area and amongst the oilfields, is a small coral patch forming the NW danger of the group. Only under very favourable conditions is there discolouration in the immediate vicinity, and very occasionally there are tide-rips.

2 Terumbu Urai, a small steep-to patch which lies 5 miles E of Karang Pematan, and Karang Hajiawal, a coral patch which lies 8 miles E of Karang Pematan also lie outside the conservation area; both dangers are unmarked by discolouration.

Pulau-pulau Dua, two in number, are the E islands of the NW group. They are thickly wooded with high trees, and lie 12 miles E of Karang Pematan. There is a deep channel between these two islands. A dangerous rock lies 5 cables NNW of the W island.

3 Karang Beronang, a reef, with a depth of 2·5 m over it, lies 2¼ miles SW of the W island of Pulau-pulau Dua (5°25′S, 106°28′E), and is not marked in any way at HW; Karang Ediling, a reef, with a depth of 7 m over it, lies 2 miles SSW from the same island. In 1976 a dangerous rock was reported to lie 1¾ miles ESE of Karang Ediling.

Gosong Rengit (5°28′S, 106°26′E), an island, 3½ miles SSW of the W island of Pulau-pulau Dua, is wooded with high trees; Karang Rengit, 1 mile SE of Gosong Rengit, has a least depth 0·9 m over it, is usually marked by discolouration, and breaks with any sea.

4 **Prohibited entry.** See 3.28.

Pulau Pebelokan (5°29′S, 106°23′E), an island, which lies outside of the conservation area, 3 miles WSW of Gosong Rengit, is thickly wooded with high trees. It is the S island of the NW group; Gosong Pebelokan, 1 mile SSW of Pulau Pebelokan, dries in patches at its N end, and is marked by discolouration, breaking with the least swell or sea.

5 **Berthing facilities.** Pulau Pebelokan is a self supporting offshore base acting in support of the oilfields. There are extensive buildings and installations on the island which include living quarters, a radio tower, a heliport, a power plant and a tank farm. A wharf, on the S side of the island, can accommodate small vessels up to 36 m in length and up to 6 m draught; fuel and fresh water are available.

Pulau-pulau Seribu — West side

3.31

1 Detached dangers off the W side include Karang Kapal (5°28′S, 106°30′E), a rock lying at the N end of the W side; Karang Baka, a detached shoal, which lies 4 miles SE of Gosong Rengit (5°28′S, 106°26′E) (3.30); Karang Pelang (5°40′S, 106°31′E), with a depth of 4 m over it, and Gosong Munggu, which lies 1 mile SW of Karang Pelang, with a depth of 3 m over it.

2 Pulau Kapas (5°31′S, 106°31′E), on the NW end of the main group of Pulau-pulau Seribu, lies at the NW end of an extensive shoal on which lie some unnamed islets and rocks. It consists of a patch of sand on which there are some casuarina trees; Pulau Jagung, an islet thickly covered with high trees, lies 2¼ miles N of Pulau Kapas.

3 Pulau Yu Barat, 2 miles S of Pulau Kapas, with Pulau-pulau Hantu, two islands lying on an extensive reef, are thickly wooded with high trees. Pulau-pulau Hantu may be identified by a small hut and radio mast standing on it and by a small patch of white coral sand, always above-water and visible from a considerable distance.

4 Pulau Genteng Besar and Pulau Genteng Kecil, a small island 7 cables SW, lie with the latter 5 miles SSE of Pulau Yu Barat, with numerous islets and dangers between. A reef lies 1 mile S of Pulau Genteng Besar and between it and Pulau Panjang Besar, on which there is an airstrip.

5 Pulau Harapan (5°39′S, 106°34′E), one of the few inhabited islands and covered with coconut trees, lies in the central part of an extensive shoal, at the SW extremity of which is Pulau Semut, a reef with high trees on its W side, visible for a considerable distance.

Pulau Kotok Besar (5°42′S, 106°32′E) with Pulau Kotok Kecil a small island 7 cables N of it, are encircled by reefs.

3.32

1 **Useful marks.** Light-beacons stand on the following islands:

Pulau Tidung Besar (5°47′·5S, 106°28′·2E) (3.50).
Pulau Karangberas (W cardinal) (5°46′·0S, 106°33′·0E).
Pulau Layar (W cardinal) (5°44′·0S, 106°33′·4E).
Pulau Pandan (W cardinal) (5°42′·7S, 106°33′·7E).
Pulau Harapan (both starboard hand) (5°39′·6S, 106°34′·2E and 1 cable farther SE).

Pulau-pulau Seribu — East side

3.33

1 Pulau Penjaliran Timur (Pulau Penjaliran Besar) (5°27′S, 106°34′E), the NE island of the main group of Pulau-pulau Seribu, is densely wooded with tall trees. Pulau Penjaliran Barat (Pulau Penjaliran Kecil), 7 cables WSW, lies at the E end of a patch of coral rocks; a detached rock, with a depth of 3 m over it, lies 4 cables N of the islet.

Prohibited entry. See 3.28.

2 Karang Kuntullayang lies 2½ miles SE of Pulau Penjaliran Timur (5°27′S, 106°34′E); Pulau Rengit, densely

wooded with high trees, is situated midway between Karang Kuntullayang and Pulau Sebaru Besar, WSW.

Pulau-pulau Tondan, densely wooded with high trees, lie nearly 5½ miles SSE of Pulau Rengit, with Pulau Gosonglaga Besar, covered with bushes and surrounded by an extensive reef, midway between; Pulau Sepa Besar, bordered by a reef, is situated 5 cables NW of Pulau-pulau Tondan. In 1997 an uncharted reef was reported to lie 7 cables SW of Pulau Sepa Besar.

3 Pulau Belanda (5°36′S, 106°36′E), 1½ miles SSE of Pulau-pulau Tondan, may be identified by a clump of casuarina trees; Pulau Pamegaran, 2 miles further SW, is covered with low trees. A light-buoy (safe water) is moored 1½ miles ENE of Pulau Pamegaran from whence a channel, marked by a single pair of light-buoys (port and starboard) leads through the islands.

Prohibited entry. See 3.28.

4 Pulau Opak Besar, with Pulau Opak Kecil 5 cables SSE of it, lies 2 miles S of Pulau Pamegaran .

Pulau Gosongcongkak, 2 miles SSW of Pulau Opak Kecil, is not very easy to discern, but the reefs surrounding it are very discoloured and break with any sea. Light-beacons mark the E and W sides of the reef (3.34).

Pulau Pramuka (5°45′S, 106°37′E) with Pulau Panggang, 8 cables WNW, abound with coconut trees. Pulau Sekati, 7 cables SSW of Pulau Pramuka, and lying outside the conservation area; Pulau Air is situated 1½ miles W of Pulau Sekati.

5 Pulau Karangberas, 3½ miles WSW of Pulau Pramuka, lies near the central part of an extensive reef, which is marked by a light-beacon (3.34); Karang Dalam, a shallow patch, lies 1 mile ESE of Pulau Karangberas and 2 cables E of the E edge of this reef. This islet, reef, and shallow patch, which lie outside the conservation area, form the S extremity of Pulau-pulau Seribu, and lie 3 miles N of Pulau Payung Besar Light (3.48).

3.34

1 **Useful marks.** Light-beacons:

Pulau Gosongcongkak (E cardinal) (5°42′·1S, 106°35′·8E).

Pulau Simedaun (E cardinal) (5°43′·3S, 106°36′·8E).

Pulau Karangpandan (W cardinal) (5°42′·7S, 106°33′·6E).

Pulau Layar (W cardinal) (5°43′·9S, 106°33′·3E).

Pulau Karangberas (5°45′·9S, 106°32′·9E) (3.32).

JAVA SEA — THROUGH ROUTES

GENERAL INFORMATION

Chart 2149

Scope of the section

3.35

1 In this section are described the through routes in the W part of Java Sea.

SELAT SUNDA TO SELAT BANGKA OR SELAT GELASA

General information

Chart 2056, 2149

Routes

3.36

1 The direct routes to either Selat Bangka or Selat Gelasa, leading to Malacca Strait or South China Sea (see *Ocean Passages for the World*), lie, as navigation permits, through the oilfields of the W Java Sea passing between Pulau Jagautara (5°12′S, 106°27′E) and Gosong-gosong Serdang (3.41), 13 miles NW.

2 Unless bound for Cinta Oil Terminal (3.16) mariners, particularly with deep-draught vessels, wishing to avoid the oil development area where not all structures may be charted, may follow the route through Outer Channel (3.50) and then pass E of Pulau-pulau Seribu, a conservation area (3.26), following an offshore route given at 3.93 from a position off Beting Raja (5°13′S, 106°44′E) or, if bound for Selat Bangka and of suitable draught, they may follow the coastal route given at 3.64 which passes close either side of Pulau Segama (5°10′S, 106°06′E).

3 Attention is drawn to the comments on the International Law concerning innocent passage contained in Chapter 3, *The Mariner's Handbook*.

Wrecks

3.37

1 See 3.5.

Local weather

3.38

1 Between Selat Sunda and Selat Bangka, see 3.11.

Principal marks

3.39

1 **Landmarks:**

Pulau Sangiang (5°57′S, 105°51′E) (2.21).

Taman, a hill 2½ miles W of Ujung Kanggalan (5°48′S, 105°48′E) (3.63).

Samang (5°21′S, 105°46′E) (3.63).

Gunung Gede (5°55′S, 106°04′E) (2.26).

Major lights:

Pulau Sangiang Light (5°58′S, 105°51′E) (2.19).

2 Pulau Panjurit Light (5°53′S, 105°47′E) (2.19).

Pulau Mundu Light (5°41′S, 105°50′E) (3.63).

Pulau Segama Light (5°10′S, 106°06′E) (3.63).

Pulau Jagautara Light (white metal framework tower, 48 m in height) (5°12′S, 106°27′E); it should be borne in mind that, even on a clear night, this light may only be seen at a distance of about 18 miles.

Widuri Storage Tanker Light (4°41′S, 106°39′E).

Pulau Maspari Light (3°13′S, 106°13′E) (5.14).

Pulau Dapur Light (3°08′S, 106°31′E) (5.14).

Other aids to navigation

3.40

1 **Racons:**

Pulau Tempurung Light (5°54′S, 105°56′E).

Pulau Panjurit Light (5°53′S, 105°47′E).

Beting Raja Light (5°13′S, 106°44′E).

Pulau Dapur Light (3°08′S, 106°31′E).

For further details see *Admiralty List of Radio Signals Volume 2*.

Directions

(continued from 2.23)

To Selat Bangka

3.41

1 From the vicinity of the N entrance to Selat Sunda (5°54′S, 105°58′E), between Tanjung Pujut and Pulau

Tempurung, to the approaches of Selat Bangka, passing E of Gosong-gosong Serdang (5°05′S, 106°17′E), the most direct route leads generally NNE in deep water for approximately 153 miles, passing:

WNW of Tanjung Pujut (5°53′S, 106°03′E) (2.21), thence:

Clear of a reported area of discoloured water (5°45′S, 106°00′E), thence:

2 WNW of the waiting anchorage for Cinta Oil Terminal (5°27′S, 106°15′E) (3.15), thence:

Clear of an obstruction (5°23′S, 106°10′E) which is marked by a light-buoy (W cardinal), lying 5 miles NW of the terminal, thence:

ESE of Layang-layang (5°18′S, 106°04′E), a steep-to coral patch. On clear days during the NW monsoon, Pulau Segama (3.64), which lies 8 miles farther NNE and from where a light (3.63) is displayed, is visible at a distance of 20 miles. Thence:

3 ESE of Karang Basa (5°12′·0S, 106°12·5′E), with a depth of less than 1 m over it. The reef is barely marked with ripples and discolouration, and can only be detected close to; it sometimes breaks with a heavy swell. Karang Basa is surrounded, on the N, S and W sides, by platforms of Krisna Oilfield (3.15). Thence:

WNW of the platforms of Farida Oilfield (3.15), thence:

4 ESE of Gosong-gosong Serdang (5°05′S, 106°17′E), two coral patches, 2 cables apart in a N and S direction; at HW only a few rocks on them are visible, and there is a small patch of coral sand on the N patch. They are visible from a distance of 2 miles. A light-beacon (isolated danger) stands on the N coral patch. Thence:

5 WNW of the platforms of Intan Oilfield (3.15), thence:

ESE of Five Fathom Banks (3°48′S, 106°29′E), consisting of patches of mud and sand, with depths of less than 10 m, thence N towards the vicinity of Pulau Dapur Light (3°08′S, 106°31′E) (5.14) at the entrance to Selat Bangka.

6 **Cautions.** The route described above lies in the vicinity of offshore oilfields, which are shown on the chart. Mariners are advised to keep clear of their associated platforms and wells; see 3.13.

Escaping gas has been reported at approximate position 5°11′·6S, 106°13′·6E, about 1 mile ENE of Karang Basa.

There are several dangerous wrecks, some with masts, and obstructions in the vicinity of the route described above; their positions can best be seen on the chart.

Useful marks

3.42

1 Tanjung Piatu Light (5°53′S, 106°04′E) (3.50).

Flare, on lighted platform (5°21′S, 106°33′E).

(Directions continue for Selat Bangka at 5.16)

To Selat Gelasa

3.43

1 Vessels should follow the directions at 3.41 until clear of the oilfields N of Pulau Jagautara whence for Selat Leplia they should pass W of Widuri and Intan Oilfields (3.15) or clear of them for Selat Baur. Vessels making for Selat Baur from SSW should shape a course to pass E of Karang Larabe (3°32′S, 107°10′E) during the NW monsoon or W of Karang Genting (3°34′S, 107°41′E) during the SE monsoon.

2 **Low powered vessels** may find it useful to use Selat Leplia during the NW monsoon and Selat Baur during the SE monsoon when the currents are more favourable.

Cautions. In 1959, less water than charted was reported E of Intan and Widuri Oilfields (3.15). A dangerous wreck (3°50′S, 107°19′E) lies 19 miles SSE of Karang Larabe; another lies 18 miles S of the same reef.

3.44

1 **Alternative route.** In 1993 the following route, between Selat Sunda and Selat Baur, was taken by a vessel of 58 000 dwt without experiencing undue difficulty.

From a position 4 miles NW of Tanjung Pujut (5°52′S, 106°02′E) at the N entrance to Selat Sunda, to a position E of Pulau Simedang (3°19′S, 107°13′E), in the approaches to the strait, the route generally leads NE through the oilfields, thence NNE, a distance of approximately 162 miles, passing:

2 SE of Selatan Oilfield (5°35′S, 106°11′E), thence:

NW of Nora Oilfield (5°30′S, 106°19′E), thence:

SE of Rama Oilfield (5°27′S, 106°20′E), thence:

NW of Karang Beronang (5°26′S, 106°26′E) (3.30), and:

SE of Karang Hajiawal (5°24′S, 106°25′E) (3.30), marked by a light-buoy (special) close E, thence:

3 NW of the lighted pipes of Bima-Zu Oilfield (5°23′S, 106°33′E), thence:

SE of Pulau Jagautara (5°12′S, 106°27′E), an island which is entirely covered by high trees and is generally visible at a distance of about 14 miles. The island, on which stands a light (3.39), is surrounded by a reef; a stone breakwater affords a boat anchorage and landing on the NW side. Thence:

SE of AA Oilfield (5°13′S, 106°33′E), thence:

4 NW of Beting Raja (5°13′S, 106°44′E) (3.93), from where a light is displayed, thence:

To a position approximately 30 miles E of Widuri Oilfield (4°40′S, 106°39′E), thence:

E of Karang Larabe (3°32′S, 107°10′E) (6.15) and clear of the dangerous wrecks lying S of Pulau Simedang.

5 **Cautions.** The route described above lies in the vicinity of offshore oilfields, which are shown on the chart. Mariners are advised to keep clear of their associated platforms and wells; see 3.13.

There are several dangerous wrecks and obstructions, the positions of which can best be seen on the chart, in the vicinity of the route described above.

(Directions continue for Selat Baur at 6.21; directions for Selat Leplia are given at 6.62)

SELAT SUNDA TO OUTER CHANNEL

General information

Chart 2056

Route

3.45

1 For deep-draught vessels proceeding to South China Sea or East Jawa areas from the N entrance to Selat Sunda, the route which offers the best depths leads E to Outer Channel (5°50′S, 106°34′E), a distance of approximately 35 miles.

Topography

3.46

1 See 3.84.

Winds and weather

3.47

1 See 3.87.

Principal marks

3.48

1 **Landmarks:**

Gunung Gede (5°56′S, 106°04′E) (2.26).
Gunung Karang (6°16′S, 106°03′E) (2.26).
Tanjung Kapo (5°56′S, 106°07′E) (3.104).
Santri (5°58′·5S, 106°05′·0E), a prominent hill with an isolated tree on the summit.
Pulau Laki (5°57′S, 106°31′E) (3.97).

Major lights:

Pulau Tunda Light (white metal framework tower, 30 m in height) (5°49′S, 106°17′E).
Pulau Peniki Light (5°42′S, 106°43′E) (3.91).

Other aids to navigation

3.49

1 **Racons:**

Pulau Tempurung Light (5°54′S, 105°56′E).
Beting Raja Light (5°13′S, 106°44′E).
Beting Eka Light (5°17′·5S, 106°54′·5E).

For further details see *Admiralty List of Radio Signals Volume 2*.

Directions

(continued from 2.23)

3.50

1 From the vicinity of the N entrance to Selat Sunda, the route to Outer Channel leads E for approximately 35 miles, passing:

N of Tanjung Pujut (5°53′S, 106°03′E) (2.21); Pulau Salira, a low coral islet on which there are a few trees, lies 1 mile E of the point and 2 cables offshore, thence:

2 N of Tanjung Piatu (5°53′S, 106°04′E), a low point with a few trees on it, from where a light is displayed. Merak Oil Terminal (3.102) is situated at the point. Thence:

Clear of a wreck, over which there is a depth of 19 m, (5°51′·5S, 106°07′·3E), thence:

S of Pulau Tunda (5°49′S, 106°17′E), low and thickly wooded, on which stands a light (3.48), and:

3 Clear of a wreck, over which there is a depth of 7 m, lying 3 miles S of Pulau Tunda Light. Alternatively, passage can be made in deeper water, passing about 3 miles N of Pulau Tunda. Thence:

N of Karang Besar (5°53′S, 106°28′E), the S edge of a coral reef, with depths of less than 5 m over it, thence:

4 S of Pulau Tidung Besar (5°48′S, 106°29′E) with Pulau Tidung Kecil close E, the two W islands of Pulau-pulau Air Besar group, which lie on a narrow, partly drying reef; the coconut palms on the islands can be seen from a distance of 10 miles. A number of dangers lie between Pulau Tidung Besar, on the W end of which stands a light-beacon (isolated danger), and Karang Kerbau, a reef, 2 miles WNW, which lies well N of the fairway. Thence:

5 S of Pulau Payung Besar (5°49′S, 106°33′E), the third and E island of Pulau-pulau Air Besar on which there is a light (3.51), with Pulau Payung Kecil (chart 933), lying on a detached reef 3 cables N, and:

6 N of Pulau-pulau Tidung, a group of five low, thickly wooded islands, which lie on an extensive steep-to reef, the W extremity of which is situated 2½ miles SSE of Pulau Payung Besar; the edge of this reef is always plainly marked by discolouration, while within its limits are numerous drying patches and trees standing in the water. Pulau Pari (chart 933), the largest of the group, lies near the E end of the reef and can be identified by its coconut palms and a radio mast, from which an obstruction light is displayed, standing in the centre of the island; a white tower, elevation 10 m, stands on the reef extending from the W end of the island. In 1981, a dangerous wreck was reported to lie 5 cables N of Pulau Pari. Karang Jong, a patch of steep-to coral on which stands a light (green tower on piles; 8 m in height), lies 1 mile E of Pulau Pari.

7 **Caution.** Oil supply vessels and/or fishing vessels on passage may be encountered in the area of Outer Channel.

Useful marks

3.51

1 Tanjung Kapo Light (elevation 15 m) (5°56′S, 106°07′E).

Pulau Payung Besar Light (white metal framework tower, 30 m in height) (5°49′S, 106°33′E); partially obscured between 113°-264°(151°).

Pulau Damar Besar Light (5°57′·5S, 106°50′·5E) (3.115).

(Directions continue for the approaches to Tanjungpriok at 3.117 and for East Jawa at 4.19)

Charts 2056, 2149

Outer Channel to Selat Baur

3.52

1 On leaving Outer Channel the route to Selat Baur leads NNE, passing (with positions from Pulau Peniki (5°42′S, 106°43′E)):

ESE of a light-buoy (special) (4½ miles SW) marking the SE corner of the Pulau-pulau Seribu conservation area (3.26), and:

Clear of an obstruction (4½ miles S), thence:

Either side of Pulau Peniki, thence:

Between Beting Raja (5°13′S, 106°44′E) and Beting Eka (11 miles ESE).

The track then joins the offshore route leading to Selat Baur which is described at 3.93.

Charts 2056, 2149, 1066

Outer Channel to Selat Karimata

3.53

1 On leaving Outer Channel the recommended route towards Selat Karimata, and one which has been more frequently surveyed, is for vessels to follow the route given at 3.52, leading NNE, until a position between Beting Raja and Beting Eka is reached, thence NE for a distance of 177 miles, keeping clear of a stranded wreck (5°08′S,

106°57′E) (3.93), to a position SE of Gosong Mampango (3°35′S, 109°10′E) (7.8) from where a light is displayed.

2 **Useful marks:**

Karang Beli Light (white beacon, 15 m in elevation) (3°48′S, 108°03′E), standing on a reef with Pulau Kebatu (7.32), 1 mile E of Karang Beli (7.32) lying 31 miles offshore from the S coast of Pulau Belitung. In 1997 a large pipe was reported extending 2 m above the surface at an approximate position 20 miles S of Pulau Kebatu.

Karang Abadi Light-beacon (isolated danger) (3°39′S, 108°45′E) standing on a reef (7.8).

(Directions continue for Selat Karimata at 7.20)

EAST COAST OF SUMATERA

GENERAL INFORMATION

Charts 2056, 2149

Scope of the section

3.54

1 In this section are described the coastal routes between Selat Sunda and Selat Bangka including minor anchorages and rivers.

Topography

3.55

1 The coast of E Sumatera between Tanjung Sumurbatu (5°50′S, 105°47′E) and Tanjung Kait, 160 miles N, is, except for Samang (5°21′S, 105°46′E) and a few other hills in the S part, low, flat and swampy and practically uninhabited; in the NW monsoon the hills in the S part may be seen from a distance of 24 miles, and in the SE monsoon from 12 to 16 miles.

Depths

3.56

1 A bank of soft mud, from 1 to 5 cables broad, which dries, fringes almost the whole of this coast except by the mouths of the large rivers, or at a few places where there are sandy beaches. Outside this bank the depths increase gradually, though frequently irregularly, seaward, and there is good anchoring ground everywhere.

2 Small steep-to shoals, of the approach to which soundings give little or no warning, lie in various places within a distance of 16 miles from the coast, and off Tanjung Menjangan (3°50′S, 105°58′E), fully 30 miles offshore; hard bottom consisting of white or black sand with or without shells, is generally an indication that a vessel is near one of these shoals. Elsewhere the bottom is generally clay, covered with a layer of mud near the coast.

3 The coast in the vicinity of Sungai Tulangbawang (3.76) should not be approached within a depth of less than 16 m, and elsewhere within a depth of less than 13 m, without having recent local knowledge.

Former mined areas

3.57

1 An area, dangerous due to mines laid in the 1939–1945 war, lies SW of Pulau Segama (5°10′S, 106°07′E); see Appendix I.

COASTAL PASSAGE — SELAT SUNDA TO TANJUNG SEKOPONG

General information

Charts 2056, 2149

Route

3.58

1 From the vicinity of Tanjung Sumurbatu (5°50′S, 105°47′E) to that of Tanjung Sekopong (55 miles N), the route generally leads NNE passing close either side of Pulau Segama (5°10′S, 106°06′E) (3.64); from the E side of Selat Sunda entrance, between Pulau Tempurung and Tanjung Pujut, the route initially leads N until Pulau Segama is reached.

Topography

3.59

1 Apart from the prominent hills in the S part which are described at 3.63, much of this low lying coast is thickly wooded and fronted by sandy beaches. Many of the coastal points are difficult to distinguish except from close inshore. Between Tanjung Sekampung (5°35′S, 105°49′E) (3.67), and Tanjung Penet, 20 miles N, the high trees along the coastline are sometimes visible from a distance of 14 miles. Tanjung Sekopong (4°56′S, 105°54′E), a rounded prominent point thickly wooded with high trees, cannot be distinguished from a greater distance than 10 miles.

Several rivers enter the sea along this stretch of coastline, Sungai Sekampung (3.67), being one of the largest.

Former mined area

3.60

1 See 3.57.

Fishing

3.61

1 Fishing by means of trawling is prohibited along this part of the coast.

Winds

3.62

1 Between April and October strong SSW winds occur at times S of Pulau Segama (5°10′S, 106°06′E) (3.64) generally setting in during the evening and sometimes blowing all night. See also 3.11.

Principal marks

3.63

1 **Landmarks:**

Taman, a hill, standing 2½ miles W of Ujung Kanggalan (5°48′S, 105°48′E); a prominent isolated conical hill stands 2 miles NE of Taman. Gunung Rajabasa and Gunung Barilang (2.91) may be seen in clear weather from abreast the point.

Samang, a hill, (5°21′S, 105°46′E).

2 **Major lights:**

Pulau Panjurit Light (5°53′S, 105°47′E) (2.19).

Pulau Mundu Light (white beacon, elevation 23 m) (5°41′S, 105°50′E).

Pulau Segama Light (white metal framework structure, 40 m in height) (5°10′S, 106°06′E) standing on the S of the two islets of Pulau Segama.

Directions

(continued from 2.167)

3.64

1 From the N entrance to Selat Sunda to the vicinity of Gosong Sekopong (4°56′S, 106°03′E), the coastal route leads NNE for a distance of approximately 60 miles, passing:

ESE of Ujung Kanggalan (5°48′S, 105°48′E), a low point, with Pulau Kupiah, high and covered with vegetation, 7 cables NNE. A light (white beacon) stands close E of the point. Thence:

2 ESE of Pulau Seram Besar (5°45′S, 105°49′E), the largest of a group of three islets lying near the coast, 3¼ miles N of Ujung Kanggalan and the only one that can be seen from any distance, is covered with high coconut trees on its W side, and a swamp on its E side with a few bare tree trunks; a coral patch lies 1 mile E of the islet. The S islet of the group is covered with low brushwood with a few coconut trees, and there is a sandy beach on its NW side. The middle and smallest islet is almost entirely formed by coral, and is covered in bushes and a few bare trees. Thence:

3 ESE of Karang Sybrandi (7 miles NNE of Ujung Kanggalan). The reef, which is very steep-to on its E side, lies 5 cables E of an islet which lies close S of Pulau Mundu (5°41′S, 105°50′E), a coral island covered with coconut trees, and fringed by a reef with rocks on it. A light (3.63) stands on the W side of Pulau Mundu. Thence:

4 Clear of Layang-layang (5°18′S, 106°04′E) (3.41), lying 13 miles E of Tanjung Penet (3.59); an isolated depth of 9 m exists 7½ miles E of the same point, thence:

Clear of a dangerous wreck (5°14′·5S, 106°06′·5E), thence:

5 Close either side of Pulau Segama (5°10′S, 106°06′E), from where a light (3.63) is displayed. Pulau Segama consists of two coral islets thickly wooded with high trees; they are surrounded by a coral reef with some above-water rocks and patches of sand on it. In the NW monsoon the islets can sometimes be seen at a distance of 20 miles but during the SE monsoon they are not visible until very much nearer. Thence:

6 Clear of two dangerous wrecks lying 1½ miles apart and 6 miles E of Gosong Syahbandar (5°06′S, 105°59′E); the N wreck showing masts above the water. Gosong Syahbandar, a sandbank, consists of a number of shallow sandy ridges on which there is a patch with less than 1 m over it, lying within 8 miles of the coast midway between Tanjung Penet and Tanjung Sekopong; a dangerous wreck lies about 3 miles SE of the sandbank. Thence:

7 WNW of an area dangerous to navigation (5°03′S, 106°13′E) with a least depth of 8 m over it, the existence of which was reported in 1949 and whose position is approximate, thence:

ESE of Gosong Sekopong Buoy (safe water,) (4°56′S, 106°06′E), moored off the E side of Gosong Sekopong, a hard patch of sand, 9 miles E of Tanjung Sekopong (3.59).

8 **Cautions.** The route described above lies in the vicinity of offshore oilfields, as shown on the chart, and mariners are advised to keep clear of their associated platforms and wells; see 3.13. In 1995, A number of wells exist W of Pulau Segama; mariners should have due regard to the possibility of further exploration in this area.

For general information on wells see *The Mariner's Handbook*.

3.65

1 **Useful marks:**

Maringgai Light (white beacon, elevation 14 m) (5°21′S, 105°49′E).

Gosong-gosong Serdang Light (5°05′S, 106°17′E) (3.41).

(Directions continue at 3.73)

Side channel

3.66

1 Vessels proceeding N from the vicinity of Pulau Seram Besar (3.64) and passing between Pulau Mundu (5°41′S, 105°50′E) and the coast should keep in depths of over 10 m by keeping the summit of Pulau Rimaubalak (5°51′·6S, 105°46′·7E) (2.165), bearing 197° and open just E of the E side of Pulau Seram Besar.

The passage between Karang Sybrandi (3.64) and Pulau Mundu is unsafe.

Anchorage

Sungai Sekampung

3.67

1 **Description.** Sungai Sekampung (chart 941A), one of the largest rivers in the Lampung District of Sumatera, flows out on the N side of Tanjung Sekampung (5°35′S, 105°49′E). Assahan, a village, is situated 32 miles up the river.

There is no special channel over the bar of the river, on which there is generally a surf in the SE monsoon, but by keeping the mouth of the river open, on a bearing of 247°, a least depth of 0·6 m can be obtained over it. Within the mouth the depths increase rapidly to 7 to 9 m. Local knowledge is necessary.

2 **Anchorage** may be obtained off Sungai Sekampung, in a depth of 16 m, mud, 2 miles offshore, with a prominent tree on Pulau Mundu (5°41′S, 105°50′E) bearing 188°, and the mouth of the river open bearing 247°.

The rate of the tidal stream at this anchorage is from 1½ to 2 kn.

TANJUNG SEKOPONG TO TANJUNG KAIT

General information

Charts 2149, 3471

Route

3.68

1 From the vicinity of Gosong Sekopong (4°56′S, 106°03′E) to that of Tanjung Kait, 103 miles N, the route to the entrance of Selat Bangka lies parallel but nearer the coast than that given for the through route at 3.41.

Topography

3.69

1 The coast between Tanjung Sekopong (4°56′S, 105°54′E) and Tanjung Kenam, 16 miles N, is low and marshy. The latter point can be readily distinguished from the former as it is covered with trees of regular and equal height. Farther N the coast is fronted by banks of mud and sand having shallow depths over them. Between Tanjung Bungin, 7 miles N of Tanjung Kenam, and Tanjung Serdang (3.78), a further 6 miles N, the coastal trees between these points are considerably higher than those N or S, so that from a distance, this part of the coast appears as an island.

2 Sungai Tulangbawang (3.76), whose entrance lies 3 miles N of Tanjung Serdang, gives access to Menggala (3.78) (chart 941A), a small port, 60 miles inland.

The N side of Tanjung Menjangan (3°50′S, 105°57′E), a low point, is covered with high dark trees, which decrease on either side to a light green growth, giving the point the appearance of an island when seen from a distance from SE or NNE.

3 Several small rivers discharge between Tanjung Menjangan and Tanjung Kait (3°14′S, 106°05′E), 37 miles N, and their mouths can generally be identified from a considerable distance owing to the higher growth of trees there.

Debris

3.70

1 Floating islets, drifting from the rivers and covered in vegetation, become stranded on the drying mudbanks off Tanjung Serdang (4°27′S, 105°54′E).

Local weather

3.71

1 See 3.11.

Major lights

3.72

1 Pulau Segama Light (5°10′S, 106°06′E) (3.63).
Pulau Dapur Light (3°08′S, 106°31′E) (5.14).
Pulau Maspari Light (3°13′S, 106°13′E) (5.14).

Directions

(continued from 3.65)

3.73

1 From the vicinity of Gosong Sekopong Buoy (4°56′S, 106°06′E) to that of Selat Bangka, the route generally passes E of Tanjung Tmak (4°24′S, 105°52′E), E of Gosong Menjangan (3°47′S, 106°12′E), the SE extremity of a hard bottomed bank, and clear either side of Five Fathom Bank, although passing E of these banks is recommended as the safest course.

2 **Cautions.** The initial stage of the route above passes offshore oilfields with their respective oil platforms, the positions of which are best seen on the chart.

Several dangerous wrecks lie off this section of the Sumatera coastline, some showing masts; the chart is the best guide.

3.74

1 **Useful marks:**

Tanjung Bungin Light (white GRP tower, 10 m in height) (4°33′·5S, 106°03′·5E) situated 10 miles off the coast.

Tanjung Menjangan Light (white beacon) (3°49′S, 106°00′E).

(Directions for Selat Bangka are given at 5.16)

Rivers, anchorages and landing

Sungai Seputih

3.75

1 **Description.** Sungai Seputih flows out on the S side of Tanjung Kenam (4°40′S, 105°55′E); it is only suitable for small craft as there is a depth on the bar of not more than 0·9 m.

Two tributaries, Sungai Pegadungan and Sungai Terusan, flow into Sungai Seputih a few miles above its mouth.

Surabayailia (Surabajailir), the first village of importance, is situated on the S side of the main river, 10 miles inland.

2 **Anchorage** can be obtained off Sungai Seputih in a depth of 6 m, soft mud, with Tanjung Kenam (4°40′S, 105°55′E) bearing 331° and the mouth of the river bearing 304° distant 4 miles; local knowledge is necessary.

Charts 2149, 941A

Sungai Tulangbawang

3.76

1 **Description.** Sungai Tulangbawang, one of the largest rivers in the S part of Sumatera, traverses the land in a general E and W direction, and enters the sea between Tanjung Tmak (4°24′S, 105°52′E) and Tanjung Bubuayan, 2 miles N.

The depth on the bar off the mouth is 0·9 m, and the rise of tide is usually less than 1·5 m. Just within the entrance the river is 2 cables wide with depths of 11 m, and barely a ½ cable wide at Menggala.

2 **Approach** to the river is marked by a beacon (port hand) standing 9 miles ENE of Tanjung Tmak, and a beacon (starboard hand), 3 miles NE of the same point; on the inner side of the bar, a stranded wreck lies on the N side of the channel.

3.77

1 **Anchorage** may be obtained off the mouth of Sungai Tulangbawang N of the banks which extend from the coast between Tanjung Kenam (3.69) and Tanjung Tmak; the outer edges of these banks are steep-to and are occasionally marked by surf in the SE monsoon.

Local knowledge is essential for vessels proceeding upriver, and attention must be paid to the broken trunks of trees standing in the water; there are four difficult bends to negotiate between the entrance and Menggala, a local administrative office situated 60 miles above the mouth, with depths to 3·7 m.

3.78

1 **Directions.** The anchorage should be approached on the parallel of 4°15′S, and vessels from S should keep in depths of not less than 16 m until on this parallel. When Tanjung Serdang (4°27′S, 105°54′E), with tall trees close S, bears 225°, care must be taken to be in a depth of not less than 13 m, and in this position other portions of the land will become visible, the high trees between the mouths of Sungai Tulangbawang and Sungai Mesuji, 14 miles N, being the first to be sighted. The S end of these trees

forms a good mark for bearings and the high trees on Tanjung Pasir (4°09′S, 105°50′E), the N entrance point to Sungai Mesuji, are also a good landmark. When Tanjung Bubuayan (4°23′S, 105°52′E) bears 202° and the depths decrease to 9 m, course should be altered to 180°, anchoring when this point bears 225°, in depths of 6 to 7 m.

Useful mark:

Tanjung Bungin Light (4°33′·5S, 106°03′·5E) (3.74).

Sungai Mesuji

3.79

1 **Description.** Sungai Mesuji is entered between Tanjung Tawar (4°11′S, 105°49′E), the S entrance which is difficult to identify, and Tanjung Pasir, 2 miles N. Although not as large as Sungai Tulangbawang (3.76), it is a river of some importance. Praus can reach Palembang (5.71) from it, passing through Sungai Babatan thence joining Sungai Ayerkomering (5.70) but vessels of 45 m and draught 2·4 m can easily reach Kampung Sungai Sodong (Gagusudin), a village 80 miles above the entrance, where the in-going stream is still noticeable.

2 **Depths.** The least depth on the bar at its mouth is 1·2 m, soft mud, and within the entrance depths vary from 9·1 to 11·9 m.

Local knowledge is essential for vessels proceeding up these rivers.

Anchorage can be obtained 5 miles SE of the mouth of Sungai Mesuji, which will then be seen entirely open, in a depth of 7 m.

3 **Directions.** To reach the above anchorage, vessels should steer for the mouth of the river, bearing 293°, until in a depth 9 m, thence steer a W course for the anchorage. This route leads well clear N of the banks off the mouth of Sungai Tulangbawang.

Sungai Lumpur

3.80

1 **Description.** Sungai Lumpur flows out 25 miles N of Tanjung Menjangan (3°50′S, 105°57′E), and is of some importance owing to the fact that small local vessels can proceed to Palembang through it and its tributaries. The entrance is marked by nipa palms growing on the broad mudbanks on either side; the channel here has a depth of 1·8 m, increasing rapidly from 4·9 to 8·8 m inside the mouth, where the river is 1½ cables wide. There are only slight bends in the lower reach but a few miles up these become short and sharp.

2 **Anchorage** can be obtained in a depth of 5 m with the mouth of the river bearing 305°, distant 8 miles, but caution must be exercised when approaching, as a mudbank, with a depth of 5 m over it, lies on this bearing 14 miles from the river mouth.

Sungai Pidada

3.81

1 **Description.** Sungai Pidada (3°21′S, 105°55′E) flows out 5 miles NNE of the mouth of Sungai Lumpur (3.80) and is barely a ½ cable wide at its mouth, with a least depth of 1·2 m on the bar, increasing to 3·4 m inside.

Although the coast here is uninhabited, there are usually numerous praus from Pulau Bangka and Palembang making a temporary stay.

2 Another river flows out 1·5 miles NE of Sungai Pidada and is ½ cable wide, with a least depth of 1·5 m on the bar, increasing rapidly to 3·4 and 4·3 m inside; the best course on which to enter the river is with some high trees on the N bank bearing 326°.

Local knowledge is essential for both rivers.

Teluk Berugu

3.82

1 **Landing** can be effected on the sandy parts of Teluk Berugu, a shallow bay which is alternately sandy beach and swamp, immediately N of Tanjung Menjangan (3°50′S, 105°57′E) (3.69).

Useful mark:

Tanjung Menjangan Light (3.74) when approaching the bay.

NORTH COAST OF JAWA — TANJUNG PUJUT TO TANJUNG KRAWANG

GENERAL INFORMATION

Charts 2056, 2149

Scope of the section

3.83

1 In this section are described:

An offshore route between Tanjungpriok and Selat Gelasa.

The passage, harbours and anchorages along the N coast of Jawa between Tanjung Pujut (5°53′S, 106°03′E) and Tanjung Pasir, nearly 40 miles ESE.

Approaches to Tanjungpriok.

Port of Tanjungpriok (6°06′S, 106°54′E) (3.130).

Topography

3.84

1 The N coast of Jawa between Tanjung Pujut (5°53′S, 106°03′E) (2.21), and Tanjung Pasir (6°01′S, 106°41′E), is generally low, marshy and thickly wooded. The coastline is heavily indented by bays, the largest being Teluk Banten (3.104).

Except for the mountains S of Tanjung Pujut, Pinang (2.44), a hill, 11½ miles SSE of the same point, and the islands off Teluk Banten, described later, there are few prominent landmarks along this stretch of the coast.

2 The high mountainous land far inland, particularly S of Jakarta, which runs in an E and W direction, is usually only visible in the NW monsoon or occasionally early in the mornings in the SE monsoon. These mountains are described in *Indonesia Pilot Volume II*.

Exercise area

3.85

1 See 3.4.

Conservation area

3.86

1 See 3.26 and 1.65.

Winds and weather

3.87

1 On the coast between Selat Sunda and the meridian of 111°E, during the NW monsoon, the sea breeze adds strength to the wind and draws it into NW or N during the daytime, but the land wind is seldom felt. Both land and sea breezes occur during the SE monsoon. Between monsoons, calms are common, with occasional squalls.

These may be from any direction, and are usually associated with thunderstorms, especially in March and April.

OFFSHORE ROUTE

General information

Charts 2056, 2149

Route

3.88

1 An offshore route for vessels on passage between Tanjungpriok (6°06′S, 106°54′E) and South China Sea passing through Selat Gelasa (see *Ocean Passages of the World*) initially leads N, passing E of Pulau-pulau Seribu (3.26) and between Beting Raja (5°13′S, 106°44′E) and Beting Eka, 11 miles ESE, both of which display lights; thence NNE to the entrance of Selat Baur, the E channel of Selat Gelasa.

2 From Beting Raja, the route to the approaches to Selat Leplia, the W channel of Selat Gelasa, or Selat Bangka, continues N, passing E of all the oilfield development areas.

Wrecks

3.89

1 Numerous wrecks lie in the waters N of Beting Raja, some may need to be avoided depending on draught; see 3.5.

Natural conditions

3.90

1 **Flow.** See 3.9.

Winds and weather. See 3.87.

Major lights

3.91

1 Pulau Damar Besar Light (5°57′·5S, 106°50′·5E) (3.115).

Pulau Jagautara Light (5°12′S, 106°27′E) (3.39).

Pulau Simedang Light (3°19′S, 107°13′E) (6.21).

Pulau Peniki Light (white metal framework tower, 35 m in height) (5°42′S, 106°43′E).

Other aids to navigation

3.92

1 **Racons:**

Pulau Damar Besar Light (5°57′·5S, 106°50′·5E).

Pulau Peniki Light (5°42′S, 106°43′E).

Beting Raja Light (5°13′S, 106°44′E).

Beting Eka Light (5°17′·5S, 106°54′·5E).

For further details see *Admiralty List of Radio Signals Volume 2*.

Directions

To Selat Baur

3.93

1 From a position between Pulau Damar Besar (5°57′·5S, 106°50′·5E) (3.117), in the N approaches to Tanjungpriok, and a dangerous wreck, marked by a light-buoy (isolated danger), lying 2 miles E of the island, an offshore route leads to Selat Baur, the E navigable channel of Selat Gelasa. Initially it leads N, for a distance of approximately 42 miles, to a position between Beting Raja (5°13′S, 106°44′E) and Beting Eka, 11 miles ESE, thence a further 109 miles NNE to a position W of Karang Genting (3°34′S, 107°41′E) (6.15) at the S approach to Selat Baur, passing:

2 E of Karang Tohorjantan (5°48′·5S, 106°48′·8E) (3.123), thence:

E of Pulau Peniki (5°42′S, 106°43′E), an isolated island from where a light (3.91) is displayed, and covered with high trees; the island is visible at a distance of 14 miles, thence:

Clear of several dangerous wrecks lying generally S, and from 5 to 17 miles distant from Beting Eka (below), as shown on the chart, thence:

3 WNW of Beting Eka, (5°18′S, 106°54′E), a steep-to coral reef with a depth of less than 2 m over it. A light-beacon (isolated danger, 10 m in height) stands on the reef. In 1962, shallow water was reported to extend up to a radius of 3 miles from this reef. A stranded wreck and a dangerous wreck lie 3 cables S and 5½ miles SSE, respectively, of the light-beacon. Thence:

4 ESE of Beting Raja (5°13′S, 106°44′E), a coral patch with a small bank of white coral sand; a light-beacon (isolated danger, 12 m in height) stands on the coral patch, with a dangerous wreck lying 5 cables SSW and a stranded wreck lying SSE, respectively, of the light, thence:

Clear of the stranded wreck of a derelict platform (5°08′S, 106°57′E), thence:

5 Clear of two dangerous wrecks (4°49′S, 107°06′E and 6½ miles farther N), thence:

Clear of a reported shoal patch (3°45′S, 107°29′E).

From N, preference may be given to passing W of Pulau Peniki and SW of Karang Tohorjantan, thence entering the approaches to Tanjungpriok passing either side of Pulau Damar Besar; see 3.123.

3.94

1 **Useful mark:**

Karang Genting Light (3°34′S, 107°41′E) (6.23).

To Selat Leplia or Selat Bangka

3.95

1 Follow the directions as given in 3.93 above as far as Beting Raja, thence the route continues N for a further 102 miles approximately, to a position at least 4 miles W of Karang-karang Suji (3°34′S, 106°55′E) (6.62), from where a light is displayed, passing:

E of a patch of discoloured water (5°03′S, 106°46′E), thence:

E of Widuri and Intan Oilfields (3.15) thence:

2 E of a stranded wreck in approximate position 4°15′S, 106°41′E, thence:

E of Five Fathom Bank (3°48′S, 106°29′E) (3.41).

Vessels bound for Selat Bangka should then proceed to a position SW of Pulau Dapur (3°08′S, 106°31′E) at the S entrance to the strait.

Caution. A number of dangerous wrecks lie close to the track 20 miles E of Five Fathom Bank, and also on the approach to Selat Bangka

Low powered vessels. See 3.43.

(Directions for Selat Gelasa are given at 6.13; for Selat Bangka at 5.16)

TANJUNG PUJUT TO TANJUNGPRIOK APPROACHES

General information

Chart 2056

Route

3.96

1 Vessels plying the coastal waters of N Jawa between Tanjung Pujut (5°53′S, 106°03′E) and the approaches to

Tanjungpriok usually follow the Outer Channel route as given at 3.50; however, with suitable draught and in daylight, vessels can also enter Tanjungpriok from W through Inner Channel, the directions for which are given at 3.120.

Topography

3.97

1 Between Tanjung Pontang (5°56′S, 106°16′E) and Tanjung Kait, 16½ miles E, the coast recedes to form a bay, with depths of less than 5 m, mostly muddy bottom, extending 2½ miles offshore in places. Tanjung Kait is a low point, difficult to identify from W but plainly discernible from E; a conspicuous tree (see 1.38), visible from all directions, stands 6 cables S of the point. Pulau Laki (5°57′S, 106°31′E), a low uninhabited islet, wooded with prominent high trees which are visible between 11 to 12 miles, lies 3½ miles NNW of Tanjung Kait.

2 Several rivers flow into the sea along this stretch of coastline and there are several villages within its shores. A prominent group of trees stands near the village of Mauk (6°04′S, 106°31′E). See also 3.84.

Debris

3.98

1 **Caution.** Nearly all the rivers flow into the sea between low points of land, bringing down a considerable amount of debris with them. Both the land and the coastal bank may have extended seawards at these places which should therefore be rounded with care, taking soundings and remaining in a safe depth of water.

Wind and weather

3.99

1 See 3.87.

Principal marks

3.100

1 **Landmark:**

Radio mast, standing on Pulau-pulau Tidung (5°51′S, 106°37′E) (3.50).

Major light:

Pulau Tunda Light (5°49′S, 106°17′E) (3.48).

Passage directions

3.101

1 Vessels bound for Tanjungpriok from the vicinity of Tanjung Pujut (5°53′S, 106°03′E) usually pass S of Pulau Tunda (5°49′S, 106°17′E), thence by either Outer Channel (3.50) or Inner Channel. The latter channel can only be used in daylight. Nearly all the islands adjacent to both channels are low and flat, but they can usually be plainly seen owing to their thick overgrowth, and there is also slight vegetation on the broad coastal reefs generally surrounding them. There are numerous reefs on both sides of the two channels, but those with depths of less than 5 m over them are usually marked by discolouration; the water in Inner Channel is not so clear as that in Outer Channel.

(Directions for the approach to Tanjungpriok via Outer Channel are given at 3.117; for Inner Channel they are given at 3.120)

Merak Oil Terminal

General information

3.102

1 **Position.** Merak Oil Terminal is situated at Tanjung Piatu, 2 miles E of Tanjung Pujut (5°53′S, 106°03′E).

Function. The terminal is designed for large tankers to discharge oil to a tank farm for redistribution elsewhere by small coastal tankers.

Largest vessel to use the berth was one of 32 000 dwt.

Anchorage is available 1 mile N to NE of the terminal in depths from 30 to 40 m; the light situated at Tanjung Piatu (3.50) is a useful mark.

2 **Pilotage** is arranged through the Harbour Master at Merak (2.68) or through local agents. Berthing or unberthing is conducted at slack water.

Berth. A dolphin berth is connected to the shore by a narrow bridge; lights (special) are displayed from each dolphin. Strong tidal streams have been reported alongside the berth.

Facilities are limited.

Guna Nusa

General information

3.103

1 **Position.** Guna Nusa (5°56′S, 106°06′E) lies close NW of Tanjung Kapo (3.104).

Function. Guna Nusa consists of an offshore fabrication yard with a wharf about 60 m long parallel with the coast.

Anchorage. Small vessels can anchor off the coast in depths of 12 to 13 m, in good holding ground, E of Pulau-pulau Kali, two low and wooded islets 1½ miles NNE of Guna Nusa.

Pilotage is not available.

2 **Directions.** It is inadvisable to attempt to berth alongside the wharf at night on account of the numerous fish traps off the mainland and Pulau Panjang coasts.

It has been recommended that, by day, a vessel should steer S from the anchorage keeping close to the fish traps off the W coast of Pulau Panjang, and turn gradually to bring Tanjung Kapo ahead. When about 2½ cables off this point a vessel should turn NW to close the wharf taking care to keep clear of a small black buoy which marks a sunken reef lying between 2 and 3 cables off the wharf.

Berth. Tugs and barges with a draught of 4·8 m can berth alongside the wharf.

Teluk Banten

General information

3.104

1 **General description.** Teluk Banten, a large open bay, is entered between Tanjung Kapo (5°56′S, 106°07′E), a high and prominent point from where a light (3.51) is displayed, and Tanjung Pontang, a low wooded point with high trees, 8¾ miles E. The latter point is formed by the delta of Ci Ujung, and its E side appears to be extending N.

The land on the W side of the bay is hilly, terminating in Santri (3.48), 3 miles SSW of Tanjung Kapo; the remaining shores of the bay are low, marshy, and fringed by a wide, shallow mudflat.

2 Pulau Panjang, the largest of several islets within the bay and the only one that is inhabited, lies 1½ miles E of Tanjung Kapo, and is low and wooded; its S side is bordered by a reef extending 5 cables offshore in places.

A new deep water port, Bojonegara, is being constructed in the bay.

Local knowledge. For entry to the roadstead at Karangantu recent local knowledge is essential.

3 **Tidal streams.** The W-going stream sets against and around Tanjung Pontang, into the bay, thence S and W of Pulau Panjang.

Anchorage for small vessels can be obtained off Karangantu at the head of the bay, which is the port of

Serang, 5 miles inland. There are warehouses, and a harbour for praus; the port is connected by rail to Jakarta.

4 **Directions.** The roadstead at Karangantu is continually shoaling. A vessel, while observing the caution at 3.98, can safely enter the bay passing either E or W of Pulau Pamuyan Besar, a low and wooded islet with a noticeable clump of trees in the middle, which lies 2 miles W of Tanjung Pontang, and clear of Pulau Pamuyan Kecil, 2 miles SW.

5 **Useful mark:**

Karangantu Light (white beacon, 10 m in height) (6°02′S, 106°10′E).

Caution. Owing to fishing stakes, navigation within the 10 m depth contour is sometimes difficult.

Anchorage

3.105

1 Anchorage may be obtained off the mouth of Ci Durian, which lies 7¼ miles W of Tanjung Kait (6°01′S, 106°32′E), in depths of 4 to 7 m. A prominent group of trees (see 1.38), visible 8 miles, whose position has not been accurately determined, stands close E of the river mouth. If kept between the bearings 202° and 226° it leads between the coastal mudbank extending 2½ miles offshore, N of the village of Tamara, and the foul ground on which lie two reefs, NNE of Pulau Cangkir. The latter is wooded with high trees and sometimes difficult to distinguish, as it lies close inshore, 5½ miles WSW of Tanjung Kait.

APPROACHES TO TANJUNGPRIOK

General information

Charts 932 plan of Approaches to Pelabuhan Tanjungpriok, 933, 2056, 3729

Routes

3.106

1 The port of Tanjungpriok is approached from W by using either Outer Channel or, depending on conditions, Inner Channel; from N by passing either side of Pulau Peniki (5°42′S, 106°43′E) and Pulau Damar Besar (5°57′·5S, 106°50′·5E), or from E by keeping in depths of not less than 24 to 26 m on rounding Tanjung Krawang (5°56′S, 107°00′E) thence, on account of the numerous fishing traps which can be encountered off that coast, keeping NW of the harbour limits, as shown on the chart, until Pulau Damar Besar is reached.

2 **Caution.** Between Pulau-pulau Tidung (5°51′S, 106°37′E) and Pulau Rambut (3.121), 8 miles SE, lie numerous coral reefs and vessels approaching from W are cautioned to avoid this area.

Topography

3.107

1 Between Tanjung Kait (6°01′S, 106°32′E) and Kali Kramat, a small river, 3½ miles ESE, rice fields run down close to the beach, but further E the coast consists of a strip of marshy land beyond which stand some fairly high trees. The only river of any importance is Sungai Cisadane, which enters the sea E of Kali Kramat by five mouths, in which there is only a depth of 0·3 m.

2 Tanjung Pasir (6°01′S, 106°41′E), 8½ miles E of Tanjung Kait, is difficult to identify on account of the low uniform coast on either side of it; a village bearing the same name, and surrounded by coconut palms, is situated on the W side of this point.

3 Between Tanjung Pasir and Tanjungpriok, 13 miles ESE, the coast is low, uniformly wooded and backed far inland by mountains described in *Indonesia Pilot Volume II*. The city of Jakarta, with its artificial harbour of Tanjungpriok, stands 10 miles SE of Tanjung Pasir.

Tanjung Krawang (5°56′S, 107°00′E), which forms the E limit of Tanjungpriok, is low, but can be readily identified by some bare trees on its W side, and some tall trees close E, which are visible from a distance of 13 miles.

Local knowledge

3.108

1 See 3.120.

Prohibited anchorages

3.109

1 Anchoring is prohibited within an area, which includes a submarine oil pipeline, extending between Pulau Kapal (6°02′S, 106°44′E) (3.150) and the shoreline W of Muara Baru (3.174), as shown on the chart; Karang Bangau (6°04′S, 106°45′E) lies at its SW corner and Karang Tahan (3.158), 3 miles E, at its NE corner.

Anchoring is also prohibited in an irregular area stretching S to the shore from a line joining Karang Pipa (6°04′·5S, 106°48′·8E) (3.158) and Karang Puluputri (3.121), 2½ miles E, and extending with increasing width for 11 miles NNE of such a line.

Submarine cables

3.110

1 Submarine cables, which are shown on the charts, lie N and W from Jakarta leading to the N entrance of Selat Sunda, and N of Jakarta leading to Selat Gelasa.

A submarine cable, also shown on the charts, leads E from Tanjungpriok to Surabaya, passing N of the Ardjuna Oilfields.

Submarine pipeline

3.111

1 See 3.129.

Dumping ground

3.112

1 A dumping ground for ammunition exists off the S side of Pulau-pulau Tidung (5°51′S, 106°37′E), as shown on the chart.

Conservation areas

3.113

1 An area within a line extending 3 cables from the shore of the following island locations in the W approaches to Tanjungpriok have been reserved for the conservation of rare species of birds found there:

Pulau Bokor (5°56′·6S, 106°37′·7E).

Pulau Rambut (5°58′·5S, 106°41′·5E).

Muara Angke (6°06′S, 106°46′E) also lies in a small conservation area, as shown on the chart.

For details of conservation areas, see 1.65.

Winds and weather

3.114

1 See 3.87.

Principal marks

3.115

1 **Landmarks:**

Conspicuous tree, near Tanjung Kait (6°01′S, 106°32′E) (3.97), visible in W approach only.

Pulau Laki (5°57′S, 106°31′E) (3.97), visible in the W approach only.

Pulau Peniki (5°42′S, 106°43′E) (3.93).
Pulau Lancang Besar (5°56′S, 106°35′E) (3.121), visible in the W approach only.
Pulau Bokor (5°57′S, 106°38′E) (3.121), visible in the W approach only.

2 Pulau Damar Besar Lighthouse (white metal tower, 52 m in height) (5°57′·5S, 106°50′·5E); obscured 112°–116°(4°).
Silos (6°06′S, 106°53′E) (3.155).
Chimneys (6°07′S, 106°47′E) (3.155).
Chimney (6°08′S, 106°48′E) (3.155).
Building (6°08′S, 106°49′E) (3.155).
Monument (6°07′S, 106°51′E) (3.155).

3 **Major lights:**
Pulau Peniki Light (5°42′S, 106°43′E) (3.91).
Pulau Payung Besar Light (5°49′S, 106°33′E) (3.48).
Pulau Damar Besar Light — as above.
Tanjungpriok Harbour Light (6°06′S, 106°53′E) (3.155).

Other aids to navigation

3.116

1 **Racons:**
Pulau Peniki Light (5°42′S, 106°43′E).
Pulau Damar Besar Light (5°57′·5S, 106°50′·5E).
Pulau Talak (6°00′·4S, 106°49′·8E).

For further details see *Admiralty List of Radio Signals Volume 2*.

Directions from west

(continued from 3.51)

Approach through Outer Channel

3.117

1 From a position N of Karang Jong (5°51′S, 106°39′E) (3.50) which lies in the E part of Outer Channel, the route to the pilot boarding station (3.147) initially leads SE thence S for a distance of approximately 20 miles, passing (with positions from Pulau Damar Besar Light (5°57′·6S, 106°50′·5E)):
NE of Karang Jong (13¼ miles WNW), thence:
NE of Gosong Dapur (7 miles WNW), a reef on which stands a light-beacon (white metal beacon), thence:

2 SW of Pulau Damar Besar, an island covered in tall trees from where a light (3.115) is displayed; it lies on the W limit of the prohibited anchorage (3.109). A stone landing pier, beyond the head of which the fringing reef extends for 2½ cables, projects from the W side of the island. A steep-to reef, on which stands a beacon (starboard hand), lies 5 cables N of the island; a buoy (starboard hand) lies 4½ cables NE of the beacon. Thence:

3 Between Pulau Wanara (1¼ miles S), which is wooded, and Pulau Talak (3 miles SSW), with a prominent cupola-shaped tree on the N edge of the surrounding reef. A depth of 15·5 m lies in the fairway between these two islands, 8 cables ENE of Pulau Talak.

The track continues SE passing Karang Nirwana (06°01′·8S, 106°50′·9E) to a position on the following leading line:

4 Front leading light (white triangle point up on metal framework beacon, 25 m in height) (06°05′·8S, 106°52′·9E).
Rear leading light (white triangle point down on similar structure, 41 m in height) (06°06′·4S, 106°52′·8E).

The alignment (about 181°) of these lights leads S passing (with positions from Pulau Damar Besar Light (5°57′·6S, 106°50′·5E)):

5 Between the channel-marking buoys which lie 1¼ and 2¼ miles E respectively of Karang Nirwana (4½ miles S), a drying reef. A light (green beacon, 10 m in height) is displayed from a position close E of the E extremity of the reef.

Thence the route continues, passing (with positions from Karang Nirwana (6°02′S, 106°51′E)):

6 E of a buoy (isolated danger) (1¾ miles SE). A stranded wreck and a dangerous wreck, the positions of which are approximate, lie ¾ cable S and 3¼ cables SSE, respectively, of the buoy; a buoy (port hand) is moored close W of the buoy. Thence:

7 W of a dangerous wreck, position approximate (2¾ miles SE), marked by a buoy (isolated danger), lying in the SW corner of the cargo ship anchorage (3.143).

3.118

1 **Cautions.** When passing through this area the islands mentioned above should be given a wide berth on account of numerous fish traps and/or fishing stakes in the waters within 5 cables of them, particularly between Pulau Damar Besar and Pulau Wanara.

Between Karang Nirwana and the harbour entrance there are several dangerous wrecks; some may not be marked by navigational aids.

Useful marks

3.119

1 Tanjungpriok W Breakwater Light (6°04′·8S, 106°52′·8E) (3.157).
Sundakelapa Light (beacon, 19 m in height) (6°07′·2S, 106°48′·5E).

(Directions continue for entry to Tanjungpriok at 3.156)

Approach through Inner Channel

3.120

1 **Caution.** Inner Channel is unlit and should only be used by day. Unless having the benefit of recent local knowledge, it is not recommended to pass between Pulau Laki (5°57′S, 106°31′E) and the coast S, nor between Pulau Kapal (6°02′S, 106°44′E) (3.150) and the coast W, nor is it advisable to pass S of Pulau Ubi Besar (6°00′S, 106°44′E) and Pulau Kapal, on account of the numerous fishing stakes and the shallow patches near the coast. The E side of Karang Pulaulaki (3.121) should be given a wide berth due to fishing stakes in the area, as shown on the chart.

3.121

1 From a position S of the E extremity of Pulau Tunda (5°49′S, 106°17′E) and clear of a wreck with a depth of 7 m over it, 3 miles S (3.50), the inner route to Tanjungpriok generally leads ESE for a distance of approximately 38 miles. The high trees just E of the mouth of Ci Durian (6°01′S, 106°25′E) (3.105) will be sighted and soon afterwards Pulau-pulau Tidung (5°51′S, 106°37′E) will

be visible. When the E extremity of Pulau Tunda bears NNW, the prominent group of trees near Mauk (3.97), the prominent tree S of Tanjung Kait (3.97), and Pulau Laki (3.97), will all be sighted at the same time.

2 After passing S of Pulau Tunda the track passes:

SSW of Karang Besar (5°53′S, 106°28′E) (3.50) and Karang Laut, a steep-to reef, 2 miles E, the two W dangers bordering the N side of Inner Channel, thence:

SSW of Karang Tongara, another steep-to reef, lying 3½ miles ESE of Karang Besar, thence:

3 NNE of the N edge of Karang Pulaulaki, the name given to the coastal bank which extends 4¼ miles N from Tanjung Kait (6°01′S, 106°32′E). It is composed of hard sand covered by a layer of mud with patches of stones which dry in places. Karang Serang, a rocky patch, lies on the coastal bank, 1½ miles NE of Tanjung Kait. Thence:

SSW of Karang Pejinab, situated 5 miles NNE of Tanjung Kait and 5 cables W of the dangerous reef bordering Pulau Lancang Besar, see caution below, thence:

4 SSW of Pulau Lancang Besar (5°56′S, 106°35′E) with Pulau Lancang Kecil, close SE, and Pulau Gosonglancang, 3 cables E, which together form three low, wooded islands, visible from a distance of 9 miles; a prominent tree with two crowns, one above the other, stands on Pulau Lancang Kecil. The reef surrounding this group dries in places, has patches of vegetation on it, and some rocky heads. Thence:

5 SSW of Pulau Bokor (1¾ miles E of Pulau Lancang Kecil), a low reef-fringed island, which lies within a conservation area (3.113), covered with high trees and visible from a distance of 12 miles. Several shallow patches lie S and SW of the island; Lumbang lies nearly 1 mile SW, and Karang Tiga 1 mile S of, Pulau Bokor. Thence:

S of Gosong Pulubokor (2 miles SE of Pulau Bokor), thence:

Clear of Karang Ketapang (1 mile SE of Gosong Pulubokor), a detached reef, thence:

6 Between the N edge of the reef extending N from Tanjung Pasir (6°01′S, 106°41′E), consisting of hard sand and mud with two patches of sand, steep-to at its extremity, and across which it is reported that a breakwater extends 1½ miles NNE from Tanjung Pasir; with the SW edge of the reef bordering Pulau Rambut (5°58′S, 106°41′E), a conservation island (3.113), lying 4 cables N. Pulau Untungjawa lies 4 cables E of Pulau Rambut and is of similar appearance.

7 The track then passes either:

Between Karang Ubi, a rock, which lies close E of Pulau Ubi Besar (6°00′S, 106°44′E), a wooded island lying on a reef, and Karang Ayer Kecil, 1¼ miles NE, wooded and fringed by a reef, thence:

8 S of Pulau Ayer Besar (6°00′S, 106°47′E), wooded, with Karang Ayer, a rock, 3½ cables WNW; Karang Jalan, a reef on which there is a light-beacon (isolated danger) and a beacon, lies nearly 2 miles S of the island, thence:

Clear of a dangerous wreck which lies 1¼ miles SE of Pulau Ayer Besar, thence:

Clear of a dangerous wreck which lies 9 cables SSW of Karang Nirwana (6°02′S, 106°51′E) (3.117), another dangerous wreck lies a further 8 cables SSW, thence:

S of Karang Nirwana, thence:

9 N of Karang Puluputri (6°04′S, 106°51′E), 2¼ miles S, marked by a light-beacon (port hand) on its E side, thence towards the pilot boarding position passing clear of the light-buoy (isolated danger) and the wrecks as described at 3.117.

Or:

N of Karang Ayer Kecil, and Karang Ayersedang, a reef with a patch of sand on it from where a light (green triangle point up, on green beacon, 10 m in height) is displayed, 1 mile E, which should not be passed within 100 m, thence:

10 N of Pulau Talak (3.117), thence towards the harbour as described at 3.117 passing between the channel light-buoys which are moored E of Karang Nirwana.

The latter track passes close S of an SPM (3.129) situated 1½ miles NNW of Pulau Ubi Besar (6°00′S, 106°44′E) and should be given a wide berth.

11 **Caution.** The group of trees near Mauk has sometimes been mistaken for Pulau Laki, and the trees on Pulau Laki have also occasionally been mistaken for Pulau Lancang; the latter island is generally sighted about the same time as Pulau Bokor. See also Cautions at 3.118.

Useful marks

3.122

1 Citus Port Light (white beacon, 10 m in height) (6°02′S, 106°34′E).

Chimney, which displays an obstruction light, standing 4 cables SE of Sundakelapa Light (6°07′·2S, 106°48′·5E).

Hotel, standing 1½ miles E of Sundakelapa Light.

(Directions continue for entry to Tanjungpriok at 3.156)

Directions from north

Approach from east or west of Pulau Peniki

3.123

1 **East of Pulau Peniki.** Having taken the offshore route (3.93) from N into account and from a position about 7 miles E of Pulau Peniki (5°42′S, 106°43′E), the route to a position SE of Pulau Damar Besar (5°57′·5S, 106°50′·5E) leads S for a distance of approximately 17 miles, passing (with positions from Pulau Damar Besar):

2 E of Karang Tohorjantan (Gosong Tohorjantan) (5°48′·5S, 106°48′·8E); the discolouration caused by this reef can be seen from a distance of 5 cables. A dangerous wreck, reported 1966, lies 4 cables SW and there are several detached reefs within 6 miles W of the reef; Karang Jawiel, lies 1½ miles SSW. Thence:

3 W of a reported depth (1980) of 9·1 m and a reported depth (1975) of 12·8 m (5¾ miles and 5¼ miles NNE, respectively), thence:

Clear of Karang Susuh (4 miles N), depending on draught, thence:

E of a steep-to reef (5 cables N) (3.117), thence:

E of Pulau Damar Besar from which a light (3.115) is displayed, and:

4 W of a dangerous wreck (3.93) (2 miles E); another dangerous wreck lies a farther 4 cables NE. Thence:

Clear of a reported (1986) dangerous wreck with mast (1¾ miles ESE), position approximate, thence:

E of Pulau Wanara (1¼ miles S) (3.117).

Thence as described at 3.117 on the alignment of leading lights which lead between the channel light-buoys moored E of Karang Nirwana (6°02′S, 106°51′E) and towards the pilot boarding position (3.147).

5 **West of Pulau Peniki.** From a position W of Pulau Peniki, the route to the harbour lies SE towards Pulau Damar Besar passing:

Clear of an obstruction (5°45′·0S, 106°42′·5E), lying 3½ miles S of Pulau Peniki, thence:

SW of Karang Tohorjantan, described above, thence as described at 3.117 from SW of Pulau Damar Besar.

Caution. See 3.118.

Useful marks

3.124

1 Breakwater Lights (3.156) standing at the entrance to Tanjungpriok Outer Harbour.

Gosong Dapur Light (5°55′S. 106°44′E) (3.117).

(Directions continue for entry to Tanjungpriok at 3.156)

Directions from east

3.125

1 For vessels plying the through route from E Jawa and bound for Tanjungpriok, keeping N of an entry restricted area, as shown on the chart, the route from a position N of Tanjung Krawang (5°56′S, 107°00′E) to the pilot boarding station (3.147) initially leads SW, then S from the vicinity of Pulau Damar Besar (5°57′·5S, 106°50′·5E), a distance of approximately 22 miles, passing (positions given from Pulau Damar Besar):

2 Clear of an obstruction (14¾ miles NE), at the NW corner of an entry restricted area (4.11) containing offshore oilfields, thence:

Clear of a reported area (1989) of piles (7¼ miles NE), thence:

Clear of reported depths (5¼ and 5¾ miles NNE) (3.123), thence as directed at 3.123.

3.126

1 **Caution.** When S of latitude 5°55′S, a vessel would be advised not to approach Tanjungpriok or outer anchorages (3.143) from E of longitude 106°55′E on account of the innumerable fish traps and huts which would be encountered up to 5 miles off the coast between Tanjung Krawang and Muara Pondoktengah, 7 miles S.

Useful marks

3.127

1 Tanjung Krawang Light (red beacon, 13 m in height) (5°54′·3S, 107°00′·5E).

Tanjungpriok E Breakwater Light (6°04′·8S, 106°52′·9E) (3.157).

(Directions continue for entry to Tanjungpriok at 3.156)

Side channels

3.128

1 A navigable channel lies between Karang Puluputri (6°04′S, 106°51′E) (3.121) and Karang Lamteri, 1½ miles WSW; a light-beacon (starboard hand) stands on the N side of Karang Lamteri with a light-buoy (starboard hand) lying 9 cables ESE.

A channel lies between Karang Puluputri and Karang Timbul (3.156), 1 mile E; Karang Telegraf, over which there is depth of 6·9 m, lies 5 cables SE of Karang Puluputri, and a similar depth lies 6 cables ENE of the same danger.

Cengkareng Terminal

3.129

1 **General description.** Cengkareng Terminal is located in the W approaches, 1½ miles NNW of Pulau Ubi Besar (6°00′S, 106°44′E). The terminal handles oil products and consists of an SPM, from which a light is displayed, connected by a submarine pipeline extending 3¾ miles SW to the shore at a position 1½ miles SE of Tanjung Pasir (6°01′S, 106°41′E). For further information on submarine pipelines see 1.51.

2 **Terminal Authority.** The terminal is operated by Pertamina P&T UPDN III Jakarta.

Limiting conditions. Vessels of 36 500 dwt and up to 200 m in length may be accommodated; depth at the berth is approximately 21 m.

Arrival information. Berthing is restricted to daylight hours but unberthing may take place at any time.

PORT OF TANJUNGPRIOK

General information

Charts 933, 932 plan of Pelabuhan Tanjungpriok and Approaches.

Position

3.130

1 Tanjungpriok (6°06′S, 106°54′E), a major port lying within Teluk Jakarta on the N Jawa coast, is part of the city of Jakarta. The capital city of Jakarta is generally considered to embrace all the portions of the towns and suburbs, including Tanjungpriok, lying between Tanjung Pasir and Tanjung Krawang (5°56′S, 107°00′E).

Function

3.131

1 Tanjungpriok is the principal port of Indonesia, handling many varieties of cargoes; it is also a large container handling port.

There is a sizeable inter-coastal trade operating in and out of the port, which is very busy with continuous movements day and night.

2 Founded in 1619 and known as Batavia until 1949, Jakarta forms one of the largest commercial centres in the east. The older part of the city formerly stood on the sea-shore but, due to the extension of the foreshore, is now 1 mile inland.

In 2004 the population of the city was 8 987 800.

Port limits

3.132

1 The harbour limits extend from Muara Ancol (6°07′S, 106°50′E) to Karang Pasir (6°04′S, 106°49′E), thence to Pulau Damar Besar (5°57′·5S, 106°50′·5E) and thence to Tanjung Krawang (5°56′S, 107°00′E), as shown on the chart.

Approach and entry

3.133

1 The port can be approached from three directions, W, N or E (see 3.106) passing either side of Pulau Damar Besar; entry is made through the deep-water channel which leads into Outer Harbour (3.156).

Traffic

3.134

1 In 2004 the port handled 7152 vessels totalling 74 357 389 dwt.

Port Authority

3.135

1 Tanjungpriok Port Authority, Jalan Raya Pelabuhan No 9, PO Box 98\JKU, Tanjungpriok, Jakarta. Indonesia.

Navigational matters should be directed to the Harbour Master.

Limiting conditions

Depths

3.136

1 **Controlling depth** in the channel leading through Outer Harbour, and between the lines of mooring buoys on either side, is 9·4 m at lowest level which is maintained by dredging.

Charted depths. The least charted depth in the Outer Harbour channel is 10·5 m; however, a depth of 9·8 m lies 1 mile N of the entrance. In the E channel the least depth was 5·1 m, taken at the entrance.

2 **Deepest berths:**

Nusantara Basin (3.160).
No 1 Basin (3.161).
No 2 Basin (3.162).
No 3 Basin (3.163).
Oil basin (3.165).

Tidal levels

3.137

1 See *Admiralty Tide Tables*. Mean maximum range about 0·6 m.

Density of water

3.138

1 1·025 g/cm^3.

Maximum size of vessel handled

3.139

1 The largest vessel to be accommodated at the port was one of 70 000 dwt, having a length of 200 m and a draught of 10·5 m; length and draught limitations for the port, however, are 220 m and 11 m respectively.

Weather

3.140

1 Haze, which is common during the SE monsoon, may on rare occasions cause the visibility to fall to 1 mile or less in the vicinity of Jakarta and Tanjungpriok. Visibility may also be reduced in calm weather by smog. Prevailing winds W and E monsoons.

Arrival information

Port radio

3.141

1 **Coast radio station** situated at Jakarta, for further details see *Admiralty List of Radio Signals Volume 1(2)*.

Port radio: see *Admiralty List of Radio Signals Volume 6(4)*.

Notice of ETA

3.142

1 Vessels should forward their arrival time 24 hours in advance to their local agents through Jakarta Radio.

Outer anchorages

3.143

1 Permitted anchorage areas for various types of vessels lie E and W of the approach channel, and clear of the prohibited anchorage areas (see below) off the entrance to Outer Harbour. On arrival, vessels usually proceed direct into the harbour under pilotage but if requested to anchor to await a berth should proceed to one of the following designated areas:

2 **East side:**

Tankers: outer anchorage area bordered by a line joining positions (a) 6°00′·30S, 106°53′·27E to (b) 6°00′·30S, 106°54′·27E thence S to (c) 6°02′·00S, 106°54′·20E thence W to (d) a buoy (port hand) (6°02′·00S, 106°53′·11E); depths 17 to 19 m, mud.

3 General cargo vessels: anchorage area bordered by positions (d) and (c) thence SSE to (e) 6°03′·70S, 106°54′·44E thence W to (f) 6°03′·70S, 106°53′·06E thence N to (d); depths 12 to 17 m, mud.

4 Passenger vessels and vessels requiring repairs: anchorage area bordered by positions (f) and (e) thence SSE to (g) 6°04′·10S, 106°54′·50E thence W to (h) 6°04′·10S, 106°53′·03E thence to (f); depths of 10 to 12·7 m, stones and mud.

5 Coastal vessels less than 100 m in length: inner anchorage bordered by positions (h) and (g) thence SSE to (i) 6°04′·33S, 106°54′·33E (on the existing pecked line) thence to (j) 6°04′·62S, 106°54′·35E (on the existing pecked line) thence W to (k) to 6°04′·62S, 106°52′·99E thence to (h); depths 7 to 10 m, mud. A buoy (N cardinal), which marks a stranded wreck, is moored close S of the S border 8 cables ENE of W entrance E mole Light.

6 **West side:**

Ammunition: outer anchorage bordered by position (n) a light-buoy (starboard hand) 6°02′·00S, 106°52′·38E thence S to (o) 6°03′·36S, 106°52′·50E thence W to (p) 6°03′·36S, 106°51′·71E thence NNE to (n); depths 13 to 16·4 m, mud.

7 Quarantine: anchorage area bordered by positions (p) and (o) thence SSE to (q) 6°03′·87S, 106°52′·62E thence W to (r) 6°03′·87S, 106°51′·45E thence NNE to (p); depths 11 to 13·6 m, mud.

8 Coastal vessels less than 100 m in length: inner anchorage bordering positions (v) 6°04′·10S, 106°52′·36E thence E to (w) 6°04′·10S, 106°52′·65E thence SSE to (x) 6°04′·62S, 106°52′·75E thence W to (y) 6°04′·62S, 106°52′·36E thence N to (v); depths 6 to 8 m, mud. Karang Timbul Light-buoy (starboard hand) (3.156) marks the N limit of the anchorage, and is moored 1 cable NE of a dangerous wreck.

A lighterage area, with a radius of 5 cables, is centred 6°05′·16S, 106°51′·74E; depths 6 to 9·5 m, mud.

3.144

1 **Prohibited anchorages** extend 1½ miles N from the W entrance to Outer Harbour, and within an area situated 1¼ miles E of Tanjungpriok up to 3 miles from the shore; both areas are shown on the chart.

For details of prohibited areas which lie in part within the harbour limits and part outside, see 3.109.

Submarine pipelines

3.145

1 **Gas.** A gas pipeline which is laid from the oilfields E of Tanjung Krawang (5°56′S, 107°00′E), passing W of Pulau Damar Besar and Pulau Talak, is landed onshore at a position close W of Muara Karang (3.173), which lies within the harbour limits near the SW corner; a second

pipeline extends E from this position to Tanjungpriok, as shown on the chart.

2 **Oil.** An oil pipeline extends 2¼ miles N from a position on the shore 7 cables W of Muara Baru (6°06′S, 106°48′E) (3.174) to a group of mooring buoys.

For further information on submarine pipelines see 1.51.

Submarine cable

3.146

1 A submarine cable is landed close W of the yacht harbour (6°07′S, 106°49′E), as shown on the chart; see also 3.110.

Pilotage

3.147

1 **Pilotage** is compulsory for vessels entering Tanjungpriok; a 24 hour service is in operation. Requests for pilots should be made 24 hours before arrival and 3 hours before departure. Pilots board vessels 1, 2 or 3 miles N of Outer Harbour entrance, as shown on the chart. For further information on pilot boarding positions, see *Admiralty List of Radio Signals Volume 6(4).*

Tugs

3.148

1 **Tugs** equipped with salvage services are available, and are essential when berthing/unberthing in Pelabuhan Dua (3.162).

Regulations concerning entry

3.149

1 **Entry.** Vessels arriving at night, but not wishing to enter the port until daylight, should not request a pilot until entry has been arranged.

Arrival times and position may be required from the Signal Station by morse lamp.

Safety. Dangerous cargoes must be discharged into lighters outside the port area.

Quarantine

3.150

1 Radio Pratique, affording quarantine clearance throughout the 24 hours, may be granted subject to receipt by Port Health Division of a telegram by 1500 at the latest on the day before the vessel's arrival, giving details of health, crew numbers and last port of call. Vessels arriving without clearance should anchor in the quarantine anchorage given at 3.143.

2 The Disinfecting Station is situated on Pulau Cipir (6°02′S, 106°44′E) and the Quarantine Station on Pulau Kapal (Onrust) (6°02′S, 106°44′E), close N; both stations lie to the W of Tanjungpriok and outside of the harbour limits (3.132). See 3.159.

A mooring buoy lies close S of Pulau Kapal.

Harbour

General layout

3.151

1 **Pelabuhan Sundakelapa** lies on the W side of Teluk Jakarta and fronts the city of Jakarta; excepting the oil terminal (3.167), it is now little used but affords restricted anchorage for small craft between two prohibited areas (3.109).

2 Terusan Bandar a canal, links the old city of Jakarta with Pelabuhan Sundakelapa. The canal is formed by two moles projecting 1½ miles N from the HW line; there is a passage for boats through the E mole. Muara Ancol, a yacht harbour is situated about 1 mile E of the canal. Muara Baru (3.174), a fishing harbour, lies within the old harbour N of Jakarta.

3 **Pelabuhan Tanjungpriok** lies in the central part of Teluk Jakarta and fronts the town and harbours of Tanjungpriok. Between Pelabuhan Sundakelapa and Pelabuhan Tanjungpriok there are several offshore dangers which lie parallel to the coast. The chart is the best guide. It was reported (2001) that extensive reclamation is planned in an area immediately to the W of W main breakwater (6°05′·5S, 106°52′·5E).

3.152

1 **Outer Harbour** of Tanjungpriok is entered between two breakwaters which extend 9 cables N from the inner harbour and are almost awash at HW; the sea frequently breaks over them in the NW monsoon. An alternative entrance to the inner harbour, with lesser depths, lies 1¾ miles E and is formed by two breakwaters extending 4 cables N.

Inner Harbour, which comprises six basins, lies S of, and is entered from, Outer Harbour. Of the six basins, four contain deep-water berths.

Hazards

3.153

1 **Unlit vessels.** A number of laid-up vessels may be encountered in the approaches to Tanjungpriok. Some of these vessels may be unlit and a hazard to vessels attempting to anchor in one of the recognised anchorages at night.

Wrecks, some showing above water and some unmarked, lie in the vicinity of the harbour entrance.

2 **Fishing.** Numerous bamboo fishing stakes and traps lie in the E and W approaches to the harbour, as shown on the chart; they are dangerous to navigation and should be avoided.

Concentrations of traditional fishing craft may be encountered around the islands NW of the harbour entrance.

Natural conditions

3.154

1 **Tidal streams** off the harbour entrance and in the roads are practically nil. A very weak stream sets constantly out of the harbour, usually obliquely across the channel.

Climatic table for Jakarta see 1.137 and 1.138.

Principal marks

3.155

1 **Landmarks:**

The following marks are all conspicuous:

Chimneys (6°07′S, 106°47′E), four in number painted red and white in bands, standing close E of Muara Karang; obstruction lights are displayed from the chimneys.

Chimney (6°08′S, 106°48′E) standing in the N suburbs of Jakarta.

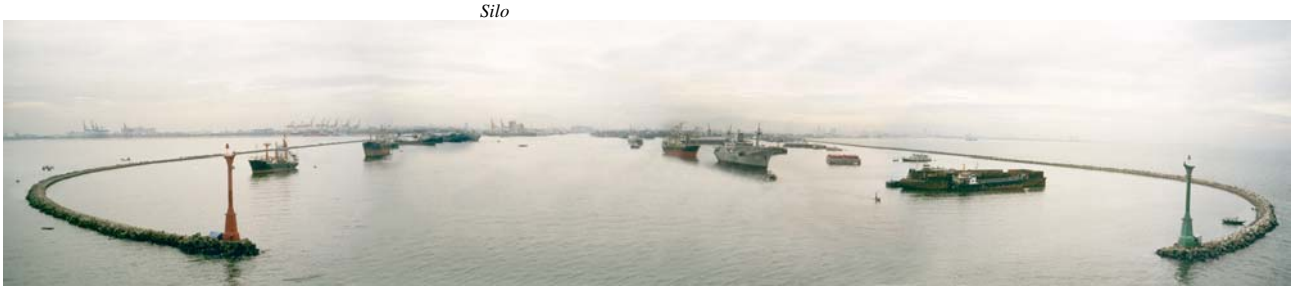
2 Building (6°08′S, 106°49′E) standing in the N suburbs of Jakarta.

Monument (6°07′S, 106°51′E), white, standing near the coast, 2 miles WSW of Tanjungpriok Inner Harbour.

Chimneys (6°07′S, 106°52′E) standing near the coast, close W of Tanjungpriok Inner Harbour, can be identified by red and white bands around their tops.

3 Silos (6°06′S, 106°53′E) standing near the head of Jakarta International Container Terminal 2, the E pier of No 1 Basin Tanjungpriok..

Silo



East breakwater light–structure *West breakwater light–structure*

Entrance to Tanjungpriok (3.156)

(Original dated 2000)

Major lights:

Pulau Damar Besar Light (5°57′·5S, 106°50′·5E) (3.115).

Tanjungpriok Harbour Light (white framework tower, 40 m in height) (6°06′S, 106°53′E) standing at the NW corner of No 1 Basin; visible between 090°–210°(120°).

Directions for entering harbour

(continued from 3.119, 3.122, 3.124 or 3.127)

3.156

1 **Caution.** An area of unexploded ordnance exists 1¾ cables NE of pilot boarding area C, as shown on the chart.

