

INTERNATIONAL COURT OF JUSTICE

**CASE CONCERNING SOVEREIGNTY OVER
PEDRA BRANCA / PULAU BATU PUTEH,
MIDDLE ROCKS AND SOUTH LEDGE
(MALAYSIA / SINGAPORE)**

**COUNTER-MEMORIAL OF
SINGAPORE**

VOLUME 3

(Annexes 24 to 57)

25 JANUARY 2005

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Annex 24

**Letter from Ibrahim (Sultan of Johore) to the Officer Administering
the Government, Straits Settlements dated 25 April 1900**

C 258

Colony; as was explained at greater length in my letter No. 8955/00 of the 13th instant*. The term "encroachment" cannot therefore be correctly applied to the acquiescence of the Military authorities in the re-occupation of a portion of this land by the Civil Government.

I have, &c.,

W. EGERTON,
Acting Colonial Secretary, S.S.

Deputy Assistant Adjutant-General, S.S., to Colonial Secretary, S.S.

Singapore, 1st December, 1900.

SIR,—I have the honour to acknowledge the receipt of your letter Military 10399/00 dated 29th November, 1900, in which you take exception to the term "encroachment" as applied to the use of a piece of land in Fort Canning on which the Colonial Government desires to erect a light-house.

2. I am directed to inform you that a copy of your letter will be forwarded to the War Office but the Officer Commanding the Troops is unable to alter the terms on which the leave to build this light-house has been granted and therefore the land cannot be handed over to you until those terms are modified by the War Office or until you accept them.

I have, &c.,

R. W. P. WHITE, CAPT.,
D.A.A.G., and Chief Staff Officer, S.S.

Pulau Aor Light.

Deputy of the Officer Administering the Government, S. S., to the Sultan of Johore.

[C. Agents 1228]

GOVERNMENT HOUSE,

Singapore, 20th February, 1900.

Sir,—I have the honour to inform Your Highness that the desirability of placing a light-house on Pulau Aor has been brought pointedly to my attention by Captain Symons of the P. & O. Company's vessel *Paramatta* who has represented that vessels which travel directly from Hongkong to Singapore, often travel 1,300 miles without seeing a light and it is most desirable that they should be able to ascertain their position before hauling up for the Horsburgh light at the entrance to the Straits.

The matter was referred to a Committee of Experts who have reported thereon. I enclose two copies of the report; it will be seen that they recommend the erection, on the most prominent Eastern slope of the island, of a revolving light of the first or second order, at an elevation sufficient to give a visual range of 20 miles at least.

As Pulau Aor lies within your Highness's territory of Johore, I have the honour to enquire whether Your Highness would desire to erect a light-house there; or, as Your Highness receives no light-dues, whereas the Straits Government collects annually a large sum by way of light-dues, whether Your Highness would permit the Straits Government (if it can obtain the concurrence of the Legislature and the Secretary of State) to erect on Pulau Aor such a light-house as might be deemed desirable in the interests of Shipping?

I have, &c.,

C. W. S. KYNERSLEY,
*Deputy of the Officer Administering
the Government, S. S.*

Sultan of Johore to the Officer Administering the Government, S. S.

ISTANA BESAR,

Johore Bahru, 25th April, 1900.

SIR,—I have the honour to acknowledge the receipt of Your Honour's letter, C. Agents 1228-00, of the 20th February last, in which you inform me that the desirability of placing a light-house on Pulau Aor has been brought to your attention and that a Committee of Experts have recommended the erection on the most prominent Eastern slope of the island of a revolving light at an elevation sufficient to give a visual range of at least 20 miles, and Your Honour desires to know if my Government would wish to erect a light-house there themselves or would allow the Straits Government to do so.

* On another subject—not printed.

2. In reply I have the honour to state that my Government are not desirous of undertaking the erection of a light-house on Pulau Aor themselves, and that therefore, I am willing, whenever called upon, to grant to your Government a site for the proposed work. My Government will also be pleased to give Your Honour's Government whatever facilities may be expected from them.

3. I would suggest that the arrangement should be the same as was made in the case of the Pulau Pisang Light-house, namely, the granting by me of a plot of ground sufficient for the purposes of a light-house and a private or exclusive roadway leading up to it from the beach, if there is no Kampong or fishing village where the roadway starts from.

4. In this connection I have the pleasure to refer Your Honour to my letter of even date on the subject of the Pulau Pisang Light-house in which I inform you that I am prepared to make good the omission which occurred in 1885 when the site of this light-house was given to the Straits Government. I shall be glad to execute the necessary formal grants in respect of both the Pulau Pisang land and the site required at Pulau Aor at the same time, but I think in both cases the land should be rectangular in shape say a square with a side measuring 180 or 200 feet instead of a circular piece with a radius of 100 feet as formerly arranged for the Pulau Pisang Light-house.

5. I thank Your Honour for the copies of the reports of the Committee of Experts which you were good enough to enclose in your letter under reply.

I have, &c.,

IBRAHIM,
(In Malay Character).

Deputy of the Officer Administering the Government, S. S., to the Secretary of State for the Colonies.

STRAITS SETTLEMENTS.

[No. 220]

GOVERNMENT HOUSE,
Singapore, 14th June, 1900.

Sir,—I have the honour to inform you that the desirability of placing a light-house on Pulau Aor in latitude $2^{\circ} 28'$ longitude $104^{\circ} 32'$ has been brought pointedly to my attention by Captain Symons, of the P. & O. Steam Ship *Paramatta* who has represented that vessels which travel directly from Hongkong to Singapore, often travel 1,300 miles without seeing a light, and it is most desirable that they should be able to ascertain their position before hauling up for the Horsburgh light at the entrance to the Straits.

2. The matter was referred to a Committee of Experts who have reported thereon. I enclose their report. It will be seen that they recommend the erection on the most prominent Eastern Slope of the island of a revolving light of the first or second order at an elevation sufficient to give a visual range of at least twenty miles.

3. Pulau Aor lies within the territory of Johore and the Sultan has informed me that he is not desirous of undertaking the erection of a light-house himself, but is willing, whenever called upon, to grant to the Straits Government a site for the proposed work, and a private roadway thereto from the landing place.

4. As this Government has a large surplus of revenue from light-dues over expenditure for lighting, I think it is our duty to undertake this work and place a first class light on Pulau Aor.

The Master Attendant advises that the light should be a two flashing bright light of the first order, with an interval of not less than half a minute.

5. I have the honour to request that if you concur in deeming the erection of the proposed Light-house advisable you will consult the Elder Brethren of the Trinity House as to the nature of the light to be placed in this position, which should be carefully devised so as not to be mistakeable for the Horsburgh light or the new light now being devised for Singapore pursuant to my letter to the Crown Agents No. 1228 of the 20th February last.

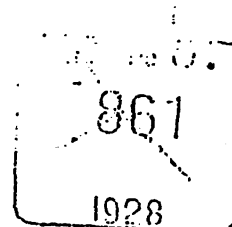
6. When the advice of the Trinity House has been received the Crown Agents

Annex 25

**Letter from Lovat (Secretary of State for Dominion Affairs) to
Governments of Canada, Australia, New Zealand, South Africa,
Irish Free State and Newfoundland dated 30 Jan 1928**

CANADA
COMMONWEALTH OF AUSTRALIA
NEW ZEALAND
UNION OF SOUTH AFRICA
IRISH FREE STATE
NEWFOUNDLAND

Dominions No. 51



Downing Street,
30 January, 1928.

Sir,

I have the honour to transmit, for the
information of His Majesty's Government in

Canada
the Commonwealth of Australia
New Zealand
the Union of South Africa
the Irish Free State
Newfoundland

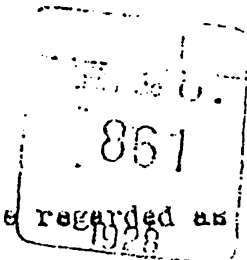
tenant

copies of an agreement signed on the 19th October,
1927, by the Governor of the Straits Settlements on
behalf of His Majesty the King and by His Highness
the Sultan of Johore, on the subject of the boundary
between the Straits Settlements and Johore.

2. The effect of this agreement is to convert
certain islands and waters which formerly formed part
of the Colony of the Straits Settlements into territory
under His Majesty's protection and territorial waters
thereof. In the circumstances, the Secretary of
State for the Colonies was advised that the agreement
should be described as made on behalf of His Majesty
and that Parliamentary approval of the agreement
should be obtained. A Bill giving the approval of
Parliament to the agreement is being drafted.

3. In view, however, of the position of Johore
as a territory under His Majesty's protection, it is
considered

THE OFFICER ADMINISTERING
THE GOVERNMENT OF



considered that the agreement should not be regarded as a treaty between His Majesty and the Head of a foreign State. Accordingly, no full power has been issued by His Majesty for its signature and no provision has been made for ratification by His Majesty. Further, it is not contemplated that the agreement should be registered with the League of Nations under Article 18 of the Covenant.

I have, etc.,

(Signed) LEVAT.

Annex 26

U.K. Parliamentary Debates (House of Commons),
Second reading of the Straits Settlements and Johore Territorial
Waters (Agreement) Bill, 16 July 1928

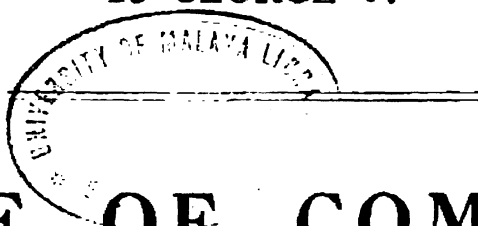
PARLIAMENTARY DEBATES:

Official Report.

FIFTH SERIES—VOLUME 220.

FOURTH SESSION OF THE THIRTY-FOURTH PARLIAMENT
OF THE
UNITED KINGDOM OF GREAT BRITAIN AND
NORTHERN IRELAND.

19 GEORGE V.



HOUSE OF COMMONS.

EIGHTH VOLUME OF SESSION 1928.

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TELLERS FOR THE NOES.—
 Mr. Whiteley and Mr. A. Barnes.

Mr. SPEAKER then proceeded successively to put forthwith the Questions on any Amendments moved by the Government of which notice had been given to that part of the Bill to be concluded at half-past Ten of the clock at this day's sitting.

Amendments made:

In page 3, line 26, leave out the words "for the housing or maintenance of road vehicles," and insert instead thereof the words:

"by the occupier for the housing or maintenance of his road vehicles or as stables."

In page 3, line 33, at the end, insert the words:

(3) "Where two or more properties within the same curtilage, or contiguous to one another, are in the same occupation and, though treated as two or more hereditaments for the purposes of rating and valuation by reason of being situate in different parishes or of having been valued at different times or for any other reason, are used as parts of a single mine, mineral railway, factory, or workshop, then, for the purposes of determining whether the several hereditaments are industrial hereditaments they shall be treated as if they formed parts of a single hereditament comprising all such hereditaments."

In page 4, line 3, leave out the words "and includes any premises or place," and insert instead thereof the words:

"but also includes any premises, place, or works, whether below ground or above ground, primarily occupied and used for the purpose of draining or otherwise protecting from damage any mine or group of mines or."

In line 6, at the end, insert the words:

" 'Mineral railway' means a railway, tramway, or ropeway used primarily for the transport of minerals from a mine, or from two or more mines, to the railway of a railway company or to a dock and in the latter case includes also such dock."—[Mr. Chamberlain.]

CLAUSE 4.—(Entries in valuation lists as to industrial hereditaments.)

Amendment made:

In page 5, line 9, at the end, insert the words:

"(c) where two or more hereditaments in the same occupations are, by virtue of the provisions of Sub-section (3) of the last foregoing Section, treated as if they formed parts of a single hereditament, each of the several hereditaments shall be deemed to be occupied and used for industrial purposes and for other purposes respectively in the proportion in which, if all the hereditaments formed a single hereditament, that single hereditament would be deemed to be so occupied and used."—[Mr. Chamberlain.]

Motion made, and Question, "That further Consideration of the Bill, as amended, be now adjourned," put, and agreed to.—[Mr. Chamberlain.]

Bill, as amended, to be further considered To-morrow.

STRAITS SETTLEMENTS AND JOHORE TERRITORIAL WATER (AGREEMENT) BILL [Lords].

Order for Second Reading read.

The UNDER-SECRETARY of STATE for the COLONIES (Mr. Ormsby-Gore): I beg to move, "That the Bill be now read a Second time."

The Bill aims at sanctioning an agreement which has been come to between the Government of Johore and the Straits Settlements Government in reference to the territorial waters of the Sovereign State of Johore and the British colony of Straits Settlements. The old Treaty whereby Great Britain obtained possession of the Island of Singapore, which was drawn up by Sir Stamford Raffles and finally ratified in 1824, had the effect, if strictly construed, of claiming for the

[Mr. Ormsby-Gore.]

Colony of Straits Settlements not merely the whole of the water of the Island of Singapore, but of islands which really are part of the State of Johore. One of these islands is 100 yards from Johore and two or three miles from Singapore. It is a small island of 26 acres and according to the Treaty of 1824, was regarded as part of the Colony of the Straits Settlements but, according to justice and equity, and according to intention it ought to be part of the State of Johore. Further difficulties have arisen in regard to policing arrangements. According to the original Treaty of 1824 the State of Johore had no jurisdiction in this respect and the result was that there was continual friction, if the Straits Settlements police arrested people who were Johore subjects and not British subjects, in what were obviously Johore waters. So it was arranged by the late governor that a new Treaty should be drafted redefining the line between the State of Johore and the Straits Settlements. That was given effect to, and a final survey was made by the present governor, and the matter now requires Parliamentary sanction. It is a cession of the rights acquired by Sir Stamford Raffles in 1824 long before the present practical considerations had arisen but it is only in accordance with the rights of the State of Johore that the mistake should be rectified and that a formal line should be drawn between the State of Johore and ourselves.

Mr. KELLY: I beg to move, to leave out the word "now," and at the end of the Question to add the words "upon this day three months."

I should like to hear from the Minister in charge how much territory is being handed back to the Sultan of Johore. I do not want to go into the whole question of Singapore, but one would like to know how much military or naval advice, with regard these islands, is involved in this proposal. If there is one point which justifies a Motion for the rejection of this Bill it is the absence of information upon it. The small map which has been placed in the tea room gives no clear indication of the intentions of the Government. One would like more information as to the erection of this bridge or causeway between Singapore and the mainland of Johore. The whole proposal is difficult to understand, and the Department con-

cerned is to blame if there is any want of understanding among hon. Members because of their failure to produce for us proper maps and information. One of the points made by the Under-Secretary was about the difficulty of policing these waters, but I think there will be the same difficulty in the future. You are proposing to draw a line of division, and I take it there will then be a double system of policing—policing from the Johore side as well as the Singapore side. I am not sure that the drawing of this imaginary line will make it any less difficult to police these waters. My reason for moving the rejection is the absence of information, and because we are not quite clear as to whether it is intended that the erection of further armaments shall take place on that site. I am informed by one who has recently returned from that part of the world that a good deal of this land is in the possession of another country, having been leased to it. If that be so, at any rate we ought to be informed of it. In the absence of this information, I move the rejection of the Bill.

Mr. MARDY JONES: I beg to second the Amendment. I do so in order that we may get the necessary information from the Government on this matter.

Mr. ORMSBY-GORE: I am very happy to supply the information which has been asked for. This Bill has nothing to do with the causeway which was completed some time ago to establish road and railway communications between the mainland and the Island of Singapore for commercial purposes. With regard to the Islands, I believe there are three. All are uninhabited, but one, the largest, is of some economic importance, as it has this quarry for road metal. Its total area is about 26 acres, one rood. These small islands, if this Bill is passed, will be recognised as belonging to the State of Johore. There is no truth whatever in the suggestion that any other foreign Power contemplates the use of any of these islands for military or other purposes, or has any lease or other hold over them. Further than that, in so far as the police point is concerned, I hope the days of rubber smuggling are over for ever, but, if they are not over, then it is much better for the Johore police to deal with Johore subjects and for the Straits Settlements Police to deal with Straits Settlement subjects. That is

Annex 27

Notice to Mariners No. 20 of 1931 from Freyberg G. (Master
Attendant, Straits Settlements) dated 21 May 1931

Notice to Mariners.


No. 20 of 1931.

Singapore Strait, Eastern Entrance -- Middle Channel.

South Lima Islet -- Further information re Light to be established.
-----Former Notice. - No. 15 of 1931 (PRELIMINARY); hereby cancelled.Date. - On or about 24th May 1931; without further Notice.Position. - On northern side of channel on the summit of South Lima Islet, at a distance of 6.8 miles 286½ degrees from Horsburgh (Pedra Branca) lighthouse.
Lat. 1° 22'N, long. 104° 18'E (approx)Character. - Flashing white every three seconds thus:-
Flash 0.3 sec, eclipse 2.7 sec.Height. - 65 feet.Visibility. - 10 miles.Power. - Not stated.Remarks. - The light is unwatched and is being maintained by the State of Johore.Authority. - Superintendent of Marine, Johore Bahru.

Singapore, 21st. May 1931.

sd/ Geoffrey Freyberg,
Master Attendant,
Straits Settlements.


 This Confirms Telegram of
 21/5/31

Annex 28

Agreement Between His Majesty's Government within the United Kingdom of Great Britain and Northern Ireland and the State of Johore dated 20 October 1945 ("the MacMichael Treaty"), *reprinted in* Allen, Stockwell & Wright (eds.), A Collection of Treaties and Other Documents Affecting the States of Malaysia, 1761-1963 (1981), p. 121

JOHORE TREATY of 20 October, 1945

MacMichael Treaty^{1*}

Agreement between His Majesty's Government within the United Kingdom of Great Britain and Northern Ireland and the State of Johore.

Whereas mutual agreements subsist between His Britannic Majesty and His Highness the Sultan of the State and territory of Johore:

And whereas it is expedient to provide for the constitutional development of the Malay States under the protection of His Majesty and for the future government of the State and territory of Johore:

It is hereby agreed between Sir Harold MacMichael, G.C.M.G., D.S.O., the Special Representative of His Majesty's Government within the United Kingdom of Great Britain and Northern Ireland on behalf of His Majesty and His Highness Sir Ibrahim, G.C.M.G., G.B.E., the Sultan of the State and territory of Johore for himself, his heirs and successors:-

1. His Highness the Sultan agrees that His Majesty shall have full power and jurisdiction within the State and territory of Johore.
2. Save in so far as the subsisting agreements are inconsistent with this Agreement or with such future constitutional arrangements for Malaya as may be approved by His Majesty, the said agreements shall remain in full force and effect.

Signed this 20 day of October 1945

Signature H.A. MACMICHAEL, Special Representative
in Malaya of the British Government.

Witness H.T. BOURDILLON

Signature IBRAHIM, Sultan of the State and
territory of Johore.

Witnesses H. AMAD
A. KADIR

* For footnote see p. 122

Annex 29

Johore Treaty of 21 Jan 1948,
reprinted in Allen, Stockwell & Wright (eds.), A Collection of
Treaties and Other Documents Affecting the States of Malaysia,
1761-1963 (1981), pp. 124-128

JOHORE TREATY of 21 January, 1948

State Agreement revoking the MacMichael Treaty^{1*}

Agreement made the twenty-first day of January, 1948, between Sir Gerard Edward James GENT, K.C.M.G., D.S.O., O.B.E., M.C., on behalf of His Majesty and His Highness IBRAHIM ibni Almarhum Sultan ABU BAKAR, D.K., S.P.M.J., G.C.M.G., K.B.E. (Mil.), G.B.E., G.C.O.C. (I), Sultan of the State and Territory of JOHORE for Himself and His Successors:

Whereas mutual agreements subsist between His Majesty and His Highness:

And whereas it has been represented to His Majesty that fresh arrangements should be made for the peace, order and good government of the State of Johore:

And whereas His Majesty in token of the friendship which he bears towards His Highness, the subjects of His Highness, and the inhabitants of the State of Johore is pleased to make fresh arrangements to take effect on such day as His Majesty may by Order in Council appoint (hereinafter called "the appointed day"):

And whereas it is expedient to provide for the constitutional development of the State of Johore under the protection of His Majesty and for its future government:

Now, therefore, it is agreed and declared as follows:

Short title and commencement.	1. This Agreement may be cited as the Johore Agreement, 1948, and shall come into operation on the appointed day immediately after the coming into operation of the Order in Council aforesaid. Notification of the appointed day shall be published in the <i>Malayan Union Gazette</i> together with a copy of this Agreement.
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Interpretation.	2. In this Agreement: "Enactment" means any law enacted by His Highness with the advice and consent of a Council of State constituted under the written Constitution of the State referred to in Clause 9 of this Agreement; "Federal Government" means the Government of the Federation;
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* For footnote see p.128

"the Federation" means the Federation of Malaya to be called in Malay "Persekutuan Tanah Melayu", which is to be established on the appointed day;

"Federation Agreement" means the Agreement which is to be made between His Majesty and Their Highnesses the Rulers of the Malay States of Johore, Pahang, Negri Sembilan, Selangor, Perak, Kedah, Perlis, Kelantan and Trengganu for the establishment of the Federation, and includes any amendment thereof;

"the High Commissioner" means the High Commissioner for the Federation;

"His Highness" means the Sultan of Johore and His Successors;

"His Highness in Council" means His Highness acting after consultation with the State Executive Council constituted under the written Constitution of the State referred to in Clause 9 of this Agreement, but not necessarily in accordance with the advice of such Council nor necessarily in such Council assembled;

"Secretary of State" means one of His Majesty's Principal Secretaries of State.

Protection and external affairs.

3. (1) His Majesty shall have complete control of the defence and of all the external affairs of the State of Johore and His Majesty undertakes to protect the Government and State of Johore and all its dependencies from external hostile attacks and for this and other similar purposes His Majesty's Forces and persons authorised by or on behalf of His Majesty's Government shall at all times be allowed free access to the State of Johore and to employ all necessary means of opposing such attacks.

(2) His Highness undertakes that, without the knowledge and consent of His Majesty's Government, he will not make any treaty, enter into any engagement, deal in or correspond on political matters with, or send envoys to, any foreign State.

- British Adviser. 4. His Highness undertakes to receive and provide a suitable residence for a British Adviser to advise on all matters connected with the government of the State other than matters relating to the Muslim Religion and the Custom of the Malays, and undertakes to accept such advice; provided that nothing in this clause shall in any way prejudice the right of His Highness to address the High Commissioner, or His Majesty through a Secretary of State, if His Highness so desires.
- Cost of British Adviser. 5. The cost of the British Adviser with his establishment shall be determined by the High Commissioner and shall be a charge on the revenues of the State of Johore.
- Appointment of British Adviser. 6. His Highness shall be consulted before any officer whom it is proposed to send as British Adviser is actually appointed.
- Federal officers. 7. His Highness undertakes to receive within his State such officers of the Federal Government as that Government may require and to permit such officers to exercise such lawful authority and powers and to perform such lawful functions as may be necessary for the purposes of the Federal Government.
- When Federal officers may perform State functions. 8. Any officer of the Federal Government may, with the concurrence of the High Commissioner, perform within the State of Johore such State duties and may exercise such State powers as may be imposed or conferred upon him by His Highness in Council or by Enactment.
- State Constitution. 9. His Highness undertakes to govern the State of Johore in accordance with the provisions of a written Constitution which shall be in conformity with the provisions of this agreement and of the Federation Agreement.
- Councils to be constituted. 10. In pursuance of the undertaking contained in Clause 9 of this Agreement and

in conformity with the provisions of the Federation Agreement His Highness undertakes forthwith to constitute

- (a) a Majlis Meshuarat Kerajaan, to be called in English State Executive Council;
- (b) a Majlis Meshuarat Negri, to be called in English Council of State.

His Highness to be consulted before posting of officers by High Commissioner to posts borne on State Estimate.

11. His Highness, unless he shall otherwise direct, shall be consulted before any officer is posted by or on the authority of the High Commissioner to any post borne on the State Estimates.

Impartial treatment.

12. All persons of whatsoever race in the same grade in the service of the State of Johore shall, subject to the terms and conditions of their employment, be treated impartially.

Education and training of Malays.

13. His Highness desires and His Majesty agrees that it shall be a particular charge upon the Government of the State of Johore to provide for and encourage the education and training of the Malay inhabitants of the State of Johore so as to fit them to take a full share in the economic progress, social welfare and government of the State and of the Federation.

Previous Agreements.

14. (1) The Agreement made on the 20th day of October, 1945, between His Majesty's Government within the United Kingdom of Great Britain and Northern Ireland and His Highness Sir Ibrahim, G.C.M.G., G.B.E., the Sultan of the State and Territory of Johore, for Himself, His Heirs and Successors, is hereby revoked.

(2) All Treaties and Agreements subsisting immediately prior to the making of the aforesaid Agreement of the 20th day of October, 1945, shall continue in force save in so far as they are inconsistent with this Agreement or the Federation Agreement.

- Sovereignty of the Ruler. 15. The prerogatives, power and jurisdiction of His Highness within the State of Johore shall be those which His Highness the Sultan of Johore possessed on the first day of December, 1941, subject nevertheless to the provisions of the Federation Agreement and this Agreement.
- Language of Agreement. 16. This Agreement shall be expressed in both the English and the Malay languages, but, for the purposes of interpretation, regard shall be had only to the English version.

In witness whereof SIR GERARD EDWARD JAMES GENT, K.C.M.G., D.S.O., O.B.E., M.C., has hereunto set his hand and seal for and on behalf of His Majesty, and His Highness Ibrahim ibni Almarhum Sultan Abu Bakar, D.K., S.P.M.J., G.C.M.G., K.B.E. (Mil.), G.B.E., G.C.O.C.(I), etc., Sultan of Johore has hereunto set his hand and seal, the day and year first above written.

Signature and seal of G.E.J. GENT for and on behalf
of His Majesty

Witness A.T. NEWBOULT

Signature and seal of IBRAHIM, Sultan of Johore

Witnesses ONN JAAFFAR
IDRIS BIN IBRAHIM
ABDULLAH B. ESA
E.E.F. PRETTY

FOOTNOTE

1. Provenance: *Statutory Instruments for 1948*, I, i, no. 108, The Federation of Malaya Order in Council, 1948.

Annex 30

**Letter from the Deputy Commissioner of Police, Singapore to
the Chief Police Officer, Johore dated 2 July 1948**

MEMORANDUM

Restricted.From Deputy Commissioner of Police, Singapore.To Chief Police Officer, Johore, Johore Bahru.Date, 2nd July, 1948.

At a Meeting of the Defence Committee this morning it was decided to impose a Curfew on the Johore Straits between Singapore Island and the mainland, following the Johore-Singapore boundary line from Terawang to the West of Singapore Island to a point North of a line drawn between Changi Point and Penggarang. The Curfew is ^{not yet} in force.

2. This will enable us to fire on anyone moving at night and you may wish to impose a similar Curfew on your side of the Straits.

3. Colonel Little, O.C. Naval Base Police, has made enquiries as to whom such a Curfew would affect, and is of the opinion that it will only affect a few local fishermen and the owners of fishing stakes. There is one exception - there is considerable traffic up the Kota Tinggi river at night: motor boats with Johnstone's engines. If this is legitimate traffic at night, you may wish to leave your side of the boundary open at this point so as to allow this traffic to go through. If, on the other hand, there is no particular reason to allow this traffic to move at night, it would be to our advantage to keep Penggarang shut, as we regard it as the most dangerous part of the whole boundary.

4. I would welcome your re-action to our scheme as early as possible.

5. As the Naval Base Police cover the Johore Straits between the Causeway and Pulau Ubin, most adequately, we have Police posts at Tanjong Ponggol and Serangoon Police Station, which posts remain open all night.

6. Thank you for your memo about the light on top of Johore buildings. Colonel Richardson, G.S.O 1. Singapore District, will endeavour to get some Branch of the Army to use it to sweep both sides of the Straits. This will make the Johore waterfront look like a Hollywood premiere but it will give the public on both sides of the Causeway the feeling that something is being done.

J. S. Barry
J. S. Barry
D.C.

JCB/DCB:

Annex 31

**Minute from Barry J.C. (Deputy Commissioner of Police,
Singapore) to Foulger R.E. (Commissioner of Police, Singapore)
dated 27 Sep 1948**

and

**Reply from Foulger R.E. (Commissioner of Police, Singapore) to
Barry J.C. (Deputy Commissioner of Police, Singapore)
dated 29 Sep 1948**

C.P.

CURFEW ON STRAITS OF JOHORE.

As there is considerable conflict of opinion on the subject, will you please give a ruling as to whether this is to be strictly enforced with the absolute minimum of exceptions or not.

2. When the Defense Liaison Committee decided that a Curfew should be imposed for the purpose of stopping traffic across the Straits at night, it was stated by Col. Little (who should know) that there was little fishing in the Straits at night and no great hardship would be imposed by a total ban.

3. Since that time nothing has caused me to believe otherwise, and we have had,

(a) positive evidence that Tuas fishermen were conveying Communist passengers and literature across the Straits at night;

(b) positive evidence just a few nights ago that sampans were bringing in tobacco to SSpore across the Straits at night, and why not Communists too? On 25.9.48 the Cpl. @ Seletar caught a sampan bringing in tobacco the duty on which was \$445, the man in charge being a Malay Customs officer of Johore.

4. On their own initiative the O.C.'s of "F" & "G" have issued Curfew Permits to fishermen of Ponggol, Loyang (nr. Ubin) and Penggerang (nr. Tekong). When the C.S. visited the Bedoh Village Committee some time ago, O.C. "F" told him that he had issued such permits, and the C.S. congratulated him on his initiative. The C.S. had but recently returned from Leave and may be unaware of the reasons for the Curfew.

5. The D.C. "X" has stated that fishermen should be given permits to go out at night, and considers that they would have a justifiable grievance if they were refused. He will vet all applicants at the C.I.D.

6. My own view is that the Curfew should be done properly or not at all and there should be one permit only granted -- to the stone tongkangs carrying to Changi Airfield from Ubin &

which depend on tides.