Leading lights

Front leading light (06°05′·8S, 106°52′·9E) (3.117).

Rear leading light (06°06′·4S, 106°52′·8E) (3.117).

From the vicinity of the pilot boarding position (3.147), as shown on the chart, on the alignment (about 181°) of these lights, the route into Outer Harbour passes:

2 W of a 9·8 m shoal patch which lies 1 mile N of the E breakwater head, thence:

E of Karang Timbul (6°04′·2S, 106°52′·3E), a shallow patch, with a light-buoy (starboard hand) 1¾ cables NNE; a dangerous wreck lies 1 cable N of the patch, thence:

Between the heads of the entrance breakwaters which are marked by light-beacons (port and starboard-hand), thence between the line of mooring buoys on each side of the channel.

3 The mooring buoys which lie on the E side of the channel are covered by the white sector of the E Breakwater Light.

3.157

1 Vessels entering or leaving by the alternative entrance on the E side of the harbour should avoid the shallow patches of Karang Cikasi and Karang Prigem which lie 1¼ miles NNE and 1½ miles N respectively from the entrance.

Directions for Muara Karang Oil Terminal

3.158

1 From the vicinity of the pilot boarding position at Tanjungpriok, the approach to the offshore oil terminal (see 3.167) leads W passing N of several offshore dangers which run parallel to the shore; namely, Karang Puluputri (6°04′S, 106°51′E) (3.121), which is marked on its E side by a light-beacon (port hand); Karang Pasir (6°04′S, 106°49′E), a drying reef from where a light (white GRP beacon, 10 m in height) is displayed; Karang Pipa, which lies 7 cables SSW of Karang Pasir, and is marked by a light-buoy (port hand) on its N side; Karang Tenggalam, lying 2¼ cables NNE of Karang Pipa, and Karang Tahan, an unmarked reef, which is the most W danger in Pelabuhan Sundakelapa lying 5 cables E of the terminal.

2 **Caution.** Care should be taken on this approach as there are several dangerous wrecks which lie close to the track, as shown on the chart.

Directions for Quarantine or Disinfecting Stations

3.159

1 From the quarantine anchorage at Tanjungpriok those vessels which are required to proceed to the quarantine or disinfecting stations should pass S of Karang Rakit (6°02′·5S, 106°45′·0E) on which stands a beacon (port hand) thence proceed to the anchorage SW of Pulau Cipir.

Basins and berths

Alongside berths

3.160

1 Berth numbers are shown on the chart.

Pelabuhan Nusantara (Coaster Basin): the most W basin of Inner Harbour, is entered through a narrow cutting leading from Outer Harbour, marked at its entrance by several slipways and gives direct access to Pelabuhan Perahu (Boat Basin), Pelabuhan PJKA and Terusan Entrepot, which are used by small vessels. The cutting also allows direct communication with Jakarta by means of a ship canal which exits from the coaster basin on its W side, and is available for small vessels.

2 The basin has 1210 m of concrete wharf with charted depths of between 1·5 and 6·1 m alongside and is used by vessels up to 80 m in length. There are three numbered general cargo berths at the W entrance to Pelabuhan PJKA.

Within Pelabuhan Perahu there are five concrete/wood pontoon berths situated on the E side, each 15 m in length, spaced about 60 m apart with depths of about 5 m at the head of each berth.

Between the entrances to Nusantara Basin and No 1 Basin, 2 cables E, is situated the PN Dock Company, off the N end of which are three floating docks.

3.161

1 **Pelabuhan Satu** (No 1 Basin): length of quay 2677 m; depths 4·7 to 9·6 m. The basin is used mainly by coastal and inter-island vessels; maximum length of vessel 225 m.

3.162

1 **Pelabuhan Dua** (No 2 Basin): length of quay 2200 m; depths generally between 9 to 11·0 m but significantly shoaler depths are charted off the knuckles on each side of the entrance to the basin and at the S end. The basin is used by ocean-going vessels having a maximum length of 195 m. Container Terminal 2 is situated on the SW side of the basin with a least depth of 7·2 m alongside; there are

Tanjungpriok Pelabuhan Dua (No 2 Basin) from N (3.162)

(Original dated 2001)

also cement and scrap iron berths. Passenger vessels often use the NE end of the basin.

Samuderapura, lying at the N end of the pier between No 2 and 3 Basins, has depths of between 9·2 to 10 m alongside.

3.163

1 **Pelabuhan Tiga** (No 3 Basin): length of quay 2236 m; the W side has depths ranging from 8 to 13·2 m and can accept the maximum sized vessel (3.139), loading/discharging bulk cargoes towards its N end.

Container Terminal 1, with 820 m of quay and a least depth of 8·5 m alongside, lies along the N end of the E side; a naval berth lies at the inner section of the E side.

The Customs House is situated within the container terminal.

3.164

1 KOJA Container Terminal occupies the E part of the quay between No 3 Basin and Oil Basin, with depths alongside ranging from 10 to 11·2 m.

3.165

1 **Pelabuhan Minyak** (Oil Basin) lies 1¼ miles E of Outer Harbour and can accommodate vessels up to 198 m in length having a draught of 8·8 m. It comprises four T-head dolphin berths on its W side with depths of between 4·4 to 9·4 m alongside; the inner berth having the least depth.

A wharf fronts a grain terminal on the E side of this basin; depths between 5 to 7·2 m. A small dockyard lies close N of the grain terminal.

3.166

1 **Sarfindo berth,** lies SSW of of the E entrance to Inner Harbour 3 cables W of DKP Chemicals berth. The berth has a length of 220 m, depth alongside of 10·3 m.

DKP Chemicals berth, at the E end of Inner Harbour, has a length of 276 m and a depth alongside of between 6·6 to 8·3 m m.

Between Sarfindo and DKP Chemicals berth there is a wharf, 190 m in length and depths alongside of between 4·6 to 7·4 m, which leads to a drydock.

Other berths

3.167

1 **Muara Karang Oil Terminal**, which lies within Pelabuhan Sundakelapa, 3 miles NNW of Jakarta and 5½ miles W of the entrance to Tangjungpriok Outer Harbour, comprises four mooring buoys, moored at the

Tanjungpriok Pelabuhan Tiga (No 3 Basin) from N (3.163)

(Original dated 2001)

Tanjungpriok Pelabuhan Minyak (Oil Basin) from N (3.165)

(Original dated 2001)

Tanjungpriok DKP Chemicals Berth from WNW (3.166)

(Original dated 2001)

seaward end of a pipeline running 2 miles N from the shore; a spar light-buoy (special) marks the end of the pipeline; a spar light-buoy (starboard hand) lies 2 cables N of the terminal.

2 Tankers of up to 30 000 dwt can use this berth; anchoring is prohibited in the vicinity of the terminal and the pipeline (see 3.109).

Marunda Oil Terminal (6°02′S, 106°57′E), situated in the SE part of Teluk Jakarta, consists of six lighted mooring buoys, moored around the end of a pipeline which extends 3¼ miles NW, then 1½ miles W from the coast, 6 miles E of Tanjung Priok. The area is also marked by three spar light-buoys (special).

Port services

Repairs

3.168

1 Repairs of all kinds can be carried out.

Dry docks:

Length 125 m, breadth 23 m. 12 000 dwt.

Length 225 m, breadth 50 m.

Floating docks:

Three docks; largest 120 m in length, beam 22 m 8 000 dwt.

2 Seven patent slips, maximum capacity 3275 dwt.

The floating dry docks lie at the W end of Inner Harbour and there are repair facilities alongside in the vicinity.

Floating cranes:

Up to 200-ton capacity.

Other facilities

3.169

1 Issue of Deratting Certificates and Exemption Certificates.

Limited reception of oily waste.

Fire and salvage service available.

2 Compass adjustment can be carried out and repairs to navigational equipment can be arranged. As a guide, the true bearing of Jakarta Cathedral (6°10′S, 106°50′E) (uncharted) in line with the light-structures on the W and E breakwater heads (3.157) are 208°46′ and 209°37′ respectively.

Medical assistance; there is also a doctor in the service of some of the shipping lines.

Hospitals; there is also an ambulance service.

Supplies

3.170

1 Provisions and ship's stores can be supplied but items may be expensive.

Fuel, including marine diesel, can be supplied by pipeline, at all berths in No 1 and No 3 Basin, the Oil Basin and at the berth at the head of the pier between Nos 2 and 3 Basins. Usually, however, fuel is arranged and delivered by barge.

Fresh water is supplied to the wharves and can also be arranged by barge by special request. Requests

for fresh water should be made direct to the Harbour Master.

Communications

3.171

1 Regular air communication with all parts of the world; Jakarta (Cengkareng) International Airport (shown on chart 933) is situated on the W side of Jakarta, 21 km W of Tanjungpriok.

Regulations

3.172

1 Rubbish must be not be thrown overboard into the harbour; if required, a rubbish barge can be obtained by prior request.

Ballast water cannot be discharged into the harbour.

Fishing harbours

3.173

1 **Muara Angke**, a small river entrance, which lies 6 miles W of Tanjungpriok, comprises a fishing harbour at its entrance which is protected by breakwaters extending NE from the W side; a small recessed harbour lies 4 cables E of the river mouth.

Muara Karang which lies adjacent E to Muara Angke, is entered between two breakwaters. The approach is marked by light-beacons (lateral). Prominent chimneys (3.155) stand close to the E entrance.

3.174

1 **Muara Baru** (6°06′S, 106°48′E). Opened in 1984, this fishing harbour lies in the old harbour N of Jakarta and is protected by two moles, from the heads of which lights are displayed. The harbour can accommodate vessels up to 1500 grt. There is a wharf 1500 m long with extensive cold storage facilities and a fish processing plant; up to 290 000 tons of fish are handled annually.

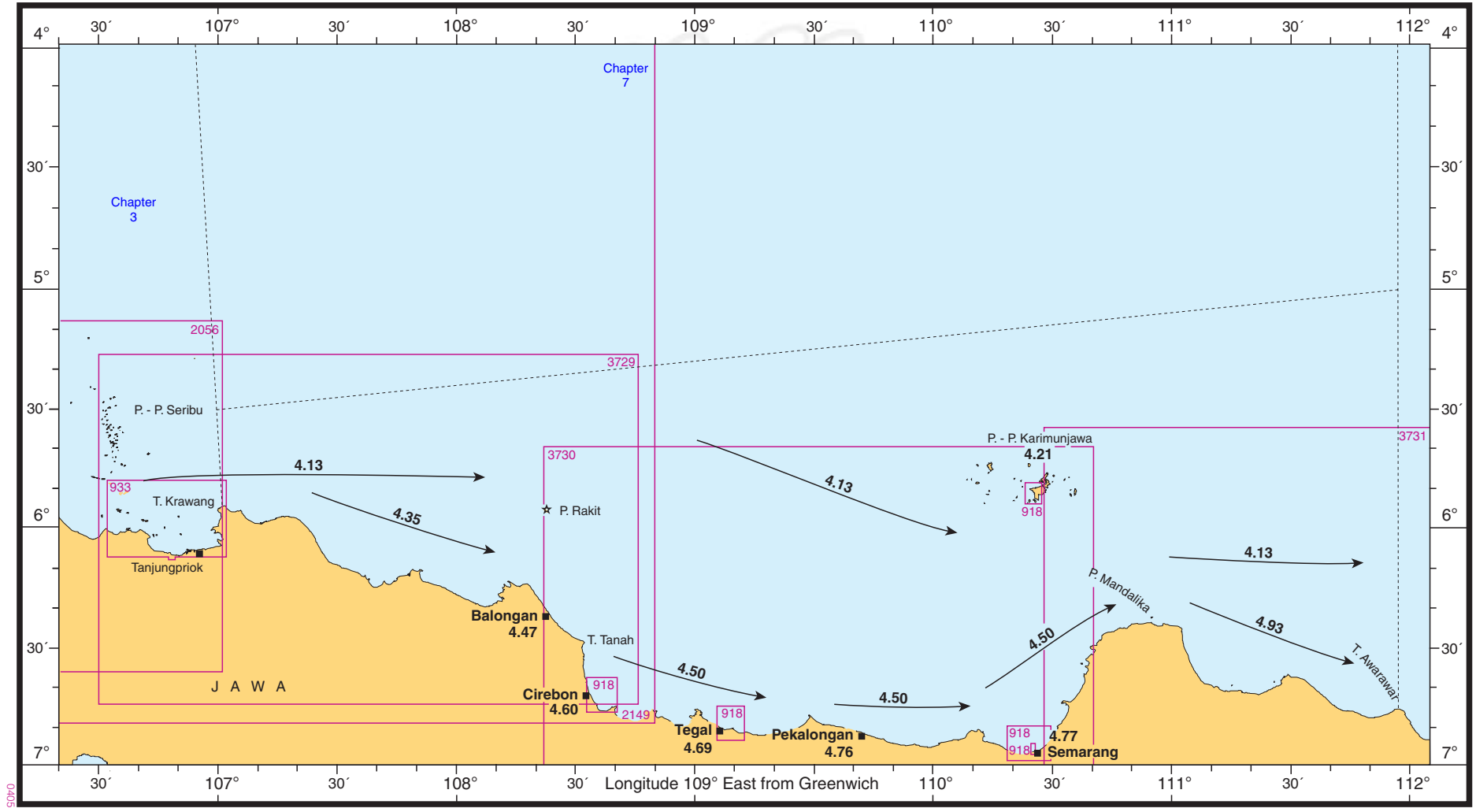
Dangerous wrecks lie 5 cables E and 1 mile ESE, respectively of the harbour.

3.175

1 **Marunda**, which lies 2½ miles E of Tanjungpriok, stands at the E entrance to Sungai Blencong.

The alignment (159°) of leading lights (6°05′·5S, 106°57′·4E) standing at the E entrance, leads into a small approach channel which is, itself, marked by beacons (port and starboard). Mudbanks lie on either side of the river mouth, and the berthing area lies 2 cables inside of the E entrance.

Chapter 4 - North coast of Jawa - Tanjung Krawang towards Tanjung Awarawar



CHAPTER 4

NORTH COAST OF JAWA — TANJUNG KRAWANG TO TANJUNG AWARAWAR, INCLUDING PULAU-PULAU KARIMUNJAWA

GENERAL INFORMATION

Charts 2149, 1066

Scope of the chapter

4.1

1 In this chapter are described:

Offshore oilfields N of Jawa.

Through route for vessels on ocean passage E of Outer Channel (5°50′S, 106°34′E) (4.19), towards E Jawa, including a description of Pulau-pulau Karimunjawa, a group of islands lying 42 miles off the N Jawa coast.

2 Coastal passages along the N coast of Jawa between Tanjung Krawang (5°56′S, 107°00′E) and Tanjung Awarawar (6°46′S, 112°03′E), about 305 miles ESE, leading to the W approaches of Selat Surabaya (*Indonesia Pilot Volume II*), and the ports, harbours and anchorages associated with them.

Topography

4.2

1 In general the coastline is low, flat, wooded, and occasionally swampy, and devoid of prominent features until Tanjung Tanah (6°29′S, 108°32′E) is reached, whence a range of high coastal mountains approach the sea. There are numerous wide open bays with good holding ground but many of these bays contain rocks and/or dangerous wrecks. Between Tanjung Tanah and Tanjung Apiapianom, 155 miles E, a number of rivers flow into the sea but they are of little importance as the largest are navigable only by small craft for any distance.

2 Very high prominent mountain peaks are situated up to 50 miles inland of Tanjung Krawang. They are rarely seen in the hazy atmosphere of the SE monsoon, except occasionally for a few hours in the morning. Of these, Pangrango (6°45′S, 106°59′E) and the other peaks S of Jakarta are fully described in *Indonesia Pilot Volume II*.

Extending headlands

4.3

1 The mariner should be aware that rivers flowing into the sea on the N coast of Jawa bring a great deal of sediment which is deposited along the shoreline. It is possible, therefore, that coastal points may in places be extending seawards, and reliance on bearings and distance may not be adequate for safe navigation.

Vessels on coastal passage should remain outside the 20 m depth contour; for coasts already surveyed but seldom visited, it is best to remain in deep water until close to the destination, then enter.

Hazards

4.4

1 **Fishing.** See 1.20.

Former mined area. Throughout Java Sea there is a residual risk from mines broken from their moorings. See Appendix I.

Piracy

4.5

1 See 1.8.

Wrecks

4.6

1 Wrecks are numerous throughout Java Sea and some, particularly in the shallower parts, may be dangerous to shipping. The positions of wrecks are best seen on the charts.

Natural conditions

4.7

1 **Monsoon current.** The horizontal movement of water in the open part of Java Sea is mainly monsoon current and the rate never exceeds 2 kn. In addition, a weak current setting constantly SSW is noticeable.

Along the N coast of Jawa there is practically only monsoon current which sets:

May to October	W-going
November, December	Transition period
January, February	E-going
March, April	Transition period

2 The direction of the current is also influenced by land and sea breezes. Tidal streams have not been observed to have any effect on the current except close offshore. Only the current due to the monsoon is felt at the various roadsteads.

4.8

1 **Monsoon periods.** Along the N coast of Jawa the influence of the W monsoon is felt over a 4 month period while that of the E monsoon is over a 6 month period. The direction is from WNW and ESE respectively, the winds generally being influenced by both land and sea breezes. The W wind is strongest in January and February, the E wind in July and August. During the E monsoon, the sky is generally covered with clouds in the evening, becoming clearer after sunrise with thick formations; further E, clouds and rainfall decrease but there is much haze as it becomes drier. During the W monsoon it is clearer but cloudy during the day and showers often fall, sometimes heavy rain is accompanied by bad weather. Occasionally, and without warning, fog can be experienced.

Shelter

4.9

1 Excepting Cirebon (6°42′S, 108°34′E) (4.60), there are no suitable harbours along the coastal region of N Jawa that offer shelter during the NW monsoon period.

However, during the SE or NW monsoon period, temporary shelter can be obtained in the lee of Pulau Karimunjawa (5°51′S, 110°27′E), see anchorages at 4.31.

OFFSHORE OILFIELDS

Charts 3729, 3730

General information

4.10

1 The major oilfields which lie within the limits of this chapter can be found in several locations lying off the N coast of Jawa between Tanjung Krawang (5°56′S, 107°00′E) and Tanjung Tanah (6°29′S, 108°32′E), 100 miles ESE. The largest, Ardjuna Oilfield, is centred on 5°55′S, 107°44′E.

Submarine pipelines carrying either oil or gas generally link up each oil platform with the export terminal outlets.

Oil terminals. There are two offshore crude oil loading terminals, namely Ardjuna Oil Terminal (5°55′S, 107°44′E) (4.46) and Balongan Terminal (6°16′S, 108°28′E) (4.47). Ardjuna also handles LPG/Butane gas carrying vessels.

Restricted area

4.11

1 A restricted entry area has been established surrounding the oilfields; the area lies between the meridians 106°59′E and 108°46′E. Mariners should always seek the latest information on navigating within the area, especially when bound for one of the oil terminals, as numerous structures and submerged obstructions exist, not all of which are charted or marked. Unauthorised navigation is prohibited within 500 m of all such structures, submarine pipelines and storage tankers which can swing about their moorings. See 1.26 and 1.50.

2 Anchoring areas are shown on the chart.

Amendments to restricted areas are promulgated in *Admiralty Notices to Mariners*.

Caution. A vessel entering a restricted area may be challenged by Indonesian air and sea patrols which operate in this part of Java Sea.

Terminal regulations

4.12

1 Vessels using the loading terminals or nominated anchorages should be given a copy of the Conditions of Port Use issued by Pertamina Jakarta, who operate all the terminals, prior to berthing. The following are some items of particular importance:

The Indonesian flag is to be flown by day throughout the vessel's stay in the area.

2 Customs and Immigration officials board a vessel as soon as possible after arrival to give inward clearance and pratique.

Indonesian Government regulations are strictly enforced.

There are no facilities for dirty ballast; tankers arriving with dirty ballast will be rejected.

JAVA SEA — THROUGH ROUTE — OUTER CHANNEL TOWARDS EASTERN JAWA

General information

Charts 3729, 1066

Route

4.13

1 From a position N of Karang Jong (5°51′S, 106°39′E) (3.50) at the E entrance to Outer Channel, the route to the E part of the N coast of Jawa (see *Ocean Passages for the World*) lies outside of the charted entry restricted area fronting the N coast of Jawa, thence between Pulau-pulau Karimunjawa and the mainland S.

Passages E of Tanjung Awarawar (6°46′S, 111°57′E) are described in *Indonesia Pilot Volume II*.

Restricted entry area

4.14

1 See 4.11.

Submarine cables

4.15

1 Submarine cables, which are shown on the chart, have been laid linking Jakarta (6°07′S, 106°49′E) with Singapore via Selat Gelasa.

For general information on submarine cables see *The Mariner's Handbook*.

Local weather conditions

4.16

1 See 4.8.

Major Lights

4.17

1 Pulau Damar Besar Light (5°57′·5S, 106°50′·5E) (3.115).

Pulau Rakit Light (5°56′S, 108°23′E) (4.39).

Pulau Nyamuk Light (5°49′S, 110°11′E) (4.28).

Pulau Genting Light (5°51′S, 110°36′E) (4.28).

Pulau Panjang Light (6°34′S, 110°37′E) (4.55).

Pulau Mandalika Light (white metal framework tower; 16 m in height) (6°23′S, 110°55′E); standing on the summit of the island.

Tanjung Bugel Light (elevation 31 m) (6°27′S, 111°03′E).

Pulau Peniki Light (5°42′S, 106°43′E) (3.91).

Other aids to navigation

4.18

1 **Racons:**

Pulau Peniki Light (5°42′S, 106°43′E).

Pulau Damar Besar Light (5°57′·5S, 106°50′·5E).

Pulau Mandalika Light (6°23′S, 110°55′E).

For further details see *Admiralty List of Radio Signals Volume 2*.

Directions

(continued from 3.51)

Charts 3729, 3730, 3731

4.19

1 The through route towards Selat Surabaya and points further E lies outside the restricted area (4.11) off the N coast of Jawa.

From a position N of Karang Jong Light (5°51′S, 106°39′E) (3.50) at the E entrance to Outer Channel, the route initially leads ENE thence E to a position N of Karang Rakit Utara (5°48′S, 108°26′E), a distance of approximately 111 miles, passing:

2 Between a wreck (5°48′S, 106°44′E), with a depth of 29 m over it, and an obstruction (5°45′S, 106°42′E), thence:
NNW of Karang Tohorjantan (5°48′·5S, 106°48′·8E) (3.123), thence:
Clear of a dangerous wreck (5°43′S, 106°52′E), position approximate, thence:
NNW of an obstruction (5°45′S, 106°59′E) which marks the NW corner of the restricted area (4.11), thence:
3 N of a dangerous wreck (5°41′S, 107°02′E), thence:
N of a light-buoy (special) (5°41′S, 107°07′E) thence:
N of Karang Rakit Utara, a steep-to coral atoll, usually plainly marked by discolouration, lying 8 miles NNE of Pulau Rakit (5°56′S, 108°23′E) (4.39).

From the position N of Karang Rakit Utara, the route then leads ESE thence E, for a distance of approximately 258 miles, to a position S of Pulau Bawean (5°50′S, 112°40′E) (*Indonesia Pilot Volume II*), passing:

4 SSW of Karang Kapal (5°54′S, 110°14′E), an extensive coral reef which partly dries lying in the SW part of Pulau-pulau Karimunjawa (4.21); a light (white beacon) stands on the W part of the reef. Pulau Krakal Kecil and Pulau Krakal Besar lie 2 miles and 2½ miles, respectively, N of Karang Kapal. Thence:
5 Clear of Sverre (6°02′S, 110°21′E), an off-lying reef S of Pulau-pulau Karimunjawa, consisting of large boulders surrounded by broken coral and sand; the SW part consists of three masses of rock generally plainly marked by discolouration, thence:
N of Pulau Mandalika (6°23′S, 110°55′E) (4.57), from where a light (4.17) is displayed, lying 1¼ miles N of Tanjung Beteng, a point on the coast; the island is generally visible at a distance of 20 miles, thence:
6 N of Tanjung Awarawar (6°46′S, 111°57′E), thence:
To a position S of Pulau Bawean.

Vessels bound for the W approach to Selat Surabaya should follow the coastal route given at 4.98 from N of Pulau Mandalika.

For a description of Tanjung Awarawar and coastline features E of this point, see *Indonesia Pilot Volume II*.

Useful marks

4.20

1 Flare towers (5°55′S, 107°56′E) (4.45).
Gunung Pasarehan (5°51′S, 110°27′E) (4.28).
Gunung Sutorenggo (6°37′S, 110°53′E) (4.55).
Gunung Lasem (6°41′S, 111°31′E) (4.94).
Tanjung Pudak Light (5°53′S, 110°27′E) (4.29).

(Directions for Selat Surabaya, and routes and passages E of Pulau Bawean are given in Indonesia Pilot Volume II)

Pulau-pulau Karimunjawa

Charts 3730, 918 plan of Karimunjawa Anchorage

General description

4.21

1 Pulau-pulau Karimunjawa, consist of a group of 25 islands lying 42 miles NW of Pulau Mandalika (6°23′S, 110°55′E); many of the islands are encircled by reefs and there are many off-lying dangers, the chart being the best guide.

2 Pulau Karimunjawa (5°51′S, 110°27′E) (4.22), together with Pulau Kemujan, close NE, and Pulau Genting, 7½ miles E, are probably of volcanic origin. The remainder of the group are more or less flat and of coral formation, with the exception of Pulau Parang (5°45′S, 110°14′E) (4.22). All the islands are thickly wooded, the lower ones mostly with shrubs and coconut palms; the majority of inhabitants live in the S part of Pulau Karimunjawa which provides the only harbour (4.29).

Topography

4.22

1 Pulau Karimunjawa (5°51′S, 110°27′E), the largest island of the group, can be identified by its mountainous character (4.28). The island is fringed by a stone and coral reef with several detached patches of coral outside it. Pulau Kemujan, close NE of Pulau Karimunjawa, is separated from it by a narrow and shallow passage. Pulau Sintok, a small low island from where a light (yellow beacon) is displayed, lies 1½ miles ESE of Batu Lawang (5°46′S, 110°29′E) the N extremity of Pulau Kemujan.

2 Pulau Bengkoang lies 5 miles NW of Pulau Kemujan; off its NE side stands a tower; off its N side lies an islet, from where a light (yellow beacon) is displayed.

A group of three islands standing on a surrounding reef, with foul ground between, lies 8 miles E of Pulau Karimunjawa. The largest, Pulau Genting (5°51′S, 110°36′E), has several hills on its E side.

Pulau Gundul, the NE island of the whole group, is described at 4.24.

3 In the W part, Pulau Nyamuk (5°49′S, 110°11′E) lies 13 miles W of Pulau Karimunjawa. An area of reefs and dangers extends 3 miles NW from Pulau Nyamuk; Karang Besi, a sand cay, lies at the N end and Karang Katang, another sand cay, lies on the SE side of this area. Pulau Parang (5°45′S, 110°14′E), rocky in its N part, lies 5 miles NE of Pulau Nyamuk. Pulau Kembar lies at the S end of an offlying reef which lies 2½ miles W of Pulau Parang.

Karang Kapal, an extensive reef lying SSE of Pulau Nyamuk, is described at 4.19.

Depths

4.23

1 **Off-lying shoals.** Gosong Jag Vijay (5°09′S, 111°24′E) (chart 1066), with a depth of 7·5 m over it, lies 60 miles NE of Pulau Genting; an obstruction lies 2½ miles SE of the shoal. A 9 m patch lies 4½ miles WSW of Gosong Jag Vijay and a 12·8 m patch was reported to lie 16 miles SW of the same shoal.

Hazards

4.24

1 **Exercise Area.** A firing practice area having a radius of 3 miles, and whose centre lies close W of Pulau Gundul (5°47′S, 110°35′E), a mass of almost bare rock, is marked by light-buoys. A narrow torpedo testing range runs through this area in the direction of the coast at Tanjung Kemujan (5°49′S, 110°30′E) passing the N edge of the reef which encircles Pulau Cendikian, an island lying 1 mile WSW of Pulau Gundul.

2 **Unexploded devices.** Unexploded devices are reported to lie about 17 miles N of Pulau Bengkoang (5°44′S, 110°25′E) and 14 miles E of Pulau Gundul (5°47′S,

110°35′E); in 1992 unexploded devices were reported to lie 7½ miles N and 8½ miles NNE of Pulau Gundul and between 10 and 20 miles NE of Pulau Genting (5°51′S, 110°36′E).

For areas dangerous due to mines see Appendix I.

3 **Traffic.** A brisk trade is carried on with Semarang, Jepara, Juana, and also with Bali, Timor and islands further E. During the transition periods of the monsoon currents (4.7) the traffic with the ports of N Jawa is much increased. It is important that a good look-out, especially at night, is kept for small local craft.

Local Knowledge

4.25

1 Owing to the numerous detached reefs, navigating through the islands should only be undertaken with local knowledge.

Conservation area

4.26

1 Within the islands, an area for the conservation of flora and fauna has been established between the parallels 5°40′S and 5°59′S and between the meridians 110°05′E and 110°31′E.

For details of conservation see 1.65.

Currents

4.27

1 Around Pulau-pulau Karimunjawa the E-going current in January and February is, on average, stronger than the W-going current in July and August.

Principal marks

4.28

1 **Landmarks:**

Gunung Pasarehan, the summit of Pulau Karimunjawa (5°51′S, 110°27′E), can be seen from a considerable distance.

Tree, round topped and prominent (see 1.38), standing 2¾ cables within Tanjung Pudak (5°53′S, 110°27′E), the S point of Pulau Karimunjawa, affords an excellent mark for making the anchorages.

2 **Major lights:**

Pulau Nyamuk Light (framework tower; 30 m in height) (5°49′S, 110°11′E), displayed from the W part of Pulau-pulau Karimunjawa.

Pulau Genting Light (white beacon, elevation 50 m) (5°51′S, 110°36′E), displayed from the E part of Pulau-pulau Karimunjawa.

Directions for anchorages

4.29

1 **South-east monsoon.** Vessels of suitable size, approaching from S or SW during the SE monsoon, should pass at least 5 cables W of Pulau Menjangan Kecil which lies 1½ miles WSW of Tanjung Benteng (5°53′S, 110°26′E) until the prominent tree (4.28) within Tanjung Pudak bears 114°, thence steer for this tree on that bearing passing 2 cables NE of Karang Wangkang, a reef lying 1½ miles WNW of Tanjung Benteng. Anchor when the alignment (002°) of Tanjung Gelam (5°50′·5S, 110°24′·5E), the W extremity of Pulau Karimunjawa, with the E extremity of Pulau Bengkoang 6 miles N, is reached. The anchorage is in depths of 25 to 27 m, sand.

2 **North-west monsoon.** Approaching from S during the NW monsoon, the alignment (313°) of Tanjung Benteng (5°53′S, 110°26′E) with Pulau Cemara Kecil (5°50′S, 110°23′E) leads into the anchorage. Anchor when SW of Tanjung Pudak Light (white beacon) (5°53′S, 110°27′E). The anchorage is in depths of 27 to 31 m, sand.

There are better berths close under the coast of Pulau Karimunjawa in depths of 20 to 22 m, but it is essential that the edges of the reefs are visible, or that the assistance of a local fisherman be obtained.

Side channel

4.30

1 Between the reefs surrounding Pulau Menjangan Besar and Pulau Karimunjawa, there is a narrow channel with depths of from 7 to 18 m in it, but there are two patches with depths of less than 1 m over them in the fairway of the NW entrance. The channel is marked with stakes by the local inhabitants for the use of small craft, but the current is often strong and sometimes there are eddies.

Between the reefs bordering Pulau Menjangan Besar and Pulau Menjangan Kecil, 7 cables W, there is a navigable channel, but with a 3·5 m patch in the fairway, local knowledge is essential.

Anchorages and landing

Anchorages

4.31

1 **South-east monsoon.** Good anchorage may be obtained 1 mile N of Pulau Menjangan Kecil (4.29), as shown on the chart.

North-west monsoon. Fairly good anchorage can be obtained in the S part of the channel between Pulau Karimunjawa and Pulau Menjangan Besar, 2½ cables SW at its closest point, as shown on the chart. The bottom, however, is uneven and frequent eddies cause a vessel to swing violently.

2 A 1·5 m patch lies in mid-channel 5 cables SE of Tanjung Benteng.

Tidal levels. See *Admiralty Tide Tables*. Mean maximum range about 0·4 m.

Landing

4.32

1 A boat pier, near which stands a flagstaff, projects from the W side of Tanjung Benteng (5°53′S, 110°26′E), the SW extremity of Pulau Karimunjawa; Karimunjawa, a village consisting of a few houses, lies close N of the point.

COASTAL PASSAGES — TANJUNGPRIOK APPROACHES TO TANJUNG AWARAWAR

GENERAL INFORMATION

Chart 1066, 2149

Scope of the section

4.33

1 In this section are described:

The Offshore Oil Terminals N of Jawa, between Tanjung Krawang (5°56′S, 107°00′E) and Tanjung Awarawar (6°46′S, 112°03′E).

Coastal passages along the N coast of Jawa between Tanjung Krawang (5°56′S, 107°00′E) and Tanjung Awarawar (6°46′S, 112°03′E) leading to the W approaches of Selat Surabaya (*Indonesia Pilot Volume II*).

Also described are the ports, harbours and anchorages associated with them.

Submarine cables and pipelines

4.34

1 A submarine cable is laid across the S part of the Java Sea, linking Tanjungpriok and Surabaya. It passes N of Ardjuna Oilfields (5°55′S, 107°44′E) and S of Pulau-pulau Karimunjawa (5°51′S, 110°27′E), thence N of Pulau Mandalika (6°23′S, 110°55′E), as shown on the charts.

A gas pipeline, as shown on the chart, links the Ardjuna and Bima Oilfields thence continues S to Jakarta; numerous oil and gas pipelines link individual platforms within the Ardjuna Field; see also 4.10. For further information on submarine pipelines see 1.51.

TANJUNG KRAWANG TO TANJUNG TANAH

General information

Charts 3729, 3730

Route

4.35

1 From a position N of Tanjung Krawang (5°56′S, 107°00′E) to a position W of Tanjung Tanah (6°29′S, 108°32′E), the coastal route E of Tanjungpriok lies within the limits of a restricted entry area containing numerous oilfields (4.11).

Mariners wishing to avoid the oil development area, where not all structures are charted or marked, may follow the through route given at 4.19, which passes outside of the restricted area, thence proceed to their destination.

2 Attention is drawn to the comments on the International Law concerning innocent passage, contained in Chapter 3, *The Mariner's Handbook*.

Vessels following the above coastal route bound for Selat Surabaya may proceed, from a position SW of Pulau Rakit (5°56′S, 108°23′E) given at 4.41, direct to a position N of Pulau Mandalika (6°23′S, 110°55′E) (4.57), a distance of about 153 miles, passing S of Sverre (6°02′S, 110°21′E) (4.19).

Topography

4.36

1 The N coastal area of this part of Jawa is very low lying and wide with occasional high trees, which can be seen far out to sea, growing either side of the numerous river outlets.

High mountains (4.39) between 25 and 40 miles inland can be seen, when clear, for a considerable distance; those mountains S of Jakarta, including Salak (6°43′S, 106°44′E), are described in *Indonesia Pilot Volume II*.

Restricted entry area

4.37

1 See 4.11.

Natural conditions

4.38

1 **Current.** In November, an E-going current with a rate of 2 kn has been observed to set past Tanjung Indramayu (6°14′S, 108°18′E) (4.49).

Local weather. See 4.8. The mean directions of the wind at Pulau Rakit (5°56′S, 108°23′E) at the times given below are as follows:

	0900	1400	1800
July to September	SE	ESE	ENE
January and February	N	NNW	NW

The land and sea breezes set in a little later near the N coast of Jawa.

Principal marks

4.39

1 **Landmarks:**

The following high mountains, which lie well inland, are prominent in clear weather:

Gunung Sanggabuwana, 41 miles SSE of Tanjung Krawang (5°56′S, 107°00′E), is a round saddle-shaped mountain.

Gunung Parang, 7½ miles E of Gunung Sanggabuwana, is the highest peak of Pegunungan Bongkok, a rugged group of mountains.

2 Tangkubanprahu (6°46′S, 107°36′E), 19 miles SE of Gunung Parang, has an extinct crater on its E side and has some resemblance to a capsized vessel.

Bukittungal (Tungal) (chart 941A), 7 miles ESE of Tangkubanprahu, is connected to it by a lower ridge, having a somewhat bare summit.

Tampomas, 1683 m (5522 ft) high, (chart 941A), an isolated conical mountain with a rounded summit, stands 15 miles ENE of Bukittungal.

3 Kromong, further E and 29 miles SSE of Tanjung Indramayu (6°15′S, 108°18′E) is the highest peak of a number of peaks lying close together.

Careme (4.51), standing 10 miles S of Kromong.

Major lights:

Pulau Damar Besar Light (5°57′·5S, 106°50′·5E) (3.115).

Pulau Rakit Light (white metal framework tower; 50 m in height) (5°56′S, 108°23′E).

Other aid to navigation

4.40

1 **Racon:**

SBM (6°19′·3S, 108°27′·1E), at Balongan Terminal.

For further details see *Admiralty List of Radio Signals Volume 2*.

Directions

4.41

1 From a position N of Tanjung Krawang Light (5°54′·3S, 107°00′·5E) (3.127) and in depths of not less than 24 to 26 m, the coastal route to a position N of Tanjung Sedari (5°58′S, 107°20′E), a low point 20 miles E, leads NE thence E, passing:

7 miles N of Tanjung Bungin (5°56′S, 107°06′E), a low wooded promontory, and:

Clear of Bima Oilfield platforms (5°47′S, 107°02′E) and the W platforms of Ardjuna Oilfield, 8½ miles ESE, thence:

2 At least 8 miles N of Tanjung Sedari (5°58′S, 107°20′E).

The track then leads as navigation permits to a position SW of Pulau Rakit (5°56′S, 108°23′E), densely wooded and fringed by a steep-to reef, and from where a light (4.39) is displayed, passing outside of Karang Sedari, a reef which lies 6¾ miles NE of Tanjung Sedari, keeping in depths of not less than 22 to 26 m, and clear of Karang Pamanukan (6°01′S, 107°53′E), a rock which is formed by coral and is steep-to, 10 miles NNE of Tanjung Bobos (4.49).

3 **Caution.** The track described above lies in an area of offshore oilfields, which are shown on the chart, and mariners are advised to keep clear of their associated platforms and wells; see 4.11. Distances and depths as described, however, can best be achieved by passing N of the platforms and wells.

Obstructions lie 5¼ miles SSW of Pulau Rakit, 8 cables SE of Karang Pamanukan, and 5½ miles N of Tanjung Indramayu (6°15′S, 108°17′E).

4.42

1 From the vicinity of Pulau Rakit, and clear of the obstruction SSW (4.41), the track then leads SE to a position E of Tanjung Tanah (6°29′S, 108°32′E), a low point, a distance of approximately 43 miles, passing:

SW of a buoyant light-beacon (6°02′S, 108°31′E), clear of a pipe extending above the water which lies 5¾ miles SW of the light-beacon and a dangerous wreck which lies 8 miles SW of the light-beacon and 13 miles SSE of Pulau Rakit. Thence:

2 NE of the Arimbi Oilfield (6°18′S, 108°38′E) lying NE of Tanjung Tanah. Karang Tanah, with depths of less than 5 m over it, extends 9½ miles ESE of Tanjung Tanah; it is composed of sand and mud, mixed here and there with broken shells, and is marked by a light-beacon (4.64) standing off its E extremity, 9 miles ESE of Tanjung Tanah.

Vessels should keep in depths of not less than 20 m throughout this passage.

4.43

1 **Side channels.** The channels between Pulau Rakit (5°56′S, 108°23′E) and Gosong Tengah, a reef usually marked by discolouration 4 miles NNE, and between Gosong Tengah and Karang Rakit Utara (4.19), 4 miles further NNE, are clear. Vessels, however, generally pass SW of Pulau Rakit.

Inner passages

4.44

1 On rounding Tanjung Krawang Light-beacon (4.41), passages that lie closer inshore are only suitable for vessels having the benefit of recent local knowledge when calling at small coastal harbours within the area.

The track leads through a navigable passage S of Karang Sedari (6°54′S, 107°25′E) (4.41), and NE of Karang-karang Sedulang (6°08′S, 107°35′E), an extensive dangerous reef close offshore, thence following the coast keeping in depths of not less than 18 m.

Useful marks

4.45

1 Flare towers (5°55′S, 107°56′E) at charted platform EA.

Chimney (6°28′S, 108°27′E), tall and painted white, standing at Karangampel sugar factory.

(Directions continue at 4.57; directions for Cirebon are given at 4.64)

Ardjuna Oil Terminal

General information

4.46

1 **Position.** Ardjuna Oil Terminal (5°55′S, 107°44′E) is situated about 18 miles off the N Jawa coast. The terminal is linked by pipeline to numerous dispersed oilfields extending about 65 miles in a E/W direction.

Traffic. In 2004 the terminal handled 33 vessels totalling 1 736 918 dwt.

Port Authority. Atlantic Richfield Indonesia Inc, Landmark Center Tower B, JI Jenderal, Sudirman Kav–70A, PO Box 1063, Jakarta 12910, Indonesia.

2 **Maximum size of vessel handled:** 250 000 dwt; draught 30 m; LOA 350·2 m.

Port operations. Berthing is normally during daylight hours only.

Notice of ETA should be sent 72 hours in advance. See *Admiralty List of Radio Signals Volume 6(4)* for further details.

Anchorages are situated about 3½ and 6 miles NNE and NE respectively of the terminal, as shown on the chart.

3 **Pilotage** is compulsory; the pilot boards in the anchorage area.

Tugs: available.

Regulations concerning entry. For information on regulations, including a restricted area, see 4.11 and 4.12.

Berths. four SBMs for loading crude oil; one SBM for loading LPG; one SBM for loading butane.

Facilities. Ballast/slop reception facilities not available.

Balongan Terminal

General information

4.47

1 **Position.** Balongan Terminal (6°16′S, 108°28′E) lies 7 miles NE of the town of Balongan (4.48).

Traffic. In 2004 the terminal handled 94 vessels totalling 2 514 785 dwt.

Port Authority. PN Pertamina, PKK UP V1 Balongan, JI Raya Balongan Indramayu, Balongan, Jawa, Indonesia.

Maximum size of vessel handled: 150 000 dwt; draught 20 m; LOA 290 m.

Port operations. Berthing and unberthing is normally during daylight hours only.

2 **Anchorage** is situated about 3 miles N of the terminal, as shown on the chart.

Pilotage is compulsory The pilot boards in the anchorage area. They should be requested 4 hours in advance.

Tugs: available.

Regulations concerning entry. For information on regulations, including a restricted area, see 4.11 and 4.12.

Berths. Three SBMs.

Facilities. Ballast/slop reception not available.

Communications. Nearest airport Cirebon, 40 km.

Balongan

General information

4.48

1 **General description.** Balongan (6°22′S, 108°23′E), 10 miles SE of Tanjung Indramayu, is a small harbour, protected from NW and SE by two breakwaters extending

200 m from the shore, backed by a tank farm. Jetty berths have been constructed on the inner sides of the breakwaters. Lights are displayed from the head of each breakwater. A light-beacon stands on the coast 1 mile NW of the harbour. Several pipelines land from the nearby offshore oil terminal, 7 miles NE, and Arimbi Oilfield platforms, 15 miles ENE, at the tank farm. For further information on submarine pipelines see 1.51.

2 **Berths**. In the harbour there are two berths alongside the inner sides of the breakwaters. The NW jetty berth, with a depth alongside of 3·8 m, can accept LPG vessels of 300 grt having a length of up to 60 m; the SE jetty berth, with a depth of 4 m alongside, is a general cargo berth for vessels of 600 dwt having a length of up to 55 m.

Facilities: hospital.

Supplies: fresh water by barge; provisions.

Anchorages, harbours and landings

4.49

1 The following anchorages lie within the restricted area off the N coast of Jawa for which local knowledge is essential.

Teluk Ciasem. Good anchorage, in a depth of 7 m, is afforded for small vessels virtually anywhere in Teluk Ciasem (6°13′S, 107°41′E). Gas pipelines are, however, landed on the coast close E of the W entrance to the bay and this area is to be avoided. For further information on submarine pipelines see 1.51.

2 **Pelabuhan Pamanukan** lies on the E side of Tanjung Bobos (6°11′S, 107°49′E), a low point, and off the E mouth of Kali Bobos. A pier projects from each side of the river entrance forming a narrow canal. This canal has a navigable width of ¼ cable and a least depth of 0·5 m. A hut with a white roof stands on the E side of the river entrance. Pamanukan, a village, lies 7 miles up river.

3 **Pelabuhan Indramayu.** Anchorage may be obtained in Pelabuhan Indramayu situated between Tanjung Sentigi (6°17′S, 108°10′E) and Tanjung Indramayu, 6½ miles ENE. Both these points are low and form the SW and NE points, respectively, of Cimanuk delta. Deep-draught vessels should not approach the anchorage within 22 m.

A buoy (safe water) is moored off the entrance to Cimanuk, 4¾ miles NNE of Tanjung Sentigi.

4 **Dadap.** Anchorage may be obtained in depths of 5 to 9 m on the alignment (200°) of Karangampel Chimney (4.45) with the red roof at Gudangdadap (6°26′S, 108°28′E).

Landing. A stone pier with a flagstaff at its root projects from the S side of Pulau Rakit (5°56′S, 108°23′E) and serves as a landing place for boats. With a heavy sea running, however, it is safer to land on the reef on the lee side of the island.

TANJUNG TANAH TO PULAU MANDALIKA

General information

Charts 3730, 3731

Routes

4.50

1 From a position outside of the charted restricted area (4.11) E of Tanjung Tanah (6°29′S, 108°32′E), to a position N of Pulau Mandalika (6°23′S, 110°55′E), the coastal route initially leads ESE and follows the coastline keeping in deep water throughout the passage.

Topography

4.51

1 The coast between Tanjung Tanah and Cirebon, 14½ miles S, continues to be flat with marshy ground; thence the mountains approach nearer the sea and, between Cirebon and Tanjung Bangkaderes, 7½ miles ESE, it is dominated by Careme (6°54′S, 108°24′E), also known as Puncak Gunung Cirebon, which consists of a high truncated conical-shaped volcano, nearly flat on top but slightly higher on its NW side with smoke rising occasionally from its crater. From Tanjung Bangkaderes to Semarang (6°58′S, 110°25′E), 104 miles E, the mountains recede, but there are a few isolated hills within 5 miles of the uniformly wooded coast.

2 At Semarang the coast turns NNE for 35 miles to Tanjung Jati (6°27′S, 110°43′E) thence ENE for 12 miles to Tanjung Beteng (6°25′S, 110°55′E) (4.94), the N point of a wide facing headland. For the first 26 miles of this stretch it is swampy, the land for more than 15 miles within it being low; thereafter it is backed by Pegunungan Murya (Maria), a range of mountains which dominates the headland. A number of small unimportant rivers discharge into the sea on this stretch of coast.

Fishing stakes

4.52

1 Between Tanjung Sari (6°52′S, 109°22′E) and Tanjung Pemalang, 8 miles ENE, and the 10 m contour there are posts belonging to old fishing nets, which must be avoided.

Dumping grounds

4.53

1 An ammunition dumping ground is situated 11 miles E of Tanjung Tanah (6°29′S, 108°32′E); ammunition is also dumped within a radius of 3 miles of a position 17 miles SE of the same point. Both grounds are shown on the chart.

Local weather

4.54

1 Land and sea breezes along the coast influence both direction and strength of the prevailing monsoons; for their influence on currents see 4.7.

2 Between Tanjung Tanah (6°29′S, 108°32′E) and Tanjung Pemalang, 60 miles ESE, at night during the SE monsoon the wind direction is altered not only by land breezes but also by the SE trade wind from Indian Ocean which blows between the mountains so that its direction is from S to SW. This wind which blows quite strongly at Cirebon and Tegal is locally known as Angin Kumbang, the bumblebee wind, and it is felt up to 30 miles off the coast. During mid morning the wind dies away entirely and two hours later a NE to N wind sets in, usually weak, but occasionally increasing to a stiff breeze in the afternoon; when the latter is the case it usually shifts to E. There is often a swell from an ENE or E direction, usually increasing towards evening and diminishing in the morning.

3 Frequently during the NW monsoon thick white clouds gather in the forenoon on the slopes of Careme (4.51) and Slamet (7°14′S, 109°13′E); in the afternoon these clouds pack together in a heavy, dark sky, and about sunset discharge heavy rain, with squalls from W and SW; sometimes the weather then remains squally throughout the night. At other times, after a heavy shower, it is calm for a considerable time.

4 On the E side of Tanjung Pemalang the stiff S to SW land breeze experienced at Cirebon is impeded by the closed mountain range extending from Slamet to Prahu,

44 miles E; however, the SE trade wind can penetrate the area. From Tanjung Korowelang (6°51′S, 110°10′E) to Jepara, 34 miles NE, a strong wind blows at night from S to SE.

For local weather conditions at Semarang, see 4.86.

Principal marks

4.55

1 **Landmarks:**

Mountain peaks situated well inland are fully described in *Indonesia Pilot Volume II*. Among those described the following are prominent in clear weather:

Slamet (7°14′S, 109°13′E); when seen from a N or NW direction appears almost flat-topped with a higher part on the NE side, formed by its old crater.

2 Lawu (7°37′S, 111°12′E) appears as a rounded summit.

Sindoro (Sendoro) (7°18′S, 110°00′E), a sharp truncated cone when viewed from between N and NE.

Sumbing (7°23′S, 110°04′E), a sharp truncated cone when viewed from between N and NE.

3 Mountain peaks situated close inland and offering prominent marks are:

Kumbang (7°08′S, 108°51′E), lying at the E end of a ridge stretching from the S slopes of Careme.

Gajah (7°00′S, 109°18′E), an almost bare rock situated in the middle of a thickly wooded ridge and resembling a gigantic elephant heading NNW.

4 Rogojembangan (7°12′S, 109°43′E), a sharp truncated cone when viewed from W; not so conspicuous from E.

Priksa (6°57′S, 109°56′E), a rounded hill, with a remarkable summit, overgrown with vegetation, standing near the coast.

5 Ungaran (7°11′S, 110°21′E), 15 miles SSW of Semarang, has a round undulating summit. It is connected by a ridge to Merbabu described in *Indonesia Pilot Volume II*.

Gunung Genuk (6°27′S, 110°55′E), the highest peak of Pegunungan Celering (4.94).

6 Gunung Sutorenggo (6°38′S, 110°53′E), an extinct volcano and the highest peak of Pegunungan Murya (4.51); when viewed from NW it appears as a truncated cone, but when viewed from NE it presents a sharp peak.

Major lights:

Tegal Harbour Light (6°51′S, 109°08′E) (4.72).

7 Tanjung Celong Light (white beacon, elevation 30 m) (6°54′S, 110°02′E) displayed 7 miles E of the charted position of Tanjung Celong.

Pulau Panjang Light (white beacon, 15 m in height) (6°35′S, 110°37′E).

Pulau Mandalika Light (6°23′S, 110°55′E) (4.17).

Other aid to navigation

4.56

1 **Racon:**

Pulau Mandalika Light (6°23′S, 110°55′E).

For further details see the relevant *Admiralty List of Radio Signals Volume 2*.

Directions

(continued from 4.45)

4.57

1 From a position outside of the restricted area and E of Tanjung Tanah (6°29′S, 108°32′E) the route initially leads ESE, thence E and NE, following the coastline for a distance of approximately 152 miles to a position N of Pulau Mandalika (6°23′S, 110°55′E), passing:

NNE of the Tegal Light-buoy (safe water) (6°41′S, 109°08′E), which is moored 10 miles N of Tegal (4.69), thence:

2 N of the light-buoy (N cardinal) which marks Terumbu Pemalang and Terumbu Sugali, marked by discolouration, which lie 1 mile apart, 4 miles NW of Tanjung Pemalang (6°48′S, 109°30′E), a low wooded point which should not be approached within a depth of 20 m as it is extending N. Thence:

3 S of a rock, with a depth of 3·5 m over it, lying 3 miles SW of Karang Bapang (6°34′S, 109°50′E), a steep-to reef; a light-beacon (isolated danger) stands on the reef, thence:

N of a dangerous wreck, showing a mast, which lies 4½ miles NNW of Tanjung Celong (6°55′S, 109°55′E), a high wooded point. A buoy (starboard hand) lies 5½ miles W of the wreck, thence:

4 N of Karang Korowelang (6°48′S, 110°10′E), a steep-to reef which it is seldom marked by discolouration; a light-buoy (N cardinal) is moored on the NE side of the reef. Karang Jahe, a coral patch, lies 1 mile W of the reef. A dangerous wreck, position approximate, lies 2½ miles W of Karang Korowelang. Thence:

5 NW of Karang Ombo, which lies 1½ miles N of Tanjung Piring (6°30′S, 110°40′E), a low, flat, prominent point covered with low shrubs, and bordered by a white sandy beach, thence:

NW of a dangerous wreck lying 2½ miles NW of Tanjung Jelamun (6°26′S, 110°47′E) (4.59), thence:

NW and N of Pulau Mandalika, a rocky wooded island rising steeply from the sea, from where a light (4.17) is displayed.

4.58

1 **Cautions.** On rounding Pulau Mandalika, the usual track is N of the island, but in 1947 it was reported that less water than charted existed on this side of the island. Caution is necessary and vessels should keep in depths of not less than 10 m.

A shoal extends at least 3 cables offshore from the SE end of Pulau Mandalika; with the benefit of local knowledge, small vessels using the channel between the island and mainland should maintain a mid-channel course and give this danger a wide berth.

Useful marks

4.59

1 Pemutih (6°58′S, 109°24′E), a hill.

Pekalongan Main Light (6°52′S, 109°41′E) (4.76).

Tanjung Gunung (6°53′S, 109°48′E) which rises to a small hillock wooded with tall trees.

Chimney (6°57′S, 110°26′E) (4.87).

TV mast (7°02′S, 110°25′E), from which obstruction lights are displayed, standing on the summit of Trangkil, a hill S of Semarang.

2 Tanjung Jati Light (white beacon) (6°26′·4S, 110°44′·5E)

Tanjung Jelamun (6°26′S, 110°47′E), a reddish point, which has the appearance of a steep prominent rock with its summit thickly wooded with dark-coloured trees.

(Directions continue at 4.98)

Cirebon

Charts 3730, 918 plan of Cirebon

General information

4.60

1 **Position.** Cirebon (6°43′S, 108°34′E), pronounced Cheer-i-bon, is a busy port situated at the head of Teluk Cirebon.

Function. The port, which has anchorage and alongside berths, is visited regularly by both local and foreign vessels. The port's main exports are cereals and rattan, imports are of an agriculture nature together with food-stuffs. Dry and liquid bulk cargoes, and containers, are also handled.

In 2004, the town of Cirebon had a population of 308 100.

2 **Topography.** Teluk Cirebon indents the coast between Tanjung Tanah (6°29′S, 108°32′E) and Ujung Brebes, a low wooded headland, 33 miles SE. Tanjung Losari, 10 miles W of Ujung Brebes and Tanjung Sanggarung, 3½ miles farther W, are both low and wooded and lie at the extremities of a promontory formed by alluvial deposits from Kali Losari and nearby rivers. In the bay formed between Ujung Brebes and Tanjung Losari, lies the village of Pulolampes, 5½ miles SW of the former point. Between Tanjung Sanggarung and Tanjung Bangkaderes, 6¼ miles W, the coast recedes to form another bay, at the head of which lies the village of Gebang (4.66).

3 **Port limits** are shown on the charts.

Approach and entry. The port is approached from seawards on the alignment of leading lights given at 4.65, and entered between two moles.

Traffic. In 2004 the port handled 108 vessels totalling 445 791 dwt.

Port Authority. Port Administrator, Jalan Donggala 4, Cirebon, Jawa, Indonesia.

Website: www.cirebonport.co.id

Limiting conditions

4.61

1 **Channel depths.** An entrance channel 70 m wide, along the leading line (4.65), has been dredged to a least depth of 6·6 m (1987); in 1994 there was a depth of 7 m, at MLWS. The maximum draught permitted in the channel is 6 m but this limit may at times be increased or decreased depending on the conditions; for the latest information the port administrator should be consulted; maximum draught in the anchorage (4.67) is 10 m at MLWS.

2 **Tidal levels.** See *Admiralty Tide Tables*. Mean maximum range about 0·5 m.

Density of water: 1·025 g/cm^3

Largest vessel. The inner harbour has accommodated a vessel of 8000 dwt, having a length of 150 m and draught of 7 m.

Arrival information

4.62

1 **Port operations.** The inner harbour can be entered between 0600 and 1800 and with permission between 1800 and 0600.

Port radio is operated from the signal station situated at the root of the SE mole; for details see *Admiralty List of Radio Signals Volume 6(4).*

Anchorages. See 4.67.

2 **Submarine pipeline**. A submarine pipeline, at the head of which is moored a buoy (port hand), leads ENE from a position on the coast 1½ miles SSE of Cirebon Light (4.63). A light-buoy (port hand) lies 1½ cables E of the buoy and 1¾ miles ENE of Tanjung Jaga, a small narrow projection, 2½ miles SSE of the harbour entrance. For further information on submarine pipelines see 1.51.

Pilotage is available; request for a pilot should be made through local agents or Port Administrator as soon as possible or at least 24 hours in advance of arrival.

Tugs. A tug service is maintained.

Harbour

4.63

1 **General layout.** The harbour of Cirebon, which lies on the W side of Teluk Cirebon, comprises two triangular shaped basins, Nos 1 and 2, which are protected by two moles running in a NE direction from the coast. The entrance between the moles is about 200 m wide but is further restricted near the entrance to No 2 basin, the outer of the two basins. Anchorage areas are shown on the chart.

From the SE corner of No 1 Basin a narrow passage, known as Terusan Pelabuhan, runs in a SW direction and connects with Boom Pelabuhan where the Customs House is located.

2 **Traffic signals** for vessels entering the harbour are displayed from the signal station. See 1.68.

Local weather. The wettest period is between December and March, the driest from May to October. Visibility is generally good except in the rains when it can be reduced to less than 1 mile. Prevailing winds are from SW and NE.

Landmarks:

Bukit Jati, a round wooded hill, rising from the otherwise monotonous coast, 3 miles NW of the harbour entrance.

3 Cirebon Light-tower (white metal framework structure; 30 m in height) standing near the root of the SE mole.

Two aluminium-coloured tanks standing close together on the coast close S of the harbour basins.

Spire of the Roman Catholic Church lying 3 cables SSW of the prominent tanks.

4 Water tower, standing 8 cables W of the prominent tanks.

Power station (chimney) standing 5 cables NW of the harbour basins.

Major light:

Cirebon Light — as above.

Directions

4.64

1 **Approach from west.** When approaching Teluk Cirebon from W or N, vessels should pass E of the light-beacon (white beacon) (6°32′S, 108°41′E) marking the E extremity of Karang Tanah, as shown on the chart, passing clear of the foul ground and dangerous wreck which lies 1½ miles ENE of the light-beacon, thence pass clear of Karang Cirebon, an isolated patch, which lies almost 15 miles ENE of the harbour entrance, and a dangerous wreck which lies 1¾ miles N of Karang Cirebon, thence towards the alignment of the leading lights at the entrance to the harbour.

2 Vessels of deeper draught should use the channel E and S of Karang Cirebon, passing N of the light-buoy moored

3 miles NNW of Tanjung Sanggarung Light (6°45′S, 108°49′E) (4.66), thence towards the alignment of the leading lights.

Approach from east. When approaching from E vessels should pass Ujung Brebes (6°46′S, 109°01′E) in a depth of not less than 13 m, and N of the light-buoy as previously mentioned.

4.65

1 **Entry leading lights:**

Front light-beacon (triangle point up; 12 m in height) (2 cables WSW of the head of the NW mole.

Rear light-beacon (triangle point down; 16 m in height) (600 m WSW of the front light).

On the alignment (258°) of the leading lights, the track leads through the dredged channel, passing N of the light-buoy (safe water) moored 1 mile E of the head of the SE mole, thence between the moles and into No 2 Basin.

2 Lights (red beacon, 7 m in height) and (white metal framework tower, 7 m in height) are displayed from the heads of the E and W moles, respectively.

Caution. Fish traps and fishing stakes lie between 3½ and 8½ miles NNE, and 2 miles ESE, of the harbour entrance.

Clearing bearing. The alignment (249°) of Kromong (4.39) with Bukit Jati (6°41′S, 108°32′E) (4.63) passes N of Karang Cirebon, and the dangerous wreck 1¾ miles N.

4.66

1 **Useful marks:**

Light-beacon (elevation 12 m) (6°44′S, 108°35′E) standing close to the coast 1¾ miles S of the harbour entrance, and two light-beacons (lateral, elevation 6 m) (6 cables farther NE).

Tanjung Sanggarung Light (white beacon, 10 m in height) (6°45′S, 108°49′E).

2 White chimneys, standing within a sugar factory, 3 miles S of Gebang (6°49′S, 108°43′E); a single chimney stands 5 miles further W, and two more chimneys stand 2 miles NW of the latter.

Ujung Brebes Light (white metal framework structure, 20 m in height) (6°46′S, 109°01′E).

Berths

4.67

1 **Anchorages.** Lettered anchorage areas for various categories of vessels are shown on the chart. Weather conditions, particularly from December to February, may render discharge into lighters unsafe.

Main berths. Quays extend along the N and S sides of No 2 Basin. Muarajati I, the largest quay, has a length of 335 m and can accommodate the largest vessel alongside (4.61). Muarajati II is 248 m long and can accommodate vessels up to 100 m in length having a draught of up to 5·5 m.

2 **Other berths**. Two wharves for inter island vessels, Linggajati, 131 m in length, and Pelita, can accommodate vessels having a maximum draught of 4 m. There is also a small wharf for coastal vessels and an oil jetty where coastal tankers of 300 dwt can berth.

There are numerous berths for small vessels in No 1 Basin.

Port services

4.68

1 **Repairs** of a minor nature can be undertaken; there is a small dry dock having an overall length of 69 m and breadth at the entrance of 10 m. There are also two patent slips for praus and dredgers and a small building berth.

Other facilities: deratting and deratting exemption certificates issued; hospital.

Supplies include small quantities of fuel oil; fresh water; provisions.

Communications. Cirebon Airport lies 4 km SW of the town.

Tegal

Charts 3730, 918 plan of Tegal

General information

4.69

1 **Position.** Tegal (6°51′S, 109°08′E), a small harbour, lies 35 miles ESE of Cirebon (4.60).

Function. Tegal is a lighterage port with limited alongside accommodation; handling mainly local traffic and the occasional foreign vessel, it is unsuitable for deep-draught vessels.

The main export commodity is molasses.

In 2004, the town of Tegal had a population of approximately 288 800.

2 **Topography.** The town, which lies on the silt shore plain, presents no noticeable features from seawards. In the vicinity of the delta headland of Kali Kaliwon, 1½ miles E of the harbour entrance, the coastline is extending seawards. The summit of Slamet (4.55), a high mountain, is 24 miles S.

3 **Approach and entry.** The port is approached from the light-buoy (safe water) which lies 10 miles N of the harbour entrance and entered between two breakwaters which extend NNW from the old harbour.

Port Authority. Tegal Port Authority, Jalan R.E Martadinata No 9, Tegal, Jawa, Indonesia.

There is a resident Harbour Master.

Limiting conditions

4.70

1 **Depths.** The channel leading into the inner harbour is dredged to between 3 and 3·5 m; within the harbour, the maximum depth alongside is 3 m, MLWS.

Tidal levels. See *Admiralty Tide Tables*. Mean maximum range about 0·4 m.

Maximum size of vessel. A vessel of 26 000 dwt having a length of 150 m and a draught of 7 m has been worked at the anchorage (4.74).

Arrival information

4.71

1 **Port radio.** For details see *Admiralty List of Radio Signals Volume 6(4)*.

Outer anchorage. Large vessels must anchor 2 to 3 miles NNE of the harbour entrance in depths of between 9 and 11 m, where the holding ground is mud.

Pilotage is not available and there are no restrictions on night entry.

Tugs are only available for towing lighters.

2 **Regulations concerning entry.** When entry is dangerous, a blue flag is displayed from a mast on the Customs House which is situated on the E side of the harbour. At night a light (white metal framework tower, 17 m in height) is displayed from the same position.

Harbour

4.72

1 **General layout.** Tegal harbour actually comprises three harbours which all extend from the old harbour channel situated at the inner section of two breakwaters which extend 3 cables NNW from the E shore. The continuation of the narrow channel leads SSE into Pelabuhan Lama, the

old harbour; E of the channel lies Pelabuhan Dalam II or Inner Harbour II, and W of the channel, lies Pelabuhan Dalam or Inner Harbour, the main berthing area.

2 **Local weather.** The wettest period is from November to May, and the driest June to October. January is the period for greatest rainfall. From December to February the force of the NW monsoon is felt, with strong winds and sea. Visibility is generally good, averaging more than 8 miles in the area but during the rains fog can reduce the visibility to 1 mile.

Climatic table. See 1.137 and 1.139.

3 **Landmarks:**

Chimney of Kejambon Sugar Factory (6°53′S, 109°08′E).

Gajah (7°00′S, 109°18′E) (4.55).

Major light:

Tegal Main Light (white metal framework tower, 30 m in height) (6°51′S, 109°08′E), 3 cables SSE of the head of the E breakwater.

Directions

4.73

1 **Approach from west or north.** From the vicinity of the light-buoy (safe water) which is moored 10 miles N of the harbour entrance, the track to the charted inner anchorage (4.74) leads 8½ miles S.

Approach from east. The track leads clear of Karang Jeruk, a steep-to coral reef on which there is a rock, and from which a light (white metal framework tower, 14 m in height) is displayed, lying 4½ miles ENE of the harbour entrance.

2 **Caution.** Fishing stakes may be encountered E of the inner anchorage area.

Useful marks:

Light (red framework tower, 12 m in height) displayed from the head of the E breakwater; another light (red metal framework tower, 9 m in height) is displayed 300 m SSE from the head of this breakwater.

Light (green framework tower, 12 m in height) displayed from the head of the W breakwater.

3 Red roof of a building 6 cables ESE of Tegal Main Light (4.72).

Red roofs of buildings which stand at Tanjung Sari (6°52′S, 109°22′E) and a position 3 miles E of the point provide useful marks on the E approach, as do the lights at Pemalang situated close E of Tanjung Sari.

Berths

4.74

1 **Anchorage** can be obtained in Pelabuhan Tegal, in depths of 5 to 7 m, between 1 and 1½ miles N of the breakwater heads, as shown on the chart; see also 4.71.

Alongside berths. A coaster berth, 450 m in length, with a depth of 3 m, lies on the S side of Inner Harbour.

Other berths. There are numerous berths in Pelabuhan Lama and Pelabuhan Dalam II for small vessels, with depths of 2 to 3 m alongside.

Port services

4.75

1 **Repairs**: minor repairs only. There is a patent slip capable of accepting vessels up to 300 tons situated on the NW corner of Inner Harbour. There is a graving dock of 650 tons capacity, with an overall length of 69 m and breadth at the entrance of 10 m.

Supplies: fresh water is scarce and limited to 25 tons per day; fuel and diesel oil can be obtained from Pertamina; provisions.

Communications. There is an airport at Cirebon, 64 km W, and at Semarang, 148 km E, with regular flights to Jakarta.

Pelabuhan Pekalongan

Chart 3730 (see 1.31)

General information

4.76

1 **Position.** Pekalongan (6°52′S, 109°41′E), a small harbour which is formed by the mouth of Kali Pekalongan, lies 33 miles E of Tegal (4.69).

Function. Pekalongan is the leading fishing port in SE Asia. It is the centre for pelagic fishing in Java Sea. The town of Pekalongan is situated on both sides of Kali Pekalongan.

In 2004, the town of Pekalongan had a population of 283 100.

2 **Approach and entry.** The port is approached from the N between channel marks and entered between two concrete moles.

Port Authority. The port is managed by the Directorate General of Fisheries, Jakarta.

Channel depth. The entrance channel into the port is maintained by regular dredging to a depth of between 1·9 to 2·4 m, MLWS.

3 **Maximum size of vessel**: within the river, length 20 m, 200 grt.

Pilotage is not available.

Directions. Anchorage at Pekalongan can be obtained in depths of from 6 to 8 m, soft mud, 1 mile N offshore with Pekalongan Main Light (white metal framework tower, 14 m in height) standing at the W entrance to Kali Pekalongan, bearing between 160° and 200°. When approaching from E, Bantang Light 3½ miles ESE is a useful mark.

4 Numerous berths can be found alongside a quay, fronting the town, on which there is an auction hall.

Facilities are limited; there is a patent slip for small craft.

Supplies: fresh water at the fish quay; fuel and diesel oil is not available; provisions.

Semarang

Charts 3730, 918 plan of Approaches to Semarang, Semarang

General information

4.77

1 **Position.** The port of Semarang (6°57′S, 110°25′E), also known as Tanjungemas, lies at the head of a bay which stretches from Kali Kongong delta (4.79), on its W side, to the entrance to Kali Menco, 21 miles ENE.

4.78

1 **Function.** A sizable port with container, bulk and oil terminal facilities Semarang is also a calling port for foreign passenger vessels. Main exports include timber products and tapioca. The city of Semarang lies 1 mile S of the harbour on both sides of Kali Semarang, a small river which flows into the sea close W of the port. In 2004, the city had a population of 1 289 500.

4.79

1 **Topography.** Tanjung Korowelang (6°51′S, 110°11′E), a low point, is formed by the alluvium from the delta mouth of Kali Kongong, 2 miles E. The coast from the delta trends S for 2½ miles thence ESE towards Semarang.

Semarang Harbour from N (4.80)
(Original dated 1994)

Tempor (6°59′S, 110°14′E), an isolated hill, stands 4 miles within the coast in this area and 11 miles W of Semarang; Trangkil (4.59) standing S of Semarang, lies 12 miles ESE of Tempor.

The low lying coastline on both sides of Semarang comprises fishponds.

4.80

1 **Approach and entry.** The port is approached from the light-buoy (safe water) which is moored 5 miles N of Semarang Light (6°57′S, 110°25′E), thence entered between the heads of the breakwaters on the alignment of leading lights (4.88).

4.81

1 **Traffic.** In 2004, the port handled 1062 vessels totalling 14 452 397 dwt.

4.82

1 **Port Authority.** Port Administration of Tanjung Emas Semarang, Jalan Usman Janatin No 8, Semarang, Jawa, Indonesia.

Website: www.tgemas.pp3.co.id

Email: tgemas@idola.net.id

Pertamina P & T UPDN IV operate the offshore and inshore oil terminals (4.90).

Limiting conditions

4.83

1 **Controlling depth.** The controlling depth within the buoyed channel is 9 m, at MLWS, but there is a depth of 6·8 m close E of the leading line (4.88) about 1½ cable NE of No 1 Light-buoy, and a 5·3 m patch close W of the line 5½ cables S of the buoy.

The limiting depth for Kalibaru Canal (4.85) is 2·7 m.

2 **Tidal levels.** See *Admiralty Tide Tables*. Mean maximum range about 0·5 m.

Density of water: 1·025 g/cm^3.

Maximum size of vessel handled was one having a LOA of 240 m and draught 9·0 m; largest passenger ship handled was one of 228 m in length with a draught of 8·6 m.

Arrival information

4.84

1 **Coast radio** operates from Semarang, for details see *Admiralty List of Radio Signals Volume 1(2)*.

Port radio is maintained 24 hours a day from the Harbour Master's Office situated at the seaward corner of Tanjungemas Ocean Terminal. For further details see *Admiralty List of Radio Signals Volume 6(4)*.

2 **Outer anchorage.** The recommended anchorage is about 3 miles N of Semarang Light (6°57′S, 110°25′E) (4.87) in depths of 8 to 12 m and within a radius of 1 mile from position 6°54′·0S, 110°24′·5E.

Submarine pipelines join the two berths of the oil terminal from a position on the shore 1 mile E of the harbour. For further information on submarine pipelines see 1.51.

3 **Pilotage** is compulsory. Notice required for a pilot is 6 hours prior to arrival and 3 hours prior to departure.

Pilots board in the anchorage area, shown on the chart, but in the NW monsoon may board under the lee of the W breakwater or the vessel may be led in by the pilot boat.

For further details see *Admiralty List of Radio Signals Volume 6(4)*.

Tugs are available.

Harbour

4.85

1 **General layout.** The harbour is protected by several sections of detached breakwaters and entry is from the N. The main harbour area contains Tanjungemas Ocean Terminal, a container terminal with deep-water berths, lying at the seaward end of the E side; a coastal wharf with numbered berths lies SE and forms a continuation of the container terminal. A central pier, the head of which lies 3 cables SW of the container terminal, extends NW from the shore with berths on either side of it. A bulk complex and berth, consisting of a warehouse and conveyor belt stands towards the outer end of the central pier. Nos 1 and 2 Basins lie on the SW side of the central pier; Kalibaru Canal, a narrow canal, leads from the SW corner of the main harbour to Semarang Town.

2 There is an offshore oil terminal (4.90) with two berths, between 3 and 4 miles offshore, NNE of the harbour; a small oil terminal lies within the harbour.

Since 1986, development work has been on-going E and W of the harbour.

Fishing takes place in the bay but is prohibited within 6 miles of the entrance to the harbour.

3 **Traffic signals**. Visual signals (Diagram 4.85) are displayed from the Harbour Master's Office (4.84) for the guidance of vessels entering or leaving harbour.

Signal	*Meaning*
▼ ● ▲	Entrance permitted; praus forbidden to leave.
● ▲ ●	Departure permitted; praus forbidden to enter.

Semarang – traffic signals (4.85)

When communication with the shore is suspended owing to bad weather, a blue flag is displayed; communications are maintained by radio.

Front Leading Light

Semarang Bulk Complex from NE (4.89)

(Original dated 1994)

4.86

1 **Local weather.** During the NW monsoon, in Pelabuhan Semarang, for the most part it either blows hard, accompanied by rain, or it is almost completely calm; there is seldom any intermediate phase. The finest weather is often replaced, without any warning, by squally weather. The monsoon wind is never S of WSW; the main direction of the sea wind during this monsoon is NW and the land wind is reduced in strength.

2 During the SE monsoon, the land wind usually blows regularly from ESE to SE throughout the night until 0900; thence the force diminishes and backs to ENE about 1200. Until 1400 there are light variable winds and then the sea breeze arrives suddenly from NNE, quickly raising a swell and sea, and blowing with great regularity until about 2000. The wind then veers to ESE, being less regular for a short period and becoming steady again at 2100. Around sunrise, the atmosphere is very hazy, but after a couple of hours sunshine it becomes clearer, although the land in the interior often remains obscured; towards afternoon it becomes hazy again. During this monsoon not more than 2 hours a day of even moderately good visibility can be expected.

Climatic table. See 1.137 and 1.140.

Principal marks

4.87

1 **Landmarks:**

Chimney (6°57′S, 110°26′E), standing E of the main harbour displays obstruction lights.

TV mast (7°02′S, 110°25′E) (4.59) standing S of Semarang.

Major light:

Semarang Light (white metal tower, 30 m in height) (6°57′S, 110°25′E).

Directions for entry

4.88

1 **Leading lights:**

Front light (white triangle point up, on mast 12 m in height) situated about 400 m ENE of Semarang Light (6°57′S, 110°25′E).

Rear light (white triangle point down, on mast 23 m in elevation) (600 m S of the front light).

From the vicinity of the light-buoy (safe water) (4.80) the alignment (176½°) of the leading lights leads S through the buoyed entrance channel and between the breakwater heads from where lights (port and starboard beacons, elevation 14 m) are displayed, thence to the berth.

2 **Cautions.** It is advisable, especially during the NW monsoon, to keep close to the W breakwater as the tidal stream sets across the entrance. It has been reported that while the breakwaters give a poor radar response, the light-beacons at the seaward end and the channel marking buoys show up well.

Useful marks:

White-roofed building of the railway station, standing close SE of Semarang Light (6°57′S, 110°25′E).

Kendai Light (elevation 16 m) (6°56′S, 110°18′E).

Bulk complex, standing on the central pier, lies on the alignment of the leading lights (4.88).

Berths

4.89

1 **Tanjungemas Ocean Terminal** about 605 m in length is dredged to about 9 m, MLWS, alongside; can accommodate the maximum size of vessel (4.83).

Container pier. Length 345 m, depth alongside 10 m, orientated N-S, and occupies the N part of the Ocean Terminal.

Coaster wharf. Length 320 m, depth alongside 5 m, at MLWS.

2 **Other berths.** No 2 Basin, 751 m long; 3·5 m alongside. There is a wharf on the Kalibaru Canal for local vessels with depths of 2·5 m alongside.

Mooring buoys (unlit) are laid on the E edge of the entrance channel and within the harbour.

4.90

1 **Oil Terminals**. An offshore berth consisting of four mooring buoys lies 5½ miles NE of the entrance to the harbour. Tankers from 15 000 to 30 000 dwt can be accommodated at this berth which is marked by three lights-buoys (lateral) moored off its SE, NW and N sides. Nos 1, 2 and 3 lighted spar-buoys are moored 1¼ to 1¾ miles N of the berth.

2 An SBM lies 3½ miles NNE of the harbour entrance in a depth of 11·6 m; a light is displayed from the buoy. At this berth tankers up to 36 000 dwt and 185 m in length can be accommodated.

Within the harbour there are two Pertamina petroleum berths for vessels up to 900 dwt and 65 m in length.

Port services

4.91

1 **Repairs:** two dry docks, the largest 110 m in length, 20 m breadth; minor floating repairs. Two small building berths and a slipway with a 40 m cradle are also available. See 1.89.

Other facilities: deratting and deratting exemption certificates issued, reception facilities for limited oily waste; medical/hospitals.

2 **Supplies**: limited quantities of fresh water; fuel/diesel bunkers, ordered in advance; provisions.

Communications. Semarang (Achmed Yani) airport is situated 5 km W of the town with connections to Jakarta and Kalimantan.

Rescue. Fire-fighting and salvage tugs are available.

Jepara

Charts 3731, 3730

4.92

1 **General description.** Jepara, a harbour which encloses a small bay, is bounded by a line joining the N extremity of Tanjung Kelor (6°35′S, 110°38′E), formerly an island now joined to the coast, the SE extremity of Pulau Panjang, a low island, 8½ cables NW, which is covered with coconut palms and on which stands a light (4.55), and Tanjung Kuniran, 1½ miles NE of the island. The town of Jepara stands on the banks within the mouth of a small river situated in the SE corner of the bay.

2 Pulau Panjang can usually be seen from a distance of 10 miles, when it appears as a long low strip of land easily distinguished from the coast behind it on account of its dark colour.

Directions. The main approach to an anchorage, soft mud, in the entrance to the bay is between Pulau Panjang and Tanjung Kuniran, but it is safe to pass between Pulau Panjang and Tanjung Kelor keeping to seaward of a reef extending N from Tanjung Kelor.

3 A light (white concrete column, 15 m in height) stands at the entrance to the small river on which Jepara stands.

Caution. Pulau Bokor, lying in the SW approach to Pelabuhan Jepara, 2¼ miles WSW of Tanjung Telokaur (6°37′S, 110°38′E), was originally an island but, due to subsidence or erosion, is now a dangerous reef on which lie some rocks.

Landing can be effected near the SE extremity of Pulau Panjang, where there is a beach of white sand.

PULAU MANDALIKA TO TANJUNG AWARAWAR

General information

Charts 3731, 1066

Route

4.93

1 From a position N of Pulau Mandalika (6°23′S, 110°55′E) (4.57), the coastal route to a position N of Tanjung Awarawar (6°46′S, 111°57′E) leads ESE for a distance of approximately 65 miles.

For details of Selat Surabaya, entrance channel and pilotage, see *Indonesia Pilot Volume II*.

Topography

4.94

1 Two hills rise up closely from the coast at Tanjung Beteng (6°25′S, 110°55′E), the N point of a wide headland which is dominated by a central range of high mountains (4.51).

Pegunungan Celering, a range of lower, rugged, coastal mountains, lies a short distance inland from the point.

2 From Tanjung Apiapianom (6°26′S, 111°02′E) to Tanjung Awarawar (59 miles ESE), the coast everywhere has a fertile and wooded appearance and is, for the most part, bordered by a sandy beach. A large bay indents the coast between Tanjung Apiapianom and Tanjung Bendoh (29 miles ESE).

3 Pegunungan Lasem, a range of mountains which slope towards Tanjung Bendoh, has two prominent peaks 1 mile apart and each of similar height. Pegunungan Lasem is connected to another mountain range (4.96) further S by a lower ridge.

For a description of Tanjung Awarawar (6°46′S, 111°57′E) and of the coastline E of the point, see *Indonesia Pilot Volume II*.

Former mined areas

4.95

1 See 1.6 and Appendix I.

Principal marks

4.96

1 **Landmarks:**

Gunung Genuk (6°27′S, 110°55′E) (4.55).

Gunung Sutorenggo (6°38′S, 110°53′E) (4.55).

Twin peaks of Pegunungan Lasem (6°41′S, 111°31′E) (4.94).

Gunung Pucak (6°45′S, 111°32′E), the highest peak of a range of mountains S of Pegunungan Lasem.

Gunung Butak (6°49′S, 111°31′E), a high mountain, which lies 5 miles S of Pucak.

2 **Major lights:**

Pulau Mandalika Light (6°23′S, 110°55′E) (4.17).

Tanjung Bugel Light (6°27′S, 111°03′E) (4.17).

Light (6°47′S, 111°54′E).

Tanjung Awarawar Light (6°46′S, 111°57′E) (*Indonesia Pilot Volume II*).

Pulau Karangjamuang Light (6°56′S, 112°43′E) (*Indonesia Pilot Volume II*).

Other aid to navigation

4.97

1 **Racon:**

Pulau Mandalika Light (6°23′S, 110°55′E).

For further details see *Admiralty List of Radio Signals Volume 2*.

Directions

(continued from 4.59)

4.98

1 **Cautions.** See 4.58.

From a position N of Pulau Mandalika (6°23′S, 110°55′E), the route to a position NNE of Tanjung Awarawar (65 miles ESE) leads ESE for a distance of approximately 68 miles, passing (positions from Tanjung Apiapianom (6°26′S, 111°02′E)):

2 NNE of the N extremity of Gosong Bugeltayu (5 miles NNE), an extensive mudbank with depths of less than 5 m over it, stretching 4 to 5 miles offshore from the coast at Tanjung Beteng to a point 20 miles SSE of Tanjung Apiapianom. The mudbank is steep on its N side, but can be approached by soundings on its E side. The bank has been reported to be moving seawards. Thence:

3 NNE of a dangerous wreck (mast) (16 miles ESE), marked by a light-buoy (isolated danger) moored 4 cables NW.

NNE of an obstruction (22 miles ESE), thence:

NNE of Tanjung Bendoh (6°37′S, 111°30′E), low and devoid of vegetation. Tanjung Pelabuhan, 2 miles E, is formed by the rocky spur from Pegunungan Lasem (4.94), thence:

NNE of Tanjung Awarawar (6°46′S, 111°57′E); a depth of 4·6 m lies 7½ miles W of the point.

(Directions for entering Selat Surabaya are given in Indonesia Pilot Volume II)

Harbours and anchorages

Pelabuhan Juana

4.99

1 **General description.** Pelabuhan Juana, a small harbour, is bounded by a line drawn in a direction 056° from the chimney of Trangkil Sugar Factory (6°40′S, 111°05′E), by a line drawn in a direction 330° from Pulau Gedeh (6°39′S, 111°17′E), an islet covered in tall trees, and the meridian of this islet.

2 **Anchorage** for vessels of medium draught is usually in a depth of 7 m, 6 miles NE from the mouth of the river leading to the town of Juana (6°43′S, 111°09′E). From this berth the only landmarks near the coast are the coconut palms on Pulau Marungan (6°40′S, 111°16′E) and, when the sun shines on it, the chimney at Trangkil. Small vessels can approach nearer the coast in depths of 4 to 5 m. Lighters are used to transport cargoes to and from Juana.

3 **Directions.** From a position clear of the dangerous wreck (mast) (6°34′S, 111°16′E) (4.98), the track to the anchorage or to the river entrance leads SW.

A channel marked by light-beacons (port and starboard hand) which passes E of Karang Laut (6°40′S, 111°10′E) leads into the river.

4 **Useful marks:**

Juana Harbour Light (white beacon, 14 m in elevation) (6°40′S, 111°10′E).