The C.I.D. vetting is worth nothing more than "not known to C.I.D.", and if the Tuas and Seletar fishermen mentioned in para 3 above had applied for Permits they would have been "not known to CID" and so granted them.

Sd. J.C. Barry.
27.9.48.

D.C.

This is a matter in which we must take a strong line or not have a curfew at all.

2. The first part of your § 6 is a case in which an exception may be made.

3. Before clamping down on the issue of any other permits I want to be assured that there are no other exceptions, also why did "F" and "G" gave the permits to fishermen and having given them what would be their answers to other fishermen.

4. I would like O.C. Marine's comments.

5. It seems to me that if a man wishes to go fishing at night he must go out before the curfew and stay out all night, otherwise we are wasting our time and energies having a curfew, and , what is far more important, giving the enemy opportunities to land Communists, arms and literature.

6. Do "F" & "G" realise that it is known that the enemy have receded Serangoon and Ponggol recently with a view to landing arms ?

Sd. R.E. Foulger,
29.9.48.

C.S. very~

C.P.CURFEW ON STRAITS OF JOHORE

As there is considerable conflict of opinion on the ^{be}subject, will you please give a ruling as to whether this is to be strictly enforced with the absolute minimum of exceptions or not.

2. When the Defense Liaison Committee decided that a Curfew should be imposed for the purpose of stopping traffic across the Straits at night, it was stated by Col. Little (who should know) that there was little fishing in the Straits at night and no great hardship would be imposed by a total ban.

3. Since that time nothing has caused me to believe otherwise, and we have had,

(a) positive evidence that Tuas fishermen were conveying Communist passengers and literature across the Straits at night;

(b) positive evidence just a few nights ago that sampans were bringing in tobacco to S'pore across the Straits at night, and why not Communists too? On 25.9.48 the Cpl. @ Seletar caught a sampan bringing in tobacco the duty on which was \$445, the man in charge being a Malay Customs officer of Johore.

4. On their own initiative the O.C.'s of "F" & "G" have issued Curfew Permits to fishermen of Ponggol, Loyang (nr. Ub and Penggerang (nr. Tekong). When the C.S. visited the Bedoh Village Committee some time ago, O.C. "F" told him that he had issued such permits, and the C.S. congratulated him on his initiative. The C.S. has but recently returned from Leave and may be unaware of the reasons for the Curfew.

5. The D.C. "X" has stated that fishermen should be given permits to go out at night, and considers that they would have a justifiable grievance if they were refused. He will vet all applicants at the C.I.D.

6. My own view is that the Curfew should be done properly or not at all and there should be one permit only granted -- to the stone tongkangs carrying to Changi Airfield from Ubin & which depend on tides.

The C.I.D. vetting is worth nothing more than "not known to C.I.D.", and if the Tuas and Seletar fishermen mentioned in para 3 above had applied for Permits they would have been "not known to CID" and so granted them.

OVER

John Barry
27/9/48

②

There is a matter in which we can't take a strong line
or not have a conference at all.

2. The first part of your Q 6 is a case in which an exception may be made.
3. Before clamping down on the issue of any other permits I want to be assured that there are no other exceptions. also, why did "F" and "G" give the permits to fishermen and having given them what would be their answer to other fishermen.
4. I would like to hear Harris's comments.
5. It seems to me that if a man wishes to go fishing at night he must go out before the curfew and stay out all night, otherwise we are wasting our time and money having a curfew, and, what is far more important, saving the money. ~~Appointments~~ to leave communities, arms and ammunition.
6. As F & G realize that it is known that the enemy have received Singapore and Pangloss recently with a view to landing army?

n. l. f. 29¹¹/₂₀

Annex 32

**Extracts from State of Johore Annual Report for 1949 (written by
Dato Wan Idris bin Ibrahim, Acting Mentri Besar, Johore)**

State of Johore

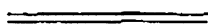
ANNUAL REPORT

FOR

1 9 4 9

BY

DATO WAN IDRIS BIN IBRAHIM,
AG. MENTRI BESAR,
JOHORE.



Printed at the Government Printing Department, Johore,
by MARKOM BIN HJ. MD. SAID, SUPERINTENDENT.

1950

Malacca then grew to be the first trading centre of the East. After its conquest by the Portuguese in 1511, the son of the last ruler of Malacca settled in Johore and continued the historic Sultanate. The history of the next 300 years is an almost uninterrupted record of wars. Hostilities with the Portuguese persisted nearly until the arrival of the Dutch in 1602. Johore bears no small part in Dutch Colonial history; relations were friendly, despite a diplomatic struggle for commercial privileges. But the conquest of Batu Sawar (near Kota Tinggi) by the Achinese in 1615 closed one chapter of Johore history as the conquest of Johore Lama by the Portuguese in 1587 had closed another, and it appeared then to the Dutch that the renowned kingdom of Johore had come to an end. In return for assistance at the attack on Malacca in 1641, the Dutch tried to restore Johore to its position as premier Malay State. But the capital was burnt by Jambi in 1673; in 1699 the Sultan was assassinated, and in 1717 the throne was seized by a Sumatran adventurer, Raja Kechil. Then the Bugis appeared and the capital of the old empire was transferred to Riau Archipelago.

After continuous intrigues between the Malay and Bugis chiefs, the Dutch in 1784 recognized the Sultan of Lingga as ruler of the Johore empire, drove the Bugis from Riau and stationed there a Resident with a garrison: The Malay Sultan and Bugis Viceroy accepted the position of dependent princes, but the old empire was in a state of dissolution, the Bendahara and Temenggong being virtually territorial chiefs in Pahang and Johore respectively.

This was the position when the British, by virtue of treaties made in 1819 and 1824, obtained a complete cession of the island of Singapore. Visitors emphasize the then deserted character of Johore: in 1847 Johore Lama consisted of 25 huts, and not till 1855 was the capital moved to its present situation at Johore Bahru.

The extension of the Pax Britannica "helped Johore to grow populous again". Moreover since 1855 the country has been governed by enlightened and progressive rulers, Sultan Abubakar who died in 1895 and Sultan Ibrahim, the present ruler. In 1895 the Sultan undertook to receive a British agent having the functions of a Consular officer; in 1910, having had an unofficial adviser for some years, the Sultan reorganized his Government with the assistance of the Governor of the Straits Settlements; in 1914 a General Adviser with enlarged powers was appointed. Since 1924 the completion of a causeway across the Straits of Tebrau has permitted uninterrupted traffic by rail and road between Johore and Singapore and by railway between Singapore and Bangkok. The East coast route has been destroyed since the Japanese occupation.

The recent history of the State has been a record of continued prosperity which was rudely interrupted at the

Annex 33

**Minutes of a Meeting of the Ad Hoc Committee appointed by the
Rural Board, Singapore, to revise the Rural District Boundaries,
10 July 1952**

Minutes of a Meeting of the Ad Hoc Committee
appointed by the Rural Board, Singapore, to
revise the Rural District Boundaries, held
on Thursday the 10th July 1952 at 2.30 p.m.
at the Land Office.

Present : The Chairman, Rural Board (The Hon'ble Mr. J.A. Harvey,
M.C.S.) - In the Chair
The Chief Surveyor (Mr. H.L. Ward)
The Hon'ble Mr. H.J.C. Kulasingha
Mr. Goh Tong Liang, C.H.
The Supervisor of Elections (Mr. G.G. Thomson) -
By invitation.

In Attendance : The Asst. Supervisor of Elections (Mr. M. Ponnudurai)
The Secretary, Rural Board (Mr. Chan Sik Kwan).

The Chairman states that as elections are going to be introduced into the rural areas in future, it will be necessary to define the electoral areas so that a person may know in which district he lives. The present district boundaries, in some cases, divide up villages with one part of the village falling within one District Committee area and another part falling within another district committee area. He considers that the boundaries should be re-defined so as to include whole villages. The Rural Board has recommended the setting up of three district boards as the future set-up of local government in the rural areas, and the present seven district committee areas might well be fused into three larger administrative areas later on.

2. The Supervisor of Elections then states that the rural areas are at present divided into three electoral wards and elections will not take place again until 1954 unless there is a by-election. The Secretary of State is considering the question of increasing elected representation on the Council and this will complicate matters when the rural districts have to be re-subdivided. Although it is too early yet to revise the electoral boundaries he considers that it is good to lay down the principles now.

3. Both Mr. Kulasingha and Mr. Goh Tong Liang point out that confusion exists in the minds of some persons as to the districts they belong to. At present some boundary lines are imaginary, and consideration should be given to re-draw the boundaries to follow as closely as possible any geographical and artificial features of the land. The boundaries should be capable of being readily followed by a layman, and geographical features would be of great assistance in this direction.

4. The Chief Surveyor tables a plan on which is superimposed existing villages, district committee boundaries, electoral boundaries and police districts. It is noted that the boundaries differ in each case. The Police divide the rural areas into three districts and it is decided to ask the Commissioner of Police the reason for this subdivision.

5. Mr. Kulasingha next tables a plan showing his proposals for subdivision of the rural areas into seven districts. It is decided to have copies of Mr. Kulasingha's plan made for circulation to members of the Committee. Copies of the Chief Surveyor's plan are also to be circulated to members.

6/.....

6. The Chief Surveyor points out that some of the small islands are not included in the Rural Board Area. It is decided that action be taken to have them gazetted.


7. After a general discussion, the committee considers that
- (a) boundaries should not divide up the villages.
The new boundaries should follow physical features.
 - (b) the rural areas should be divided up into homogeneous units;
 - (c) villages should develop from the community centre.

Mr. Goh Tong Liang draws attention to one area in Sembawang mukim which falls within the jurisdiction of the Sembawang ~~Rural~~ District, but owing to its geographical situation, the inhabitants go to the Bukit Panjang Committee regarding their problems because of convenient access to Bukit Panjang.

8. The meeting resolves that another meeting be held after members have been supplied with copies of the Chief Surveyor's and the Honorable Mr. Kulasingha's maps for study.

The meeting terminates at 3.30 p.m.

Confirmed:


Chairman, Rural Board.
6-8-52.

Annex 34

Minutes of a Meeting of the Rural Board, Singapore, 21 Aug 1952

**MINUTES OF A MEETING OF THE RURAL BOARD, SINGAPORE,
HELD AT THE CONFERENCE ROOM, COLONIAL SECRETARY'S
OFFICE, ON THURSDAY THE 21ST AUGUST 1952 AT 10 A.M.**

- Present:** The Commissioner of Lands, Singapore
(The Hon'ble Mr. J.A. Harvey, M.C.S.) - Chairman
The Acting Director of Public Works (Mr. A. Weir)
The Chief Health Officer (Dr. M. Doraisingham)
The Chief Surveyor (Mr. H.L. Ward)
Mr. Chin Chye Fong, C.H., J.P.
Tuan Syed Mohamed Alkaff, J.P.
The Hon'ble Che Ahmad bin Mohamed Ibrahim
Mr. Goh Tong Liang, C.H.
Mr. R.J. Godber
- Absent:** The Hon'ble Mr. H.J.C. Kulasingha (apologies for absence received)
- In Attendance:** The Senior Executive Engineer, Rural (Mr. E.F. Brady)
The Secretary, Rural Board (Mr. Chan Sik Kwan)
The Assistant Secretary, Rural Board
(Che Hussein bin Kamari).

The Chairman welcomes Mr. A. Weir the new Director of Public Works to the Board.

1. The minutes of the previous meeting held on the 17th July 1952, having been circulated, are confirmed.

2. Arising out of the minutes of previous meetings:-

- (i) Repairs to Road from Tanah Merah Besar to Wing Loong Road R.B. 999/50.

The Chairman states that in 1951 a sum of \$1000 was spent on repairs to this road. Further minor repairs estimated to cost \$250 are now necessary, and he considers that as the road is used by the general public to go to the bathing beaches, it is reasonable for the Board to meet this expense.

The Board agrees to the expenditure of \$250 on minor repairs.

- (ii) Application for Supplementary Vote for Community Halls and Public Markets: R.B. 43/52 and 212/52.

The Chairman reports that he has discussed with the Senior Executive Engineer, Rural, and has been informed that these works are not within the capacity of the Public Works Department this year. The Board has previously decided to submit an Application for Supplementary Vote as there is only token provision in the Estimates this year.

In view of this, the Board decides not to pursue the Application for Supplementary Vote this year, but in 1953, the erection of Community Halls and Markets should be given top priority. It is also agreed to inform Government accordingly when submitting the return of order of priority of special works for the Rural Board, if this return is called for from the Board. The Director of Public Works points out that

a recent/....

- 4 -

6. Decisions of -

- (a) the Zoning Committee as contained in minutes of a Committee meeting held on 7th August 1952; and
- (b) the Assessment Committee as contained in the minutes of a Committee meeting held on 17th July 1952

are confirmed.

7. Proposed Bus Service from Queen Street to the Princess Elizabeth Estate at 9 m.s. Bukit Timah Road - R.B.1046/52.

An application to run this bus service is approved. It is noted that Messrs. Credit Foncier have no objection to the use of their private roads in the Estate for this purpose.

8. Road Naming

The Board approves as follows :-

- (a) Road off 7 m.s. Upper Serangoon Road as "KOK NAM LANE" - R.B.976/52.
- (b) Area immediately north-east of Queen Astrid Park, off Coronation Road as "ASTRID HILLS" - R.B.1135/52.

9. Inclusion of the neighbouring Small Islands within the Rural Board Area of Singapore - R.B.1000/52.

The Chairman explains that in the last gazetting of the Rural Board Area, some of the small islands were not included probably because at the time they were uninhabited. He has ascertained that some of them are now inhabited and proposes that all such islands, a list of which has been circulated, should be gazetted as part of the Rural Board Area.

The Chief Surveyor suggests that not only the 'nhabited islands but also all the other presently uninhabited ones should be brought within the Rural Board Area as they may be inhabited in the future.

The Board decides that all neighbouring islands within Colony territorial waters should be brought within the Rural Board Area. The Chairman will seek legal advice in putting up an appropriate amending notification for the approval of Government.

10. Gazetting of Additional Areas under the Second Proviso to the definition of "Annual Value" in Section 3 of the Municipal Ordinance (Cap. 133) - R.B.924/52.

With the object of enabling more revenue to be obtained from land assessment by assessing or re-assessing land on the basis of its present-day value, the Board approves a recommendation of the Assessment Committee to include the following new areas :-

<u>Mukim No.</u>	<u>District</u>
V	Pandan
X	Jurong
XI	Kranji
XIII	Sembawang
XIV	Mandai
XVI	Bukit Timah

XIX/.....

National Archives of Singapore

Annex 35

**Extracts from Annual Reports of the Survey Department for the
Federation of Malaya for the years 1954, 1956, 1957, 1958-1961,
and 1962**

FEDERATION OF MALAYA

ANNUAL REPORT

OF THE

SURVEY DEPARTMENT

FOR THE YEAR

1954

By
C. NOBLE, F.R.I.C.S., M.I.S. Aust.
Surveyor-General, Malaya

KUALA LUMPUR
PRINTED AT THE GOVERNMENT PRESS BY G. A. SMITH
GOVERNMENT PRINTER
1955



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The approval of the Surveyor-General, Malaya is necessary before any Survey Department map or portion thereof may be copied."

Survey Dept., Federation of Malaya No. 83 - 1953

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REPORT OF THE SURVEY DEPARTMENT FOR THE YEAR 1954

PART I

FUNCTIONS OF THE SURVEY DEPARTMENT

1. The Land Enactments of the States of the Federation are based on the Torrens system of title registration the declared object of which is to establish and certify, under the authority of Government, the ownership of an absolute and indefeasible title to land and to simplify its transfer.

2. Registration of title is not yet in force in the Settlements of Penang and Malacca but its introduction there is under active consideration. The survey system in the two Settlements is, however, the same as that adopted in the rest of the Federation and it can fairly be said that the Survey Department is ready for the change in title system when it occurs.

3. Under the Torrens system efficient survey of land for title is termed "a pillar of registration". All title surveys must therefore be permanent in the sense that re-survey for the attainment of a higher standard of accuracy or marking of boundaries will not be necessary at some future date, and the technical quality of each survey must be such that a lost or displaced boundary mark can be accurately reconstituted at any time and boundary disputes be resolved speedily and without further question.

4. The main functions of the Federation Survey Department are therefore:

- (a) to produce concrete evidence which completely and permanently identifies the land conveyed by any title issued by Government;
- (b) to compile and make available the records of alienation which are essential for efficient land administration.

But efficient land administration demands the full and close co-operation of the Survey Department and Land Offices throughout the country, as provided in the Land Enactments, and the aim of such co-operation must be the establishment and maintenance of public confidence in the system of land tenure. The Survey Department and Land Offices have particular spheres of responsibility but in some respects there is an essential intermingling of functions and two of these, although not written into the Land Enactments, are implied in the Survey Department list of functions, viz.:

- (c) to eliminate any possibility of the existence of more than one document of title to any piece of land;
- (d) to endeavour to secure proper agreement between boundaries of possession or occupation and of title ownership.

The non-title survey functions of the Department are:

- (e) to make and publish reliable maps
- (f) to undertake special surveys and tasks for which the Department is particularly fitted.

5. There is ample evidence to show that much of the economic prosperity of the country is attributable to the general excellence of the Land Enactments and the survey system which serves them. Capital from abroad is attracted to the Federation when it is known that land titles are guaranteed by Government both as to ownership and to boundaries. In times of acute financial stringency, shortage of staff, heavy arrears of work and urgent demands for a much higher survey output, it may appear an elementary precept to abandon the existing survey standards and to adopt technical methods of inferior quality in order to meet urgent needs of the moment. But such a policy is wrong and has already been proved so in Malaya. Once Government has selected and legally introduced the code of land tenure, the survey system must be initiated and permanently maintained. The money required to maintain that system must be found by the Administration, supplemented as the country develops, by an adequate schedule of survey fees to be demanded from the public for specific survey services rendered by the Survey Department.

SURVEY FEES

6. In many countries operating under the Torrens system, the main activities of the Survey Department are concerned with surveys for Government, i.e., for official purposes such as reserves, acquisitions, and surveys in respect of land already alienated are executed by privately practising Licensed Surveyors. In the Federation however, the Survey Department holds a monopoly in respect of all surveys for title and due weight has hitherto been given to this factor in framing the schedule of survey fees. It has been recognised, for instance, that the orderly development of land alienation is an integral part of Government policy and for this reason Government must pay part of the cost of survey. It must also be remembered that very many peasant landholders are unable to afford the full economic charges on their land at the time they apply for its alienation e.g., premium on purchase, annual rent and survey fees which it would be reasonable to levy in a wealthier community. For this reason survey fees were framed more on the basis of what the applicants, as a class, could afford to pay, rather than on the actual cost to the Survey Department or the value of the service rendered. Furthermore provision has been made for the statutory remission of survey fees by Collectors of Land Revenue, the net result being that in very many deserving and authentic cases, peasants pay only a token amount in respect of such fees.

7. It was decided at the end of 1953 to introduce a new schedule of fees and to re-classify survey operations thereunder.

in draughtsman-hours but the machines have been made available for work on behalf of other Departments and of members of the public. These machines are one of our best investments and have more than repaid their cost already.

BOUNDARY MARKS

25. Malaya being a tropical country of high rainfall, it is essential that survey boundary marks should be permanent not only in the sense that they should be manufactured of durable materials but also that each mark should be suitable for the type of soil in which it is emplaced. Marks have been standardised, by far the most common being a solid cylindrical reinforced concrete mark about two feet long and about four inches in diameter. This mark is placed vertically in the ground leaving the top three inches projecting and the soil is well rammed round it. In padi areas it is frequently necessary to use concrete marks of smaller cross-sectional area but about four feet long, and for the marking of important control traverses and on certain mining surveys, iron pipes four to six feet long and $1\frac{1}{2}$ inches in diameter are driven vertically into the ground, the top of the mark at surface level often being surrounded by a cubic foot of concrete. Marks in towns may be concrete pegs or iron spikes. About 70,000 boundary marks are annually emplaced throughout the country.

26. In Johore, concrete marks are manufactured on contract, and in most other Divisions their manufacture is undertaken departmentally, the all-in cost per mark at each factory being 50-60 cents. To this of course must be added the cost of transport to the field, which is an expensive item. Iron pipes are made from discarded boiler tubes and are usually tarred before issue to the field.

TOPOGRAPHICAL SURVEY

27. The Revenue or Title Survey Divisions of the Department are concerned with the survey of property boundaries, and it is the function of the Topographical Division to survey Malaya topographically. i.e., to prepare maps showing the physical features of the country. These maps are of immense value for development purposes especially in a country like Malaya where natural jungle cover precludes rapid reconnaissance of the ground. Malaya is indeed fortunate in that the foresight of early survey administrators resulted in the creation of the Topographical Division in the year 1910. Booms, slumps and retrenchments since then have, of course, had their effect on the amount of money and the number of men available to run the Division, but when it is remembered that, until 1941, the survey methods adopted involved slow and expensive footslogging over the whole area covered by each published sheet, it is indeed remarkable that as much as 60 per cent. of the country had been topographically mapped by the end of the latter year.

AERIAL PHOTOGRAPHY

28. The need to complete the mapping of the remaining 40 per cent. as quickly as possible became apparent after the war

and it was then decided to invoke the aid of air photography and to aim at a target period of 10 years for such completion. Through the good offices of the Director of Colonial Surveys, arrangements were made for the R.A.F. to undertake the task of photographing the peninsula from the air, under a grant from the Colonial Development and Welfare Scheme. This task has now been completed and the photographs have not only been made available for map compilation purposes but are filed in the Departmental Air Photo Library at Headquarters where they may be inspected by any Government organisation having need of them. The outbreak of the Emergency in 1948 however made it necessary to shelve the 10-year plan and to substitute a short-term programme designed to produce maps of the hitherto unmapped 40 per cent. of the country as quickly as possible. This short-term programme has now been completed and a series of Emergency or "E" maps has been compiled and printed. These "E" maps were produced from the air photographs controlled by such ground survey and additional information as it was possible to obtain at short notice and because they lack contours and are generally below the required technical standard, they are classed as reconnaissance sheets only.

29. The position at present is that topographical maps, on a publication scale of one mile to one inch, are available over the whole country, 60 per cent of them being classed as based on rigid survey and the remaining 40 per cent being reconnaissance sheets only.

NATIONAL GRID

30. Published topographical maps bear one of two reference thousand yard grids (a) the Johore grid for areas in Johore and Singapore lying east of longitude $102^{\circ} 45'$ and south of latitude $2^{\circ} 45'$, or (b) the Malaya grid for the rest of the country. It is unnecessary here to go into the reasons for the introduction many years ago of these two entirely separate grids, but they are most inconvenient and it has been decided to substitute a new National Grid for the whole of Malaya and to abolish the existing old grids when this has been done. At the same time it has also been decided to adopt an entirely new projection for all maps of Malaya other than those of the cadastral survey. The new projection is Orthomorphic, the central meridian being skewed to 324° to conform to the general geographical axis of the country. The necessary computations have been made and several State/Settlement Land Utilization Maps have already been published on the new projection and bearing the new National Grid. The maximum scale error of the new projection is about 1 in 6,600 against 1 in 2,000 on the old one.

31. Advantage of this change has been taken to re-design the topographical sheet layout. The existing sheets cover one quarter of a degree of latitude and one quarter of a degree of longitude, each sheet being approximately square with sides of about 17 inches and covering about 300 square miles. In the new series, sheets are not bounded by lines of latitude and longitude but by convenient grid lines. Each sheet will be roughly 50 per

cent. larger than in the old series, covering about 470 square miles. Each new series one-mile sheet will be accompanied by six 1/25000 sheets covering the same area for the benefit of those users who prefer or need a larger scale. Appendices to this Report show the old and new series sheet layouts.

PRESENT TOPOGRAPHICAL PROGRAMME

32. The Topographical Division is working to the following programme:

- (a) Field revision of the old Johore/Singapore sheets and their publication in new series form. This will remove the present Johore grid. Completion of field work is expected at the end of 1956.
- (b) The field survey, compilation and publication in the new series form of maps of all areas at present covered by the "E" reconnaissance series. This task, which embraces Kelantan, Trengganu and parts of Pahang and Upper Perak, is scheduled for completion in 1961.

When tasks (a) and (b) have been completed, the whole of Malaya will be completely covered by rigid topographical survey, a state of affairs of which the country may well be proud. It is true that the eastern half of the country plus Johore and Singapore will be covered by up-to-date new series sheets on the new National Grid while the rest of the country is in old series form on the old Malaya Grid, but it is then intended to push rapidly ahead with the revision of the old West Coast sheets and publish them in new series form on the National Grid.

33. The fact that most of the West Coast sheets are sadly out-of-date, some having been surveyed over 40 years ago, is one of serious concern and consideration is now being given to the question of undertaking the revision of some of them and re-publishing in new series form *pari passu* with the main programme.

CARTOGRAPHY

34. The Department possesses a small but efficient Cartographic Branch. This was created in 1910 solely for the purpose of producing Survey Department maps but, containing the only Government lithographic establishment in Malaya, it has generally been required, from time to time, to handle a great deal of other work such as rubber control coupons, bonds, stamps, motor licences and even low denomination currency notes. The volume and urgency of this external work has frequently been such as to push map production work into the background and even now it is uncomfortably large. The Branch is controlled by the Chief Cartographer who has a staff of four Division I specialists and 96 Technical officers.

35. The equipment of the Branch, is in the main, old and worn out and must be replaced. This applies particularly to the printing machines. Replacements and expansion are however impracticable in the building now occupied, but in spite of these limitations maps produced by the Branch are of high quality and

have already obtained recognition in the field of world cartography. The Branch produces maps not only of Malaya but also of Singapore, Sarawak, Brunei and North Borneo on behalf of the Governments of those territories.

36. In the field of business economics, the running of a cartographic establishment is a complicated undertaking especially if the establishment is small and the demands heavy. In war, the production of up-to-date maps is part of the efficient service rendered by the Army to the Fighting Services, but a civilian cartographic establishment, severely limited as to expenditure, is faced with the problem of deciding what maps can be produced for the Administration and the public on the limited money available. At the existing state of economic development of Malaya, there is insufficient demand to make the sale of maps pay for their production and because maps rapidly become out-of-date, wholesale stockpiling against future demands is impracticable. The policy therefore has been to produce a series of basic Malayan maps as follows:

- (a) Maps of the whole country, ranging from the 6 miles to one inch political map of Malaya to the small 45 miles to an inch map used for reports, etc.
- (b) State and Settlement maps, on scales ranging from one to four miles to the inch. These maps, which are now termed "Land Utilization Maps", show the purpose of land alienation together with as much topographical information (other than contours) as is required to make them useful general purpose maps.
- (c) Topographical maps, scale one mile to one inch, as described in para. 29.
- (d) Town maps on various scales, of the half-dozen or so major towns.
- (e) Special maps designed to meet the needs of certain Departments, e.g., Geological and Forestry maps.

37. Experience has shown that the Malayan public are becoming increasingly "map conscious". This is a perfectly natural demand fostered by the rapid economic development of the country and it will have to be met when the present Emergency restriction on the sale of maps is lifted. The dense jungle cover of Malaya imposes a virtual blanket of blindness on ground reconnaissance and it can be said without fear of contradiction that the provision of accurate maps is essential before any major land development project is even contemplated.

INSTRUMENT REPAIRING

38. The Instrument Repairing Branch was established in 1910 to care for the instruments and equipment of the Department. To this function has been added, as time passed, a similar responsibility in respect of the instruments of other Government Departments, and, within the last year or two, the repair and maintenance of all the calculating machines owned by the Federation Government throughout the country. The financial saving to the Federation by putting valuable reconditioned

61. During 1954, therefore, the Division operated on Loan Account. The total expenditure for the year amounted to \$802,907, including \$78,140 spent on Drainage and Irrigation Department surveys.

METHODS

62. It was stated in para. 28 that photographic cover from the air is now available over the whole country. In compiling a topographical map, these photographs are extensively used supplemented by planimetric control on the ground. Much of what appears on the ground is hidden by jungle from the camera and it is the task of ground survey parties not only to pick up these hidden features but to effect the necessary triangulation required for the control of the photographs themselves. A certain amount of ground traversing is also necessary for the control of planimetry and heighting. Where contouring is added by ground survey, such traversing may exceed eight linear miles per square mile but where contours can be added by instrumental determination from air photographs, this may be reduced to two or three linear miles.

MULTIPLEX

63. Of the approximately 17,000 square miles to be completed under the programme more than half is mountainous or otherwise well-defined country. Contouring of this may be executed by using multiplex apparatus. An application was made in 1954 for a grant of \$100,000 under the Colonial Development and Welfare Scheme for the purpose of acquiring this apparatus. Pending its arrival, a contract was placed in December, 1954, with Messrs. Hunting Aerosurveys Ltd. for the contouring of two sheets (Nos. 36 and 37) in Kelantan by multiplex operation. It is expected that these two sheets will be ready for publication towards the end of 1955. Ground control and survey of these sheets has been provided by the Topographical Division.

PROGRESS

64. Topographical field work was carried out during the year in Trengganu, Kelantan and Johore. Survey was completed over an area of 2,492 square miles and compilation from air photographs over 2,500 square miles. Work in parts of Kelantan was to some extent stopped by communist terrorist activities.

65. The Report of the Chief Surveyor Topographical Division is printed in full as an Appendix.

66. Appendices to this Report show the progress of the survey by sheets. The output for 1954 was excellent and provided there is no serious hold-up, the completion of the Topographical survey of the country within the planned seven years is assured.

SURVEYS FOR THE DRAINAGE AND IRRIGATION DEPARTMENT

67. The Briah swamp area of 32 square miles in the Krian District of Perak was surveyed for preliminary study by the Drainage and Irrigation Department. 99 miles of levels were run together with 122 miles of other traverse. In September, a start

APPENDIX XIII

TOPOGRAPHICAL DIVISION

Chief Surveyor—

Mr. G. E. Bower (Acting) to 8th March, 1954.