Karang Penowo Light (white beacon, 14 m in elevation) (6°38′S, 111°16′E) stands close NW of a rock of that name.

Pelabuhan Rembang

4.100

1 **General description.** Pelabuhan Rembang is bounded by the meridian of Pulau Gedeh (4.99), by the meridian of Pulau Sualang (6°41′S, 111°23′E) and by the parallel of Pulau Gedeh. The town of Rembang (6°42′S, 111°21′E) can be readily identified by the high red roof of the former Residency and the white buildings of the nearby club. A clump of trees stands on the foreshore at the W end of the town.

2 **Anchorage** can be obtained N of the town in any suitable depth, mud bottom. It is calm here during the SE monsoon, but there is some sea in the NW monsoon and communication with the shore is often difficult during this season. Cargo is transported to and from the shore by praus.

3 **Directions.** When approaching this roadstead vessels should keep in depths of 10 m until the Residency or the club bears 180°, thence proceed to the anchorage on this bearing, taking care to avoid the reefs which lie SE of Pulau Gedeh.

Useful marks:

Karang Penowo Light (6°38′S, 111°16′E) (4.99).

Pulau Gurian Light (white beacon) (6°42′S, 111°22′E).

Pelabuhan Semen Tuban

4.101

1 **Description.** Pelabuhan Semen Tuban (6°47′S, 111°54′E) is a small port lying 3½ miles WSW of Tanjung Awarawar. It consists of a pier 5¾ cables in length lying NNW, which is used by the local cement factory for the shipment of cement.

Approach to the berth is from N in a channel, 5 cables wide, which has been cleared of mines and lies between two former mined areas (see Appendix I).

The berth, which lies at the N end of the pier, is 425 m in length with a least depth of 10·1 m alongside.

2 **Directions.** From a position 2½ miles NNE of the berth, clear of the former mined areas, the track leads SW towards the alignment of the leading lights.

Leading lights:

Light (triangle point up on white beacon) (6°46′·8S, 111°53′·7E) situated at the head of the berth.

Light-beacon (triangle point down on similar structure) (6°47′·1S, 111°53′·7E).

3 On the alignment (180°) of the leading lights, the track leads through a channel marked by light-buoys and buoys (lateral) to a position close N of the berth.

Caution. A shoal patch with a least depth of 4·8 m over it lies 1¼ cables W of the berth.

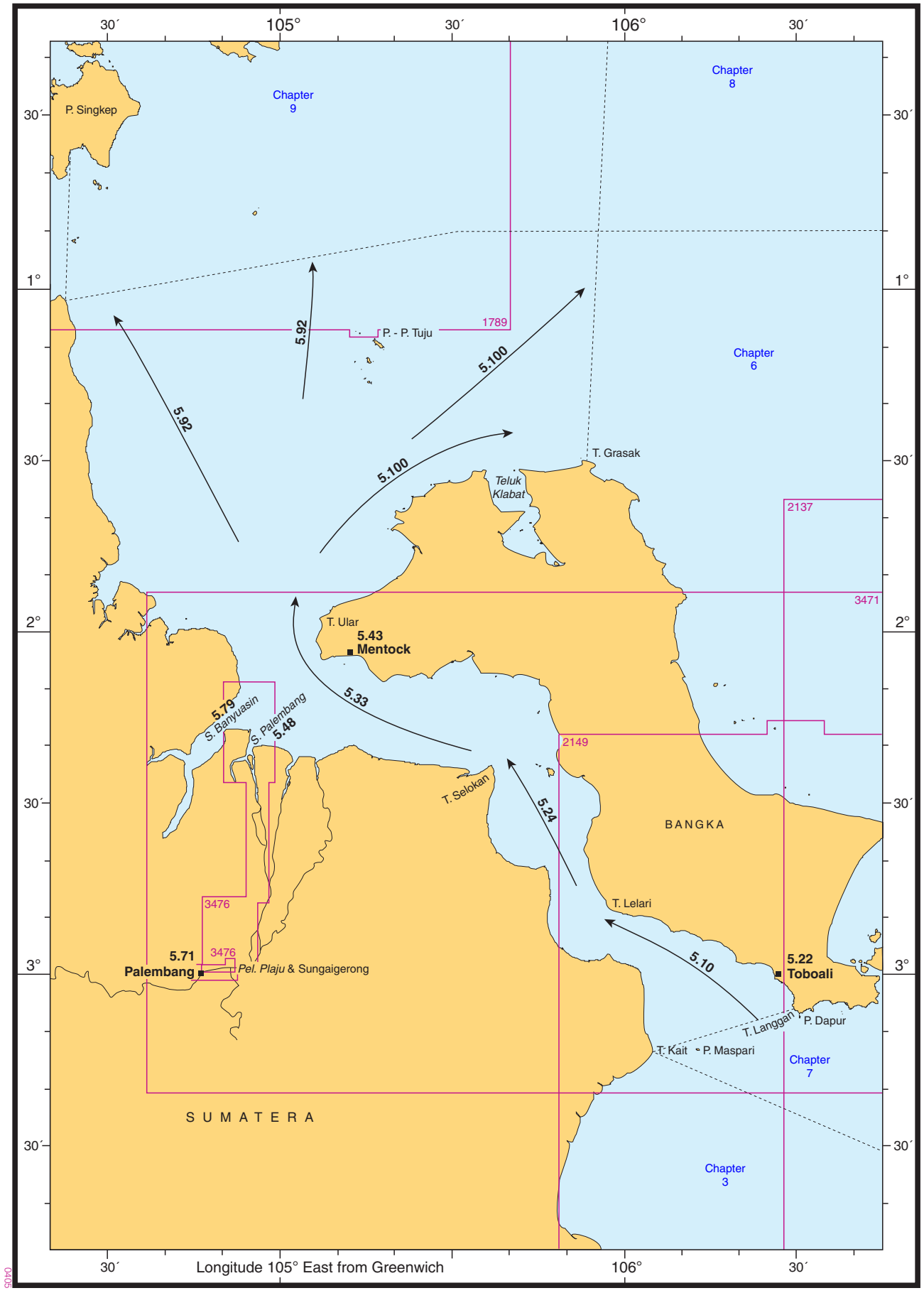
Anchorages

4.102

1 Anchorage, which affords good holding ground for small vessels, is bounded by a line drawn in a direction 056° from the mouth of Kali Tayu (6°33′S, 111°04′E), by a line drawn in a similar direction from Trangkil Chimney (6°40′S, 111°05′E) (4.99), and by a line drawn in a direction 330° from Pulau Gedeh (6°39′S, 111°17′E) (4.99).

Anchorage can be obtained in the bay which lies between Kali Lasem (6°40′S, 111°26′E) and Tanjung Leran, 2 miles NE, in depths of 5 to 9 m. Karang Gosong, a bank, lies 1½ miles NNW of the entrance to Kali Lasem.

Chapter 5 - Selat Bangka and northern approaches



CHAPTER 5

SELAT BANGKA AND NORTHERN APPROACHES

GENERAL INFORMATION

Charts 3471, 1312

Scope of the chapter

5.1

1 In this chapter are described:

Selat Bangka, which separates Pulau Bangka from the Sumatera mainland together with the ports, harbours and anchorages associated with the strait.

Sungai Palembang (chart 3476), including the port of Palembang (3°00′S, 104°45′E), and Sungai Banyuasin.

2 Also described is the E coast of Sumatera between Ujung Batakarang (2°03′S, 104°46′E) and Tanjung Jabung (5.90), 65 miles NW, and the NW and N coasts of Pulau Bangka together with Pulau-pulau Tuju, a group of islands lying off the NW coast of Pulau Bangka.

Topography

5.2

1 Selat Bangka, 120 miles long, is the strait which separates Pulau Bangka from Sumatera; it lies in a general NW and SE direction, and is the best route between Selat Sunda and Singapore for medium sized vessels. The coast of Sumatera between Tanjung Kait (3°14′S, 106°05′E) and Tanjung Jabung (1°01′S, 104°22′E), 168 miles NW, forming the E side of the strait, is in general low, densely wooded, and affords no prominent marks. There are numerous indentations forming large open bays and the entrances to several large rivers, the most important being Sungai Palembang leading to Palembang (3°00′S, 104°45′E) (chart 3476), a sea port which lies 54 miles up-river.

2 Pulau Bangka, forming the E side of the strait, in contrast to the Sumatera side, has hills and numerous mountains, and it is remarkable that, although the latter attain no great elevation, their summits are generally obscured by clouds.

3 The NW and N coasts of Pulau Bangka are generally low-lying, indented heavily by two large bays, Teluk Bulu and Teluk Klabat. Pegunungan Maras (1°52′S, 105°51′E), the highest range of mountains on the island, has three peaks rising from the head of Teluk Klabat, the highest of which, Gunung Bui, can, when clear, be seen for some distance; when viewed from Selat Bangka the peaks have the appearance of a crown. Several offshore islands lie off the N coast of Pulau Bangka.

Caution

5.3

1 When proceeding through Selat Bangka vessels should determine their position mainly by the landmarks on the Bangka side. The muddy Sumatera shore is constantly undergoing change, especially in places where mangroves stand in the water, and should not be relied upon for navigation; some points are receding and others are extending.

Lights and buoyage in Selat Bangka are also unreliable.

Hazards

5.4

1 **Driftwood.** Within Selat Bangka, heavy driftwood, which is brought down by the rivers during the rainy season, must be avoided; the bows of vessels are frequently damaged by this.

Fishing stakes exist in the area covered by this chapter, particularly in depths of less than 10 m; their positions frequently change.

Piracy

5.5

1 See 1.8.

Natural conditions

Flow

5.6

1 **Currents.** From November to April the current sets SE through the strait at a rate of up to 1 kn. The SE set persists on the Sumatera side of the strait throughout the SE monsoon, but at the height of this monsoon, in July, a NW set of up to ¼ kn prevails off the Bangka coast up to and beyond Gosong Amelia (2°13′S, 105°15′E) and Gosong Nemesis (5.18). In other months the currents off the Bangka coast are light and variable.

5.7

1 **Tidal streams** flow into Selat Bangka from both ends, meeting in the neighbourhood of Pulau-pulau Nangka (2°24′S, 105°46′E). There is usually only one strong in-going stream a day and two weaker, out-going streams separated by a slack period. Daily predictions of the streams at the two ends of the strait are made, see below. Tidal streams set strongly off the various points in the straits; these should not be rounded close inshore.

2 Tide-rips are frequently found abreast Pulau-pulau Nangka during the SE monsoon, and are probably due to the meeting of the current setting SE along the Sumatera shore in the N part of the strait with the current setting NW along the Bangka shore in the S part of the strait.

Vessels should guard against being set in or out of the mouth of Sungai Palembang.

3 In the S approaches to Selat Bangka there is sometimes a S-going flow for days on end, with maximum rate of 2¼ kn at the height of the NW monsoon. At other times the weak N-going flow lasts only for a maximum period of 4 hours and reaches a maximum of only ½ kn, the flow being S for the rest of the day. It thus appears that during the NW monsoon there is a S current of 1 to 1½ kn.

4 The tidal streams off Gosong Nemesis (2°53′S, 106°00′E) and off Gosong Amelia (2°13′S, 105°15′E) are predicted in *Admiralty Tide Tables*, and give the times and strength of maximum rate in either direction, and the times of turn.

The horizontal water movement at both these banks is the resultant of the tidal stream and the predominating S current referred to above. The maximum rates of flow which can be expected are as follows:

Month	*Predominating current*	*Maximum rate of flow (including current)*
Gosong Nemesis		
January	SE 1 kn	SE 2½ kn
February	SE ¾ kn	SE 2½ kn
March	SE ½ kn	
April	SE ¼ kn	
May		
June		NW 2 kn
July	NW ¼ kn	NW 2 kn
August		
September		
October	SE ¼ kn	
November	SE ½ kn	
December	SE ¾ kn	SE 2½ kn
Gosong Amelia		
January	ESE 1 kn	ESE 2 kn
February	ESE ¾ kn	ESE 2 kn
March	ESE ½ kn	ESE 2 kn
April	ESE ¼ kn	
May		
June		WNW 1¼ kn
July	WNW ¼ kn	WNW 1¼ kn
August		
September		
October	ESE ¼ kn	
November	ESE ½ kn	ESE 2 kn
December	ESE ¾ kn	ESE 2 kn

Local weather

5.8

1 In Selat Bangka the general wind directions are a steady SE from April to October, and the NW monsoon is relatively constant from January to March. Squally weather is most marked in the NW monsoon with the greater activity at night. Appreciable seas occur when fresh winds oppose the tidal streams.

SELAT BANGKA INCLUDING SUNGAI PALEMBANG AND SUNGAI BANYUASIN

GENERAL INFORMATION

Chart 3471

Scope of the section

5.9

1 In this section are described:

Selat Bangka, channels and side channels, together with the ports, harbours and anchorages associated with the strait.

Sungai Palembang including the port of Palembang (3°00′S, 104°45′E), and Sungai Banyuasin.

SELAT BANGKA — SOUTHERN PART

General information

Chart 3471

Route

5.10

1 The S entrance to Selat Bangka, between Tanjung Kait (3°14′S, 106°05′E) and Pulau Dapur, 26 miles ENE, is divided into two channels by Pulau Maspari, which lies 8 miles E of Tanjung Kait, and the shallow banks lying N of the island. Alur Pelayaran Stanton is the E and main entrance which is lighted and buoyed and easy to navigate. Alur Pelayaran Maspari (5.19) is the W of these channels; it is not marked and is not recommended. Both passages unite between Tanjung Koyan and Tanjung Lelari, 35 miles within the entrance.

Topography

5.11

1 **West side.** Between Tanjung Kait (3°14′S, 106°05′E), which is extending (see 5.3), and Tanjung Koyan (19 miles NNW), the coastline, which is covered in mangroves, is fronted by a mudbank which, between Tanjung Jati (14 miles N) and Tanjung Koyan, is steep-to. Between Tanjung Kait and Tanjung Jatigombol (9 miles N) there is a ridge of high trees, standing 1½ miles within the mangroves; Tanjung Jati has level trees on it and the trees on Tanjung Koyan are 30 m high.

Pulau Maspari (5.19), an island, lies 8 miles E of Tanjung Kait.

2 **East side.** Between Tanjung Langgan (3°07′S, 106°31′E), the S extremity of Pulau Bangka, which is fringed by several high rocks, and which from a distance of 7 to 10 miles have the appearance of a large town on the coast, to Tanjung Lelari (39 miles WNW) (5.18), the Bangka coastline is generally hilly or mountainous interspersed with low-lying marshy ground covered by mangroves, particularly round the mouths of numerous unimportant rivers. Several small islets lie offshore on this stretch of coast, and several prominent hills stand within the S part of Pulau Bangka. The most prominent hill, Lama (5.14), stands 1¼ miles NNE of Tanjung Langgan.

Hazards

5.12

1 See 5.4.

Natural conditions

5.13

1 See 5.8.

Principal marks

5.14

1 **Landmarks:**

Lama (3°06′S, 106°31′E), prominent hill, shaped in the form of a pyramid; can be seen at a considerable distance.

Gadung (2°58′S, 106°29′E), prominent hill, conical in shape, with a range of hills leading E.

Muntai (2°59′S, 106°32′E), prominent hill, on the summit of which stands a radio mast with obstruction light.

Balar (Mamelon) (2°47′S, 106°02′E), a prominent isolated rounded hill.

2 **Major lights:**

Pulau Dapur Light (white metal framework tower, 14 m in height) (3°08′S, 106°31′E).

Pulau Maspari Light (white metal framework structure, 48 m in height) (3°13′S, 106°13′E).

Toboali Light (white framework tower, 30 m in height) (3°01′S, 106°27′E).

Pulau Besar Light (white octagonal metal framework tower, brown top and white cupola, 57 m in height) (2°53′S, 106°08′E); obscured by Tanjung Lelari when bearing more than 107°.

Other aid to navigation

5.15

1 **Racon:**

Pulau Dapur Light (3°08′S, 106°31′E).

For further details see *Admiralty List of Radio Signals Volume 2*.

Directions

(continued from 3.42)

Alur Pelayaran Stanton — Main channel

5.16

1 **Cautions.** When approaching the entrance to the strait from S during daylight hours, vessels will find it difficult to identify any of the landmarks shown on the chart, except the summits of Gadung, Muntai and Lama (3°06′S, 106°31′E) (5.14); the latter has been sighted at 30 miles. As soon as Lama is identified it can be steered for on a bearing of NNW.

There are numerous dangerous wrecks within, and in the approaches to Selat Bangka; the chart is the best guide.

5.17

1 From the vicinity of Pulau Dapur (3°08′S, 106°31′E), comprising two small islets which lie on a steep-to bank with depths of less than 5 m, 1 mile off the Bangka coast, the route initially leads NW through Alur Pelayaran Stanton, passing (positions given from Pulau Dapur Light):

SW of Pulau Dapur Light (5.14) which stands on the S islet of Pulau Dapur; the channel between Pulau Dapur and Tanjung Langgan (1 mile N) is foul, thence:

2 Clear of an obstruction (10¼ miles WNW), with a dangerous wreck lying 1½ miles W and another 2½ miles NW, respectively, thence:

Between the light-beacon (starboard hand) standing on Gosong Melvill (17 miles WNW) and the light-beacon (port hand), 4 miles ENE, standing near the NW end of the ridge on the NE side of the passage, and:

3 Clear of the dangerous wreck (16 miles WNW).which is marked on its SW side by a light-buoy (isolated danger). A shoal (reported 1982) with a depth of 10 m over it, lies 3 miles SE.

Leading marks. The alignment (314°) of Balar (2°47′S, 106°02′E) (5.14) and Pulau Besar Light (2°53′S, 106°08′E) (5.14) leads between the light-beacons passing close NE of the dangerous wreck, with depths of not less than 10 m on this leading line.

5.18

1 From a position between the light-beacons the route leads WNW, passing (positions from Pulau Besar Light):

NNE of the shallow patches lying at the NW end of Gosong Smith (5½ miles S), and:

SSW of a 4·5 m patch lying 2 miles SW of Pulau Daon, a small rocky islet which lies off Tanjung Limau (6 miles E), thence:

SSW of Pulau Besar, a small islet 19 m high, from where a light (5.14) is displayed, which stands on a coastal bank and is surrounded by rocks, thence:

2 NNE of the light-buoy (starboard hand) which marks Gosong Nemesis (9½ miles W), with a depth of 3 m close E of the buoy, thence:

SSW of Tanjung Lelari (12 miles WNW), a sharp, steep point, with a prominent white beach, from where a light (red metal framework tower, white bands; 10 m in height) is displayed close S. The point should be given a wide berth.

Side channel

5.19

1 Alur Pelayaran Maspari is available for vessels of moderate draught, but not recommended. The W side of the strait is bounded by a mudbank with depths of less than 5 m, which extends from 1 to 2 miles from the Sumatera shore. On the E side of the channel lies Pulau Maspari (3°13′S, 106°13′E), a thickly wooded island, from where a light (5.14) is displayed, and which is surrounded by a reef; a stranded wreck lies 1¾ miles W of the light. In fine weather the island can generally be identified from a distance of 15 miles. The restrictive sandbank of Gosong Hindustan lies 8 miles NW of Pulau Maspari; that of Gosong Merapi lies 3½ miles ESE of Tanjung Jati (3°00′S, 106°03′E) and is extending W.

Other channels

5.20

1 At the entrance to Selat Bangka there are several narrow ridges of hard sand and stone, with shallow water over them, lying between Gosong Melvill (5.17) and Gosong Hindustan, mentioned above. Passage between the ridges W of Gosong Melvill and E of Alur Pelayaran Maspari should not be attempted as they are unsafe for navigation.

Useful mark

5.21

1 Rounded hill on Tanjung Nangka (3°06′S, 106°29′E) is easily identified.

(Directions continue at 5.29)

Pelabuhan Toboali

General information

5.22

1 **General description.** Toboali, a small port and the capital town of a mining district, is situated on a hillock 12 m high, close to Tanjung Ketapang (3°01′S, 106°26′E), a fairly high point on the coast. The coastal area either side of the point is marshy and covered by mangroves except for a sandy beach at Toboali. Toboali, a hill with the same name, having a double peak and steep on its W side, lies 4 miles ENE of the town.

2 **Swell.** There is sometimes a heavy swell with S and SW winds and landing can be troublesome.

Arrival information. The transportation of cargo between the shore and roadstead is carried out by lighters and praus; it is advisable to give notice of the vessel's arrival so that praus are not delayed coming out by LW.

3 **Harbour** consists of a wooden pier, 1½ cables long, extending SSW from the shore close S of Tanjung Ketapang, and a stone mole from where a light (5.14) is displayed close S of the pier. A fort stands on the SE side of the mouth of a small stream which flows out here, and

government warehouses stand outwards from this fort; a red tiled roof of army barracks is visible from a considerable distance.

4 **Clearing bearing.** Gadung (5.14) in line with the fort, bearing 039°, leads clear of the banks on the NE side of Alur Pelayaran Stanton when approaching the anchorage.

Anchorage. Vessels usually anchor on the clearing bearing in a depth of 7 m, mud. Depths decrease regularly towards the shore.

5 **Berths.** Alongside the wooden pierhead, which contains an oil pipeline, there are depths of 1·5 m, suitable for working oil barges and praus.

Facilities: limited; medical assistance.

Supplies: limited fresh water and provisions; fuel not available.

Anchorage

5.23

1 Anchorage can be obtained anywhere in Alur Pelayaran Stanton but vessels should always have a second anchor ready, as heavy squalls may arise suddenly, especially in the transition months between the NW and SE monsoons.

SELAT BANGKA — MIDDLE PART

General information

Chart 3471

Route

5.24

1 From a position W of Tanjung Lelari (2°49′S, 105°57′E) to a position ENE of Tanjung Selokan (2°24′S, 105°37′E), the route leads NNW for approximately 30 miles; in the fairway there is a least swept depth of 12·2 m.

Topography

5.25

1 **West side.** Between Tanjung Koyan (2°57′S, 105°57′E) (5.11) and Tanjung Selokan, nearly 40 miles NW, the coastline is indented by two bays; between Tanjung Koyan and Tanjung Tapa (5.29) (19 miles NW) the shore of the bay should not be approached within the 20 m line.

Between Tanjung Tapa (2°41′S, 105°47′E) and Tanjung Selokan, the bay is entirely occupied by a soft, fairly steep-to mudbank. The entire coastline is low and covered with mangroves, except for the trees on the various points.

2 **East side**. The Bangka coast between Tanjung Lelari (2°49′S, 105°57′E) (5.18) and Tanjung Mentigi, 5 miles N, is sandy; Riting, a sharp pointed hill, lies 3 miles E of the point. Tanjung Parici and Tanjung Berani, 4½ and 6 miles NNW of Tanjung Mentigi, respectively, are both high and thickly wooded; there is a sandy beach between these two points. Limau (5.27), with a range of hills extending E, is situated 1 mile ESE of Tanjung Berani.

3 Tanjung Bedawu (2°35′S, 105°54′E), 3 miles N of Tanjung Berani, is high and thickly wooded with dark coloured trees and has a prominent white rock, 14 m high, close off it; Pegunungan Permisan (5.27), a range of hills, is situated 4 miles E of Tanjung Bedawu.

4 Between Tanjung Bedawu and Tanjung Tedong (14 miles NNW), which has a prominent hill on it, there is a shallow bay which is of no importance to shipping. Pulau-pulau Nangka, comprising three hilly islets, Pulau Nangka Besar (5.27), Pulau Pegadung, which itself consists of two islets connected by a ridge of sand, and Pulau Pelepasan (5.29), lie on the coastal bank which extends 4 miles SW from Tanjung Tedong.

Hazards

5.26

1 See 5.4.

Principal marks

5.27

1 **Landmarks:**

Limau (2°39′S, 105°54′E), a prominent conical hill.

Permisan (2°36′S, 105°56′E), very prominent, the highest peak of Pegunungan Permisan, a range of hills.

Pulau Nangka Besar (2°25′S, 105°47′E), the largest islet of Pulau-pulau Nangka, can be seen from a considerable distance; its summit, when seen from S appears cone-shaped.

2 **Major light:**

Pulau Pelepasan Light (white metal tower, 35 m in height) (2°23′S, 105°45′E); obscured by Pulau-pulau Nangka.

Other aid to navigation

5.28

1 **Racon:**

Pulau Pelepasan Light (2°23′S, 105°45′E).

For further details see *Admiralty List of Radio Signals Volume 2*.

Directions

(continued from 5.21)

5.29

1 From a position W of Tanjung Lelari, the route generally leads NNW, passing (positions given from Tanjung Tapa (2°41′S, 105°47′E)):

2 Between the light-beacon (5.31) which stands at the edge of a mudbank, close E off Tanjung Tapa, which should not be approached too closely, and a light-buoy (W cardinal), 3½ miles E, which is moored at the W end of a spit of sand, stones and coral. Karang Tembaga (6¼ miles E), which lies between the spit and the Bangka coast, is a reef with three rocks on it, the W rock being visible till nearly HW. A steep-to bank of hard substance, with depths of less than 5 m over it, extends 2½ miles SSE from Karang Tembaga. Thence:

3 WSW of Tanjung Bedawu (9 miles NE) (5.25), on which stands a light (white beacon), thence:

ENE of an unmarked dangerous wreck (8¼ miles NNW), position approximate, thence:

WSW of a wreck (18 miles N) lying 1½ miles WNW of Pulau Pelepasan, an islet, which is steep and rocky, 3½ miles off Tanjung Tedong (2°22′S, 105°48′E); the islet, on which stands a light (5.27), is the most W of the Pulau-pulau Nangka group and is difficult to approach. Karang Barat, a rock, lies 2 cables W of Pulau Pelepasan. Thence:

4 Round Tanjung Selokan (2°24′S, 105°37′E), a point of land on the Sumatera side which is higher than the remainder of this coast, and from where a light (5.31) is displayed; the point, fronted by a steep-to mudbank, is reported to be extending seaward and should be given a wide berth.

Side channel

5.30

1 As there is almost a constant stream setting S between Tanjung Tapa (2°41′S, 105°47′E) and the light-buoy, 3½ miles E, during the NW monsoon, small vessels make use of the inshore channel between Karang Tembaga (5.29)

and the Bangka coast when proceeding N at this season of the year, passing WSW of:

2 Rocks lying off the coast between Tanjung Berani (2°38′S, 105°53′E) and Tanjung Bedawu, 3½ miles N, and:

Pulau Pemain, two dark masses of rock, covered with vegetation, lying 2 miles NNW of Tanjung Bedawu; it is difficult to identify from NW.

Useful marks

5.31

1 Tanjung Lelari Light (2°49′S, 105°57′E) (5.18).

Tanjung Tapa Light (green triangle point up, on beacon; 12 m in height) (2°41′S, 105°47′E).

Tanjung Selokan Light (green beacon, 8 m in height) (2°23′S, 105°37′E).

Tempilang (Pandam) (2°04′S, 105°39′E), a hill, prominent from S.

(Directions continue at 5.39)

Anchorage and river

5.32

1 **Anchorage** can be obtained in depths of 12 m, clay, W of the S point of Pulau Nangka Besar (2°25′S, 105°47′E); anchorage can also be obtained N of Pulau Pelepasan (2°32′S, 105°45′E) in depths of 6 to 7 m, with good holding ground, close to the coral reef.

2 **Sungai Selan** flows out from the Bangka coast 10 miles N of Tanjung Bedawu (2°35′S, 105°54′E) (5.25). Kampung Sungaiselan, the capital of a tin mining district, is situated 10 miles up the river and can be reached by small craft. Vessels usually obtain anchorage W of Pulau Nangka Besar, see above. Cargo and passengers are conveyed to the village by small craft, but in the SE monsoon communication with the village in such small craft can be dangerous.

SELAT BANGKA — NORTHERN PART

General information

Chart 3471

Route

5.33

1 From a position N of Tanjung Selokan (2°24′S, 105°37′E) to a position W of Tanjung Ular (1°58′S, 105°07′E), the route leads initially W thence NW, passing S of the shallow banks off Mentock (2°04′S, 105°10′E), thence N, a distance of approximately 50 miles.

Topography

5.34

1 **Southern side.** The coast of Sumatera between Tanjung Selokan (2°24′S, 105°37′E) and Tanjung Katimabongko, 24 miles W, is covered with moderately high trees to the HW mark. Sungai Sugihan discharges close W of Tanjung Selokan, and other small rivers enter the sea on this stretch of coast. Between Tanjung Katimabongko and the S part of Ujung Batakarang, the general name of the rounded part of the coast of Sumatera, 22 miles WNW, lie the deltas of Sungai Palembang and Sungai Banyuasin. The coastline in this area is fronted by a bank of hard sand, covered by a layer of mud.

2 Ujung Batakarang is wooded and made prominent by the trees on it, which are high right down to the sea and which give it a jagged appearance. The mudbank which extends from the coastline of Ujung Batakarang is continually extending narrowing the passage between the headland and Karang Ular (1°58′S, 104°57′E) (5.41).

3 **Northern side.** The Bangka coast between Tanjung Tedong (2°22′S, 105°48′E) and Tanjung Punei (5.42), 33 miles WNW, is indented by a bay, in which the depths decrease regularly towards the shore; it is of no importance to vessels passing through the strait. The coastline is mostly marshy and covered in mangroves.

4 Pulau-pulau Mondong (2°14′S, 105°45′E), lying midway between Tanjung Tedong and Tanjung Raya, 17 miles NNW, are a group of rocky islets, covered in vegetation, lying on a drying bank extending 3 miles W from the coast.

5 Between Tanjung Punei and Tanjung Kelian (2°05′S, 105°08′E), 11½ miles WNW, several shallow patches and drying reefs lie offshore with navigable channels through and on either side of them.

Menumbing (5.37), 5 miles NE of Tanjung Kelian, is the highest peak of a range of hills in the area.

Cargo transhipment

5.35

1 Cargo transfer operations may be encountered involving tankers in a position approximately 11 miles W of Tanjung Kelian (2°05′S, 105°08′E).

Hazards

5.36

1 See 5.4.

Principal marks

5.37

1 **Landmarks:**

Tanjung Tada (2°08′S, 105°27′E), with a hill on it, is quite prominent from all directions; the point is also conspicuous on radar.

Menumbing (2°01′S, 105°11′E), prominent, the highest peak of a range of hills with a flat top; the slopes of these hills are covered with imposing masses of granite, with vegetation between. Radio masts with obstruction lights and an hotel are situated on its summit.

2 **Major lights:**

Pulau Pelepasan Light (2°23′S, 105°45′E) (5.27).

Tanjung Kelian Light (white stone tower, red top, 56 m in height) (2°05′S, 105°08′E); visible between Tanjung Punei-160°.

Mentock Light (white metal framework structure, 30 m in height) (2°04′·5S, 105°09′·5E).

Tanjung Ular Light (white metal framework structure) (1°58′S, 105°07′E).

Other aids to navigation

5.38

1 **Racons:**

Pulau Pelepasan Light (2°23′S, 105°45′E).

Sungai Palembang No 1 light-beacon (2°12′·6S, 104°55′·6E).

For further details see *Admiralty List of Radio Signals Volume 2*.

Directions

(continued from 5.31)

5.39

1 From a position N of Tanjung Selokan, the route to a position W of Tanjung Ular (1°58′S, 105°07′E), lying on the Bangka side at the N entrance to the strait, initially leads W, passing (positions given from Tanjung Kelian (2°05′S, 105°08′E) (5.43):

N of a wreck (2°21′·7S, 105°36′·0E), with a depth of 13 m over it, and an obstruction, lying 3 miles NW of Tanjung Selokan (2°24′S, 105°37′E), thence:

2 Clear of an obstruction lying 3 miles S of Karang Brombram (14 miles ESE), a shoal consisting of sand and black rocks which dry in places, and is steep-to. The drying area is marked by a beacon (port hand) standing off its SW end and a light-beacon (port hand; 10 m in height) at its E end. A prominent tree stands 2½ cables WSW of the beacon. Thence:

3 Clear of a dangerous wreck, position approximate, (13¼ miles SE), thence:

S of Gosong Amelia (10 miles SE), consisting of hard sand, with depths of less than 5 m over it, clear of a dangerous wreck which lies 1¾ miles S of the SE edge of Gosong Amelia a light-buoy (isolated danger) lies close N of the wreck.

5.40

1 When Menumbing (2°01′S, 105°11′E) bears 000°, the route leads NW, making due allowance for the tidal streams which set strongly across the channel between Tanjung Katimabongko and Ujung Batakarang, passing:

SW of Gosong Amelia, thence:

SW of Gosong Muntok (5½ miles SE), consisting of hard sand, with depths of less than 5 m over it, thence:

2 Clear of two unmarked dangerous wrecks (4 miles SW); the position of the W wreck is approximate. A detached shallow patch with a depth of less than 5 m lies 1½ miles S of Tanjung Kelian.

Caution is necessary when navigating this part of the strait, and vessels should guard against the set, either in or out, from the river deltas on the Sumatera side.

5.41

1 Once past the alignment (050°) of Menumbing with Tanjung Kelian Light (5.37), the route finally leads N, passing:

W of Karang Haji (2 miles W), a drying reef which has some large black rocks on it and which is marked off its NE side by a buoy (starboard hand); a detached drying rocky shoal lies 2 to 9 cables ESE and is marked at its SE end by a buoy (starboard hand). Thence:

2 W of a detached rock (6½ miles NNW), lying close W of the outer extremity of a reef which lies offshore between Tanjung Besayap (4 miles N), which is conspicuous on radar, and Tanjung Ular, and:

Clear, depending on draught, of a 10·2 m patch (8 miles NW), which lies in the fairway, thence:

3 E of Karang Ular (1°58′S, 104°57′E), which consists of two rocky patches with depths over them of less than 3 m. A light-beacon (isolated danger) stands close S of the patches. Thence:

W of Tanjung Ular (1°58′S, 105°07′E), a rocky point 48 m high, from where a light (5.37) is displayed; a prominent sandy beach fronts the high trees N and S of the point.

Clearing bearing. The alignment (015°) of Tanjung Besayap with Tanjung Ular Light leads close W of Karang Haji.

Useful marks

5.42

1 Tanjung Selokan Light (2°23′S, 105°37′E) (5.31).

Gunung Bui (1°52′S, 105°51′E), the summit of Pegunungan Maras (5.2) (chart 1312).

Asin (1°57′S, 105°28′E), a hill with gently sloping sides.

2 Tanjung Punei (2°09′S, 105°18′E), a low rounded point, conspicuous on radar.

Karang Brombram Light (2°12′S, 105°20′E) (5.39).

Tanjung Kampeh Light (2°11′S, 104°54′E) (5.85).

(Directions continue N for the passage to Selat Berhala at 5.96, or for the outer passage to Singapore at 5.98;

directions N of Pulau Bangka are given at 5.104;

directions for Sungai Palembang are given at 5.64 and for Sungai Banyuasin at 5.85)

Pelabuhan Mentock

Chart 3471 (see 1.31)

General information

5.43

1 **Position.** The town of Mentock, a local administrative centre, stands at the mouth of Sungai Muntock, 2 miles ENE of Tanjung Kelian (2°05′S, 105°08′E).

Function. Mentock is an open anchorage for vessels coming from Palembang and other ports in Selat Bangka; there is also a tanker mooring area. A small basin, which handles lighters and can also accommodate small vessels, lies 2 cables W of the entrance to the river. The climate at Mentock is considered unhealthy.

2 **Topography.** Tanjung Kelian is a low sandy point which is subject to constant erosion.

Traffic. In 2003 the port handled 22 vessels totalling 241 619 dwt.

Port Authority. Port Administrator, Mentock Port Authority, Jalan Yos Sudarso No 1, Mentock, Sumsel, Indonesia; there is also a Harbour Master and Customs Officer.

Arrival information

5.44

1 **Port operations.** The times of barges entering or leaving the harbour basin can be affected by the tidal levels.

Notice of ETA. It is advisable to give notice of the probable time of arrival so that delays can be avoided.

2 **Anchorages**. Cargo handling is mainly carried out in Mentock Roads using barges; anchorage with good holding ground may be obtained in depths of 10 to 22 m, soft mud, from 1 to 1¾ miles offshore, with the summit of Menumbing (5.37) bearing 012°, and Tanjung Kelian bearing between 282° and 293°. Smaller vessels can obtain anchorage from 5 to 6 cables S of Mentock Light (5.37), in a depth of 7 m; when approaching this anchorage it must be borne in mind that there is a detached shoal, with 2·7 m over it, lying close to the anchorage, 1¼ mile E of Tanjung Kelian.

3 Vessels should not anchor within an area of 5 cables radius situated with its centre 2¼ miles SE of Mentock Light; there are numerous mooring buoys within this area. This roadstead is used by tankers which, due to their draught, cannot cross the bar of Sungai Palembang with a full load when coming from Palembang; such vessels secure to head and stern buoys, and may complete to full stowage from another tanker. See also 5.35.

4 **Caution.** A stranded wreck lies close NE of the tanker mooring area; a dangerous wreck with its mast showing above water, lies 2½ miles E of the area.

Pilotage is not available.

Tugs. Small tugs, which are used for cargo handling, are available.

Directions

5.45

1 **Approach from east.** When bound for Pelabuhan Mentock from E, vessels can use the clear channel N of Karang Brombram (5.39), thence passing NE of Gosong Amelia and Gosong Muntok. If passing S and W of Karang Brombram, the summit of Belo (2°01′S, 105°17′E) bearing 355° leads 1 mile clear of Karang Brombram.

Small vessels proceeding W during the NW monsoon frequently use the channel N of Karang Brombram as there is an almost constant stream setting E along the Sumatera shore during this time of the year.

2 **Approach from south.** Pelabuhan Mentock can be approached from S, in depths of 10 m, on the alignment (019°) of the summit of Menumbing with the flagstaff on the fort at Mentock which leads between Gosong Muntok (5.40) and the detached 4·5 m shallow patch lying 1½ miles S of Tanjung Kelian. Once inside the bank the depths increase rapidly to 28 m, soft mud.

3 The alignment (037°) of Menumbing with Tanjung Kelian (5.43) leads SE of the drying rocky shoal ESE of Karang Haji and close NW of the detached 4·5 m patch.

Tankers from Palembang can approach their moorings (5.44) with the summit of Belo bearing 051½° which leads across a 10 m patch, NW of Gosong Muntok.

4 **Approach from north.** Vessels coming from the N can use the inshore channel which leads between Karang Haji (5.41) and Tanjung Kelian, and which is marked by buoys. Owing to the great depths and bad holding ground, anchoring is not possible in this channel.

Caution. The passage between Gosong Amelia and Gosong Muntok should not be attempted.

Basin

5.46

1 A dredged channel with a depth of 1·0 m leads N across the shore bank to a small basin with a narrow entrance, which lies 2 cables W of the entrance to Sungai Muntock (5.43).

Port services

5.47

1 **Facilities** are limited; medical assistance; hospital.

Supplies: limited provisions; fuel and water not available.

Communications. There is a regular ferry service to Palembang.

SUNGAI PALEMBANG

General information

Charts 3476, 3471 (see 1.31)

Route

5.48

1 From the vicinity of the pilot boarding position (5.56) for Sungai Palembang, at the N end of Selat Bangka, the route to the river entrance is defined by transits and leads about 9 miles S.

From the entrance to Sungai Palembang between the low lying points of Tanjung Gedeh (2°20′S, 104°55′E) and Tanjung Carat, 3 miles N, the route to the port and city of Palembang leads a further 48 miles upriver. Pulau Payung, a short distance within the entrance, divides the river into two navigable channels; see regulations given at 5.57.

Topography

5.49

1 Sungai Palembang rises near Bukit Kaba, a volcano situated 28½ miles NE of Bengkulu (3°46′S, 102°15′E) (*Malacca Strait and West Coast of Sumatera Pilot*) and flows into Selat Bangka 18 miles W of Tanjung Katimabongko (2°20′S, 105°13′E), forming a delta; Sungai Upang (2°22′S, 105°03′E) and Sungai Saleh (2°22′S, 105°07′E), the two E mouths, are not navigable.

Limiting conditions

Depths

5.50

1 **Least charted depths.** In 1993 the least charted depth on the outer leading line was 2·6 m, and over the inner bar W of Pulau Payung 3·4 m; E of the island the least charted depth was 2·3 m.

The times of HW and LW occur approximately 1 hour later for every 12 miles upstream, thus:

Place	*Hours after HW or LW on outer bar*
Abreast Pulau Payung	1 hour
Off mouth of Sungai Upang	2¾ hours
Off mouth of Sungai Ayerkumbang	3¼ hours
Off Plaju oil berths	4 hours

5.51

1 **Tidal levels.** See *Admiralty Tide Tables*. Mean maximum range at the outer bar about 2·2 m. At Sungsang, close NW of the inner bar; mean maximum range is about 1·9 m.

Tide gauges. In 1993 several tide gauges stood in the approaches and within the entrance to Sungai Palembang; odd numbered gauges on the W side of the channel, and even numbered on the E side. The gauges are graduated in decimetres, the lower edge of a number indicating the depth; a correction must be applied to the reading of each gauge to obtain the least depth in the relevant part of the channel. The positions of the gauges are as follows:

2 No 1 Tide gauge is attached to the No 1 Leading light-structure (5.64), situated 4¾ miles N of Tanjung Carat.

No 3 Tide gauge is attached to No 3 Leading light-structure (5.64) situated 2¾ miles N of Tanjung Carat.

No 2 Tide gauge is situated 4 cables S of Tanjung Gedeh.

No 4 Tide gauge is situated 7 cables SE of the S end of Pulau Payung.

No 7 Tide gauge is situated 3½ cables SW of the S end of Pulau Payung.

For the latest corrections to be applied to tide gauge readings the local pilot should be consulted.

Maximum size of vessel

5.52

1 In 1993, a vessel having a length of up to 181 m and a draught of 7·5 m could be handled at Palembang.

Local weather

5.53

1 **Visibility** can be reduced by fog to 25 m, during a long dry season, which occurs every few years, and only terminates when the rainy season returns, see 5.56.

Arrival information

Notice of ETA

5.54

1 Vessels bound for Sungai Palembang should inform the Harbour Master at Palembang by radio, 24 hours in advance, of the draught of the vessel and expected time of arrival at outer bar; vessels sailing from the port should request a pilot at least 6 hours before departure. There is a coast radio station at Palembang; for further details see *Admiralty List of Radio Signals Volume 1(2)*.

Outer anchorage

5.55

1 Vessels awaiting the pilot at the outer bar may obtain anchorage, in a depth of 17 m, about 4 miles NE of the prohibited anchorage.

Prohibited anchorage lies within an area, 3½ cables radius, with its centre situated 6 miles NNE of Tanjung Carat (2°17′S, 104°55′E); dangerous wrecks lie 5 cables NE and 4 cables E from the centre of the prohibited anchorage.

Pilotage

5.56

1 Pilotage is compulsory within Sungai Palembang and in the harbours, with a few exceptions; sea pilots maintain a 24 hour service.

2 A pilot and customs station, equipped with radio, is situated at Tanjung Buyut, on the W side of the river 2 miles S of Tanjung Carat (2°17′S, 104°55′E). A pier, 45 m in length with a least depth of 4·6 m alongside, is situated abreast the pilot station. Pilots, who serve all ports within the river, are usually embarked and disembarked in the vicinity of the outer light-buoy (safe water) (2°11′·4S, 104°57′·0E), as shown on the chart. At Palembang the pilot station is situated on the N bank, 1½ miles below Palembang Bridge (5.71). For further details on pilotage see *Admiralty List of Radio Signals Volume 6(4)*.

3 Throughout the periods of reduced visibility (5.53), pilotage is conducted on a one way basis; one day for out-going vessels followed by one day for in-coming vessels.

Local knowledge is essential. The navigable channels within the river are subject to frequent change.

Traffic regulations

5.57

1 In-coming vessels should use the channel E of Pulau Payung (2°23′S, 104°55′E). They may use the channel W of Pulau Payung if their draught is greater than 3·3 m, provided that permission has first been obtained from the Harbour Master at Palembang.

Out-going vessels must always use the W channel of Pulau Payung, passing W of the drying sandbank and the light-buoy moored off the entrance to Sungai Telang.

2 Out-going vessels have priority over in-coming vessels in crossing the outer bar except as follows:

2 hours to 1 hour before HW — In-coming vessels have priority.

2 hours to ¾ hour before HW — Out-going vessels wait between Tanjung Gedeh and Tanjung Carat.

At other times — Out-going vessels anchor abreast the numbered anchor berths, indicated by notice boards, 2½ miles S of Pulau Payung.

Harbour

Dredging

5.58

1 Regular dredging is carried out at certain places within the river; caution is required when encountering dredgers and dredging is in progress.

Hazards

5.59

1 **Former mined areas.** See 1.6 and Appendix I.

Cargo transfer operations. See 5.35.

Fishing stakes. Many fishing stakes stand on either side of the channel across the outer bar and at many locations within the river.

Tidal streams

5.60

1 Tidal streams within Sungai Palembang are of a mixed character, sometimes semi-diurnal, but frequently diurnal; there is, however, insufficient information to give an accurate description. The average rate of the out-going stream is usually 2 kn and that of the in-going stream 1 to 1½ kn; slack water is of short duration. The in-going stream is frequently felt as far up as Palembang, and vessels lying off the city usually swing ½ hour after HW or LW; by the shore the surface water changes direction first, so that shallow draught vessels swing before those of deep draught. If little rain falls in the interior there are sometimes two tides a day, although this is exceptional as the city lies too far from the mouth of the river. During the rainy season, from November to March, there is sometimes no in-going stream at Palembang for days at a time.

2 **Caution.** Off the entrance to Sungai Telang (2°22′S, 104°54′E), the out-going stream from this river can reach a maximum rate of 5 kn at springs.

Principal marks

5.61

1 **Landmark:**

Radio mast (30 m high), from which lights are displayed, standing at Tanjung Buyut, 2 miles S of Tanjung Carat (2°17′S, 104°55′E).

Major light:

Tanjung Kelian Light (2°05′S, 105°08′E) (5.37).

Other aid to navigation

5.62

1 **Racon:**

No 1 Leading Beacon (2°12′·6S, 104°55′·6E).

For further details see *Admiralty List of Radio Signals Volume 2*.

Directions

Cautions

5.63

1 **Wrecks.** Several dangerous wrecks lie in the approaches to the charted pilot boarding station, their positions are best seen on the chart. A stranded wreck lies in position 2°11′S, 104°58′E. See also 5.55.

Reflectors. No reliance can be placed on the existence of reflectors on the beacons or crossing over marks, and the navigational aids are liable to be missing or only partly visible.

Mines. Although Sungai Palembang has not been swept for mines, it has been navigated so frequently that danger from mines may be considered negligible. However, the directions given in Appendix I should be followed.

Approach to the river entrance

5.64

1 From the pilot boarding position (2°11′S, 104°57′E) off the entrance to Sungai Palembang, as shown on the chart, the track to the river entrance between Tanjung Carat and Tanjung Gedeh, follows the alignments of two pairs of leading lights.

2 **Inner Leading Lights:**

Front light No 3 (triangle point up, on white metal framework tower, 5 m in height) (2°14′·6S, 104°54′·9E).

Rear light No 4 (triangle point down, similar structure, 9 m in height) (8 cables SW of front light).

3 The alignment (214½°) of the above leading lights leads SW over the outer bar, passing (positions from Tanjung Carat (2°17′S, 104°55′E)):

Clear of a dangerous wreck (5¼ miles NNE) which lies in an approximate position close to the track, thence:

4 NW of a stranded wreck (5 miles NNE), marked by a buoy (starboard hand), thence:

SE of a reported obstruction (5 miles NNE), thence:

SE of a stranded wreck (4¾ miles NNE), with a dangerous wreck close NW, positions approximate, thence:

5 SE of No 1 Light-beacon (4¾ miles N), mentioned below, thence:

SE of No 2 Light-beacon (4¼ miles N) and clear of a wreck, existence doubtful, lying close to the track, thence on to the alignment of the outer lights.

6 **Outer Leading Lights:**

Front light No 2 (triangle point up, on white post on pile structure, 6 m in height) (2°13′·2S, 104°55′·6E).

Rear light No 1 (similar structure, triangle point down, 16 m in height) (6 cables N of front light).

7 The alignment (005½°), astern, of the above light-beacons leads S towards the river entrance, passing:

W of a light-buoy (port hand) (3¾ miles NNE), thence:

E of No 3 Light-beacon, mentioned above, thence:

Between the drying flats extending N from each point of the river entrance, and:

8 E of a light-buoy (starboard hand) (1½ miles NNE), thence:

E of a dangerous wreck (1¼ miles N), thence to a position in the channel E of Tanjung Carat.

Entry to the river

5.65

1 From a position E of Tanjung Carat, the track for in-going vessels leading to the passage E of Pulau Payung, initially leads S passing (positions from Tanjung Carat (2°17′S, 104°55′E)):

W of a light-buoy (port hand) (7½ cables SSE), thence:

Clear of a stranded wreck (1 mile SSE), thence:

E of a buoy (starboard hand) (1¼ miles S), thence:

E of the pilot station (2 miles S) at Tanjung Buyut, with a prominent radio mast (5.61), thence:

E of a light-buoy (port hand) (3½ miles S).

2 The track then leads SE towards the first of two beacons (conical topmarks) lying off the E shore of the passage, 7 cables S of Tanjung Gedeh (2°20′S, 104°55′E), thence maintaining a distance of 100 m off the E shore until the beacon (can topmark) (3 miles S of Tanjung Gedeh) is reached, thence crossing the channel to pass:

W of the light-buoy (port hand), moored 3 cables S of the S end of Pulau Payung, thence onto the alignment (154°) of the Parit leading lights (5.66).

5.66

1 For vessels exceeding 3·3 m draught (see Traffic regulations at 5.57) the passage W of Pulau Payung may be used. After following the directions given at 5.65 as far as the pilot station, the track through the W passage initially leads SSW on the alignment of Sungsang Leading Lights.

2 **Sungsang Leading Lights:**

Front light (triangle, point up, on white beacon, 10 m in height) (2°22′·6S, 104°54′·1E).

Rear light (triangle, point down, similar structure, 15 m in height) (3 cables SSW of the front light).

The alignment (194½°) of these leading lights passes (positions from the radio mast (5.61) at Tanjung Buyut (2°19′S, 104°55′E)):

3 E of a light-buoy (marked W; starboard hand) (1 mile S), thence:

WNW and SW of a light-buoy (port hand) (2¾ miles S), thence:

Through the fairway of the W passage until the alignment (154°) of Parit Leading Lights is reached, passing WSW of a light-buoy (port hand) (2°24′·7S, 104°55′·4E).

4 **Parit Leading Lights:**

Front light (white triangle, point up, on white beacon, 10 m in height) (2°26′·3S, 104°56′·1E).

Rear light (white triangle, point down, on similar structure, 14 m in height) (2 cables SSE of the front light). The rear light is visible between 151°–157°(6°).

Caution, see 5.60.

5.67

1 Between Pulau Payung and Palembang, the channels in Sungai Palembang are lighted and buoyed and are marked by beacons, some of which are lit, the chart is the best guide. A single set of leading lights, having an alignment (218¼°), situated close S of the entrance to Selat Jaran (2°48′S, 104°54′E), 24 miles up river from Parit (5.66).

In 1991, a drying patch was reported to lie SE of the navigable channel, 2¾ miles NE of the front leading light.

5.68

1 Above Palembang the navigable portion of Sungai Palembang can be used by small craft capable of passing beyond Ampera Bridge (5.72). Kertapati, a terminus on the South Sumatera railway system, is situated on the SE side of the river 1½ miles above the bridge.

During the NW monsoon small craft with a draught of 0·9 m can proceed as far as Muaraklingi, 160 miles above Palembang.

Useful marks

5.69

1 Surveying beacon (red and white stripes, single sphere topmark) (3½ miles NE of Tanjung Carat (2°17′S, 104°55′E)).

Surveying beacon (7 miles N of Tanjung Carat) (5.86).

Tanjung Kampeh Light (2°11′S, 104°54′E) (5.85).

Other rivers

5.70

1 **Sungai Ayerkomering** is connected, 50 miles from Palembang, at HW, to Sungai Babatan by a canal suitable

for small craft, and thence by Sungai Padang to Sungai Mesuji (3.79).

Sungai Ogan enters Sungai Palembang at Kertapati. In the NW monsoon, it is navigable by small craft with a draught of 0·9 m as far as Batu Raja, 120 miles upstream. During the remainder of the year it is only possible at times to reach Tanjung Raja, 30 miles upstream.

Palembang

General information

5.71

1 **Position.** The port and city of Palembang (2°59′S, 104°46′E), which is an administrative centre, is built on both sides of Sungai Palembang, nearly 48 miles from the sea. The administrative offices are situated on the N bank of the river.

2 **Function.** The port exports mainly oil products together with rubber, coffee, timber and fertilisers; imports include construction materials and general cargo. There are facilities for handling container cargoes. Oil, however, is the city's real source of wealth enabling it to become Indonesia's richest city.

3 With the exception of Belawan (*Malacca Strait and West Coast of Sumatera Pilot*), it is the most important port of the E side of Sumatera. In 2004, Palembang had a population of 1 507 100.

Port limits. The area of Sungai Palembang contained between Kundur, a point 6 miles below the bridge (5.72) at Palembang, and Kramasan, a point 2½ miles above the bridge.

4 **Traffic.** In 2004 the port was used by 544 vessels totalling 3 674 145 dwt.

Port Authority. Port Administrator, Pelabuhan Palembang, Jalan Blinyu No 1, Palembang 30115, Indonesia.

Website: www.palembangport.com

Email: datin@palembangport.com

Pertamina (cable address: Pertaminaship-Jakarta) are operators of the oil terminals.

Limiting conditions

5.72

1 **Vertical clearance.** The two commercial parts of the town are connected by Ampera Bridge, a road bridge with a central lifting section of 71·9 m in length. Vertical clearance above normal water level when section closed: 9 m; passage width: 60 m. When raised, the section offers a maximum clearance height of 44·5 m above normal water level.

Tidal levels. See information in *Admiralty Tide Tables.* At Palembang the mean maximum range is about 1·4 m.

Density of the water at Palembang is 1·007 g/cm^3.

Maximum size of vessel handled: LOA 181 m, 7·5 m draught.

Arrival information

5.73

1 **Port radio.** There is a port radio service at Palembang; there are also radio facilities at Plaju and Sungaigerong. For details see *Admiralty List of Radio Signals Volume 6(4)*.

Notice of ETA. For berthing at Plaju and Sungaigerong, see 5.54.

Outer anchorage. See 5.55.

2 **Prohibited anchorages.** Submarine pipelines and cables cross Sungai Palembang 1½ miles below and 2½ miles above the mouth of Sungai Ayerkomering (2°59′·4S, 104°50′·0E) (5.70), and also in the vicinity of Ampera Bridge (5.72). Their landing places are marked by notice boards and anchorage is prohibited in their vicinity. See 1.50.

Pilotage. See 5.56.

Tugs are available at the oil berths.

Harbour

5.74

1 **General layout.** Pelabuhan Palembang is the stretch of the river abreast the town and its vicinity. The main shipping area lies 4 miles E of the town where there are several oil berths at Plaju and Sungaigerong (5.77). At Pusri (5.77), 2½ miles E of the town there is a fertiliser factory and jetty. Pulau Kemara lies within an indented section of the N side of the river upstream of Sungailais (2°59′S, 104°50′E), a ferry landing; shallow water, with depths generally less than 3 m, which extends S from the island, is marked on its S edge by Nos 5 and 7 light-buoys (starboard hand) at the outer end and a buoy (conical, black and yellow chequers) at the inner end.

2 **Ferry.** A cross river ferry service runs between Sungailais on the N shore to a position on the S shore, 7½ cables below the entrance to Sungai Ayerkomering (5.70), as shown on the chart.

Climatic table. See 1.137 and 1.141.

5.75

1 **Landmarks** which are prominent lie on the S side of the river as follows:

Post Office, a large white square five-storeyed building, standing 7 cables ENE of the E entrance point of Sungai Ayerkomering.

Swimming Pool, with an illuminated porch, 2 cables WSW of the post office.

Anchorages

5.76

1 Vessels anchor between Kundur (2°59′S, 104°52′E) and Plaju, in depths of 6 to 10 m, mud and sand, while awaiting berths at Plaju, Sungaigerong or Palembang; frequently there may be as many as six vessels at this anchorage where they may have to spend several days waiting to berth at the wharves or waiting for a favourable tide before proceeding down river. In this anchorage the holding ground is good but if it becomes congested, large vessels lack swinging room. Violent squalls are common occurrences during the late afternoon and vessels are liable to drag their anchors at these times. Smaller vessels proceeding to Palembang may anchor anywhere in the channel except in prohibited anchorages (5.73).

Alongside berths

5.77

1 **Sungaigerong** on the E side of the mouth of Sungai Ayerkomering, is an oil products terminal; oil is brought to the terminal by pipeline from the interior. Vessels up to 18 000 dwt and 160 m in length can be accommodated here at six berths, numbered from E to W, with depths of from 5·7 to 10·0 m, MLWS.

All the wharves are of metal and concrete construction. Berth Nos 2 and 5 can accept general cargo.

2 **Plaju**, on the W side of the mouth of Sungai Ayerkomering, is a large petrochemical complex and oil refinery; it is also an oil and chemical terminal. Vessels up to 18 000 dwt, 170 m in length and 9 m in draught can be accommodated. There are five berths with depths alongside of from 5 to 10 m, MLWS; Berth No 11 is a large general cargo wharf with facilities for oiling.

Baguskuning, 1½ miles above Plaju, is another terminal with depths of 7 m alongside.

3 **Pusri Fertiliser Jetty**, a T-shaped jetty on the N side of the river, with its root 4¼ cables NNW of the W wharf at Baguskuning, projects 200 m into the river. The berthing space available is 160 m in length with depths of from 6·3 to 6·8 m alongside. The jetty is flanked at each end by dolphins which are connected to the jetty by a walkway; the fertiliser factory lies close to the root of this jetty.

The jetty also handles LPG (ammonia) cargoes.

4 **Boom Baru**, a government wharf 5 cables NE of Ampera Bridge (5.72), 265 m in length, 19·5 m width and a depth of 9·5 m alongside, accepts container traffic.

Other berths. At Sungailais (5.74) there is a wharf 280 m in length having a width of 15 m and a depth of 2·5 m alongside.

Port services

5.78

1 **Repairs**: patent slips; the largest 200 m in length, breadth 96·7 m; minor repairs generally.

Other facilities: medical assistance, hospital; deratting certificates issued.

Supplies: provisions; fresh water at all wharves, and by barge if necessary; fuel and diesel oil at the oil berths.

Communications. Palembang (Talangbetutu) International Airport is situated 13 km NNW of the city with connections to Jakarta, Singapore and Kuala Lumpur, and locally to Jambi. A water ferry service runs to Mentock situated at the N end of Selat Bangka.

SUNGAI BANYUASIN

General information

Charts 3476, 941A

Route

5.79

1 Sungai Banyuasin should not be entered without local knowledge; 55 miles within the entrance the oil terminal at Ramba (2°37′S, 104°08′E) (5.87) is situated on Sungai Biduk (Dawas River) (5.87) which leads off Sungai Banyuasin.

Topography

5.80

1 Sungai Banyuasin which flows into Selat Bangka on the S side of Tanjung Kampeh (2°11′S, 104°53′E), the S extremity of Ujung Batakarang (5.34), is a broad river but only has a course of 35 miles. Tanjung Apiapi, the S entrance point, lies 4 miles W of Tanjung Carat (5.48). Pulau Rimau lying 9 miles SW of Tanjung Apiapi divides the river into two branches. The navigable Sungai Banyuasin continues SW along the S branch to join Sungai Senda, leading NW, which in turn joins Sungai Calik, flowing along the N branch (5.88). The inner convergence of Sungai Calik and Sungai Senda joins Sungai Teluktenggulang leading W to Sungai Biduk (Dawas River), and further inland.

2 Sungai Lalang (5.88), a river of some importance, enters Sungai Banyuasin at Tanjung Serah, the NE point of Pulau Rimau.

Oilfields

5.81

1 Ramba Oilfields (2°37′S, 104°08′E) lie in close proximity to the banks of Sungai Biduk (5.87), 13 miles W of the convergence of Sungai Calik, Sungai Senda and Sungai Teluktenggulang. The oilfields supply crude oil to an export oil terminal (5.87). Pipelines also link the oilfields with Palembang, 70 miles SE.

The area between Sungai Lalang and Sungai Biduk has many oilfields and oil is pumped by pipeline to Palembang.

Former mined areas

5.82

1 Attention is drawn to an area in Sungai Banyuasin which is dangerous on account of mines. See Appendix I.

Pilotage

5.83

1 Pilotage is compulsory; For further details on pilotage and boarding position see under Palembang at 5.56.

Tidal stream

5.84

1 The tidal strength is felt as far as a position 88 miles upstream.

Directions

5.85

1 The river is entered between Tanjung Kampeh Light-beacon (white metal framework beacon, 16 m in height) (2°11′S, 104°54′E) and Sungai Palembang No 1 Light-beacon (5.64), nearly 2 miles SE. The track, keeping within the fairway, leads SW into the river.

2 The greater part of Sungai Banyuasin estuary is occupied by shoals, leaving a narrow channel along the SE shore from Tanjung Apiapi to the vicinity of Pulau Rimau. This channel is marked by three buoys (starboard hand); the outermost buoy is moored 1½ miles N of Tanjung Apiapi, the innermost buoy is moored 2¼ miles ENE of Tanjung Serah (5.80). The track then follows the S branch of the river S of Pulau Rimau.

3 **Caution.** In 1985 it was reported that there was less water in the approaches to the river entrance, 3 miles E of Tanjung Kampeh (2°11′S, 104°53′E).

Useful marks

5.86

1 Survey beacon (red and white stripes, double sphere topmark), standing in shallow water 1½ miles ENE of Tanjung Kampeh.

Sungai Palembang Nos 3 and 4 Leading Light-beacons (2°15′S, 104°55′E) (5.64).

Radio mast (5.61) standing at Tanjung Buyut (2°19′S, 104°55′E).

Ramba Oil Terminal

General information

5.87

1 **Position.** Ramba Oil Terminal (2°37′S, 104°08′E) is situated on Sungai Biduk (Dawas River).

Function. The terminal provides facilities for the loading of crude oil from nearby oilfields.

Terminal Authority. Asamera Oil, PO Box 2858, Jakarta. Indonesia.

The terminal operator is: Asamera Oil Company (Sumsel), Jalan Jend. Basuki Rachmat 1496, P.O.Box 76, Palembang. Sumatera. Indonesia.

2 **Maximum size of vessel:** up to 10 000 dwt having a length of up to 90 m can be accommodated alongside a jetty with a least depth of 6 m, MLWS.

Density of the water at the jetty: 1010 g/cm^3.

Port operations. Berthing and unberthing operations are limited to daylight hours only.

Port radio. The terminal has VHF facilities.

Pilotage. See 5.83.

Port sevices: Facilities are limited; medical assistance available.

Sungai Lalang

General information

5.88

1 **General description.** Sungai Lalang, shown as Lolang River on chart 941A, 130 miles in length and navigable with the aid of a pilot for 100 miles, enters Sungai Banyuasin at the entrance to its N branch at the NE end of Pulau Rimau (5.80). The river which initially leads W within the N branch for 6 miles then turns N and later WNW; the N branch continues W along the N side of Pulau Rimau as Sungai Calik.

2 There are several oil wells near the inner course of Sungai Lalang.

Limiting conditions. Vessels not exceeding 5·4 m in draught can reach Muarabahar, a village situated 100 miles upstream.

SELAT BANGKA — NORTHERN ENTRANCE

GENERAL INFORMATION

Charts 3471, 1312

Scope of the section

5.89

1 In this section are described:

East Coast of Sumatera between Ujung Batakarang and Tanjung Jabung (1°01′S, 104°22′E).

North Coast of Pulau Bangka between Tanjung Ular and Tanjung Grasak (1°30′S, 105°54′E), including Teluk Klabat.

Also included are Pulau-pulau Tuju, a group of islands lying NW of Pulau Bangka.

Topography

5.90

1 **Sumatera — East Coast.** The coast of Sumatera between Ujung Batakarang (5.34) and Tanjung Jabung (1°01′S, 104°22′E), 65 miles NW, is low, wooded and fronted by a gradual sloping mudbank, but near Tanjung Jabung it is fairly steep-to; it is possible that this point is extending seawards, see also 5.99. Several rivers flow out into the sea on this stretch of coast; in the S part, Teluk Kendawang (1°57′S, 104°39′E), and Teluk Sekanah, 9 miles NW, are shallow and unimportant bays.

5.91

1 **Pulau Bangka — North Coast.** The coastline is generally low lying with high ground well inland. Teluk Bulu indents the coastline between Tanjung Biat (1°56′S, 105°10′E) and Tanjung Genting (5.104), 17 miles NE, and has a mainly sandy shore which is fringed by a coastal bank with numerous rocks extending over 1 mile offshore in places.

2 Between Tanjung Genting and Tanjung Melala (1°32′S, 105°36′E), the W entrance point to Teluk Klabat the coast is fringed by a reef also extending over 1 mile offshore in places, and on which there are also numerous rocks. Mempari (1°42′S, 105°23′E), 235 m, Penyabung, 223 m high, 3 miles NW of Mempari, and Pesukan, 209 m high, 4 miles NNE of Mempari, are prominent hills on this stretch of coast.

3 Teluk Klabat (5.107) is a deep indentation in the coastline between Tanjung Melala and Tanjung Penyusu, 6 miles E.

Pulau-pulau Tuju (5.116), are a group of islands lying off the NW coast of Pulau Bangka.

The S and E coasts of Pulau Bangka are described in Chapter 7.

EAST COAST OF SUMATERA

General information

Chart 1312

Route

5.92

1 From a position at the N entrance to Selat Bangka, the route towards Selat Berhala leads NNW for a distance of approximately 70 miles. This route forms the inner route to Singapore passing W of Pulau-pulau Lingga (9.7); the outer route E of the islands is described at 5.98.

Topography

5.93

1 See 5.90.

Tidal streams

5.94

1 Near the Sumatera mainland there is a permanent SE stream flowing towards the entrance to Selat Bangka.

Principal marks

5.95

1 **Landmark:**

Menumbing (2°01′S, 105°11′E) (5.37).

Major lights:

Tanjung Ular Light (1°58′S, 105°07′E) (5.37).

Tanjung Jabung Light (white metal framework structure, 40 m in height) (1°01′S, 104°22′E), standing 5 cables S of the point.

Directions

(continued from 5.42)

Selat Bangka to Selat Berhala (Inner route to Singapore)

5.96

1 From a position between Tanjung Ular (1°58′S, 105°07′E) and Karang Ular, 10 miles W, at the N entrance to Selat Bangka, to a position on the recommended track (see Appendix I) leading into Selat Berhala, NE of Tanjung Jabung, the route leads NNW for approximately 70 miles, passing:

2 Clear of a dangerous wreck (1°53′S, 104°59′E), thence:

Clear of a dangerous wreck (1°38′S, 104°49′E), thence:

Clear of a dangerous wreck (1°20′S, 104°46′E) with a patch of discoloured water 2 miles NW, thence:

Clear of a dangerous wreck (1°14′S, 104°35′E), thence:

3 Clear of wrecks which lie 5¾ and 10 miles ENE of Tanjung Jabung, best seen on chart 1789.

Local craft. A light-beacon (1°59′·3S, 104°42′·7E) standing at the entrance to Sungai Batuburu, a river 15 miles W of Karang Ular (5.41) provides a useful mark for local coasting vessels passing closer inshore. This light, however, is unlikely to be visible on the main route.

5.97

1 **Useful marks:**

Karang Ular Light (1°58′S, 104°57′E) (5.41).

Pulau Saya Light (white beacon, elevation 13 m) (0°47′S, 104°56′E) standing on the island of that name (9.18).

Pulau Berhala (0°51′S, 104°24′E) (10.11).

Selat Bangka to Tanjung Jang (Outer route to Singapore)

5.98

1 From the N entrance of Selat Bangka to Singapore Strait, following the outer route E of Pulau-pulau Lingga, to a position E of Tanjung Jang (0°18′S, 105°00′E) (9.39), the track leads NNE for a distance of 102 miles passing either side of Pulau-pulau Tuju (5.116), E of Pulau Saya (0°47′S, 104°56′E) (9.18) and clear of a number of wrecks the positions of which are best seen on the chart.

Useful mark:

Pulau Saya Light (0°47′S, 104°56′E) (5.97).

Cautions

5.99

1 Tanjung Jabung (1°01′S, 104°22′E) must not be approached in a depth of less than 15 m as the coastal mudbank, which extends 1¼ miles from the point, is steep-to and soundings give no warning.

In 1995, less water was reported in an area 7 miles S of Pulau Saya (0°47′S, 104°56′E).

2 Between the E coast of Sumatera and Pulau-pulau Tuju (1°12′S, 105°15′E) (5.116), there are several patches where depths are about 2 m less than the soundings in the vicinity.

N of Pulau-pulau Tuju and E of Tanjung Jang charted depths are from miscellaneous lines of passage soundings and the presence of uncharted coral heads cannot be discounted. Caution should be exercised in the area.

(Directions continue for Selat Berhala at 10.18, for the offshore route to Selat Riau at 9.15 and for the outer route to Singapore Strait at 9.131)

NORTH WESTERN AND NORTHERN COAST OF PULAU BANGKA INCLUDING PULAU-PULAU TUJU

General information

Chart 1312

Routes

5.100

1 From the vicinity of the N entrance to Selat Bangka, the route leading to the N entrance of Selat Gelasa or through to the NW coast of Borneo, leads between the N coast of Pulau Bangka and Pulau-pulau Tuju (1°12′S, 105°16′E), a group of islands lying about 24 miles off the NW coast of Pulau Bangka.

Topography

5.101

1 See 5.91.

Tidal streams

5.102

1 In a position 13 miles SSW of Pulau-pulau Tuju the streams run NE and SW and are mainly diurnal; they are predicted in *Admiralty Tide Tables*. The predictions give the times of maximum rate in either direction, times of turn, and the maximum rates in either direction.

2 The maximum rate of the stream running NE can be expected to average 1 kn in June and July, and in December and January. The maximum rate of the stream running SW can be expected to average 1¼ kn from November to January, and from May to July. In addition to the streams setting NE and SW, a stream setting across these directions, with a maximum rate of 1¼ kn, has been observed.

Tide-rips and strong whirlpools have often been observed SW of Pulau Cebia (1°13′S, 105°16′E).

Principal marks

5.103

1 **Landmarks:**

Menumbing (2°01′S, 105°11′E) (5.37).

Mempari (1°42′S, 105°23′E) (5.91).

Penyabung (1°40′S, 105°21′E) (5.91)

Pesukan (1°38′S, 105°24′E) (5.91).

Pulau Cebia (1°13′S, 105°16′E) (5.116).

Pulau Pekacang (1°10′S, 105°18′E) (5.116).

Pegunungan Maras (1°52′S, 105°51′E) (5.2).

Major lights:

Tanjung Ular Light (1°58′S, 105°07′E) (5.37).

Tanjung Mantong Rear Leading Light (1°37′·6S, 105°44′·0E) (5.112).

Directions

Selat Bangka to Tanjung Grasak (for Selat Baur)

5.104

1 From a position between Tanjung Ular (1°58′S, 105°07′E) and Karang Ular, 10 miles W, at the N entrance to Selat Bangka, to a position N of Tanjung Grasak (1°30′S, 105°55′E), the coastal route initially leads NE thence E for a distance of approximately 73 miles, passing (positions given from Malang Iyu (1°31′S, 105°27′E)):

NW of Karang Sebidunguma (31 miles SW), a steep-to reef with some rocks on it; this reef is not marked by discolouration and soundings give no warning of approaching it. Thence:

2 Clear of Exspan Marine Terminal (27 miles SW) (5.117), thence:

Clear of a dangerous wreck (26 miles WSW), thence:

NW of Tanjung Genting (13½ miles SW), a rocky point with numerous rocks on a coastal bank which extends a short distance from it. A shoal, with a depth of 1·5 m over it lies 7 cables NW of the point; the N side of the shoal is comparatively steep-to. Thence:

3 NW of Tanjung Pemuja (6½ miles SW); an islet lies on the coastal reef close off the point, thence:

NW and N of Malang Iyu consisting of two rocks, close together; two more rocks lie between Malang Iyu and Tanjung Kelayang (3 miles S), thence:

N of Malang Doyang (4 miles ENE), a very prominent greyish-yellow rock in the shape of a vessel floating bottom up; a coral reef, unmarked in any way, lies 1 mile S of Malang Doyang. Thence:

4 N of a reef (9½ miles ENE), over which there is a depth of 5·2 m and which is not usually marked by

discolouration. Tanjung Melala (1°32′S, 105°36′E), standing at the W entrance to Teluk Klabat (5.107), lies 2½ miles S of the reef and can be identified by Melala, a hill, which rises on the W side of the point. Thence:

5 N of Karang Trasi Laut (13½ miles E), a steep-to rock with a depth of 0·5 m over it, lying with the W part of Maras range in line with Pulau Penyusu Light (white metal tower, 40 m in height) (1°32′S, 105°41′E) bearing 156°. Karang Trasi Darat, a rocky patch with a depth of 1·5 m over it, lies 4 cables E of Karang Trasi Laut. Neither of these dangers is marked by discolouration. Thence:

6 Clear of an underwater danger (reported 1956) (22 miles NE), thence:

N of Tanjung Grasak (1°30′S, 105°55′E), a rocky point lying at the E end of a small peninsula forming the N extremity of Pulau Bangka; the W end is fronted by a sandy beach.

Useful mark:

Tanjung Tuing Light (1°36′S, 106°03′E) (6.79).

5.105

1 **Caution.** Between Tanjung Ular and Tanjung Grasak, the offshore dangers are often unmarked by surf or discolouration, and soundings give little warning of their existence; vessels should therefore keep outside a depth of 20 m on this coast.

(Directions continue using the offshore passage to Selat Baur at 6.80;
directions for the coastal route to Pangkalbalam are given at 6.108)

Selat Bangka to North-west coast of Borneo

5.106

1 Vessels bound for the passages off the NW coast of Borneo from the N entrance to Selat Bangka should pass between Pulau-pulau Tuju (5.116) and the NW coast of Pulau Bangka. This offshore route follows the route described at 5.104, as far as Malang Iyu (1°31′S, 105°27′E), thence to the vicinity of Pulau Pengikik Besar (0°15′N, 108°03′E), a distance of approximately 237 miles, passing:

SE of Pulau Penyaman (1°16′S, 105°15′E) (5.116), thence:

2 SE of Pulau Dokan (0°58′S, 105°39′E) which can be plainly seen from a distance of 24 miles in clear weather; its summit appears sharp when seen from N, but is rounded from E. It is surrounded by a reef which extends 1 mile from its N side. Two islets lie close N of Pulau Dokan. A detached reef, lies with its S extremity 1¾ miles SSE of the island. Thence:

3 SE of Pulau Toty (0°55′S, 105°46′E); its summit appears rounded from N and sharp from E. The island is surrounded by a reef which extends 5 cables NW and 2 cables SE. Thence:

NW of an isolated shoal patch (reported 2002) (0°50′S, 106°24′E), with a depth of 12 m over it, thence:

SE of Pulau Pejantan (0°07′N, 107°13′E) (8.21).

4 Pulau Pengikik Besar with Pulau Pengikik Kecil, a small islet 3 cables W, may be passed on either side.

Caution. This track passes near to the position of a reported rock (0°21′S, 107°05′E), the existence of which is doubtful.

(Directions N of Pulau Pengikik Besar are given at 8.10)

Teluk Klabat

Chart 1312 (see 1.31)

General information

5.107

1 **General description.** Teluk Klabat, entered between Tanjung Melala (1°32′S, 105°36′E), a rocky point, and Tanjung Penyusu, a low point, 6 miles E, is divided into an outer and inner bay by Tanjung Ruh, which lies 7 miles S of Tanjung Penyusu, and is the extremity of a tongue of land extending from the W side of the bay. The greater part of the outer bay is occupied by a flat, with depths of less than 5 m, and numerous rocks on it.

2 Pulau Penyusu, from where a light (5.103) is displayed, is a low islet which lies on a rocky spit extending W from Tanjung Penyusu at the E entrance to the outer bay.

Pelabuhan Blinyu (5.115), which lies on the S side of Tanjung Ruh, provides a protected anchorage in the inner bay.

5.108

1 **Topography.** The shores of the outer bay are generally low-lying, mainly of sandy beaches with large blocks of granite, and a drying reef which extends as much as 1 mile from the W shore. The head of the inner bay is bordered by mudbanks with trees on them standing in the water at high tides; several rivers discharge into this bay, Sungai Layang, which flows into the SE corner, being one of the largest in Pulau Bangka. Klabat, a hill, is situated on the W side of the outer bay. Pegunungan Maras (5.2) at the head of Teluk Klabat, rises in the midst of a waste and almost impenetrable district.

5.109

1 **Channel.** A narrow deep buoyed channel lies along the E side of the outer bay by which vessels of moderate draught, with local knowledge, can reach Pelabuhan Blinyu (5.115), 8 miles within its entrance. The channel has a granite bottom in places and thus affords bad anchorage; least charted depth in the fairway at its N entrance is 5·2 m.

5.110

1 **Prohibited anchorage.** Two submarine cables cross the entrance to the inner bay between Tanjung Ruh (5.107) and Tanjung Mantong, 1 mile NE; anchorage is prohibited in an area bounded N by a line in an 031° direction from Tanjung Ruh to the N extreme of Tanjung Mantong, and S by a line drawn in an 050° direction from Tanjung Ruh to the root of the pier S of Tanjung Mantong. See 1.52.

Tidal streams

5.111

1 Tidal streams in Teluk Klabat turn at about the times of HW and LW. The streams in general follow the direction of the deep channel, but at Tanjung Mantong the in-going stream sets into the E shore, and the out-going stream into the W shore. Both streams are strong at springs, especially in the narrow passage between Tanjung Ruh and Tanjung Mantong, where a maximum rate of 3 kn has been observed.

Major light

5.112

1 Tanjung Mantong Rear Leading Light (32 m elevation) (1°37′·6S, 105°44′·0E).

Directions

5.113

1 On clearing Karang Trasi Laut (5.104) at the entrance to the bay, the approach to the deep channel (5.109) leading along the E side of Teluk Klabat is made from W, so as to

pass 1 cable S of No 2 Light-buoy (port hand) which is moored 1¼ mile WSW of Pulau Penyusu Light (5.103). A light-buoy (safe water) is moored 1 mile W of No 2 Light-buoy.

2 From a position N of No 1 Light-buoy (starboard hand) (7 cables farther ESE), the fairway, marked by light-buoys and buoys, leads initially 3¼ miles SSE on the alignment of Tanjung Mantong Leading Lights (1°38′S, 105°44′E) to a position 2¼ miles NNW of the front light, thence SSE through the channel by sight of the channel marking buoys.

3 **Caution.** Vessels should not attempt to pass between Tanjung Penyusu and Pulau Penyusu on account of the numerous rocks which lie in the passage, nor between Pulau Penyusu and No 2 Light-buoy on account of Malang Tajau, a rock which lies 5 cables W of the island.

5.114

1 **Channel.** There is a navigable channel, with a least depth of 4 m, from Pelabuhan Blinyu (5.115) to the mouth of Sungai Layang (1°46′S, 105°46′E) (5.108), where there is a bar with a least depth of 1·5 m over it. This channel leads between Pulau Mengkubung (1°41′S, 105°44′E) and Pulau Nana, 2 miles SW, and thence close SW of Pulau Danto (1°44′S, 105°46′E) at the river's entrance. Within the bar the depths in the river increase.

Pelabuhan Blinyu

5.115

1 **General description.** Pelabuhan Blinyu is entered between Pulau Kepala Besar, 1 mile NNW of Tanjung Ruh, and Tanjung Mantong (1°38′S, 105°44′E), the E entrance point of the inner bay, and provides sheltered anchorage, with enough room to swing S of Tanjung Ruh in depths of 5 to 11 m. Vessels unloading into praus can anchor in a depth of 15 m mud and sand, with Batu Merlang, a rock which lies 6 cables ENE of Tanjung Ruh, bearing 000° and Tanjung Ruh bearing 300°. The town of Blinyu, which is the capital of the mining district of the same name, lies 1½ miles up river, on the banks of Sungai Blinyu, which flows out 2 miles SE of Tanjung Mantong.

2 Vessels calling at Pelabuhan Blinyu are advised to forward an ETA to the Chief of the Port as soon as is practicable.

Port Authority. The port is managed by the Chief of the Port, who resides at Blinyu; there is also a Customs Officer.

Facilities: are limited; small tugs; barges; hospital.

Supplies: small quantities of provisions and fresh water; fuel not available.

3 **Communications.** The town is not connected to the local road system; the nearest airport is at Pangkalpinang, 64 km SE.

Landing can be made at the pier at Mantong, a village 3 cables S of Tanjung Mantong. There is also a landing place for boats at a wooden pier 1½ miles up river on the N bank of Sungai Blinyu; the channel to the pier is marked by beacons which are privately maintained.

Pulau-pulau Tuju

General information

5.116

1 **General description.** Pulau-pulau Tuju (1°12′S, 105°16′E) lie about 24 miles off the NW coast of Pulau Bangka. These islands, generally visible at a distance of 25 miles, form a prominent group of three main islands and some islets and rocks; they are surrounded by reefs and detached rocky patches and are occasionally visited by coasters and praus.

2 **Topography.** Pulau Penyaman (1°16′S, 105°15′E), the S island, is high and uninhabited; an area of discoloured water, 1 mile in extent, lies with its centre 2 miles SE of the island. Pulau Cebia, 3½ miles N of Pulau Penyaman, is high with two peaks, the NW peak being the higher. Pulau Pekacang (1°10′S, 105°18′E) is the largest and NE island of Pulau-pulau Tuju; the reef which surrounds it extends 5 cables from its S extremity and there are some islets on it. Pulau Lalang lies 1½ miles SW of Pulau Cebia, and Pulau Yu, the most W of the group, lies 1¾ miles NW of Pulau Lalang. Pulau Tokong Kembang lies 2½ miles NW of Pulau Pekacang; an above-water rock, surrounded by a reef, lies 7 cables WNW of the islet.

3 **Settlement.** Pasirkeliling, an islet on which there is a settlement, lies 1 mile N of Pulau Penyaman and is covered with coconut palms.

Anchorage can be found almost everywhere but the holding ground is not good.

Directions. Passage between the islands for vessels of shallow draught is, for the most part, safe, but caution is necessary as the shoals are not generally marked by discolouration; local knowledge is required.

Exspan Marine Terminal

General information

5.117

1 **Position.** Exspan Marine Terminal (1°50′S, 105°08′E) lies about 8 miles N of Tanjung Ular (5.47).

Port radio. The terminal has VHF facilities and should be contacted 2 hours before arrival. See *Admiralty List of Radio Signals Volume 6(4).*

2 **Anchorage.** The recommended anchorage for vessels awaiting a berth is 2 miles NE of the terminal, as shown on the chart.

Tug. One tug is available.

Berthing is in daylight hours only; unberthing at any time. The berth consists of an SPM to which is moored the FSO *Arco Ardjuna.* The maximum draught at the FSO is 30 m.

Anchorages and harbour

Pelabuhan Jebus

5.118

1 Anchorage can be obtained in Pelabuhan Jebus which lies in the NE part of Teluk Bulu (5.91), in a depth of 9 m, soft mud, with Tanjung Genting (1°42′S, 105°19′E) (5.104) bearing 018°, distant 1½ miles.

Smaller vessels can obtain anchorage closer in, keeping clear of Karang Kamudi, a rock, which lies 5 miles SE of Tanjung Genting and 2 miles offshore.

Off Teluk Klabat

5.119

1 Anchorage can also be obtained N of Teluk Klabat (5.107), in a depth of 13 m, with Pulau Penyusu Light (1°32′S, 105°41′E) (5.103) bearing 110° distant 3 miles.

Sungai Kampa

5.120

1 Jebus (1°45′S, 105°27′E), the centre of a tin mining district, is situated 3½ miles inland and on Sungai Jebus, a tributary of Sungai Kampa which flows out into Teluk Bulu 5½ miles SE of Tanjung Genting (5.104); only flat bottomed craft can proceed up the river, which has a rocky bottom, to the mouth of Sungai Jebus, a distance of 8 miles, and thence to Jebus, a further 3 miles.