Mr. G. C. Stubbs from 9th March, 1954.

The Topographical Division was financed by the Loan Programme in 1954, and this will continue for the next six years.

The main tasks of this Division are:

- (1) The completion by the end of 1960 of new series maps in full detail over the areas now covered by E series maps.
- (2) The production of new series sheets of the area covered by the Johore grid.
- (3) Surveys for certain areas, mainly by compass lines and levelling, for the Drainage and Irrigation Department.

STANDARD MAPPING

No. 1 PARTY (TRENGGANU)

The party consists of one Division I officer in charge and about 16 technical staff at Kuala Trengganu. In addition a section of five, which is responsible for the relevant air compilation, exists at Kuala Lumpur.

North Trengganu Block (commenced 1949) consists of the Trengganu area of sheets 15, 23, 24, 25, 26, 35, 36, 37 and 38, an area of 1,940 square miles.

Details of output and expenditure—

	Year	Compiled Sq. miles	Completed Sq. miles	Cost \$
Brought forward from	.. 1953	1,940	624	706,025
	1954	Nil	736	182,049
Total	..	1,940	1,360	888,074

An area of 580 square miles is still in hand, but field work is virtually completed. Of the total area of 1,940 square miles, an area of 760 square miles is to be sent to the United Kingdom for contouring by multiplex.

Classified details of Survey—

Triangulation	1954	Total to date
Stations cleared	Nil	50
Stations flagged	120
Station occupied	75
Trigs. fixed	49
Resections	14
Intersected points	101

Details of output and expenditure—

	Year	Compiled Sq. miles	Completed Sq. miles	Cost \$
Brought forward from	1953	430	33	153,214
	1954	760	94	113,871
Total		1,190	127	267,085

No further air compilation can be done in this block, until further Trig. control is received.

Classified details of Survey—

Triangulation	1954	Total to date
Stations cleared	5	50
Stations flagged	1	83
Stations occupied	—	46
Trigs. fixed	1	31
Intersected points fixed	6	53

SURVEY

Jungle areas—

Compass/Climo-traversing, miles	..	407	718
No-height traversing, miles	..	3	6
Heights .. ..	..	12,156	21,817

Settled areas—

P.T/Climo-traversing, miles	..	536	691
No-height traversing, miles	..	30	38
Heights .. ..	..	8,503	10,717
Levelling, miles .. ..	..	16	128

Kelantan Block III (commenced 1953) consists of sheets 33, 34 and 35 and the Kelantan portions of 32 and 36.

Approximate area 1,520 sq. miles.

No work was possible in this block during 1954, because of communist terrorist activities.

REVISION MAPPING

Revision mapping covers those areas where old "rigorous" survey does exist, some of which is considered to be of inferior quality and incompatible with present-day standards, the rest being of fair quality but out of date. The area involved takes in the whole of the State of Johore and a small portion of Negri Sembilan. The Topographical survey of the Settlement of Malacca, an area of 640 sq. miles, has for convenience been included in this classification of mapping for purposes of costs, etc., though in actual fact it represents New Mapping.

The parties engaged in revision mapping are No. 2 Party at Headquarters consisting of 5 to 8 technical staff, No. 4 Party based at Kluang consisting of 18 technical staff under a Division I officer and a small mapping section at Johore Bahru consisting of about 12 technical staff under the supervision of a Special Grade Technical Assistant. The present area under revision may conveniently be divided into 2 blocks, the Malacca and North Johore Block and the South Johore Block, which represent the areas for which the Kluang party and the Johore Bahru section are immediately responsible. No. 2 Party at Headquarters, Kuala Lumpur, assists in the air survey compilation chiefly for the Kluang Party.

MALACCA AND NORTH JOHORE BLOCK

New series sheets 112, 113, 114, 115, 116, 121, 122, 123, 109, 110, 118 and 119. Approximate area 4,160 sq. miles.

Details of output and expenditure—

Year	Compiled Sq. miles	Completed Sq. miles	Costs \$	Remarks
1951-53 ..	2,184	180	405,424	} Includes \$109,947 incurred by the Revenue Survey Div.
1954 ..	450	940	144,857	
Total ..	2,634	1,120	550,281	

In addition air compilation is in hand over a further 1,100 sq. miles.

Of the area still in hand at the end of the year, some 760 sq. miles are complete except for final check.

Classified details of survey are as follows:

	1954	Total to date
<i>Jungle areas—</i>		
Clino-traversing, miles	80	80
Heights	2,705	2,705
<i>Settled areas—</i>		
P.T/Clino-traversing	341	1,240
No-height traversing	35	106
Levelling	42	394
Heights	5,502	19,987

Costs for sheet 112 (about 60 per cent. of this sheet was new survey) amount to \$295 per sq. mile and for sheet 121 to \$126 per sq. mile (about 15 per cent. of this sheet was new survey).

SOUTH JOHORE BLOCK

New series sheets 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134 (Johore part) and 135.

Approximate area 3,600 sq. miles.

Details of output and expenditure—

Year	Compiled Sq. miles	Completed Sq. miles	Costs \$	Remarks
1951-53 ..	750	Nil	121,436	Includes \$97,769 incurred by Revenue Survey Division.
1954 ..	700	625	83,507	
Total ..	1,450	625	204,943	

In addition air compilation is in hand over a further 1,400 square miles.

Of the area in hand at the end of the year, some 300 square miles are complete except for final check.

SURVEYS FOR THE DRAINAGE AND IRRIGATION DEPARTMENT

A party of 10 Technical staff with a Technical Assistant in charge was formed late in March when a start was made on the survey of the Briah Swamp in Krian. The survey of this area of 32 square miles was completed in August at a cost of \$40,364.

In all 99 miles of traverse with level heights, and 122 miles of no height traverse were surveyed.

In September the party, which was later increased to 12, made a start on the survey of the swamp area north-east of Banting which is mostly comprised of Kuala Langat North and Telok Forest Reserves. The area to be surveyed is about 75 square miles, and by the end of the year the survey was about half completed. Costs amounted to \$37,776.

In all 59 miles of traverse with level heights and 118 miles of no height traverse were surveyed.

AIR PHOTO LIBRARY

Very little photography, consisting mainly of trigs. sorties, was received during the year. The costs for the year were \$3,234.

TRIGONOMETRICAL SURVEY

One officer from this division was on loan to the Trig. branch mainly for the purpose of preparing tables for Direct Conversion from State Cassini terms to Malayan Grid terms, and also assisting in the necessary computation of the Malayan Triangulation that had to be done before tables could be prepared.

During the year conversion tables were completed for Malacca, Negri Sembilan and North-east Pahang, and a start was made in South-west Pahang.

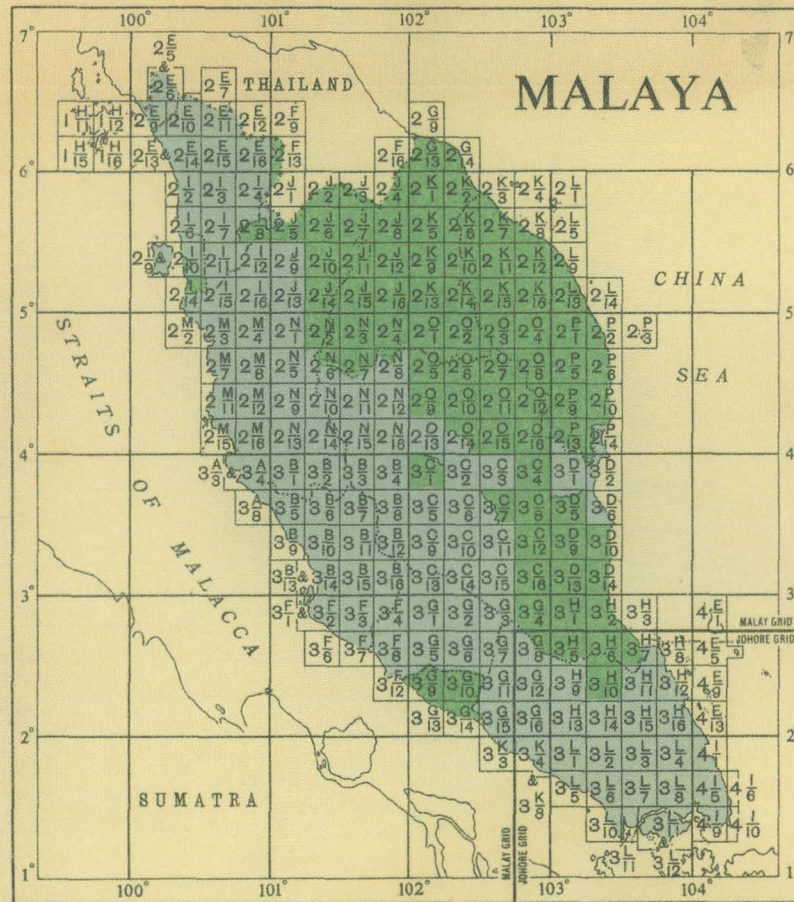
Costs for this division for the year were \$11,161.

STAFF

Early in the year 15 Technicians and seven Junior Technicians were recruited. Of these three were recruited in Kelantan, one in Trengganu and two in Malacca and these were trained by the Topo parties in these areas. The remaining 16 were recruited and trained at Headquarters in Kuala Lumpur. A Senior Technical Assistant was made responsible for their training and they

MAP 3.

ONE INCH TO ONE MILE
TOPOGRAPHICAL SHEET INDEX DIAGRAM OLD SERIES

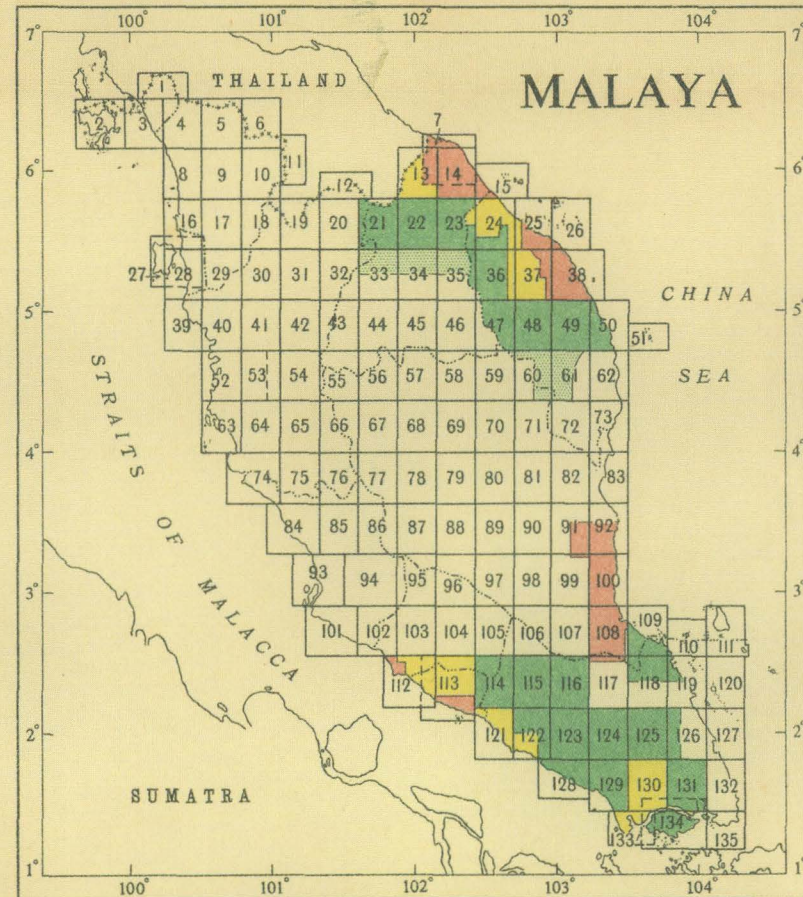


PUBLISHED SHEETS

- 3B RIGID SURVEY PRIOR TO 1948
- 2B AIR RECONNAISSANCE SURVEY SINCE 1948

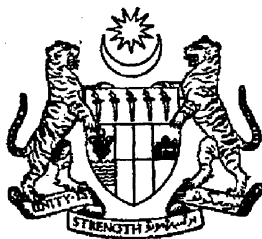
MAP 4.

ONE INCH TO ONE MILE
TOPOGRAPHICAL SHEET INDEX DIAGRAM NEW SERIES



PROGRESS DIAGRAM

- NEW SURVEYS OR REVISION 1948 - 1953.....
- NEW SURVEYS OR REVISION 1954.....
- SURVEYS OR REVISION IN HAND.....
- TRIANGULATION IN HAND.....



FEDERATION OF MALAYA

ANNUAL REPORT

OF THE

SURVEY DEPARTMENT

FOR THE YEAR

1956

By

L. S. HIMELY, E.D., F.R.I.C.S.

Surveyor-General, Malaya

KUALA LUMPUR

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GOVERNMENT PRINTER

1958



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Survey Dept. Federation of Malaya No. 83 - 1953

APPENDIX C

TOPOGRAPHICAL DIVISION

Chief Surveyor—

G. C. Stubbs from 1st January, 1956, to 14th June, 1956
and 3rd December, 1956, to 31st December, 1956.

J. G. Tait from 15th June, 1956, to 2nd December, 1956.

The Topographical Division is financed in the main from Loan Funds. The other source, which financed the Trigonometrical Branch, the Kuala Lumpur town survey, and the rapid revision of the North West Coast mapsheets, was the Federal funds allocated to the Survey Department.

Total costs came to \$1,157,219 of which \$1,060,958 was paid from Loan funds.

The major tasks for the Division during 1956 which concerned loan funds were:

- (a) the continuation of new mapping in those areas, chiefly eastern Malaya, which are at present covered by air reconnaissance maps. During the year a further 1,311 square miles were completed at a cost of \$528,225.
- (b) the production of a new series of sheets of the area covered by the old Johore grid. During the year 1,764 square miles were completed at a cost of \$342,027.
- (c) the winding up and completion of certain surveys for the Drainage and Irrigation Department. Cost was \$9,739.

ORGANISATION

The Division is under the charge of a Chief Surveyor Grade I, who is assisted by five Division I Surveyors. The headquarters of the Division is in Kuala Lumpur and is responsible for all map compilation and draughting, air photography, Multiplex equipment and general administration. Four parties, responsible for the field work were in operation at the end of 1956 and were situated in Kemaman, Trengganu; Kuala Krai, Kelantan; Kluang, Johore; and Taiping, Perak.

STANDARD MAPPING (New)

(a) *Topo Field Party No. 1 (Trengganu).*—The party consists of one Division I Surveyor, one Technical Assistant, Special Grade, and 17 other technical staff.

(i) *North Trengganu Block* comprises the Trengganu areas of sheets 15, 23 and sheets 24, 25, 26, 36, 37 and 38 plus the Kelantan area of sheet 36, totalling 1,960 square miles.

	Compiled sq. miles	Completed sq. miles	Costs \$
Output and costs brought forward from 1955	1,960	1,950	941,871
1956	—	10	10,706
Total	1,960	1,960	952,577

Surveys for this Block were begun in 1953. Practically all this Block is scheduled for Multiplex contouring.

Classified details of survey—

Triangulation				1956	Total to date
Stations cleared	..	..	..	1	47
Stations flagged	..	..	..	4	107
Stations occupied	..	..	..	4	37
Control points fixed	..	..	..	17	88

SURVEY

Jungle areas—

	Miles	Miles
Compass/Climo traverse	.. 453	453

Settled areas—

P.T/Climo traverse	.. .. 70	70
Levelling	.. .. 38	38

(iv) *Kelantan Block IV* comprises sheets 45, 46 and those parts of sheets 47, 57, 58 and 59 in Kelantan.

No compilation or completion has begun for this Block. Triangulation began in 1955. Costs for the year \$57,087.

Classified details of survey—

Triangulation				1956
Stations cleared	..	..	..	28
Stations flagged	..	..	..	95
Stations occupied	17
Control points fixed	—

SURVEY

Levelling	39 Sq. miles
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(v) *Pahang Block I* comprises sheets 57, 58 and 59 (except for small areas in Kelantan). Triangulation only was begun in 1956. Costs for the year totalled \$1,512.

Classified details of survey—

Triangulation				1956
Stations cleared	..	..	..	1
Stations flagged	..	..	..	1
Stations occupied	..	..	..	—

STANDARD MAPPING (Full Revision)

(c) *Field Topo Party No. 4 (Johore).*—The party consists of one Division I Surveyor and 21 technical staff. The main base camp is at Kluang, but there is a subsidiary base at Mersing and until September, 1956, a small party in Johore Bahru doing compilation work. This latter however was disbanded and all compilation concentrated in H.Q. Kuala Lumpur.

(i) *Malacca and North Johore Block* comprises sheets 112, 113, 114, 115, 116, 121, 122 and 123. This block totals 3,294 square miles of which 640 square miles (Malacca) are new survey.

		Compiled sq. miles	Completed sq. miles	Costs \$
Output and costs brought forward from 1955	2,833	1,900	658,196	
1956	461	620	80,848	
Total ..	3,294	2,520	739,044	

Surveys for this Block were begun in 1951. Air compilation has now been completed, and very little field work is outstanding. Sheets 112, 113, 114, 121 and 122 are awaiting publication.

(ii) *South Johore Block* comprises sheets 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 135 and that of 134 in Johore. The area of this Block totals 3,517 square miles.

			Compiled sq. miles	Completed sq. miles	Costs \$
Output and costs brought forward from 1955			1,534	1,070	302,264
1956			1,358	498	124,117
Total ..			2,892	1,568	426,381

Surveys for this Block were begun in 1951. Compilation is completed on all sheets of this Block except for sheets 132 and 135 where compilation has yet to begin, because of shortage on control. To remedy this a theodolite traverse is being run along the coast of which 16 miles were completed during 1956. Sheets 130 and 133 are awaiting publication.

(iii) *Mersing—Endau Block* comprises sheets 109, 110, 117, 118 and 119. The area of this Block totals 1,315 square miles for which 350 square miles on sheet 117 are new survey. The Johore and Pahang islands make up a proportion of this Block.

				Compiled sq. miles	Completed sq. miles	Costs \$
Costs and output brought forward from 1955				265	—	27,913
1956				338	310	108,132
Total ..				603	310	136,045

Surveys for this Block were begun in 1954. Compilation has been completed on nearly all the areas which are revision mapping. Triangulation is in hand on the new mapping areas of sheets 117 and the islands.

Classified details of survey—

Triangulation					1956	Total to date
Stations cleared	..	..	..	..	24	—
Stations flagged	..	..	..	..	26	—
Stations occupied	..	..	..	..	12	—
Control points fixed		..	..	..	21	—
					Miles	Miles
Theodolite traverse	..	..	..	..	9	29

TOPOGRAPHICAL HEADQUARTERS

(g) *Air Photo Library*.—A considerable amount of photography was received during the year, including Trig. photography for Sheets 61 and 62 and revision photography for large areas of the West Coast. Costs amounted to \$1,507.

(h) *Trigonometrical Branch*.—The Branch was staffed by one Technical Assistant, Special Grade, and four Technical Assistants, three of whom were in office and one engaged on Precise Levelling in the field.

(i) *Field*.—During the year 53 miles of double line Precise Levelling were run but 36 miles of this were re-survey. All levelling was in Kelantan. Experiments were made with the parallel plate micrometer attachment to the Precise Level. Costs amounted to \$7,528 and were paid from Loan funds.

(ii) *Office*.—In the revision of the Malayan Triangulation 40 figures were computed by least squares allowing the co-ordination of 46 new points. The total at the end of 1956 was 297 figures computed for 405 points. In addition 19 points were computed in terms of the Perak Revised triangulation 131 miles of Precise Levelling were deduced and finalised, and the Pahang Conversion Tables were finalised and despatched for printing. Other minor work undertaken by the branch included Precise level staff calibration, chain calibration, the testing of calculating machines and computation of the sun's declination. The Malayan Triangulation data and charts were microfilmed for preservation by G.H.Q. FARELF, and D.C.S. Office costs amounted to \$34,936 of which \$9,136 was from Loan funds.

(i) *Multiplex Section*.—Multiplex equipment comprising 3 short bars of 3 projectors each and one long bar of eight projectors was installed early in the year. Two fully airconditioned rooms were constructed for their housing. The cost of the equipment was \$100,294 not including installation. Operation of the equipment began in June when a training course began under the guidance of a Technical Assistant who had received a year course on this work at the Directorate of Colonial Surveys. To date ten technical staff have reached a reasonable proficiency. No progress work has been possible as diapositives are not yet available for these areas. The revision of part of sheet 108, previously contoured by D.C.S. and for which diapositives are available, was undertaken and 65 square miles were revised. Costs for 1956 amounted to \$8,350.

(j) *Compiling and Editing Section*.—About 30 technical staff were employed in headquarters on the original compilation of maps from air photographs and the final editing and checking of work received from the field prior to its despatch to C.D.O. In 1956 a total of 1,436 square miles was compiled and three sheets Nos. 114, 122 and 128 sent for reproduction.

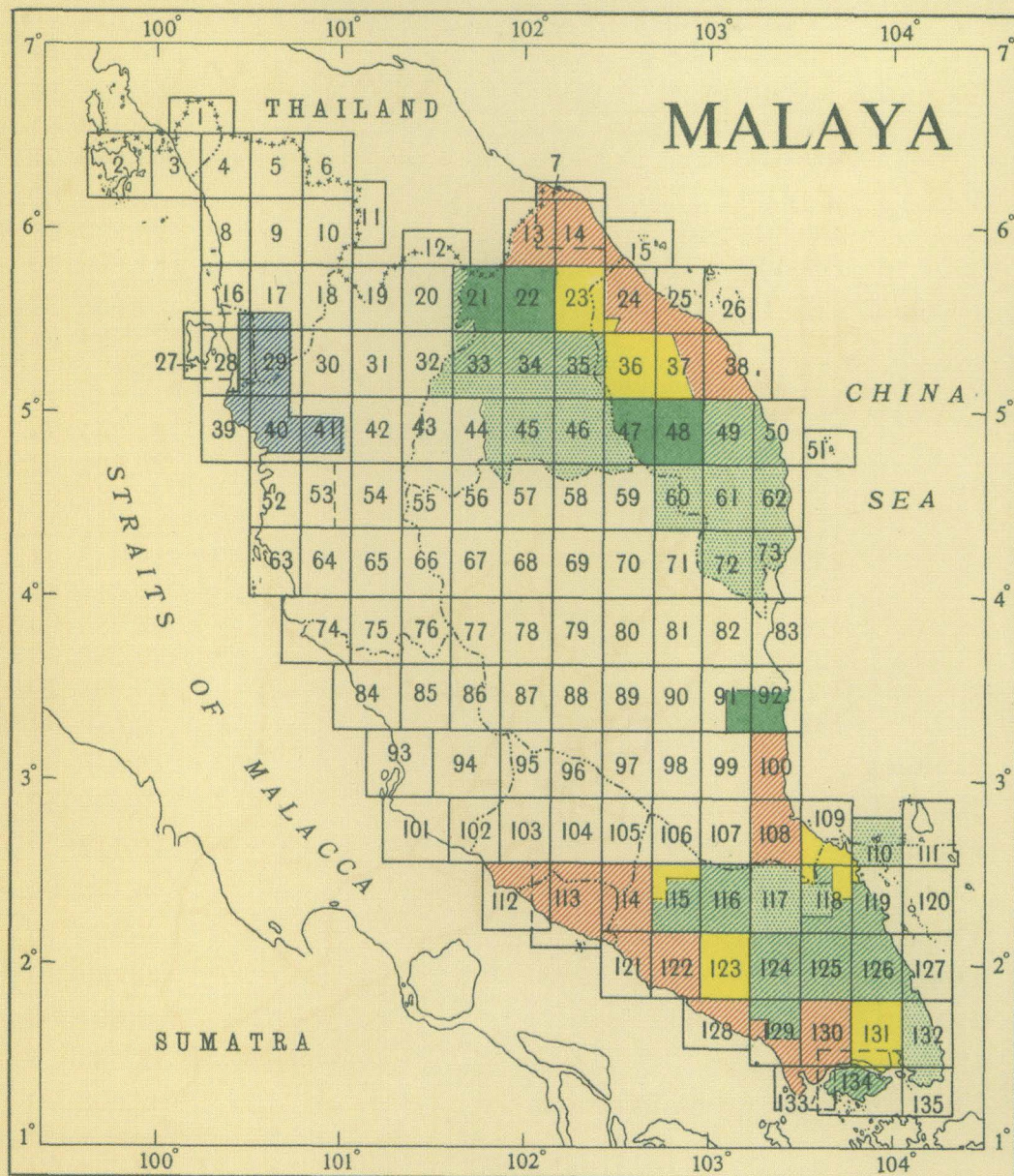
SUMMARY OF COSTS—1956

DEVELOPMENT LOAN EXPENDITURE UNDER PART I OF
APPENDIX VIII—8953-35

					\$	c.
Trengganu	North Block	..	..	..	10,706	16
	Centre Block	..	..	..	175,624	69
	South Block	..	..	..	63,295	64
Kelantan	2nd Block	..	..	..	108,825	16
	3rd Block	..	..	..	111,173	81
	4th Block	..	..	..	57,086	72
Pahang	1st Block	..	..	..	1,512	00
	100-108	..	..	..	28,930	58
	109-110	..	..	..	31,800	40
(Islands)	110, 111, 119, 120	..	..	..	1,855	57
	112	..	..	..	794	34
	113	..	..	..	—
	114	..	..	..	1,764	86
	115	..	..	..	24,641	29
	116	..	..	..	35,202	56
	117	..	..	..	23,944	86
	118-119	..	..	..	50,531	25
	122-123	..	..	..	18,445	41
	124	..	..	..	25,616	81
	125-127	..	..	..	43,980	05
	128-129	..	..	..	30,782	92
	130, 131, 133, 134	..	..	..	23,734	10
	132, 135	..	..	..	5,826	65
Training	..	..	..	..	18,816	95
Kuala Lumpur Town	..	..	..	..	3,257	42
Multiplex	..	..	..	..	12,112	20
Trig.	..	..	..	..	9,136	00
Precise Level	..	..	..	..	7,527	75
Drainage and Irrigation Dept.	..	..	..	..	9,739	32
Photo Library	..	..	..	..	1,507	08
Clerical	..	..	..	..	15,583	25
Chief Surveyor Administrations	..	..	..	..	107,202	70
Total spent in 1956					1,060,958	50
Cost of 2nd half December, 1956 (1957 votes)					—13,863	84
Cost of 2nd half December, 1955 (1956 votes)					+12,837	02
Total spent from 1956 votes					1,059,931	68

MAP 2.

ONE INCH TO ONE MILE
TOPOGRAPHICAL SHEET INDEX DIAGRAM NEW SERIES



PROGRESS DIAGRAM

NEW SURVEYS OR REVISION 1948 - 1955

NEW SURVEYS OR REVISION 1956

FIELD WORK COMPLETE FOR MULTIPLEX PLOTTING

SURVEYS OR REVISION IN HAND

TRIANGULATION IN HAND

RAPID REVISION IN HAND



FEDERATION OF MALAYA

ANNUAL REPORT

OF THE

SURVEY DEPARTMENT

FOR THE YEAR

1957

By

L. S. HIMELY, E.D., F.R.I.C.S.

Surveyor-General, Malaya



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Survey Dept., Federation of Malaya No. 180 - 1952

HEADQUARTERS DIVISION

5. (a) (i) The Headquarters division, in addition to the Surveyor-General and his staff, includes the Map Reproduction branch and the Instrument Repairing branch.

(ii) The Surveyor-General is the Pan-Malayan head of the Survey Departments in the Federation and Singapore. The Singapore Government refunds to the Federation Government a proportion of the salary, allowances and expenses of the Surveyor-General and his immediate staff. The amount involved in respect to 1957 was \$17,556.

(iii) Work on the new building to house the Headquarters division, the Topographical Division and the Selangor division was delayed, only tests for foundations being carried out.

(b) *The Map Reproduction branch.*—(i) Although the branch continued to be engaged principally on its standard task of fair drawing and printing topographical map-sheets the high-light of its work during the year was the production of various illuminated addresses in connection with the attainment of independence and the printing of about a quarter of a million copies of the Declaration of Independence.

(ii) The only new equipment obtained and installed during the year was a De Vere copy camera and enlarger.

(iii) A report on the activities of the branch is submitted at Appendix A.

(c) *The Instrument Repair Section.*—(i) The branch continued to repair and maintain in good condition all instruments in use in the Department throughout the Federation, and similar work was undertaken, to a lesser degree, for other Departments.

(ii) A brief report on the activities of the branch is submitted at Appendix B.

TOPOGRAPHICAL DIVISION

6. (a) The division has its headquarters at Middle Road, Kuala Lumpur, with detachments working from base camps in Kelantan, Trengganu, Johore and Perak.

(b) The principal tasks of the division during the year continued to be the accurate mapping of areas for which only reconnaissance surveys exist, mostly in Kelantan, Trengganu and Pahang, the revision of the mapping of the Johore area, and the rapid revision of certain "old series" topographical sheets which have now become so obsolete as to be dangerously misleading. In addition the trigonometric section continued with the recomputation of the basic Malayan Triangulation co-ordinates and with the precise levelling programme.

(c) In the rapid revision of obsolete map sheets referred to above, the division worked in close co-operation with a Field Survey Squadron of the British Army, exchanging information and arranging field programmes to ensure as rapid a procedure as possible.

(d) Expenditure for the division amounted to \$1,359,594, of which \$1,180,041 was paid for from Loan Funds.

(e) Security restrictions continued to hamper the field work of the division but work was continued on all programmes in spite of the difficulties encountered.

(f) A detailed report on the work of the Division is submitted at Appendix C.

CADASTRAL DIVISIONS

7. (a) The Cadastral divisions are primarily responsible for surveys for land title, each within its own State, except that the office work of all such surveys for the State of Perlis is carried out at the Kedah Survey Office in Kulim. As will be evident from section 2 of this report, some 70% of the Department's establishment is employed in these divisions, and with the continuing increase in the demand for land that percentage may have to be increased.