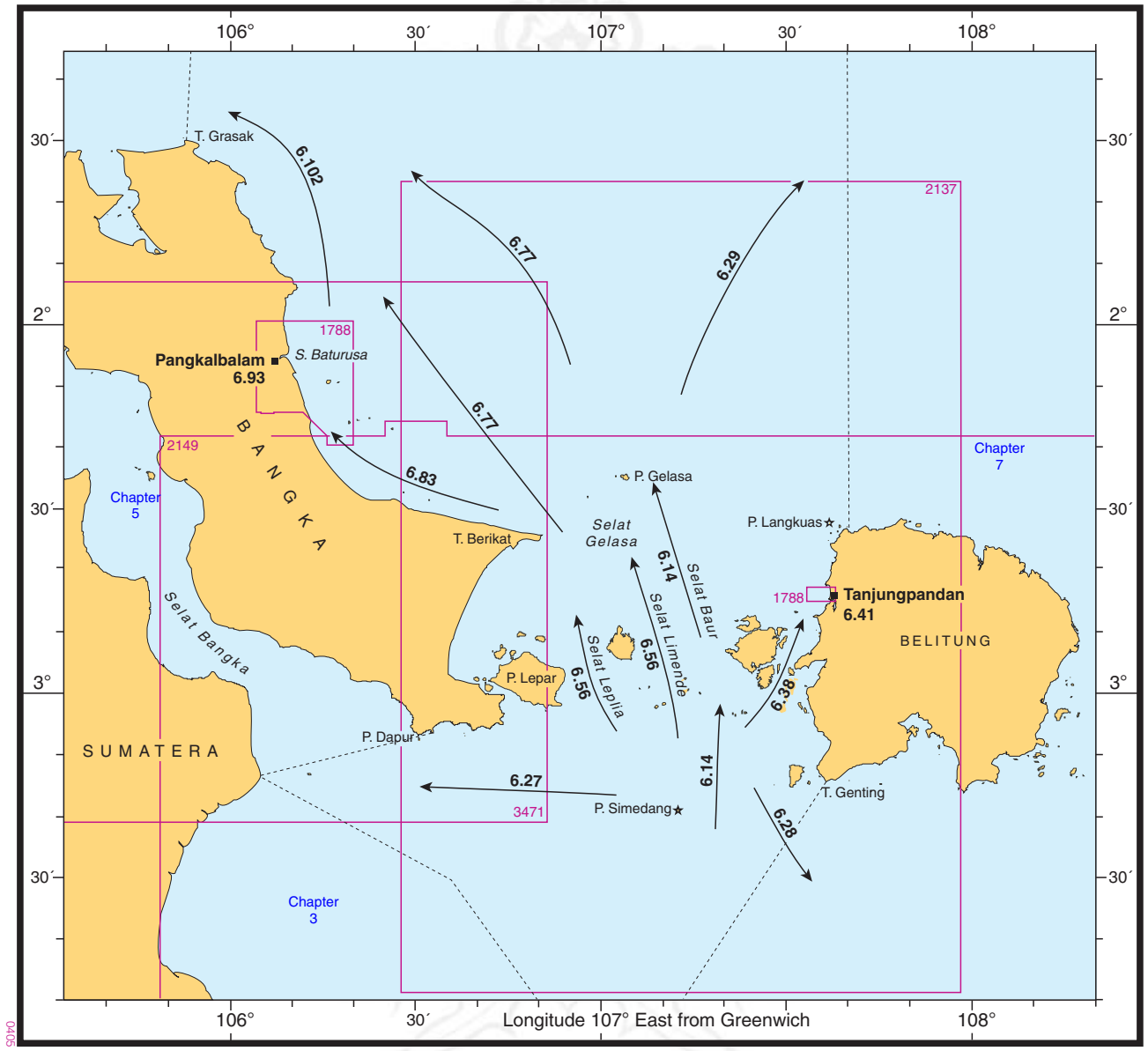
2 **Anchorage.** Vessels usually anchor in Pelabuhan Jebus (5.118) and are serviced by launches, but communication with the shore is usually dangerous in the NW monsoon. A buoy (starboard hand) is moored 3 miles SSE of Tanjung Genting, off the entrance to Sungai Kampa.

Landing places. Mooring jetties used by the launches are located at Kampung Kampa, where a ferry service operates, 1½ miles within the entrance to Sungai Kampa.

Facilities are limited; fresh water can be obtained at the landing place.

NOTES

Chapter 6 - Selat Gelasa and approaches - North-east side of Pulau Bangka



CHAPTER 6

SELAT GELASA AND APPROACHES — NORTH-EAST SIDE OF PULAU BANGKA

GENERAL INFORMATION

Charts 2137, 1312

Scope of the chapter

6.1

1 In this chapter are described:

Selat Gelasa, including the main waterways of Selat Baur (2°58′S, 107°18′E) and Selat Leplia (2°55′S, 106°58′E), and the routes and passages associated with them.

The W coast of Pulau Belitung including the port of Tanjungpandan (2°45′S, 107°38′E), and the S and E coasts of Pulau Bangka.

Also described:

The NE coast of Pulau Bangka, including its offshore and coastal passages, and associated harbours and anchorages.

Topography

6.2

1 The coastline E of Tanjung Langgan (3°07′S, 106°31′E) (5.11), the S extremity of Pulau Bangka, to Tanjung Berikat (2°34′S, 106°51′E), the E extremity of the island, is low, wooded, and in places marshy with a few hills. The NE coastline of the island is similar. The inland mountains, however, are visible a considerable distance from seawards. A great number of islets, banks and reefs extend up to 30 miles off the NE shore. Selat Gelasa (6.7) separates the coastlines of Pulau Bangka and Pulau Belitung; on the E side of Selat Gelasa, the W coastline of Pulau Belitung (2°54′S, 107°55′E) is similar to that of Pulau Bangka with the inland mountains making useful landmarks.

Submarine cables

6.3

1 Submarine cables linking Jawa with Singapore are laid in the fairway of Selat Leplia and Selat Baur, as shown on the chart. See 1.52.

Piracy

6.4

1 See 1.8.

Natural conditions

6.5

1 **Flow.** Currents originate as both tidal and monsoon drift phenomena. Off the NE coast of Pulau Bangka they are variable, particularly along the outer edge of the reefs and in the open sea, so that no reliance can be placed on positions by dead reckoning. In Selat Gelasa tidal streams are influenced by seasonal current, following the direction of the monsoons. Off Tanjung Berikat (2°34′S, 106°51′E) the monsoon drift may attain a considerable rate and the point should be given a wide berth.

2 **Local weather.** Over the area, light variable winds prevail in April and November. The SE monsoon operates from May to October and the NW monsoon from December to March. WNW winds predominate in December veering to NW in January with increasing force and consistency and persisting to March.

Squalls are most frequent in November and December. A moderate swell develops during NW monsoon in January and February.

SELAT GELASA

GENERAL INFORMATION

Chart 2137

Scope of the section

6.6

1 In this section are described:

The N part of the route for vessels on ocean passage between Selat Sunda and South China Sea together with associated passages.

The E side of Selat Gelasa including Selat Mendanau and the port of Tanjungpandan (6.41).

The W side of Selat Gelasa including Selat Leplia and Selat Limende.

Topography

6.7

1 Selat Gelasa, the strait between Pulau Bangka and Pulau Belitung (2°54′S, 107°55′E), is divided by several small islands into three principal passages; the most important, Selat Baur, is described at 6.14.

Many detached reefs and shoals lie in the S approach to the strait; not all are marked by discolouration. In clear weather, the mountains in the SE part of Pulau Bangka and SW part of Pulau Belitung will be sighted some distance S of these dangers and there should be no difficulty in fixing positions by landmarks.

Tidal levels

6.8

1 Tidal levels for selected places within the vicinity of Selat Gelasa are shown on the chart. For further information see *Admiralty Tide Tables.*

Pilotage

6.9

1 If the occasion should arise, pilots can be obtained at Tanjungpandan (2°45′S, 107°38′E) (6.41), on the W coast of Pulau Belitung, who are perfectly capable of taking vessels through the narrowest of channels.

Local knowledge

6.10

1 When visiting an unfamiliar port or anchorage in this area, local knowledge is essential.

Wrecks

6.11

1 There are several dangerous wrecks situated in the approaches to the principal passages of Selat Gelasa, the positions of which can best be seen on the chart.

Natural conditions

6.12

1 **Flow.** Currents in Selat Gelasa set SE in the NW monsoon and NW in the SE monsoon. There is little information on rates, but it is probable that the currents occasionally exceed 3 kn in some of the narrower passages.

Tidal streams are strong in Selat Leplia and Selat Limende but their directions are somewhat difficult to foretell. The same applies to Selat Baur, except for the following particulars obtained near Pulau Langkuas (2°32′S, 107°37′E):

2 The directions of the tidal streams perform a complete circle, clockwise, in 24 hours. The maximum rate always occurs twice each day, when the streams run either in a NNE or a SSW direction; the streams which run ESE or WNW are about half this rate.

In Selat Baur, during July and August however, there is a permanent current from the N with a rate of 0·6 kn.

Local weather. See 6.5.

General directions

6.13

1 Selat Gelasa is frequently used, day or night, by vessels proceeding from Selat Sunda to Singapore or South China Sea, and vice versa. Although the route through Selat Bangka leading to Singapore is shorter, more sheltered and well lighted, Selat Gelasa has more open water and, in general, better depths; with several prominent lights and radio aids, it is as safe navigationally.

2 Selat Baur is the E and broadest of the three passages through Selat Gelasa and is preferable to the other two. Vessels approaching this passage from SSW should, during the NW monsoon, make for a position E of Karang Larabe (3°32′S, 107°10′E) (6.15). During the SE monsoon, they should make for a position W of Karang Genting (3°34′S, 107°41′E) (6.15).

3 Small vessels should use Selat Leplia during the NW monsoon and Selat Baur during the SE monsoon, as in the NW monsoon the current is stronger on the E side of Selat Gelasa, and in the SE monsoon it tends to be stronger on the W side.

SELAT BAUR AND APPROACHES

General information

Charts 2137, 2149

Routes

6.14

1 Selat Baur is the best and preferred channel through Selat Gelasa. The main approach, from S, is from a position between Karang Larabe (3°32′S, 107°10′E) on the W side of the strait and Karang Genting (3°34′S, 107°41′E) on the E side (see *Ocean Passages for the World*). The route then generally leads N through the strait to a position E of Pulau Gelasa (2°25′S, 107°05′E) passing at least 6 miles E of Pulau Simedang (3°19′S, 107°13′E), midway between Pulau Kasenga (3°03′S, 107°21′E) and Pulau Geresik, 5 miles WNW, and clear of Beting Akbar (2°39′S, 107°15′E) whereby the track then continues N towards South China Sea (6.29) or NW towards Singapore (6.80).

Topography

6.15

1 **East side of the strait.** On the E side of the S approach to the strait, Karang Genting (3°34′S, 107°41′E), consists of three irregular, steep-to, reefs. Pulau Seliu (3°13′S, 107°32′E), at the E entrance to Selat Baur, lies 4 miles W of Tanjung Genting (6.36). The island is generally low, and wooded; a prominent hillock (6.23) situated at its S point from a distance of 12 to 16 miles, has the appearance of two islands. Pulau Saribu, standing on a shallow flat, lies 1½ miles SE of Pulau Seliu.

2 Pulau Mendanau (2°53′S, 107°25′E), on the E side of the N entrance, is the largest of the islands fronting the W coast of Pulau Belitung. The island is wooded throughout and hilly; Petaling, the highest point, stands near the middle of the island. Pulau Nado, a wooded island lying close SE of Pulau Mendanau, is separated from it by a narrow channel (6.30); Pulau Batudinding, lying off the N coast of Pulau Mendanau, is similarly separated from it by a narrow channel (6.30).

3 **Western side of the strait.** On the W side of the S approach to the strait, Karang Larabe (3°32′S, 107°10′E), with Karang Penyu, 3¾ miles W, and Karang Hancock, 5¾ miles WSW, respectively, are part of a group of small reefs not marked by discolouration, lying S of Pulau Simedang (3°19′S, 107°13′E).

The narrowest part of the strait, between Pulau Geresik (3°00′S, 107°16′E) and Pulau-pulau Lima (6.21), is 4 miles wide.

Piracy

6.16

1 Several incidents of piracy have been reported in Selat Baur and approaches; see 1.8

Submarine cables

6.17

1 See 6.3.

Natural conditions

6.18

1 **Flow and local weather.** See 6.12.

Variations in sea water colour. The drying reefs in Selat Baur are nearly always discernible, when covered, by the brown or green colour of the water over them. The other reefs are, however, usually difficult to discern, as the water in the strait is somewhat muddy, and they are only recognisable when stream and wind cause tide-rips and surf. Large brown patches of fish spawn, often seen in or near the strait, may be mistaken for the discoloration of reefs.

Principal marks

6.19

1 **Landmarks:**

Visible in the S approach only:

Baginda (3°13′S, 107°37′E) (6.37).

Beleru (3°10′S, 107°40′E) (6.37).

Gedeh (3°09′S, 107°44′E) (6.37).

Pulau Simedang Lighthouse (white metal tower, 57 m in height) (3°19′S, 107°13′E); can be seen from a distance of 15 miles in clear weather.

2 Visible in the N approach only:

Pulau Gelasa (2°25′S, 107°05′E) (6.24).

Petaling (2°53′S, 107°26′E) (6.15).

Twin peaks of Tajemlaki (2°47S, 107°52′E) (6.37) and Tajembini, close NW, in clear weather.

Major lights:

Pulau Simedang Light — as above; this light is visible, generally, up to 3 miles S of Karang Hancock (3°34′S, 107°05′E).

3 Tanjung Ayerlancur Light (white metal tower, 27 m in height) (2°53′S, 107°20′E).

Tanjungpandan Light (white beacon) (2°44′·9S, 107°37′·6E).

Pulau Langkuas Light (white metal tower, 57 m in height) (2°32′S, 107°37′E); visible between 003°–267° (264°) except where obscured by islands.

Other aid to navigation

6.20

1 **Racon:**

Pulau Kasenga Light (3°03′S, 107°21′E).

For further details see *Admiralty List of Radio Signals Volume 2*.

Directions

(continued from 3.44)

Southern part of the channel

6.21

1 The following directions take into account the General Directions for the monsoon seasons given at 6.13.

From SSW and a position E of Karang Larabe (3°32′S, 107°10′E) (6.15) the route to a position W of Pulau Kasenga (3°03′S, 107°21′E) leads N for a distance of 30 miles, passing:

2 E of Karang Pasir (3°29′S, 107°10′E), a small drying sandbank which is identifiable at 3 miles, and:

Clear of a dangerous wreck, position approximate, which lies 3½ miles E from Karang Pasir. Two wrecks with depths of 7 m and 12 m over them lie 3 and 5 miles E, respectively, from the dangerous wreck. Thence:

E of Karang Tengah, another small sandbank, lying 2¼ miles NNE of Karang Pasir, thence:

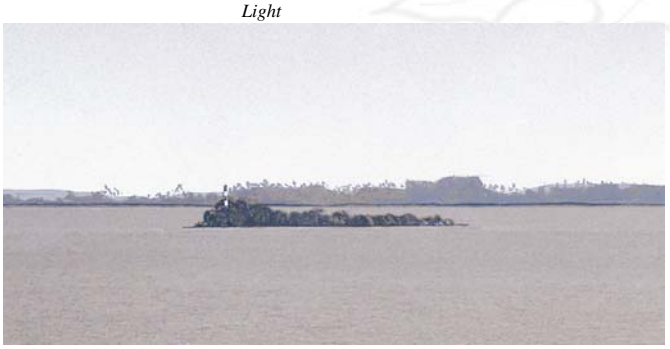
3 E of Pulau Simedang (3°19′S, 107°13′E), an island covered with tall trees that can be seen from a distance of 15 miles, and which should be passed at a distance of at least 6 miles; a light (6.19) stands on the centre of the island. Pulau Simedang Kecil, an islet covered with coconut palms, lies 8 cables NE. Thence:

4 Clear of a reported rock (3°10′S, 107°19′E), position approximate, and:

E of a dangerous wreck (3°10′·0S, 107°10′·3E), thence:

W of Pulau Kasenga (3°03′S, 107°21′E), the W island of Pulau-pulau Lima, a group of islands with tall trees surrounded by coral reefs with narrow and deep passages between the islands lying 6 miles S of Pulau Mendanau (6.15); a light (white beacon, red bands; 18 m in height) is displayed from Pulau Kasenga.

Light



Pulau Kasenga from W (6.21)

(Original dated 1993)

6.22

1 From SSW or SE, and a position W of Karang Genting (3°34′S, 107°41′E) (6.23) to Pulau Kasenga, the route initially leads NNW thence N, passing:

WSW of Karang Naga (3°27′S, 107°37′E), a reef, composed of coral and large rocks, which is frequently marked by tide-rips but seldom by discolouration. Thence:

WSW of a coral reef, which is unmarked in any way, lying 4 miles S of Tanjung Marangbolo (3°15′S, 107°31′E) (6.23), the S point of Pulau Seliu (6.15). Thence:

2 WSW of Batu Malang (3°15′S, 107°28′E), a small islet with drying rocks lying close N and SE, situated W of Tanjung Marangbolo. A light (white beacon, 10 m in height) is displayed from the islet. Karang Tiga, a coral reef, lies 1¾ miles NW of Batu Malang. Thence:

ENE of Pulau Simedang (3°19′S, 107°13′E) (6.21), where the route joins that at 6.21.

6.23

1 **Useful marks:**

Karang Genting Light (white beacon) (3°33′S, 107°41′E), situated on the most N of the coral patches on the reef.

Marangbolo (3°15′S, 107°31′E), a prominent hillock.

Sagoweel (2°54′S, 107°22′E), a rounded summit.

Northern part of the channel

6.24

1 From a position W of Pulau Kasenga (3°03′S, 107°21′E), the route through the N part of the strait continues N to a position E of Pulau Gelasa (2°25′S, 107°05′E), a distance of approximately 38 miles, passing:

E of Pulau Geresik (3°00′S, 107°16′E), a densely populated, low, thickly wooded island, surrounded by a steep-to reef situated on the W side of the narrows of the strait. Thence:

W of Tanjung Ayerlancur (2°53′S, 107°20′E), a high, blunt point, on which stands a light (6.19), and:

2 E of Karang Pandan, a steep-to coral reef which is not marked by discolouration, lying 8 miles W of Tanjung Ayerlancur. A light-beacon (isolated danger) stands on the reef. Thence:

W of Malangwangkang (Malang Wankang), a rock covered in vegetation on which there is a stranded wreck, close W of Pulau Langir (2°48′S, 107°22′E), a rocky islet from where a light (white beacon) is displayed, thence:

3 Clear of Beting Akbar (2°39′S, 107°15′E), a small steep-to shoal of stone and coral; it is very dangerous, as it is not marked by discolouration and soundings give no warning. A dangerous wreck lies 7½ miles NNE of the shoal, and a stranded wreck, position approximate, lies 4½ miles NE of Beting Akbar. Thence:

W of a reported drying patch (2°29′S, 107°25′E), the position of which is approximate, thence:

4 E of Pulau Gelasa (2°25′S, 107°05′E), a thickly wooded island surrounded by a coral reef. The sharp summit of the island can be seen from a distance of 30 miles; radar contact with the island ranges between 30 and 40 miles. Batu Gelasa, a bare rock, lies 1 mile W of the island and a dangerous wreck lies 2 miles SSE of the island.

Caution. In 1991 Pulau Gelasa was reported to lie 6 cables farther E than charted.

6.25

1 **Useful marks:**

Tominkor Light (2°56′S, 107°08′E) (6.69).

Pulau Kembung (2°52′S, 107°20′E), which lies on a drying reef and is very prominent.

Berikat (2°35′S, 106°50′E) (6.84).

Tobalo (2°38′S, 107°40′E) (6.37).

Cautions

6.26

1 When approaching the strait from S in bad visibility, vessels should take care to keep in depths of not less than 18 m, and when passing E of Pulau Simedang, keeping in depths of not less than 30 m. If however, depths of 36 m have been obtained, it may be presumed that the vessel is well over to the E side of the channel, and a NW course should be steered, taking care to keep within these depths.

2 In unfavourable conditions, or if in any doubt as to which side of the strait the vessels may be, it is advisable to anchor; bad visibility does not usually last for any length of time.

When approaching Selat Baur from N, especially if the vessel's position is not very certain, consideration must be given to the reefs and dangers which lie up to 50 miles N and 100 miles NNW from the entrance to Selat Gelasa, best seen on chart 1312.

3 Vessels passing near Pulau Langkuas (2°32′S, 107°37′E) (6.36) must guard against the peculiar nature of the tidal streams in the vicinity of this island, mentioned at 6.12. When S of the line joining Tanjung Berikat (2°34′S, 106°51′E) and Pulau Langkuas the only danger in the N approach is Beting Akbar (6.24).

(Directions continue N for Pulau Pengikik Besar at 6.29, or NW for Tanjung Jang at 6.80)

Selat Baur to Selat Bangka

6.27

1 As an alternative to making a direct approach to Selat Bangka from SE, the following route has been reported to be easy to use. The directions given at 6.22 therefore, for entry to Selat Baur from SE, may be followed as far as Pulau Simedang (3°19′S, 107°13′E). The route then passes:

N of Karang Blis, a coral reef, which lies 2½ miles N of Pulau Simedang with Karang Embleton, a drying patch visible at a distance of 3 miles at LW, lying 1 mile SW of the coral reef, thence:

2 Clear of the 6 m patch which lies 11½ miles SE of Tanjung Baginda (3°05′S, 106°44′E). A light (white beacon) is displayed from Tanjung Baginda, which is the SE point of Pulau Bangka. Thence to a position S of Pulau Dapur (3°08′S, 106°31′E) at the entrance to Selat Bangka.

Caution. There are several dangerous wrecks in the vicinity S of Pulau Dapur.

(Directions for Selat Bangka are given at 5.16)

Charts 2149, 1066

Selat Baur to Selat Surabaya

6.28

1 From a position W of Karang Genting (3°34′S, 107°41′E) to the approach to Selat Surabaya (*Indonesia Pilot Volume II*) the route leads SE for a distance of approximately 365 miles passing:

SW of Karang Genting, thence:

SW of Pulau Kebatu (3°48′S, 108°04′E) (7.32), thence:

2 Clear of a pipe (4°07′S, 108°05′E), reported (1997), position approximate, extending above the water. Thence:

NE of Pulau-pulau Karimunjawa (4.21).

For a description of the coastal area in the vicinity of Selat Surabaya, see *Indonesia Pilot Volume II*.

Charts 2137, 1312

Selat Baur to Pulau Pengikik Besar (for South China Sea)

6.29

(continued from 6.26)

1 From a position E of Pulau Gelasa (2°25′S, 107°05′E) and clear of Karang Canning (6.80), the route to a position W or E of Pulau Pengikik Besar (0°15′N, 108°03′E) leads initially NE, thence NNE for a distance of approximately 170 miles, passing:

SE of a dangerous wreck (1°48′S, 107°33′E), position approximate, with a shallow patch, having a depth of less than 5 m over it, lying 2½ miles NW. Thence:

2 WNW of an isolated shoal patch (0°35′S, 108°11′E), with a depth of 5 m over it.

The direct track to Pulau Pengikik Besar from Tanjung Ayerlancur (2°53′S, 107°20′E) passes close to the reported drying patch, described at 6.24. Vessels passing E of this patch should be mindful of the numerous reefs and unmarked shoals lying off the NW coast of Pulau Belitung.

(Directions continue N of Pulau Pengikik Besar at 8.10)

Side channels

Eastern side of Selat Baur

6.30

1 The channel which lies between Tanjung Genting (3°14′S, 107°36′E) and the narrow flat on which Pulau Saribu (6.15) stands, 2½ miles W, is only navigable by small craft. Batu Saribu, a white rock, lies 6 cables SSE of Pulau Saribu. This channel continues N of Pulau Seliu, passing between Karang Nyera (3°12′S, 107°28′E) and Karang-karang Teree (6.32) to the N.

Local knowledge is necessary.

2 Selat Nado, which separates Pulau Nado (6.15) from Pulau Mendanau (2°53′S, 107°25′E), is a narrow strait with numerous reefs which lie off its SW entrance. The channel is only accessible by small craft; some of the dangers in this channel are marked by beacons.

Selat Nasi, which separates Pulau Batudinding (6.15) from the N coast of Pulau Mendanau, is a narrow channel suitable only for small craft.

Anchorages and landing

Chart 2137

South of Pulau Simedang

6.31

1 Anchorage can be obtained on the W side of Selat Baur, in depths of from 13 to 15 m, clay with sand, on the E part of the bank which extends S from Pulau Simedang (3°19′S, 107°13′E), provided that the island bears less than 340°.

Eastern side of Selat Baur

6.32

1 Anchorage may be obtained on the E side of Selat Baur W of Karang-Karang Teree (3°09′S, 107°28′E), a group of several reefs which dry, in depths of from 15 to 16 m with Pulau Lima (3°03′S, 107°23′E), the highest island of Pulau-pulau Lima (6.21) bearing 340°, 6 miles. Rangas Beacon (6.39) marks the W reef.

2 Anchorage may be obtained 3 miles S of Pulau Lima, previously mentioned, in depths of from 15 to 18 m, with the E point of this island bearing 000° and Pulau Bamijo (2½ miles SW) bearing 298°; this position is 8 cables S of the reefs which extend S of Pulau Lima.

Karang Selatan, a rock 1½ cables long in a N-S direction, lies 4 miles WNW of Karang-karang Teree; the rock is marked when covered by dark brown discolouration and tide-rips.

South side of Pulau Geresik

6.33

1 Good anchorage can be obtained, in depths of 15 m, on the ridge which extends S from Pulau Geresik (3°00′S, 107°16′E); the best berth is with the E side of the island bearing 355°, and the S extremity of Pulau Aur (3°00′S, 107°14′E) (6.69), bearing 293°.

Pulau Kembung

6.34

1 There is a convenient anchorage for small vessels in a depth of 15 m, hard sand, with Pulau Kembung (2°52′S, 107°20′E) (6.25) bearing 215° distant 1 mile. Local knowledge is necessary as care must be taken to avoid the reefs.

Landing

6.35

1 A pier extends from the SE end of Pulau Simedang (3°19′S, 107°13′E), and a beacon is situated on a rock 2½ cables E of the pierhead.

EASTERN SIDE OF SELAT GELASA

General information

Chart 2137

Topography

6.36

1 The W coastline of Pulau Belitung between Tanjung Genting (3°14′S, 107°36′E), a rocky point, lying at the SW extremity of the island, and Tanjung Kelayang (42 miles N) standing at its NW extremity, is low and wooded and consists of many indentations, the largest being Teluk Brang (6.40). In general the whole area is fronted by banks, reefs and low islands extending several miles seaward with some navigable passages between suitable only for local craft. The largest passage, Selat Mendanau (6.38), separates Pulau Mendanau from Pulau Belitung. Pulau Genting, an islet, and some rocks, lie close S of Tanjung Genting.

2 A few hills and mountains inland form useful landmarks (6.37); as these mountains nearly all run in an ESE–WNW direction, they show flat summits with gently sloping sides when seen from N or S, and appear more pointed with fairly steep slopes when seen from E or W.

3 Tanjungpandan (2°45′S, 107°38′E) (6.41), the capital and main port of Pulau Belitung, lies 30 miles N of Tanjung Genting. The coast between Tanjung Kubu (2°42′S, 107°37′E), a low rocky point, and Tanjung Binga, a high point, 6 miles N, has numerous unmarked shoals and reefs; four beacons (port hand) mark some of these dangers, which are best seen on the chart. Pulau Langkuas (2°32′S, 107°37′E), a hilly island surrounded by a steep-to coral reef having two islets and rocks on it, lies 3 miles off the NW extremity of Pulau Belitung. Batu Alwina, a shoal of stone and coral, lies 1¼ miles NNE of Pulau Langkuas and is the most N danger in this locality.

Landmarks

6.37

1 Noticeable mountains seen along the SW coast of Pulau Belitung in clear weather are:

Baginda (3°13′S, 107°37′E), a rocky hill with two summits, the W of which is fairly sharp and is visible at a distance of 26 miles.

Beleru (3°10′S, 107°40′E), 4½ miles NE of Baginda, forms a long narrow ridge with Kura rising up from its E end.

2 Gedeh (3°09′S, 107°44′E), which lies 4 miles ENE of Beleru, and which can clearly be seen from a distance of 40 miles; Ludai, a peak, lies 5 cables SW.

Noticeable mountains seen from the N of Pulau Belitung are:

Tajemlaki (2°47′S, 107°52′E), a sharp cone, and Tajembini, close NW, the lower of the two peaks which are part of a narrow ridge.

3 Tobalo (2°38′S, 107°40′E), which when viewed from W has three rugged peaks, the S peak being the highest; all are prominent from W and on a clear day can be seen from a distance of about 28 miles.

Selat Mendanau

General description

6.38

1 Selat Mendanau, the inshore passage E of Pulau-pulau Lima, Pulau Nado (2°57′S, 107°27′E) (6.15) and Pulau Mendanau, is marked by buoys and beacons, and can safely be used by vessels proceeding between Tanjungpandan (2°45′S, 107°38′E) and the S entrance to Selat Baur. The passage, barely 1½ miles wide at its narrowest point, the N part of which was swept to a depth of 10 m in 1938 although two detached banks lying at the N end have depths of less than 5 m over them; the bottom in the shallower parts consists of hard sand, whilst in the deeper parts of soft clay.

Local knowledge is necessary.

Directions

6.39

1 From a position W of Rangas Beacon (port hand) (3°09′S, 107°27′E) which lies 1 mile W of Karang-karang Teree (6.32), the track through Selat Mendanau generally leads NNE for a distance of approximately 24 miles, passing:

ESE of the rocks lying at the S end of Balan (3°04′S, 107°26′E), thence:

2 Between the channel beacons which lie 2 miles WNW and 1 mile NW, respectively, of Pulau Mendulu (3°02′S, 107°30′E), a low island, thence:

Between Pulau Ringgit (2°57′S, 107°31′E) and Pulau Sikindan which lies 1¾ miles WNW, thence:

Between Pulau Sebongkok (2°52′S, 107°30′E) and the reef surrounding Tikus, a small rocky islet, 1½ miles E, thence:

3 Between a buoy (starboard hand) moored 1¾ miles W, and a beacon (port hand) standing 8 cables WSW, respectively, of Pulau Kelmanbang (2°47′S, 107°32′E), an islet, covered in vegetation with some coconut palms, surrounded by a reef; Jumangin, a rock, lies close E of the beacon. A second beacon (port hand), which marks a dangerous rock, stands 1½ miles SSW of Pulau Kelmanbang. Thence:

4 W of the shoals extending 3 miles NW of Batu Tuku (2°46′S, 107°32′E).

(Directions for entry to Tanjungpandan are given at 6.51)

Anchorage and bay

6.40

1 **Anchorage** may be obtained in a depth of 16 m, 1¼ miles S of the beacon (port hand) marking Batu Pinang (2°48′S, 107°32′E); when approaching this anchorage from NW steer 160° with Pulau Tikus and Gusungaril, an islet surrounded by a reef, close E, fine on each bow.

2 **Teluk Brang**, a large shallow bay navigable only by praus, immediately S of Tanjung Borong (2°56′S, 107°32′E), is entered by a narrow passage between Pulau Ru (2°59′S, 107°30′E) and Pulau Batang, 7 cables E. Thence the channel leads between Pulau Batang and Pulau Bago, 5 cables SSE. Vessels from S, of not more than 3·4 m draught, can enter this bay by passing 2 cables N of Neh Dol (3°08′S, 107°30′E), a drying reef which lies 3¼ miles ENE of Karang-karang Teree (6.32), and thence between Pulau Bago and Pulau Mendulu (3°02′S, 107°30′E) (6.39), 2 miles W.

Local knowledge is necessary for the bay and entrance passages.

Tanjungpandan

Charts 2137, 1788 plan of Tanjungpandan

General information

6.41

1 **Position.** The port of Tanjungpandan (2°45′S, 107°38′E) lies at the N entrance to Sungai Cerucup (6.43) situated on the W coast of Pulau Belitung.

6.42

1 **Function.** A small lighterage port with some alongside berths whose imports are mainly construction material and general cargo, and whose exports are mainly kaolin.

The town of Tanjungpandan is the capital of Pulau Belitung.

6.43

1 **Topography.** Between Tanjung Tikar (2°48′S, 107°35′E) and Tanjung Kubu (6.36), 6 miles NNE, there is an indentation in the coast into which Sungai Cerucup flows. Except for a narrow channel leading to the mouth of this river, almost the whole of this indentation is occupied by a coastal reef which extends 3 miles W of the river entrance. The river shore is low and wooded; Payung, a hill, is situated on its E side 2 miles from its mouth. Pulau Kelemmoa (2°45′S, 107°36′E), an islet where landing can be made at a pier, lies on the S side of the channel leading to the river and 1 mile from its entrance.

6.44

1 **Approach and entry.** The port is approached from the fairway buoy (6.51) and thence through a buoyed channel leading to the inner anchorages (6.52).

6.45

1 **Traffic.** In 2004 the port handled 10 vessels totalling 22 700 dwt.

6.46

1 **Port Authority.** Adpel Tanjungpandan, Jalan Pelabuhan No 1, Tanjungpandan. Belitung. Indonesia.

Limiting conditions

6.47

1 **Channel bar:** least charted depth 0·5 m, hard sand and stones.

Tidal levels. See *Admiralty Tide Tables*. Mean maximum range about 1·5 m.

Density of water 1·025 g/cm^3.

Largest vessel. Vessels up to 3000 dwt can be accommodated in the inner anchorages (6.52); vessels over 3000 dwt should anchor at the outer anchorage (6.48). At Tanjungpandan, vessels up to 2000 dwt having a draught of up to 5·3 m can berth at HW alongside West Pier (6.52).

Arrival information

6.48

1 **Port radio station.** VHF communications can be carried out with the Harbour Office, situated at the root of E pier at Tanjungpandan.

Outer anchorage. For large vessels of relevant draught, anchorage may be obtained within the charted swept 10 m area (2°43′·0S, 107°33′·5E) in a depth of 15 m, sand.

2 **Prohibited anchorage** lies in an area NE of the approach fairway, as shown on the chart.

Pilotage is available and can be arranged from the Harbour Office.

Tugs are also available; though these are used for lighterage.

Harbour

6.49

1 **General layout.** Drying mudbanks front the shore on both sides of the entrance to Sungai Cerucup. Off Tanjungpandan town, two piers, which lie close together, extend SSW from the N bank into the channel of the river to provide berthing for the occasional small vessel, barges and small craft; from the S bank a single oil jetty extends NNW from opposite the town.

2 The river is not navigable E of the fort which stands on the N bank, close E of a small dry dock, 7 cables within its entrance.

In 1934 several areas in the approaches to the port were swept to depths ranging between 8 and 10 m, as shown on the chart.

3 **Local weather.** September is the driest month; December/January and April/May are the wettest periods of the year. Excepting bad weather, visibility in general is good.

Climatic table for Buluh Tumbang at 1.137 and 1.146.

Major light:

6.50

1 Tanjungpandan Light (2°44′·9S, 107°37′·6E) (6.19).

Directions

6.51

1 From the vicinity of the Fairway Light-buoy (safe water) (2°42′S, 107°31′E), the track leads ESE through the buoyed channel to the anchorage areas, passing (positions given from Tanjungpandan Light (white beacon) (2°44′·9S, 107°37′·6E):

SSW of a shoal (6 miles WNW), marked by a buoy (port hand); Baka, a rock, lies 1 mile ENE of this shoal. Thence:

2 NNE of a buoy (starboard hand) (5 miles WNW) which is moored 5 cables NNW of Karang Tengah (2¾ miles WNW), thence:

SSW of a buoy (port hand) (3¾ miles WNW) which is moored 3 cables S of Mangkok Besar (2 miles NW), a shoal, thence:

3 Between a light-buoy (port hand) (3 mile WNW) and a light-buoy (starboard hand), 1½ cables SSW, thence between the reefs marked by light-beacons

and light-buoys (port and starboard hand) into the inner anchorage area for small vessels (6.52).

4 From the inner anchorage area to Tanjungpandan, the track leads SE towards Pulau Kelemmoa passing NE of a buoy (starboard hand) (1½ miles WNW) thence over the bar (1¼ miles WNW), maintaining a mid-channel approach until the piers are reached.

Berths

6.52

1 **Inner anchorage.** Vessels can anchor within an area, centered on a position (2°44′·2S, 107°36′·0E), in depths of 5·5 to 7 m, mud and sand. This anchorage, however, is unsafe during the NW monsoon; in this case vessels should anchor in Selat Mendanau, see 6.40.

Alongside berths. At Tanjungpandan, West Pier (Belitung Corporation Pier) extends 1¾ cables SSW into the river channel; vessels up to 65 m in length can berth alongside the T-shaped pierhead where there are depths of 3 m MLWS, 5·5 m MHWS.

2 East Pier (Government Pier), the L-shaped head of which lies 1½ cables E of the W pierhead, extends SSW approximately 2¼ cables into the channel; there is a depth alongside the pierhead of 1·5 m. The harbour office stands at the root of this pier. A mooring buoy is moored off the E side of the pierhead. Small vessels can also be accommodated.

Oil berth. An oil jetty extends NNW from the S shore opposite the town; vessels up to 1500 dwt having a draught of up to 4 m can be accommodated.

Port services

6.53

1 **Repairs** are limited; a small dry dock can facilitate small craft repairs.

Other facilities: hospital.

Supplies: fresh water at West Pier only; limited provisions.

Communications. Tanjungpandan (Buluh Tumbang) airport lies 10 km E from the town, with connections to Pontianak.

Anchorage and landings

Pulau Langkuas

6.54

1 Good anchorage may be obtained in depths of from 15 to 16 m, sand, 5 cables S of Pulau Langkuas (2°32′S, 107°37′E) (6.36). The line of bearing 090° of the summit of Pulau Kepayang, a small island surrounded by a reef lying 2 miles ESE of Pulau Langkuas, leads into the anchorage from W. The track leads in mid-channel between Pulau Langkuas and Malang Kecil, a smooth shining rock, 1 mile SSW; a shallow patch lies 4½ cables SSE of Pulau Langkuas.

2 **Caution.** Care should be taken not to confuse the islet 3 cables N of Pulau Kepayang with that island; the islet, which is clear of the land when approaching from W, appears as two hillocks with a low peak in the centre, whilst Pulau Kepayang is difficult to discern against the land.

Landings

6.55

1 Landing can be achieved at a stone pier which extends from Tanjung Kiras (3°13′S, 107°36′E).

A sandy beach W of a rock on the S side of Pulau Langkuas (2°32′S, 107°37′E) offers a landing place.

WEST SIDE OF SELAT GELASA INCLUDING SELAT LEPLIA AND SELAT LIMENDE

General information

Charts 2137, 3471

Routes

6.56

1 Selat Leplia, the secondary route running N and S through Selat Gelasa, is bounded W by Pulau Lepar (2°57′S, 106°49′E) (6.57) and several shoals lying S of it, and E by Pulau Liat, nearly 8 miles NE, and a number of shoals and islets S of it. See directions given at 6.62.

Selat Limende, the least used of the straits through Selat Gelasa, takes up a central position lying between the islets S of Pulau Liat and the islands of Aur (3°00′S, 107°14′E) (6.69) and Kelemar, 1½ miles N; see directions given at 6.69.

Topography

6.57

1 The S coast of Pulau Bangka, between Tanjung Langgan (3°07′S, 106°31′E) (5.11) and Tanjung Baginda, a steep point 14 miles E, consists mainly of rocky points with low coastal land, covered with trees between them; Baginda, the highest point, stands 2 miles WNW of Tanjung Baginda. Tanjung Bantil and Tanjung Dua, 2½ and 9 miles respectively E of Tanjung Langgan, are both fairly high. The whole of this coastline is fronted by a mudbank and depths to seawards of the bank are very irregular and there are many offshore shoals.

2 On the E coast of Bangka, between Tanjung Ru (3°01′S, 106°45′E), 4½ miles N of Tanjung Baginda, and Tanjung Berikat (2°34′S, 106°51′E) (6.84), 27 miles NNE, is a wide bay;

Pulau Lepar (2°57′S, 106°49′E), generally low and wooded excepting the SW coast which is hilly, forms the S side of this bay and is separated from the SE extremity of the mainland by Selat Lepar (6.65). Several hilly islands (6.71) lie off the N coast of Pulau Lepar.

Submarine cables

6.58

1 See 6.3.

Natural conditions

6.59

1 See 6.12.

Principal marks

6.60

1 **Landmarks:**

Lama (3°06′S, 106°31′E) (5.14); when seen from E it resembles a pyramid.

Muntai (2°59′S, 106°32′E) (5.14).

Mujuk (3°01′S, 106°50′E), a hill with a prominent peak; an unnamed peak 1 mile NW is, however, more prominent.

2 Pulau Gelasa (2°25′S, 107°05′E) (6.24); seen in the N approach only.

Major lights:

Pulau Dapur Light (3°08′S, 106°31′E) (5.14).

Pulau Simedang Light (3°19′S, 107°13′E) (6.19).

Pulau Celaka Light (white beacon, 30 m in height) (2°52′S, 107°01′E); visible between 322°–218°(256°).

Other aid to navigation

6.61

1 **Racon:**

Pulau Kasenga Light (3°03′S, 107°21′E).

For further details see *Admiralty List of Radio Signals*.

Directions for Selat Leplia

6.62

1 From a position at least 4 miles W of Karang-Karang Suji (3°34′S, 106°55′E), consisting of four coral patches, sometimes marked by tide-rips, and from where a light (white beacon) is displayed, the track through Selat Leplia generally leads NNE thence N to a position E of Tanjung Berikat (2°34′S, 106°51′E), or E of Pulau Gelasa (2°25′S, 107°05′E) depending on destination, passing:

2 WNW of Karang Medang (3°22′S, 106°56′E), a patch of coral seldom marked by discolouration, on which stands a light (white beacon); from this reef Pulau Simedang Light is only just visible. Karang Kait, a rock, lies 6½ miles SE of the reef and is sometimes marked by discolouration. Thence:

3 ESE of Gosong Drievadems, a sandbank, with a depth of less than 5 m over it, lying 6½ miles S of Tanjung Murung (3°02′S, 106°55′E) (6.64); this bank can be approached fairly closely by sounding. Gosong George, a narrow bank extending for 8½ miles in a SW-NE direction with depths of less than 5 m over it, lies 4 miles NW of Gosong Drievadems, and between it and the coast. Thence:

4 WNW of Karang-Karang Baginda (3°07′S, 107°05′E), a group of detached reefs and rocks; further detached reefs lie up to 3 miles NNE and SSE of the group. The S-most reef is marked by a light. A patch with a depth over it of 1 m lies 3¼ miles SW, and is marked by a light (green beacon). Thence:

5 E of Karang Klippige (2°57′S, 106°56′E), lying 1½ miles E of Tanjung Labu (6.64), the NE point of Pulau Lepar, thence:

W of the rocks fronting Pulau Celaka, a small rocky islet covered in vegetation, from where a light (6.60) is displayed, situated close W of Pulau Liat (2°52′S, 107°03′E), low, flat and wooded, except for a ridge of hills in the S part (6.64); this island is surrounded by a reef; and:

6 E of Batu-batu Discovery, dangerous rocks, lying 4¼ miles W of Pulau Celaka, thence:

E of Gosong Raya, a sandbank, which lies 6¼ miles SSE of Tanjung Berikat; Gosong Nutshorn, with depths of less than 3 m over it, lies 1 mile W of the bank. This area should be given a wide berth on account of the strong current here.

6.63

1 **Caution.** Approaching from S, in thick weather, or if in any doubt as to which side of the strait the vessel may be, it is advisable to anchor on the bank near Karang-karang Suji (6.62) in depths of 13 to 18 m; bad visibility does not usually last for any length of time.

From N it is essential to have clear weather to approach the strait. Once Tanjung Berikat has been sighted the transit should present no difficulty.

Useful marks

6.64

1 Summit of Pulau Tinggi (2°59′S, 106°42′E) (6.65).

Tanjung Murung Light (white beacon) (3°02′S, 106°53′E).

Pulau Selemar Light (2°59′S, 107°06′E) (6.66).

Old lighthouse (metal framework structure, 22 m high), standing on Tanjung Labu (2°57′S, 106°55′E).

2 Keladi (2°54′S, 107°03′E), a hill situated on Pulau Liat, on which stands a tower (red and white bands).

Tominkor Light (2°56′S, 107°07′E) (6.69); visible in the S approach only.

Berikat, a hill standing close SW of Tanjung Berikat (2°34′S, 106°51′E) (6.84).

Pulau Berikat Light (2°28′S, 106°58′E) (6.81).

Side channels

Selat Lepar

6.65

1 Selat Lepar (3°00′S, 106°44′E), which is only navigable by small craft, separates the SE extremity of Pulau Bangka from Pulau Lepar. Pulau Tinggi (2°59′S, 106°42′E), the SE of a group of islands lying in the N entrance to the strait, has a prominent conical summit when seen from SSE.

A navigable passage lies off the N coast of Pulau Lepar between Pulau Kelapan (2°51′S, 106°50′E), hilly, and Pulau Seniur, on the N side, a light-beacon (S cardinal) stands 5 cables SW of the SW tip of Pulau Seniur and the N extremity of Pulau Burung and the reef fronting Tanjung Sangkar (6.71).

The passage between Pulau Kelapan and Pulau Seniur is not recommended.

Alur Pelayaran Tengah

6.66

1 **General description.** Alur Pelayaran Tengah, a navigable channel with a deep fairway, lies between Pulau Selemar (2°59′S, 107°06′E) and Pulau Kueel, 1½ miles E, lying on the S side, and the dangers which extend S from Pulau Liat on the N, and connects Selat Leplia with Selat Limende (6.56) or Selat Baur. Both Selemar and Kueel are covered with tall trees and are surrounded by reefs; foul ground extends 2 miles SSW from Kueel, but it is always marked by discolouration. A light (green beacon) stands on Pulau Selemar.

6.67

1 **Directions.** When entering this passage from W the track passes N of Pulau Selemar, thence S of Pulau Tominkor (2°56′S, 107°08′E) (6.69). The N extremities of Pulau Selemar and Pulau Kueel should be given a berth of at least 8 cables.

6.68

1 **Side channel**. There is also a passage between Pulau Selemar and Pulau Kueel on the NW side, and Pulau Bakau (3°02′S, 107°09′E), a low island covered in vegetation, and Pulau Kalangbau (6.69), 1 mile NE, on the SE side, passing S of the dangers (6.66) which extend SSW of Pulau Kueel. When passing through this channel from W, the alignment (089°) of the S extremity of Pulau Kalangbau with the N extremity of Pulau Bakau should be maintained until Pulau Selemar (6.66) bears 000°, when the passage will be open NE.

Directions for Selat Limende

6.69

1 When making for Selat Limende from S, the directions given at 6.21 for Selat Baur should be followed until Pulau Simedang (3°19′S, 107°13′E) is reached. The track through Selat Limende then generally leads NNW for a distance of approximately 45 miles to a position E of Tanjung Berikat (2°34′S, 106°51′E), passing:

WSW of a reported rock (3°10′S, 107°19′E) (6.21), thence:

ENE of a coral patch (3°07′S, 107°10′E), with a depth of less than 3 m over it; a detached shoal lies 2½ miles NNW, thence:

2 Between the reefs which front the SW and S sides of Pulau Aur (3°00′S, 107°14′E), a hilly island with a peculiar sharp summit, covered in tall trees, and Karang De Brauw, a small reef which lies 2½ miles WSW and 8 cables NE of Pulau Kalangbau (3°02′S, 107°10′E), a saddle shaped island when seen from N or S, the E peak being the higher of the two. Thence:

3 Between Pulau Kelemar (2°58′S, 107°13′E), hilly and covered with tall trees, and Terumbu Berbahaya, a coral reef, 2 miles W; this coral reef, which lies in the fairway, can be passed on either side. Thence:

ENE of Pulau Tominkor (2°56′S, 107°08′E), a reef marked by discolouration, from where a light (white beacon, 10 m in height) is displayed; Karang Koral, another reef, lies 2 miles NNW and less than 1½ miles off the E coast of Pulau Liat. Thence:

4 WSW of Karang Pandan (2°53′S, 107°12′E) (6.24), thence:

Clear of a dangerous wreck, reported (1996) to lie in approximate position 2°50′S, 107°10′E, thence:

ENE of the reefs and rocks which lie off the NE coast of Pulau Liat (2°52′S, 107°03′E); Karang Sandringham, a reef consisting of two coral patches, lies 2 miles NE off the N extremity of that island.

Useful marks

6.70

1 Pulau Kasenga Light (3°03′S, 107°21′E) (6.21).

Tanjung Ayerlancur Light (2°53′S, 107°20′E) (6.19).

Pulau Selemar Light (2°59′S, 107°06′E) (6.66).

Tanjung Berikat Light (2°34′S, 106°51′E) (6.79); visible in the N approach only.

Pulau Berikat Light (2°28′S, 106°58′E) (6.81).

Anchorage and harbour

Kumbung

6.71

1 Kumbung is a village on the N coast of Pulau Lepar, 1 mile SW of Tanjung Sangkar (2°53′S, 106°48′E), its N extremity; Pulau Ibul, a hilly island, fronts the village, 1 mile offshore. Vessels, having the benefit of local knowledge, wishing to visit this village will find good anchorage, especially in the NW monsoon, S of Pulau Seniur (2°50′S, 106°47′E) or SE of Pulau Burung (2°54′S, 106°44′E); both of these islands are hilly.

Pelabuhan Celaka

6.72

1 Pelabuhan Celaka, a small harbour, lies between Pulau Celaka (2°52′S, 107°01′E) (6.62) and Pulau Liat, close E. A narrow passage, suitable for boats, leads between the reefs S of Pulau Celaka, to a pier on that island, and to a pier at the village of Pongok on the W side of Pulau Liat, 4 cables E.

NORTH-EAST COAST OF PULAU BANGKA

GENERAL INFORMATION

Chart 1312

Scope of the section

6.73

1 In this section are described:

The offshore route NE of Pulau Bangka.

The coastal passages which lie between Tanjung Berikat (2°34′S, 106°51′E) and Tanjung Grasak (1°30′S, 105°54′E) (86 miles NW) and their associated anchorages; the description also includes the approach and entry to the port of Pangkalbalam (2°06′S, 106°08′E), the only commercial harbour of any size on this side of Pulau Bangka and to which the coastal passages relate.

General description

6.74

1 A great number of islets, banks, and reefs lie up to a distance of 30 miles off the NE coast of Pulau Bangka. There are two safe channels, leading between these reefs to the port of Pangkalbalam (2°06′S, 106°08′E). Vessels should not attempt to proceed through these reefs by any other route due to the fact that even the most accurate survey does not exclude the possibility of further dangers being encountered. The reefs are all steep-to and, owing to the somewhat troubled water, are only slightly marked by discolouration in the most favourable circumstances and soundings are not a guide.

2 Vessels proceeding to and from Selat Gelasa must pass well outside these reefs (see offshore route at 6.80) as the area within them is rendered unsafe by such dangers as Karang Scotia (2°14′S, 106°35′E), Karang-Karang Lombok (2°08′S, 106°32′E), Karang Smit van de Broecke (2°05′S, 106°31′E), Karang Noordziek (2°02′S, 106°31′E) and Karang Diederika (2°04′S, 106°24′E).

The coastline throughout is low and wooded, with a few hills close and a few rivers flowing out; further inland there are mountains which are visible from the outer reefs and far out to sea.

Flow

6.75

1 See 6.5.

General directions

6.76

1 Well found vessels should have no difficulty following the routes given at 6.80 for the passage to and from Singapore passing NE of Pulau Bangka.

The coastal routes for this area are given at 6.89 or 6.108.

OFFSHORE ROUTE

General information

Charts 2137, 1312

Routes

6.77

1 The following routes, from the N entrance to Selat Baur, leading NW along the NE coast of Pulau Bangka, to a

position E of Tanjung Jang (0°18′S, 105°00′E), approximately 190 miles NW, link with routes to Selat Riau (0°54′N, 104°15′E) (9.66) and Singapore from Selat Bangka (2°00′S, 105°00′E) (5.2). They are frequently used by well found vessels; vessels not so equipped should only proceed within this area in daylight and with good visibility.

2 **Caution.** Areas, indicated on the charts, which are inadequately surveyed, lie N of Selat Gelasa and S and E of a group of off-lying steep-to reefs which include Karang Enslie (1°07′S, 106°31′E), Karang Wild Pidgeon (1°12′S, 106°42′E), and Karang Celestial (1°12′S, 106°47′E); these reefs should be given a wide berth. Another inadequately surveyed area lies SE of Tanjung Jang.

3 Mariners are warned to exercise caution when within the areas indicated, as the presence of uncharted dangers cannot be discounted.

Positions. In 1981, Karang Wild Pidgeon was reported to lie about 1 mile ESE, and Karang Celestial 1·8 miles SE, of their charted positions.

Topography

6.78

1 See 6.74.

Principal marks

6.79

1 **Landmarks:**

Pulau Gelasa (2°25′S, 107°05′E) (6.24).

Pegunungan Pading (2°36′S, 106°33′E) (6.84).

Pegunungan Lapa (2°14′S, 106°06′E) (6.84).

Puak (1°55′S, 106°09′E), a coastal hill, having a steep E side and sharp prominent summit.

Pegunungan Maras (1°52′S, 105°51′E) (5.2).

Tanjung Jang (0°18′S, 105°00′E) (9.39).

2 **Major lights:**

Pulau Langkuas Light (2°32′S, 107°37′E) (6.19).

Tanjung Tuing Light (white beacon, 12 m in height) is displayed 1¼ miles NNW of Tanjung Tuing (1°36′S, 106°03′E).

Tanjung Jang Light (0°18′S, 105°00′E) (9.14); visible at the NW end of the route.

Directions

(continued from 6.26 or 5.105)

Outer route

6.80

1 From a position E of Pulau Gelasa (2°25′S, 107°05′E) (6.24), the outer route initially leads N, then NW, passing:

Clear of Karang Canning (2°23′S, 107°15′E), a detached patch of coral which is steep-to and is not marked by discolouration or ripples, thence:

E of an obstruction (2°18′S, 107°06′E), thence:

2 E and NE of Karang Belvedere (2°12′S, 107°02′E), a black rock, surrounded by a coral reef on which there is a stranded wreck. Karang Teree, a drying bank and Karang Tiung, a barely visible reef, lie 2 miles S and 4 miles SSW, respectively, from the black rock. Thence:

3 SW of Karang Magdalena (2°02′S, 107°00′E), a steep-to reef which is not marked by discolouration or ripples, thence:

NE of a reported shoal patch (2°00′S, 106°47′E), position approximate, and should be given a wide berth; Karang Lanrick (1°53′S, 106°56′E), an unmarked steep-to reef, lies 12 miles NE. Thence:

4 Clear of Karang Severn (1°37′S, 106°31′E), a coral reef. Soundings give no warning of this reef, but the summits of Tuing (1°36′S, 106°03′E) (see below) and Raja (1°54′S, 106°11′E) (6.103) are visible from this vicinity. Thence:

NE of Tanjung Tuing (1°37′S, 106°03′E), a high rocky point; a dangerous wreck lies 11¾ miles ENE, and a light (6.79) is displayed N of the point. Tuing, a prominent mountain, lies NW of the point. Thence:

5 Clear of Pulau Toty (0°55′S, 105°46′E) (5.106). The channel between Pulau Toty and Pulau Dokan (0°58′S, 105°39′E) (5.106), an island lying 7½ miles WSW, is clear; the reefs around these islands are, however, not marked by discolouration. Thence to a position E of Tanjung Jang (0°18′S, 105°00′E).

6.81

1 **Alternative route.** On passing Tanjung Ayerlancur (2°53′S, 107°20′E) (6.24), the track leads NW thence N, passing:

Between Tanjung Berikat (2°34′S, 106°51′E) (6.84), on which stands a light (white metal tower 14 m in height) and Pulau Berikat, a bare rock, which is visible at a distance of 10 miles. Karang Berikat, a reef, surrounds the rock; on the SE part of the reef stands a light (white beacon). Thence:

Clear of a dangerous wreck (2°25′·5S, 106°52′·0E), thence:

2 W of Karang-karang Warren Hastings (2°22′S, 106°56′E), consisting of six coral patches, barely visible, thence:

E of Karang Van Sittard (2°12′S, 106°45′E) on which stands a light (isolated danger) is displayed, thence:

NE of the reported shoal patch (6.80), thence as directed for the outer route.

In 1993, positions indicating less water were reported on this route as shown on the chart.

Useful marks

6.82

1 Sapat (2°36′S, 106°41′E) (6.87), a hill visible only from the alternative route.

Light (white GRP beacon, 10 m in height) standing on Karang Hidrograf Timur (2°01′S, 106°32′E), a reef.

(Directions continue for the offshore route to Selat Riau at 9.15; and for the outer route to Singapore at 9.131)

TANJUNG BERIKAT TO SUNGAI BATURUSA INCLUDING PELABUHAN PANGKALBALAM

General information

Charts 3471, 1788 plan of Pangkalbalam

Inshore passage

6.83

1 From a position N of Tanjung Berikat (2°34′S, 106°51′E) to the vicinity of Sungai Baturusa (2°06′S, 106°10′E), the track leads coastwise for a distance of approximately 50 miles and is suitable for small vessels with a light draught.

Topography

6.84

1 The coast between Tanjung Berikat (2°34′S, 106°51′E), the E extremity of Pulau Bangka, which is rendered prominent by Berikat, a hill, and Tanjung Langka, 25 miles WNW, is low and swampy in places; numerous reefs lie up to 7 miles E of Tanjung Langka and 3 miles off the coast.

Between Tanjung Langka (2°28′S, 106°27′E) and Sungai Baturusa, 30 miles NW, the coast is low with occasional rocky points and sandy beaches; the terrain at the entrance to Sungai Baturusa is, however, somewhat swampy.

2 Pegunungan Pading, a range of mountains, rises 18 miles W of Tanjung Berikat and appears from N as a broad mountain with a flat top; Bebuluh is its highest point. Pegunungan Lapa, a smaller range, rises midway along the NE coast of Pulau Bangka and 5 miles S of Pangkalpinang (2°08′S, 106°07′E); Mangkol (6.87), the highest point of the range lies at the S end.

Fishing stakes

6.85

1 Fishing stakes are situated 3 miles S and 2 miles SSW of Pulau Ketawi (2°16′S, 106°20′E) and also 1½ miles SSW of Karang Teali, 3 miles NW.

Natural conditions

6.86

1 **Currents** and tidal streams along the outer edge of the reefs, see 6.5; closer inshore the current follows the wind with strong seasonal currents found off Tanjung Berikat.

Local weather. The best weather for the area is found during the SE monsoon, between May and October; during the NW monsoon, between November and April, the winds may blow with increasing force and consistency, and squalls can occur. Throughout the year rain falls, but more frequently during the NW monsoon and most frequently during December and January.

Landmarks

6.87

1 Sapat (2°36′S, 106°41′E), the SW of two sharp peaks, when seen from N.

Gebang Besar (2°37′S, 106°28′E), a prominent mountain.

Gebang (2°38′S, 106°25′E), having a prominent sharp peak.

Mangkol (2°14′S, 106°06′E), the prominent highest peak of Pegunungan Lapa; a TV tower from which lights are displayed was reported (1978) to stand on the summit of Mangkol.

Other aid to navigation

6.88

1 **Racon:**

Karang Miang Light (2°05′S, 106°18′E) (6.108).

For further details see *Admiralty List of Radio Signals Volume 2*.

Directions for the inshore passage to Pangkalbalam

6.89

1 From a position N of Tanjung Berikat (2°34′S, 106°51′E), the inshore route to Sungai Baturusa leads WNW, with Mangkol (6.87) bearing 287°, passing (positions given from Tanjung Langka (2°28′S, 106°27′E)):

NNE of Karang Timur (6 miles E), a reef on which there is a small above-water portion, thence:

NNE of Karang Perlang (2 miles NE), a similar reef, from where a light (white beacon, 17 m in height) is displayed. Karang Barat, another reef, lies 1 mile W of the light. And:

2 SSW of a small coral patch (9 miles NNE) over which there is a depth of less than 3 m, thence:

SSW of Karang Horse (11 miles NNE), a reef, on which stands a beacon (port hand), thence:

SSW of Pulau Bebuar (11½ miles N), a small sandy islet standing on a reef, from where a light (white metal framework structure, 40 m in height) is displayed. Vessels should pass at least 3 miles S of the reef. Thence:

3 S of Pulau Ketawi (2°16′S, 106°20′E), which is covered in coconut palms; the islet, which should be passed at a distance of 3 miles, can be identified by two tall trees projecting above the palms (see 1.38).

6.90

1 The route then leads NW with Tanjung Bunga (2°08′S, 106°11′E), a prominent point on which stands a light (white beacon, 20 m in height), bearing 322°, which will be seen nearly in line with Kepoh, a hill, standing 10 miles NW of the point, passing:

SW of Pulau Ketawi, thence:

2 SW of a dangerous wreck (2°17′S, 106°18′E), thence:

SW of Karang Teali (2°14′S, 106°18′E) an unmarked reef, not to be confused with the reef having the same name from where a light (green triangle on green beacon, 10 m in height) is displayed, lying 8 cables NNW of this reef; Karang Keranji, another detached reef, lies 3 miles W of the light.

3 From the position SW of the former Karang Teali, and with the E edge of Pulau Panjang (2°09′S, 106°16′E), a wooded island standing on an extensive reef, bearing 000°, the route leads a short distance N on this bearing passing W of the reef from where the light is displayed, until the alignment (325°) of Karang Gosong Light (starboard hand) (2°08′S, 106°14′E) with Sambongiri (1°56′S, 106°05′E) (6.103) is reached.

4 The route continues NW again, passing SW of Karang Gerek (2°09′S, 106°15′E), a large reef, and W of Karang Gosong (2°08′S, 106°14′E), a reef with a patch of sand on it.

6.91

1 **Useful marks:**

Tanjung Berikat Light (2°34′S, 106°51′E) (6.82).

Ladi (2°12′S, 106°10′E), a hill, on the summit of which stands a conspicuous tree (see 1.38).

Karang Miang Light (2°05′S, 106°18′E) (6.108).

(Directions for Pangkalbalam are given at 6.97; directions for the coastal passage N are given at 6.108; directions for the inshore passage to Sungai Liat are given at 6.111).

Side channel

6.92

1 **Local knowledge** is essential when approaching Sungai Baturusa from Koba (2°29′S, 106°24′E) (6.100), a small port, using the deep, but narrow, channel which leads between the edge of the extensive reef on which Karang Horse (2°18′S, 106°29′E) (6.89) lies, and the edge of the extensive reef extending E from Pulau Bebuar (6.89).

On passing W of the beacon standing on Karang Horse the alignment (185°), astern, of the beacon with Gebang Besar (2°37′S, 106°28′E) passes through the channel, E of Karang Mentawa, a drying reef, situated 1½ miles NW of

the beacon, thence clear of Karang Goat (2°12′S, 106°29′E), a small but shallow reef.

2 On clearing Karang Goat, the line of bearing (306°) of Karang Elliot Light (2°04′S, 106°19′E) (6.108), passes between Karang Lombokbarat (2°09′S, 106°24′E), a reef, and Karang Fathoolbarie, a dangerous patch of coral with rocks on it, which lies 2½ miles NNW of Karang Lombokbarat.

On passing 2 miles W of Karang Fathoolbarie, the track leads W passing N of Karang Gading (2°07′S, 106°19′E), thence S of Karang Miang (6.108) The track then continues WSW to Sungai Baturusa approaches.

Pelabuhan Pangkalpinang including Pangkalbalam

General information

6.93

1 **Position.** Pelabuhan Pangkalpinang is the roadstead which lies off the mouth of Sungai Baturusa (2°06′S, 106°10′E), the largest river on Pulau Bangka, and is entirely open in both monsoons.

Pangkalbalam (2°06′S, 106°08′E), standing on the S side of the river 1½ miles within its entrance, is the port for the city of Pangkalpinang (2°08′S, 106°07′E).

2 **Function.** Pangkalbalam is a small but expanding port, which accepts commercial vessels at alongside berths as well as at anchorage, where lighters are used to transport cargo to and from the shore. Exports include timber products and kaolin.

Pangkalpinang is the headquarters of the Administrator for Pulau Bangka and Pulau Belitung.

3 **Port limits.** The port limits embrace an area E of the mouth of Sungai Baturusa between the lines drawn 056° from the N entrance point of the river and a similar line 067° from Pulau Punai, a rocky islet, to a line drawn joining Tanjung Raja (1°54′S, 106°11′E) with the centre of Pulau Panjang (2°09′S, 106°16′E).

4 **Approach and entry.** The roadstead is approached from N passing NW of Karang Elliot (2°04′S, 106°19′E) and from S passing SW of Karang Gosong (2°08′S, 106°14′E).

Entry to the port is made on the alignment (284°) of leading lights (6.97) standing at the entrance to Sungai Baturusa.

5 **Traffic.** In 2004 the port was used by 54 vessels totalling 34 844 dwt.

Port Authority. The Port Administrator, Port of Pangkalbalam, Jalan Yos Sudarso 1, Pangkalpinang. Pulau Bangka. Sumsel. Indonesia.

Limiting conditions

6.94

1 **Depths.** There is a charted depth 1·6 m (2°06′·2S, 106°11′·6E) which with MLLWS gives a minimum depth of 2 m over the bar; a drying patch lies close S of the leading line 1½ miles ESE of the river entrance. Entry, however, is limited to vessels with a maximum draught of 2·4 m and daylight berthing only.

Tidal levels. See information in *Admiralty Tide Tables*. Mean maximum range about 1·6 m.

2 **Density of the water:** 1·020 g/cm^3.

Largest vessel to have used the port was one of 1500 dwt; 5·0 m draught; 70 m LOA.

Weather. Between December and February winds blow from W/NW (4 to 16 kn), during March to May they are variable (4 to 10 kn), between June and August E/SE and September to November SE/S/SW (8 to 21 kn); when strong these winds can affect water levels in the river.

Arrival information

6.95

1 **Port operations.** Daylight berthing only.

Port radio. For details see *Admiralty List of Radio Signals Volume 6(4).*

Outer anchorages. Anchorage can be obtained in a position about 1¼ miles NW of Karang Kapal (2°06′S, 106°14′E), a drying reef, in 6 m, mud, and 2 miles N of the reef, in 10 m, mud and sand. A buoy (port hand) is moored 8 cables N of the reef.

Pilotage. Not available.

Tugs. There are several tugs in the port, mainly used for lighterage.

Harbour

6.96

1 **General layout.** Pangkalbalam lies on a bend of Sungai Baturusa, 1½ miles within the entrance, and on its S bank close W of the junction with Sungai Rangkui (2°06′S, 106°08′E) which flows through Pangkalpinang, 2 miles SSW.

The working area comprises a long concrete wharf (6.98) and a small oil jetty, close W. The wharf, which is wide, has two large transit sheds and open storage space.

Tidal streams. Out-going rate 1¾ kn; in-going 1¼ kn.

Climatic table. See 1.137 and 1.145.

Directions

6.97

1 Vessels coming from Selat Gelasa can follow the directions given at 6.89, passing SW of Karang Gosong, thence proceed to an anchorage (6.95), or leading line for entering harbour.

Entry. From the roadstead, vessels enter the river on the alignment (284°) of the leading lights.

Leading lights:

Front light (white triangle, point up) (2°05′·7S, 106°09′·9E)

Rear light (white triangle, point down; 14 m in height) (3½ cables WNW of the front light)

2 The track passes:

SSW of the channel light-buoy (starboard hand) moored 2½ miles ESE of the front leading light, thence:

SSW of No 3 Buoy (starboard hand) moored off the entrance to the river, 4½ cables from the front light.

Caution. Fish traps lie off a sandbank situated on the N side of the channel entrance to Sungai Baturusa.

Berths

6.98

1 **River anchorage** can be found off the wharf at Pangkalbalam, in 8 m, MLWS, mud and sand.

Alongside berths. There are three berths situated alongside a wharf 188 m in length; the largest berth, No 2, lies at the W end of the wharf, where there is a depth of 3 m at MLWS.

A T-head concrete/steel oil jetty, 86 m in length and 24 m at its head, lies close W of No 2 berth.

Port services

6.99

1 **Repairs** can be effected; 500 dwt capacity slipway.

Other facilities: deratting exemption certificates issued; hospital.

Supplies: limited fresh water; limited provisions; fuel oil available from Pertamina.

Communications. Pangkalpinang airport, 10 km S of the port, with daily flights to Jakarta.

Pelabuhan Koba

General information

6.100

1 **Description.** Pelabuhan Koba (2°29′S, 106°25′E) is a small port situated 27 miles W of Tanjung Berikat. The town of Koba, which can offer medical assistance, lies on the E side of a river of the same name. Vessels lie in a roadstead and cargo is ferried to and from the shore by praus. This roadstead is only calm during the SE monsoon; during the NW monsoon landing is almost impossible.

Harbour Authority lies with the Harbour Master who is also the customs official.

2 **Anchorages.** The usual anchorage, in 6 m, lies outside of detached reefs which front the coast to the N and E of the town as shown on the chart; a buoy (port hand) is moored 2 miles N of a flagstaff which assists in identifying the town. The white roof of a building, 1 mile W of the flagstaff, is also noticeable.

Small vessels, having the benefit of local knowledge, can anchor closer to the shore within the reefs.

Landing place. The usual landing place is by the flagstaff previously mentioned, 5 cables E of the river entrance; a light (privately maintained) is displayed from the flagstaff.

Anchorages

6.101

1 During the NW monsoon, between November and April, there is sheltered anchorage S of Pulau Panjang (2°09′S, 106°16′E) (6.90) in a depth of 6·0 m, mud and sand, with Pau (2°11′S, 106°07′E) (6.108), bearing 265° and the E extremity of Pulau Panjang bearing 005°; deeper water lies S of this position.

2 During the SE monsoon there is an anchorage between Karang Gerek and Karang Gosong (2°08′S, 106°14′E) (6.90), in a depth of 8 m, mud and sand.

Directions. Vessels coming from Selat Gelasa can follow the inshore passage, described at 6.89, to the desired anchorage; coming from N, vessels should follow the directions given at 6.97 thence pass W of Karang Kapal (2°06′S, 106°14′E) and Karang Gosong to this anchorage.

SUNGAI BATURUSA TO TANJUNG GRASAK

General information

Charts 3471, 1312

Route

6.102

1 From the vicinity of Sungai Baturusa to a position N of Tanjung Grasak (1°30′S, 105°54′E), the coastal route initially leads NE thence NW for a distance of approximately 55 miles, passing at least 7 miles E of Tanjung Raja (1°54′S, 106°11′E); the inshore passage to Sungai Liat is described at 6.111.

Topography

6.103

1 The coast between Sungai Baturusa and Tanjung Grasak is generally low and wooded with areas of swampy ground and the occasional stretch of sandy beach. Several headlands are rendered prominent by high ground close behind; in particular Tanjung Raja (1°54′S, 106°11′E), a prominent rocky point with Raja, a conical hill, close W, and Puak (6.79) 1½ miles WSW of Raja.

2 There are several prominent inland mountains on this stretch of coast, which include Sambongiri (1°56′S, 106°05′E) and Besar, a conical mountain with a rounded summit (1°45′S, 106°00′E), which appears sharp when seen from N or S. Pegunungan Maras (1°52′S, 105°51′E), a high range of mountains, is described at 5.2.

Swept area

6.104

1 A small area, 4 miles long and 5 cables wide, which was swept in 1939 to a depth of 10 m, lies outside of Pangkalbalam port limits (6.93), 1½ miles W of Karang Elliot (2°04′S, 106°19′E). A small portion at the NW corner of this area has been swept to a depth of 9·5 m. This swept area is shown on chart 1788.

Local knowledge

6.105

1 The coastal route and inshore passage to Sungai Liat require local knowledge.

Principal marks

6.106

1 **Landmarks:**

Summit of Pegunungan Maras (1°52′S, 105°51′E) (5.2).

Puak (1°55′S, 106°09′E) (6.79).

Besar (1°45′S, 106°00′E) (6.103).

Major light:

Tanjung Tuing Light (1°36′S, 106°03′E) (6.79).

Other aid to navigation

6.107

1 **Racon:**

Karang Miang Light (2°05′S, 106°18′E).

For further details see *Admiralty List of Radio Signals Volume 2*.

Directions

Coastal passage to Tanjung Grasak

6.108

1 From Pelabuhan Pangkalpinang (6.93), the initial route, best seen on chart 1788, leads NE on the line of bearing 230°, astern, of Pau (2°11′S, 106°07′E), a hill, as far as Karang Elliot (2°04′S, 106°19′E), passing (positions given from Karang Elliot):

NW of the buoy (port hand) which lies 8 cables N of Karang Kapal (6.95) (5 miles WSW), thence:

2 NW of Karang Miang (2 miles SW), a reef, on which a light (red metal framework structure, 10 m in height) stands at it N end, thence:

NW of a light-buoy (port hand) marking a rocky patch (1¼ miles W), thence:

SE of the patch of foul ground on which Karang Merah Light (green beacon, 12 m in height) (4 miles NW) stands; Karang Merah, a large reef, lies 3 miles W of the light. Thence:

3 NW of Karang Elliot, a small reef, from where a light (white metal framework tower, 10 m in height) is displayed.

The track then leads N with Karang Elliot Light bearing 180°, astern, until a position at least 7 miles E of Tanjung Raja (1°54′S, 106°11′E) (6.103), is reached, passing:

W of Karang Barat (6½ miles NNE), consisting of stone and coral. Karang Palmer, a group of coral heads, lies 2½ miles E of Karang Barat.

6.109

1 From the position E of Tanjung Raja to a position N of Tanjung Grasak (1°30′S, 105°54′E), the route leads NW for a distance of about 39 miles, passing:

NE of Karang Pedis Utara (1°53′S, 106°15′E), which lies close NNE of Karang Pedis Selatan (6.111), thence:

At least 7 miles NE of Tanjung Layang (1°48′S, 106°08′E), a rocky point, with a low ridge of hills behind it which gradually slopes towards the point, thence:

2 SW of Karang Iwan (1°40′S, 106°18′E), a steep-to coral reef; from this reef the Bangka coast can generally be seen, so that vessels should have no trouble avoiding it. Thence:

NE of Tanjung Tuing (1°37′S, 106°03′E) (6.80), from where a light is displayed, thence:

NE of Tanjung Paku (1°33′S, 105°59′E), rendered prominent by a small islet lying close off the point. A shoal patch with a depth of 2 m over it lies 2 miles N of the point. Thence:

To a position N of Tanjung Grasak.

6.110

1 **Useful marks:**

Raja (1°54′S, 106°11′E) (6.103).

Tuing (1°36′S, 106°03′E) (6.80).

Hill (1°49′S, 106°00′E), with a conical summit and Panjar a low range of hills on its E side.

(Directions for the passage W of Tanjung Grasak leading to Selat Bangka are given at 5.104)

Inshore passage to Sungai Liat

6.111

1 This passage is used by local vessels and from Pelubuhan Pangkalpinang, the directions given at 6.108 are followed until Karang Elliot Light (2°04′S, 106°19′E) bearing 156°, is reached, thence on this bearing, astern, so as to pass midway between Karang Foke (9½ miles NW), a reef, and Karang Pedis Selatan (10½ miles NNW), a coral head; a light-buoy (starboard hand) marks the SE side of the coral head. From this latter position the track continues NNW passing:

2 WSW of Karang Bronbeek, a shoal with a depth of less than 5 m, lying 1 mile W of Karang Timur Laut (1°50′S, 106°14′E), a coral patch, thence:

ENE of Karang Liat, consisting of two rocks, lying 3 miles ESE of Tanjung Layang (1°48′S, 106°08′E), thence the track leads N of these rocks to the anchorage, described at 6.112.

Caution. An obstruction lies 2½ miles E of Tanjung Layang.

Pelabuhan Sungailiat

General information

6.112

1 **Description.** Pelabuhan Sungailiat, a lighterage harbour accepting small vessels, lies to the S of Tanjung Layang (1°48′S, 106°08′E) and E of the entrance to Sungai Liat, which flows out 1½ miles SSW of the point. The town of Sungailiat, the headquarters of the district, lies on the W bank of the river, 2 miles within its entrance and can only be reached by small craft.

The loom of the lights of the surrounding mining district is visible from seaward.

2 **Local weather.** There is a heavy swell during the SE monsoon. When this monsoon is blowing at full strength, there is no communication with the shore; in such circumstances vessels proceed to Pelabuhan Pangkalpinang (6.93), where cargo can be transported up Sungai Baturusa to Baturusa, 5 miles above Pangkalbalam, and thence by road.

3 **Directions for anchorage.** From S, after passing N of Karang Liat (6.111) at a distance of at least 5 cables, the track to the anchorage leads SW to a buoy (port hand) which marks a shoal with a depth of less than 3 m over it, 1½ miles SE of Tanjung Layang. Vessels should pass N of the buoy.

4 When making for this roadstead from N vessels should not pass less than 2½ miles E of Tanjung Layang, before making for the buoy, thereby avoiding the obstruction (6.111), which lies E of the point, and several shoals between it and the point. Karang Laut, an isolated coral patch, lies 4½ miles ENE of Tanjung Layang.

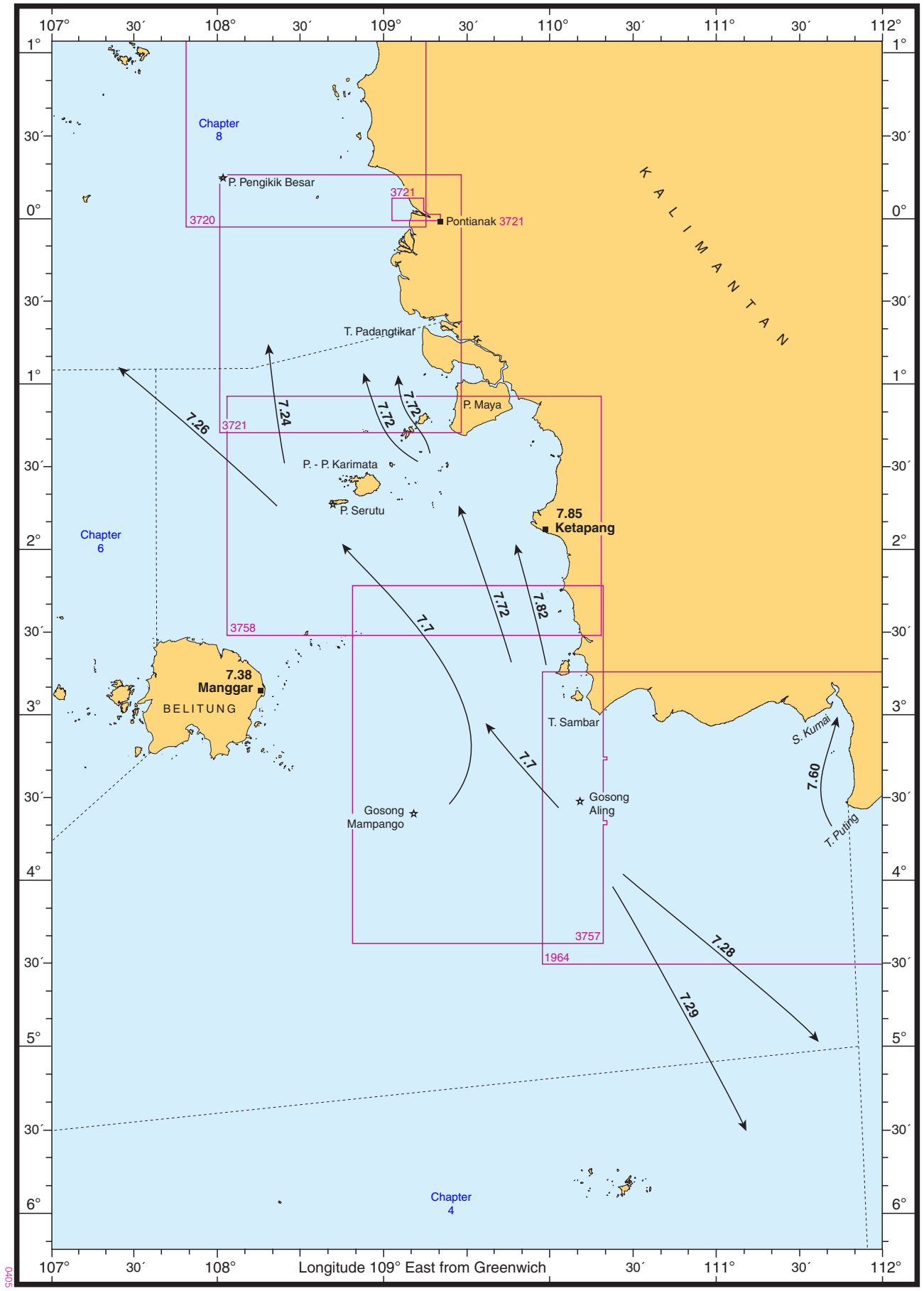
Caution. A stranded wreck lies 7 cables E of the entrance to the river.

5 **Anchorage.** The usual anchorage position is 1 mile offshore in a depth of 7 m, mud, with the alignment (337°) of the outer rocks of Tanjung Layang (1°48′S, 106°08′E) with Tuing (1°36′S, 106°03′E) (6.80).

Facilities and supplies are limited; medical assistance available.

NOTES

Chapter 7 - Selat Karimata and the south and west coasts of Kalimantan



CHAPTER 7

SELAT KARIMATA WITH PULAU BELITUNG — THE SOUTH AND WEST COASTS OF KALIMANTAN

GENERAL INFORMATION

Chart 941A

Scope of chapter

7.1

1 This chapter covers the waters of Selat Karimata, the S and W coasts of Kalimantan between Tanjung Puting (3°31′S, 111°46′E) and Tanjung Padangtikar (0°40′S, 109°15′E), and, excepting the W coast, the waters around Pulau Belitung (2°54′S, 107°55′E).

Also included are the descriptions of the through and coastal routes, and the ports and anchorages associated with them.

Routes

7.2

1 Archipelagic Sea Lanes have been designated within certain of the waters described in this chapter. For further information see Appendix II.

Topography

7.3

1 Selat Karimata lies between Pulau Belitung, forming the W side of the strait, and the coast of Kalimantan, the Indonesian portion of Borneo, on the E side. Pulau Belitung is mostly flat and wooded, with several isolated mountains, but with no extensive ranges.

The S coast of Kalimantan is densely wooded with clumps of trees generally taller at the river mouths; the W coast is mostly low and marshy, with banks of sand and mud at the river mouths.

Piracy

7.4

1 See 1.8.

Wrecks

7.5

1 There are a number of wrecks off the coast of Kalimantan and in Selat Karimata, the positions of which can be seen on the chart.

Natural conditions

7.6

1 **Local weather.** See 7.17.

Flow. See 7.13

SELAT KARIMATA WITH PULAU BELITUNG

THROUGH ROUTE — SELAT KARIMATA

General information

Charts 1066, 3757, 3758, 3721

Routes

7.7

1 Selat Karimata is the customary route taken by vessels bound for Singapore Strait or the S part of South China Sea from the E part of Java Sea (see *Ocean Passages for the World*). Such vessels seldom sight Pulau Belitung, lying on the W side, or the coast of Kalimantan to the E.

2 The through route lies E of a line joining Gosong Mampango (3°35′S, 109°10′E), a position 20 miles E of Terumbu Manggar (2°54′S, 108°56′E), Karang Tenang (2°30′S, 108°55′E) and Karang Ontario (2°00′S, 108°39′E), 35 miles NW. Large vessels passing through Selat Karimata should keep E of this line, taking care to pass clear of charted dangers, the positions of which may be seen on the charts. The possibility that uncharted dangers exist in this area cannot be discounted, and shoaler depths than charted have been reported (see also 7.16).

Topography

7.8

1 In the S approaches to Selat Karimata there are many off-lying reefs and sandbanks, which may be seen on the chart.

On the west side, Gosong Mampango (3°35′S, 109°10′E), a steep-to coral reef with a patch of sand in the middle, lies 64 miles SE of the SE part of Pulau Belitung. Karang Abadi (3°39′S, 108°45′E), a narrow reef with a few above-water rocks on it, lies 26 miles WSW of Gosong Mampango; a shoal depth of 6 m lies 6½ miles farther NW. Karang Sambar, the surf of which can be seen from a considerable distance, lies 5½ miles NE of Karang Abadi, and Gosong Kelumpang, a large reef, lies 15 miles NW of Gosong Mampango. Karang Batuan, a coral shoal with boulders, lies 8½ miles N of Gosong Kelumpang.

2 Terumbu Manggar (2°54′S, 108°56′E) lies 22 miles N of Karang Batuan.

Pulau-pulau Momparang are described at 7.33.

Positions. In 1992, Gosong Mampango and associated reefs Karang Batuan, Karang Sambar and Gosong Kelumpang were reported to lie 9 cables further E.

7.9

1 **On the east side:** Gosong Aling (3°30′S, 110°12′E), comprising several banks of hard sand, includes Gosong Aruba (2½ miles N) and Gosong Jelai (7 miles NNW). Pulau-pulau Karimata lie at the N end of the strait and consist of several islands and reefs, including Pulau Karimata (1°37′S, 108°55′E) the largest island of the group, which lies at the NW end of a large area of reefs and foul ground together with off-lying islands. Cabang, the prominent summit of Pulau Karimata, situated in the centre, is a rugged peak frequently enveloped in clouds, but in clear weather it can sometimes be distinguished from a distance of 48 miles. The SE coast of Pulau Karimata is bordered by shallow water and reefs which extend from 2 to 3 miles offshore. Foul ground extends for 6 miles SE from Tanjung Serunai, the E extremity of the island.

2 **Positions.** In 1997, Gosong Aling and associated banks were reported to lie up to 2 miles farther ENE of the charted position.

Driftwood

7.10

1 During the NW monsoon much driftwood is carried S into Selat Karimata, and large pieces from the river banks, held together by thick growth, form floating islets which are encountered on the open sea and in the strait. Some of these have been reported to be large enough to be visible for 5 to 8 miles.

Conservation area

7.11

1 The area surrounding Pulau Karimata (1°35′S, 108°55′E) is reserved for the conservation of flora and fauna.

For details on conservation areas see 1.65.

Natural conditions

7.12

1 **Local magnetic anomaly** causing an increase of up to 2°E over the normal variation has been reported to exist between positions 17 miles W and 13 miles S of Pulau Serutu Light (1°43′S, 108°42′E).

7.13

1 **Flow.** The horizontal movement of the water in Selat Karimata is mostly the monsoon current (1.99), the tidal streams are diurnal, but their influence is only felt near the coasts of Pulau Belitung and Kalimantan; therefore being of little importance to large vessels passing through the strait.

2 In the open part of the strait the mean rate of the current is ½ kn in the SE monsoon, and 1 kn in the NW monsoon; it is however subject to considerable variations, which cannot be predicted, so that a maximum rate of nearly 2 kn has been observed in the SE monsoon, whilst no more than 1½ kn was observed in the NW monsoon. As the direction of the current depends on the direction of the predominating wind, it practically follows the direction of the channel.

3 In the narrower passages, it is probable that the currents may exceed a rate of 3 kn.

The horizontal movement of water along the S coast of Kalimantan is a mixture of tidal streams and monsoon currents, whilst on the W coast mainly of monsoon current.

7.14

1 A vessel passing through the strait during the month of October observed a current setting SE, at a rate of ¾ kn, during a 12 hour period when proceeding from Pulau Serutu to S of Tanjung Sambar (3°00′S, 110°18′E). The weather at the time was variable, with alternate calms and heavy S squalls; in Java Sea the SE monsoon was still blowing steadily, with a clear sky and moderate visibility, causing a current of ½ kn NW until 30 miles N of Jawa.

2 Only during the change of seasons need any attention be paid to the tidal streams, and even then they are not strong in the open parts of the strait; the following is an indication of their direction:

Position	*Direction*
Between Gosong Mampango (3°35′S, 109°11′E) and Tanjung Sambar (3°00′S, 110°18′E)	NW to WNW, and SE
Between Pulau-pulau Momparang (2°32′S, 108°40′E) and Pulau-pulau Karimata (1°35′S, 109°00′E)	NW, and SE
W of Pulau Serutu (1°43′S, 108°44′E)	W, and E
W of Karang-karang Greig (0°54′S, 108°32′E)	SW, and NE

In the vicinity of Gosong Kelumpang (3°25′S, 108°59′E) the tidal streams set SSE and NNW.

7.15

1 **Tide-rips.** Whilst the vessel previously mentioned was lying at anchor near Pulau-pulau Karimata, a sharply defined line of tide-rips, stretching as far as the eye could see, was frequently observed; this line shifted slowly N or S, thus across the direction of the tidal streams. With rising water there appeared to be two tidal streams here, one setting N and the other setting S, which curved W after meeting; the water was different in colour on either side of the rips. It is presumed that this boundary disappears when the monsoon current becomes strong.

Tide-rips are also in evidence around Terumbu Manggar (2°54′S, 108°56′E).

7.16

1 **Sandwaves.** A number of sandwave areas exist close to the main shipping routes; and depths shoaler than those charted may be encountered. The main areas are:

20 miles S of Gosong Aling (3°30′S, 110°12′E).
25 miles NW of Gosong Aling.
20 miles W of Karang Karysfort (2°40′S, 109°48′E).

7.17

1 **Local weather features.** Light variable winds prevail in Selat Karimata in April and November. The SE monsoon prevails from May to October and the NW monsoon from December to March; WNW winds predominate in December, veering to NW in January with increasing force and constancy and persisting to March.

2 Squalls are most frequent in November and December. A moderate swell develops during the NW monsoon in January and February.

Off the W coast of Kalimantan the winds are variable and light in March and November. At other times there may be varying periods of either E or W winds which are mainly light.

Fog. The S coast of Kalimantan is frequently subject to fog over and near the rivers at night and early morning.

Principal marks

7.18

1 **Landmark:**

Cabang (1°36′S, 108°54′E) (7.9)

Major lights:

Tanjung Rotan Light (white metal framework structure, 30 m in height) (2°45′S, 110°02′E).

Pulau Pesemut Light (white metal framework structure, 40 m in height) (2°30′S, 108°51′E).

Pulau Serutu Light (white metal framework tower, 25 m in height) (1°43′S, 108°42′E); the light is situated at the W end of the island.

Other aids to navigation

7.19

1 **Racons:**

Gosong Mampango Light (3°35′S, 109°10′E).
Pulau Serutu Light (1°43′S, 108°42′E).

For further details see *Admiralty List of Radio Signals Volume 2*.

Directions

(continued from 3.53)

Main route

7.20

1 **Caution.** Numerous dangerous reefs and shoals exist in the N and S approaches to Selat Karimata.

Approach from south-west. From a position E of Gosong Mampango (3°35′S, 109°11′E) (7.8), from where a

light (white metal framework tower, red bands, 20 m in height) is displayed, the route leads NNE thence NW to a position W of Pulau Serutu (1°43′S, 108°44′E), a distance of approximately 145 miles, passing:

ESE of a reported shoal with a depth of 20 m over it which lies in position 3°10′S, 109°18′E, thence:

2 ESE of a reported obstruction (3°00′S, 109°22′E), thence:

Clear of the dangerous wrecks which lie in positions 2°55′S, 109°23′E and 2°44′S, 109°22′E, thence:

NE of Karang Tenang (2°31′S, 108°55′E), the E danger of Pulau-pulau Momparang (7.33). Pulau Pesemut (2°30′S, 108°51′E) a sand cay from where a light (7.18) is displayed, lies 4½ miles W, thence:

3 NE of Karang Ontario (2°00′S, 108°39′E), a coral reef with small patches of yellowish-brown coral on it, which dries; a light (isolated danger, 10 m in height) stands on the reef. Thence:

SW and W of Pulau Serutu (1°43′S, 108°44′E) the SW island of Pulau-pulau Karimata from where a light (7.18) is displayed; the island is mountainous and has steep rocky coasts, the highest peak lies in the middle of the island. An obstruction lies 14 miles WSW of the island.

7.21

1 **Approach from south-east.** From a position SW of Gosong Aling (3°30′S, 110°12′E), from where a light (white metal framework structure, 10 m in height) is displayed, and clear of the 6·4 m patch lying 15½ miles SSW of the light, the track through the strait to a position W of Pulau Serutu generally leads NW, for a distance of approximately 145 miles, passing:

2 Clear of a reported 7·8 m shoal patch which lies 17½ miles WNW of Gosong Aling; a 12·3 m patch lies 3½ miles NNW of the shoal, and a 12 m patch lies 2½ miles SE of it, thence as described at 7.20 from clear of the dangerous wrecks.

A buoy (safe water) is moored 6½ miles WNW of Gosong Jelai (3°23′S, 110°07′E).

Caution. Fishing vessels with acetylene lamps frequent the S approach to Selat Karimata.

Side channel

7.22

1 Between Pulau Karimata (1°37′S, 108°55′E) and Pulau Serutu, 4 miles SW, there is a deep navigable passage. The E side of this passage is formed by a ridge of sand, with depths of less than 10 m, on which are some rocks, which extends 5 miles S from Tanjung Dungu (1°41′S, 108°52′E) (7.30). This ridge of sand is generally marked by light-green discolouration; local knowledge is necessary.

Useful marks

7.23

1 Karang Batuan Light-beacon (isolated danger) (3°16′S, 108°58′E) (7.8).

Pulau Begunung (1°35′S, 108°47′E), 10 miles NNE of Pulau Serutu Light; distinguished by its sharp conical summit visible 32 miles in the N approaches.

Pulau Surunggading (1°34′S, 108°44′E).

(Directions continue N for Pulau Pengikik Besar at 7.24; directions for the passage to Singapore Strait are given at 7.26 and for the passage to Outer Channel at 3.53).

Chart 1312

Selat Karimata to Pulau Pengikik Besar

7.24

1 From a position W of Pulau Serutu (1°43′S, 108°44′E) to a position E of Pulau Pengikik Besar (0°15′N, 108°03′E) the route initially leads NNW thence N passing:

WSW of Karang Gwalia (1°06′S, 108°34′E), a coral reef which lies 38 miles NNW of Pulau Serutu Light (7.18), and is the S danger of a group of reefs which cover a distance of 14 miles in a N and S direction. A shoal depth of 10·4 m lies 13 miles ESE of Karang Gwalia. Thence:

2 WSW of Karang Erikson (1°03′S, 108°32′E) thence:

WSW of a dangerous rock, which lies 7 miles W of Karang Greig Selatan (0°55′S, 108°31′E), thence:

WSW of a dangerous wreck (0°51′S, 108°19′E), thence:

W of a reef (0°35′S, 108°12′E), with a depth of 5 m over it, thence to a position E of Pulau Pengikik Besar.

3 **Useful marks:**

Pulau Begunung (1°35′S 108°47′E) (7.23).

Pulau Datu (0°08′N, 108°36′E) (8.29), which is conspicuous for up to 34 miles.

(Directions continue N of Pulau Pengikik Besar at 8.10)

7.25

1 **Inshore route.** The following route has been taken without difficulty, during the SE monsoon, by a 130 000 dwt vessel on passage from South China Sea to Selat Sunda with a draught of 9·0 m, passing:

W of Pulau Lemukutan (0°47′N, 108°42′E) (8.61), thence:

E of Pulau Datu (0°08′N, 108°36′E) from where a light is displayed (8.29), thence:

2 Clear of a 10·4 m shoal (1°11′S, 108°46′E), thence:

W of Pulau Lemanbudi (1°16′S, 108°52′E) from where a light (7.78) is displayed, thence:

W of a group of islets lying off the NW extremity of Pulau Karimata, thence:

W of Pulau Serutu (1°43′S, 108°44′E) (7.20).

Directions for Selat Karimata can be followed at 7.20 in reverse order.

Selat Karimata to Singapore Strait

7.26

1 From a position SW of Pulau Serutu (1°43′S, 108°44′E) (7.20) to the E entrance to Singapore Strait, the route generally leads NW for a distance of approximately 315 miles passing:

SW of a reported coral islet 28 miles SSW of Pulau Pejantan (0°07′N, 107°13′E). The existence of the islet is doubtful; in 1992 this rock was reported not visible, thence:

Clear of a rock (0°08′N, 106°13′E), reported in 1995, thence:

2 NE of Karang Heluputan (0°37′N, 105°09′E) (9.131), thence:

NE of Pulau Merapas (0°56′N, 104°55′E) (9.131) thence:

NE of Terumbu Berakit, a rock lying 2½ miles NE of Tanjung Berakit (1°13′N, 104°35′E), a prominent headland, both of which are described in *Malacca Strait and West Coast of Sumatera Pilot*; thence towards the E entrance to the strait.

3 **Caution.** At the E entrance to Singapore Strait there are a number of dangerous wrecks; numerous submarine cables

and a submarine gas pipeline (see 1.51) also pass through the area. These can best be seen on the chart. See also *China Sea Pilot Volume II.*

(Directions for Singapore Strait are given in Malacca Strait and West Coast Sumatera Pilot)

7.27

1 **Alternative route.** For vessels wishing to enter Singapore Strait by way of Selat Riau, the route to the S entrance of Selat Riau (0°40′N, 104°25′E) (9.71) from the vicinity of Karang Ontario (2°00′S, 108°39′E) (7.20) leads NW for a distance of approximately 300 miles. If passing S of Karang Ontario mariners should have regard to Karang Flying Fish (2°13′S, 108°37′E), 14 miles farther S, consisting of a number of coral patches with depths of less than 2 m over them, Karang Florence Adelaide (2°04′S, 108°04′E), a dangerous steep-to coral reef from where a light (white beacon) is displayed, and a group of off-lying reefs (1°09′S, 106°40′E) (6.77) lying in inadequately surveyed areas 70 and 125 miles WNW, respectively, of Karang Ontario.

(Directions for Selat Riau are given at 9.78)

Chart 1066

Selat Karimata to East Java Sea

7.28

1 From a position SW of Gosong Aling (3°30′S, 110°12′E), from where a light (7.21) is displayed, the track leading SE to the passages between Pulau Madura (7°02′S, 113°27′E) and Pulau Kangean (*Indonesia Pilot Volume II*), 65 miles E, passes:

SW of the shoals, and a stranded wreck (3°54′·3S, 110°28′·3E), lying S of Gosong Aling, thence:

NE of Gosong Jag Vijay (5°09′S, 111°24′E) (4.21), off-lying shoals situated midway between Jawa and Kalimantan, thence:

NE of Pulau Bawean (5°47′S, 112°40′E) (*Indonesia Pilot Volume II*)

Selat Karimata to Selat Surabaya

7.29

1 From a position SW of Gosong Aling the track leads generally SE to a position N of Pulau Karangjamuang (6°55′S, 112°44′E) (*Indonesia Pilot Volume II*) passing:

SW of the shoals, and a stranded wreck (3°54′·3S, 110°28′·3E), lying S of Gosong Aling, thence:

SW of a shoal, reported in 1979, which lies 17 miles SW of Gosong Jag Vijay.

(Directions for Selat Surabaya, the passages between Pulau Madura and Pulau Kangean, and Selat Lombok, are given in Indonesia Pilot Volume II)

Anchorages

Chart 3758

7.30

1 During the NW monsoon there is anchorage E of the sand ridge which extends S from Tanjung Dungu (1°41′S, 108°52′E), the S extremity of Pulau Karimata, in depths of from 11 to 15 m, 2 miles offshore.

In the SE monsoon there is good anchorage W of Tanjung Sena, the N extremity of Pulau Karimata, in depths of from 20 to 26 m, mud; the bay on the W side of this point is foul, and must not be entered farther than the alignment of the S extremity of Pulau Buan (1°29′S, 109°03′E) (7.79) with Tanjung Sena, bearing 079°.

2 **Caution.** Vessels should not attempt to pass between any of the islets which lie off the NW extremity of Pulau Karimata, as the adjacent reefs are steep-to and there is usually a strong current.

PULAU BELITUNG

General information

Charts 1312, 2137, 2149

General description

7.31

1 Pulau Belitung (2°54′S, 107°55′E) forms the W side of Selat Karimata. The island, which is surrounded by reefs and numerous islands and islets, is mostly flat and wooded with several isolated inland mountains. Tin is mined in many areas and is an exported commodity.

The W side of the island is described in Chapter 6.

Pelabuhan Manggar (7.38), the main port on the E side of the island lies 6 miles S of Tanjung Burungmandi (2°45′S, 108°17′E).

Topography

7.32

1 **South side of Pulau Belitung.** Between Tanjung Genting (3°15′S, 107°37′E) (6.36) and Tanjung Batuhitam (29 miles E), the coastline is heavily indented by Teluk Balok (7.46), a large bay. Most of the coastal mountains W of the bay have been described at 6.37; the E side of the bay is low and densely wooded. Pulau-pulau Masar, comprising Pulau Kennedy (3°21′S, 107°42′E) and Pulau Utan, 1½ miles ESE, both thickly wooded islets, lie 8 miles SE of Tanjung Genting, the SW extremity of Pulau Belitung.

2 Pulau Kebatu (3°48′S, 108°04′E), a bare and rocky island, lies 31 miles S of Tanjung Kelumpang (7.46); it is the largest of a small group of off-lying islands and reefs which includes Pulau Putih, lying 1 mile SW. From a distance Pulau Kebatu appears as a conical hummock. Karang Beli, marked by breakers, lies 1 mile W.

Karang Mandi (3°44′S, 108°06′E) and Karang Kawat (3°42′S, 108°07′E) lie 4 and 6 miles NNE, respectively, of Pulau Kebatu.

7.33

1 **East side of Pulau Belitung.** The coastline between Tanjung Batuhitam (3°15′S, 108°05′E), low, rocky and densely wooded, and Tanjung Burungmandi (32 miles NNE), consists mainly of low ground with several small bays. Burungmandi, a prominent twin peak, lies 2½ miles W of the point. Pulau Selandu (3°04′S, 108°15′E), low and wooded with a hillock near its NE extremity, the largest of the offshore islands which is almost connected to the main coastal reef, lies in the S approach to Pelabuhan Linggang (7.48), a small port.

2 Pulau-pulau Ayermasin, a group of low and wooded islands and islets, lie up to 20 miles SE of Tanjung Tapok (3°09′S, 108°13′E), the SE extremity of Pulau Belitung; they are surrounded by reefs and sandbanks. Pulau Ayermasin (3°15′S, 108°23′E), the NW and largest island of the group lies 6 miles ESE of Pulau Rotan (7.39). Pulau Penerus (3°19′S, 108°25′E) lies 4 miles SSE of Pulau Ayermasin and in the middle of the group. Pulau Pangapit (3°20′S, 108°27′E), and Pulau Beluput (3°19′S, 108°28′E), are the two E islets of the group.

3 Pulau-pulau Momparang, another group of small islands and islets, lie up to 42 miles ENE of Tanjung Burungmandi (2°45′S, 108°16′E), a high rocky point situated at the NE extremity of Pulau Belitung.

7.34

1 **North side of Pulau Belitung.** Between Tanjung Burungmandi (2°45′S, 108°16′E) (7.33) and Tanjung

Kelayang (6.36) (38 miles NW), the coastline is generally low and indented by Teluk Pering (2°40′S, 108°10′E), and Teluk Buding (7.50) 9 miles WNW, with higher ground inland. Tanjung Siantu (2°31′S, 107°49′E) is the N most point of Belitung and easily identified by the conical hill situated near the point. Pulau Bulu (2°33′S, 107°52′E) stands 2½ miles ESE. There are several inland mountains, the highest being the twin peaks of Tajemlaki (2°47′S, 107°52′E) and Tajembini (6.37).

Local knowledge

7.35

1 When navigating through the islands and islets, which lie off the coasts of Pulau Belitung, local knowledge is essential. Vessels should not leave the recommended routes through this area except in cases of necessity.

Pilotage

7.36

1 Pilots for these waters can be obtained at Tanjungpandan (6.41); they are experienced and quick in detecting reefs and dangers, but only for the coasts with which they are acquainted.

Flow

7.37

1 Close to the coasts of Pulau Belitung the horizontal movement of the water is a diurnal tidal stream, whilst further off the coast, in Selat Karimata, it is mainly monsoon current; see 1.99. In the narrow passage between the islets and reefs the tidal stream combined with current may attain a rate of from 2 to 3 kn.

2 The direction in which the streams set are as follows:

Locality	*Direction*
Off the S coast	W and E to SE
Off the E coast	N to NNW and S to SE
Off the NE coast	NW and SE
Off the N coast	W to WNW and E to SE

3 The tidal streams between Karang-karang Tiung (3°20′S, 108°38′E) (7.39) are diurnal and run NW and from SSE to ESE; a very slight current has been observed setting NW in November, and in December a constant monsoon current setting SSE and occasionally diminishing in force.

Pelabuhan Manggar

Chart 2149 (see 1.31)

General information

7.38

1 **General description**. Pelabuhan Manggar is situated off the mouth of Sungai Manggar, 2½ miles NNE of Tanjung Samak (2°53′S, 108°17′E), which is rendered prominent by a small hill near the point. The lights of a settlement on the hill can be seen from a distance of 20 miles; a white power station on the N slope is prominent by day. Manggar, the capital of the district of Linggang, stands on the S bank of Sungai Manggar 3 miles SW upriver.

Traffic. In 2004 the port handled 7 vessels totalling 7729 dwt.

2 **Pilotage.** Pilots are available who will meet vessels in the vicinity of No 1 buoy (2°47′S, 108°20′E). Requests for a pilot, stating ETA at the buoy, should be made in good time to Constanto, Tanjungpandan. Vessels should not attempt to enter the roadstead, proceed up Sungai Manggar, or berth at Tanjung Samak oiling pier without the assistance of a pilot.

Tugs are available.

3 **Flow.** Tidal streams plus the current may attain a rate of 3 kn. From May to September inclusive, the N-going stream is stronger and of longer duration than the S-going stream; from October to April the flow is almost always S-going.

Local knowledge is essential for vessels proceeding to Pelabuhan Manggar.

The directions given at 7.40 are merely intended as an indication of the routes taken by local vessels along this coastline.

Directions

7.39

1 **General.** Within the triangular area bounded by lines joining Pulau Rotan (3°13′S, 108°17′E), Karang Barat (3°02′S, 108°28′E), the W danger of Karang-karang Protet, and Karang Bower (3°29′S, 108°37′E) there are numerous dangers and the tidal streams are strong; the whole area therefore, should be avoided. A light (white GRP tower, 10 m in height) is displayed from Karang Selatan (3°22′S, 108°38′E), the S reef of Karang-karang Tiung, which lies 6½ miles N of Karang Bower. A shoal with a depth of 6 m over it lies 7 miles SSE of Karang Bower.

7.40

1 **Approach from south.** The recommended track to the pilot boarding station (2°47′S, 108°21′E), close E of No 1 buoy (starboard hand), moored on a 3 m patch, initially leads NE through a swept channel, passing:

Between Pulau Tepi (3°13′S, 108°12′E), with Pulau Panjang (3°12′S, 108°12′E), 1 mile N, and a group of islets and reefs 1 mile E, thence:

2 SE of Pulau Sekapar (3°09′S, 108°15′E), and Pulau Melidang (3°04′S, 108°18′E), until the bearing 270° distant 2 miles of the latter island is reached, thence NNE giving a good berth to the dangers NE of Pulau Melidang and Karang Busungjong.

3 The track then lies on the alignment (238°) (astern) of Karang Busungjong (2°58′S, 108°21′E), a reef, and Pulau Sukun (5 miles SW) until the W end of Pulau Bukulimau (2°49′S, 108°25′E) bears 342°, thence NW in deep water, passing SW of a group of rocks lying 2 miles SSW of Pulau Bukulimau thence towards Gosong Madau (2°46′S, 108°22′E) and the pilot boarding station.

4 Pelabuhan Manggar is then approached through a buoyed channel with a least depth of 4·6 m, running parallel with the coast.

Cautions. Dredging is continuously in progress in the harbour approach and the positions of the buoys are liable to change.

Attention must be given to the tidal streams (7.38) which set N and S across these reefs, sometimes strongly.

7.41

1 **Alternative track.** From the vicinity of Pulau Melidang a swept channel, which can be used to reach the pilot station, lies between Karang Barat, previously mentioned, and the reefs which lie 6 miles E of Karang Busungjong.

7.42

1 **Approach from north.** The track leads SE passing NE of Karang Tri (2°43′S, 108°16′E), and W of a light-buoy (safe water) moored 2¼ miles NW of Gosong Madau, thence E of No 1 Buoy to embark the pilot. The route from N, however, has not been swept and the possibility of uncharted dangers should be borne in mind.

Useful marks:

Pulau Kanis Light (2°37′S, 108°13′E) (7.50).

Manggar Light (white beacon) (2°51′·0S, 108°17′·8E).

Anchorage

7.43

1 Anchorage can be obtained in a depth of 6 m, 1 mile E of Sungai Lanji (2°50′S, 108°18′E) entrance. Another anchorage with depths of 18 to 48 m lies 5 miles NE of Sungai Lanji between No 1 buoy and Gosong Madau.

In the NW monsoon there is good anchorage 3½ miles NE of Tanjung Batuhitam (3°15′S, 108°05′E) (7.33), in a depth of 9 m, mud and sand, in a position which is easily approached from the S.

Berths

7.44

1 An oil pier, with a depth of 8·8 m at its head, extends from the shore ¾ mile NE of Tanjung Samak (2°53′S, 108°17′E). Mooring buoys are located off the head of the pier; vessels cannot lie alongside during the SE monsoon due to the swell. The berth is approached through the buoyed channel. Tin dredgers operate close to this channel.

The mouth of Sungai Manggar has been dredged to a depth of 3·0 m over a width of 60 m. A quay 45 m in length is situated up river which can accommodate coastal vessels, and cargo praus can proceed as far as Manggar.

Facilities

7.45

1 **Repairs:** a small dry dock which can accommodate vessels up to 65 m in length. Workshop repairs can be undertaken. There is a small hospital; serious cases can be accommodated at Tanjungpandan.

Supplies: small quantities of provisions obtainable. Fresh water and fuel are not obtainable at the oil pier.

Harbours, anchorages and channels

Charts 2137, 2149 (see 1.31)

Teluk Balok

7.46

1 **General description.** Teluk Balok, which is partially obstructed by numerous drying reefs, is entered between Pulau Kramiah (3°15′S, 107°46′E), a small islet surrounded by reefs, and Tanjung Kelumpang (3°16′S, 108°00′E) a rocky point 14 miles E, and is of importance for local vessels only. Dendang (3°06′S, 107°54′E) the capital of the district is situated on the E side of the head of the bay.

2 Pulau Umpang, a small islet covered with shrubs, with several reefs within 2 miles SW and 2½ miles NE, lies in the middle of the entrance to the bay 7½ miles W of Tanjung Kelumpang. Pulau Ketapang (3°25′S, 107°57′E), a low, swampy, wooded islet, lies 8½ miles S of Tanjung Kelumpang.

Landmark:

Prominent tree 1½ miles NNW of Tanjung Kayuwara (3°10′S, 107°50′E).

7.47

1 **Directions.** From W, the track leads NE into the bay passing SE of Pulau Ketupai (3°17′S, 107°44′E) and a rock which lies 1 mile SE of Pulau Kramiah, thence on the bearing 048½° of Pulau Berumput until the bearing 330° of the prominent tree (7.46) NW of Tanjung Kayuwara is reached, thence N towards the beacon E of Pulau Kampak (3°07′S, 107°51′E). When SE of the S point of Pulau Kampak steer for the anchorage between Pulau Kampak and Tanjung Rising (3°07′S, 107°53′E).

2 From E, the track leads W passing S of Tanjung Kelumpang and the dangers off it, thence on the bearing 326° of the prominent tree NW of Tanjung Kayuwara until the bearing 058° of Pulau Berumput is reached; thence N towards the beacon as given in the directions for the approach from the W.

Useful mark: A light (white beacon) standing on Pulau Kennedy (7.32).

3 **Anchorage.** Vessels may anchor 1¼ miles SW of Dendang (7.46), between Pulau Kampak and Tanjung Rising, in a depth of 4·6 m. With strong S winds the water at the head of the bay sometimes rises 0·3 m above the usual level.

Pelabuhan Linggang

7.48

1 Pelabuhan Linggang (3°02′S, 108°15′E) is situated N of Pulau Selandu (3°04′S, 108°15′E) (7.33) and 2 miles E of the entrance to Sungai Linggang (3°02′S, 108°13′E), where there are depths of 4 to 6 m.

2 Sungai Linggang flows out 7 miles N of Tanjung Tapok (7.33), and is the most important river on the E side of Pulau Belitung. The river has scoured out a channel through the coastal bank of sand and coral, which extends 7 cables E from the S entrance point. This channel is marked by beacons. There is a least depth of 0·5 m on the bar, in the river the depths are variable but generally increase. The river is marked by beacons and is only navigable by small craft.

7.49

1 **Directions.** From S, the directions for Pelabuhan Manggar (7.39) should be followed until the bearing 225° of Pulau Melidang (3°04′S, 108°18′E) is reached; the track then leads NW between the island and a drying reef 1½ miles NE of it, thence WNW for the anchorage 2 miles E of Sungai Linggang. It is not advisable to approach Pelabuhan Linggang from E, due to numerous coral reefs near Karang-karang Protet (7.39), and the area S of Pulau-pulau Ayermasin is unsafe.

Teluk Buding

7.50

1 **General description.** Teluk Buding, which is entered between Tanjung Buding (2°36′S, 108°03′E) and Tanjung Kerupit (2°35′S, 108°01′E) 2 miles WNW, is of some importance locally as Buding (2°42′S, 107°59′E), situated 4 miles up Sungai Buding, which discharges into the head of the bay, is the district capital. There is a depth of 0·3 m off the mouth of Sungai Buding.

2 Numerous reefs lie off the entrance to the bay, which can only be entered by small vessels and with local knowledge. Pulau Keran (2°33′S, 107°59′E), 4½ miles NW of Tanjung Buding and 1 mile offshore, is a rocky islet with some trees on it standing well apart from each other. There is a narrow passage marked by beacons, passing 7 cables E and 5 cables N of Tanjung Kerupit, thence S of Pulau Keran which is much used by small craft.

3 **Anchorage** can be obtained in the entrance to Teluk Buding, with the alignment (330°) of Tanjung Kerupit with the E extremity of Pulau Keran, in a depth of 6 m, mud.

Useful mark:

Pulau Kanis Light (white metal tower, 10 m in height) (2°37′S, 108°13′E). This mark can only be seen in the E approach and the light is obstructed on certain bearings by trees.

COASTAL PASSAGES — SOUTH AND WEST COASTS OF KALIMANTAN

GENERAL INFORMATION

Charts 1066, 1312

Scope of the section

7.51

1 In this section are described the coastal routes between Tanjung Puting (3°31′S, 111°46′E) and Tanjung Padangtikar (0°40′S, 109°15′E), including the ports, harbours and anchorages associated with them.

Topography

7.52

1 The S coast of Kalimantan between Tanjung Puting (3°31′S, 111°46′E), low, flat and covered with shrubs which stands out plainly against the dark, wooded land N and E of it, and Tanjung Sambar (3°00′S, 110°18′E), 95 miles WNW, is of a monotonous character, with no distinctive landmarks, being densely wooded, although the trees are generally taller at the mouths of the rivers.

2 Along parts of this coast reefs extend many miles offshore.

The W coast is mostly low and marshy; the rivers which discharge through it have banks of sand and mud at their mouths.

Conservation area

7.53

1 The coastal area between Tanjung Puting (3°31′S, 111°46′E) and Kumai, 50 miles N, is a declared conservation area for the protection of fauna and flora.

For details on conservation areas, see 1.65.

Flow

7.54

1 The horizontal water movement along the S coast of Kalimantan is a mixture of tidal streams and monsoon current. The only particulars known about the tidal streams are that at HW the stream sets to W and at about LW it sets to E; in the NW monsoon a predominating E-going stream may be expected, and in the SE monsoon a W-going stream. The monsoon current seldom appears to exceed a rate of 1 knot.

2 Along the W coast the horizontal movement of the water on and W of a line joining Gosong Jelai (3°23′S, 110°09′E) and Pulau Maya (1°07′S, 109°35′E) (7.74), 130 miles N, is the monsoon current, influenced comparatively slightly by the tidal streams. To the E of this line the diurnal tidal streams predominate increasingly upon penetrating into Teluk Sukadana (7.74).

3 The directions of the tidal streams close off the Kalimantan coast are as follows:

Position	*Rising Tide*	*Falling Tide*
S of Tanjung Sambar (3°00′S, 110°18′E)	W	E to NE
Between Tanjung Sambar and Teluk Sukadana (1°25′S, 109°50′E)	N to NNW	S to SSE
E of Karang-karang Greig (0°54′S, 108°32′E)	S	N
W of Pulau Maya (1°05′S, 109°35′E)	S to SSE	N to NNW

4 In the clear deep channel between Pulau Karimata on the SW, and the N group of Pulau-pulau Layah (1°31′S, 109°20′E) (7.79) and Pulau-pulau Pelapis (1°17′S, 109°11′E) (7.79) on the NE, the monsoon currents predominate, running with increased force in the narrower parts. Between Pulau Maya and Pulau Panebangan (1°13′S, 109°15′E) (7.79) the tidal streams predominate; and within this area there is the possibility of silting up taking place.

5 Off the mouths of the rivers N of Pulau Maya, the tidal streams predominate; the only effect of the monsoon winds here is a raising of the mean level in the NW monsoon, and a lowering in the SE monsoon.

TANJUNG PUTING TO TANJUNG SAMBAR

General information

Charts 1066, 1964

Route

7.55

1 From a position S of Tanjung Puting (3°31′S, 111°46′E) (7.52), to a position SW of Gosong Aling (3°30′S, 110°12′E) (7.9), the route leads generally W for about 110 miles.

Topography

7.56

1 See 7.52. For a description of features E of Tanjung Puting see *Indonesia Pilot Volume II*.

Natural conditions

7.57

1 **Flow.** See 7.54.

Tide-rips. An area for 40 miles S of Tanjung Sambar is obstructed by shoals and ridges of hard sand, marked by tide-rips. Gosong Aling (3°30′S, 110°12′E) the S-most of these dangers, never breaks but elsewhere there are always strong ripples in evidence. Gosong Aruba (7.9), 3 miles N of Gosong Aling, is generally marked by ripples.

2 **Tidal streams.** Off the SW coast of Kalimantan the tidal streams between Pulau Perantung (7.82), 4 miles S of Pulau Bawal (2°44′S, 110°05′E) and Pulau Magnin, 6 cables SW, are reported to be very strong.

Fog. See 7.17.

Climatic table. See 1.137 and 1.149 for details of the climate in the area.

Major light

7.58

1 Tanjung Puting Light (3°31′S, 111°46′E).

Directions

7.59

1 From a position S of Tanjung Puting (3°31′S, 111°46′E) (7.52) the coastal route initially leads W, thence NW, for a distance of approximately 110 miles, to a position SW of Gosong Aling (3°30′S, 110°12′E), from where a light (7.21) is displayed, passing:

Clear of a 6·4 m shoal patch lying 15½ miles SSW of Gosong Aling Light.

2 **Cautions.** The greatest caution must be exercised when approaching or proceeding along this coast, as reefs extend many miles offshore in parts, and are always difficult to see, especially in the NW monsoon when the discharge from the rivers is great.

In 1994 Gosong Aling was reported to lie up to 2 miles further ENE of its charted position.

(Directions continue at 7.79 or for the coastal passage to Ketapang at 7.82; for directions E of Tanjung Puting see Indonesian Pilot Volume II)

Teluk Kumai

Chart 1964 (see 1.31)

7.60

1 **General description.** Teluk Kumai includes the whole sea area between Tanjung Puting (3°31′S, 111°46′E) and Tanjung Pengujan, 33 miles NNW.

Teluk Kramat (3°27′S, 111°48′E), a small bay, lies 4 miles NNE of Tanjung Puting; the E shore to the N is mostly mud.

Pelabuhan Kumai (2°45′S, 111°43′E) (7.67), a logging port and administrative headquarters for the district of Kotawaringin (7.70), lies 13 miles from the entrance to Sungai Kumai.

Topography

7.61

1 The W shore of the bay, between Tanjung Pengujan and Tanjung Pandan (2°56′S, 111°41′E), consists of a narrow sandy beach backed by high trees.

Sungai Kumai, which lies at the head of the bay, is entered between Tanjung Kluang (2°54′S, 111°42′E) and Tanjung Rema (2°52′S, 111°43′E).

2 Gosong Sangora (3°14′S, 111°41′E), coral reefs 18 miles NNW of Tanjung Puting and Gosong Sapagar (3°08′S, 111°46′E), 5 miles NE, are the principal dangers on the E side of the bay.

Gosong Berasbasah (Gosong Baras Basah), three white sandbanks not easily seen, lie on the N part of a shoal flat, extending 10 miles S from Tanjung Pengujan.

Local knowledge

7.62

1 Local knowledge is necessary for Sungai Kumai.

Tidal streams

7.63

1 **Tidal streams** in Teluk Kumai are semi-diurnal and off the mouth of Sungai Kumai change fairly regularly every 6 hours. The further up-stream the more the out-going stream predominates in duration. At Tanjung Kluang (2°54′S, 111°42′E) (7.61), the maximum rate of the out-going stream observed was 3 kn and the in-going stream 2 kn.

Directions for Sungai Kumai

7.64

1 **Approach from east.** From a position S of Tanjung Puting (7.52), and in a depth of not less than 30 m, the track to the entrance of Sungai Kumai initially leads NNW thence N passing:

WSW of a shallow bank extending NW from Tanjung Puting, thence:

W of Gosong Sangora (3°14′S, 111°41′E) on the W side of which stands a light (starboard hand), thence:

2 E of Gosong Berasbasah (3°06′S, 111°33′E) (7.61); a light (white beacon, 8 m in height) stands at the S end of the ridge, and a dangerous underwater rock lies 4½ miles E of the light-beacon. Thence to the alignment (018½°) of beacons standing at Tanjung Pandan (2°56′S, 111°41′E).

The alignment of these beacons leads (with positions from Tanjung Pandan):

WNW of a light-buoy (starboard hand) (1 mile S).

3 Thence the route leads 3 miles NNE in the deepest water parallel to the coast, to a position ESE of Tanjung Kluang (7.61); 4 cables NNW on the alignment of beacons standing 2 miles NNW of Tanjung Kluang; and onto the alignment of the leading lights in Teluk Pangerangan (7.65).

4 **Approach from west.** Vessels are recommended to keep out of sight of Tanjung Selaka (3°04′S, 110°58′E) when entering or leaving Sungai Kumai on account of the current in the vicinity of Gosong Selaka (3°11′S, 110°53′E); the directions are irregular and a rate of 2 kn may set across the bank. The directions for entering the river should be followed from a position W of Gosong Sangora in the E approach.

7.65

1 **Teluk Pangerangan Leading Lights:**

Front light (elevation 9 m) (2°50′S, 111°44′E).

Rear light (white triangle, point down, on white beacon, elevation 16 m) (897 m NNE from front light).

On the alignment (031°) of the leading lights the track leads into Sungai Kumai.

7.66

1 **Caution.** Care should be taken to avoid Teluk Pangerangan (2°50′S, 111°44′E), the shallow wide bay opposite Tanjung Kubu (2°51′S, 111°43′E), and also a bank extending from the W side of the river 1 mile N of Tanjung Kubu.

After rounding Tanjung Kluang (7.61) a set of leading marks (2°55′S, 111°41′E) (astern) situated inside of the point clears the bank extending S from Tanjung Kubu.

Above Teluk Pangerangan the river is clear of dangers.

Berths

7.67

1 Pelabuhan Kumai is a small logging port situated abreast the town of Kumai (2°45′S, 111°43′E). There is a pier at the custom house with a depth of 5·5 m alongside. Good anchorage may be obtained off the flagstaff of the District Administration Office, which is shown on the national chart, in a depth of 11 m.

Communications

7.68

1 There is an airport at Pangkalansahang (2°47′S, 111°32′E) (chart 941A), 13 km SW of Kumai, with connections to Pontianak or Banjarmasin (*Indonesia Pilot Volume II*).

Anchorages and river

Teluk Kotawaringin

7.69

1 Anchorage may be obtained in 7 m, mud, off the mouth of Sungai Kotawaringin (7.70) which discharges into the head of Teluk Kotawaringin, entered between Tanjung Pengujan (7.60) and Tanjung Selaka (3°04′S, 110°58′E), a headland which is not easy to identify against the land behind, 35 miles W. The best anchorage lies 2½ miles SSE of Tanjung Putri Light (red beacon) standing 5 cables S of Tanjung Putri (2°55′S, 111°23′E).

The mouth of Sungai Kotawaringin can be identified by a clump of trees close E of Tanjung Sapu (2°55′S, 111°25′E), the E entrance point.

Sungai Kotawaringin

7.70

1 Sungai Kotawarangin, which is entered between Tanjung Putri (2°55′S, 111°23′E) and Tanjung Sapu, 2¼ miles E, gives access to the small towns of Kotawaringin (chart 941A) and Pangkalanbun, approximately 55 and 22 miles, respectively, from the sea. The entrance to the river is greatly reduced by Pulau Sumadra (2°54′S, 111°25′E) and

Pulau Kalapa, 2 cables SW. Although tortuous, the river can, with local knowledge, accommodate small craft as far as Kotawaringin, using the channel W of Pulau Sumadra.

Teluk Airitam

7.71

1 **General description.** Teluk Airitam, which is too shallow to be of any importance to shipping, is entered between Tanjung Lumpur (3°02′S, 110°41′E) 4 miles SW of Tanjung Kualajelai (2°59′S, 110°44′E), and Tanjung Sambar (7.52) (3°00′S, 110°18′E) 20 miles W.

Sungai Airitam Besar, which discharges into the bay 10½ miles N of Tanjung Lumpur is only navigable by praus. Sungai Airitam Kecil, flows out on the W shore, 6¾ miles NE of Tanjung Sambar.

2 **Tidal streams** may attain a rate of over 2 kn in the vicinity of the entrance points to the bay and around Tanjung Lumpur, but within the bay itself the rate is mostly dependent on the wind.

Anchorage for small craft can be obtained off the mouth of Sungai Airitam Besar; landing can be effected anywhere except immediately S of the river mouth.

TANJUNG SAMBAR TO TANJUNG PADANGTIKAR

General information

Charts 1312, 3757, 3758, 3721

Routes

7.72

1 **Coastal route.** From a position SW of Gosong Aling Light (3°31′S, 110°11′E) (7.21), 32 miles SSW of Tanjung Sambar, to a position SW of Tanjung Padangtikar (0°40′S, 109°15′E) approximately 165 miles NW, the coastal route passes either through Greig Channel (1°16′S, 109°13′E) described at 7.79, which is frequently used by vessels passing between Jawa and Pontianak, or an alternative passage described at 7.80.

2 **Inshore route.** This sea route is usually taken by smaller vessels proceeding to Pontianak (8.38) or Sungai Padangtikar (8.32), and lies closer inshore than that of the coastal route, passing through Inner Channel (1°12′S, 109°20′E) described at 7.81.

7.73

1 **River systems leading to Pontianak**. The navigable river channels leading between Pontianak (0°01′S, 109°21′E) and ports within Teluk Sukadana (7.74), principally Pelabuhan Sukadana (1°14′S, 109°57′E) (7.94), and Ketapang (7.85) using Selat Maya (7.84), together with other navigable channels in the river systems N of Pulau Maya (1°08′S, 109°35′E), are described at 8.36. These channels are used, with the benefit of local knowledge, by local craft, and are given for general guidance only.

Topography

7.74

1 The coastal area between Tanjung Sambar (3°00′S, 110°19′E) and Tanjung Padangtikar, 154 miles NNW, is generally low lying, densely wooded and indented by numerous bays. The whole coastline is fronted by numerous dangerous rocks and reefs some extending up to 15 miles offshore.

Teluk Sukadana, the largest bay on this stretch of coast, is entered between Tanjung Berasbasah (1°49′S, 109°55′E), a low muddy point fronted by a coastal bank, and Tanjung Kluang (1°18′S, 109°30′E), the S point of Pulau Maya 40 miles NW.

2 Several islands lie off this coast. In the S part, Pulau Gelam (2°53′S, 110°11′E), low and densely wooded, lies 1½ miles W of Tanjung Kepala (2°53′S, 110°14′E) and Pulau Bawal (2°44′S, 110°05′E), also densely wooded and low except for two hills, lies 4 miles SW of Tanjung Batujurung (2°37′S, 110°09′E) (7.93). Pulau Maya (1°08′S, 109°35′E), the largest island, high in its NW part but generally low and marshy, is separated from the Kalimantan mainland by Selat Maya, 3 miles NE of Tanjung Turun (1°08′S, 109°47′E). Several small islands lie off the W and SW coast of Pulau Maya.

Local knowledge

7.75

1 Recent local knowledge is necessary when navigating through Inner Channel.

Conservation area

7.76

1 See 7.11.

Natural conditions

7.77

1 **Flow.** See 7.54.

Local weather. See 7.17.

Principal marks

7.78

1 **Landmarks:**

Pulau Burung, a rocky islet 5 miles WSW of Tanjung Pasir (1°15′S, 109°23′E), forms a good mark for Inner Channel from S.

Pulau Tokongperangin (1°46′S, 109°15′E), a steep bare rock, distinguished by its black conical shape; a good mark when approaching from S.

2 Pulau Layar Kecil Light-structure (white metal framework structure, 40 m in height) (1°31′S, 109°20′E).

Tower (white masonry structure, 15 m high) standing on Pulau Papan (1°40′S, 109°21′E) is reported to be conspicuous from SE.

Pulau Pandan (1°35′S, 109°10′E) 29 m high, a small rounded rock covered with vegetation with other rocks on the surrounding reef; it can be seen from a distance of from 8 to 12 miles.

3 **Major lights:**

Tanjung Rotan Light (2°45′S, 110°02′E) (7.18).

Pulau Macan Light (white GRP tower, 10 m in height) (1°39′S, 109°21′E).

Pulau Layah Kecil Light — as above.

Pulau Lemanbudi Light (white metal framework tower, 15 m in height) (1°16′S, 108°52′E).

Directions

(continued from 7.59)

Coastal passage leading through Greig Channel

7.79

1 From a position SW of Gosong Aling Light (3°31′S, 110°11′E) (7.21), and clear of a 6·4 m shoal patch lying 15½ miles SSW of the light, the coastal route to a position SW of Tanjung Padangtikar (0°40′S, 109°15′E) (8.2), initially leads NNW for a distance of approximately 127 miles passing:

WSW of a buoy (safe water) moored 6½ miles WNW of Gosong Jelai (3°23′S, 110°07′E), thence:

2 Clear of Karang Co, a drying reef (2°48′S, 109°48′E) 32 miles WNW of Tanjung Sambar, thence:

Clear of Karang Carysfort (Karang Karysfort on chart 1066) (2°40′S, 109°48′E), a coral reef, lying 15 miles WNW of Tanjung Rotan (2°45′S, 110°03′E), the SW extremity of Pulau Bawal; a light (7.18) is displayed from the point. Thence:

3 NE of Pulau Tawas (1°39′S, 109°21′E), the smallest of a group of three rocky islets surrounded by coral reefs, of which Pulau Papan is the largest, lying close SW, with Pulau Macan (1°39′S, 109°20′E), on which stands a light (7.78), lying 8 cables NNW of Pulau Papan.

4 The track then leads through the islands lying SW and W of Pulau Maya (1°08′S, 109°35′E) for a further 54 miles, passing:

SW of Pulau Layah Kecil (1°31′S, 109°20′E), from where a light (7.78) is displayed. Pulau Layah Besar, the higher of two islands forming Pulau-pulau Layah, lies 5 cables NE, thence:

5 NE of Pulau Bakung Kecil (1°35′S, 109°12′E), with Pulau Bakung Besar 1 mile WSW, two rounded islets, wooded with steep rocky sides, thence:

W of Batu Kate of Auckland, a rock, lying 2 miles NNE of Pulau Layah Kecil, thence:

E of Pulau-pulau Gurung (1°25′S, 109°13′E), two rocky wooded islets lying close together on a narrow reef, thence:

6 Between Pulau Dua (1°16′S, 109°12′E), the NE islet of Pulau-pulau Pelapis (1°17′S, 109°10′E), and Pulau Sireh 1½ miles NNE. Pulau Bulat, a small islet on the SW side of Greig Channel, lies 1 mile WNW of Pulau Dua. Thence:

SW of a dangerous wreck (1°02′S, 109°11′E), position approximate.

7 **Useful marks:**

Summit of Pulau Buan (1°29′S, 109°03′E) is prominent; a light (white GRP beacon, 10 m in height) is also displayed from the N point of the island.

Light, standing on Pulau Suka (1°21′S, 109°07′E) (7.80).

8 **Side channel.** A safe, but narrow, channel lies between Pulau Sireh and Pulau Panebangan (1°13′S, 109°15′E), a large wooded island close E.

7.80

1 **Alternative passage.** On passing SW of Pulau Layah Kecil, a well lit navigable channel, leading NW thence N, lies between Pulau Suka (1°21′S, 109°07′E), a thickly wooded islet on which stands a light (white GRP tower, 10 m in height), and Pulau Buan (7.79), 8½ miles SSW, passing E of Pulau-pulau Leman (1°17′S, 108°53′E), a group of five rocky islets. A light (7.78) is displayed from Pulau Lemanbudi, the NW islet; Pulau Lemanpaku (1°17′S, 108°54′E), the E and largest islet, lies 2 miles ESE of Pulau Lemanbudi. This channel is deep, and, except for Karang Talack, a steep-to coral reef 2 miles SSE of Pulau Suka, is safe, and is an acceptable alternative to Greig Channel when passing through these islands.

(Directions continue N at 8.30; directions for Sungai Padangtikar are given at 8.33)

Inner Channel off Pulau Maya

7.81

1 For small vessels proceeding to Padangtikar pilot station (0°38′S, 109°04′E) a route lies closer inshore than that given for Greig Channel passing:

NE of Pulau Meledang (1°29′S, 109°23′E), the largest island of the Pulau-pulau Layah group. Pulau Bulat, a small island, lies 1 mile N of Pulau Melidang. Thence:

2 Between Pulau Burung (1°17′S, 109°18′E) (7.78) and Pulau Aur (1°14′S, 109°18′E) lying on the W side of Inner Channel; and Tanjung Pasir (1°15′S, 109°23′E), the SW extremity of Pulau Maya, on the E side. Pulau Perling and Pulau Aroh are two rocky islets which from a distance appear as hills on the coast, and lie 2 miles NNE and 2 miles ENE, respectively, of Tanjung Pasir, thence:

3 SW of Pulau Hantu (1°03′S, 109°18′E) and Pulau Masatiga (0°57′S, 109°15′E), two islets lying 13 miles and 20 miles NNW, respectively, of Tanjung Pasir, and clear of the dangerous wreck (7.79). A reported reef lies 1 mile NW of Pulau Hantu.

Caution. Less water has been reported in Inner Channel.

(Directions for Sungai Padangtikar are given at 8.33)

Coastal passage — Tanjung Sambar to Ketapang

(continued from 7.59)

7.82

1 The coastal route from a position SW of Gosong Aling Light (3°31′S, 110°11′E) (7.21) to a position W of Tanjung Berasbasah (1°49′S, 109°55′E) (7.74), generally leads N, and outside of the shoals W of Pulau Bawal (2°44′S, 110°05′E), for approximately 111 miles, passing:

W of a buoy (safe water) which is moored 6½ miles WNW of Gosong Jelai (3°23′S, 110°07′E), thence:

2 Between Gosong Corcyra (2°49′S, 110°01′E), a shoal which is not marked by surf or discolouration, 4½ miles SSW of Tanjung Rotan (2°45′S, 110°02′E) (7.79), and Karang Co (7.79) 12 miles W. Pulau Perantung (2°50′S, 110°05′E), a low rocky islet, lies 4 miles E of Gosong Corcyra. Thence:

3 Between Karang Carysfort (7.79), 15 miles WNW of Tanjung Rotan, and the shoals lying 4 miles WNW and WSW, respectively, of that point, thence:

W of Karang Onrust (2°19′S, 109°58′E), a reef consisting of a patch of light brown sand, white coral and some large rocks which dry. Pulau Sawi (2°23′S, 110°04′E), a low island with some tall trees on it, visible from a distance of 12 miles, lies 6 miles SE of the reef. Thence:

4 W of Pulau Mengkudu (2°15′S, 109°59′E), a steep rock sparsely covered with vegetation and a few trees, surrounded by a steep-to coral reef. Tanjung Pagarantimun (2°15′S, 110°04′E), a hilly peninsula with rocky sides and visible from a distance of 20 miles, lies 4½ miles E of the island, thence to a position W of Tanjung Berasbasah.

Caution. Tanjung Berasbasah may be extending seawards due to sedimentation.

7.83

1 **Useful marks**:

Pulau Langau (2°53′S, 110°05′E), which can be seen about 14 miles in clear weather.

The following are all prominent summits:

Cleft Hill (2°25′S, 110°15′E).

Conical Hill (2°24′S, 110°15′E).

Saddle Hill (2°22′S, 110°15′E).
Kedio (2°21′S, 110°18′E).
(Directions for Ketapang are given at 7.89)

Side channel

7.84

1 **Selat Maya** is the narrow strait leading from the N part of Teluk Sukadana between Pulau Maya (7.74), and the mainland coast then W into Teluk Nuri. The S entrance is 3 miles wide, but the navigable channel is reduced to 5 cables by mud flats which extend from either side. Kumbang (1°05′S, 109°49′E), a hill, lies on the E side of the S entrance. The NW entrance is in Teluk Nuri (0°56′S, 109°30′E), a small bay, which lies on the N side of Pulau Maya. It is entered between Tanjung Terung (0°56′S, 109°24′E) and Pulau Nenas (1°01′S, 109°27′E), 5½ miles SSE, and is bounded by Pulau Padangtikar on the N and Pulau Maya on the S

2 Small local vessels trading between Pelabuhan Sukadana and Pontianak (8.38) frequently make use of the S arm of Selat Maya. Small local craft can also proceed to Pontianak, 60 miles NNW, by using the W arm of Selat Maya, which is entered from the head of Teluk Nuri; see 8.36.

Local knowledge is necessary when navigating the strait.

Ketapang

General information

7.85

1 **Position.** Ketapang (1°50′S, 109°59′E), a small inland port, lies 3 miles up Sungai Ketapang, the S arm of the delta of Sungai Pawan, on the S side of Teluk Sukadana.

Function. The port, which has an anchorage and an alongside berth, is used by local and foreign vessels. The main export is plywood and blockboard which is loaded at the outer bar (7.90).

Ketapang is the headquarters of a government official.

2 **Topography.** Tanjung Kaeli (1°48′S, 109°55′E), and Tanjung Berasbasah (7.74), 1½ miles SSW, are the N and S entrance points, respectively, of Sungai Ketapang. The town of Ketapang lies on the N bank of the river 3 miles upstream.

Tanjung Bawang (1°47′S, 109°55′E), 3 miles N of Tanjung Berasbasah, is the S entrance point of Sungai Kandangkerbau and Tanjung Adung (1°46′S, 109°56′E), 2 miles ENE, forms part of its N entrance. Mud flats extend 2¾ miles W of Tanjung Adung.

3 **Approach and entry.** The port is approached from the light-buoy (safe water) which is moored 3 miles WNW of Tanjung Adung (1°46′S, 109°56′E), on the alignment of leading lights given at 7.89, which lead over the bar. The channel within the bar is buoyed.

Traffic. In 2004 the port handled 9 vessels having a total of 185 188 dwt.

Port Authority. Port Administrator, Jalan Kampung Sukabangun, Ketapang.

Limiting conditions

7.86

1 **Channel depth.** Ketapang can only be reached by small vessels through Sungai Kandangkerbau. The channel along the leading line over the bar has a depth of 1·5 m, MLWS.

During the SE monsoon it may be necessary to enter Sungai Kandangkerbau at night, owing to the fact that HW of the predominating diurnal tide occurs between sunset and sunrise. During the NW monsoon, when HW occurs during daytime, the prevailing winds frequently raise the level of the water by 0·5 m, so that greater depths than charted may then be expected.

2 **Maximum size of vessel.** Only vessels of less than 500 dwt and with a maximum draught of 3·5 m can enter the river.

Arrival information

7.87

1 **Submarine cable.** A submarine cable crosses Sungai Kandangkerbau 2¼ miles ESE of Tanjung Bawang; the shore ends are marked by notice boards. See 1.52.

Pilotage is not available.

Local knowledge is necessary to enter the port.

Harbour

7.88

1 **General layout.** Ketapang comprises the anchorage at the outer bar, Sungai Kandangkerbau and Sungai Ketapang, the two rivers which encircle Ketapang forming the delta of Sungai Pawan (7.85). There is an anchorage and pier at Sukabangun (1°47′S, 109°57′E) (7.90) in Sungai Kandangkerbau and a pier at Ketapang.

Tidal streams. The tidal streams set across the channel leading to Sungai Kandangkerbau at a rate of from 2 to 2½ kn with the out-going tide, but there is little or no stream with the in-going tide.

Climatic table. See 1.137 and 1.148.

Directions

7.89

1 **Leading lights:**

Front light (white triangle point up, on black beacon, white bands, 6 m in height) situated about 150 m WNW of Tanjung Adung (1°46′S, 109°56′E).

Rear light (white triangle point down, on black beacon, white bands, 8 m in height) (270 m ESE of the front light).

2 From the vicinity of the light-buoy (safe water) the alignment (115½°) of the leading lights leads through the channel over the bar into Sungai Kandangkerbau.

Cautions. The channel is liable to shift according to the prevailing monsoon and there is often a considerable sea here.

A drying reef lies 8 miles WNW of Tanjung Bawang.

Berths

7.90

1 **Anchorage** for large vessels about 2 miles N of Sungai Kandangkerbau Bar (1°45′S, 109°54′E) in depths of 11 m; anchorage is also available 7 cables NE of the light-buoy (safe water), as shown on the chart. Vessels capable of entering the river can anchor at Sukabangun (1°47′S, 109°57′E), 2 miles within the entrance to Sungai Kandangkerbau (7.86).

2 There is an anchorage for smaller vessels, sheltered from the SW swell, N of Tanjung Adung (1°46′S, 109°57′E) 2 miles ENE of Tanjung Bawang (1°46′S, 109°55′E) (7.85), in a depth of 3·5 to 5 m.

Alongside berths. Wooden jetty 40 m long, 7 m wide at Sukabangun for inter-island vessels.

There is a small pier at Ketapang, with a depth of 1·2 m alongside.

Port services

7.91

1 **Facilities** are limited; medical assistance.

Supplies: some provisions available; fuel and diesel oil unavailable.

Communications: There is an airport a short distance E of Ketapang with connecting flights to Pontianak and Jakarta.

Anchorages and rivers

7.92

1 **Anchorage,** sheltered in both monsoons, may be obtained E of Pulau Bawal (2°44′S, 110°05′E) (7.74), in depths of from 7 to 12 m, mostly mud. This anchorage can only be reached by passing through the channel between Pulau Bawal and Pulau Cempedak (2°38′S, 110°07′E).

2 **Directions.** The track into the channel initially leads ESE until N of Pulau Tanahmerah (2°40′S, 110°07′E), an islet with a rounded shape and of reddish colour; thence E, so as to pass S of a 3·7 m reef at the E end of the channel. Once clear, the track then leads S to the anchorage.

The channel E of Pulau Bawal is less than 1 mile wide at its narrowest point, and there are rocks and shoals lying either side of it; a dangerous rock lies 4 miles SE of Pulau Tanahmerah.

7.93

1 **Sungai Kendawangan** flows out 6½ miles NNE of Tanjung Batujurung (2°38′S, 110°10′E), a high rocky point situated at the SW end of a ridge of hills; the mouth of the river can be distinguished from a distance of 4 miles when still in a depth of 5 m. Farther inshore the depths are very irregular. In 1954 the bar, which is marked by beacons, was swept to a depth of 1·5 m. The village of Kendawangan lies on the N bank of the river, 1 mile within its entrance. Once across the bar the river is deep and broad and is navigable by small craft as far as Lanjut, a small settlement 22 miles upstream; local knowledge is required.

2 Pulau Jambat (2°30′S, 110°11′E), a small islet standing on a reef which is attached to the mainland, lies 1 mile N of the river entrance.

Approaching the river from S, a channel suitable for small craft lies between Pulau Cempedak and Pulau Iras (2°38′S, 110°09′E), close S of Tanjung Batujurung (2°37′S, 110°09′E).

Caution. Two dangerous rocks lie in the S approach, 3 miles N of Tanjung Batujurung.

7.94

1 **Pelabuhan Sukadana** is a small roadstead close N of Tanjung Krunut (1°15′S, 109°57′E), where anchorage for small craft may be obtained in a depth of 2 m, in soft mud, well sheltered during the SE monsoon. Vessels unable to anchor here usually anchor 3 miles WSW of the point. Pulau Juanta (1°21′S, 109°45′E), a rocky, thickly wooded islet, with Pulau Katung, an islet 1 mile SW, lie in the S approaches to Pelabuhan Sukadana.

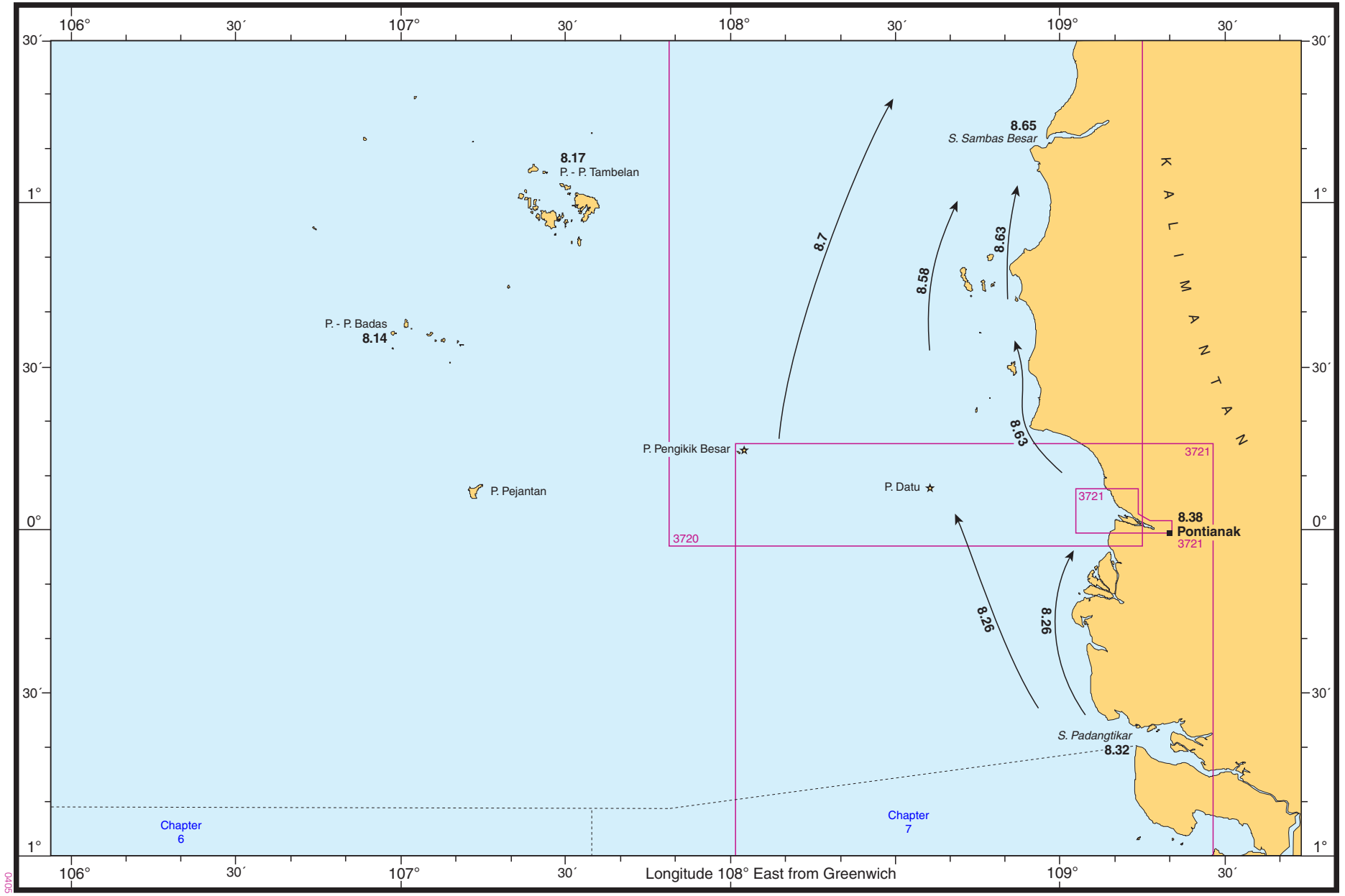
Sukadana (1°14′S, 109°57′E), a local administrative centre, is situated 1 mile NE of Tanjung Krunut.

7.95

1 **Sungai Sempang** discharges into Teluk Sukadana 7½ miles N of Tanjung Krunut (1°15′S, 109°56′E), but it can only be entered by vessels of light draught as there is an extensive flat of soft mud off the mouth. The channel over this flat is not marked and requires local knowledge to enter.

NOTES

Chapter 8 - West coast of Kalimantan - Tanjung Padangtikar to Pulau Pontianak



CHAPTER 8

WEST COAST OF KALIMANTAN — TANJUNG PADANGTIKAR TO PULAU PONTIANAK INCLUDING OUTLYING ISLANDS

GENERAL INFORMATION

Chart 1312

Scope of the chapter

8.1

1 In this chapter are described:

The waters off the W coast of Kalimantan, between Tanjung Padangtikar (0°40′S, 109°15′E) and Pulau Pontianak (1°16′N, 108°59′E) (Chart 3720), 116 miles N, including Pulau-pulau Burung (0°47′N, 108°45′E).

2 The outlying islands of Pulau-pulau Badas (0°34′N, 107°05′E) and Pulau-pulau Tambelan (1°00′N, 107°30′E).

Also described are the through and coastal routes and the ports and anchorages associated with them.

Topography

8.2

1 The coast between Tanjung Padangtikar, the S entrance point to Sungai Padangtikar (8.32), and Tanjung Bila (1°10′N, 108°55′E) (8.65) is mainly low, swampy and densely wooded. Inland there are a few prominent detached hills which, together with the mouths of the rivers, form the only landmarks.

2 Pulau-pulau Burung (0°47′N, 108°45′E) (8.23), a group of islands, lie 10 miles off the coast between Tanjung Bankai (0°20′N, 108°55′E) and Tanjung Batubelat (0°49′N, 108°51′E).

The outlying islands of Pulau-pulau Tambelan (8.17) lie 75 miles W of Tanjung Batubelat; Pulau-pulau Badas (8.14), another group of islands, is situated 35 miles SW of Pulau-pulau Tambelan.

Piracy

8.3

1 See 1.8.

Wrecks

8.4

1 There are a number of wrecks off the coast of Kalimantan, the positions of which can best be seen on the chart. Some may need to be avoided, depending on draught.

Natural conditions

8.5

1 **Flow.** The horizontal movement of water over the area dealt with in this chapter is mainly monsoon current. Off the mouths of the rivers the tidal streams predominate. The currents in the vicinity of Pulau-pulau Tambelan and Pulau-pulau Badas are of monsoonal origin and set predominantly in N directions from May to September and S directions from October to April, with rates of up to 2 kn.

2 A survey vessel working in the vicinity of these islands in fine weather and generally light winds, from mid-July to mid-September, and in December during the NE monsoon, observed that the tidal stream set to windward against the prevailing monsoon drift for a part of each day.

The tidal streams round Pulau-pulau Burung set NE and SW, at a maximum rate of 2 kn, and are always noticeable in spite of the monsoon current.

3 **Winds.** The effect of the monsoon winds is the raising of the mean water level in the NW monsoon, and a lowering in the SE monsoon. The winds off the W coast of Kalimantan are variable and light in March and November. At other times varying periods of mainly light E or W winds may be experienced.

THROUGH ROUTES

General information

Charts 1312, 3721, 3720

Scope of the section

8.6

1 In this section is described the through route N, off the W coast of Kalimantan. Also described is an anchorage associated with this passage.

Routes

8.7

1 From a position E of Pulau Pengikik Besar (0°15′N, 108°03′E) the through routes continue either N within South China Sea to a position E of Pulau Bunguran (4°00′N, 108°10′E) (charts 1311 and 3482) (*China Sea Pilot Volume II*) for approximately 225 miles, or NNE to Alur Pelayaran Api (2°00′N, 109°13′W), for approximately 120 miles.

Passages N of Pulau Pontianak (1°16′N, 108°59′E) are described in *China Sea Pilot Volume II*.

Natural conditions

8.8

1 See 8.5

Principal marks

8.9

1 **Landmarks:**

Summit of Pulau Pengikik Besar (0°15′N, 108°03′E) (8.10).

Summit of Pulau Lemukutan (0°47′N, 108°42′E) (8.61).

Major lights:

Pulau Pengikik Besar Light (white framework tower, 15 m in height) (0°15′N, 108°02′E).

Pulau Sitinjan Light (white concrete tower) (0°22′N, 108°45′E).

Directions

(continued from 6.29 or 7.24)

Pulau Pengikik Besar to Pulau Pontianak

8.10

1 From a position E of Pulau Pengikik Besar (0°15′N, 108°03′E), an islet consisting of a conical hill, with a small hillock 2 cables W of it, and Pulau Pengikik Kecil, a rugged precipitous islet lying 3 cables W of Pulau Pengikik Besar, the route leads N to a position W of Pulau Pontianak (1°16′N, 108°59′E) (8.62) passing:

2 E of Karang Welstead (0°33′N, 107°53′E), a coral reef with a depth of 5·0 m over it, lying 20 miles NNW of Pulau Pengikik Besar. A dangerous wreck lies 5¾ miles NW of Karang Welstead. Thence:

W of Pulau Lemukutan (0°47′N, 108°42′E) from where a light (white metal framework tower, 18 m in height) is displayed, thence:

3 E of Karang Alida (0°59′N, 107°52′E), a shoal patch with a least depth of 3·0 m over it, stones and steep to, which lies 16 miles E of Pulau Tambelan (1°00′N, 107°33′E) (8.18), thence:

To a position W of Pulau Pontianak.

Useful mark

8.11

1 Summit of Pulau Datu (0°08′N, 108°36′E) (8.29), visible in the S part only.

(Directions N of Pulau Pontianak are given in China Sea Pilot Volume II)

Anchorage

Charts 3720, 3721

8.12

1 During the NE monsoon, good anchorage can be obtained with local knowledge, in a depth of 27 m, with the S extremity of Pulau Pengikik Kecil (0°14′N, 108°02′E) (8.10) bearing 274°, and the SW extremity of Pulau Pengikik Besar (0°15′N, 108°03′E) (8.10) bearing 338°.

ISOLATED DANGERS AND OUTLYING ISLANDS

General information

Chart 1312 (see 1.31)

Scope of the section

8.13

1 In this section are described the islands of Pulau-pulau Badas (8.14), Pulau-pulau Tambelan (8.17), and other outlying islands and isolated dangers, together with the harbours and anchorages associated with these islands.

Pulau-pulau Badas

General description

8.14

1 Pulau-pulau Badas are situated between the parallels of 0°30′N and 0°39′N and the meridians of 106°58′E and 107°12′E, and lie outside the usual track of shipping. The E islets of the group lie 100 miles W of Tanjung Batubelat (0°49′N, 108°51′E), the W extremity of Kalimantan.

2 This group of islands is of little importance to shipping. Consisting of a number of hilly islands and rocks separated by deep channels, most of the islands are covered with dense vegetation, and in relation to their size are fairly high. They are sparsely populated; the inhabitants are principally employed in fishing and coconut cultivation. Pulau Mentebung (0°35′N, 107°08′E) (8.15), is the most important and most populated island of the group.

For currents and tidal streams see 8.5

Topography

8.15

1 Pulau-pulau Brace (0°34′N, 107°11′E), consisting of three islets, are the E islets of the group. Pulau Mentebung (0°35′N, 107°08′E), 2 miles W of Pulau-pulau Brace, has two hills joined by low land. Pulau Batu, a small islet thickly covered with vegetation stands 1¼ miles W of Pulau Mentebung and a prominent white rock lies 4 cables E of the same island.

2 Pulau Kepayang (0°38′N, 107°01′E) is the largest and N island of the group and, except for its E side, the whole island is high; the N and E sides are fringed by a drying coral reef. Between Pulau Mentebung and Pulau Kepayang lies Pulau Panau, an island with two hills joined by lower ground, the E one being the highest.

3 Pulau Anakaur (0°33′N, 106°58′E), the SW island of the group, is rugged except on its SW side which is sandy; it is fringed by a reef on its E side. Pulau Pinangseribu lies 2½ miles N of Pulau Anakaur; it appears as two islands when viewed from a distance SSE or NNW due to the depression between the two hills standing on its E and W sides.

A dangerous wreck lies 6½ miles SW of Pulau Anakaur.

4 Pulau Penyamuk (0°30′N, 107°09′E), the S island of the group, is densely wooded and lies 10½ miles ESE of Pulau Anakaur; a detached bank with a depth of 14·0 m over it lies 2 miles ESE of Pulau Penyamuk.

Anchorages

8.16

1 Sheltered anchorage can be obtained with local knowledge by small craft off a settlement in a small bay (0°38′N, 107°01′E), on the NE side of Pulau Kepayang.

Safe anchorage in all weathers can be obtained by small craft within a barrier reef in the bay (0°35′N, 107°08′E), on the N side of Pulau Mentebung.

Pulau-pulau Tambelan

General description

8.17

1 Pulau-pulau Tambelan comprise a number of hilly islands and rocks, situated 35 miles NE of Pulau-pulau Badas, and are outside the usual track of shipping. A fairly clear channel divides the principal islands into a NE group and a SW group. Pulau Tokongmenggirang (0°51′N, 107°37′E), a conspicuous white rock, from where a light (white GRP tower, 10 m in height) is displayed, lies in the outlying SE approaches to both groups of islands, 7 miles SE of Pulau Tambelan, from where a light (beacon) is displayed.

2 Pulau Mandariki (1°19′N, 107°02′E), the outlying NW island of Pulau-pulau Tambelan, is described in *China Sea Pilot Volume II*.

For currents and tidal streams see 8.5

Topography

8.18

1 Pulau Tambelan (1°00′N, 107°34′E), in the NE group, is the largest and most important of Pulau-pulau Tambelan having three prominent peaks standing on the N side of the island; it is indented by Teluk Tambelan (8.19), a large bay which nearly divides Pulau Tambelan into two. Pulau Menggirang Besar (0°53′N, 107°33′E), a prominent island fringed by a narrow reef, lies 3½ miles S of Pulau Tambelan; a small hilly islet lies 1 mile W of it.

2 Pulau Benua (0°57′N, 107°27′E) the largest and highest island of the SW group is fringed by a reef, which extends 5 cables offshore on its SE side. Pulau Uwi (1°06′N, 107°24′E), the NW island of the NE group, is high at its E end and mainly fringed with reefs. Pulau Tokongbelayer (1°13′N, 107°35′E) is an islet consisting of two prominent boulders lying on a flat rock.

Harbour and anchorages

8.19

1 **Teluk Tambelan** (0°58′N, 107°33′E) is entered between Tanjung Ayam (0°58′N, 107°32′E), on which stands a light, and Tanjung Bertumpa (0°57′N, 107°33′E) 1¼ miles S. The entrance to the bay is comparatively free from dangers, but further in it is obstructed by reefs. Some of the reefs are marked by beacons. Batulepu (1°00′N, 107°34′E), a village situated near the head of the bay, can be reached by boats through a channel marked by beacons. A pier, 160 m in length, with depths of 0·6 m alongside, stands on the NW shore, 4 cables SW of Batulepu.

There are regular sea communications with other ports in the Republic of Indonesia.

2 **Anchorages.** Good anchorage can be obtained in the fairly clear channel (1°00′N, 107°30′E) which divides Pulau-pulau Tambelan into a NE group and a SW group.

During the NE monsoon there is anchorage in the entrance to Teluk Tambelan (0°58′N, 107°33′E), but this anchorage is unsafe during the SW monsoon when better anchorage can be obtained with local knowledge, farther into the bay in depths of 16·4 m, NW of Tanjung Sadap which is situated 1¼ miles NNE of Tanjung Bertumpa.

Caution. A pinnacle rock, with a least depth of 3·6 m over it, lies in the fairway 2½ cables SSE of Tanjung Ayam.

Navigable channels

8.20

1 There are narrow channels between the islands of Pulau-pulau Tambelan which are mostly free from dangers, but which should not be used without local knowledge.

Other outlying islands and isolated dangers

Chart 1312 (*see 1.31*)

8.21

1 **Pulau Pejantan** (0°07′N, 107°13′E), 28 miles S of Pulau-pulau Badas (8.14), is a hilly, uninhabited island, mostly covered with jungle, consisting of gently undulating tableland rising to three steep hills at each of its main extremities; the highest peak stands near the NE point. A bay on the N side of the island is fringed by a reef.

An islet, with rocks 1 cable W, stands close W of the W extremity of the island, and another islet stands close off its NE extremity.

2 **Karang Rodger** (0°41′N, 107°32′E), lying 15 miles S of Pulau Tambelan (8.18), is a dangerous steep-to rock, upon which the sea never breaks.

Pulau Jangkulan (0°45′N, 107°19′E), a low densely wooded islet with a well defined grove of trees near its centre, and fringed by a reef extending 1½ cables offshore, lies mid-way between Pulau-pulau Badas (8.14) and Pulau-pulau Tambelan (8.17); a light (white GRP tower, 10 m in height) is displayed from the island.

3 **Pulau Dumdum** (1°12′N, 106°53′E), on which stands a light (white beacon, 12 m in height), lies 18 miles NNE of Pulau Tokongkemudi (see below) and is densely wooded, rising steeply from the sea to two peaks, the N peak being the highest.

Pulau Tokongkemudi (0°56′N, 106°44′E), on which stands a light (white beacon), lies 23 miles NW of Pulau Kepayang (8.15) in the Badas group, and is formed by two hills joined by a thickly wooded ridge and is fringed by reefs. A sugar-loaf shaped rock 37 m high lies near the SE extremity of Pulau Tokongkemudi. A reef, reported (2004), with a depth of 13 m over it lies 4 miles ENE.

COASTAL PASSAGES — WEST COAST KALIMANTAN

GENERAL INFORMATION

Charts 1312, 3720, 3721

Scope of the section

8.22

1 In this section are described the coastal routes between Tanjung Padangtikar (0°40′S, 109°15′E), and Pulau Pontianak (1°16′N, 108°59′E), including the ports, harbours and anchorages associated with them.

Topography

8.23

1 Between Tanjung Burung (0°35′S, 109°10′E), and the estuary of Sungai Kapuas Kecil (8.38), 40 miles N, the coast is low, marshy and densely wooded. Through this low lying ground flow the estuaries of Sungai Pungur Besar and Sungai Ambawang, forming, together with Sungai Kapuas Kecil, the delta of Sungai Kapuas Besar (8.35). There are a few prominent hills inland. Pegunungan Ambawang 14 miles NNE of Tanjung Burung has three prominent peaks conspicuous up to a distance of 40 miles in clear weather. Batuwangkang is the highest peak with Resam and Laut standing, respectively, 2¼ and 3½ miles WNW of Batuwangkang.

2 The coast between Sungai Kapuas Kecil (8.38) and Sungai Sambas Besar (8.65) is also low and densely wooded; the country inland is mountainous with a number of prominent peaks. The highest is Bawang (0°55′N, 109°23′E), 33 miles ENE of Tanjung Batubelat, and Pegunungan Raja, with Raya and Pasi standing 21 and 24 miles, respectively, WSW of Bawang.

3 Pulau-pulau Burung (0°47′N, 108°45′E) are a group of steep-to densely wooded islands lying within 10 miles of the coast between Tanjung Bangkai (0°20′N, 108°55′E), a low flat point lying 25 miles NW of the entrance to Sungai

Kapuas Kecil, and Tanjung Batubelat (0°49′N, 108°51′E), a prominent point 29 miles N.

Exercise area

8.24

1 The area between the coast and a parallel line 12 miles offshore, between the following points, is used for firing practice by the Indonesian Air Force:

(i) 0°00′N, 108°57′E

(ii) 2°17′N, 109°38′E

Natural conditions

8.25

1 See 8.5.

TANJUNG PADANGTIKAR TO PULAU SITINJAN

General information

Charts 3720, 3721

Route

8.26

1 From a position WSW of Tanjung Padangtikar (0°40′S, 109°15′E), to a position WSW of Pulau Sitinjan (0°22′N, 108°45′E), the route leads NNW for about 68 miles.

An inshore route for smaller vessels which leads to Pontianak pilot station from the vicinity of Sungai Padangtikar entrance light-buoy is described at 8.31.

Topography

8.27

1 See 8.23.

Natural conditions

8.28

1 See 8.5.

Principal marks

8.29

1 **Landmarks:**

Peaks, Pegunungan Ambawang (0°22′S, 109°17′E) (8.23)

Pulau Datu (0°08′N, 108°37′E), a steep-to wooded island rising to two peaks; appearing cone-shaped when viewed from WSW or ENE, and conspicuous up to 34 miles.

2 **Major lights:**

Pulau Datu Light (white framework structure, 30 m in height) (0°08′N, 108°37′E) (visible between 190°–030° (200°)).

Pulau Sitinjan Light (0°22′N, 108°45′E) (8.9).

Directions

(continued from 7.80)

8.30

1 From a position WSW of Tanjung Padangtikar (0°40′S, 109°15′E) (8.2), the coastal route to a position WSW of Pulau Sitinjan (0°22′N, 108°45′E) leads NNW passing:

Clear of a dangerous wreck (0°25′S, 108°55′E) (8.31), position approximate, thence:

ENE of a 7 m shoal patch (0°01′S, 108°36′E), thence:

2 ENE of Pulau Datu (0°08′N, 108°37′E) (8.29), from where a light is displayed, lying 22 miles SW of Tanjung Bangkai (0°20′N, 108°55′E) (8.23). Thence:

To a position WSW of Pulau Sitinjan (0°22′N, 108°45′E), the S island of Pulau-pulau Burung, from where a light (8.9) is displayed.

(Directions continue at 8.62)

Inshore route

8.31

1 From the vicinity of the light-buoy (safe water) (0°39′S, 109°05′E) moored 10 miles W of Tanjung Padangtikar, a route for smaller vessels proceeding to Pontianak pilot station (0°05′N, 109°04′E) lies closer inshore and leads generally N for approximately 45 miles, passing:

W of a stranded wreck (0°36′S, 109°06′E), 5 miles WSW of Tanjung Burung (0°35′S, 109°10′E) (8.23), thence:

2 W of Tanjung Kemudi (0°33′S, 109°08′E), thence:

E of a dangerous wreck, approximate position 12 miles WSW of Tanjung Bunga, thence:

W of Tanjung Bunga (0°21′S, 109°07′E), which lies 14 miles NNW of Tanjung Burung, thence:

W of Tanjung Putus (0°18′S, 109°05′E), from where a light (white beacon) is displayed, 8 cables from the S extremity of Pulau Laut (0°14′S, 109°07′E). Thence:

3 W of Pulau Tempurung (0°07′S, 109°07′E), thence to the vicinity of Pontianak pilot station.

Caution. Owing to the age of the survey and the silting up of the mouths of the rivers in this vicinity, mariners are cautioned that parts of the coastline and prominent features farther inland may be inaccurately charted. Errors in fixing a vessel's position by bearings may be expected but the whole of this coast is fronted by a mudbank which can be safely approached by sounding. In the vicinity of Tanjung Putus the 20 m contour line lies only 2 miles offshore.

(Directions for Pontianak are given at 8.54)

Sungai Padangtikar

Chart 3721, 1312 (see 1.31)

General description

8.32

1 Sungai Padangtikar is entered between Tanjung Padangtikar (0°40′S, 109°15′E) (8.2) and Tanjung Burung (0°35′S, 109°10′E) (8.23), and has the deepest entrance of any river on the W coast of Kalimantan. Within Tanjung Padangtikar the river flows along the N side of Pulau Padangtikar and connects with Sungai Lida (0°54′S, 109°45′E), shown as Selat Leda on chart 941A, by means of Selat Paduampat. The mouth of Sungai Padangtikar is also the starting point of Inner Route 3 and Inner Route 4 to Pontianak, which are described at 8.36.

2 Telokayer (0°44′S, 109°34′E), a loading place for timber, lies up-river at the W end of Pulau Telokayer, 19 miles ESE of Tanjung Padangtikar.

Channel depths. There are depths in the channel over the bar of 5·5 m about 5 miles and 7 miles SW of Tanjung Burung.

The maximum draught for vessels proceeding to Pulau Telokayer is 7·3 m.

Fishing stakes lie on the bar and in the river on both sides of the fairway.

3 **Notice of ETA** required for a pilot is 24 hours prior to arrival.