(b) Relevant figures indicating the demand for title survey, the backlog of work in hand, and the output of work are given in the following table from which it will be appreciated that progress is being made.

	1947	1950	1953	1955	1956	1957
A. Number of lots for which Requisitions for Survey were received, less number for which Requisitions were cancelled	22,628	24,384	31,704	44,259	52,672	57,785
B. Number of lots for which Requisitions remained unsatisfied at the end of the year	126,159	123,000	148,196	183,870	203,046	214,864
C. Number of lots for which Requisitions were satisfied during the year	23,959	21,225	13,392	24,114	33,567	46,783
D. Number of lots awaiting field survey at the end of the year	63,186	60,276	70,310	83,797	89,536	87,155
E. Number of lots surveyed during the year	18,056	21,700	22,915	40,182	44,266	59,760
F. Estimate of the time taken to satisfy a Requisition for one lot, obtained by dividing B by C	5.6 years	5.8 years	9.0 years	7.8 years	6.1 years	4.6 years
G. Estimate of the time taken between receipt of Requisition and completion of Survey in the field, obtained by dividing D by E	3.5 years	2.7 years	3.1 years	2.8 years	2.0 years	1.5 years

The difference between F and G is due to the other processes, such as the office check, plan drawing, settlement by the Land Office and so on, through which the survey goes between the completion of field work and the stage at which the Requisition is considered to be "satisfied".

(c) Although arrears of work, taken as a whole, continue to increase, the considerable increase in lots surveyed in the field has resulted in a decrease in lots awaiting survey for the first time since 1949.

(d) During the year one new District Survey Office was established in Selangor, at Klang, and the new building for the Kelantan Survey Office at Kota Bharu was practically completed.

(e) Detailed reports on the cadastral divisions are submitted at Appendices D to N inclusive.

L. S. HIMELY,
Surveyor-General,
Federation of Malaya

APPENDIX C

TOPOGRAPHICAL DIVISION

*Chief Surveyor**G. C. Stubbs.*

The Topographical Division is financed from Loan Funds except for the expenses of the Trigonometrical Branch, Technicians under training, and the Special Expenditure on the West Coast Map Revision Topo. Survey which are financed by the Surveyor-General.

EXPENDITURE

Actual expenditure for the year was as follows:

	1957	1956
Loan Funds	\$1,122,459	\$1,059,932
West Coast Revision ..	179,649	54,423
Surveyor-General's votes	31,045	37,399
	<hr/> \$1,333,153	<hr/> \$1,151,754

AREA COMPLETED

The area completed was as follows:

	1957 sq. miles	1956 sq. miles
(a) Standard Mapping (New) (Trengganu and Kelantan) In the field	1,010	1,311
(b) Standard Mapping (Revision) (Johore) In the field	1,150	1,764
(c) Rapid Revision (Perak and Kedah) In the field	2,934	150

SHEETS COMPLETED AND SENT FOR REPRODUCTION

(a) Standard Mapping (New)	1	(24)
(b) " " (Revision)	1	(131)
(c) Rapid Revision	9	(21/7, 21/8, 21/11, 21/12, 21/15, 21/16, 2M/2, 2M/3 and 2M/4)

PRECISE LEVELLING

Precise Levelling was carried out in Kelantan, and the distance levelled was 67.8 miles, at a cost of \$9,761 paid from Loan Funds.

ORGANISATION

The Division is administered by a Chief Surveyor, Grade I, assisted by 5 Division I Surveyors. One Division I Surveyor is at the Division Headquarters as Office Deputy, and the other four are in charge of Topo. Parties with base camps at Kemaman, Kuala Krai, Kluang and Taiping. The strength was as follows on 31-12-57:

Technical—

Chief Surveyor, Grade I	1
Division I Surveyors	5
Tech. Assts., Superscale	1
Tech. Assts., Special Grade	4

SURVEY	Brought forward	1957	Total
Compass/Climo Traverses (mls.) ..	453	186	639
P.T/Climo Traverses (mls.)	70	59	129
Levelling	38	42	80

Kelantan Block IV.—This block comprises Sheets 45, 46 and those parts of Sheets 47, 57, 58 and 59 in Kelantan. Survey Commenced in 1955.

No compilation or completion has begun for this block. The costs brought forward was \$57,087, the costs for the year was \$20,990, making the total \$78,077.

<i>Triangulation—</i>	Brought forward	1957	Total
Trigs. cleared	28	1	29
occupied	17	1	18
computed	—	14	14
Flags cleared	95	4	99
computed	—	73	73

Two old trigs were cleared, fourteen were occupied, and eight old flags were cleared.

SURVEY	Brought forward	1957	Total
Compass/Climo Traverses (mls.) ..	—	—	—
Levelling (mls.)	39	—	39

Kelantan Block V.—This comprises Sheet 44 and the Kelantan area of Sheets 43, 55 and 56. Triangulation commenced in 1957. No compilation has been done. The costs for the year was \$10,220.

<i>Triangulation—</i>	1957
Trigs. cleared	—
occupied	1
computed	—
Flags cleared	6
computed	7

One old trig was cleared, one occupied, and three old flags were cleared.

Pahang Block I.—This block comprises Sheets 57, 58 and 59 (except for small areas in Kelantan). Triangulation begun in 1956.

	1956	1957	Total
	\$	\$	\$
Costs	1,512	18,010	19,522

<i>Triangulation—</i>	Brought forward	1957	Total
Trigs. cleared	1	6	7
occupied	—	2	2
computed	—	—	—
Flags cleared	1	20	21
computed	—	—	—

STANDARD MAPPING (REVISION)

Topo. Party No. 4, Kuala Lumpur, Johore.—This party is conducting the Standard Mapping (Revision) of the area covered by the old Johore Grid, and also an amount of Standard Mapping (New) of South Pahang. The party consists of:

Division I Surveyor	1
Tech. Asst., Special Grade	1

Tech. Assts., Timescale	3	(including 1 on Scholarship in Australia)
Technicians	7	
Junior Technicians	10	(including 1 re-employed pensioner)
Traversers	4	

The working area is divided into the following blocks:

North Johore
 South Johore
 Mersing and Endau
 Tioman
 Rompin
 Pahang IV

North Johore Block.—This block comprises Sheets 112, 113, 114, 115, 116, 121, 122 and 123 and the Johore area of Sheet 106 totalling 3,522 square miles of which 640 square miles (Malacca) are new Survey. Compilation has been completed, and the little field work that remains to be done has been held up by lack of clearance. Sheets 112, 113, 114, 121, 122 were sent for publication prior to 1957.

Output and Costs					Compiled sq. miles	Completed sq. miles	Costs \$
Brought forward .. ..	..	..	..	..	3,294	2,520	739,044
1957 .. ..	..	..	..	..	238	430	38,129
Total ..					3,522	2,950	777,173

Eleven miles of Topo. levelling and 7 miles of P.T/Climo traverse were run during the year.

South Johore Block.—This block comprises Sheets 124 to 133 and Sheet 135, totalling 3,517 square miles. Sheets 130 and 133 were sent for publication prior to 1957 and Sheet 131 was sent in 1957.

Output and Costs					Compiled sq. miles	Completed sq. miles	Costs \$
Brought forward .. ..	..	..	..	..	2,892	1,568	426,381
1957 .. ..	..	..	..	..	290	535	136,608
Total ..					3,182	2,103	562,989

Triangulation—

Three trigs were cleared during the year.

SURVEY

Sixty miles of Topo. levelling and 25 miles of theodolite traversing were run. Six miles of Compass/Climo traverses and 106 miles of P.T/Climo traverses were made.

Mersing/Endau Block.—This block comprises the mainland and islands of Sheets 109, 110, 117, 118, 119 and 120 survey commenced in 1954. Triangulation is in hand on Sheet 117 and on the islands.

Costs and Output					Compiled sq. miles	Completed sq. miles	Costs \$
Brought forward .. ..	..	..	..	..	603	310	136,045
1957 .. ..	..	..	..	..	122	185	88,654
Total ..					725	495	224,699

<i>Triangulation—</i>				Brought forward	1957	Total
Trigs cleared	..	..	..	24	20	44
occupied	..	..	..	12	20	32
computed	..	..	..	21	6	27
Flags cleared	..	..	..	26	22	48
computed	..	..	..	—	25	25

SURVEY

Theodolite Traverses	..	..	..	29	4	33
Compass/Clino Traverses	..	..	..	—	93	93
P.T/Clino Traverses	..	..	..	—	52	52
Topo. levelling	..	..	..	—	17	17

Tioman Block.—This block comprises Sheet 111 and the islands of Aur and Permanggil. Triangulation commenced in 1957 and is in hand. The costs for the year was \$22,757.

Triangulation—

Trigs cleared	..	..	..	..	10
occupied	..	..	..	..	6
computed	..	..	..	..	4
Flags cleared	..	..	..	..	9
computed	..	..	..	..	4

Rompin Block.—This block comprises Sheet 100 and 108 totalling 781 square miles. Survey commenced in 1948. The subsequent compilation and contouring was done by the Directorate of Overseas Surveys, but further field action was necessary to bring the sheets up to date. Sheet 100 was almost completed at the end of the year but work on Sheet 108 was held up by lack of clearance.

Output and cost				Compiled sq. miles	Completed sq. miles	Costs \$
Brought forward	..	..	..	781	336	46,917
1957	..	..	..	—	—	35,459
Total				781	336	82,376

Pahang IV.—This block comprises Sheets 98, 99 and the Pahang area of 106 and 107. This block is all new mapping. Triangulation commenced in 1957.

Triangulation—

Trigs cleared	..	..	..	..	22
occupied	..	..	..	..	16
computed	..	..	..	..	—
Flags cleared	..	..	..	..	86
computed	..	..	..	..	—

The costs for the year was \$111,695.

SUMMARY OF COSTS: LOAN FUNDS, 1957

						\$
Trengganu North Block	..	..	..	..	..	61,826
„ Central Block	..	..	..	..	..	175,464
„ South Block	..	..	..	..	..	75,751
Kuantan Block	..	..	..	..	..	11,273

					\$	\$
Kelantan Block II	..	..	..	..	..	101,763
" " III	..	..	..	..	..	62,480
" " IV	..	..	..	..	..	20,990
" " V	..	..	..	..	..	10,220
Pahang Block I	..	..	..	..	..	18,010
" " IV	..	..	..	..	..	111,695
North Johore Sheet 106	..	..	..	..	7,291	
" " 115	..	..	..	..	3,421	
" " 116	..	..	..	..	12,342	
" " 122-123	..	..	..	..	13,652	
North Johore Block	..	..	..	..	..	36,706
Mersing/Endau Sheets 109-110	..	..	..	..	9,663	
" " 117	..	..	..	..	15,832	
" " 118-119	..	..	..	..	36,524	
Mersing/Endau Block	..	..	..	..	..	62,019
Islands Sheet 110, 119, 120	..	..	..	..	..	26,635
Tioman Sheet 111	..	..	..	..	..	22,757
Rompin Sheet 100, 108	..	..	..	..	..	35,459
South Johore Sheet 124	..	..	..	..	44,562	
" " 125-127	..	..	..	..	39,514	
" " 128-129	..	..	..	..	11,669	
" " 130, 131, 133	..	..	..	..	21,948	
" " 132, 135	..	..	..	..	18,915	
South Johore Block	..	..	..	..	..	136,608
Precise Levelling	..	..	..	..	..	9,761
C.S. Administration	..	..	..	..	69,425	
Capital Equipment	..	..	..	..	29,104	
Vacation Leave (7 days and over)	..	..	..	..	23,121	
Medical Leave (7 days and over)	..	..	..	..	1,406	
Training, Tuition and Examinations	..	..	..	..	19,986	
Total Chief Surveyor's Expenditure	..	..	..	..	..	143,042
Total spent in 1957						1,122,459
Less costs of 2nd half December, 1957	..	..	..	..	..	13,328
Plus costs of 2nd half December, 1956	..	..	..	..	..	13,864
Expenditure from 1957 Votes	..	..	..	..	..	1,122,995

COSTS OF COMPLETED SHEETS

The following are the costs of sheets completed by Standard Revision:

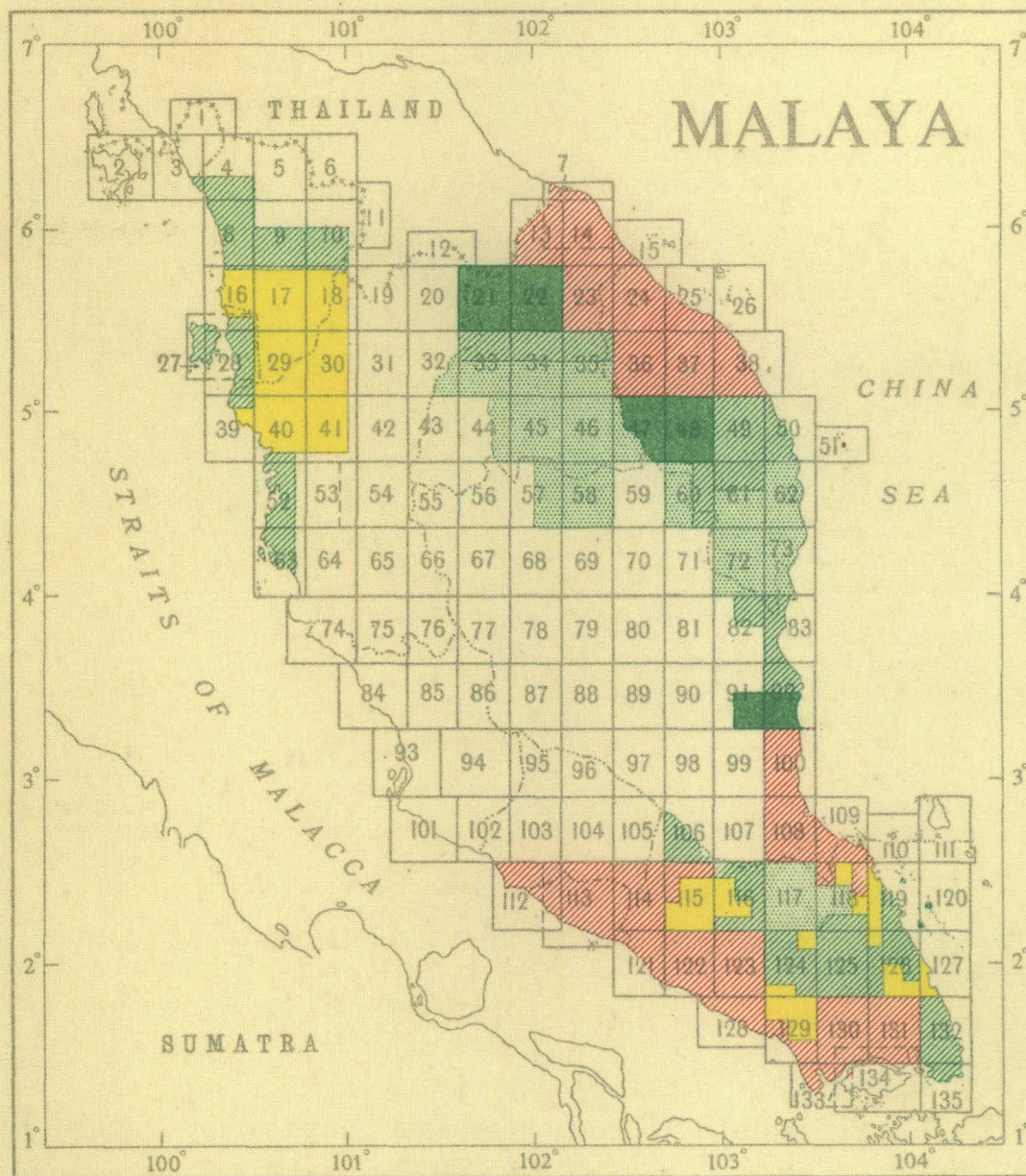
Sheets	Area sq. miles	Total costs \$	Cost per sq. mile \$
122 & 123 ..	906	150,315	166
130, 131 & 133 ..	1,083	181,136	167

The following are the costs of Sheets completed by Rapid Revision:






Sheet	Area sq. miles	Total costs \$	Cost per sq. mile \$
2I/7 ..	290	17,075	59
2I/8 ..	290	34,912	120
2I/11 ..	290	28,621	99
2I/12 ..	290	2,194	8
2I/15 ..	290	28,651	99
2I/16 ..	290	12,663	44
2M/2 ..	29	2,896	100
2M/3 ..	250	13,607	54
2M/4 ..	290	25,867	89

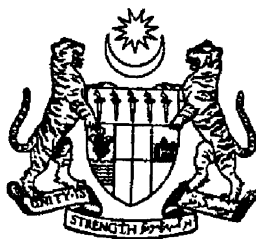
Excluding 2I/8 which included costs of traverses for Multiplex contouring, the average cost per square mile of rapid revision was \$65.