Pilotage is compulsory for vessels of more than 200 dwt. Local pilots are available and operate a day service only up to 1900 local time, boarding vessels 1 mile W of the Fairway Light-buoy 10 miles W of Tanjung

Padangtikar. For further details see *Admiralty List of Radio Signals Volume 6(4).*

Tidal streams. See 8.5.

Directions

8.33

1 From the vicinity of the light-buoy (safe water), vessels should steer for Tanjung Padangtikar ahead bearing 090°, passing:

Between a shoal lying 7½ miles WNW of Tanjung Padangtikar and a 5 m patch lying 7½ miles WSW of Tanjung Padangtikar, until clear of the bar.

Thence steer to pass 5 cables N of the light-beacon which stands 2½ cables N of the point.

2 If bound for Selat Panjang (0°37′S, 109°22′E) or Sungai Kubu Kecil (0°35′S, 109°19′E) vessels should pass N of the buoy (starboard hand) marking the flats which extend from the W end of Pulau Panjang (0°40′S, 109°26′E).

If bound for Pulau Telokayer, vessels should pass NE of the beacon (starboard hand) lying 1¾ miles ESE of Tanjung Padangtikar Light thence into the fairway of Sungai Padangtikar; the river is marked by light-beacons.

Caution. A drying mudbank, which is extending, lies 6½ miles ESE of Tanjung Padangtikar Light.

Berths

8.34

1 **Anchorage** for vessels unable to reach Pontianak, during the NW monsoon, may be obtained in the W entrance to Selat Panjang, near the buoy mentioned previously.

Anchorage may also be obtained 1½ cables SE of Pulau Gelanggang (0°45′S, 109°33′E), in a depth of 13·7 m. During spring tides after heavy rainfall a considerable current may be experienced and vessels in this anchorage may drag.

Alongside berth. A pier for ocean-going vessels lies on the W side of Pulau Telokayer.

Anchorage and river

Charts 941A, 3721

8.35

1 **Anchorage.** Excepting the prohibited anchorage area (0°07′N, 109°04′E) off Sungai Kapuas Kecil, anchorage can be obtained, in depths of 9 to 14 m, anywhere between the mouth of that river and that of Sungai Mempawah (0°18′N, 108°58′E).

2 **Sungai Kapuas Besar** (Great Kapuas River), together with Sungai Pungur Besar, the central outlet of its delta, form the principal river system of the W coast of Kalimantan. It generally trends E for 620 miles from its junction with Sungai Kapuas Kecil (0°19′S, 109°35′E) the N outlet, and is frequently used by river ferries from Pontianak to various riverside towns and villages.

3 At mean water level Sungai Kapuas Kecil above Pontianak and Sungai Kapuas Besar are navigable by small craft with local knowledge, drawing 3 m, as far as Sintang (0°09′N, 111°22′E), the residence of a Government Administrator and a military station, approximately 250 miles from the sea.

4 The navigability of Sungai Kapuas Besar differs greatly in wet and dry seasons. A ‘high’ river usually occurs between November and January and a ‘low’ river between July and September. Depth gauges are established at Tayan (0°02′S, 110°07′E), 100 miles from the sea, and at Sintang.

Inner routes to Pontianak

Charts 3721, 941A (see 1.31)

8.36

1 There are four routes through the delta of Sungai Kapuas Besar (8.35) leading to Pontianak (0°01′S, 109°21′E) (8.38).

Inner Route I leads from Teluk Sukadana (7.74), through the S arm of Selat Maya, (1°08′S, 109°48′E) Sungai Lida (8.32), Selat Paduampat (8.32), Selat Panjang (8.33), Sungai Kubu Kecil (8.33), Sungai Pungur Besar (0°12′S, 109°11′E) (8.23) and thence into Sungai Kapuas Kecil (8.38). This route is approximately 140 miles long and, except at neap tides, can be used at HW by vessels not exceeding 3·0 m in draught.

2 **Inner Route II** starts from Teluk Nuri (0°58′S, 109°35′E) (7.84) and leads through the W arm of Selat Maya, thence through Sungai Lida, Sungai Mendawak (0°30′S, 109°56′E), Sungai Kapuas Besar (8.35) and Sungai Kapuas Kecil. The total length is approximately 170 miles.

3 **Inner Route III** starts from the mouth of Sungai Padangtikar (0°39′S, 109°15′E) and leads through Selat Panjang, N of Pulau Panjang (8.33), to Sungai Jenu Besar (0°42′S, 109°34′E) thence Sungai Jenu (0°40′S, 109°44′E). Vessels can also reach Sungai Jenu Besar and obtain greater depths by passing through Sungai Padangtikar, S of Pulau Panjang and thence W of Pulau Telokayer. The route then passes through Sungai Jenu to join Sungai Mendawak, where it merges with Inner Route II as above. Inner Route III is approximately 144 miles in length.

4 **Inner Route IV**, which is the recommended route for vessels of between 100 and 1200 grt and up to 70 m in length, is also entered from the mouth of Sungai Padangtikar, and leads through Sungai Kubu Kecil, whence it is the same as Inner Route I. Pilots, which are compulsory, can be embarked at Tanjung Padangtikar.

Local knowledge is essential for these Inner Routes.

Local regulations

8.37

1 Local regulations for the channel in Sungai Kubu Kecil for vessels of over 500 grt are as follows:

1. Vessels approaching Pontianak must enter the channel between 0600 and 1200.
2. Vessels leaving Pontianak must enter the channel between 1200 and 1800.
3. Entry into the channel is prohibited at night.

All the above routes, except for a section of Inner Route III, are navigable by night when conditions are favourable and with recent local knowledge.

Pontianak

Chart 3720, 3721 (see 1.31)

General information

8.38

1 **Position.** Pontianak (0°01′S, 109°21′E) is a port situated 10 miles from the entrance of Sungai Kapuas Kecil (0°04′N, 109°11′E), at the confluence of this river with Sungai Landak.

8.39

1 **Function.** The port has anchorage and alongside berths, and is visited by local and foreign vessels. The principal exports are spices, frozen shrimps and timber products.

Pontianak is the capital city of W Kalimantan Province and the residence of the Sultan of Pontianak; in 2004 the city had a population of 515 300.

8.40

1 **Topography.** Tanjung Intan (0°02′N, 109°11′E), a point 6 miles N of Tanjung Saleh (0°04′S, 109°10′E), and a point 2½ miles farther N, are the S and N entrance points of Sungai Kapuas Kecil, one of the branches of the delta of Sungai Kapuas Besar (8.35). The river entrance is fronted by a bar of soft mud which extends 5 miles offshore, through which a channel has been dredged. The banks of the river from its mouth nearly to Pontianak are very overgrown, but with few high trees. Some small settlements are located on the N bank, but the S bank is almost uninhabited. Pulau Panjang (0°02′N, 109°13′E) lies on the S side of the river entrance; Selat Bantan runs S of it. Close off the E end of Pulau Panjang are Pulau Babi, Pulau Bumin, Pulau Baharu and another small islet W of the latter island. Pulau Batulayang, an islet, stands off the N side of the river 3½ miles ESE of the E end of Pulau Panjang.

2 The city of Pontianak lies 10 miles upstream from the river entrance, standing on low and swampy ground which partially covers at HW, and occupies the S side of the river and the point between the two rivers (8.38).

8.41

1 **Approach and entry.** The port is approached from the light-buoy (safe water) which is moored 7 miles WNW of the river entrance, on the alignment of leading lights, which lead over the bar. The channel within the bar is marked by channel buoys.

8.42

1 **Traffic.** In 2004 the port was used by 429 vessels totalling 1 863 883 dwt.

8.43

1 **Port Authority.** Port Administrator, Jalan Rahadi Usman No 2, Pontianak, Kalimantan, Indonesia.
Website: www.inaport2.co.id

Limiting conditions

8.44

1 **Channel depth.** A channel, 137 m wide along the leading line (8.54), has been dredged to a least depth of 4·0 m (1980).

Deepest berth: Berth No 2 (8.56).

Tidal levels. See information in *Admiralty Tide Tables*. Mean maximum range about 0·7 m.

2 **Abnormal water levels.** The tide is predominantly diurnal. During the SW Monsoon, from May to September, considerably greater depths may be expected in the delta of Sungai Kapuas Besar than at other seasons.

Density of water 1015 g/cm^3.

Maximum size of vessel. The port has accommodated a vessel of 5750 dwt, having a length of 109 m, beam 16 m, and draught of 5 m.

3 **Local weather.** The whole area of the delta of Sungai Kapuas Besar is subject to heavy showers, squalls, and thick mist in the mornings; the visibility is thus often reduced, and navigation may be impeded for some hours. Frequent showers between August and February may affect the working of cargo.

Arrival information

8.45

1 **Coast radio** operates at Pontianak; for details see *Admiralty List of Radio Signals Volume 1(2)*.

8.46

1 **Outer anchorages.** Anchorage may be obtained 6 miles W of the entrance light-buoy (0°06′N, 109°05′E) in depths of 20 m, mud. In this depth the ground swell is less than closer in. During the SW monsoon, from May to September, vessels should anchor still further out. This anchorage is open to the prevailing winds and, due to the outflow of the river, vessels always lie with the wind and sea on the beam.

Ocean-going vessels unable to enter the river can work cargo in the anchorage, S of the entrance light-buoy, known locally as Muara Jungkat, in depths of 10 m.

8.47

1 **Prohibited anchorages.** There is a prohibited anchorage area in the N part of Pelabuhan Pontianak as shown on the chart.

There are prohibited anchorage areas at Pontianak as shown on the chart, at which four submarine cables cross Sungai Kapuas Kecil in positions 0°01′·0S, 109°20′·7E and 0°01′·5S, 109°21′·0E. These submarine cables are marked at each end by beacons and light-beacons.

8.48

1 **Pilotage** is compulsory and is undertaken by day and night. Notice for a pilot should be requested through Pontianak coast radio station 24 hours in advance of arrival. The pilot station lies at Jungkat (0°04′N, 109°12′E), a village on the N bank of the river entrance; the pilot boarding area, however, lies in the vicinity of the channel entrance light-buoy, as shown on the chart.

Vessels awaiting the pilot may anchor SW of this buoy clear of the prohibited anchorage (8.47). For further details see *Admiralty List of Radio Signals Volume 6(4)*.

Tugs. None available.

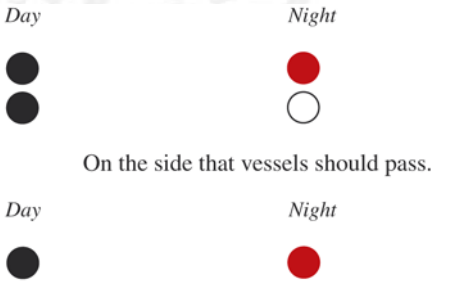
Harbour

8.49

1 **General layout.** The harbour comprises the outer anchorages (8.46) and an area abreast the town of Pontianak; see 8.56. There are two wharves and five piers.

8.50

1 **Dredgers** when operating on the bar of Sungai Kapuas Kecil show the signals (Diagram 8.50).



Pontianak – dredger signals (8.50)

In general, unless otherwise indicated, vessels should always pass S of the dredgers, which may entail keeping S of the leading-line alignment. In these circumstances a vessel should sound two long blasts, when the dredger will move to the N side of the channel. The vessel should regain the alignment as soon as possible after passing the dredger.

8.51

1 **Tidal streams.** Off the mouth of Sungai Kapuas Kecil the in-going tidal stream sets S and the out-going N; maximum spring rate 2 kn. The tides are considerably influenced by the wind.

2 The out-going stream at Pontianak is stronger and of longer duration than the in-going stream, especially at night, due to the land breeze. In November the out-going

stream attains a maximum rate 4 hours after HW. During the NE monsoon, November to March, the in-going stream at Pontianak is scarcely perceptible; even at springs the out-going stream is only slightly diminished.

Tidal signals. A tide-gauge, with a flagstaff above it, is situated on No 1 Berth. For tidal signals see 1.69.

Climatic table. See 1.137 and 1.147.

8.52

1 **Landmarks:**

Sultan's Palace (0°01′·5S, 109°21′·1E), situated on a point between Sungai Kapuas Kecil and Sungai Landak.

Mosque, situated 1 cable NW of the palace, is prominent.

8.53

1 **Other aid to navigation**

Racon: Outer leading lights: Front light (0°04′·4N, 109°10′·2E).

Directions

8.54

1 **Approach from south.** When approaching Pontianak from S, vessels should steer on the alignment (025°) of Peniraman (0°13′N, 109°08′E), a hill situated near the coastline 15 miles ESE of Tanjung Bangkai, with Loncit (0°21′N, 109°11′E), a hill 16½ miles E of Tanjung Bangkai. This track passes 5 cables W of the light-buoy (safe water) marking the seaward end of the entrance channel.

2 **Approach from west.** When approaching from W, vessels should steer for the safe water light-buoy (0°06′N, 109°05′E) at the seaward end of the entrance channel passing N of two dangerous wrecks marked by a light-buoy (N cardinal) (0°06′N, 108°54′E).

Caution. As two vessels cannot pass each other in the dredged channel, it must be ascertained that the channel is clear before proceeding inwards or outwards. Outward bound vessels take precedence.

8.55

1 **Outer leading lights** stand on the N side of the entrance about 5½ miles ESE of the entrance light-buoy:

Front light (triangle point up on white beacon, black bands, 9 m in height) (0°04′·4N, 109°10′·2E), standing near the N entrance point of the river.

Rear light (triangle point down on similar structure; 8 m in height), standing 1 mile ESE of the front light.

2 From the vicinity of the light-buoy (safe water), the alignment (103½°) of these lights leads over the bar into the entrance channel. Two dangerous wrecks, both unmarked, lie respectively 8 miles and 4¼ miles WNW of the front outer leading light; the latter wreck is located very close S of the outer leading line. A stranded wreck lies 4½ miles WNW of the front leading light, 4 cables N of the alignment. The entrance channel is marked by light-buoys which are moved to conform with the frequent changes in the channel.

3 The channel leading to the town berths is well marked by light-beacons as shown on the chart. A rock awash lies in the channel, 1¼ cables ESE of the SE tip of Pulau Batulayang (8.40), and is marked by a light-buoy on its SW side.

Caution. Much driftwood is carried off during the NE monsoon, November to March, and large pieces from the river banks, held together by thick growth, form floating islets which may be encountered in the open sea.

Berths

8.56

1 **Anchorages.** At Pontianak, anchorage lies abreast the town in depths of 16 m to 18 m where there is room for vessels to swing, but they should keep well clear of Government Wharf (see below).

The W limit of the anchorage is the meridian of 109°18′·9E; the E limit is the line drawn between the light-beacons situated on the E and W banks of Sungai Kapuar Kecil, 6¼ cables SSE of the Ferry Jetty (0°01′S, 109°21′E).

2 **Alongside berths.** Berth No 1, an open pile timber decked wharf with an alongside depth of 2·5 m, lies on the S side of the river, 1 cable NW of Government Wharf (0°01′·1S, 109°20′·6E).

A concrete wharf 392 m in length, with an alongside depth of 4 m, lies close NW of No 1 berth, and comprises Nos 2, 3, 4, and 5 berths. Two T-headed berths lie 8 cables and 1 mile NW of the wharves.

3 Pertamina Oil Berth, situated on the N side of the river, lies approximately 1¼ miles NW of Government Wharf; a light (white metal beacon, 10 m in height) is displayed at the berth.

Other berths. Small wooden jetties with depths of 2·5 m for smaller vessels and ferries are situated on the N and S sides of the river.

Port services

8.57

1 **Repairs** of a minor nature can be effected. There is a slipway capable of handling vessels of up to 200 grt.

Other facilities: deratting and deratting exemption certificates issued; hospital and port clinic.

Supplies: small quantities of provisions: fresh water from pipeline at a rate of 50 to 200 tons per day; limited quantity of diesel fuel oil.

Communications. Pontianak maintains an international air service with several countries in the region from Supadio airport, 18 km distant.

PULAU SITINJAN TO PULAU PONTIANAK

General information

Charts 3720, 3721

Route

8.58

1 From a position WSW of Pulau Sitinjan (0°22′N, 108°45′E) (8.30) to a position W of Pulau Pontianak (1°16′N, 108°59′E) (8.62) the route initially leads NNW then N for about 58 miles.

Topography

8.59

1 See 8.23.

Natural conditions

8.60

1 See 8.5.

Principal marks

8.61

1 **Landmark:**

Pulau Lemukutan (0°47′N, 108°42′E), the largest and W island of Pulau-pulau Burung (8.23), consisting of a ridge of hills, the highest near the S end. The coast in the middle of the E side is cliffy.

Major light:

Pulau Sitinjan Light (0°22′N, 108°45′E) (8.9).

Directions

(continued from 8.30)

8.62

1 From a position WSW of Pulau Sitinjan (0°22′N, 108°45′E) (8.30), the coastal route to a position W of Pulau Pontianak (1°16′N, 108°59′E) leads initially NNW then N for a distance of approximately 58 miles passing:

WSW of Pulau Baru (0°36′N, 108°45′E), a small islet fringed by reefs extending 3 cables S and NW from it, thence:

2 W of Pulau Lemukutan (0°47′N, 108°42′E) (8.61), from where a light is displayed, thence:

W of a dangerous wreck (0°57′N, 108°47′E). Thence:

To a position W of Pulau Pontianak (1°16′N, 108°59′E), a small prominent islet.

(Directions for Sungai Sambas Besar are given at 8.66: for directions and coastal features N of Pulau Pontianak see China Sea Pilot Volume II)

Inshore route

8.63

1 From the vicinity of the light-buoy (safe water) (0°05′N, 109°05′E) moored 8 miles WNW of Jungkat (8.48), a route for smaller vessels proceeding to Sungai Sambas Besar lies closer inshore and leads initially NW then N for approximately 71 miles, passing:

SW of Tanjung Bangkai (0°20′N, 108°55′E) (8.23), thence:

2 E of Pulau Damar (0°24′N, 108°47′E), a small steep-to islet 3 miles NE of Pulau Sitinjan (8.30), thence:

Clear of Pulau Temaju (0°30′N, 108°51′E), a steep-to island 3 miles W of Tanjung Sanggau (0°30′N, 108°55′E), thence:

E of Pulau Baru (0°36′N, 108°45′E) (8.62), thence:

E of Pulau Randayan (0°43′N, 108°44′E).

3 The route then leads between Pulau Lemukutan (0°47′N, 108°42′E) (8.61) and Pulau Penata Besar (0°45′N, 108°46′E); shallow depths lie close off the SE corner of Pulau Lemukutan, and a reported isolated shoal, with a depth of 12·8 m over it, lies 1¼ miles WNW of the S tip of Pulau Penata Besar. Thence:

Clear of a dangerous wreck (0°57′N, 108°47′E) 6½ miles N of Pulau Kabung, the N island of Pulau-pulau Burung, thence:

4 To the vicinity of Sungai Sambas Besar Light-buoy (safe water) (1°12′N, 108°52′E), moored 5½ miles W of Tanjung Kalangbau (1°12′N, 108°58′E) the N entrance point of the river.

Useful mark:

Light-beacon (1°12′N, 108°55′E) (8.66).

8.64

1 **Other channels**. Vessels using this inshore route may use the channel between Pulau Penata Besar and Pulau Penata Kecil (0°45′N, 108°48′E), or between Pulau Seluas (0°46′N, 108°48′E) and the mainland where the weather is calmer, keeping in depths of not less than 13 m.

(Directions for Sungai Sambas Besar are given at 8.66)

Sungai Sambas Besar

Charts 3720, 941A (see 1.31)

General information

8.65

1 **General description.** Sungai Sambas Besar (Great Sambas River) is entered between Tanjung Bila (1°10′N, 108°55′E) and Tanjung Kalangbau (1°12′N, 108°58′E), 3 miles ENE. The river, which gives access to Pelabuhan Pemangkat, at its entrance, and the port of Sambas (8.68) approximately 26 miles within its entrance, is fronted by a bar; its steep-to outer edge lies 2½ miles NW of Tanjung Bila.

2 Kampung Pemangkat (1°11′N, 108°59′E), a village, is situated on the S side of the river at its entrance, and the villages of Perigiilir (Pesisir Ilir) (1°13′N, 109°06′E) and Bekut (1°15′N, 109°09′E) are located on the S side of the river 8 and 12 miles, respectively, within its entrance.

3 **Topography.** Tanjung Bila is flat and difficult to identify; from seaward the W edge of Pemangkat (1°10′N, 108°58′E), a hill, standing 3½ miles E, can be mistaken for this point. However, the mouth of the river is easily identified by Penibungan (1°10′N, 108°59′E), a spur extending N from Pemangkat, rising from Tanjung Batu (1°11′N, 108°58′E), the S inner entrance point of the river. Pulau Pekak (1°12′N, 108°58′E), rocky and prominent, lies 5 cables NNW of Tanjung Kalangbau.

4 Mud flats extend up to 3¼ miles W of Tanjung Kalangbau.

Channel depth. The channel over the bar along the leading line (8.66) has a least depth of 2·1 m.

Tidal levels. See information in *Admiralty Tide Tables* for Pemangkat. Mean spring range about 0·6 m; mean neap range about 0·4 m.

5 **Pilotage.** Pilotage is not available for Sungai Sambas Besar.

Local knowledge is necessary for the safe navigation of Sungai Sambas Kecil leading to Sambas (8.68).

Tidal streams. The tidal streams in Sungai Sambas Besar are semi-diurnal and attain a rate of 2 kn in the entrance at springs. Off the entrance tidal streams are N-going and S-going and attain a rate of 1½ kn. During the out-going stream from the river the coastal stream sets to the N.

Directions

8.66

1 The coast should be approached outside the 10 m line to avoid the numerous fish traps which exist in the vicinity. The approach to the bar is marked by a light-buoy (safe water) (1°12′N, 108°52′E).

Leading lights stand close NE of Tanjung Batu (1°11′N, 108°58′E) (8.65).

2 Front light (white framework tower, black bands, white triangle point up; 10 m in height) (1°11′·5N, 108°58′·4E).

Rear light (white framework tower, black bands, white triangle point down; 14 m in height) (6 cables E).

3 The alignment (094¼°) of the leading lights leads 4 cables N of the safe water light-buoy thence across the bar, passing close S of a light-beacon (port hand, 11 m in

height) (1°12′N, 108°55′E) and a buoy (port hand) moored 2 miles WNW of Tanjung Batu, into Pelabuhan Pemangkat (8.67). A light-beacon (starboard hand, 12 m in height) is displayed from Tanjung Batu.

A channel 15 m wide marked by beacons, with a least depth of 0·4 m, leads to Pelabuhan Pemangkat.

4 **Cautions.** The river entrance may be obstructed by fishing stakes and net floats and there is a steep-to mud bank fronting the S shore between Tanjung Batu and Tanjung Parakan. Local vessels often work cargo at the river entrance, see 8.67.

The dangerous wreck of a sailing vessel lies 3 cables NE of Tanjung Batu; breakers mark the wreck.

(Directions for Sambas are given at 8.68)

Pelabuhan Pemangkat

8.67

1 **General information.** Pelabuhan Pemangkat, lying at the entrance to Sungai Sambas Besar, is bounded on the W by a line joining Tanjung Kalangbau and Tanjung Bila and, on the E, by a line drawn 146° from Raya (1°16′N, 108°59′E), a prominent and isolated hill 5 miles NNE of Tanjung Kalangbau. Kampung Pemangkat (8.65) is situated within the mouth of Sungai Pemangkat, where there is a commercial wharf 44 m long with a least depth of 0·8 m alongside.

2 **Anchorage** may obtained in Pelabuhan Pemangkat, abreast the village of Kampung Pemangkat where there are depths of 5 m.

Cargo is transported to and from the shore by large barges.

Sambas

8.68

1 **General description.** Sambas (1°22′N, 109°18′E) stands on Sungai Sambas Kecil, 11 miles above its confluence with Sungai Sambas Besar (8.65). Sungai Sambas Kecil is a narrow and winding river with depths in its fairway of not less than 6·1 m except at the inner bar, lying off the mouth of Sungai Sebutuan 6 miles below Sambas. This bar consists of rocks through which there is a channel, 25 m wide, with a least depth of 2·7 m.

2 **Port Authority.** Port Administrator, Jalan Merdeka No 26, Sambas, Kalbar, Indonesia.

Submarine cables cross the river at Sambas; the crossing place is marked by beacons.

Tidal streams at Sambas are semi-diurnal and strong. The tidal stream toward the time of LW near the wreck on the inner bar is very strong.

3 **Directions.** After entering Sungai Sambas Besar, vessels should endeavour to reach the inner bar 6 miles below Sambas shortly before slack HW. The in-going stream sets strongly into the mouth of Sungai Sebutuan. A wreck lies on the W side of the channel over the bar, which dries and is marked by a beacon. The wreck should not be passed at MHHW as neither it nor the beacon are visible. Two leading beacons stand on the W bank of the river, 1 cable NNE of the wreck, and on the alignment 015° lead through the narrow channel.

4 **Berth.** There is a quay, 38 m long, alongside which vessels up to 600 dwt drawing 4 m can berth at all tidal states. Vessels up to 60 m in length can be turned abreast the quay, where the river is 80 m wide.

Facilities: medical assistance.

Supplies: small quantities of provisions are available.

Anchorages and harbour

Chart 3720

8.69

1 **Anchorage** may be obtained in depths of 13 to 16 m, on the bank extending S from Pulau Sitinjan (0°22′N, 108°45′E) (8.30), during N winds or at the change of the monsoon.

Good anchorage may also be obtained by small vessels with local knowledge, during the SE monsoon, May to September, in a depth of 9 m, in the W of two bays which form the N coast of Pulau Temaju (0°30′N, 108°51′E) (8.63). There is anchorage anywhere off this island in depths of 11 to 13 m.

2 There is good anchorage off the mouths of Sungai Singkawang (8.70) and Sungai Selakau (1°04′N, 108°57′E) which discharges into Teluk Singkawang. There is good anchorage anywhere in Teluk Singkawang (1°00′N, 108°57′E) (8.70) in depths of from 6 to 11 m, hard mud.

8.70

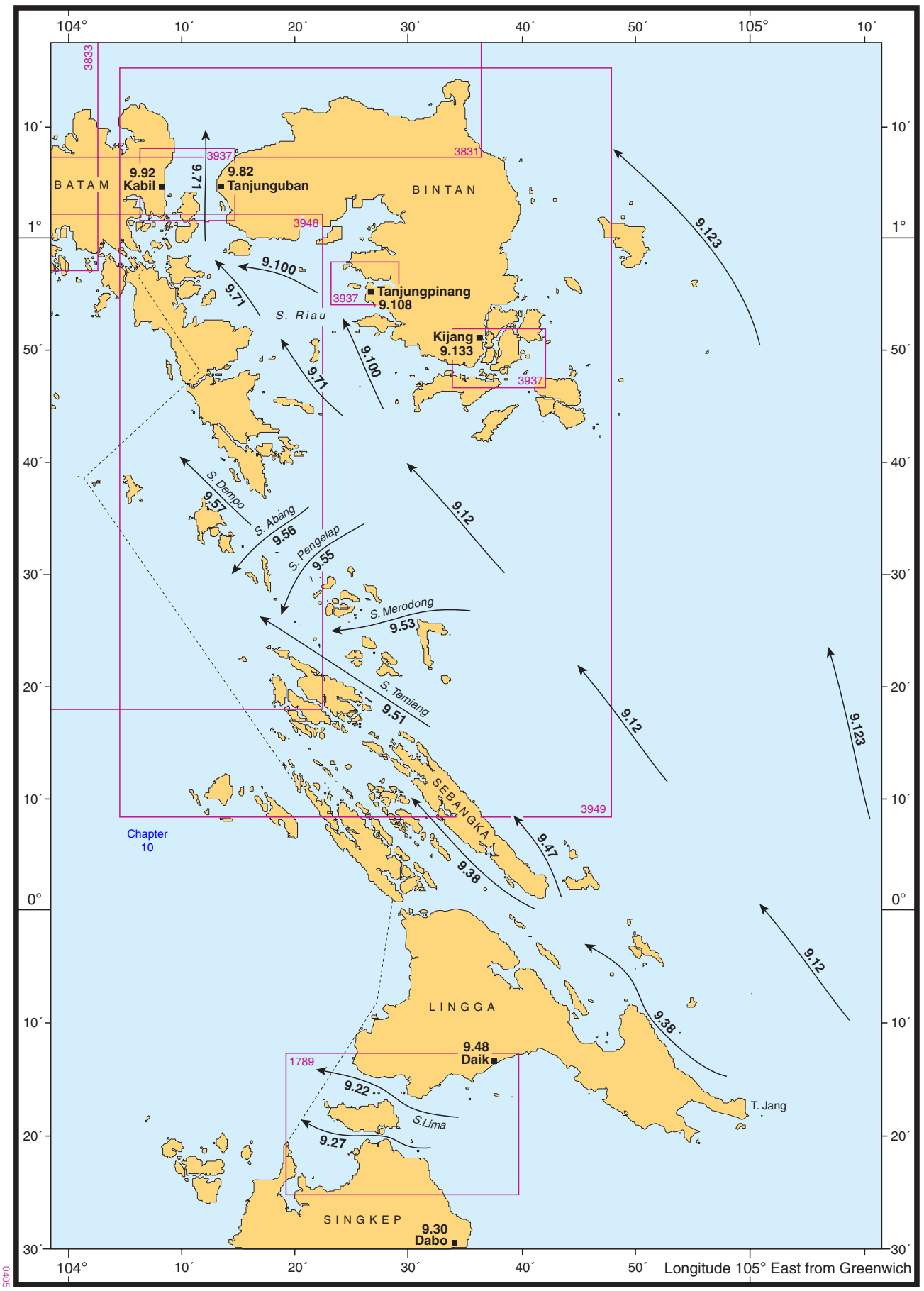
1 **Sungai Singkawang** (0°55′N, 108°58′E), discharges into Teluk Singkawang (1°00′N, 108°57′E), 5 miles NE of Tanjung Bajau (0°52′N, 108°54′E); the river entrance almost dries and passage over the bar is difficult even for small craft. The entrance can be identified by a flagstaff standing on the S bank near the entrance; a cylinder (black and white bands) is displayed at the flagstaff.

2 A buoy (port hand) is moored 1½ miles NW of the entrance. There is a depth of 0·3 m over the bar, permitting small craft with a maximum draught of 1·2 m to enter.

Singkawang (0°55′N, 108°59′E), 2 miles above the river entrance, is a town of some importance. A Government Administrator resides here. Medical assistance is available.

There is regular sea communication with Singapore.

Chapter 9 - Pulau-pulau Lingga to Pulau-pulau Riau including Selat Riau



CHAPTER 9

PULAU-PULAU LINGGA — PULAU-PULAU RIAU INCLUDING SELAT RIAU AND THE EAST COAST OF PULAU BINTAN

GENERAL INFORMATION

Chart 1312

Scope of the chapter

9.1

1 In this chapter are described:

Pulau-pulau Lingga and Pulau-pulau Riau, numerous islands forming an archipelago lying S of Singapore, together with the ports, harbours and anchorages associated with them.

2 Also included are the descriptions of the routes, passages and channels which lie through the islands; of these, the most important waterway being:

Selat Riau (0°54′N, 104°17′E), which lies between Pulau Batam and Pulau Bintan and is frequently used by vessels plying between Java Sea and Singapore Strait (Selat Singapore).

Topography

9.2

1 Pulau-pulau Lingga and Pulau-pulau Riau are actually two groups of a great number of islands and islets with numerous reefs among and around them, lying off the E coast of Sumatera between Tanjung Jabung (1°01′S, 104°22′E) and Singapore Strait to the N. Owing to coral growth and silting, all these islands are subject to considerable, but gradual, alteration. Many of the straits between the various islands are navigable, the less frequented passages, however, may not have been surveyed for many years.

Vessel Traffic Service

9.3

1 All vessels and tows of 300 grt or more and all passenger vessels transiting Singapore Strait are required to participate in the Singapore Vessel Traffic Information Service (VTIS). Within the limits of this chapter, this requirement particularly affects vessels entering the strait at its E entrance (1°25′N, 104°27′E) or from Selat Riau (0°54′N, 104°17′E).

A continuous listening watch must be maintained on VHF; for full working details and a list of reporting positions see *Admiralty List of Radio Signals Volume 6(4)*.

Piracy

9.4

1 Several incidents of piracy have been reported off the W coast of Pulau Lingga; and see 1.8.

General directions

9.5

1 Vessels passing through the archipelago from Selat Bangka to Singapore usually take one of the following routes:

(a) East of Pulau-pulau Lingga and thence through Selat Riau (9.71).

(b) East of Pulau-pulau Lingga and thence through Selat Temiang (0°20′N, 104°25′E) (9.51) and Selat Durian (0°45′N, 103°35′E) (10.55).

2 (c) Through Selat Berhala (0°55′S, 104°23′E) (10.10) and W of Pulau-pulau Lingga; this route, known as the inner route, is described at 10.18.

(d) Through Selat Berhala and W of Pulau-pulau Lingga, as described above, thence through Selat Pengelap (9.55) and Selat Riau, or through Selat Abang (0°31′N, 104°15′E) and Selat Dempo (0°36′N, 104°15′E) and Selat Bulan (10.110).

3 (e) East of Pulau-pulau Lingga, E of Pulau Bintan, and into the E entrance of Singapore Strait, known as the outer route and described at 9.131.

Small vessels proceeding from Selat Bangka to Singapore between December and February are recommended to take route (d) in preference to route (a) or the outer route (e) on account of there being calm water and vessels have the opportunity of obtaining anchorage in various places. During the remainder of the year any route may be taken.

Natural conditions

9.6

1 **Tidals streams.** In Pulau-pulau Lingga, in the S part of Pulau-pulau Riau and in South China Sea, the diurnal tide predominates, whilst NW of Pulau-pulau Lingga and W of Pulau-pulau Riau, on the Sumatera side, the semi-diurnal tide predominates. The tidal streams similarly become more diurnal to the S and E of the archipelagoes. In general the tidal streams set towards Teluk Kualacenaku (0°10′S, 103°45′E) through the various channels between the islands on the archipelagoes whilst the tide is rising there, and sets outwards from it while the tide is falling there. Off the E side of Pulau-pulau Lingga, the tidal streams set NNE and SSW. Under the coast of Pulau Bintan they set between S and W, and between N and E; a rate of 3 kn has been observed.

2 **Current.** In the open sea E of Pulau-pulau Lingga, between December and February, there is a current running S at a rate which may attain 3 kn during strong N and NE winds, but is normally about 1 kn. Vessels are therefore liable to be set in off Pulau Kentar and Pulau Kongka Besar. Between June and August the monsoon current usually sets N at 1 to 1½ kn. In the remaining months, the currents are usually weak and variable.

3 **Local weather.** Off the E coast of Sumatera between Selat Bangka and Malacca Strait, including Pulau-pulau Lingga and Pulau-pulau Riau, the winds are variable in April and the SE monsoon sets in at the end of the month and lasts until September, mainly from SSE. Light W winds occur in October followed by moderate NNW winds in November and December, and N winds in January and February, veering to NE at times.

Sumateras, severe thundery squalls, sometimes reach the area from W and may occur in any month. They are most active in the early part of the night.

PULAU-PULAU LINGGA

GENERAL INFORMATION

Chart 1312, 1789, 3948, 3949

Scope of the section

9.7

1 In this section are described Pulau-pulau Lingga, the S most group of islands lying off the E coast of Sumatera, stretching from Tanjung Jabung (1°01′S, 104°22′E) to Singapore Strait and including Pulau Singkep and Pulau Lingga, together with the passages, harbours and anchorages associated with them.

Also described is the route to the S entrance to Selat Riau (0°40′N, 104°25′E) (Chart 3949).

Topography

9.8

1 Many of the islands, particularly the larger ones, are heavily indented by numerous bays or narrow inlets. Most are wooded, with their coastlines and parts of the interiors consisting of marshy plains. Pulau Singkep (0°30′S, 104°25′E) has some isolated hills, and Pulau Lingga, 4 miles N, contains two principal peaks (9.39) rising in the W part of the island.

Excepting the W side of Pulau Sebangka (0°08′N, 104°35′E) (9.39), most of the islands are fringed by reefs and shallow water extending up to 5 miles offshore in places. There are no rivers of importance.

Former mined areas

9.9

1 Areas dangerous due to mines laid in the 1939–1945 war lie in the E approaches to Selat Lima (0°17′S, 104°30′E). Vessels should avoid anchoring and fishing in the area; see Appendix I.

Flow

9.10

1 **Tidal streams.** In that portion of Pulau-pulau Lingga and Pulau-pulau Riau which lies N of Pulau Lingga and S of Selat Riau, the tidal streams, as a rule, flow strongly only once a day in each direction. In those passages which are suitable for large vessels, the rate of the streams is generally not more than 2 to 2½ kn; in some of the narrow channels which are, however, of little importance to navigation, this rate may increase to 3 or 4 kn.

2 *Admiralty Tide Tables* give daily predictions for the tidal streams in the NE approaches (0°37′N, 104°25′E) and the E approaches (0°17′S, 105°10′E) to Pulau-pulau Lingga. The general direction of the streams in the NE approaches set 060° and 240°, and in the E approaches 022° and 202°. The times at which the streams flow become progressively later from N to S, and it may be assumed that the times at which they flow through Selat Lima in Pulau-pulau Lingga are approximately midway between those in the NE approaches and those in Selat Berhala, which are also predicted in *Admiralty Tide Tables*.

3 In general the horizontal movement of the water is S through Selat Riau and WSW from the South China Sea to the fairly open part between the Sumatera coast and Pulau-pulau Lingga, or vice versa. The numerous channels through which the water must pass, some of which are almost at right angles to the main direction of the streams, cause considerable deviations to this general movement.

9.11

1 When the stream is running S out of Selat Riau and WSW from South China Sea, it runs through Selat Dempo, Selat Abang and Selat Pengelap in the direction of the axis of these straits, and S between Pulau Pengelap and Pulau Dedap. After flowing NW through Selat Dempo, it turns W and S between Pulau Petong and Pulau Abang Besar. When NE of Pulau Batubelayer (0°25′N, 104°16′E) the streams flowing NW through Selat Temiang and W through Selat Merodong meet those flowing SW through Selat Pengelap almost at right angles, causing heavy tide-rips and whirlpools. Further S, the W-going stream sets in strongly between Pulau Blading (0°01′S, 104°50′E), Pulau Kongka Besar and Pulau Kentar, and flows NW along both shores of Pulau Sebangka (0°08′N, 104°35′E). The stream flowing between Pulau Sebangka and Pulau Bakung Besar curves W again off Pulau Batang (9.61) and Pulau Saga (0°16′N, 104°21′E) and thence round Pulau Karoti (0°13′N, 104°19′E), to the S and SE through Selat Cempah. There it joins the streams from the N straits and the united stream flows in a S to SE direction along the W shores of Pulau Bakung Besar and Pulau Lingga.

2 As the stream passes the W entrance to Selat Dasi (on the equator in 104°29′E) it meets the SW-going stream coming out of that strait and causes strong tide-rips and whirlpools. The W-going stream is also flowing through Selat Lima at this time. See also 10.8.

When the horizontal movement of water changes its main direction to flow N through Selat Riau and ENE into South China Sea, the streams run in the opposite direction to those described above and in the accompanying diagram, in nearly all the straits and channels. In places where two or more channels unite, however, there may be some discrepancy.

3 **Current.** Off the E coast of Pulau-pulau Lingga, between December and February there is a S current of 3 kn accompanied by a strong N to NE wind which may set a vessel landward.

OFFSHORE ROUTE

General information

Chart 1312

Route

9.12

1 From the vicinity of Tanjung Jang (0°18′S, 105°00′E) (9.39), the route most frequently used by vessels to and from Singapore Strait and the N end of Selat Sunda (5°53′S, 105°58′E) lies through either Selat Bangka (2°40′S, 105°50′E) or Selat Baur (3°00′S, 107°19′E) passing E of Pulau-pulau Lingga and through Selat Riau (9.66) which is safe, sheltered, and easily navigable.

The outer route (9.131) leading E of Pulau Bintan (1°00′N, 104°30′E) is only occasionally undertaken.

Tidal streams

9.13

1 For general information of streams and rates, see 9.10.

Principal marks

9.14

1 **Landmarks:**

Daik (0°12′S, 104°33′E) (9.39).

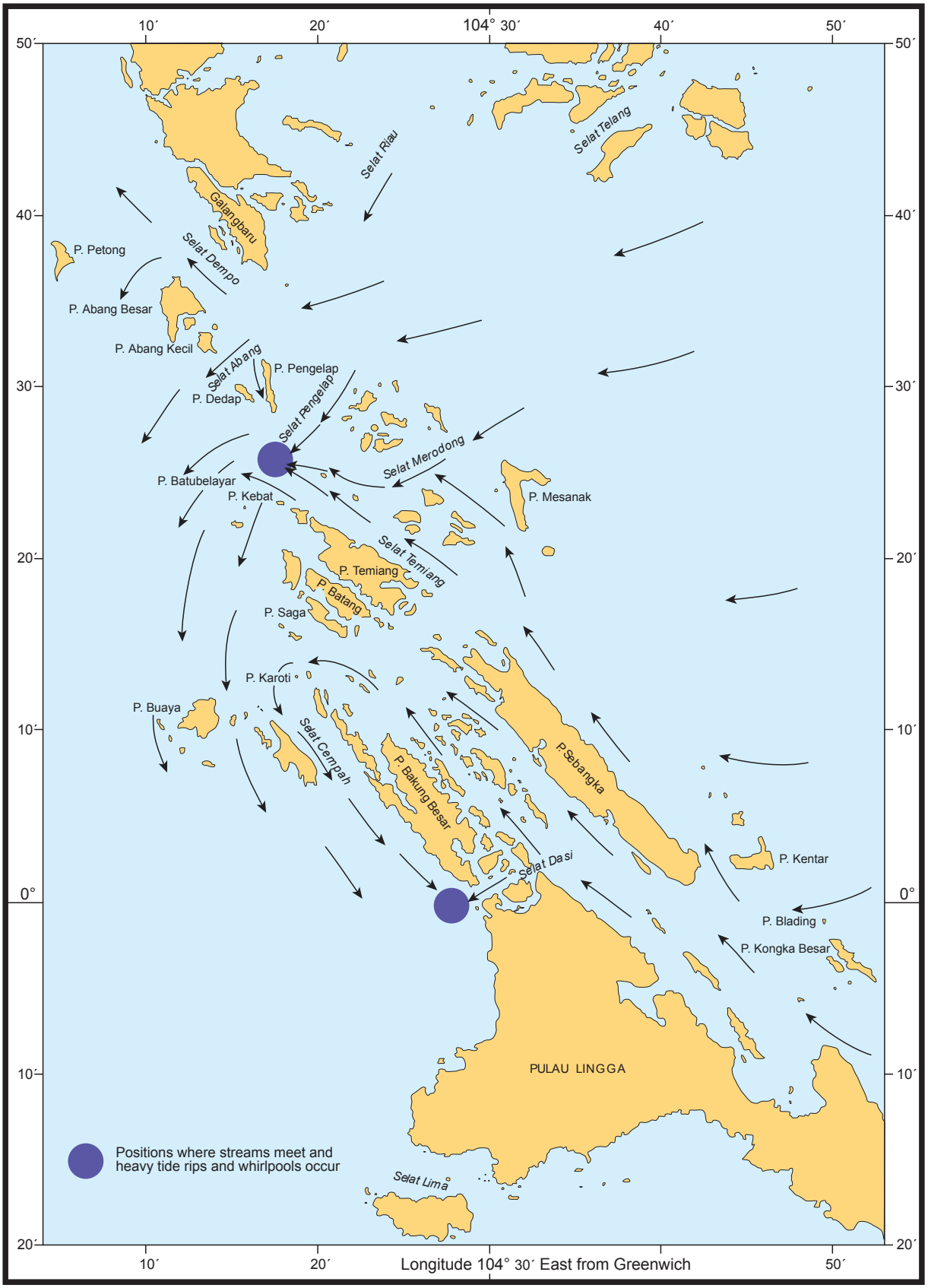
Sepincan (0°09′S, 104°34′E) (9.39).

Tanjung Jang (0°18′S, 105°00′E) (9.39).

Pulau Kentar (0°02′N, 104°46′E) (9.39); a good radar target at 20 miles.

2 Central summit of Pulau Sebangka (0°08′N, 104°35′E) (9.39).

Summit of Pulau Merodong (0°24′N, 104°27′E) (9.53).



Direction of tidal streams when the general flow is West from the South China Sea (9.11)

Gunung Langkuas (0°52′N, 104°35′E) (9.69).
Gunung Kijang (0°55′N, 104°38′E) (9.69).
Gunung Bintan Besar (1°04′N, 104°27′E) (9.69).

3 **Major lights:**

Tanjung Jang Light (white metal framework tower, 10 m in height) (0°18′S, 105°00′E); visible between 034°–064°(30°) and 175°–009°(194°).
Pulau Kentar Light (white metal framework tower, 33 m in height) (0°02′N, 104°47′E); visible between 121°–001°(240°) except where obscured by islands.
Tanjung Punggung Light (0°45′N, 104°31′E) (9.77).
Pulau Karas Kecil Light (0°44′N, 104°22′E) (9.77).

Directions

(continued from 5.99 or 6.82)

9.15

1 From a position at least 10 miles E of Tanjung Jang (0°18′S, 105°00′E) (9.39) which is visible at a distance of 30 miles, to the S entrance of Selat Riau (0°40′N, 104°25′E), the route initially leads NNW thence NW for a distance of approximately 77 miles, passing:

ENE of Pulau Selentang (0°07′S, 105°00′E), an islet 11 miles N of Tanjung Jang which is covered with tall trees and surrounded by a reef, thence:

2 NE of Pulau Buaya (on the equator in 104°53′E), a prominent rock; a large reef, marked by discolouration, lies 5 cables W, thence:

NE of Karang Pollux (0°10′N, 104°47′E), a dangerous rock; soundings give no indication of a vessel's approach to this rock and it is not easily discerned. Thence:

Clear of an obstruction (0°15′N, 104°47′E), which lies 5½ miles N of Karang Pollux, thence:

3 NE of a patch, lying 2 miles NE of the E point of Pulau Mesanak (0°25′N, 104°32′E), a narrow, elbow shaped island surrounded by a reef, which has a hilly ridge running the entire length of both arms. Pulau Kuyu lies close off its E extremity and Pulau Nyamok (Pulau Nyamuk) lies 1¼ miles SE of its S extremity; the latter providing a good radar target at 12 miles.

Thence to a position at the entrance to the main channel, SW of a light-buoy (W cardinal) (0°42′N, 104°25′E).

4 **Caution.** Vessels passing closer inshore to Tanjung Jang should give Pulau Merati, an islet lying 1 mile E of the point, and Karang Alangkalam, a patch of hard sand with depths of less than 3 m over it, 8½ miles SSW of the point, a wide berth.

E of Tanjung Jang and NE of Karang Pollux charted depths are from miscellaneous lines of passage soundings and the presence of uncharted coral heads cannot be discounted. Caution should be exercised in the area.

Useful marks

9.16

1 Pulau Sunsa, close S of Tanjung Jang (0°19′S, 105°00′E), has a prominent hill.
Pulau Bujang (0°08′S, 104°55′E), hilly and wooded, covered in coconut palms, has a high peaked hill near its centre.
Pulau Dempo (0°36′N, 104°18′E) (9.57).
Pulau Nyamok (0°20′N, 104°33′E) (9.15).
Summit of Pulau Siulung (0°46′N, 104°35′E) (9.101).
Tanjung Punggung (0°45′N, 104°31′E) (9.101).

(Directions continue for Selat Riau at 9.78)

PULAU SINGKEP

General information

Chart 1789 with plan of Selat Lima

General description

9.17

1 Pulau Singkep (0°30′S, 104°25′E) is the most important island in this archipelago owing to its tin mines. It is about 20 miles in length and the same in breadth. Dabo (9.30), the island's main town and port lies on its E side.

The W side of this island is described at 10.11.

Topography

9.18

1 The island, which is heavily wooded, is hilly in the NE part. Lanjut (0°25′S, 104°31′E) is the highest peak but farther S lie a group of prominent peaks (9.21) some 4 miles W of Dabo (0°30′S, 104°34′E). In general the coastal area is flat, consisting of marshy plains. The N and S sides are heavily indented. On the E side, between Dabo and Tanjung Sawang, 8 miles NNW, the coast is fronted by a reef and a tongue of sand extends up to 5½ miles offshore from the point. Pulau Selayar (0°18′S, 104°26′E), 6½ miles long from E to W, lies off the N coast of Pulau Singkep and is separated from it by Selat Penuba (9.27), a narrow strait.

2 Pulau-pulau Singkeplaut, comprising a small group of islets, lies 3½ miles S of Tanjung Malang (0°39′S, 104°30′E), the SE extremity of Pulau Singkep.

In the SE approaches, Pulau Saya (0°47′S, 104°56′E) is a steep islet with two peaks which can be seen from some distance; Pulau Nyamuk, the N of two steep granite rocks, lies 8 cables NE of Pulau Saya. Gosong Castor, a narrow ridge of hard sand extending 11 miles in a NNE direction, lies 4½ miles NE of Pulau Saya, and Gosong Cowmans, of similar character, lies 6 miles WNW of Gosong Castor.

Former mined areas

9.19

1 See 1.6 and Appendix I.

Natural conditions

9.20

1 **Tidal streams.** See 9.10.

Local weather. Rain falls all year round in this area, so it is difficult to differentiate between the dry season and the wet. There are generally two periods of rainfall in a year, namely November/December and April/May and during these periods the rainfall is often sudden, heavy and accompanied by strong winds and bad weather. In the drier periods visibility is generally good but fog can occur along the shore at night, clearing by early morning.

Winds. Along the E coast the dominant winds are from a N direction between December and May and from a S direction between June and November.

Landmarks

9.21

1 The following peaks are all prominent from E:

Cina (0°28′S, 104°30′E).
Terap, 1 mile SSW of Cina.
Labu (0°30′S, 104°29′E). A TV mast, from which lights are displayed, stands on the summit.

Passages of Selat Lima including Selat Penuba

Route

9.22

1 Selat Lima lies between the N coast of Pulau Selayar (0°18′S, 104°26′E) (9.18) and the SW extremity of Pulau Lingga. It is a good channel and the fairway is fairly deep. It is a useful daylight passage linking the inside and outer routes leading to Singapore.

9.23

1 **Topography.** The N coast of Pulau Selayar is generally low lying and fronted by a coastal reef. The island's inconspicuous summit lies 2 miles E of Tanjung Pahat (0°18′S, 104°23′E), its W extremity. Pulau Baruk with Pulau Baruk Kecil, close NW, are situated at the NW end of the coastal reef.

The SW coast of Pulau Lingga between Tanjung Bliung (0°16′S, 104°31′E) and Tanjung Labuandadong, 6½ miles WNW, comprises high cliffs, with areas of rocks and small islets extending 7 cables SW of Tanjung Bliung.

2 In the middle of the strait there are several steep, hilly and wooded islets and some detached reefs, the largest islet being Pulau Lima, situated 3½ miles W of Tanjung Bliung. Pulau Pandan (0°15′S, 104°21′E), a steep-to, rocky islet, covered with vegetation, lies in the W approaches to the strait.

Tidal streams

9.24

1 Tidal streams set E and W through Selat Lima and the maximum rate observed in the W part of the strait is 1½ kn. The tidal streams turn at about midway between the predicted times, see *Admiralty Tide Tables,* for Selat Berhala and the N approaches to Pulau-pulau Lingga.

Directions

9.25

1 When making for Selat Lima from SE, vessels should use the swept channel through the former mined areas (see Appendix I), thence into the E entrance, taking the deep channel leading N of islets surrounding Pulau Lima, and between them and Pulau Basing, an islet lying on the edge of the coastal reef off the Lingga coast, 2 miles W of Tanjung Bliung (0°16′S, 104°31′E).

2 **Clearing bearings.** The line of bearing 280° of Pulau Tengah (0°20′S, 104°30′E) (9.28) passes through the swept channel and between the shallow areas with depths of 5 m or less lying N and S of the track. The line of bearing 305° of Tanjung Labuandadong (0°13′S, 104°25′E) (9.23) just showing SW of the rocky islet lying 5 cables ENE of Pulau Lima passes clear of the area of dangerous rocks extending SE from Pulau Selayar and the dangers lying SW off Tanjung Bliung on the Lingga side.

3 **Caution.** Vessels approaching the strait from E and a position S of Pulau Kokau (0°20′S, 104°56′E) should give a wide berth to the rock lying close S of this islet, Batu Kapal, a rock lying 3½ miles W and usually marked by tide-rips, and Karang Alangkalam (0°26′S, 104°58′E) (9.15).

9.26

1 **Useful marks — eastern approach:**

Daik Light (0°14′S, 104°38′E) (9.48).
Tanjung Goroh (0°20′S, 104°55′E) (9.39).
Tanjung Buar (0°19′S, 104°51′E) (9.39).

Selat Penuba

9.27

1 Selat Penuba is the narrower of the two passages which lie between Pulau Singkep and Pulau Lingga, being separated from Selat Lima by Pulau Selayar (0°18′S, 104°26′E). Because it is obstructed by a bar at its W end, Selat Lima is the preferred channel; a rock with a depth of 1 m over it lies on a large shoal in the W entrance, 2¼ miles SSW of Tanjung Pahat (0°18′S, 104°23′E).

Tidal streams in Selat Penuba are strong; the W-going stream, S of Pulau Penuba (0°19′S, 104°28′E), has been observed to run at a rate of 3 kn.

9.28

1 **Directions.** When approaching Selat Penuba from E, the swept area through the former mined areas, details of which are given in Appendix I, should be used. Thence the channel between Pulau Tengah (0°20′S, 104°30′E), an islet which lies at the SW end of a reef, and Pulau Serang, 1 mile SSE; this is preferable to the channel between Pulau Tengah and Pulau Kekek, 1 mile NW, standing on a steep-to reef extending 1½ miles ESE of the SE extremity of Pulau Selayar.

9.29

1 **Anchorage** can be obtained in Selat Penuba close S of the channel along the W side of Pulau Penuba (0°19′S, 104°28′E) in a depth of 22 m, or in this channel 4 cables within the entrance, where the tidal streams are less. The holding ground in the strait S of Pulau Penuba is bad, being rock.

Good anchorage can also obtained at the E entrance to Selat Penuba, 1 mile WNW of Pulau Serang (0°21′S, 104°31′E) in a depth of 10 m, clay and sand, and 3 cables N of two drying reefs and a rock situated 5 cables offshore. This anchorage is safe in the rainy season which normally occurs between October and January.

Dabo

General information

9.30

1 **Position.** Dabo (0°30′S, 104°34′E), the only port of Pulau Singkep, lies on its E side.

Function. Handling mainly lighterage cargo, it is the outlet for the island's main exports, tin and bauxite. Dabo is also the local administrative centre for the area.

Approach and entry. The anchorage area is usually about 2 miles offshore and can be safely approached from between SE and E thereby avoiding the banks lying S and NE of the port. From S, see 9.32.

2 **Traffic.** In 2004 the port handled 197 vessels totalling 714 308 dwt.

Port Authority. Dabo Port Authority, Unit Pertambanga Timah Singkep (UPTS), Singkep, Sumatera Timur; there is a resident Harbour Master.

Limiting conditions

9.31

1 **Depths**. Only vessels of less than 500 grt are allowed to berth at the pier, where there are depths of up to 2 m alongside at MHHW.

Tidal levels. See information in *Admiralty Tide Tables*. Mean maximum range about 1·1 m.

Arrival information

9.32

1 **Port radio.** Operates on VHF.

Pilotage is not available.

Tugs. There are several small tugs.

Local knowledge is essential when approaching the E coast from S, and passing through the inside of the banks which lie off that coast, where there are depths of 2 m.

Harbour

9.33

1 Dabo is essentially an open anchorage for vessels which can only work cargo using barges in favourable weather conditions; a single pier extends SE from the coast. A local railway system is used to bring the export commodities to the pier. The shore on the N side of the pier is rockbound whereas to the S it is sandy; a dangerous wreck lies 4 cables SE of the pierhead and is marked by a buoy (starboard hand).

2 **Dredging.** Vessels dredging may be encountered off the port and should be given a wide berth. Buoys marking the securing anchors may lie up to 900 m from the dredger.

Climatic table. See 1.137 and 1.143.

Directions

9.34

1 The safest approach to an anchorage off the pier, or to the pier itself, is from between SE and E passing clear of unmarked sandbanks which lie S and NE of the port. Deep-draught vessels should keep at least 2 miles offshore. If proceeding to the pier vessels should pass S of the dangerous wreck (9.33).

2 **Useful marks:**

Light (white beacon, 10 m in height) standing at the head of Dabo pier.

Maninjut (0°34′S, 104°28′E), an isolated hill with a round summit.

Prominent peaks (0°30′S, 104°29′E) (9.21), W of the town.

Berths

9.35

1 **Anchorage.** Owing to probable obstructions and the activity of tin dredgers, vessels anchor 2 miles offshore where the bottom is clay and sand. It is inadvisable to anchor within the 5 m contour off Dabo pier.

During the rainy season (November-December) safe anchorage can be found in the E approach to Selat Penuba; see 9.29.

2 **Alongside berth.** The pier at Dabo extends approximately 1000 m SE from the shore; the T-head section of the pier, which extends a further 140 m SE, has a landing stage 136 m in length able to accommodate vessels of up to 500 grt. The width of the pier varies between 2·5 and 7 m; see also limiting conditions at 9.31.

Port services

9.36

1 **Repairs** only of a minor nature effected.

Facilities: limited fresh water; diesel oil available; hospital.

Supplies: limited.

Communications. There is an airport at Dabo situated between the town and Tanjung Tengu, 1½ miles E, with connections to Jakarta.

Pelabuhan Penuba

9.37

1 **General description.** Penuba, a small port, lies on the Selayar coast immediately N of Tanjung Tungai (0°20′S, 104°27′E), the S point of the island.

Port Authority. Penuba Port Authority, Port Office, Penuba, Pulau-pulau Lingga, Indonesia; there is a resident Harbour Master.

Directions. The port is approached from Selat Penuba (9.27) and entered through the W arm of the narrow channel between Tanjung Tungai and the S end of Pulau Penuba. This channel is marked by beacons which are privately maintained.

2 **Berth.** At Penuba there is a wooden jetty 23 m long, with a depth of 4 m alongside at LW, where vessels of up to 500 grt can berth; a small pier for light craft is situated close N of the jetty.

For anchorages, see 9.29.

Facilities which are limited include a hospital for emergency use only.

PULAU LINGGA INCLUDING PULAU SEBANGKA AND THE ISLANDS AND PASSAGES NORTH OF PULAU LINGGA

General information

Charts 1789, 3948, 3949

General description

9.38

1 The area consists of numerous islands of which Pulau Lingga and Pulau Sebangka are the largest; several navigable channels run between these islands. Pelabuhan Lingga, the only port of significance, lies on the S side of Pulau Lingga enclosing Daik (0°14′S, 104°38′E) (9.48), the island's capital.

2 **Route.** Small vessels plying between Daik and Selat Temiang (0°19′N, 104°28′E) regularly use the inshore passage from Tanjung Jang (0°18′S, 105°00′E) leading NW along the NE coast of Pulau Lingga, thence through the E of the channels lying SW of Pulau Sebangka, thence exiting through Selat Ayerraja (9.44).

The W of the Sebangka channels is described at 9.59.

Topography

9.39

1 Pulau Lingga is hilly in the N part and mountainous in the SW. It is heavily indented along its coastline. Daik (0°12′S, 104°33′E), a high prominent mountain, has been described as two peaks rising like spires from the summit. Sepincan, 2½ miles NE of Daik, has a flattish top, and Batugajah, close E of Sepincan, has a grey Y-shaped patch on its E side. Tanjung Goroh (0°20′S, 104°55′E), the S extremity of the island and Tanjung Buar, 4 miles WNW, are prominent points. Tanjung Jang (0°18′S, 105°00′E), the E point of the island, is steep and rocky, with prominent hills close inland which can be seen from a considerable distance.

2 Selat Dasi (0°01′N, 104°30′E) (9.60) separates the NW part of Pulau Lingga from Pulau Bakung Besar and Pulau Bakung Kecil, both wooded islands with a few hills, which together extend further NW having numerous small islands lying close NE of them. The E side of Pulau Bakung Besar is overgrown with mangroves.

The W sides of these islands are described at 10.45.

3 Pulau Sebangka, also wooded, lies with Tanjung Gantong (0°01′N, 104°42′E), its SE extremity, 8½ miles W of the NW extremity of Pulau Lingga. The prominent summit of the island lies at its centre. Pulau Kentar (0°02′N, 104°46′E) lies 1½ miles E of the SE end of Pulau Sebangka and is hilly almost throughout; there is a prominent plateau on its SE extremity. Between Pulau

Lingga and Pulau Sebangka there is a passage of water which is split into two channels by a line of islands and islets running in a NW-SE direction and parallel to both coasts.

Local knowledge

9.40

1 The navigable channels which run between the islands (9.39) require local knowledge.

Tidal streams

9.41

1 See 9.10.

Principal marks

9.42

1 **Landmarks:**

Daik (0°12′S, 104°33′E) (9.39).
Sepincan (0°09′S, 104°34′E) (9.39).
Tanjung Jang (0°18′S, 105°00′E) (9.39).
Pulau Kentar (0°02′N, 104°46′E) (9.39).
Summit of Pulau Sebangka (0°08′N, 104°35′E) (9.39).

Major lights:

Tanjung Jang Light (0°18′S, 105°00′E) (9.14).
Pulau Kentar Light (0°02′N, 104°47′E) (9.14).

Directions for the passage NE of Pulau Lingga

9.43

1 From the vicinity of Tanjung Jang (0°18′S, 105°00′E) (9.39), and E of Pulau Merati (9.15), an inshore passage leads to Selat Temiang, 50 miles NW, passing:

Between the fringing bank of Tanjung Liang (0°12′S, 104°53′E) and Pulau Gojong, low and wooded, 1¾ miles NE. Pulau Malangbilang, a prominent rock, and Pasir Panjang, a sandbank, lie 7 cables ESE, and 8 cables NE, respectively, of Pulau Gojong. Thence:

2 NE of the reef surrounding Pulau Hantu, low and sandy, which lies 3 cables N of Tanjung Takih (0°08′S, 104°49′E), a prominent point, thence:

Between Pulau Empoh (0°06′S, 104°48′E), situated on the N end of a spit with depths of less than 5 m over it, and Pulau Penohlaut, 2 miles ENE, thence:

NE of Anakileuh (0°01′S, 104°41′E), an islet lying 2 miles SSW of the S extremity of Pulau Sebangka, thence:

3 Between the reef extending SE from Pulau Burung (0°02′N, 104°37′E) and Pulau Senayang (9.45), 1½ miles ENE, following the E channel lying between Pulau Ujungkayu (0°05′N, 104°33′E) and the SW side of Sebangka, thence:

NE of an islet lying 7 cables ENE of Pulau Mamut (0°08′N, 104°30′E), thence to the S entrance to Selat Ayerraja (0°13′N, 104°28′E), described below.

4 **Cautions.** The passage between Pulau Gojong and Pulau Bujang, 2½ miles NNE, should not be attempted. The light displayed from Tanjung Jang is not visible through this passage.

9.44

1 **Selat Ayerraja** (Selat Ayer Raja) which lies between Pulau Setemu (0°13′N, 104°29′E) and Pulau Pasirgagah, close NW, requires local knowledge on account of the passage being only 2 cables wide at its narrowest point. At the N end, vessels should pass at least 6 cables E of Pulau Selih (0°17′N, 104°27′E); a rock awash lies 3¾ cables ESE of the islet.

The tidal streams are sometimes very strong in this strait.

Useful marks

9.45

1 Pulau Bujang (0°08′S, 104°55′E) (9.16).
Lights (mast, 14 m in height), standing on the SE side of Pulau Senayang (0°02′N, 104°39′E), and (white metal framework tower, 15 m in height) on the NW end of the island.
Pulau Nyamok (0°20′N, 104°33′E) (9.15).

Other passages and channels

9.46

1 A passage leads between Pulau Anaklangu (0°01′N, 104°47′E), a rock lying 6 cables S of the SE extremity of Pulau Kentar (9.39), and two rocks lying 6 cables NW of Pulau Blading (0°01′S, 104°49′E).

Pulau Buaya (on the equator in 104°53′E) (9.15) lies in the E approaches to this passage.

2 A passage also leads between Pulau Blading and an islet lying close NW of Pulau Kongka Besar (0°03′S, 104°51′E). Pulau Kongka Kecil lies close SW of Pulau Kongka Besar and is separated from it by a narrow channel which requires local knowledge to navigate.

Tidal streams may set a vessel strongly into or out of the passages mentioned above; vessels using them must have regard to the dangerous rock lying 2¼ miles SW of Pulau Blading.

3 **Caution.** The passage between Pulau Kongka Besar and Pulau Bujang (0°08′S, 104°55′E) (9.16), 4 miles SW, should not be attempted on account of Pulau Maras, two rocks lying 1 mile SE of the SE extremity of Pulau Kongka Besar, Terumbu Cawan, a reef 5 cables NW of Pulau Bujang, and a group of rocks lying between the reef and Pulau Maras.

9.47

1 A channel leads between the detached offshore reefs lying N of the SE extremity of Pulau Sebangka, on its W side, and Pulau Kentar and Pulau Bakau (0°05′N, 104°45′E) on its E side. Three detached coral reefs lie in the N approach to this channel; Pulau Kapas (0°08′N, 104°43′E), a rocky islet, stands on the central reef, Karang Busung, the N reef, lies 1 mile NW of the islet, and an unnamed reef lies 1½ miles S of the islet.

Harbours

Pelabuhan Lingga

9.48

1 **General description.** Pelabuhan Lingga includes the area of water in the vicinity of Tanjung Butun (0°15′S, 104°36′E), a low point, and between the entrance to Sungai Daik (0°14′S, 104°38′E) and Pulau Kelombok, a hilly islet surrounded by reefs, situated on the W side of a shallow bay on the S coast of Pulau Lingga. Several islets and dangerous rocks lie S of Tanjung Butun and between it and Pulau Kelombok. A channel leading through the coastal bank to the river entrance is marked by beacons, as shown on the chart.

Daik, the principal town of Pulau Lingga, lies 1½ miles within the mouth of Sungai Daik.

2 **Anchorages.** Anchorage can be obtained in a depth of 9 m between Pulau Badas, an islet standing on a reef 1¼ miles S of Tanjung Butun, and Pulau Mepar, 4 cables SW of the same point; and also N of Pulau Kelombok in similar depths.

Local knowledge is required.

Fishing stakes. There are many stakes in this vicinity and care must be taken not to confuse them with navigational beacons.

Former mined area. See Appendix I.

3 **Directions.** Vessels entering Pelabuhan Lingga, whose draught does not permit them to use the marked channel between Pulau Kelombok and the reef 1 mile W, must use the narrow passage between Tanjung Bliung (0°16′S, 104°31′E) and the two drying reefs S of it where there are depths of 10 m in the fairway. Small vessels bound for Daik can cross the ridge by steering 030° from a position 3½ cables S of the beacon marking the reef 1 mile W of Pulau Kelombok.

4 **Useful mark:**

Daik Light (white beacon, 10 m in height) (0°14′S, 104°38′E) standing at the estuary of Sungai Daik.

Communications. There is a regular ferry service between Daik and Tanjungpinang (0°56′N, 104°27′E).

Teluk Limbung

9.49

1 **General description.** Teluk Limbung, a large bay used by local vessels, is entered between Tanjung Takih (0°08′S, 104°49′E) and Tanjung Lobit, 5½ miles W; the bay has low wooded shores, fringed by a sandy beach and a bank which dries out 1 mile offshore in places. There are several settlements on the shores, including Limbung on the W side, which provide timber for coastal shipments.

2 **Topography.** There are several islets and reefs in the bay; Pulau Ujungbeting, hilly, lies 7 cables E of Tanjung Lobit. Low wooded islets on the drying bank at the head of the bay include Pulau Kekek, 1 mile NE of Tanjung Seranggas (0°12′S, 104°46′E). Pulau Pongo, also low and wooded, lies close SE of Tanjung Lobit.

Anchorage. There is good anchorage in a depth of 3 m, W of Pulau Kekek.

3 **Directions for the anchorage.** Caution must be exercised when entering this bay and attempting to anchor. Vessels should pass between Pulau Empoh (0°06′S, 104°48′E) (9.43) and the reef surrounding Pulau Hantu (9.43), 2¼ miles SE, steering on Pulau Batuhitam (0°08′S, 104°46′E) until Terumbu Terap, a group of three rocks, is passed, thence to the anchorage passing clear of a detached drying reef 8 cables NNW of Pulau Kekek.

Passages between Pulau-pulau Lingga and Pulau-pulau Riau

General description

9.50

1 Several important navigable passages lie between the islands lying in the N part of Pulau-pulau Lingga and the islands forming the S part of Pulau-pulau Riau. They provide two-way connecting channels between Selat Riau and South China Sea, and the various inner routes leading N to Singapore Strait or S to Selat Berhala.

Tidal streams in general run in the direction of the channels and are only affected when passing wide openings between islands.

Anchorages. See 9.64.

Selat Temiang

9.51

1 **General description.** Selat Temiang lies between the NE coast of Pulau Temiang (see below) and the adjacent islands on the SW side, and Pulau Duyung, Pulau Medang Kecil (0°22′N, 104°25′E), Pulau Medang Besar and Pulau-pulau Dua (9.52) on the NE side. It is about 14 miles in length and 2 miles wide at its narrowest part; except for charted dangers, it is deep.

2 **Topography.** Pulau Temiang (0°19′N, 104°23′E) is the largest of a group of hilly islands, lying NW of Pulau Bakung Besar (9.39), and Pulau Sebangka. Pulau Kebat (0°23′N, 104°18′E) lies at the N extremity of this group and Pulau Pintu, with a high summit, lies between Pulau Temiang and Pulau Kebat. Pulau Pompong (0°22′N, 104°15′E), with a high hill in its centre, lies off the NW extremity, and Pulau Ompok, the largest of a chain of islets and reefs, lies off the SW extremity of the group. Pegunungan Benaya (Bukit Temiang), a range of high tableland peaks, forms the highest point of Pulau Temiang.

3 Pulau Duyung (0°21′N, 104°28′E) is hilly, its E point high and rocky; Pulau Medang Besar and Pulau Medang Kecil are both low and covered with mangroves and are surrounded by reefs.

Tidal streams. The in-going stream runs NW and the out-going stream SE; see 9.55.

9.52

1 **Directions.** Approaching from E, vessels may pass:

Either side of Batu Tengah, a rock, which generally breaks, lying in the middle of the E entrance to the strait and 1½ miles E of Pulau Rekon (0°19′N, 104°26′E), thence:

NE of a reef, reported (1984) to have been struck by a vessel in daylight, in the fairway 1·9 miles SE of the SE extremity of Pulau-pulau Dua, mentioned below, thence:

2 Clear of a 9·3 m shoal patch (reported 2002) lying 1·2 miles SE of the SE extremity of Pulau-pulau Dua, thence:

Clear of a small reef lying 1 mile SE of the SE extremity of Pulau-pulau Dua; it is probably not marked by breakers or discolouration. This reef was struck by a vessel in 1925.

3 From W, Batubelayar (Batu Belayer) (0°25′N, 104°16′E), 2 miles N of Pulau Pompong (9.51), consisting of two rocks a few metres high and a smaller rock lying close together on a reef, may also be passed on either side. However, strong tide-rips exist off its E side and a dangerous rock lies 3 cables W of the reef. If passing S of Batubelayar, the N coast of Pulau Kebat (9.51) should be given a wide berth on account of a dangerous rock lying 3 cables offshore.

4 Vessels can pass from Selat Temiang into Selat Merodong (9.53), or vice versa, by the passage between Pulau-pulau Dua (0°24′N, 104°22′E), two small islands surrounded by reefs, and Pulau Medang Besar, 2 miles ESE, with a least depth of 9 m in the fairway.

Caution. The best water lies along the NE side of Selat Temiang; in 1984 less water was reported along its SW side.

Selat Merodong

9.53

1 **General description.** Selat Merodong lies between Pulau Mesanak (0°25′N, 104°32′E) and Pulau Merodong, 4 miles WSW, on the S side, and a group of islands occupying a circular area 5 miles in diameter on the N side.

2 **Topography.** Pulau Merodong (0°24′N, 104°27′E), the highest island of the group which includes Pulau Medang Besar, 5 cables SW, and Pulau Duyung (9.51), rises to a small but prominent conical summit, and is separated from the SW extremity of the coral reef extending W from Pulau Mesanak (0°25′N, 104°32′E) (9.15) by a narrow channel. Pulau Dasi and Pulau Salamanang lie close together on a

reef, 6 cables SE of Pulau Merodong, and are separated from it and from the N coast of Pulau Duyung by narrow channels; Bocong, a rock, lies close off the NE side of Pulau Salamanang. The channels which lie within these islands are obstructed by reefs and are unsuitable for navigation.

3 **Tidal streams.** The in-going stream runs SW and the out-going stream runs ENE; tide-rips are often in evidence around the islet lying on a reef 1 mile NW of Pulau-pulau Dua (0°24′N, 104°22′E).

9.54

1 **Directions.** From E, the track through the strait, which has general depths of at least 20 m in its fairway, leads SW, passing:

SE of Karang Leman, a small reef, lying at the E entrance to the strait, 1 mile E of Pulau Benan (0°28′N, 104°27′E). Pulau Benan is easily recognised by a prominent hill at its SE end. Thence:

2 NW of the edge of a shoal lying 1 mile N of Pulau Merodong (0°24′N, 104°26′E) (9.53), thence:

SE and S of a detached reef lying close SE off Pulau Daleh (0°25′·5N, 104°24′·5E).

The track then leads either W between the edge of the coral reef extending NW of Pulau-pulau Dua (0°24′N, 104°22′E) and the islet surrounded by a reef (9.53), 1 mile NW, or NW between Pulau Titapan (0°27′N, 104°23′E) (shown as Titampan on chart 3949) and Pulau Titapan Kecil, a prominent bare rock, 2½ miles WSW, thence N of this rock.

3 **Clearing bearing.** The line of bearing 270° of Batubelayar (9.52) and well open S of the islet NW of Pulau-pulau Dua, passes clear of the reefs lying SE and SW of Pulau Daleh.

Selat Pengelap

9.55

1 **General description.** Selat Pengelap lies between the group of islands which forms the N side of Selat Merodong, on the SE side, and Pulau Pengelap (0°30′N, 104°17′E), with adjacent islands on the NW side. The strait is easy to navigate but owing to the uneven nature of the bottom, the tidal streams near spring tides cause tide-rips which are somewhat alarming to strangers.

2 **Topography.** Pulau Pengelap (0°30′N, 104°17′E), on the W side of the strait, is hilly, and surrounded by a reef. Pulau-pulau Alor (0°28′N, 104°18′E), the most S of the group forming the NW side of the strait, comprise some rocky islets lying on a reef. Pulau Dedap, a hilly island surrounded by a reef, lies 8 cables W of Pulau Pengelap; the reef extends 5 cables from the island's S extremity and a detached reef lies 1 mile SSE from the same point.

3 On the SE side of the strait, at the N end, Pulau-pulau Selanga (0°30′N, 104°21′E), three islets, can be approached fairly closely on their W side. A large white rock, with a detached reef close NE of it, lies between the islets and Pulau Tokong (0°29′N, 104°23′E). Pulau Katanglingga (Katang Lingga) lies 1½ miles NE of Pulau Tokong; a reef, surrounded by shallow water and generally marked by surf, lies between the two islands.

4 **Tidal streams**. The in-going stream passes either side of Pulau-pulau Alor (0°28′N, 104°18′E) (9.55); the S going stream meets the stream from Selat Temiang E of Batubelayar (0°25′N, 104°16′E) (9.52) and is the cause of turbulent water in this area. The out-going stream runs NE in the strait.

5 **Directions.** The main fairway of Selat Pengelap lies between Pulau-pulau Alor (0°28′N, 104°18′E) and a narrow bank, 2 miles E of Pulau Pengelap, on the NW side, and Pulau-pulau Selanga (0°30′N, 104°21′E) on the SE side. Terumbu Tengah (Terumbu Midden) (0°30′N, 104°19′E), a dangerous rock, lies at the N end of the bank; the S end has a patch of sand with a depth of 5 m over it. There are strong tide-rips across the bank but the rock is seldom marked by surf.

The passage between Pulau Pengelap and Pulau Dedap is clear but vessels are advised not to use it as the tidal streams are strong.

6 **Clearing bearing.** The line of bearing 224°, astern, of Batubelayar (0°25′N, 104°16′E), passes NW of a dangerous wreck (0°26′N, 104°18′E) and a reported 10 m shoal, 1 mile SE of Pulau-pulau Alor, both positions of which are approximate, and between Terumbu Tengah and Pulau-pulau Selanga.

Caution. With opposing wind and stream, a troublesome sea may arise in the vicinity of Pulau-pulau Selanga.

(Directions for Selat Riau are given at 9.78)

Selat Abang

9.56

1 **General description.** Selat Abang lies between Pulau Dedap (0°30′N, 104°16′E) and Pulau Pengelap, on the SE side, and Pulau Abang Kecil (0°33′N, 104°14′E), a thickly wooded and hilly island surrounded by a reef, on the NW side. The strait is reduced to a width of 8 cables at its SW entrance by reefs on either side, but is clear and deep in the fairway.

2 **Topography.** At the SW entrance, Pulau-pulau Sawang comprise two wooded islets and a dangerous rock lying on a reef 5 cables NW of Pulau Dedap; a shoal extends close NW of the islets. Pulau-pulau Sepintu, a group of islets and dangerous rocks on the N side of the strait, extends 5 cables SSE of Pulau Abang Kecil. Nyiur, comprising bare rocks on the S part of a large reef at the NE entrance, lies up to 8 cables E of Pulau Abang Kecil; a detached rock lies 2 cables SSE of Nyiur. Pulau Abang Besar, a large thickly wooded and hilly island, is separated from Pulau Abang Kecil by a narrow channel (9.63).

3 **Tidal streams.** In the fairway the in-going stream runs W and the out-going stream runs E.

Directions. From SW, having negotiated the narrows between Pulau-pulau Sepintu and the shoal NW of Sawang, previously mentioned, the track leads NE in deep water, passing:

4 SE of the detached rock lying SSE of Nyiur (0°32′N, 104°15′E), thence:

NW of the N extremity of Pulau Pengelap (0°30′N, 104°17′E) (9.55), thence:

NW of Pulau Udip (Udiep), a small island lying 1¼ miles ENE of the N extremity of Pulau Pengelap.

Selat Dempo

9.57

1 **General description.** Selat Dempo, between Pulau Abang Besar, Pulau Abang Kecil (0°33′N, 104°14′E) and Nyiur (9.56) on the SW, and Pulau Galangbaru (0°40′N, 104°16′E) on the NE side, is deep and easy to navigate. Together with the passage (9.58) W of Pulau Abang Besar (0°35′N, 104°12′E), it affords the best route for vessels proceeding W to Selat Durian (10.55) from Selat Riau passing well S of Gosong Timur (0°41′N, 103°51′E) (10.97), or S bound towards Selat Berhala (10.10).

2 **Topography.** The W side of Pulau Galangbaru is hilly; Pegunungan Datar, a table-topped hill, is situated in its N part. There are several islands off the W side of Pulau Galangbaru, the principal being Pulau Ngual, which lies with its S extremity 3 miles NW of Tanjung Cakang (0°37′N, 104°17′E), and Pulau Labun, situated 6 cables NNW of Pulau Ngual.

Tidal streams run NW and SE in the strait; near Karang Cucut (0°36′N, 104°18′E) the streams are particularly strong.

3 **Directions.** From E, the strait is entered between Pulau Udip (0°32′N, 104°18′E) (9.56), on the S side, and Karang Cucut, a reef on the N side, lying 2 cables S of Pulau Dempo (0°36′N, 104°18′E), a thickly wooded island which because of its regular rounded shape, is an excellent landmark. In 1969 a shoal, with a depth of less than 10 m, was reported to lie 2 miles SW of Tanjung Cakang (0°37′N, 104°17′E), the S extremity of Pulau Galangbaru.

4 **Clearing bearing.** The line of bearing 020° of the E extremity of Pulau Karas Kecil (0°44′N, 104°22′E) (9.77) just open E of the E extremity of Pulau Korekrapat (9.78) passes 4 cables E of Karang Cucut, and the light on Pulau Karas Kecil is obscured in its vicinity when it bears more than 018°.

5 **Side channel.** The channel lying between Pulau Dempo and the S extremity of Pulau Galangbaru is obstructed in the E approach by a group of rocks lying 3 cables NNW of Pulau Dempo and requires local knowledge.

Useful marks:

Pulau Dempo (0°36′N, 104°18′E) (9.57).

Summit of Bukit Gong (0°45′N, 104°12′E), the highest peak of Pulau Galang.

Other passages

9.58

1 **East and west of Pulau Petong.** The passage between Pulau Abang Besar (0°35′N, 104°12′E) and Pulau Petong, a hilly island with a prominent summit, surrounded by reefs and offlying islets and rocks, 5½ miles WNW, is deep mid-channel, but the dangers on either side are not easily discerned. Karang Kameleon (Batu Kameleon) (0°31′N, 104°07′E), a dangerous rock, lies in the S approach to this channel and 5½ miles SSE of Tanjung Apil, the S extremity of Pulau Petong; Terumbu Hipomenes, a reef consisting of stone and coral, lies 1½ miles W of Pulau Tortel (0°35′N, 104°11′E) an islet close W of Pulau Abang Besar. In 1974, a shoal was reported to lie 8 cables SSE of Tanjung Apil; a dangerous wreck (mast) lies 9 miles SW of the same point.

2 The passage between Pulau Anakpetong (0°38′N, 104°02′E), consisting of two islets lying close together on a reef, and Pulau Petong, 2½ miles E, is deep, free of dangers except for those charted off the W side of Pulau Petong, and is easy to navigate.

Pulau Cucupetong, standing on a small reef, lies 1½ miles WNW of the SW islet of Pulau Anakpetong.

Clearing bearing. The line of bearing 348°, or greater, of the summit of Pulau Petong passes W of Karang Kameleon.

9.59

1 **West Sebangka channel**, which leads along the NE sides of several islands, the largest being Pulau Tapai (0°07′N, 104°28′E), extending NW from the N extremity of Pulau Lingga, requires local knowledge. It is deep in the fairway, but the N entrance is obstructed by a narrow shoal, leaving only a narrow passage on either side.

The channel between Pulau Alut (0°04′S, 104°42′E) (9.64) and the NE coast of Pulau Lingga is safe. Both these channels are used by local craft carrying timber products coastwise.

9.60

1 **Selat Dasi** (0°01′N, 104°30′E) is a narrow passage, 4 miles long, separating the N end of Pulau Lingga from the SE extremity of Pulau Bakung Besar. The strait can only be navigated with local knowledge, but although narrow it is deep in the fairway and the sides are steep-to.

Tidal streams in Selat Dasi are, however, strong, and the W-going stream may attain a rate of 4 to 5 kn. There are often heavy tide-rips and whirlpools W of the W entrance to the strait, see also 9.10.

9.61

1 **Selat Saga** separating Pulau Batang (0°18′N, 104°22′E) from Pulau Saga, close SW, is a narrow passage requiring local knowledge. Pulau Tekoleh, with a village on its E side, lies close off the SE extremity of Pulau Saga; a narrow passage between the coastal reef surrounding Pulau Tekoleh and a large drying reef, E of the island, gives access to the village.

9.62

1 **Selat Panjang** is a narrow passage, requiring local knowledge, which separates Pulau Temiang (0°19′N, 104°23′E) from Pulau Batang and Pulau Bengku, two islands connected to each other by a reef, lying close W. Two detached reefs lie in the N entrance to the strait; Pulau-pulau Babi, comprising several small islets on a narrow reef, lies in its N approaches, 1¼ miles NW of the N extremity of Pulau Bengku. A small reef lies between the islets and Pulau Bengku and a shallow bank extends 7 cables NE from the islets.

9.63

1 **South of Pulau Abang Besar.** A channel lies between Pulau Abang Besar (0°35′N, 104°12′E) and Pulau Abang Kecil, close SE. A reef lies in the S approach, 1 mile SE of Tanjung Balao, the S extremity of Pulau Abang Besar.

Anchorages

9.64

1 **Tanjung Jang.** On the N side of Tanjung Jang (0°18′S, 105°00′E) (9.39) there are two shallow bays with sandy beaches. The E bay affords good anchorage during the SE monsoon for vessels up to 3·7 m draught.

Pulau Selentang. Temporary anchorage may be taken on the W side of Pulau Selentang (0°07′S, 105°00′E) in about 20 m, sand.

2 **Pulau Alut.** Anchorage, with good holding ground in depths from 8 to 10 m, mud and sand, may be obtained between Pulau Alut (0°04′S, 104°42′E), a hilly island lying 4 miles S of Pulau Sebangka, and Pulau Kongka Kecil, 7 miles E.

Pulau Sebangka. Off the NE coast of Pulau Sebangka (0°08′N, 104°35′E) (9.39), good anchorage may be obtained in depths of 12·8 to 14·6 m, sand.

3 **Pulau Mesanak.** Good anchorage may be obtained about 2 to 5 miles E of the E extremity of Pulau Mesanak (0°25′N, 104°32′E) (9.15) in depths of 11 to 14·6 m, mud and sand.

Pulau Benan. Good anchorage may be obtained on the bank that extends 4½ miles E of Pulau Benan (0°28′N, 104°27′E) (9.54) in depths of 10 to 18 m, mud and sand, keeping clear of Karang Leman (9.54).

PULAU-PULAU RIAU

GENERAL INFORMATION

Charts 3949, 3948, 2403, 1312

Scope of the section

9.65

1 In this section are described:

The islands and waterways of Selat Riau (0°54′N, 104°17′E) and includes the channels, harbours and anchorages associated with the strait.

Tanjunguban (1°04′N, 104°13′E), primarily a major oil terminal, lying at the W extremity of Pulau Bintan, and Kabil (1°05′N, 104°08′E) lying on the E coast of Pulau Batam, 5 miles E of Tanjunguban.

2 Also included in the description is the lesser port of Tanjungpinang (0°56′N, 104°27′E), 17 miles SE of Tanjunguban, and the islands lying on the SE and E side of Pulau Bintan together with the channels, harbours and anchorages associated with the area, and the route leading to Singapore which passes E of Pulau Bintan.

Kijang (0°51′N, 104°36′E), a bauxite port, lies in the SE part of Pulau Bintan.

Topography

9.66

1 Pulau-pulau Riau, collectively, is the large group of islands, islets and reefs bordering Selat Riau, the main waterway of the area, and the S side of the E part of Singapore Strait. Selat Riau, approximately 31 miles long, lies between Pulau Batam (1°05′N, 104°02′E) (10.87), Pulau Rempang (0°50′N, 104°10′E), and Pulau Galang (0°45′N, 104°14′E) to the W, and Pulau Bintan (1°00′N, 104°30′E), to the E.

2 Pulau Galang, which lies close N of Pulau Galangbaru (9.57), is both hilly and heavily wooded, the highest point (9.57) lying on the W side; Tanjung Maralagan, charted as Maralagau, high and wooded, is the SE extremity of the island. Pulau Rempang, close N of Pulau Galang, is separated from it by Selat Tiung, a navigable channel (9.120). The E coast of Pulau Rempang is generally low with areas of mangrove growth; a group of islands lies off its NE coast of which Pulau Ayerraja (Ayer Rajah) (0°58′N, 104°09′E) is the N island of the group.

3 Pulau Bintan, the largest island in the area, dominates the E side. It is wooded, and, excepting a few peaks inland, is not high; it is heavily indented on its SW side. There are many dangers off the E side of the island.

Buoyage

9.67

1 See 1.36.

Natural conditions

9.68

1 **Flow.** In Selat Riau the tidal streams, as a rule, flow strongly only once a day in each direction, N and S. They are predicted in *Admiralty Tide Tables* for a position 2 miles SE of Tanjung Taloh (1°01′N, 104°14′E) in the N part of the strait and for a position S of the S entrance — Pulau-pulau Lingga NE Approaches (0°37′N, 104°25′E) where they set 060° and 240°. The predictions give the time and strength of the maximum rate in each direction, and the times at which the streams turn.

2 In addition there is a current, not included in the predictions which, off Tanjung Taloh, sets up to ¼ kn 000° from April to November inclusive, and ¼ to ¾ kn 180° from December to March inclusive. In the S approaches this additional current sets 240° at ¼ to ¾ kn from December to March, and is negligible for the rest of the year.

3 Off Tanjung Taloh the maximum rate of the N-going stream can be expected to average, including the current, 3¾ kn from April to June and from October to December, at approximately semi-diurnal spring tides. The maximum rate of the S-going stream can be expected to average 4 kn in December and January and in June and July at approximately semi-diurnal spring tides.

4 In the S half of the strait, between Pulau Lobam (0°59′N, 104°15′E) and Pulau Karas Kecil (0°44′N, 104°22′E), the description of the tidal streams just given also applies, but the times given in the predictions must be increased by 45 minutes, and the rate is little more than half that given; the tidal streams here run NW and SW.

5 The W-going stream in the E part of Singapore Strait partly curves round the NW coast of Pulau Bintan and flows S into Selat Riau. At Pulau Lobam the stream divides, one part flowing ESE to Tanjungpinang (0°56′N, 104°27′E), and the other SSE through the main channel. At Pulau Karas Kecil, the direction of the stream becomes S and, after uniting with the stream which runs S along the E coast of Pulau Bintan and thence through Selat Telang (0°45′N, 104°37′E) in a WSW direction, it continues through Selat Dempo (0°36′N, 104°15′E), Selat Abang and Selat Pengelap (see 9.10). The E-going stream in Singapore Strait is coupled with the N-going stream through Selat Riau; at the same time the stream sets into Selat Riau from Selat Dempo, Selat Abang and Selat Pengelap, as well as from Selat Telang. As the maximum rate of the stream between Selat Dempo and Selat Telang may be 2¼ kn, vessels which are obliged to wait off the S entrance to Selat Riau owing to bad visibility or other reasons, can be set considerably ENE or SSW.

6 For notes and diagrams on tidal streams in Singapore Strait, see *Malacca Strait and West Coast of Sumatera Pilot*.

Rain. Heavy rain, which can fall suddenly, often occurs throughout Pulau-pulau Riau. It is quickly over so that poor visibility only lasts for a short time.

Landmarks

9.69

1 The following conspicuous peaks can be identified in clear weather from a considerable distance:

Gunung Langkuas (0°52′N, 104°35′E), a conical hill with a blunt top.

Gunung Kijang (0°55′N, 104°38′E), a group of hills near the coast of which the S hill is the highest.

Gunung Bintan Besar (1°04′N, 104°27′E), situated 6½ miles within the N coast of Pulau Bintan; on a clear day the peak can be seen for 40 miles.

Gunung Bintan Kecil (1°07′N, 104°27′E), a conical hill, appearing to be joined to Bintan Besar, nearly 3 miles N.

General directions

9.70

1 The route through Selat Riau is safe, sheltered and easily navigable night or day, with lights and beacons marking many of the dangers; see caution at 9.71.

The route E of Pulau Bintan is exposed in both monsoons, and excepting vessels bound for Kijang (0°51′N, 104°36′E), the fairway is obstructed by many dangers, which renders it necessary for vessels to keep a considerable distance off the coast.

SELAT RIAU — THROUGH ROUTE

General information

Charts 3949, 3831, 2403

Route

9.71

1 Selat Riau is entered between Tanjung Punggung (0°45′N, 104°31′E) (9.101), the SW extremity of Pulau Mantang, and Tanjung Cakang (0°37′N, 104°17′E), the S extremity of Pulau Galangbaru (9.57), situated 16 miles WSW, and is divided into two channels. The main channel, which is the channel most frequently used and is described here, lies on the W side of the strait, in deep water.

The E channel, described at 9.104, is mainly used by small vessels and those vessels bound for Tanjungpinang (0°56′N, 104°27′E) or Kijang (0°51′N, 104°36′E) from either N or S.

2 **Caution.** In the strait, lights and light-buoys tend to be unreliable, being frequently irregular or extinguished, and buoys and light-buoys are often missing from their stations.

The N entrance to Selat Riau, N of a line between Tanjung Sebong (1°07′N, 104°14′E) and Tanjung Butan, 5¾ miles W, is described in *Malacca Strait and West Coast of Sumatera Pilot*.

Topography

9.72

1 See 9.66.

Depths

9.73

1 Depths in the main channel, which lies to the W of Pulau Pangkil (0°50′N, 104°22′E), vary from 11 to 54 m.

In 1932 the main channel was swept to a least depth of 13 m.

Caution. Less water is reported at the N entrance and through Selat Riau.

Vessel Traffic Service

9.74

1 See 9.3.

Traffic Separation Schemes

9.75

1 Traffic Separation Schemes are established:

In the Singapore Strait, centred 1°08′N, 103°43′E.

At Horsburgh Light Area (1°20′N, 104°20′E).

See *Malacca Strait and West Coast of Sumatera Pilot*.

The schemes are IMO-adopted and Rule 10 of *International Regulations for Preventing Collisions at Sea (1972)* applies.

Natural conditions

9.76

1 See 9.68.

Principal marks

9.77

1 **Landmarks:**

Summit of Pulau Merodong (0°24′N, 104°27′E) (9.53), visible in the S approach.

Gunung Langkuas (0°52′N, 104°35′E) (9.69).

Pulau Dempo (0°36′N, 104°18′E) (9.57), visible in the S approach.

Summit of Pulau Siulung (0°46′N, 104°35′E) (9.101), visible in the S approach.

2 Gunung Bintan Besar (1°04′N, 104°27′E) (9.69).

Gunung Bintan Kecil (9.69), situated 3 miles N of Gunung Bintan Besar.

Chimneys (1°05′N, 104°13′E) (9.87).

Radio mast (1°04′N, 104°14′E) (9.87), visible in the N approach.

3 **Major lights:**

Pulau Karas Kecil Light (white metal framework tower, 11 m in height) (0°44′N, 104°22′E), visible between 123°–018°(255°).

Tanjung Punggung Light (white metal framework tower; 20 m in height) (0°45′N, 104°31′E). Visible between 269°–162°(253°) except where obscured by islands, eg Ranggas (9.104).

4 Horsburgh Light (1°20′N, 104°24′E) (*Malacca Strait and West Coast of Sumatera Pilot*), visible in the N approach.

Pulau Nongsa Light (1°12′N, 104°04′E) (*Malacca Strait and West Coast of Sumatera Pilot*), visible in the N approach.

Directions for main channel

(continued from 9.16)

Southern part

9.78

1 From a position E of Pulau Korekrapat (Korek Rapat) (0°41′N, 104°21′E), an islet, lying at the E extremity of a bank extending E from Pulau Galangbaru (9.57), at the SE entrance to the strait, the track within the swept channel initially leads N thence NW, until a position SW of Pulau Lobam Kecil (0°59′N, 104°14′E) is reached, passing:

Between the light-buoy (W cardinal) (0°42′N, 104°25′E), which marks the SE extremity of a sandbank over which there are general depths of less than 10 m, and a small detached coral patch 1¾ miles W. Tide-rips are in evidence over the coral patch and over the sandbank. Thence:

2 E and NE of Pulau Karas Kecil (Keras Kecil) (0°44′N, 104°22′E), an islet, from where a light (9.77) is displayed, and separated by a narrow channel from Pulau Karas Besar, wooded, hilly, and with a flat summit. Gosong Naraka, a shallow bank, extends 2 miles from the SE extremity of Pulau Karas Besar; Karang Seguci, a reef of sand and stones, lies 1 mile S of Pulau Karas Kecil and another small reef lies 1¾ miles SW of the same islet. Thence:

3 SW of the SW point of Pulau Pangkil (0°50′N, 104°22′E), a hilly island, from where a light (red beacon, 15 m in height) is displayed from its SW point, thence:

ENE of Pulau Mubutlaut (Mubut Laut), a small but high islet, 3 miles W of the SW point of Pulau Pangkil, thence:

ENE of a light-buoy (E cardinal), moored 2½ miles E of Tanjung Sembulang (0°52′N, 104°16′E), the prominent E extremity of Pulau Rempang, thence:

4 NE of Gosong Cemara (0°54′N, 104°14′E), a rocky bank, on which stands a beacon (conical topmark) 1¼ miles E of Pulau Cemara, a hilly island, thence:

SW of Gosong Tula (0°58′N, 104°15′E), a narrow ridge lying on the NE side of the channel, marked by a beacon (red cylinder topmark), thence:

NE of Pulau Tunjuk (0°57′N, 104°12′E), a flat island, on which stand leading lights (9.80), with foul ground extending 1 mile SSE, thence:

5 SW of Pulau Lobam Kecil, a small islet from where a light (black metal framework structure, 15 m in height) is displayed, which lies close off the W side of Pulau Lobam (0°59′N, 104°15′E), the summit of which has a prominent group of trees. Karang Lolo, a shoal, existence doubtful, lies 3 cables W of the light. Thence on the leading line (9.80).

In the S approaches to main channel, and in thick weather, soundings on the bank extending NE from Pulau Mesanak (0°25′N, 104°32′E) are a useful guide.

9.79

1 **Useful marks:**

Summit of Pulau Telang Kecil (0°42′N, 104°37′E) (9.124).

Pulau Numbing (0°44′N, 104°44′E) (9.124).

Pulau Gin Besar (0°46′N, 104°44′E) (9.124).

Pulau Gin Kecil (9.124), close SW of Pulau Gin Besar.

Pegunungan Datar (0°41′N, 104°13′E) (9.57).

Bukit Gong (0°45′N, 104°12′E) (9.57).

Prominent hill, 7 cables W of Tanjung Sembulang (0°52′N, 104°16′E) (9.78).

Pulau Terkulai Light (0°57′N, 104°20′E) (9.105).

Charts 3949, 3937 plan of Tanjunguban and Approaches

Northern part

9.80

1 **Pulau Tunjuk Leading Lights:**

Front light (triangle, point up, on beacon) (0°57′N, 104°12′E).

Rear light (triangle, point down on beacon, 20 m in height), situated 387 m S of the front light; intensified between 175°–185° (10°) and partially obscured by trees 188°–267° (79°).

From a position on the line of bearing of 095° of Pulau Lobam Kecil (9.78) and on the alignment (180°), astern, of the leading lights, the track leads N towards the N entrance of the strait, passing:

2 E of Pulau Nginang (1°00′N, 104°10′E), a hilly island, and:

W of Karang Plasit, a reef lying 5 cables SW of Tanjung Taloh (1°01′N, 104°14′E), a prominent point on the W coast of Pulau Bintan, thence:

Clear of a dangerous wreck, position approximate, lying close W of the leading line, 3½ cables SE of a shallow patch, 2 miles WNW of Tanjung Taloh, thence:

3 E of a small unmarked reef lying close E of Pulau Tanjungsau (1°03′N, 104°10′E), a hilly island; a light (white metal framework tower, 11 m in height) is displayed from its E side, and:

W of Pulau Buau (1°03′N, 104°13′E), a thickly wooded island which fronts a low lying bight; a light (white framework tower, 10 m in height) stands on the reef on the NW side of the island. Thence:

4 Clear of a dangerous wreck lying close E of the leading line, 1 mile NW of the N extremity of Pulau Buau, thence:

W of Pulau Malangsenggara (Malang Senggara) (1°05′N, 104°13′E), a group of rocks lying on the coastal reef extending N from Tanjunguban; Pulau Malangladi (Malang Ladi) another group of rocks, lies 5 cables NNE, thence:

5 E of a dangerous wreck (1°09′N, 104°12′E) marked by a light-buoy (E cardinal), thence:

E of Karang Galang (1°10′N, 104°11′E), a drying reef marked at its NE extremity by a light-beacon (white metal, black bands, 10 m in height).

The E side of the channel should be held if the leading lights on Pulau Tunjuk have not been sighted.

9.81

1 **Caution.** The coast between Malangjarum (Malang Jarum) (1°06′N, 104°13′E), an islet overgrown with low trees, and Tanjung Sebong (1°07′N, 104°14′E) must be given a wide berth, as there are depths of less than 5 m for fully 1 mile offshore.

(Directions leading into Singapore Strait are given in Malacca Strait and West Coast of Sumatera Pilot; directions for the passage between Selat Bulan and Selat Riau are given at 10.117 and for the passage to Selat Karimata are given at 7.27)

TANJUNGUBAN

General information

Chart 3949, 3937 plan of Tanjunguban and Approaches

9.82

1 **Position.** The port of Tanjunguban (1°04′N, 104°13′E) is situated on the W coast of Pulau Bintan at the N end of Selat Riau.

Function. Tanjunguban is primarily an oil terminal for transhipping oil owned by PT Stanvac Indonesia and operated by Pertamina. It is frequently visited by large tankers and LPG carriers.

2 **Topography.** The shoreline around the harbour is partially sloping, rocky and sandy. The city of Tanjunguban lies on a low flat plain, adjacent to the harbour area. Inland, the ground becomes hilly; rivers in this area are usually short and small and each entrance is muddy with mangrove growth.

3 **Approach and entry.** The port is approached from Selat Riau, main channel, and entered by pilotage, to any one of the five main berths.

Traffic. In 2004, the port was used by 1333 vessels totalling 7 640 968 dwt.

Port Authority. Adpel Tanjunguban, Dit Jen Perhubangan Laut, Cabang Tanjunguban, Tanjunguban, Riau, Indonesia. There is a resident Harbour Master.

Limiting conditions

9.83

1 **Deepest berth:** No 1 Berth, where there are depths of 17·4 m, MLWS, suitable for vessels of 240 m in length.

Tidal levels. See information in *Admiralty Tide Tables*. Mean spring range about 1·7 m; mean neap range about 0·8 m.

Maximum size of vessel handled: LOA 240 m, no limit on breadth; the largest vessel handled was one of 48 987 dwt.

Arrival information

9.84

1 **Port radio** is available; for details see *Admiralty List of Radio Signals Volume 6(4)*.

Notice of ETA. Notices of arrival are required 72 hours in advance to local agents and port authorities; requests for pilots should be forwarded 4 hours before arrival, or 2 hours prior to departure.

2 **Pilotage** is compulsory for vessels of 70 grt or over. The pilot boards about 1¼ miles SW of the S pier, as shown on the chart, or in position 1°15′·1N, 104°12′·0E for ships

from N. For further details see *Admiralty List of Radio Signals Volume 6(4)*.

Tugs. Three tugs are available.

Harbour

General layout

9.85

1 The harbour comprises a series of jetties of varying lengths and depths situated along the E side of the N entrance to Selat Riau.

Mentigi, a naval base, lies within the limits of the harbour about 1 mile SE of the berths, and comprises two jetties, each about 100 m in length, perpendicular to the coast.

Natural conditions

9.86

1 **Tidal streams.** Along the heads of the jetties there is frequently an undercurrent extending ½ cable from the edge of the reef which sets in the opposite direction to the main stream for an hour or two before the turn of the stream as predicted. This undercurrent frequently affects deep-draught vessels more than the surface stream, so that care in berthing is necessary. When the main stream is near its maximum rate, the stream for ½ cable off the jetty is considerably less than, and may vary in direction from, the main stream.

2 **Local weather.** It rains every month in this location, and there is no dry season. In the period between April and November there often occurs bad weather accompanied by strong winds (Sumateras).

Landmarks

9.87

1 Chimneys (1°05′N, 104°13′E); three in number standing in the N part of Tanjunguban.

Radio masts, standing 7 cables NNE, and 3½ cables S, respectively, of the chimneys.

Radio mast (1°04′N, 104°14′E) from which an obstruction light is displayed.

Oil tanks, standing 3 cables NNE of the conspicuous chimneys.

Directions

9.88

1 **Approach from south.** From S, vessels should approach the pilot station on the alignment of the leading lights (9.80) situated on Pulau Tunjuk, passing clear of the dangerous wreck lying 6 cables WSW of the S pier at Tanjunguban.

Approach from north. From N, after passing E of Karang Galang (1°10′N, 104°11′E), from where a light is displayed (see *Malacca Strait and West Coast of Sumatera Pilot*), the track to the pilot station leads S on the leading line (9.80), passing W of Pulau Malangsenggara (9.80).

Berths

Anchorages

9.89

1 An anchorage for small tankers lies about 8 cables SSW of the head of the S jetty (0°03′·9N, 104°12′·7E). For large vessels, which are not permitted to anchor within 1 mile of the jetties, anchorage is available on the W side of the strait, 1¾ miles NW of the jetties, with good holding ground in a depth of about 21 m.

On occasions vessels may be requested to wait N and outside of the strait in deep water until a berth is available.

Alongside berths

9.90

1 There are six T-head jetties, numbered 1 to 6 from N, five of which are oil/gas berths, the sixth and S jetty is reserved for small craft. Vessels berth alongside resilient dolphins which keep vessels 3 m clear of the heads of the jetties; depths vary between 6·4 and 17·4 m, MLWS. Nos 1 and 2 Jetties can handle LPG products.

Lights are displayed from the head of each jetty.

Port services

9.91

1 **Repairs.** Nearest facilities are at Singapore (see *Malacca Strait and West Coast of Sumatera Pilot*).

Other facilities include: limited medical assistance.

Supplies. Fuel/diesel oil; fresh water and provisions can be supplied with advance notice.

Communications. The nearest airport on Pulau Bintan lies 5 miles E of Tanjungpinang (0°56′N, 104°27′E), or Hang Nadim Airport on Pulau Batam.

KABIL

General information

Charts 3949, 3937 plan of Tanjunguban and Approaches

9.92

1 **Position.** The port of Kabil (1°05′N, 104°08′E) lies on the E coast of Pulau Batam, at the N end of Selat Riau.

Function. The port exports and imports locally produced crude palm oil which is stored in a tank farm close to the harbour area; the town of Kabil lies adjacent to the harbour area.

Topography. This part of Pulau Batam is hilly and the coastline is fronted by a reef extending offshore up to 5 cables in places. Two small islets lie offshore, N of the jetty. Pulau Tubu, 6 cables N of Pulau Tanjungsau (1°03′N, 104°10′E), 2 miles E of Kabil, consists of several rocks, partly covered with brushwood, surrounded by a reef.

2 **Approach and entry.** The port is approached from the N end of Selat Riau and entered via a buoyed channel with leading lights. The port can also be approached from S using the channel between Pulau Pencaras (0°58′N, 104°10′E) and Pulau Nginang, or from the channel leading from Selat Bulan (10.117).

Traffic. In 2004 the port handled 135 vessels totalling 986 538 dwt.

Port Authority. Adpel Kabil, Dit Jen Perhubangan Laut, Cabang Kabil, Kabil, Riau, Indonesia.

Limiting conditions

9.93

1 **Maximum size of vessel handled.** A vessel of 35 000 dwt can be accommodated alongside (9.98).

Arrival information

9.94

1 **Coast radio station.** Messages should be relayed through Tanjungpinang coastal radio station; for details see *Admiralty List of Radio Signals Volume 1(2)*.

Port radio. There is a port radio station.

Pilotage: Pilot boards in position 01° 04′·5N, 104°09′·0E; or 01°07′·0N, 104°10′·3E.

Tugs: not available.

Local knowledge is necessary when approaching the port from S (9.92).

Harbour

9.95

1 **General layout.** The harbour which spans the water between mainland Pulau Batam and Pulau Tanjungsau, 1½ miles ESE, consists of a pier 600 m long extending E from the shore; there are depths of 6 m at the pierhead. A palm oil terminal lies 3 cables S of the pier. An offshore jetty lies parallel with, and close E of, the terminal; the jetty is joined to the terminal at its N end.

Tidal stream rates are shown on the chart.

Directions

Approach from north

9.96

1 **Kabil Leading Lights:**

Front light (triangle point up on white beacon) (1°04′·9N, 104°08′·3E) situated on the head of the jetty extending E from the town.

Rear light (triangle point down on similar structure) (6½ cables SW of the front light).

2 On approaching Selat Riau from N, the alignment (217°) of the lights leads SW, passing SE of Karang Galang (1°10′N, 104°11′E), on which there is a light (see *Malacca Strait and West Coast of Sumatera Pilot*), thence between channel buoys until the alignment of Tanjung Turut leading lights is reached.

Tanjung Turut Leading Lights:

3 Front light (triangle point up on white beacon) (1°03′·2N, 104°08′·3E) standing 1½ cables E of Tanjung Turut.

Rear light (triangle point down on similar structure) (325 m SSW from front light).

On the alignment (198°) of the lights, the track leads SSW between buoys into the harbour area.

Caution. A small detached reef lies 4½ cables NNE of the front light off Tanjung Turut.

Approach from south

9.97

1 When approaching from S the initial track leads W from Selat Riau between the fringing reefs of Pulau Pencaras (0°58′N, 104°10′E) and Pulau Nginang (9.80), 1 mile N, on the alignment (274°) of the S point of Pulau Kila (1°00′N, 104°08′E) with the SW point of Pulau Momoi (8 cables W), thence:

2 Between Pulau Kila and Pulau Nginang with the S leading light of Pulau Tunjuk (9.80) bearing 136°, astern, midway between Pulau Pencaras and Pulau Ayerraja, close SW, thence:

Between Pulau Nginang and Pulau Menjing, 3 cables W, thence:

3 Between Pulau Raja (1°01′N, 104°09′E) and Pulau Kubong, 4 cables W, thence:

E of Pulau Lepang (1°02′N, 104°08′E), thence:

W of Pulau Lukus (9.98) for the anchorage, or:

E of the detached reef off Tanjung Turut for the port.

(Directions for the passage to Selat Bulan passing S of Pulau Batam are given at 10.117)

Berths

9.98

1 **Anchorage** may be obtained in a depth of 18 m, MLWS, mud and sand, W of Pulau Tanjungsau and N of Pulau Lukus (1°02′N, 104°09′E) lying 3 cables SW of the W point of Pulau Tangjungsau. This anchorage can be reached from N or S. Temporary anchorage can be given off the port in depths of 12 to 15 m, MLWS.

2 **Alongside berth.** An offshore jetty 480 m in length, with a charted depth of 2·8 m alongside, is capable of accommodating two vessels, and lies parallel with the shore E of the terminal. The terminal is designed to handle small import palm-oil tankers and larger export tankers.

Port services

9.99

1 **Facilities** are limited; deratting certificates can be arranged.

Communications: Hang Nadim Airport on Pulau Batam.

SELAT RIAU — EAST ROUTE — TANJUNG PUNGGUNG TO PULAU LOBAM INCLUDING TANJUNGPINANG

General information

Chart 3949, 3937 plan of Tanjungpinang

General

9.100

1 **Route.** Small vessels, or those vessels proceeding to Tanjungpinang (0°56′N, 104°27′E) or Kijang (0°51′N, 104°36′E) from N or S, can use the swept channel lying on the E side of the strait between Tanjung Punggung (0°45′N, 104°31′E) and a position S of Pulau Lobam (21 miles NW) where it joins the main channel. Except for a portion of it between Tanjung Setumu (0°53′N, 104°25′E) and Pulau Soreh (9.104), 1¾ miles SW, the average width of the channel is 1 mile.

The directions N of Pulau Lobam are given at 9.80.

Depths: least depth 7 m in the E channel; in 1932 this channel was swept to a least depth of 6 m.

Topography

9.101

1 The SW side of Pulau Bintan between Tanjung Punggung (0°45′N, 104°31′E) and Pulau Lobam (0°59′N, 104°15′E) (9.78), 21 miles NW, comprises numerous indentations, islands, islets, and reefs.

Pulau Mantang (0°47′N, 104°33′E), low and overgrown with mangroves except for a noticeable hill at Tanjung Punggung, lying at its SW extremity, and Pulau Siulung, a hilly island close E, lie off the S coast of Pulau Bintan and are separated from it by a navigable channel (9.140) leading to Kijang (0°51′N, 104°36′E) on the E coast.

2 Pulau Dompak (Setumu), 4 miles long and less than 2 miles wide, is a hilly island with Tanjung Setumu (0°53′N, 104°25′E), a low point, its W extremity; Selat Dompak (9.116) separates the island from the W coast of Pulau Bintan.

Between Tanjung Geliga (0°58′N, 104°25′E) (9.117) and Pulau Lobam (9 miles W) the coastline is heavily indented by Teluk Bintan (9.117).

Tidal streams

9.102

1 See 9.68.

Principal marks

9.103

1 **Landmarks:**

Gunung Langkuas (0°52′N, 104°35′E) (9.69).

Gunung Bintan Besar (1°04′N, 104°27′E) (9.69) with Gunung Bintan Kecil, 3 miles N.

Hill, standing 1 mile E of Tanjung Setumu (0°53′N, 104°25′E), is prominent.

Major lights:

Tanjung Punggung Light (0°45′N, 104°31′E) (9.77).
Pulau Karas Kecil Light (0°44′N, 104°22′E) (9.77).

Directions for east channel

Southern part

9.104

1 From a position SW of Pulau Telang Kecil (0°42′N, 104°37′E) (9.124), and keeping within the charted swept channel, the route initially leads NW, thence NNW to the pilot boarding area (0°54′N, 104°24′E) for Tanjungpinang (see 9.110), passing:

Clear of a shoal, swept to 7 m, which lies 1½ miles SW of Tanjung Punggung (0°45′N, 104°31′E) from where a light (9.77) is displayed, thence:

SW and W of Pulau Ranggas (0°45′N, 104°29′E), a thickly wooded islet, thence:

2 ENE of Pulau-pulau Tapai (0°46′N, 104°26′E), comprising a group of five islets, which are wooded except for the W islet lying 5 miles WNW of Tanjung Punggung. All the islets are rocky and depths around them are irregular; a coral shoal lies 5 cables SE. Kijang W channel light-buoy No 1 (starboard hand), is moored on the edge of the swept channel, 1 mile NW of the N extremity of Pulau Ranggas. Thence:

3 Between Pulau Basing (0°52′N, 104°25′E), a low islet, and a light-buoy (E cardinal), 1 mile WSW, which marks a shallow patch 1 mile E of Pulau Soreh, a low islet covered with coconut palms and surrounded by a reef, thence:

WSW of a buoy (starboard hand) which is moored 5 cables WNW of Pulau Basing, marking the edge of a shoal, thence:

W of Tanjung Setumu (0°53′N, 104°25′E) (9.101) to the vicinity of Tanjungpinang pilot station (9.110) as shown on the chart.

Northern part

9.105

1 From a position 1¾ miles NW of Tanjung Setumu (0°53′N, 104°25′E), and S of a shallow patch (2¼ miles NNW), marked by a buoy (conical), in the vicinity of the Tanjungpinang pilot boarding area (0°54′N, 104°24′E), the track initially leads WNW approximately 10 miles, passing:

NNE of Karang Soreh (0°54′N, 104°22′E), three reefs of sand and stones which only cover entirely at HW, lying on a bank which extends 4 miles NW from Pulau Soreh (9.104); a buoy (starboard hand) marks the N extremity of the reefs, thence:

2 Clear of an obstruction, which lies 1¾ miles SSW of Pulau Terkulai (0°57′N, 104°20′E), a flat and sandy island covered with coconut palms and surrounded by a reef; a light (white metal framework tower, 20 m in height), visible between 290°–109½° (179½°), is displayed from its W end. A can buoy (conical topmark) marks the SW side of a patch 1 mile SE of the island. Thence:

3 SSW of Gosong Tula (0°58′N, 104°15′E) (9.78), thence as directed at 9.78 for the main channel NE of Pulau Tunjuk.

Clearing bearings. The line of bearing 314° of the light-structure on Pulau Terkulai passes between Karang Soreh and the shallow patch N of the pilot station.

The alignment (328°) of the light structures of Pulau Lobam Kecil (9.78) and Pulau Tanjungsau (1°03′N, 104°10′E) (9.80) passes 3 cables SW of Gosong Tula.

9.106

1 **Useful marks:**

Tanjung Batuhitam Light (0°54′N, 104°26′E) (9.113).
Light, standing on Pulau Pangkil (0°50′N, 104°22′E) (9.78) seen from N.

Side channel

9.107

1 A vessel bound for the pilot boarding area (0°54′N, 104°24′E) for Tanjungpinang (9.110) from SW can also enter the E channel by passing:

Between Pulau Karas Kecil (0°44′N, 104°22′E) on which stands a light (9.77) and the light-buoy (0°42′N, 104°25′E) (9.78) moored 3¾ miles SE of it, thence:

2 W of Karang Kata (0°46′N, 104°25′E), a reef marked by a beacon (two red cylinders topmark), over which there is no discolouration; thence:

E of a shoal with 5·5 m over it, lying 1½ miles WNW of Karang Kata beacon, thence:

W of a detached reef, lying 4 cables N of the W islet of Pulau-pulau Tapai (9.104), and 8 cables NE of Karang Kata, thence:

3 E of Karang Poso (0°50′N, 104°23′E), a small reef which lies at the N end of a shoal, 1 mile E of Pulau Pangkil, thence into the swept channel passing between Pulau Basing (0°52′N, 104°25′E) and the light-buoy, 1 mile WSW, as directed at 9.104.

4 The greatest depths will be obtained by holding slightly over toward the Karang Kata side of the channel.

Caution. Fishing stakes lie close NW of this route and also 2 miles NE of Pulau Karas Kecil.

(Directions for Tanjungpinang are given at 9.113, and for the W approach to Kijang at 9.140)

Tanjungpinang

General information

9.108

1 **Position.** The town of Tanjungpinang (0°56′N, 104°27′E) is situated on a blunt headland on the W side of Pulau Bintan, and bordered by the estuary of Sungai Carang on the N and Selat Dompak (9.116) on the S.

Function. The port is a transhipment harbour linking Pulau Bintan with Singapore; it is also a ferry centre with a regular service to many of the distant islands including Sambu (1°10′N, 103°54′E), Karimun (1°03′N, 103°23′E) and Singapore.

2 Main exports include rubber and fish products.

Topography. Tanjungpinang is situated on a low narrow plain. The hinterland is hilly. Part of the shore line, in the N part, is sheer, and in the S, parts are swampy with mangrove growth.

Approach and entry. Approach is made through the E channel of Selat Riau then entered on the alignment of leading lights at Senggarang (0°57′N, 104°26′E) (9.113).

3 **Traffic.** In 2004 the port handled 69 vessels totalling 183 068 dwt.

Port Authority. Adpel Tanjungpinang, Dit Jen Perhubangan Laut, Cabang Tanjungpinang, Tanjungpinang, Riau, Indonesia. There is a resident Harbour Master.

Limiting conditions

9.109

1 **Depths** in the entry channel: 3 m at MLWS.

Tidal levels. See information in *Admiralty Tide Tables*. Mean spring range about 1·1 m; mean neap range about 0·4 m.

Weather. In strong continuous S and W winds there is often a considerable sea which makes loading or discharging cargo difficult in the outer anchorage (9.110).

Arrival information

9.110

1 **Port radio.** There is a coast radio station and also a port radio; for details see *Admiralty List of Radio Signals Volumes 1(2)* and *6(4)*.

Notice of ETA: 48 and 24 hours notice is required, for further information see *Admiralty List of Radio Signals Volume 6(4)*.

Messages to local agents and Harbour Master, should be sent through Tanjungpinang Radio.

2 **Outer anchorage** for vessels exceeding 3·7 m in draught lies in the roadstead S and SW of Pulau Penyengat (0°56′N, 104°25′E); the bottom is thick mud: two shallow patches close together, marked on their SW side by a buoy, lie 1¼ miles SW of the SW extremity of the island.

Pilotage is compulsory. The pilot boards 2·5 miles WSW of Tanjung Batuhitam pier (0°54′N, 104°26′E) (9.111); the boarding place is shown on the chart. For further details see *Admiralty List of Radio Signals Volume 6(4)*.

Tug. A small tug is available.

Harbour

9.111

1 **General layout.** The harbour includes the open water anchorages S and SW of Pulau Penyengat, a hilly, thickly wooded island, which is well populated, lying immediately E of the town, and the enclosed waters of Sungai Carang estuary, to the N. At the N end of the town there is a pier and at Tanjung Batuhitam, 5 cables S of the town, there is another pier (9.114) for small craft.

2 **Local weather.** The dry season takes place between July and August and during the rest of the year it rains on most days. Heavy short rain showers accompanied by heavy thunder occur in December. Generally the visibility is good, particularly in the rainy season, between showers. Fog can occur near the coastline in early morning especially after rain.

9.112

1 **Landmarks:**

Radio mast, and flagstaff close W, standing N of Tanjung Batuhitam (0°54′N, 104°26′E).

Monument, standing 9 cables N of the same point.

Fort, on which there is a flagstaff, standing on a prominent hill, close W of the town.

Signal station (0°55′·7N, 104°26′·3E) situated 2½ cables N of the prominent hill.

Directions

9.113

1 From the pilot boarding position (9.110) the track to the entry channel and inner roadstead leads ENE towards the light-structure (white beacon, 10 m in height) 2½ cables N of Tanjung Batuhitam (0°54′N, 104°26′E) until the alignment of the leading lights at Senggarang is reached.

2 **Leading lights:**

Front light (triangle, point up, on white framework tower; 5 m in height) (0°56′·5N, 104°26′·0E).

Rear light (white metal framework tower; 7 m in height) (323 m N of front light)

On the alignment (004°) of the lights, the track leads within a channel marked by beacons and buoys, passing:

3 W of the pierhead (9.114) at Tanjung Batuhitam, thence:

E of Karang Paku (0°55′·0N, 104°25′·6E), a reef of sand and stones with some low bushes on it, thence:

Between the fringing reefs of the E extremity of Pulau Penyengat, and the town below the fort (9.112), thence:

4 W of a light-buoy (starboard hand) standing 2½ cables NNW of the fort; a stranded wreck lies close E.

Thence into the inner roadstead (9.114).

Caution. There are several areas of fishing stakes situated on the E side of Pulau Penyengat and around dangerous rocks lying between Senggarang and Pulau Los (9.117), 2 miles WNW.

Berths

9.114

1 **Anchorage.** The inner roadstead lies N of the pier at Tanjungpinang and can be reached at HW with a draught of up to 3·7 m. Farther E the channel deepens somewhat as far as Pulau Bayan, a small islet with a pier, situated on the N edge of a mudbank, 5 cables E of the town. There is good anchorage in the middle of the river here in depths of at least 5 m, soft mud.

2 **Alongside berth.** A pier, with a depth of 3·2 m at its T-head, which has a width of 60 m, extends 1½ cables NW from the town; a flagstaff stands at the pierhead. The Harbour Master's office lies at the root of the pier.

Other berths. A pier, 750 m long with a T-head, projects WSW from the shore at Tanjung Batuhitam (0°54′N, 104°26′E).

3 A wooden pier, which lies on the N side of Pulau Bayan (0°56′N, 104°27′E), has a depth of 3 m alongside.

A T-headed pier, at which boats can lie alongside at all states of the tide, extends a short distance from the NE coast of Pulau Penyengat (0°56′N, 104°25′E); a stranded wreck lies 1 cable E of the pierhead.

Port services

9.115

1 **Repairs.** A slipway can accommodate vessels of up to 500 dwt.

Other facilities: deratting exemption certificates issued; medical assistance.

Supplies: small quantities of fresh water alongside Tanjungpinang pier; fuel and provisions are not available.

Communications. There is an airport 5 miles E of the town towards Kijang, with connecting flights to Jakarta and Singapore; daily ferries run to Tanjunguban and twice-weekly to Singapore and Tanjungpriok (via Muntok-Selat Bangka).

SELAT RIAU — MINOR CHANNELS AND ANCHORAGES

East side of of Selat Riau

Chart 3949

Selat Dompak

9.116

1 Selat Dompak, a narrow channel, separates Pulau Dompak (0°52′N, 104°27′E) (9.101) from the W side of

Pulau Bintan. A hill, situated in the middle of the N coast of Pulau Dompak, has a prominent tree with a square crown on it; a narrow rocky shoal extends a short distance N from a position 5 cables W of the hill.

A drying patch lies within the entrance to the strait, 6 cables E of the hill. The strait is only suitable for local craft.

Teluk Bintan

9.117

1 Teluk Bintan, entered between Tanjung Geliga (0°58′N, 104°25′E), its E point, and Tanjung Rungus, the W extremity of Pulau Ujan, 3 miles NW, is used mainly by local craft. Pulau Ujan is a wooded island which is separated from Pulau Bintan by a narrow shallow channel. Pulau Los, a rocky, wooded islet, lies close SW of Tanjung Geliga.

2 A central channel, with depths of over 5 m, containing numerous fishing stakes and only suitable for small craft entering local rivers, runs N and NNE along the W side of Pulau Penyengat (9.111) and Pulau Los, terminating 1¾ miles NE of the E point of Pulau Ujan.

Sungai Raja

9.118

1 Sungai Raja flows out along the E side of Tanjung Raja (1°00′N, 104°20′E), a low point on the S shore of the W headland of Pulau Bintan. A channel between mudbanks leads to the entrance and the town of Raja; within the bar there are depths of from 3·7 to 4·9 m.

Other channels and landing

9.119

1 There is a deep channel between the N side of Pulau Lobam (0°59′N, 104°15′E) (9.78) and the Bintan coast. However, the W entrance is obstructed by detached shoals and reefs; the SE entrance is obstructed by Gosong Lobam, a mudbank which dries in places.

2 Local knowledge is required to use a channel with depths of between 5·8 to 20 m, which lies between Pulau Buau (1°03′N, 104°13′E) and Pulau Bintan. A dangerous rock lies 1 cable SSW of Mentigi (1°04′N, 104°13′E) (9.85) and there are fishing stakes N and S of the rock.

Landing. There is a narrow beach, on the N side of Pulau Terkulai (0°57′N, 104°20′E) (9.105), that forms a good landing place.

West side of Selat Riau

Charts 3948, 3949

Selat Tiung

9.120

1 **Description.** Selat Tiung, which separates Pulau Galang (0°45′N, 104°14′E) from Pulau Rempang, close N, is 6 miles in length and is navigable by small vessels having a draught not exceeding 3·0 m at HW, which wish to leave or enter Selat Riau using this channel.

Vertical clearance. A bridge with a vertical clearance of 27 m stands at the W entrance of Selat Tiung, and connects Pulau Rempang and Pulau Galang.

2 **Tidal streams.** In the E entrance, the tidal stream runs at a maximum rate of 1½ kn; this occurs about 5 hours before HHW and 2 hours before LLW. At the W entrance the rate is double this. The best time to negotiate the strait is to await slack water.

9.121

1 **Directions.** From a position within Selat Riau, the track from N or S leading to the E entrance lies W of Pulau Mubut Darat (0°49′N, 104°17′E), an islet, thence to a bar which is marked by a buoy (port hand), moored 5 cables WSW of the islet. The approach from N is the easier route.

Caution. A dangerous rock lies 1 mile W of the W entrance, and a dangerous wreck lies 1½ miles SW of the same entrance.

Other channels

9.122

1 A passage, which can only be navigated by small craft, lies between Pulau Galangbaru (0°40′N, 104°16′E) and Pulau Galang; the E entrance is shallow and the W entrance, over which there is a bridge with a vertical clearance of 12 m, is obstructed by reefs. The channels between the islands off the NE side of Pulau Galangbaru are difficult to navigate.

EAST COAST OF PULAU BINTAN

General information

Charts 1312, 2403, 3949

General description

9.123

1 The E side of Pulau Bintan is rendered unsafe up to a distance of 20 miles by a great number of islands, banks, reefs and rocks; with local knowledge, it is possible to make use of some of the passages between these dangers, and there is a safe channel for Kijang (0°51′N, 104°36′E) (9.140), otherwise for through traffic it is better to pass outside of them.

The N coast of the island is described in *Malacca Strait and West Coast of Sumatera Pilot*.

Topography

9.124

1 Several large hilly islands lie off the SE coast of Pulau Bintan which are themselves separated from other islands close inshore by Selat Telang (9.147). Pulau Gin Besar (0°47′N, 104°43′E) lies with its E extremity 10½ miles ESE of Tanjung Tili (0°49′N, 104°35′E), the S extremity of Pulau Bintan. Pulau Lina, a small islet, lies off the NW coast of Pulau Gin Besar, and Pulau Borus, with Tekong, a rock, lie off its NE extremity; Pulau Gin Kecil and Pulau Numbing lie close off its S side. There are reefs and islets lying up to 4 miles E of Pulau Gin Besar and Pulau Numbing; Pulau Rusah, consisting of two rocks on a reef, lies 1 mile S of Pulau Numbing. Pulau Telang Besar, together with Pulau Telang Kecil, lies with its N extremity 2 miles WSW of Pulau Gin Kecil; the S part of Telang Kecil has a prominent hill.

2 East of Kijang (0°51′N, 104°36′E) there is another group of large hilly islands with Pulau Poto (0°52′N, 104°41′E), the E island, lying 3 miles NNW of Pulau Gin Besar. Pulau Pangkil Besar (0°56′N, 104°44′E), fringed by a reef, lies 3½ miles NE of Pulau Poto; Pulau Pangkil Kecil lies 1¼ miles WSW of the former.

3 Pulau Mapor (1°00′N, 104°50′E), the largest of the outermost islands on this coast, has a prominent hill at its N extremity; the island is surrounded by a reef, and many rocks covered in vegetation; Pulau Sentut, an islet in the form of a sugar-loaf, lies 2 miles N.

Karang Heluputan (9.131), the outermost danger off the E side of Pulau Bintan, lies 35 miles ESE of Tanjung Tili.

Piracy

9.125

1 Several incidents of piracy have been reported off the E coast of Pulau Bintan; see 1.8.

Local knowledge

9.126

1 The channels (9.148) leading between the W side of Pulau Mapor and the E coast of Pulau Bintan are only suitable with local knowledge and are not recommended.

Submarine cables

9.127

1 Vessels are requested not to anchor or trawl in the vicinity of the charted submarine cables which have been laid between Jakarta and Singapore passing to the N of Pulau Bintan.

Tidal streams

9.128

1 See 9.68. The current near Karang Heluputan (0°38′N, 105°08′E) sets N and S.

Principal marks

9.129

1 **Landmarks:**

Gunung Langkuas (0°52′N, 104°35′E) (9.69).
Gunung Kijang (0°55′N, 104°38′E) (9.69).
Gunung Bintan Besar (1°04′N, 104°27′E) (9.69).
Gunung Bintan Kecil (1°07′N, 104°27′E) (9.69).
Horsburgh Lighthouse (1°20′N, 104°24′E) (see *Malacca Strait and West Coast of Sumatera Pilot*).

Major lights:

Pulau Merapas (white metal framework structure, 40 m in height) (0°56′N, 104°55′E).
Horsburgh Light — as above.

Other aid to navigation

9.130

1 **Racon:**

Horsburgh Light (1°20′N, 104°24′E) (see *Malacca Strait and West Coast of Sumatera Pilot*).

For further details see *Admiralty List of Radio Signals Volume 2*.

Directions

(continued from 5.99 or 6.82)

Tanjung Jang to Tanjung Berakit

9.131

1 From a position E of Tanjung Jang (0°18′S, 105°00′E) to the E entrance to Singapore Strait, the route lies E of Pulau Bintan, leading N and NW for a distance of approximately 109 miles, passing:

Either side of Karang Heluputan (0°38′N, 105°08′E), a steep-to rocky reef, upon which stands a light (white beacon, 10 m in height). In calm weather this reef is marked by discolouration, but at other times it is difficult to distinguish between the breakers on the reef and the crest of the waves in the greater depths of the vicinity. Thence:

2 E of Kayu Ara, a detached reef (0°50′N, 104°56′E) on which stands a light-beacon, and shoals 3 miles S, thence:

NE of Pulau Merapas (0°56′N, 104°55′E), a wooded islet, which is steep-to, from where a light (9.129) is displayed, thence:

NE of Tanjung Berakit (1°13′N, 104°35′E), a prominent headland from where a light is displayed; Terumbu Berakit, a coral reef, lies 2½ miles NNE of the point. Both are fully described in *Malacca Strait and West Coast of Sumatera Pilot*.

3 **Caution.** In the E approaches to Singapore Strait there are a number of dangerous wrecks; numerous submarine cables and a submarine gas pipeline (see 1.51) also pass through the area. These can best be seen on the charts. See also *China Sea Pilot Volume II.*

9.132

1 **Useful marks:**

Tanjung Jang Light (0°18′S, 105°00′E) (9.14); seen in the S part of the route.
Beacon ruins (0°38′N, 105°08′E).
Hill (1°00′N, 104°50′E) on NE extremity of Pulau Mapor (9.124).

(Directions for entering Singapore Strait from E are given in Malacca Strait and West Coast of Sumatera Pilot)

Kijang

Charts 3937 plan of Kijang and Approaches, 3949, 2403

General information

9.133

1 **Position.** Kijang (0°51′N, 104°36′E), also known as Sungaikolak, is situated on the W side of Selat Kijang (9.136) which runs along the SE coast of Pulau Bintan. The town of Kijang lies adjacent to the harbour area.

Function. The port, which mainly exports bauxite and timber products, also handles general cargo.

Port limits. Selat Kijang is bounded by the latitudes of the NW extremity of Pulau Buton (0°53′N, 104°38′E) and the SW extremity of Pulau Koyang (0°49′N, 104°37′E).

2 **Approach and entry.** The port is approached from either E or W using nominated channels, and entered through Selat Kijang using leading lights and buoyed channel to the berths.

Traffic. In 2004 the port was used by 502 vessels totalling 886 741 dwt.

Port Authority. Port Manager/Harbour Master, Port of Kijang, Jalan Hang Jebat No 29, Kijang, Indonesia.

Limiting conditions

9.134

1 **Depths** in the W approach channel leading to the pilot boarding station (9.135) vary from 7·4 to 23 m; in 1938 this channel was swept to 7 m, whilst the E approach, which has greater depths, was swept in 1955 to a least depth of 13 m.

Vertical clearances. An overhead cable, with vertical clearance of 45 m, spans Selat Kijang from the W side to the W extremity of Pulau Angkut. A second cable, with a vertical clearance of 20 m, spans Selat Angkut, which separates Pulau Angkut and the NW extremity of Pulau Koyang.

2 **Tidal levels.** See information in *Admiralty Tide Tables*. Mean maximum range about 1·2 m, mean minimum range about 0·3 m.

Density of water at the berth: 1·020 g/cm^3.

Maximum size of vessel handled: 180 m in length, draught 10 m, beam 28 m. Greater length and draught may be possible with the permission of the Harbour Master.

Height restriction on bauxite loading. The height of the vessel from the water-line to top of the hatch coaming must not exceed 12 m.

Arrival information

9.135

1 **Port radio.** Messages should be relayed through Tanjungpinang coastal radio station; for details of this station and of the port radio service at Kijang, see *Admiralty List of Radio Signals Volumes 1(2)* and *6(4)*.

Notice of ETA: 48 and 24 hours to local agents and Port Authority. For further information see *Admiralty List of Radio Signals Volume 6(4)*.

2 **Outer anchorages.** The E anchorage (0°48′·8N, 104°40′·6E) lies 1 mile W of the charted E pilot boarding station in 26 m; the W anchorage lies in the vicinity of the W boarding station and clear of the leading line, in 11 m.

Pilotage is compulsory. From W, vessels should embark a pilot close SSE of No 4 Light-buoy, moored 3 cables S of Tanjung Tili (0°49′N, 104°35′E); from E the pilot boards 1 mile ESE of Pulau Temborah Laut (0°49′N, 104°40′E).

3 Vessels requiring pilotage to the port on any day must arrive at the E pilot station not later than 1600 Local Mean Time, and at the W pilot station not later than 1800 Local Mean Time. On occasions, suitable tidal conditions may allow for extension of these times. For further details see *Admiralty List of Radio Signals Volume 6(4)*.

Tugs. Several small tugs are available; their use is compulsory.

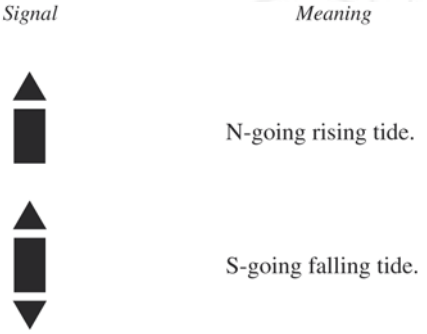
Harbour

9.136

1 **General layout.** Selat Kijang, a narrow strait which in part forms the boundaries of the port, leads between Pulau Bintan on the W side, and Pulau Koyang (0°49′N, 104°37′E), Pulau Angkut, Pulau Dendang, Pulau Mana and Pulau Buton, on the E side. The working area fronts the town which stretches from a position 1 mile NE of Tanjung Tili (9.124) to Pulau Mana, 2½ miles farther N. Within this stretch of coastline there are many stranded wrecks.

9.137

1 **Tidal signals** (Diagram 9.137) are displayed at Kijang.



Kijang – tidal signals (9.137)

2 There is a tide gauge at Kijang, close S of the bauxite terminal.

9.138

1 **Natural conditions.**

Tidal streams may be strong off Tanjung Tili at the S entrance to Selat Kijang, setting across the channel toward Pulau Siulung (9.101). A rate of 3½ kn has been observed. Off the bauxite terminal the rate can reach 6 kn.

Climatic table. See 1.137 and 1.144.

9.139

1 **Landmarks:**

Gunung Langkuas (0°52′N, 104°35′E) (9.69).

Gunung Kijang (0°55′N, 104°38′E) (9.69).

Temborah, the 137 m summit of Pulau Kelong (0°50′N, 104°39′E); shown as 113 m on chart 3949.

Directions

9.140

1 **Approach from west.** From a position in the E channel of Selat Riau, in the vicinity of No 1 Light-buoy (0°46′N, 104°28′E), the track to the pilot station (9.135) initially leads NE thence generally E through a swept buoyed channel (see 9.134), passing:

NW of Pulau Belading (0°48′N, 104°29′E), a wooded islet, with a prominent white sandy beach near its N extremity, surrounded by a reef, thence:

2 N of Pulau Dendang and Pulau Antu, two wooded islets, lying 1 and 2½ miles, respectively, E of Pulau Belading, thence:

NNE of Pulau Kekip (0°480′N, 104°33′E) and Pulau Bunut, 5 cables ESE, thence to the pilot station and entrance leading lights (9.142).

9.141

1 **Approach from east.** The entrance to the swept channel (see 9.134) lies 5 miles NNE of Pulau Mapor (1°00′N, 104°49′E) (9.124). The track initially leads S in the fairway passing:

Between the fringing reefs of Pulau Mapor and Pulau Merapas (9.131), 3½ miles ESE, thence SSW until the bearing 270° of Temborah (9.139), situated on Pulau Kelong (0°50′N, 104°39′E), is reached, thence on this bearing, passing:

2 N of Pulau Suka (0°49′N, 104°46′E), an islet on a reef, until the E edge of Pulau Cepedak (0°51′N, 104°42′E) bears 330°; a small area close N of Pulau Suka has been swept to a depth of 10·5 m. Thence SW, passing:

NW of a shoal, lying 2½ miles ESE of Pulau Temborah Laut (0°49′N, 104°40′E), thence to the pilot boarding station (9.135).

3 From the E pilot station the track passes N of a reef, from where a light (wooden framework structure, 6 m in height) is displayed, lying 3½ cables NW of Pulau Kambat (0°48′N, 104°40′E), thence:

Between Pulau Rusa Besar (0°47′·5N, 104°38′·5E) together with Pulau Rusa Kecil, 1¾ cables E, and Pulau Gabi, 4 cables N. A light-buoy (port hand) marks a reef, which lies 1½ cables NNE of Pulau Rusa Kecil.

4 The track then leads WNW between Pulau Riau (0°48′N, 104°38′E) and the S extremity of Pulau Kelong, 3½ cables N, thence:

Between the E extremity of a shoal extending NE from Pulau Bulat (0°48′N, 104°36′E), marked by a buoy (port hand), and the SW extremity of Pulau Kelong, thence:

Onto the alignment of the leading lights (9.142).

Caution. See 9.126.

9.142

1 **Selat Kijang Leading Lights:**

Front light (triangle, point up, on metal framework structure, 8 m in height) (0°48′N, 104°35′E) situated close N of Tanjung Maga, the NW extremity of Pulau Siulung (9.101).

Rear light (triangle, point down, on similar structure, 10 m in height) (3¾ cables SW of the front light).

On the alignment (219°), astern, the track leads NE into Selat Kijang, and between the channel marking light-buoys maintaining a mid-channel approach to the berth.

9.143

1 **Side channel.** The alignment (342°) of a beacon (two cones points together), standing close off the SE coast of Pulau Kelong, and the summit of Temborah (0°50′N, 104°39′E) (9.139) leads from Selat Telang into the E approach channel in a least depth of 17 m, as shown on the chart.

9.144

1 **Useful marks:**

Three light-beacons standing on the E side of Selat Kijang, on Pulau Koyang (0°50′N, 104°37′E), Pulau Angkut (close N), and Pulau Mana (1 mile farther N).

Berths

9.145

1 **Bauxite Terminal.** PT Aneka Tambang Wharf, 135 m long, is used for the loading of bauxite. Vessels are moored alongside, on dolphins, at two jetties in a depth of 11 m, MLWS.

Other berths. Sea Communication Wharf: length 50 m with a depth alongside of 9 m, MLWS; used for general cargo and passenger vessels.

PT Korindo Abadi Wharf: length 200 m with a depth alongside of 8 m, MLWS; used for plywood.

PT Wirah Indah Kencana Wharf (1 mile N of the bauxite terminal): depth alongside 7 m; used for loading granite into barges.

Port services

9.146

1 **Facilities** are limited; medical assistance/hospital.

Supplies: fresh water, fuel and provisions are unavailable.

Communications. There is an airport 10 km NW of the town with connections to Jakarta and Singapore; there is also a ferry service to Singapore via Tanjungpinang.

Minor passages

South-east of Pulau Bintan

9.147

1 **Selat Maralimau** is a narrow and shallow strait which separates Pulau Mantang (0°47′N, 104°33′E) from Pulau Siulung, close E. It is only suitable for local craft.

Selat Dendang lies between Pulau Buton and Pulau Dendang (0°51′N, 104°37′E); the channel between Pulau Mana and Pulau Dendang should not be used. Local knowledge is required.

Selat Kelong. The deep-water channel of Selat Kelong runs along the W side of Pulau Kelong and between it and Pulau Cicin (0°51′N, 104°38′E) and Pulau Pelakam, 6 cables S. Local knowledge is required.

2 **Selat Telang** which separates Pulau Siulung (9.101) and Pulau Kelong (0°50′N, 104°39′E) (9.139) on the N side, from Pulau Telang Besar (0°44′N, 104°37′E) and Pulau Gin Besar (9.124) on the S side. In the S entrance, Gosong Pute, a bank, lies 7 cables WSW of Pulau Serai (0°45′N, 104°35′E), an inhabited island lying close off the S extremity of Pulau Siulung. In the N entrance, a bank with a least depth of 5 m lies generally NE for 1¼ miles 7 cables off the N coast of Pulau Gin Besar, a rock awash lies 2 cables W of the S tip of the bank. Terumbu Semut (0°46′N, 104°39′E), two drying reefs, lie 1 mile NW of the NW extremity of Pulau Telang Besar.

3 **Selat Sendara**, between Pulau Telang Besar and the group of islands, of which Pulau Gin Besar (9.124) is the largest, lying on the E side of the strait, has shallow depths on each side. Pulau Rinti (0°46′N, 104°41′E) is situated on the NE side of the N entrance to the strait; Karang Sendara (0°41′N, 104°37′E), a rock, lies 6 cables SE of Pulau Telang Kecil, off the S entrance.

Caution. Both Selat Telang and Selat Sendara are difficult to navigate and Selat Sendara experiences strong tidal streams.

East of Pulau Bintan

9.148

1 The passages and channels which lie between Pulau Mapor (1°00′N, 104°49′E) and the E coast of Pulau Bintan contain many dangers and should only be undertaken with local knowledge as they may not have had recent surveys. In the passage directly W of Pulau Mapor, Pulau Murbai lies 2½ miles SW of its SW extremity and Pulau Putang, a reef, lies 1½ miles farther SW. In 1990, a laden vessel grounded on a shoal approximately 1 mile WNW of Pulau Murbai. In the N entrance, Black Rock, an islet, lies 4½ miles NW of the NW extremity of Pulau Mapor, and Middle Rock lies between. Pulau Sama (1°00′N, 104°44′E), two islets close together, lie 3½ miles WSW of the NW end of Pulau Mapor.

Side channels

General

9.149

1 Several narrow passages run between the islands associated with the SE part of Pulau Bintan; many can be navigated, but several of the passages are difficult and all require local knowledge.

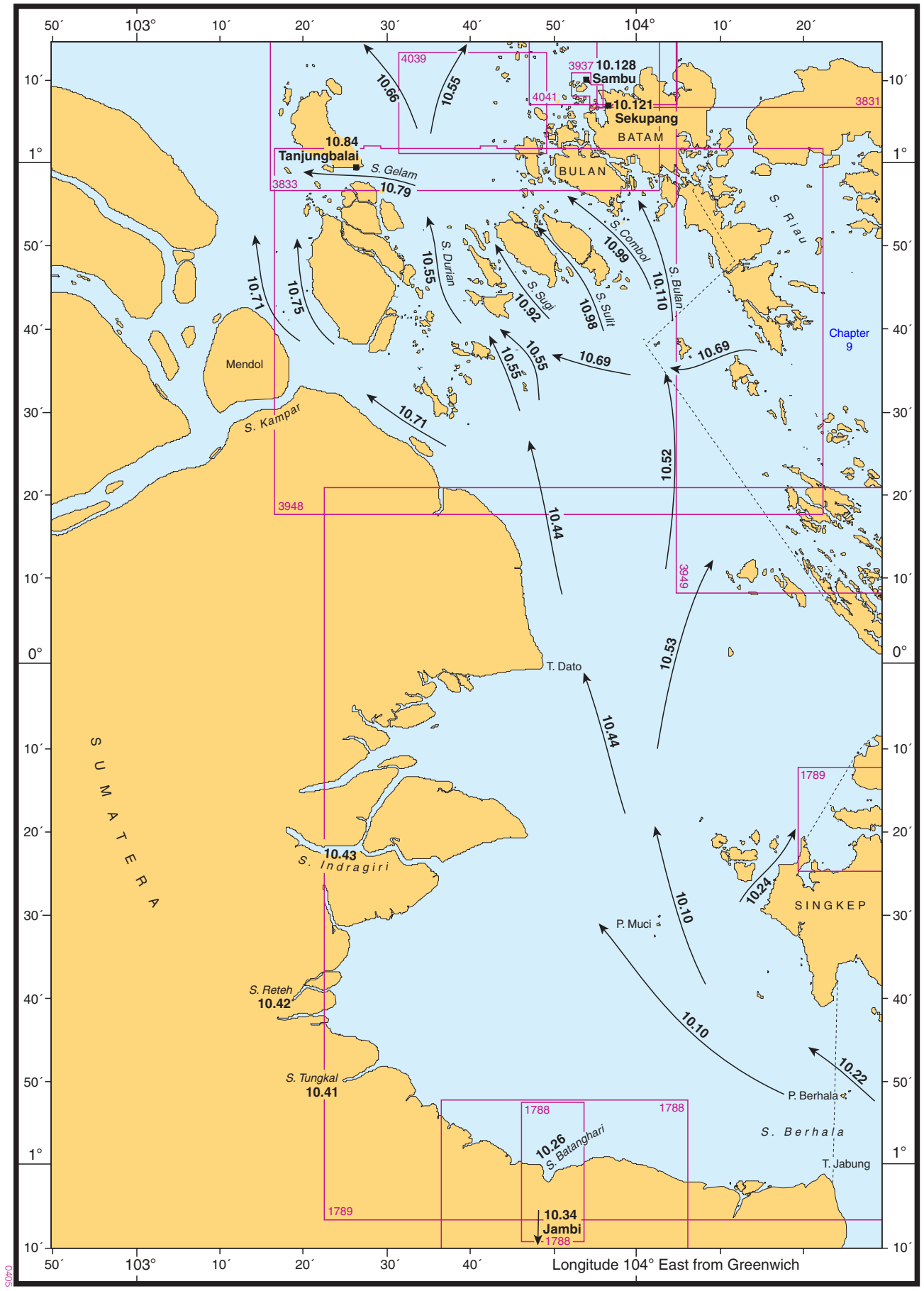
9.150

1 Selat Tempeh and Selat Angkut lie directly E of Kijang. The N part of Selat Kijang lies between the SE coast of Pulau Bintan and the W and N coasts of Pulau Buton (0°53′N, 104°38′E); although this channel has general depths of 7 and 13 m there are numerous shoals especially at its E entrance. Selat Buton lies between Pulau Buton and the N end of Pulau Kelong; Selat Poto (0°53′N, 104°40′E) separates Pulau Poto (9.124) from the E side of Pulau Buton.

2 Channels run either side of Pulau Pangkil Kecil (0°55′N, 104°43′E) but there are reefs situated off the S part of the island and in the S approaches. Terumbu Galas, 1 mile SW of the island, comprises two reefs lying at the N entrance to Selat Kijang.

Pulau Nikoi (1°03′N, 104°42′E), standing on a reef 4½ miles WNW of Pulau Mapor, is covered with tall trees. Between it and the reef containing Pulau Meralas Bukit and Pulau Meralas Bakau, there is a channel with small islets in the fairway, and a detached reef lies in the N entrance.

Chapter 10 - Route to Singapore Strait by Selat Berhala and Selat Durian



CHAPTER 10

INNER ROUTE TO SINGAPORE STRAIT BY SELAT BERHALA AND SELAT DURIAN INCLUDING EAST COAST OF SUMATERA AND THE ISLANDS AND STRAITS BETWEEN SELAT DURIAN AND SELAT RIAU

GENERAL INFORMATION

Charts 1312, 1358

Scope of the chapter

10.1

1 In this chapter, the inner route to Singapore Strait from Tanjung Jabung (1°01′S, 104°22′E) to Pulau Jangkat (0°58′N, 103°43′E) by way of Selat Berhala and Selat Durian is described. Included in the description is the E coastline of Sumatera together with the rivers Sungai Batanghari and Sungai Indragiri and the channel W of Pulau Kundur leading to Malacca Strait.

2 Also described are the islands and straits which lie between Selat Durian and Selat Riau (10.87).

The routes and passages are described, together with their ports, harbours and anchorages; of these the most important is the oil terminal at Pulau Sambu (1°10′N, 103°54′E) (10.128).

Topography

10.2

1 The portion of the E coast of Sumatera which forms the W side of the inner route from Selat Berhala to Selat Durian is low, uniformly wooded, and devoid of conspicuous landmarks. Several rivers discharge in the S part of this coast between Tanjung Jabung (1°01′S, 104°22′E) and Tanjung Dato, 70 miles NNW, the principal being Sungai Batanghari, Sungai Tungkal, Sungai Reteh and Sungai Indragiri. A mudbank extends from this coast, and between the mouths of Sungai Batanghari and Sungai Reteh there are depths of less than 10 m for as much as 16 miles offshore.

2 The E side of the inner route comprises the W sides of Pulau Singkep (10.11) and Pulau Lingga (10.45) and many islands and islets in the N part with navigable channels and passages leading between them. The E sides of Pulau Singkep and Pulau Lingga are described in Chapter 9.

Fishing stakes

10.3

1 Fishing stakes exist in many areas covered by this chapter. In the S part they are likely to be encountered in depths of less than 5 m, whilst in the N part in depths of less than 10 m. Their positions are frequently being changed.

Vessel Traffic Service

10.4

1 All vessels and tows of 300 grt or more and all passenger vessels transiting Singapore Strait are required to participate in the Singapore Vessel Traffic Information Service (VTIS). Within the limits of this chapter, this requirement will particularly affect vessels entering the Strait from Selat Durian (10.55) or Selat Bulan (10.110).

A continuous listening watch must be maintained on VHF; for full working details, see *Admiralty List of Radio Signals Volume 6(4)*.

Former mined areas

10.5

1 See 1.6 and Appendix I.

Piracy

10.6

1 See 1.8.

Submarine pipeline

10.7

1 A submarine gas pipeline and cable are laid between a position on the S shore of the entrance to Sungai Tungkai (10.41), Sumatera, to a position 1 mile NNW of Tanjung Gundap (10.115), Batam.

For further information on submarine gas pipelines and cables see 1.51 and 1.52.

Tidal streams

10.8

1 The main directions of the tidal streams between Selat Berhala and Selat Durian are N and S. Between Teluk Kualacenaku (10.45) and Selat Lima (9.22) the stream may attain a rate of 2 kn, and off Tanjung Dato (on the equator in 103°48′E) a maximum rate of 3 kn may occur. At some distance off this point and off Tanjung Bakau (20 miles S) the rates may reach 2½ kn.

General directions

10.9

1 Selat Berhala forms the S part of the inner route to Singapore, and Selat Durian the N part; the intermediate part, between the W side of Pulau-pulau Lingga and the E side of Sumatera, has no specific name. During the strength of the NW monsoon this route can be taken with advantage by small vessels, especially during the months of December to February, when strong N winds prevail; there is then smooth water, good anchorage, and little tidal stream.

The inner route is lighted and buoyed, and is suitable for all classes of vessel.

SELAT BERHALA TO TANJUNG BAKAU

General information

Chart 1789

Route

10.10

1 From a position 2 miles S of Pulau Berhala Light (10.18), the route to a position E of Tanjung Bakau (0°20′S, 103°47′E), which lies on the Sumatera coast at the S entrance to Teluk Kualacenaku (10.45), initially leads NW through Selat Berhala thence N for a distance of approximately 46 miles. See 10.12.

Topography

10.11

1 Selat Berhala lies between Tanjung Jabung (1°01′S, 104°22′E), on the S side, and Pulau Berhala, 10 miles NNE on the N side.

Pulau Berhala is a rocky, hilly island, covered with trees; two bare peaks rise in the W part of the island. It stands on a bank with depths of less than 10 m over it and there are several dangerous rocks, covered with vegetation, within 5 cables of Pulau Berhala. Except on the SW side, the island is surrounded by a reef.

2 The W coast of Pulau Singkep is low except for three prominent hills (10.16). The whole of this coast as far as Tanjung Sembilang (0°20′S, 104°20′E), its N extremity, is fringed by a reef on which there are several rocks and small islets; Karang James, a detached reef, lies 3 cables NW of Tanjung Buku (0°41′S, 104°22′E), the S extremity of the island. Selat Sebayur (10.24) separates the NW coast of Pulau Singkep and a group of sparsely populated, hilly and wooded islands.

For a description of the coast W of Tanjung Jabung (1°01′S, 104°22′E), see 10.2.

Swept area

10.12

1 An area of this inner route, from E of Tanjung Jabung (1°01′S, 104°22′E) to 14 miles N of Pulau Beralas (0°30′S, 104°02′E), was swept by vessels of the Netherlands Government in 1933–34; it may, therefore, be assumed that depths less than those shown on the latest charts will not be found. This area runs in a NW direction through Selat Berhala and is fully 6 miles broad, the NE limit passing 1 mile S of Pulau Berhala Light. Sikh Shoal, 14½ miles WNW of the light, lies on the axis which has been swept 4 miles either side of the shoal. The swept area then runs NNW, the E limit passing 2 miles W of Pulau Serak (10.18) and 4 miles E of Karang Speke (0°37′S, 104°06′E) whilst the W limit is 7 miles from this rock. Near Pulau Muci (0°32′S, 104°02′E) the swept area takes a N direction and is 10 miles wide with Pulau Alangtiga, 1½ miles NNE, lying in the middle of it. However an area round these islets, 6 miles long in a N and S direction and 1½ miles wide, has not been swept.

Former mined areas

10.13

1 See 1.6 and Appendix I.

Fishing stakes

10.14

1 See 10.3.

Tidal streams

10.15

1 Tidal streams in Selat Berhala are of a mixed character, but the semi-diurnal stream predominates; the directions are WNW and ESE. The streams are predicted in *Admiralty Tide Tables*, which give the times and strength of the maximum rate in each direction and the times at which the stream turns.

2 The average maximum rate of the stream in Selat Berhala during semi-diurnal spring tides may be expected as follows:

Month	*Direction*	*Rate*
October to January	WNW	1¾ kn
April to July	ESE	2¼ kn
December and January	ESE	2¼ kn
June and July	ESE	2½ kn

3 Tidal streams near Pulau Muci (0°32′S, 104°02′E) have a maximum rate of 2 kn either N-going or S-going. The precise direction of the stream varies widely among the islets of the Pulau Muci group and with the prevailing wind.

Principal marks

10.16

1 **Landmarks:**

On the W coast of Pulau Singkep the following hills are prominent:

Buku (0°41′S, 104°22′E).

Porok (0°38′S, 104°21′E); it has a fairly sharp summit.

Mentigi (0°30′S, 104°15′E).

2 **Major lights:**

Tanjung Jabung Light (1°01′S, 104°22′E) (5.95).

Pulau Muci Light (white metal framework tower, 21 m in height) (0°32′S, 104°02′E); visible between 284°–192°(268°).

Other aid to navigation

10.17

1 **Racon:**

Pulau Muci Light (0°32′S, 104°02′E).

For further details see *Admiralty List of Radio Signals Volume 2*.

Directions

(continued from 5.99)

10.18

1 **Caution.** Pulau Berhala (0°51′S, 104°24′E) must not be approached in a depth of less than 20 m by vessels passing through Selat Berhala.

From a position 2 miles S of Pulau Berhala Light (white metal framework tower, 21 m in height), standing on a rocky islet 3 cables S of Pulau Berhala (0°52′S, 104°24′E), the route through Selat Berhala initially leads NW thence N passing (positions given from Pulau Berhala Light):

Clear of dangerous wrecks (3 miles SW, 4 miles WSW and 2 miles W), thence:

2 Clear of a dangerous wreck (9 miles NW), thence:

NE of Sikh Shoal (14½ miles WNW), thence:

SW of Pulau Ukol (16 miles NW), a small islet with a dangerous rock lying close SE and a dangerous wreck 2 miles W, which lies 5 cables SW of Pulau Serak (0°40′S, 104°14′E), a low and wooded island, surrounded by a reef having numerous rocks on and around it. Pulau Pengelap, a low and wooded offshore islet with a dangerous rock lying 1 mile WNW, lies 3 miles NNE of Pulau Serak. Thence:

3 SW of Karang Speke (0°37′S, 104°06′E), from where a light (white metal framework tower, 10 m in height) is displayed, thence:

NE of a small coral shoal (26½ miles NW) lying 5 miles WSW of Karang Speke, thence:

SW and W of Pulau Muci (0°32′S, 104°02′E), Pulau Alangtiga, 1½ miles NNE, and Pulau Beralas, 2½ miles NNE, a group of three thickly wooded islets and some rocks covered with vegetation. A light (10.16) is displayed from a hill on Pulau Muci. Karang Atkin, a reef which is never marked by surf, lies 8 cables SE of the light. Thence:

4 E of Tanjung Bakau (0°20′S, 103°47′E), the low and wooded E extremity of Pulau Bangkong; a light (white beacon, 15 m in height) is displayed from a position 1 mile E of the point, and:

W of Pulau Silinsing (0°18′S, 104°07′E), an island surrounded by a reef extending 3 cables from its

W side; there is a small islet on the reef which extends from the N side. Thence:

Clear of a dangerous wreck (0°17′S, 104°01′E) (reported 1994).

10.19

1 **Side channel.** Having regard to the dangerous wreck W of Pulau Ukol (10.18), vessels may pass E of Karang Speke (0°37′S, 104°06′E) and the group of islets in the vicinity of Pulau Muci (0°32′S, 104°02′E), keeping clear of a dangerous wreck (0°31′·8S, 104°05′·3E) and avoiding the reef 5 miles E of Pulau Beralas.

10.20

1 **Cautions.** Mariners should bear in mind the possibility of being set NE by the out-going stream from Sungai Batanghari (10.26).

At night, it is always preferable to pass W of Pulau Muci; the light (10.16), which is displayed from the islet, has an obscured sector in the E passage.

Useful marks

10.21

1 TV tower, standing on the summit of Labu (0°30′S, 104°29′E) (9.21).

Stranded wreck (0°48′S, 104°28′E) (10.22).

(Directions continue at 10.50)

Channel north-east of Pulau Berhala

10.22

1 **Caution.** The channel between Pulau Berhala and Pulau-pulau Singkeplaut (9.18) 10 miles NNE is not recommended; it is not safe, on account of the rocks in it, and uncharted dangers probably exist. Pulau Berhala Light (10.18), which stands off the S side of the island, is not visible throughout the channel.

In 1999 a vessel stranded on a previously uncharted pinnacle of rock in a position about 3½ miles NE of Pulau Berhala Light.

2 Karang-karang Alur Pelayaran Tengah, mid channel rocks, 3½ miles NNE of Pulau Berhala, are always visible; a dangerous rock lies 3 cables NW of the NW rock. Karang Pollux are two rocks which are just covered at LW, the W of which lies 4½ miles NE of Pulau Berhala; they never break, but at LW, in a calm sea, there are tide-rips over them. Depths around these dangers are irregular and should be given a wide berth. In 1992 a vessel was reported to have grounded in a position 1 mile NE of the E of the Karang Pollux rocks.

3 A vessel passing N of Karang Pollux reported (1992) the stranded wreck lying close S of the two Pollux rocks to be 5 cables NNE of its charted position; the wreck was also reported to be conspicuous and a good radar target.

Anchorage

10.23

1 Anchorage may be obtained 5 cables off the W and N sides of Pulau Berhala (0°52′S, 104°24′E) in depths of 12 to 14 m, but if anchoring off the N side care must be taken not to go too far E on account of the rocks there.

Landing can be effected on a sandy beach on the N coast of Pulau Berhala at HW and on a sandy beach on the W coast but it is difficult to reach other parts of the island from here.

Selat Sebayur

General information

10.24

1 **General description.** Selat Sebayur (0°26′S, 104°14′E), a passage of about 10 miles in length leading generally NNE, which is obstructed by several shoals and reefs, separates a group of islands from the NW coast of Pulau Singkep. A narrow, steep-to sandbank runs 5 miles NNE from the S end of the passage. Selat Sebayur lies to the W of the sandbank which may also be passed on its E side.

2 **Directions.** The passage, which has a least depth of 11 m in the fairway, is difficult to navigate and should not be attempted without local knowledge. From S it is entered between Pulau Sebayur, a small islet which lies close W of Tanjung Sebayur (0°29′S, 104°15′E) and the S extremity of a shallow bank 1 mile W.

Other passages and landing

10.25

1 **Passages.** There are several passages navigable by small craft between the islands lying off the NW coast of Pulau Singkep. The principal of these is Selat Membacang, which lies between Pulau Bandahara (0°25′S, 104°12′E) and Pulau Posik close N. There is much traffic in the vicinity of the islands, both by day and by night.

Landing can be made on many of the islands; Posik, the principal village, is situated on the N coast of Pulau Posik (0°23′S, 104°12′E).

Sungai Batanghari

Charts 1789, 1788 (see 1.31)

General information

10.26

1 **General description.** Sungai Batanghari is the largest river in Sumatera; it rises in Pegunungan Barisan (see *Malacca Strait and West Coast of Sumatera Pilot*) and flows through the Padang highlands, Batanghari and Jambi (10.34) territories, and after taking in several tributaries discharges in a delta W of Tanjung Jabung (1°01′S, 104°22′E). Kuala Niur, the main entrance waterway, is entered between Tanjung Solok (1°00′S, 103°48′E) and Tanjung Bensuang, 1½ miles ESE; together with Kuala Berbak (10.33) these are the only arms of the delta which are of use to shipping; the remainder are only navigable by small craft with local knowledge.

2 The whole of the delta of Sungai Batanghari is low and uniformly wooded and affords no landmarks; mariners must bear in mind that the mud coastal bank may be extending.

Depths. There is a least depth of 2·1 m over the inner bar off Sungai Kelemak (1°13′S, 104°04′E), 20 miles above the entrance to Kuala Niur; 2 m depths exist close either side of the fairway NE of Sungai Kelemak.

There is also a bar off Kampungbaru (1°34′S, 103°38′E), situated on the left bank, 1 mile below Jambi, where there is a least depth in the fairway of 2·6 m.

Tidal levels

10.27

1 At the entrance to Kuala Niur, mean maximum range about 2·5 m, mean minimum range about 0·8 m; see *Admiralty Tide Tables*.

Water levels. The highest water levels within the river, sometimes reaching 7 m above mean lowest water, occur from December to April, although there may also be very low water levels during that period. The lowest levels in the upper reaches are to be expected from June to September.

2 Above the delta the tidal influence rapidly decreases, and is only noticeable in the reach between Gedongterbakar, 43 miles above Tanjung Solok, and Jambi in the periods of low water level. The rise in the water level on the bar off Kampungbaru (1°34′S, 103°38′E) (10.26) above mean lowest level is mainly due to the level of the river in the upper reaches.

3 At HW, which occurs at Kampungbaru 7 hours later than in Kuala Niur, the depth may be 0·3 m more. In very exceptional circumstances it may happen that the depth on the bar at Kampungbaru falls to 0·6 m below the mean lowest level.

On an average, the times of HW and LW fall 1 hour later for every 12 miles up-stream, so that HW and LW on the inner bar, off Sungai Kelemak (1°13′S, 104°04′E), occur 2½ hours later than on the outer bar.

4 **Tide gauges**, marked off in decimetres, are situated at the following locations:

Outer bar: Kampunglaut, at the entrance to Kuala Niur, 1½ miles S of Tanjung Solok, gives the depth in the shallowest part of the channel over the outer bar.

Majelis, 2 miles S of Kampunglaut.

5 Inner bar: situated on the right hand bank 7 cables below, and on the left bank 5 cables above the mouth of Sungai Kelemak (10.26).

Kampungjohor, 1½ miles below Jambi, gives the shallowest depth in the channel over the bar off Kampungbaru (10.26).

Hazards

10.28

1 **Debris.** In the upper reaches of the river, following rainy periods, the out-going water may run at great speed for a day or two, and may be a source of danger to vessels on account of large trees and other debris being borne down river with it.

Fishing stakes, the positions of which are frequently altered, exist on the N and E edges of drying banks (10.31) which front the E entrance to the river.

Pilotage

10.29

1 **Pilotage** for Sungai Batanghari is compulsory. The pilot boarding station is situated at Muarasabak (1°08′S, 103°51′E), a village situated on the E bank of Kuala Niur, where there is a jetty. Pilots, however, may board at Majelis, situated on the W bank, just 4 miles within the river entrance.

A 24 hour service is maintained and requests for pilots, when entering, should be made through Jambi Radio to the Harbour Master, Jambi, 24 hours before the vessel's ETA. For further details on pilotage see *Admiralty List of Radio Signals Volume 6(4)*.

Flow

10.30

1 The tidal streams are predominantly semi-diurnal. The stream sets W on the rising tide at a position 5½ miles N of Tanjung Solok (1°00′S, 103°48′E), and E on the falling tide. The maximum rate in either direction is 1½ kn.

When the drying banks which lie off Kuala Niur are covered, the in-going stream sets SW across the channel, and the out-going stream NE, with a maximum rate of 2½ kn in each direction.

2 Nothing can be predicted with any certainty concerning the stream in the upper part of Kuala Niur and the portion of Sungai Batanghari below Gedongterbakar (1°22′S, 104°00′E); at this village the stream is dependent on the condition of the river further upstream. At Jambi (1°35′S, 103°37′E) the average maximum rate is 2½ kn, but may be reduced to 1½ kn at low water levels and increased to 4 kn when the river is in flood.

Above Jambi there is no in-going stream; the flow being continuously downstream.

Directions for entry

10.31

1 **Kuala Niur Outer Leading Light-beacons:**

Front light (triangle point up on beacon, 30 m in height) (1°02′S, 103°49′E).

Rear light (triangle point down on beacon, 30 m in height) (1½ miles SSE of front light).

From a position close W of the light-buoy (safe water), moored 5½ miles NNW of Tanjung Solok, and on the alignment (167½°) of the outer leading lights, the entrance channel, which is marked by light-buoys and has a least depth of 5·2 m, leads SSE between drying banks which front the entrance to Kuala Niur passing:

2 ENE of Beting Sumbun, the W of these drying banks which extends 3 miles NNW from Tanjung Solok, and:

WSW of Beting Siam and Beting Tengah, which lie off the NE and E sides, respectively, of Beting Sumbun, thence:

ENE of Tanjung Solok.

When in a position abreast No 6 Light-buoy (port hand), moored 4 cables SE of the beacon standing at Tanjung Solok and marking the W side of Beting Tengah, the course of the river should be followed, the chart being the best guide.

10.32

1 **Kuala Niur Inner Leading Light-beacons:**

Front (white triangle point up, on beacon, 10 m in height) (1°06′S, 103°51′E), situated at Kualaniur, a point on the river 1½ miles SE of the village with the same name.

Rear (white triangle point down, on beacon, 15 m in height) (180 m N of the front light).

2 The alignment (001°), astern, of the light-beacons leads S until the alignment (336°), astern, of the leading light-beacons (Front: white triangle point up, on beacon, 10 m in height; Rear: white triangle point down, on beacon, 15 m in height) situated 1 mile NNW from Muarasabak (1°08′S, 103°51′E), is reached, leading to the pilot station.

10.33

1 **Kuala Berbak**, which flows out 10 miles W of Tanjung Jabung (1°01′S, 104°22′E), is only suitable for vessels of light draught; local knowledge being essential. It is difficult to enter on account of the banks, many of which dry, and the islands off the entrance, and further up there are some very difficult bends in the channel.

Pelabuhan Jambi

General information

10.34

1 **Position.** Jambi (1°35′S, 103°37′E) is an administrative centre, city and port, lying 85 miles up-river from the entrance to Kuala Niur (10.26).

Function. Coasters, small sea-going vessels and river craft trade with the port whose main export is rubber.

In 2004, the cosmopolitan city of Jambi had a population of about 420 000; the Province of Jambi has a total population of over 2½ million and, like Palembang, oil

supports the economy of the area with large exploratory oil sites in the W part of the province.

2 **Traffic.** In 2004, the port handled 126 vessels totalling 307 713 dwt.

Port Authority. Jambi Port Authority, Jalan Sultan Thaha No 2, Jambi 36113, Sumatera, Indonesia; there is a resident Port Manager.

Limiting conditions

10.35

1 **Density of water:** 1·000 g/cm^3.

Maximum size of vessel handled. Sungai Batanghari is tortuous and navigation as far as Jambi, about 85 miles up-river, is limited to vessels of 1000 dwt, 75 m LOA, having a maximum draught of 5 m.

Arrival information

10.36

1 **Port radio.** There are port radio services at Muarasabak and at Jambi; for details see *Admiralty List of Radio Signals Volume 6(4)*.

Anchorage. There is anchorage for up to 10 vessels in the river off Jambi. The breadth of the river here during the rainy season is about 200 m, but during the dry season this can be as little as 50 m.

2 **Prohibited anchorage.** Anchorage is prohibited within ½ cable either side of the submarine pipeline crossing Sungai Batanghari 2 cables downstream from Boom Batu (10.37).

Regulations concerning entry. Vessels must stop at Muarasabak; ship's papers must be brought ashore for stamping. A customs officer will board to inspect the cargo whilst on passage to Jambi. The Harbour Master at Muarasabak is also the Chief Customs officer.

Climatic table. See 1.137 and 1.142.

10.37

1 **Berths.** Boom Batu, a concrete wharf 72 m long, is the principal wharf at Jambi for loading and discharging cargo. Vessels can berth alongside it during the rainy season for 4 months of the year but in the dry season, the head of the wharf dries out.

2 Boom Rakit (Ferrocement), a pontoon jetty 67 m long, is situated close SW of Boom Batu; it is the principal landing place but is also used for loading and discharging cargo. The customs house lies near the root of this jetty.

There is a tanker terminal, consisting of a wharf 32 m in length, situated on the SE bank 1 mile below Jambi; vessels secure to trees and the use of an anchor is recommended.

10.38

1 **Repairs**: facilities not available.

Other facilities: deratting exemption certificates issued; floating crane 15-ton capacity; medical assistance; hospital.

Supplies: fresh water; fuel supplied in emergencies only from the tanker berth; provisions.

Communications: Jambi Airport, 6 km SSE of the city, offers regular flights to Palembang.

Sungai Batanghari above Jambi

10.39

1 The portion of the river between Jambi and Kubukandang (1°36′S, 103°20′E), 42 miles up-river, is easy to navigate as far as Selat and Betung, two islets under the right bank 30 miles above Jambi. The river between Kubukandang and Muaratebo, 150 miles above Jambi, is only navigable by small craft of light draught. The width of the river varies between ½ and 2 cables.

Local knowledge is essential in the upper reaches of the river.

Sumatera Coast north-west of Kuala Niur

Charts 1789 (see 1.31)

General information

10.40

1 Between Tanjung Solok (1°00′S, 103°48′E) (10.26) and Tanjung Bakau (10.18) (40 miles N), the coast forms a large bight, which is intersected by a number of river mouths and deltas. Those which are navigable by power-driven vessels are outlined below. Entry and passage up these rivers requires recent local knowledge.

Navigable rivers between Tanjung Solok and Tanjung Bakau

10.41

1 **Sungai Tungkal** is entered between Tanjung Labu (0°47′S, 103°29′E), a low light green point, and Tanjung Tungkallabu, 5 miles SE. The banks of the river are low, and covered with nipa palm.

From the vicinity of Pulau Kijang Light-buoy (safe water) (0°44′S, 103°36′E) the river is entered on a SW heading crossing a bar with a depth of about 1 m over it. Within the bar depths of between 3·5 and 14 m can be maintained as far as Rumahan, a village, 30 miles up river.

There is good anchorage, in depths of 5 m, 1½ cables off Kualatungkal, a village 2 miles within the entrance.

10.42

1 **Sungai Reteh** discharges through four delta mouths separated by low wooded islands, of which the delta tributary of Kuala Ujan lying between Pulau Kijang (0°40′S, 103°23′E) and Pulau Pucuh, 1 mile N, is the main approach.

This entrance, which should be negotiated at HW, is approached from the E. Within the entrance, the river is navigable by vessels of up to 3 m draught as far as Kotabaru, a local administrative centre about 35 miles from the sea.

There is an anchorage off Kotabaru in depths of 5 m.

10.43

1 **Sungai Indragiri** discharges into the sea through four delta mouths, namely Kuala Enok, Kuala Lajau, Batang Terbung and Batang Tuaka, which are separated by low and wooded islands. The delta tributary of Kuala Lajau, lying between Pulau Airtawar (0°26′S, 103°28′E) and Pulau Bangkong, close NE, leading to Sungai Indragiri, is the deepest and safest channel for large vessels. Batang Terbung, lying between Pulau Bangkong, and Pulau Pisang together with Pulau Mas, close WNW, is the N approach to Sungai Indragiri and is the channel most generally used from that direction by small vessels, particularly local craft. The whole area experiences a great deal of rain and visibility can be frequently impaired.

2 Several prominent mosques stand at various points along the banks of the river; Rengat (0°22′S, 102°33′E), 80 miles from the sea, can be reached when water levels permit but is only used by local vessels.

Controlling depths. Kuala Lajau 2·6 m, on the bar; Batang Terbung 1·5 m, on the inner bar (0°22′S, 103°26′E), where it joins Sungai Indragiri.

3 **Tidal levels.** At the entrance to Kuala Lajau; mean maximum range about 2·6 m, mean minimum range about 0·8 m. For further details see *Admiralty Tide Tables*.

Pilotage into the river can be arranged from Tembilahan, see below, with 24 hours notice.

Directions for Kuala Lajau. Kuala Lajau is the only navigable channel for vessels having a draught of over 4 m and a length of more than 60 m; it is also the

recommended entry channel which should be used during daylight only.

4 The track over the bar and into the river, from Kuala Lajau Light-buoy (safe water), which is moored 5 miles SSW of Tanjung Bakau (0°20′S, 103°47′E), leads on a course of 244° for a distance of 3¾ miles passing SE of No 1 Buoy (starboard hand), marking the E side of Gosong Cuhoorn, a bank with a least depth of 1·4 m over it which lies 8 miles SW of Tanjung Bakau; thence W and NW through a buoyed channel until Kampungbela, a village built on piles standing on the N side of the entrance, is reached. Channel beacons are established within Kuala Lajau leading to Tembilahan.

5 **Note:** Light-beacons are placed at the entrance to Kuala Enok (0°31′S, 103°24′E) to assist vessels gaining entry to Sapat Dalam (0°28′S, 103°23′E), a tributary river. The position of the outer light (green GRP beacon, 10 m in height) (0°34′S, 103°30′E) does not conform with the charted marked channel. At LW, however, this channel is easily visible between the mudbanks.

Tidal streams in the approach to Kuala Lajau E of the meridian of 103°42′, set strongly SW on the rising tide and NE on the falling tide. To the W of the above meridian the streams follow the channel.

6 **Berths.** Tembilahan (0°20′S, 103°10′E), 17 miles from the sea, is the only commercial port on the river although there are deep logging anchorages further upstream at Pulupalas and Tempulingsungeisalak (0°27′S, 103°00′E), 13 miles above Tembilahan. A light (beacon, 10 m in height) is displayed at Tembilahan. There is a small cargo wharf, 60 m in length, at Tembilahan with a depth of 4 m alongside.

Facilities in the river are limited; deratting exemption certificates can be issued at Tembilahan.

TANJUNG BAKAU TO SELAT DURIAN

General information

Charts 1789, 3948

Route

10.44

1 From a position between Tanjung Bakau Light (0°20′S, 103°48′E) and Pulau Silinsing, 19 miles E, the route leads NNW for a distance of approximately 53 miles, to the vicinity of the entrance to Selat Durian (0°33′N, 103°46′E).

Topography

10.45

1 The Sumatera coast between Tanjung Bakau (0°20′S, 103°47′E) and Tanjung Dato (10.50), 20 miles N (on the equator in 103°48′E), comprises the indentation of Teluk Kualacenaku, a shallow bay with broad drying mudbanks fronting its N and S shores. The deepest water is found off the mudbank fronting the N shore. The bay provides access to the navigable entrances to Sungai Indragiri from N (10.43). The rivers which enter the N part of the bay flow through sparsely populated virgin forest and are only suitable for small craft with local knowledge.

2 The coastline N of Tanjung Dato is low, uniformly covered with vegetation, and has no prominent landmarks. The E side of Pulau Kateman (0°15′N, 103°41′E), an island separated from the mainland by a narrow passage, forms part of the continuation N of this coastline. Pulau Burung (0°26′N, 103°34′E) lies close offshore, 4 miles NNW of Tanjung Jongkir, the N extremity of Pulau Kateman. Pulau Burung and Pulau Kateman are difficult to distinguish.

3 The W coast of Pulau Lingga, N of Tanjung Datok (0°11′S, 104°25′E), is indented by small bays fronted by drying reefs; there are several off-lying patches. The W sides of Pulau Bakung Besar (9.39) and Pulau Bakung Kecil, close NW, are fairly steep and rocky in places.

A group of islands consisting of Pulau Buaya (0°10′N, 104°14′E), the outer of the two principal islands with a prominent summit (10.49), lies 6½ miles W of Pulau Bakung Kecil, and has the shape of a crocodile when seen from N.

4 Pulau Cempah, with its N extremity 2¾ miles E of Pulau Buaya, is steep on its E and S sides. Most of the channels between the islands are obstructed, but there is a deep channel between Pulau Buaya and Pulau Setambal, 3 cables E. Detached rocks lie close off several of the islands.

Fishing stakes

10.46

1 See 10.3.

Tidal streams

10.47

1 **Teluk Kualacenaku.** Tides and tidal streams in Teluk Kualacenaku are semi-diurnal, having two HW and a HLW and LLW each day, as follows:

Tide	*Occurrence*
LLW	10 hours before LLW at Mui Vung Tau (Entrance to Song Saigon, Viet Nam)
HW	3 hours before LLW at Mui Vung Tau
HLW	10 hours before HLW at Mui Vung Tau
HW	8 hours after LLW at Mui Vung Tau

2 The in-coming stream, coming strongly S from Selat Durian and comparatively weaker from Selat Berhala, runs W in the N part of the bay and SW in the S part.

The out-going stream in the N part of the bay sets across the mouths of the rivers and then curves E, round Tanjung Dato and thence N to Selat Durian; in the S and middle parts of the bay, and between Pulau Cawang (0°06′S, 103°33′E) and Pulau Busung, 1 mile SE, it sets NE. The maximum rate is 3 kn, with the out-going stream following the HLW being slightly less.

See also 10.8.

10.48

1 **Tide-rips**. On the E side of the waterway there are often heavy tide-rips in the vicinity of the N extremity of Pulau Lobam (0°10′N, 104°11′E), Karang Leda (10.50), 1¼ miles NW, and the dangerous rock lying between Pulau Lobam and Karang Leda.

Principal marks

10.49

1 **Landmarks:**

Daik (0°12′S, 104°33′E) (9.39).

Sepincan (0°09′S, 104°34′E) (9.39).

Summit of Pulau Buaya (0°10′N, 104°14′E) which is situated in the S part of the island and can be seen from a distance of more than 30 miles in clear weather.

Major lights:

Pulau Muci Light (0°32′S, 104°02′E) (10.16).

Pulau Rukan Selatan Light (0°33′N, 103°46′E) (10.62).

Directions

(continued from 10.21)

10.50

1 From a position between Tanjung Bakau Light (0°20′S, 103°48′E) and Pulau Silinsing (10.18), 19 miles E, the route, to the vicinity of Selat Durian at Pulau Rukan Selatan (0°32′N, 103°46′E) leads NNW for a distance of approximately 53 miles, passing:

WSW of Pulau Bunta (0°16′S, 104°07′E), a rock covered in vegetation, lying 2 miles N of Pulau Silinsing (10.18), thence:

ENE of Teluk Kualacenaku (10.45), thence:

2 ENE of Tanjung Dato (on the equator in 103°48′E), a low wooded point with high trees; the entire neighbourhood is covered with trees of a similar height. A light (white beacon) is displayed from a position 5 cables N of Tanjung Dato. A dangerous wreck lies 16 miles ENE of the point, thence:

3 WSW of Karang Leda (Leda Reef) (0°12′N, 104°10′E) with a detached rock 8 cables ESE, lying at the W extremity of a group of islands of which Pulau Buaya (10.49) is the most prominent, and:

ENE of an underwater rock (0°11′N, 103°51′E), which lies 5 miles E of the S extremity of Pulau Kateman, thence:

4 ENE of a dangerous wreck (0°28′N, 103°44′E) which lies on the 10 m depth contour, 4½ miles SSW of Pulau Rukan Selatan.

Caution. Vessels approaching Teluk Kualacenaku from E, when out of sight of Tanjung Bakau and Tanjung Dato, should steer for the latter point, sounding continuously, since there may be a considerable N or S set.

Useful marks

10.51

1 Tanjung Bakau Light (0°20′S, 103°48′E) (10.18).
Pulau Rukan Selatan (0°33′N, 103°46′E) (10.62).

(Directions continue for Selat Durian at 10.64)

Tanjung Bakau to Selat Bulan

10.52

1 From a position between Tanjung Bakau Light (0°20′S, 103°48′E) and Pulau Silinsing (10.18), 19 miles E, the shortest route to Singapore for small vessels of appropriate draught (10.110) and having the benefit of local knowledge, lies through the passage between Pulau Anakpetong (0°38′N, 104°02′E) and Pulau Petong, 2½ miles E, thence to the S approaches of Selat Bulan.

(Directions for the passage between Pulau Anakpetong and Pulau Petong are given at 9.58 and for Selat Bulan at 10.115)

Charts 1789, 3949

Tanjung Bakau to Selat Pengelap (for Selat Riau)

10.53

1 From a position between Tanjung Bakau Light (0°20′S, 103°48′E) and Pulau Silinsing (10.18), 19 miles E, the route to the S approach to Selat Pengelap (0°29′N, 104°20′E) (9.55), leads NNE thence NE for a distance of approximately 50 miles, passing:

WNW of Karang Leda (0°12′N, 104°10′E) (10.50), thence:

2 NW of a dangerous rock lying 3 cables WNW of Pulau Pompong (0°22′N, 104°15′E) (9.51), thence:

NW of a dangerous rock lying 3 cables W of Batubelayar (0°25′N, 104°16′E) (9.52) lying in the W approach to Selat Temiang.

Selat Abang, 5 miles NW of Selat Pengelap, may be used as an alternative passage leading to Selat Riau.

(Directions for Selat Pengelap are given at 9.55; for Selat Abang at 9.56 and for Selat Riau at 9.78)

Selat Cempah

10.54

1 Selat Cempah, which is frequently used by small vessels and praus, leads between Pulau Cempah (0°08′N, 104°19′E) (10.45), the E of a group of islands, and Pulau Karoti (0°13′N, 104°19′E), Pulau Blandoh Besar and Pulau Bakung Kecil on the NE side of the channel. On the E side of the N entrance is a large bank, over which there are shallow depths.

When navigating Selat Cempah, vessels should keep to the SW side which is deep and entirely clear of dangers.

Tidal streams. For general guidance of streams in Selat Cempah and off the W coast of Pulau Lingga, see 9.10.

SELAT DURIAN

General information

Charts 3948, 3833

Route

10.55

1 From the vicinity of Pulau Rukan Selatan (0°33′N, 103°46′E), the main channel through Selat Durian, leading from the inner route (10.1) to Singapore and into Selat Phillip (see *Malacca Strait and West Coast of Sumatera Pilot*), generally leads N thence NNE for a distance of approximately 35 miles, passing either side of Pulau-pulau Rukan. To the N of Karang Melvill (0°52′N, 103°37′E), a branch of the strait continues NNW towards Malacca Strait, see 10.66.

Topography

10.56

1 The inner route to Singapore within this area is generally bordered by numerous low islands with numerous passages lying between them.

The Sumatera coast NW of Pulau Kateman (0°15′N, 103°41′E) continues as a low and densely wooded coastline as far as Tanjung Ungo (0°33′N, 103°19′E) at the S entrance to Selat Kampar (10.76).

2 The main passage, Selat Durian, leads along the E side of Pulau Kundur (10.71), which lies with its S extremity (0°38′N, 103°26′E) 13 miles NNW of Pulau Burung (10.45), and the islands lying N of it. The central E side of the strait comprises several hilly islands which include Pulau Durian Besar (0°43′N, 103°43′E) and Pulau Durian Kecil, 2½ cables WNW. Pulau Sugibawah lies with its S extremity 1½ miles N of Pulau Durian Besar, and has a range of hills in its N part, and an islet lying close SW of its N extremity; the W coastline comprises swamps and mangroves with several off-lying reefs. Pulau Belukar, a low wooded island lies 5 cables NW of Pulau Sugibawah, and Pulau Panjang, a long narrow island with reefs and rocks lying off its NW and NE sides, lies 1¼ miles E of Pulau Belukar.

3 Selat Gelam (10.79) is the fairway which lies between the islands N of Pulau Kundur and Pulau Karimun Besar (1°03′N, 103°23′E).

Depths

10.57

1 The fairway through Selat Durian was swept in 1933–34, at a depth of 14 m, and the axis of the swept area is indicated by pecked lines on chart 3948.

Less water than charted is reported (2002) at the N entrance to Selat Durian.

Within Selat Durian, the water indicated on chart 3948, contains inadequate depth information, and uncharted dangers may exist. Mariners should navigate these waters with caution, see chart 3948.

Fishing stakes

10.58

1 See 10.3.

Vessel Traffic Service

10.59

1 See 10.4.

Traffic Separation Scheme

10.60

1 A TSS is established in Singapore Strait, centred 1°08′·0N, 103°45′·0E, see *Malacca Strait and West Coast of Sumatera Pilot*. The general flow of traffic lies in the direction NW-SE and NE-SW. The scheme is IMO-adopted and Rule 10 of *International Regulations for Preventing Collisions at Sea (1972)* applies.

Flow

10.61

1 The character of the tidal streams in Selat Durian, as well as in Selat Sugi, Selat Sulit and Selat Combol, is mixed but the semi-diurnal predominates; the direction is N and S. As the times of the turn of the stream and the maximum rate occur in Selat Durian on an average 7 hours later than in Selat Berhala, the S-going stream in Selat Durian practically coincides with the WNW-going stream in Selat Berhala, and vice-versa; through both straits, therefore, the water runs simultaneously either in or out of the open area W of Pulau-pulau Lingga (0°10′S, 104°30′E). The flow is inwards through Selat Berhala and Selat Durian while the tide is rising in Teluk Kualacenaku and outwards while it is falling there. See also 10.47.

2 Tidal streams in the N and S approaches to Selat Durian (1°00′N, 103°34′E and 0°40′N, 103°42′E respectively) are given in *Admiralty Tides Tables,* and give the times and rates of the maximum stream in either direction, and the time at which the streams turn.

There is also a NNW-going current in Selat Durian, which is not included in the above predictions; this current attains a rate of ¾ kn from December to March and ¼ kn during the rest of the year.

3 The maximum rate of the stream, including the current, that may be expected in Selat Durian is as follows:

Month	*N-going*	*S-going*
Jan, Feb	3 kn	2½ kn
March to May	2½ kn	2½ kn
June, July	2½ kn	3 kn
Aug to Nov	2½ kn	2½ kn
December	3 kn	2½ kn

Principal marks

10.62

1 **Landmarks:**

Bukit Jora, the summit of Pulau Durian Besar (0°43′N, 103°43′E), is conspicuous from a great distance.

Pulau Rukan Selatan (0°33′N, 103°46′E), the largest island of Pulau-pulau Rukan (10.64) situated at the S entrance to the strait; a light (white metal framework tower, 22 m in height) stands on the summit on the S end of the island. In clear weather the island is visible at a distance of 20 miles.

2 Pulau Sanglang Kecil (0°36′N, 103°43′E), the E island of a group lying on the W side of the S entrance to the strait, which is very prominent from S.

Bukit Manilang, the prominent summit of Pulau Sanglang Besar (0°37′N, 103°41′E).

Pulau Mantaras Besar (0°52′N, 103°37′E); it is prominent from N owing to the reddish colour of the rocks rising sheer from the sea.

3 Pulau Jangkat (0°58′N, 103°43′E), an island, lies nearly in the middle of an exposed reef which extends NW and SSE of the island; a small islet lies on the reef close NW of the island which is easily identified in the N part of the strait. A light-structure (white pyramidal tower, 30 m in height) stands in the middle of the island.

4 Bukit Papan (0°54′N, 103°25′E) (10.66).

Major lights:

Pulau Rukan Selatan Light — as above.

Pulau Jangkat Light — as above.

Takong Kecil Light (1°06′N, 103°43′E), see *Malacca Strait and West Coast of Sumatera Pilot*.

Raffles Light (1°10′N, 103°45′E), see *Malacca Strait and West Coast of Sumatera Pilot*.

Other aids to navigation

10.63

1 **Racon:**

S cardinal Light-beacon (1°04′N, 103°39′E), Selat Phillip.

Takong Light-beacon (1°06′N, 103°43′E), Selat Phillip.

For details see *Admiralty List of Radio Signals Volume 2*.

Directions

(continued from 10.51)

Northbound vessels

10.64

1 The line of bearing 346° of Bukit Jora (0°43′N, 103°43′E) (10.62) leads in the S entrance of Selat Durian (0°28′N, 103°47′E), thence the swept channel (10.55) leads to the TSS off Singapore, passing:

2 Either side of Pulau-pulau Rukan, consisting of a group of three islands. Pulau Rukan Selatan (10.62), from where a light is displayed, lies at the S extremity of the group. A rocky islet with a rock awash lies close S of the island, and a prominent rock lies close off the SW point of the island with a dangerous wreck 6 cables N. Pulau Rukan Tengah, the middle island of the group, lies 1¼ miles N of Pulau Rukan Selatan; a shoal patch lies 1 mile NW of the island. Pulau Rukan Utara, rocky and covered in vegetation, and from where a light (white metal framework tower, 13 m in

height) is displayed, lies at the N extremity of the group. A rock awash lies 6 cables SE of the island with a drying reef a further 4 cables S. Thence:

3 E and NE of Karang Richadson (0°37′N, 103°43′E), a detached reef. The reef lies 1 mile N of a prominent tree standing on a reef extending E from Pulau Sanglang Kecil (10.62). Thence:

NE of Pulau Sanglang Besar (0°37′N, 103°41′E), the largest island of a group, lying on the W side of the S entrance to the strait, which is thickly wooded and hilly; it has a prominent summit (10.62), and:

4 SW of Karang Genting, a reef, which lies 1 mile SW of Pulau Durian Besar (0°43′N, 103°43′E), a hilly island with a prominent summit (10.62); Pulutiga lies 6 cables NE of the reef, thence:

SW and W of Pulau Perasi Besar (0°43′N, 103°39′E) which is bare and fairly steep-to; Pulau Durian Kecil, a high island, lies 7 cables ENE, thence:

5 E of Pulau Pelangkat (0°45′N, 103°35′E), low and wooded, on which stands a light (white metal framework tower, 8 m in height); Pulau Panjang, a prominent island, lies 1 mile WSW, and is separated from it by a deep channel, thence:

W of Pulau Perasi Kecil, surrounded by a reef, which lies 2½ miles NNW of Pulau Perasi Besar, thence:

W of a drying reef which lies 1¼ miles W of the S extremity of Pulau Belukar (0°50′N, 103°39′E) (10.56), thence:

6 Clear of a dangerous wreck (0°50′·5N, 103°35′·7E) lying near the middle of the swept channel. Another dangerous wreck (reported 1996), position approximate, lies close to the W side of the channel 1 mile S of Karang Tengah (below). Thence:

E of Karang Tengah (0°51′N, 103°34′E), a reef from where a light (white metal framework tower, 8 m in height) is displayed, lying 2¾ miles ESE of Tanjung Sialang, the SE extremity of Pulau Buru (10.86). And:

7 W of Karang Melvill (0°52′N, 103°37′E), a reef from where a light (white metal framework tower, 8 m in height) is displayed. Pulau Mantaras Besar (10.62) lies 6 cables ENE.

At Karang Melvill the swept channel splits into a NNW-going channel (10.66) leading to Malacca Strait, and a NNE-going channel leading to Singapore. Vessels following the NNE-going channel should pass WNW of Karang Melvill, thence:

WNW of Pulau Mantaras Kecil (0°53′N, 103°37′E), a large rock with two trees on it surrounded by a reef, thence:

8 WNW of a dangerous wreck, which lies 1 mile WNW of Karang Itik (0°53′N, 103°38′E) comprising two reefs and a rock close NW. Itik, the larger of two islets covered in vegetation, lies 7 cables SE of the reefs, thence:

Clear of a dangerous wreck (0°55′N, 103°35′E), thence:

WNW of a detached 5 m shoal (0°57′N, 103°39′E), thence:

WNW of Pulau Jangkat (0°58′N, 103°43′E) (10.62), from where a light (10.62) is displayed. A reef lies 8 cables N of the island. Thence:

9 WNW of Pulau Cula (1°02′N, 103°43′E) from where a light is displayed (*Malacca Strait and West Coast of Sumatera Pilot*). Two dangerous wrecks lie 1½ cables SE and 4 cables E of the island respectively. Thence the route leads into the NE-bound traffic lane of Selat Phillip. Tanjung Jerih (1°02′N, 103°45′E), the NW extremity of Pulau Kepalajerih (10.107) is precipitous and remarkable.

Useful mark:

Summit of Pulau Peropos (0°40′N, 103°34′E).

10.65

1 **Cross Traffic Areas** in Singapore Strait are shown on the chart. Vessels wishing to enter Selat Durian from E should cross the traffic lanes at an appropriate crossing point.

Approach to Malacca Strait from Selat Durian

10.66

1 From a position W of Karang Melvill (10.64), the route to the NW-going traffic lane of Malacca Strait (see *Malacca Strait and West Coast of Sumatera Pilot*) leads NNW, passing WSW of a dangerous wreck (0°58′·6N, 103°35′·4E), thence ENE of Tanjung Rambut (1°00′N, 103°27′E) the SE extremity of Pulau Karimun Besar.

A dangerous wreck, position approximate, lies 6¼ miles NE of Tanjung Rambut within a Cargo Transhipment Area, which is marked by light-buoys (special).

2 From N Selat Durian may be entered, after leaving the SE-going traffic lane, passing ENE of the Cargo Transhipment Area, which is shown on the chart.

Useful marks:

Bukit Papan (0°54′N, 103°25′E), situated in the W part of Pulau Papan (10.86), has a prominent peak and is readily conspicuous E over the lower ground.

3 Pulau Cula Light (1°02′N, 103°43′E) (*Malacca Strait and West Coast of Sumatera Pilot*).

Tanjung Rambut Light (1°00′N, 103°27′E) (10.84).

Light-beacon (isolated danger) standing on a shoal patch, 2¾ miles NNE of Tanjung Rambut (1°00′N, 103°27′E).

10.67

1 **Cross Traffic Area** in the vicinity of Pulau Karimun Kecil (1°09′N, 103°24′E) to the W of Singapore is shown on the chart.

Alur Pelayaran Tenggara

10.68

1 **General description.** Alur Pelayaran Tenggara, a navigable channel on the W side of the main channel of Selat Durian at its S end and which is slightly shorter, passes between Pulau Meya (0°34′N, 103°38′E) and Pulau Segal Kecil with Pulau Segal Besar close SE. It then passes about 1 mile W of Pulau Bukitdua (0°35′N, 103°38′E), Pulau Kas (1½ miles N), Pulau Benah, (2½ miles N) and Pulau Timun (3 miles NNW) before rejoining the main channel.

(Directions for Selat Phillip and Malacca Strait are given in Malacca Strait and West Coast of Sumatera Pilot)

Approach to Selat Durian from Selat Dempo

10.69

1 When approaching Selat Durian from E, after passing through Selat Dempo (0°36′N, 104°15′E) (9.57), vessels should pass 2 miles S of Pulau Petong (0°37′N, 104°05′E) (9.58) and S of a detached 8 m shoal which lies 7 miles ESE of Pulau Rukan Utara (10.64), thence into the swept area passing N of Pulau Rukan Utara. Bukit Manilang (10.62), the summit of Pulau Sanglang Besar, which

appears as a saddle from this direction, bearing 285°, will lead 1 mile S of the shoal.

Other channels

10.70

1 Several navigable passages for small vessels, leading N towards Singapore Strait, lie on the E side of Selat Durian; the more important being Selat Sugi (10.92) and Selat Bulan (10.110).

2 There are several other navigable channels for local craft which lie between the islands on the W side of the S entrance to Selat Durian, for which the chart is the best guide. A passage leads between Pulau Menterus (0°36′N, 103°39′E), which lies on a sandbank, and Pulau Kas (10.68), 7 cables N, another passage lies on the W side of Pulau Sanglang Besar (0°37′N, 103°41′E) (10.64), leading between the islands lying close off its NW extremity, and Pulau Mepa, 5 cables WNW, and between a small islet close NW of Pulau Nipis, and Pulau Kas, 4 cables W, off its SW extremity.

Channel west of Pulau Kundur

Chart 3948, 1358 (see 1.31)

General description

10.71

1 There is a channel leading into Malacca Strait which passes W of Pulau Kundur (0°45′N, 103°25′E). It is, however, obstructed by islets and reefs, and is therefore little used except by local traffic.

Topography

10.72

1 The S and W coast of Pulau Kundur is generally low lying and the W coast is fringed by a reef; there are numerous small islets which lie close offshore interspersed by areas of dangerous rocks, some extending up to 2¼ miles from the shore.

Off the NE coast of Sumatera, Pulau Mendol, a large, low and densely wooded island, lies 1½ miles W of Tanjung Ungo (0°33′N, 103°20′E) (10.56); Pulau Mendol is separated from the Sumatera mainland on its S side by Selat Kampar (10.76).

Tidal streams and tide-rips

10.73

1 Tidal streams in the channel W and S of Pulau Kundur occasionally attain a rate of from 2 to 3 kn, the streams setting S and SE and in the opposite directions.

Tide-rips. Several rocks, with depths of less than 5 m over them, lie off the S coast of Pulau Onggut (0°39′N, 103°29′E), they are all very small and are usually marked by tide-rips.

Directions

10.74

1 The channel is entered between Pulau Burung (0°26′N, 103°34′E) (10.45) and the SW point of Pulau Durai, 3¾ miles NNE; thence the track leads NW and N passing S and W of Pulau Kundur and W of the islands between Pulau Kundur and Pulau Karimun Besar, to the N, before joining Malacca Strait.

An obstruction lies in the S approaches to the channel, 2½ miles S of Pulau Sandamlaut (0°28′N, 103°40′E).

Useful mark:

Tanjung Labuh Light (0°39′N, 103°24′E).

10.75

1 **Side channel.** There is a navigable channel leading SE-NW off the NE side of Pulau Mendol (10.72), between the island and several offlying rocks and reefs which include Batu Lanjang (0°41′N, 103°18′E) and Pulau Rusah (0°43′N, 103°16′E), a rocky islet covered with high trees; Batu Turus, a rock, lies between Batu Lanjang and Pulau Rusah.

Selat Kampar

10.76

1 Selat Kampar, giving access to Sungai Kampar, lies between the Sumatera mainland and Pulau Mendol, and is entered between Tanjung Ungo (0°33′N, 103°20′E) and a point on the SE coast of Pulau Mendol, 1½ miles W. The main approach channel leads along the S coast of Pulau Mendol. Sungai Kampar is entered between Tanjung Rubut (0°28′N, 103°11′E) and Tanjung Datu, 5 miles WSW, and the channel runs along the right bank of the river as far as Pulau Muda, 18 miles upstream.

2 If approaching Sungai Kampar from N, passing W of Pulau Mendol, vessels should pass Pulau Lebu (0°39′N, 103°06′E) (10.78) on an in-going stream at a distance of 4 cables and proceed S until the SW extremity of Pulau Mendol bears 144°, thence maintain that bearing until within ½ cable of the shore; the least depth on this route is 3·5 m.

10.77

1 **Local knowledge.** Owing to a tidal bore and strong tidal streams, local knowledge is essential within Selat Kampar. If coming from E, a pilot can be obtained at Bandong, a village standing at the N entrance to Selat Kampar.

Eastern approaches to Selat Panjang and Selat Ayer Hitam

10.78

1 In the E approaches to Selat Panjang lie the densely wooded islands of Pulau Mendol (10.72), Pulau Lebu (0°39′N, 103°06′E) and Pulau Serapung (0°38′N, 103°03′E). Pulau Lebu and Pulau Serapung lie in the entrance to the strait W of Pulau Mendol.

2 Pulau Topang (0°45′N, 103°06′E) and Pulau Manggung, close N, lie off the E entrance of Selat Ayer Hitam (0°49′N, 103°04′E). A bank (0°47′N, 103°13′E) extends 7½ miles E from these islands, and continues N as a narrow rocky ridge, running parallel with the SE coast of Pulau Rangsang (1°00′N, 103°00′E) and 4 miles from it; a light (white beacon, 15 m in height) stands 1¾ miles E of Pulau Manggung. Pulau Burung, which is covered with tall trees and fringed with rocks, lies on this ridge 4¼ miles ESE of Tanjung Medangkaluar (0°53′N, 103°10′E) the E extremity of Pulau Rangsang. Pulau Belembang (0°53′N, 103°14′E), a low islet covered with scrub, and also surrounded by rocks, lies 1½ miles N of Pulau Burung. A rock, with a depth of 4·6 m over it, lies 1¼ miles NE of Pulau Belembang.

3 **Directions.** Vessels bound for Selat Ayer Hitam and arriving from the N or from Selat Gelam should pass W of Pulau Belembang and keep to the S shore of Pulau Rangsang passing N of Pulau Manggung (0°49′N, 103°06′E).

Selat Panjang W of Tanjung Kebal (0°39′N, 102°59′E) and Selat Ayer Hitam W of Tanjung Mayon (0°50′N, 103°03′E) are described in *Malacca Strait and West Coast of Sumatera Pilot*.

Selat Gelam

General information

10.79

1 **General description.** Selat Gelam, the fairway between Pulau Kundur, Pulau Tulang (0°56′N, 103°25′E) and Pulau Parit (0°57′N, 103°27′E) to the S and Pulau Karimun Besar (1°03′N, 103°23′E) to the N, is the route taken by traffic trading between Selat Ayer Hitam (10.78) and Singapore. It is divided, at its W end, into two channels by Pulau Babi (0°57′N, 103°22′E). The N channel has a least depth of 3·3 m in the fairway. The S channel has greater depths but is more obstructed by shoals; neither channel is buoyed.

10.80

1 **Topography.** Pulau Kenipaan, 2¾ miles SSW of Pulau Babi, is the largest of a number of small islands standing on foul ground which extends 5 miles NW from Pulau Kundur. Pulau Tambelas (0°59′N, 103°18′E), high and densely wooded, lies 3¼ miles WNW of Pulau Babi; it has three peaks and from a distance appears as two islands.

2 The S side of the strait, E of Pulau Songkop situated 1 mile SSE of Pulau Babi, is free from danger except for a rocky tongue with depths of less than 5 m over it extending 5 cables N from Pulau Songkop.

On the N side of Selat Gelam, Pulau Merak, which is situated 5 cables off the S coast of Pulau Karimun Besar, is partly surrounded by drying shoals, which from its E extremity extend for 2 cables.

10.81

1 **Prohibited entry.** An area which encloses Pulau Merak, and is shown on the chart, is prohibited to all vessels except such vessels that belong to the Indonesian Government.

Tidal streams

10.82

1 Tidal streams in Selat Gelam generally set E and W, at a rate of 3 kn at springs and 1 kn at neaps. The streams turn some hours after local HW and LW. Off Tanjungbalai (0°59′N, 103°26′E) the maximum rate of the in-going stream is 2¼ kn setting SW.

Directions

10.83

1 **Caution.** In the E approach to Selat Gelam there are several shoals and dangerous wrecks; an obstruction lies 1¼ miles SE of Tanjung Rambut Light (10.84).

From a position in deep water S of the light-buoy (starboard hand) moored 6 cables SW of Tanjung Rambut (1°00′N, 103°27′E), the track through Selat Gelam generally leads W through the fairway, passing:

Between the shallows S of Pulau Merak and those N of Pulau Babi.

2 Vessels proceeding towards Selat Ayer Hitam should pass:

SE of Pulau Tambelas (10.80) and,

NW of a reef (0°56′N, 103°19′E) with detached rocks close SW, thence:

NW of the rocks extending NE from Pulau Belembang (0°53′N, 103°14′E) (10.78) and NW of the island itself.

3 With local knowledge mariners can use the channel S of Pulau Babi.

For islands and dangers N of Selat Gelam see *Malacca Strait and West Coast of Sumatera Pilot.*

(Directions for the E entrance to Selat Ayer Hitam are given at 10.78)

Chart 3833

Tanjungbalai

10.84

1 **General description.** Tanjungbalai (0°59′N, 103°26′E), a small town and harbour with a mainly Chinese population, is situated on the SE coast of Pulau Karimun Besar and 7 cables WSW of Tanjung Rambut, the E extremity of the island on which stands a light (white framework tower, 40 m in height), visible in the N part of the strait; a prominent tower with obstruction lights stands 6 cables WSW of the light. A T-head pier extends about 300 m SE from a position close W of the light and there are several small jetties which extend out from the shore S and SW of the town. Tanjungbalai is a seat of local government.

2 When approaching from E, the ridge of hills to the E of the town is remarkable for the red colour of its steep, barren sides. A light-buoy (port hand), which marks the entrance to harbour, and a light-buoy (starboard hand) are moored, respectively, 2 cables S and 4 cables SE of the town.

Coast radio station operates from the town; for details see *Admiralty List of Radio Signals Volume 1(2).*

3 **Anchorage** may be obtained S or SE of the jetties at Tanjungbalai in depths of 18 to 27 m. Small craft can anchor closer inshore between the jetties and the rock, previously mentioned.

These anchorages, however, are not good during the NW monsoon, on account of the strong tidal streams and heavy squalls.

Transhipment Anchorage. An area 6 miles NE of Tanjungbalai, shown on the chart, is used for ship to ship transfers, and should be avoided by other vessels. The anchorage is administered by Tanjungbalai Karimun Port.

4 **Pilotage** is not available.

Channel. A buoyed channel leads from Tanjungbalai to Pameral, lying within the prohibited area (10.81), 2½ miles W, where there are mooring buoys. Port hand buoys mark the S side of the channel. A dangerous rock lies 5 cables SW of the tower at Tanjungbalai.

Facilities are limited; deratting certificates issued.

Supplies and provisions may be obtained.

Other passages

Chart 3948

South-east coast of Pulau Kundur

10.85

1 Tanjungbatu (0°39′N, 103°28′E), a village which lies on the SE coast of Pulau Kundur, is reached by a passage which appears to be clear of dangers, lying between the island and Pulau Onggut (0°39′N, 103°29′E), which lies close SE of the SE coast of Pulau Kundur.

2 Vessels wishing to enter the passage channel must do so from S, steering for Tanjung Sesop, the SE point of Pulau Kundur, on a bearing of 030°; thence after passing Batu Tokong, a rock standing on the mudbank extending 6 cables SW from Tanjung Batulima (0°37′N, 103°28′E), keep in mid-channel. At its N end the channel leading NNE is shallow, and between Pulau Onggut and Pulau Mandah, an island lying off the N end, the channel E is foul due to a number of rocks and small islets lying in its E approach and extending as far as Pulau Babi, 2 miles E. Pulau Bukitdua (0°41′N, 103°33′E), a hilly islet with two peaks, lies 8 cables S of Pulau Babi; and Pulau Cempeda, an islet, lies 6 cables S of Pulau Bukitdua.

3 **Tidal stream.** The S-going tidal stream in the channel attains a rate of from 2 to 3 kn.

Anchorage may be obtained off the village where there is a pier, in a depth of 9 m.

North-east coast of Pulau Kundur

10.86

1 A number of islands lie off the NE coast of Pulau Kundur; the principal ones are Pulau Belat (0°50′N, 103°29′E), an island 10 miles long, with Pulau Degong close SE, Pulau Buru (0°53′N, 103°30′E), Pulau Papan (0°53′N, 103°27′E), the NE island of the group, Pulau Parit (0°57′N, 103°27′E) (10.79) and Pulau Tulang (0°56′N, 103°25′E) (10.79).

Between these islands and the smaller islands in the vicinity there are a number of passages, best seen on the chart, but these passages are only suitable for praus.

ISLANDS AND STRAITS BETWEEN SELAT DURIAN AND SELAT RIAU INCLUDING PELABUHAN SAMBU

General information

Charts 3948, 3949, 3833, 2403

General description

10.87

1 In the area between Selat Durian and Selat Riau (9.66) there are numerous islands, islets and drying reefs through which there are four straits, Selat Sugi (0°49′N, 103°44′E) (10.92), Selat Sulit (0°50′N, 103°50′E) (10.98), Selat Combol (0°53′N, 103°55′E) (10.99) and Selat Bulan (1°00′N, 103°57′E) (10.110). All these straits are navigable by small vessels.

2 Pulau Batam (1°05′N, 104°00′E), 10 miles SE of Singapore, lies at the inter-section of the Indonesian network of sea routes and major ocean shipping routes. The island separates Selat Bulan from Selat Riau and is about 16 miles long and 13½ miles wide. Pulau Batam is a free trade area and an important ship repair base and shipbuilding yards. The N coast of this island is described in *Malacca Strait and West Coast of Sumatera Pilot*.

3 Pulau Sambu (10.128), a major oil terminal, lies on the W side of the N entrance to Selat Bulan; it can be approached from Singapore Strait at its NW end and from Selat Bulan at its SE end.

Fishing stakes

10.88

1 See 10.3.

Vessel Traffic Service

10.89

1 Certain vessels entering Singapore Strait are required to participate in the Singapore Vessel Traffic Information Service; for further details see *Admiralty List of Radio Signals Volume 6(4)*.

Natural conditions

10.90

1 **Rainfall.** In and around Pulau Batam (10.87), rainfall can be considered relatively high throughout the year with no real dry season; the wettest months being December and January.

Fog. During the rainy season dense fog does not occur, but mist and haze can reduce visibility to less than 5 miles.

Winds. In general, during the months of November to March, the prevailing winds in the area are from the N, at 5 kn, and from the S between May and September. The highest average wind force of between 7 to 9 kn occurs between January and March.

Landmark

10.91

1 Bukit Bulan (0°59′N, 103°56′E), the prominent peak of Pulau Bulan.

Selat Sugi

Chart 3948

General description

10.92

1 Selat Sugi, the W strait of the four, lies between Pulau Durian Besar (0°43′N, 103°43′E) (10.64), Pulau Sugibawah (10.56) and Pulau Panjang (10.56) on the W, and Pulau Sugi (10.93) on the E; it is easy to navigate and is frequently used by small vessels en route between Sungai Indragiri (10.43) and Singapore. The W side of the strait is rendered unsafe by several reefs, but the E side, under the W coast of Pulau Sugi, is almost clear, and this coast can be approached fairly closely everywhere.

Topography

10.93

1 On the E side of the strait, Pulau Sugi is traversed from NW to SE by a range of hills; Bukit Bekaka (0°50′N, 103°48′E), the summit of the island, is a saddle-shaped peak situated in the middle of the range. Tanjung Riau (0°45′N, 103°49′E), the S extremity of the island, is faced by cliffs, and a rock lies 2 cables W of it. Tanjung Malangtiang, 3¾ miles NW of Tanjung Riau, is a steep point with a hill close N of it. Tanjung Tello (0°51′N, 103°43′E), 5 miles NW of Tanjung Malangtiang, is rendered prominent by some trees on the coastal reef near it.

2 The islands off the W side are backed by Pulau Sugibawah (10.56) and Pulau Panjang (10.56); the NE coast of Pulau Panjang is steep-to and fringed by a reef and there are reefs in mid-channel between this island and Pulau Jaga (0°51′N, 103°42′E) (10.95).

Tidal streams

10.94

1 Tidal streams in Selat Sugi are mixed with semi-diurnal characteristics predominating. The general direction is NNW-SSE; the maximum rate of the tidal streams is 2·5 kn.

In the N part of the strait there are eddies.

Directions

10.95

1 When entering Selat Sugi from S, vessels may pass either side of Pulau Telumas (0°47′N, 103°46′E), a prominent island with a hill in its N part, and a detached reef lying 3 cables NW of it; or by the more frequently used route passing either side of the islets Pulau Canding Kecil, covered in tall trees so that it appears to be the same height as Pulau Canding Besar, 2 cables W of it, which lie 1 mile W of Pulau Telemas, thence:

2 E of the reef lying 3 cables E of Pulau Sugilaut (0°48′N, 103°43′E) with another reef lying 2 cables N of the same island.

Thence along the W coast of Pulau Sugi giving Tanjung Tello (0°51′N, 103°43′E) a wide berth, and passing:

Between the two reefs, as shown on the chart having swept depths, which lie 9 cables WNW and 6 cables NW of Tanjung Tello, thence:

3 Between Pulau Jaga (0°51′N, 103°42′E), a wooded island with a detached reef 4 cables NW of its NW

extremity, and Pulau Manis (1 mile N), low and wooded, which is surrounded by a reef extending 3 cables from its N side, and with a detached reef close N.

This is the usual route to exit the strait; the passage between Pulau Manis and Pulau Jangka, which is low and wooded, 7 cables E, however can also be used, bearing in mind that fringing reefs extend a considerable distance from these islands.

4 **Clearing bearing.** The alignment (173°) of Tanjung Batubelobang, the NE extremity of Pulau Durian Besar (0°43′N, 103°43′E), with the summit of Pulau Rukan Selatan (0°33′N, 103°46′E) (10.62) passes clear of the reef E of Pulau Sugilaut.

10.96

1 **Useful marks:**

Pulau Rukan Selatan Light (0°33′N, 103°46′E) (10.62).

Pulau Rukan Utara Light (0°37′N, 103°45′E) (10.64).

Karang Melvill Light (0°52′N, 103°37′E) (10.64).

Pulau Jangkat Light (0°58′N, 103°43′E) (10.62).

10.97

1 **Caution.** Gosong Timur (0°41′N, 103°51′E), consisting of ridges of hard sand with depths of less than 3 m, lies in the S approaches to Selat Sugi and Selat Sulit; it is not marked by surf or discolouration.

Selat Sulit

General information

10.98

1 **General description.** Selat Sulit, between Pulau Sugi on the W, and Pulau Citlim (0°47′N, 103°55′E) and Pulau Combol on the E, is of no great importance to navigation, as its S entrance is almost closed by sandbanks with depths of less than 5 m over them; the N entrance is obstructed by islands with fringing reefs and numerous detached reefs, but there are deep channels between them. The strait can, however, be used by small vessels but local knowledge is essential.

2 **Directions.** Selat Sulit is entered between the SE extremity of Pulau Sugi and the shoals, on which lie several islets, extending SE from the island and Pulau Sepan (0°47′N, 103°52′E) and the shoals extending SE. Thereafter the passage leads NW along the SW coast of Pulau Combol, keeping clear of the charted dangers. The passage then leads N passing E of several islands which lie to the W of Tanjung Kakong (0°54′N, 103°49′E). Thence the passage leads between Pulau Terang (0°54′N, 103°48′E) (10.104) and Pulau Badas (10.104), 4 cables NE, to join the route through Selat Combol.

Selat Combol

General description

10.99

1 Selat Combol, between Pulau Citlim (0°47′N, 103°55′E) (10.100), and Pulau Combol on the SW side, and Pulau Bulan (0°59′N, 103°54′E) to the NE, can only be used by small vessels and with local knowledge. The strait, which is quite open and extensive, has numerous islands and off-lying reefs in the NW part which restrict the navigable waterway to a narrow passage off the N coast of Pulau Combol. Tidal streams (10.102) in the channels between the reefs are strong. As the shortest route from Selat Karimata (2°20′S, 109°00′E) to Malacca Strait is through Selat Dempo (0°36′N, 104°15′E) and Selat Combol, some vessels have struck one or other of the reefs within this strait.

2 The S approach to Selat Combol is bordered on the NE by the coast of Pulau Rempang (0°50′N, 104°10′E) (9.66), and by a group of islands (10.100) E of the S end of Pulau Citlim on the SW.

A navigable passage leading N to Singapore Strait lies between Pulau Kepalajerih (1°01′N, 103°47′E) and Pulau Bulan, and is described at 10.107.

Topography

10.100

1 Except for its N side, which is low, the coasts of Pulau Citlim (0°47′N, 103°55′E) are hilly. Pulau Seranjau (0°46′N, 103°57′E) is the largest and highest of a group of islands lying 1¾ miles ENE of the S extremity of Pulau Citlim. The area extending 8 miles SE, 7½ miles E, and 3½ miles NE from Pulau Seranjau contains many shoals with depths, in some places, of less than 5 m over them.

2 Pulau Combol is separated from Pulau Citlim by a narrow strait. A range of hills, the highest point being Bukit Combol (0°52′N, 103°51′E) runs through the middle of Pulau Combol, with low ground on either side, but rising again near the coasts; there are, however, no prominent peaks.

3 Pulau Bulan, which forms the NE side of Selat Combol, is generally low, except in the E part, where there is a range of hills rising to the summit (10.91) of the island. Several islands lie close off the S extremity of Pulau Bulan, the outermost being Pulau Luinglaut (0°52′N, 103°58′E) which lies on a reef.

Fishing stakes

10.101

1 Numerous fishing stakes are situated off the E side of the passage between Pulau Panjang (10.109) and the W coast of Pulau Rempang. See also 10.3.

Tidal streams

10.102

1 Tidal streams in Selat Combol may attain a rate of 3 to 4 kn, and in the N part of the strait set in or out of the numerous side channels W towards Selat Durian.

Landmark

10.103

1 Bukit Bulan (0°59′N, 103°56′E) (10.91).

Directions

10.104

1 After passing clear of a shallow patch and NE of a 2·7 m patch lying, respectively, 1½ miles E and 2½ miles NNW of Pulau Resam (0°46′N, 103°59′E), the track into the strait from SE initially leads NW thence WNW, passing:

Either side of Pulau Pisang (0°52′N, 103°54′E) which is rounded in shape and is the most prominent islet in the strait. Two smaller islets lie close off its E side, thence:

SSW of Pulau Semangka (0°54′N, 103°50′E), a flat island, keeping mid-channel.

2 Thence passing close to the shore of Pulau Combol to avoid the shoal extending SE from Pulau Badas (see below). The track then passes:

Between Pulau Terang, a low islet situated 6 cables NW of Tanjung Kakong (0°54′N, 103°49′E), and Pulau Badas, a hilly island lying 5 cables NNW of the same point, joining with the passage from Selat Sulit, thence:

N of Pulau Sepatu (0°55′N, 103°46′E), a low islet lying 2 miles W of Pulau Badas, surrounded by a reef which extends 5 cables from its W side, thence:

3 SW of the reefs which lie SW of Pulau Bakau (0°56′N, 103°46′E), an island on which a prominent tree stands, thence:

SW of Pulau Jangkat (10.62), on which stands a light, so as to pass at least 1 mile W of it, thence as necessary for Singapore Strait or Malacca Strait.

When approaching the strait from NW, first identify Pulau Jangkat and then follow the above directions in reverse order.

10.105

1 **Useful mark:**

Summit of Pulau Seranjau (0°46′S, 103°58′E) (10.100).

10.106

1 **Caution.** Between Pulau Jangkat (0°58′N, 103°43′E) and the SW coast of Pulau Kepalajerih (10.107), 4 miles NE, there are many reefs and shallow patches, and there is no safe passage between the islands W of Pulau Kepalaganding (0°58′N, 103°48′E) lying close off the S extremity of Pulau Kepalajerih, namely, Pulau Katumba, Pulau Lotong, Pulau Geranting and Pulau Ladan (0°59′N, 103°45′E).

Charts 3948, 3833

Passage between Pulau Kepalajerih and Pulau Bulan

10.107

1 **General description.** The strait which lies between Pulau Kepalajerih (1°00′N, 103°47′E), a large hilly island, surrounded by a fringing reef with a coastline of mangroves on its E side, and Pulau Bulan, 2 miles E, is much obstructed by islets, drying reefs and dangerous rocks.

Local knowledge is essential.

2 **Submarine pipeline.** A gas pipeline is laid from the N end of Pulau Pemping Besar, passing 4¼ cables S of Helen Mar Reef (10.108) continuing W then WNW across Selat Phillip. For further information on submarine gas pipelines, see (1.51).

10.108

1 **Directions.** The passage is entered from S between Pulau Jello (0°58′N, 103°51′E) and an islet 6 cables W. It then leads NNW to pass between Pulau Dongdang (1°00′·0N, 103°48′·7E) and Pulau Cuping (1°00′·4N, 103°49′·4E), keeping WSW of Pulau Pecom (1°00′N, 103°50′E) and its fringing reefs and ENE of the many islets and reefs to the SSE of Pulau Dongdang. The passage then leads N and then NNW to pass ENE of Pulau Tandur (1°02′N, 103°48′E) and thence to open water, keeping clear of several charted rocks and detached reefs.

2 **Caution.** There are numerous detached drying reefs and shallow patches which lie off and around Pulau Pemping Besar (1°06′N, 103°48′E) and SE of a line joining the N extremity of that island with Pulau Subar (1°09′N, 103°50′E), 3½ miles NE.

3 Helen Mar Reef (1°07′N, 103°47′E), lying 1½ miles NW of Pulau Pemping Besar, is the outer and NW danger on foul ground between it and that island. Karang Banteng (Buffalo Rock) (1°09′N, 103°49′E) lies 1¼ miles NW of Pulau Subar (1°09′N, 103°50′E). Together with Selat Phillip, these dangers and their lights are all described in *Malacca Strait and West Coast of Indonesia Pilot*.

Other passages

10.109

1 A passage lies between Pulau Panjang (0°48′N, 104°09′E) and the W coast of Pulau Rempang; the depths, however, are irregular and there is a drying sandbank off the N end. Pulau Nibung, a small islet, lies 1 mile N of Pulau Panjang.

Fishing stakes are situated on the E side of the passage.

2 Tanjung Colim (0°57′N, 104°05′E), the NW extremity of Pulau Rempang, forms the E entrance point of the N entrance to a narrow strait separating Pulau Rempang from the hilly Pulau Setoko (0°56′N, 104°04′E). At the N entrance there is a bridge with a vertical clearance of 15 m. The approaches and the S entrance to this strait, which is only navigable by praus, are shallow. Several drying patches and reefs lie in the strait.

3 Karang Mentema, a rock on a drying reef, is situated 1¾ miles S of Tanjung Koroh (0°55′N, 104°04′E), the S extremity of Pulau Setoko.

Selat Batupurap separates Pulau Lumba Besar (1°03′N, 103°51′E), to the N, from Pulau Bulan; it is an unimportant passage, with fringing reefs and some mid channel rocks, which connects with Selat Bulan (10.110). In 1992, it had a least depth of 1·5 m.

Selat Bulan

General description

10.110

1 Selat Bulan is a narrow and tortuous passage, which separates Pulau Bulan from Pulau Batam (10.87); it can be used by vessels, other than large ones, of moderate draught.

In conjunction with the passage (9.58) between Pulau Anakpetong (0°38′N, 104°02′E) and Pulau Petong, 2½ miles E, it is the shortest route between Palembang and Singapore. Selat Bulan is often used by small vessels wishing to avoid the bad conditions likely to be experienced in the E part of Singapore Strait with strong NE winds.

2 The least charted depth in the fairway is 4·0 m.

Numerous islets, much resembling each other and continually being altered in appearance by tree felling and burning, lie in the strait.

A passage (10.117), which lies S of Pulau Batam, connects Selat Bulan with Selat Riau.

Local knowledge is essential particularly when navigating the narrow channels of Selat Bulan.

Charts 3948, 3833, 3937, 4041

Submarine pipeline and cables

10.111

1 A submarine water pipeline crosses the N entrance to the strait between Pulau Batam and Pulau Sambu, passing close NE of Pulau Mariam (1°09′N, 103°54′E), best shown on chart 3937.

Submarine cables lie across the N entrance to Selat Bulan laid from Tanjung Pinggir (1°09′S, 103°55′E), leading initially N, then NW, as shown on chart 4041.

For information on submarine cables see 1.52.

Tidal streams

10.112

1 Tidal streams in the strait may attain a rate of 3 to 3½ kn, but no further details are known.

Principal marks

10.113

1 **Landmarks:**

Aerlingsing (0°59′N, 104°02′E), a hill.

Bukit Bulan (0°59′N, 103°56′E) (10.91), at the S entrance.

Radio masts, conspicuous (1°07′N, 103°57′E), standing on the NW coast of Pulau Batam at the N entrance to the strait.

For marks at Singapore, see the chart and *Malacca Strait and West Coast of Sumatera Pilot*.

2 **Major light:**

Sakijang Light (1°13′N, 103°51′E), visible at the N end of the strait, see *Malacca Strait and West Coast of Sumatera Pilot*.

Other aid to navigation

10.114

1 **Racon:**

Batu Berhanti Light (1°11′N, 103°53′E).

For further details see *Admiralty List of Radio Signals Volume 2*.

Directions

10.115

1 The strait is approached from S between Pulau Luinglaut (0°52′N, 103°58′E) (10.100) and Hangop (0°52′N, 104°02′E), two small islets or rocks on a reef lying in the S approach to the strait. The track leads N until Tanjung Gundap (0°59′N, 104°00′E) is reached, passing between Pulau Sekikir (0°56′N, 104°01′E) and a detached reef 5 cables W.

2 The strait is entered from a position between Tanjung Gundap and a shallow bank, 4 cables SW, thence N of a buoy (starboard hand) moored 1 mile WNW of the point. Between Tanjung Gundap and Tanjung Uncang (1°06′N, 103°53′E), nearly 10 miles NW, the chart is the best guide with the track passing between Pulau Boyan (1°01′·5N, 103°55′·0E) and Pulau Tengah, 3 cables E.

Caution. In the S approaches, a coastal bank extends 2½ miles E of Pulau Ladi (0°55′N, 103°57′E) and a bank extends 1¼ miles S of Pulau Sekikir.

10.116

1 On passing NW of Tanjung Uncang, from where a jetty extends N for approximately 600 m, and in mid-channel, the track leads NNE to the N entrance to the strait which lies between Pulau Mariam (1°09′N, 103°54′E), a rocky islet on which stands a light (starboard hand beacon, 8 m in height), lying on the NW side of the entrance, and the NW of three drying reefs, 3½ cables SE, from where a light (port hand beacon, 5 m in height) is also displayed, extending from Tanjung Pinggir (1°09′N, 103°55′E), a point which is easily distinguished by a bare conical hill.

2 A light (isolated danger) stands on the N side of a dangerous rock 2 cables NW of Tanjung Kemudi, a prominent point 2½ cables SSW of Tanjung Pinggir.

From N, the strait is approached from the buoy (safe-water) which is moored 9 cables NE of Pulau Mariam (1°09′N, 103°54′E).

Useful mark:

Batu Berhanti Light (1°11′N, 103°53′E).

This mark is described in *Malacca Strait and West Coast of Sumatera Pilot*.

Charts 3948, 3949 (see 1.31)

Passage between Selat Bulan and Selat Riau

10.117

1 There is a passage for small vessels, leading E from Tanjung Gundap (0°59′N, 104°00′E) (10.115) into Selat Riau, which can be used with the benefit of local knowledge to avoid NE weather in the E part of Singapore Strait.

2 From the vicinity of Tanjung Gundap the track runs along the S coast of Pulau Batam to Tanjung Piayu (0°59′N, 104°06′E), which lies at the SE extremity of the island, passing N of Pulau Au (chart 3833) and Pulau Tonton, two islets lying 1½ miles ESE and 2 miles E, respectively, of Tanjung Gundap; thence between Pulau Anakmati (0°58′N, 104°05′E) and Pulau Asa Besar, 3 cables NW.

3 **Vertical clearance.** A bridge, with a vertical clearance of 38 m, connects Pulau Batam and Pulau Tonton.

Anchorage which is sheltered can be obtained close SW of Pulau Asa Besar, where the tidal streams are very variable in direction and strength; see also 9.98.

10.118

1 From a position between Tanjung Piayu (0°59′N, 104°06′E) and Pulau Awi, 4½ cables SE, the channel leads NE, passing between Pulau Kasem (1°02′N, 104°08′E) and Pulau Lepang, 3 cables SE. From this latter position the track either leads NNE to Kabil (1°05′N, 104°08′E) (9.92), thence to the N end of Selat Riau, or Pulau Lepang can be rounded and a S course, the directions of which are given at 9.97, leads along the W coast of Pulau Nginang (1°00′N, 104°10′E) (9.80), and into Selat Riau between this island and Pulau Pencaras, 1¼ miles SSE.

10.119

1 If conditions and draught permit, small vessels are able to shorten the track into Selat Riau as given above by passing S of Pulau Awi (0°58′N, 104°07′E) thence NE between the NW extremity of Pulau Ayerraja (9.66) and Pulau Kila (0°59′N, 104°09′E). However, this passage has only narrow channels between the reefs S of Pulau Awi.

(Directions for Selat Riau are given at 9.78)

Chart 3937 plan of Sambu and Sekupang

Landings

10.120

1 Landings can be made at a jetty which lies 1 cable S of Tanjung Pinggir (1°09′N, 103°55′E) and at a jetty extending a short distance SW from the W side of Pulau Mariam (1°09′N, 103°54′E).

Sekupang including Teluk Senimba

General information

10.121

1 **Position.** Sekupang (1°08′N, 103°56′E) is one of four ports situated on Pulau Batam. It lies on the S side of the N entrance to Selat Bulan, 9 cables SSE of Tanjung Kemudi (10.116).

Function. The port is used for the transit of petroleum and commercial cargoes.

Topography. The coastline in the vicinity of the port is sheer and rocky and the hinterland is hilly. A channel leads S from Sekupang into Teluk Senimba (10.127).

2 **Traffic.** In 2004 Sekupang handled 2 vessels totalling 3353 dwt.

Port Authority. Harbour Administrator, Pelabuhan Sekupang, Batam, Indonesia; there is also a resident Harbour Master.

Limiting conditions

10.122

1 **Tidal levels.** See *Admiralty Tide Tables*. Mean maximum range about 1·9 m, mean minimum range about 1·1 m.

Maximum size of vessel which can berth alongside is 5000 dwt.

Arrival information

10.123

1 **Coast radio** station operates from Sambu, and there is also a port radio station; for details see *Admiralty List of Radio Signals Volume 1(2)*.

Pilotage for Sekupang available 0800 to 1800.

Directions

10.124

1 From the N end of Selat Bulan (1°09′N, 103°55′E) (10.110), the port is approached from the NW passing (positions from Tanjung Kemudi (1°08′N, 103°55′E)):

SW of two light-beacons (10.116) (6 cables NW and 2 cables NW), standing on detached reefs, thence:

Between a light-beacon (port hand) (3 cables SSE) standing on the coastal reef and a light-buoy (starboard hand) (3¼ cables S) marking the N extremity of an area of shoal water, thence:

2 Between a light-beacon (port hand) (7 cables SSE) standing on the coastal reef at Sekupang, and a light-beacon (green triangle point up on green beacon, 8 m in height) (7½ cables S) marking the NE edge of a drying reef.

Berths

10.125

1 **Anchorage**. An anchorage lies off the pier at Sekupang in depths of from 10 to 18·2 m, mud and sand.

Alongside berth. There is a concrete T-head pier, abreast the town: pierhead length 80 m; depth alongside 9 m at MLWS.

Other moorings. There are several mooring buoys in the harbour basin S of the pier, as shown on the chart; a small jetty extends SW from a position 1 cable SSE of the pier.

Port services

10.126

1 **Facilities**: limited.

Supplies: fresh water; fuel and provisions not available.

Communications. A small airfield lies at Hang Nadim, on Pulau Batam; a ferry service runs every 40 minutes from the port to Singapore.

Chart 3833

Teluk Senimba

10.127

1 **General information.** Teluk Senimba (1°06′N, 103°55′E) is a large enclosed bay in the NW part of Pulau Batam. Entered S of Sekupang, it extends 3 miles S, where it gives access to Sungai Senimba. At the entrance to Sungai Senimba is Waterfront City, a tourist resort with a population (2004) of about 225 000, at which are situated a ferry port and a marina.

Pilotage can be arranged. For further details see *Admiralty List of Radio Signals Volume 6(4).*

2 **Directions.** A navigable channel leads 3 miles S from Sekupang to the entrance to Sungai Senimba (1°05′N, 103°56′E), a river which extends further S from the E side of the head of Teluk Senimba. The channel is marked by light-beacons and beacons as far as the ferry terminal. The marina is situated close E.

Anchorage. Available close W of the ferry terminal or N of the marina, in depths of 4 to 10 m, mud and clay.

Pelabuhan Sambu

Charts 3937 plan of Sambu and Sekupang, 4041

General information

10.128

1 **Position.** Sambu, the port, is situated on the SW side of Pulau Sambu (1°10′N, 103°54′E).

10.129

1 **Function.** The port consists of a large oil terminal which is ideally placed 8 miles from Singapore and under 3 miles from the International waterway. Numerous white oil tanks on Pulau Sambu are noticeable from most directions.

10.130

1 **Topography.** Excepting its SW side, Pulau Sambu is a reef fringed island; it is hilly and most of the shoreline is sheer. Pulau Anaksambu, 1½ cables NW, is also fringed by a reef. Karang Sambu, an unmarked reef, lies 1½ cables NW of Pulau Anaksambu. Pulau Belakangpadang (1°09′N, 103°53′E), whose E extremity lies 4 cables SW of Pulau Sambu, is the largest of the off-lying islands on the S side of Main Strait; it is generally low, covered with jungle and fringed by a reef which extends 4½ cables from its W side, and reefs which extend up to 5 cables off its SE side. Pulau Lengkana lies close N of Pulau Belakangpadang and on the same reef; Pulau Tolop and Pulau Senang, a small islet, lie 5 cables NW of Pulau Belakangpadang.

2 Batu Berhanti (1°11′N, 103°53′E), lying 1½ miles NW of Pulau Sambu, together with its light, are described in *Malacca Strait and West Coast of Sumatera Pilot*.

10.131

1 **Harbour limits**. Pelabuhan Sambu is formed by a line joining the NW point of Pulau Belakangpadang to the light-beacon (1°10′N, 103°53′E), which stands 3 cables N of Pulau Lengkana, thence to the N point of Pulau Anaksambu, along the E coast of the same island to the NW point of Pulau Sambu, thence from the SE point of the same island to the NE point of Pulau Mariam, thence from the SE point of the same island to the S point of Pulau Belakangpadang.

10.132

1 **Approach and entry.** The terminal can be approached from Main Strait at its NW end, and from Selat Bulan by a channel either side of Pulau Mariam (1°09′N, 103°54′E) at its SE end.

10.133

1 **Traffic.** The terminal handles approximately 25 vessels each month.

10.134

1 **Port Authority.** Pertamina, Jalan Yos Sudarso 32–34, PO Box 1287/14012, Jakarta. Indonesia.

Port operator: Harbour Master, P.N Pertamina, Port Office, Pulau Sambu, Sumatera. Indonesia.

Limiting conditions

10.135

1 **Tidal levels.** See *Admiralty Tide Tables*. Mean maximum range about 2·0 m, mean minimum range about 1·2 m.

Maximum size of vessel handled: 175 m LOA, 9·7 m draught, 29 500 dwt; although in certain conditions these

figures can be increased. A vessel of 225 m in length having a draught of 10·5 m has been accommodated.

Density of the water at all cargo berths is 1·025 g/cm^3.

Arrival information

10.136

1 **Port operations.** A signal station stands on the summit of Pulau Sambu in the S part of the island. Vessels not scheduled to berth on arrival will be directed to the anchorage (10.140).

Port radio. For details see *Admiralty List of Radio Signals Volume 6(4)*.

2 **Prohibited anchorages.** Anchorage is prohibited within an area in the W approach to Pelabuhan Sambu; the area lies with its N limit close S of Batu Berhanti (1°11′N, 103°53′E) and is indicated on the chart.

A prohibited anchorage area exists within 500 m of the submarine gas pipeline described below. Fishing, trawling and seabed activities are also prohibited within this area.

3 **Submarine pipeline** A gas pipeline passes through the prohibited anchorage area and about ½ mile N of Pulau Sambu, as shown on the chart. For information on submarine pipelines see 1.51.

Pilotage is compulsory. The pilot station operates continuously; berthing and unberthing, however, is carried out during daylight hours only. Pilots require 6 hours notice of arrival and 3 hours notice of departure.

4 The pilot boards vessels 7 cables SW of Batu Berhanti, as shown on the chart. For further details see *Admiralty List of Radio Signals Volume 6(4).*

Tugs and mooring boats are available.

Regulations. Except for Government and local small vessels all navigation within the limits of the harbour is prohibited between 2100 and 0600.

Harbour

10.137

1 **General layout.** The working area of Pulau Sambu lies on the SW side of the island and consists of six main berths, which include four deep-water oil berths; Pulau Belakangpadang provides two T-shaped piers (10.140).

Tidal streams, during the W-going stream in Main Strait, set SW between Pulau Anaksambu and Pulau Sambu, and between Pulau Sambu and Pulau Mariam, thence towards the light-beacon N of Pulau Lengkana, and thence NW. An eddy extends along the SW side of Pulau Sambu, being occasionally felt as far as the SE extremity of that island.

2 During the E-going stream in Main Strait, the stream sets SE through the anchorage; before it turns NW, an eddy is sometimes felt off the NE side of Pulau Belakangpadang.

The tidal streams between Pulau Sambu and Pulau Mariam are strong and the passage should not be used by small craft.

Landmark:

Radio masts (1°07′N, 103°57′E) (10.113).

Directions for entry

10.138

1 **Approach from the traffic lanes.** When approaching from W, vessels should proceed to the pilot boarding station (10.136) situated SW of Batu Berhanti Light (1°11′N, 103°53′E); approaching from E vessels should pass N of this light thence proceed to the pilot station.

From the pilot boarding station the channel, which lies between Pulau Sambu and Pulau Belakangpadang and is at least 2 cables wide, leads SE, passing:

2 NE of Belakangpadang Light-beacon (green structure; 10 m in height) (1°10′N, 103°53′E) situated on a detached reef extending N from Pulau Lengkana, thence:

NE of a beacon (starboard hand), 1½ cables SE of the light-beacon, marking the NE edge of the same reef extending N from Pulau Lengkana, thence as required towards the berth.

10.139

1 **Approach from Selat Bulan.** The route lying on the N side of Pulau Mariam passes between a beacon (starboard hand) which stands on the S extremity of the reef extending from the S side of Pulau Sambu, and a beacon (port hand) marking the N extremity of the reef extending from Pulau Mariam (10.116).

Alternatively, and depending on draught, vessels may pass SW of Pulau Mariam, between it and shoal water, with depths of less than 5 m over it, 2 cables SW.

Berths

10.140

1 **Anchorage** for large vessels may be obtained W of the W limit of the charted prohibited anchorage in the approximate position 1°10′·7N, 103°52′·3E. Small vessels can find anchorage in the channel SW of Pulau Sambu, abreast Nos 5 and 6 Berths, in depths of 13 to 15 m. Vessels arriving at night should anchor NE of Pulau Sambu in depths of 20 to 35 m. Vessels intending to anchor should do so clear of the gas pipeline (10.136).

2 **Alongside berths.** On the SW side of Pulau Sambu, there are six berths numbered from NW to SE; three of which are tanker berths.

The largest tanker berth:

No 1 Berth: 135 m long with a depth of 10·5 m at MLWS.

General cargo and fresh water are handled at No 5 berth; 2·6 m depth at MLWS, accommodating 200 dwt vessels.

3 **Other berths.**

Government Pier (No 6 berth), is the ferry terminal with a working length of 27 m; depth 3 m at MLWS. There is a tide gauge at the NW end.

Pulau Belakangpadang (No 7 Berth). A T-shaped pier projects 1 cable NE from the island; it is used by general cargo vessels and the ferry service with Pulau Sambu. Another T-shaped pier which projects NE from the island, lies within 1 cable of No 7 berth.

Port services

10.141

1 **Repairs**: minor repairs by Pertamina.

Other facilities: medical; issue of deratting and deratting exemption certificates.

Supplies: diesel/fuel oil alongside oil berths; fresh water; provisions must be obtained at/from Singapore.

Communications. The nearest airport is situated on Pulau Batam; there is ferry service to Singapore from Sekupang (10.121).

APPENDIX I

FORMER MINED AREAS

Description of Limits

The Indonesian Government have declared the following areas dangerous due to mines which were laid during the World War of 1939–1945. Due to the lapse of time, navigation through these minefields whether they have been swept or not is now considered no more dangerous from mines than from any other of the usual hazards to navigation; but in the unswept areas a real danger still exists with regard to anchoring, fishing or any form of submarine or seabed activity. For further information see *Annual Summary of Admiralty Notices to Mariners No 6*.

Java Sea and Selat Sunda *(Charts 2056, 3729, 3730, 3731, 1964, 3757, 2137, 1066, 2149, 2785)*

Throughout these sea areas there is a residual risk from mines broken from their moorings.

Pulau Lingga (*Charts 1789, 1312*)

(i) The area of water bounded by a line as follows is dangerous: on the N by the S coast of Pulau Lingga; on the E by the meridian 104°48′E; on the S by the parallel of 0°29′S and on the W by the NE coast of Pulau Singkep and the meridian of 104°32′E.

(ii) A swept channel S of Pulau Lingga, clear for all types of vessels is bounded by a line as follows:

N Limit:
- (a) 0°20′06″S, 104°32′00″E
- (b) 0°23′06″S, 104°48′00″E

S Limit:
- (a) 0°21′30″S, 104°32′00″E
- (b) 0°22′00″S, 104°35′00″E
- (c) 0°23′18″S, 104°39′48″E
- (d) 0°24′54″S, 104°48′00″E

Selat Berhala (*Charts 1789, 1312*)

The recommended track lies between:
- (a) 0°54′00″S, 104° 24′ 00″E
- (b) 0°54′00″S, 104°35′00″E

Selat Bangka — Sungai Banyuasin (*Charts 3471, 3476*)

(i) The river is dangerous between the parallels of 2°20′00″S and 2°23′30″S

(ii) A channel 1 mile wide has been swept along the fairway of the river. The W limit passes through:
- (a) 2°20′00″S, 104°49′09″E
- (b) 2°23′30″S, 104°45′00″E

(iii) A channel 300 m wide has been swept with centreline joining the following positions:
- (c) 500 m 270° from (b) above
- (d) 2000 m 360° from (c) above
- (e) 3300 m 300° from (d) above

The upper reaches of Sungai Banyuasin and Sungai Lalang, which enters Sungai Banyuasin N of Tanjung Serah, are clear for all types of surface vessels.

Selat Bangka — Sungai Palembang (*Charts 3476, 3471*)

Although Sungai Palembang has not been swept, it has been navigated so frequently that danger from mines for all vessels may be considered negligible. The following directions should, however, be followed:

When making the entrance, vessels should keep to the leading lines, taking care not to be W of the inner leads N of 2°17′12″S.

Vessels should keep to the E side of the river between latitudes 2°34′00″S and 2°35′13″S. Vessels should also keep to the E side of the river abreast Upang (2°43′30″S, 104°57′30″E), a village.

Sungai Telang (2°22′S, 104°54′E) is considered free of mines.

Pulau Segama (*Charts 2056, 2149*)

The area within a circle of radius 3 miles centred on 5°12′S, 106°04′E is dangerous.

Tanjung Awarawar (approaches) (*Charts 3731, 1066*)

The areas bounded by the land and lines joining the following positions are dangerous:

W Limits
- (a) The coast in 111°28′51″E
- (b) 6°34′00″S, 111°28′51″E
- (c) 6°39′00″S, 111°54′00″E
- (d) 6°46′00″S, 111°54′00″E
- (e) 6°46′00″S, 111°52′30″E
- (f) Thence S to the coast.

Between the W and E limits, a channel 5 cables wide, which has been cleared of mines, leads to the harbour at Pereng (6°47′S, 111°54′E).

E Limits
- (g) The coast in 111°55′00″E
- (h) 6°46′00″S, 111°55′00″E
- (i) 6°46′00″S, 111°54′30″E
- (j) 6°39′00″S, 111°54′30″E
- (k) 6°39′30″S, 111°59′51″E
- (l) Thence S to the 20 m contour
- (m) Along the 20 m contour to 112°01′51″E
- (n) Thence S to the 5 m contour in 112°01′51″E
- (o) Along the 5 m contour to 112°06′21″E
- (p) Thence N to the 20 m contour in 112°06′21″E
- (q) Along the 20 m contour to 112°07′51″E
- (r) 6°41′00″S, 112°07′51″E.

Thence the area extends further E as described in *Indonesia Pilot Volume II*.

Within the E limits, the area inside the line joining the following positions has been swept clear of mines.
- (a) 6°46′04″·0S, 111°56′16″·5E
- (b) 6°45′48″·0S, 111°55′32″·4E
- (c) 6°39′00″·0S, 111°55′32″·4E
- (d) 6°39′05″·0S, 111°56′03″·0E
- (e) 6°42′08″·5S, 111°56′03″·0E
- (f) 6°42′08″·5S, 111°58′03″·0E
- (g) 6°39′05″·0S, 111°58′03″·0E
- (h) 6°39′05″·0S, 111°58′19″·0E
- (i) 6°44′18″·7S, 111°58′19″·0E
- (j) 6°45′20″·7S, 111°57′20″·4E
- (k) 6°45′20″·7S, 111°57′50″·0E
- (l) 6°45′48″·0S, 111°57′50″·0E
- (m) 6°45′48″·0S, 111°57′05″·0E

Pulau-pulau Karimunjawa (NE Approaches) (*Chart 1066*)

The area within a circle of radius 15 miles centred on 5°37′00″S, 110°54′00″E is dangerous.

APPENDIX II

ARCHIPELAGIC SEA LANES

General information

The definition, purpose and other information concerning Archipelagic Sea Lanes is contained in *The Mariner's Handbook.*

Charting of Archipelagic Sea Lanes

Admiralty charts show all adopted archipelagic sea lanes, including the axis lines and the lateral limits of the sea lanes.

Archipelagic Sea Lanes in NP 36

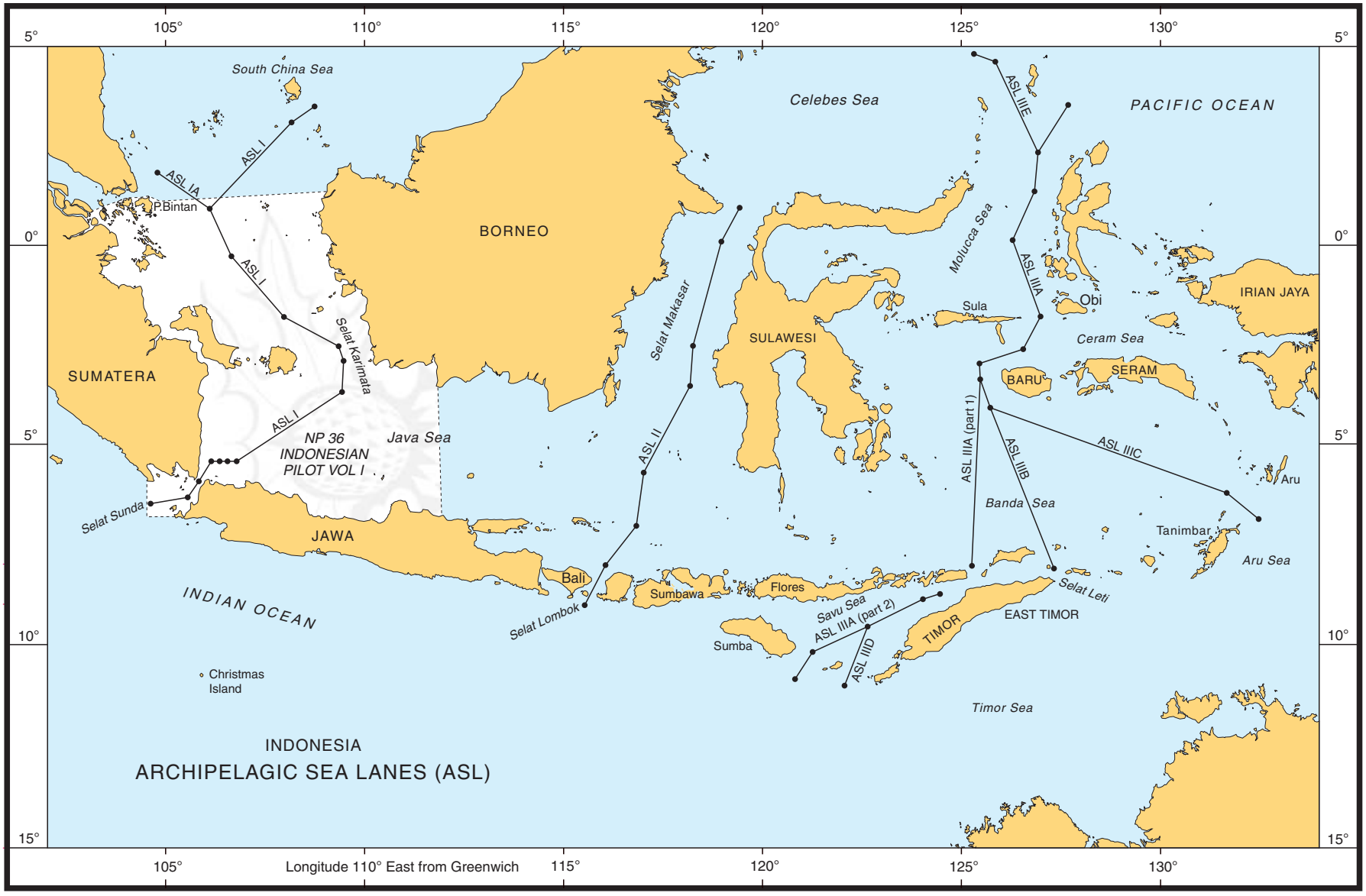
The following designated archipelagic sea lanes, defined by their respective axis lines, lie either wholly or partly within the waters described in this volume. These sea lanes are shown on the accompanying diagram.

ASL I — South China Sea — Selat Karimata — Western Java Sea — Selat Sunda — Indian Ocean

3°35′·0N, 108°51′·0E
3°00′·0N, 108°10′·0E
0°50′·0N, 106°16′·3E
0°12′·3S, 106°44′·0E
2°01′·0S, 108°27′·0E
2°16′·0S, 109°19′·5E
2°45′·0S, 109°33′·0E
3°46′·8S, 109°33′·0E
5°12′·5S, 106°54′·5E
5°17′·3S, 106°44′·5E
5°17′·3S, 106°27′·5E
5°15′·0S, 106°12′·5E
5°57′·3S, 105°46′·3E
6°18′·5S, 105°33′·3E
6°24′·8S, 104°41′·4E

ASL IA — Northeast of Pulau Bintan

1°52′·0N, 104°55′·0E
0°50′·0N, 106°16′·3E



Distance table - South China and Java Seas

Note: For further information and notes on distances, see *Admiralty Distance Tables Indian Ocean* Table 4 and Index Chart 4.

Bangka, Selat	Gelasa, Selat	Jakarta	Karimata, Selat	Lombok, Selat	Makassar, Selat	Singapore	Sunda, Selat	Surabaya
172								
293	196							
237	106	341						
798	664	614	635					
1096	963	946	918	615				
235	340	527	344	980	180			
300	217	70	391	672	1004	535		
585	453	397	425	284	661	770	445	

INDEX

Names without a paragraph number are for gazetteer purposes only

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