ONE INCH TO ONE MILE
TOPOGRAPHICAL SHEET INDEX DIAGRAM NEW SERIES



PROGRESS DIAGRAM

NEW SURVEYS OR REVISION 1948 - 1956	
NEW SURVEYS OR REVISION 1957	
FIELD WORK COMPLETE FOR MULTIPLEX PLOTTING	
SURVEYS OR REVISION IN HAND	
TRIANGULATION IN HAND	



FEDERATION OF MALAYA

ANNUAL REPORT

OF THE

SURVEY DEPARTMENT

FOR THE YEARS

1958 to 1961

by

L. S. HIMELY, E.D., B.Sc., F.R.I.C.S.,
Surveyor-General, Federation of Malaya (1958 to 1960),

and

A. L. M. GREIG, M.I.S. (N.Z.), F.R.I.C.S.,
Surveyor-General, Federation of Malaya (1960 to 1961)



DI-CHETAK DI-JABATAN CHETAK KERAJAAN
 OLEH THOR BENG CHONG, A.M.N., PENCHETAK KERAJAAN
 PERSEKUTUAN TANAH MELAYU

1963



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Survey Dept., Federation of Malaya No. 31 - 1963

HEADQUARTERS DIVISION

6. (a) (i) The Headquarters Division, in addition to the Surveyor-General and his staff, includes the Map Reproduction and Instrument Repairing Branches.

(ii) The arrangement, which had worked very successfully since 1920, whereby the Surveyor-General was the Pan-Malayan head of the Survey Department (or Departments), was terminated on 31st May, 1959. Under this arrangement the Singapore Government refunded to the Federation Government a proportion of the salaries, allowances and expenses of the Surveyor-General and his immediate staff. The amount involved for 1958 was \$17,517 and that for the first 5 months of 1959, before the termination of the arrangement, \$6,683.

(iii) After many frustrating delays over the years, work was started at last on the new building in Gurney Road to house the Headquarters Division, the Topographical Division and the Selangor Revenue Survey Division. By the end of 1961, sufficient progress had been made to justify confidence that all those elements of the Department resident in Selangor would be under one roof in 1962.

(b) *The Map Reproduction Branch*—(i) Whilst the Branch continued to be engaged principally on the fair drawing and printing of the new series of Topographical sheets, it did produce relief and political maps of the Federation, maps of some States and towns and a great deal of security work—motor vehicle licences, cheques, bonds, etc.

(ii) In continuation of the policy of returning to the Directorate of Military Surveys the machinery and equipment which the Department had had on loan from the military authorities since 1947 as the Department acquired its own equipment in replacement, three printing presses and a great deal of ancillary equipment were returned to G.H.Q. FARELF and very little indeed remained by the end of 1961 of the loaned equipment which had served the Department so well over the years.

(iii) A brief report on the activities of the Branch is submitted at Appendix "A".

(c) *The Instrument Repair Branch*—(i) The Branch continued to function effectively throughout the period under review.

(ii) An expatriate officer served three years on contract as Superintendent, Instrument Workshop from January, 1958, and, during this period a Malayan officer spent 18 months in the United Kingdom and on the Continent in technical instrument factories and attached to the Board of Trade in London with a view to his being appointed as Superintendent in due course.

(iii) A brief report on the activities of the Branch is submitted at Appendix "B".

TOPOGRAPHICAL DIVISION

7. (a) The Division has its headquarters in Kuala Lumpur and has maintained field detachments during the period under review

in Trengganu, Pahang, Johore, Penang, Kedah and Negri Sembilan.

(b) Work on the standard mapping southwards from Trengganu and on the standard revision northwards from Johore has continued and field work on the standard revision of Penang and Province Wellesley has been completed.

(c) The British Army survey unit which had been working in co-operation with the Division on the rapid revision of certain obsolescent topographical sheets in the West Coast States completed its task and co-operated thereafter with the Division in work for the new standard mapping series sheets.

(d) Work on the recomputation of the basic Malayan triangulation data and on the precise levelling programme has continued and very good progress has been made towards the determination of magnetic declination at an adequate number of points throughout the country.

(e) 3 Wild Stereoplotters have been acquired and installed, increasing the Division's potential considerably. In addition a Wild Air-Survey Camera has been bought, together with necessary ancillary processing equipment. Several Royal Malayan Air Force aircraft have been modified to accept the Department's camera. A great deal of co-operation has been extended by the Royal Malayan Air Force in making photographic sorties and many projects have been completed successfully. However, the stage has not been reached when the Department can cease to be dependent on the Royal Air Force for photography for standard mapping.

(f) A detailed report on the Division is submitted at Appendix "C" and progress maps may be found at the back.

CADASTRAL DIVISIONS

8. (a) The Cadastral Divisions are responsible for all title survey operations, each within its own State, except that the administration and office work connected with such surveys for Perlis are dealt with in the Kedah Survey Office in Kulim, the one officer being Chief Surveyor, Perlis, as well as Chief Surveyor, Kedah.

(b) Relevant figures indicating the demand for title surveys, the arrears of work in hand and the output of work are given in the following table. Until 1959 progress was being made towards the ultimate extinction of arrears and the table was designed to record this progress. However, the shift of focus to Rural Development in 1960 has changed the whole picture and it is too early to deduce trends. It seems safe to assume that a significant proportion of the pre-1960 "arrears" will prove to have been eliminated by the switch of individual applicants to Rural Development schemes of one kind or another but it will be some time before the extent can be gauged. It must be pointed out that this table does not tell the whole story because a very great deal of Rural Development work has been done but has not reached a stage when it can be claimed as "progress".

APPENDIX C

TOPOGRAPHICAL BRANCH

Chief Surveyor—

G. C. Stubbs, A.M.N.

In 1958 and 1959 the Topographical Division was financed partly from Development Funds and partly from Survey votes, but in 1960 and 1961 all Topographical expenditure was met from Survey votes:

EXPENDITURE

Actual expenditure was as follows:

	1958	1959	1960	1961	Total
	\$	\$	\$	\$	\$
(a) Development Funds	946,243	1,366,412	—	—	2,312,655
(b) Survey votes	300,316	45,031	1,351,017	1,166,552	2,862,916
	<u>1,246,559</u>	<u>1,411,443</u>	<u>1,351,017</u>	<u>1,166,552</u>	<u>5,175,571</u>

AREA COMPLETED IN THE FIELD

The area completed in the field was as follows:

	1958	1959	1960	1961	Total
	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles
(a) Standard Mapping (New) (Trengganu, Pahang, Kelantan and Johore) ..	1,081	637	409	776	2,903
(b) Standard Mapping (Revision), Pahang, Johore, Penang, P. Wellesley and Selangor	1,042	577	1,133	1,003	3,755
(c) Rapid Revision (Kedah, Perlis, P. Wellesley and Perak)	1,458	—	—	—	1,458

AREA COMPLETED BY AIR SURVEY COMPILATION

The area compiled in the office from aerial photographs was as follows:

	1958	1959	1960	1961	Total
	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles
(a) <i>Multiplex</i> —					
Standard mapping (new)	919	1,199	890	884	3,892
(b) <i>Wild A7 and A8's</i> —					
Large scale mapping (Revision) ..	4	49	114	171	338
(c) <i>Hand Compilation</i> —					
(i) Std. mapping (New)	627	626	574	303	2,130
(ii) Std. mapping (Revision) ..	735	597	160	370	1,862
(iii) Land Development Projects ..	—	—	—	151	151

SHEETS SENT FOR REPRODUCTION

The Sheets completed and sent for reproduction were:

	1958	1959	1960	1961	Total
	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles
(a) Std. Mapping (New)	1,081	1,237	1,875	739	4,932
(b) Std. Mapping (Revision)	1,042	1,008	991	1,978	5,019
(c) Rapid Revision	1,458	289	—	—	1,747

STANDARD MAPPING (REVISION)

TOPO PARTY NO. 4, KLUANG, JOHORE

Topo Party No. 4 conducted the field work for the Standard Mapping (Revision) of the area covered by the old Johore Grid, and for the Standard Mapping (New) of South Pahang.

The working area was divided into the following blocks:

North Johore
South Johore
Mersing and Endau
Tioman
Islands
Rompin
Pahang IV

North Johore Block—(Sheets 112, 113, 114, 115, 116, 121, 122, 123 and the Johore Area of Sheet 106). Area square 3,548 miles. Sheets 112, 113, 114, 121 and 122 were sent for publication prior to 1958.

OUTPUT AND COSTS

					<i>Compiled sq. miles</i>	<i>Completed sq. miles</i>	<i>Costs \$</i>
Brought forward	..	..	..		3,294	2,950	777,173
1958	..	..	..	..	238	270	52,799
1959	..	..	..	..	—	78	14,266
1960	..	..	..	..	—	110	24,811
1961	..	..	..	..	—	140	20,448
Total	..				3,532	3,548	889,497

South Johore Block—(Sheets 124 to 133 and Sheet 135). Area 3,362 square miles. Sheets 130, 131 and 133 were sent for publication prior to 1958.

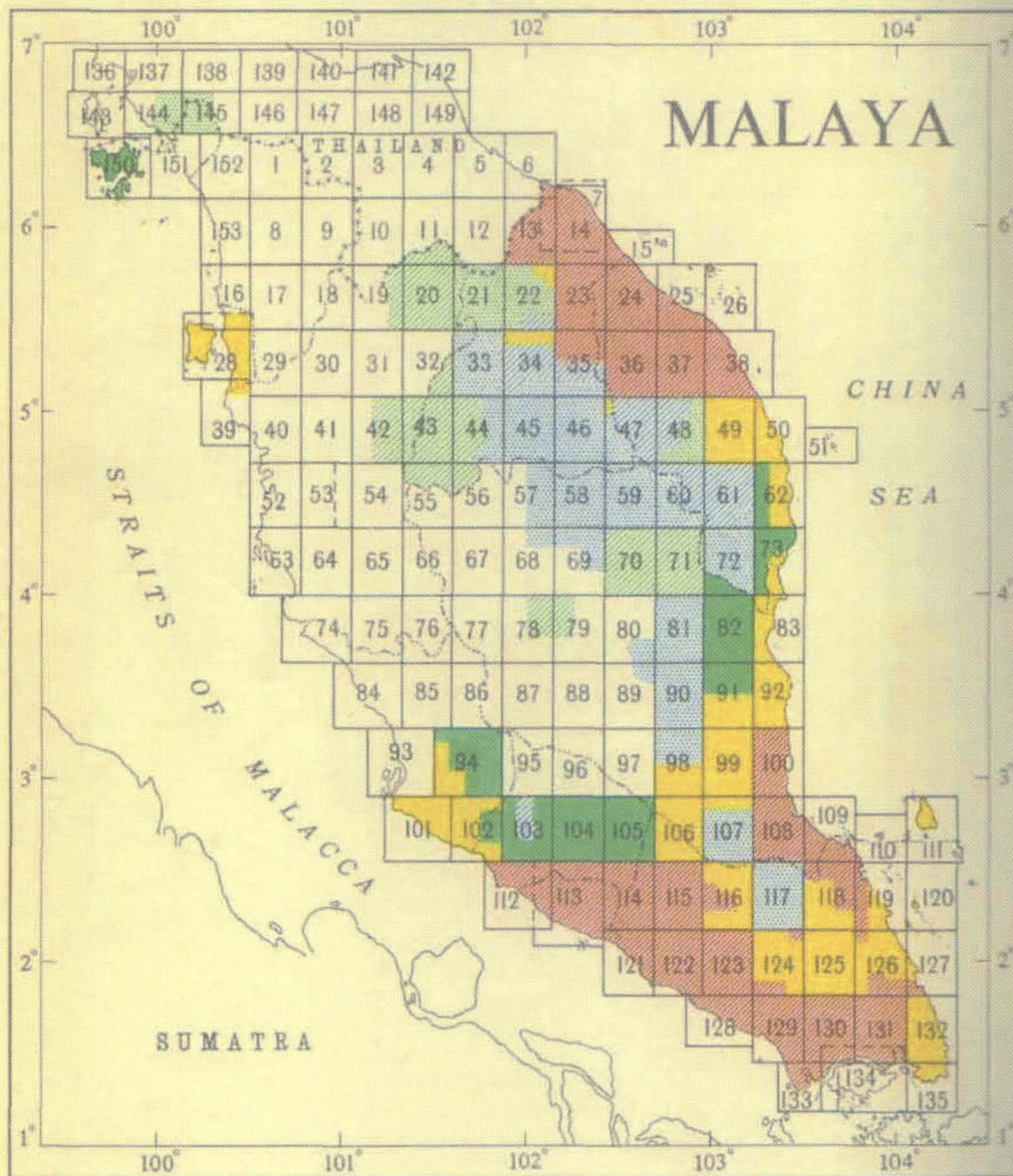
OUTPUT AND COSTS

					<i>Compiled sq. miles</i>	<i>Completed sq. miles</i>	<i>Costs \$</i>
Brought forward	..	..	..		3,269	2,198	562,989
1958	..	..	..	..	93	447	86,937
1959	..	..	..	..	—	218	155,120
1960	..	..	..	..	—	499	147,883
1961	..	..	..	..	—	—	68,985
Total	..				3,362	3,362	1,021,914

SURVEY

			<i>Brought forward</i>	1958	1959	1960	1961	Total
			<i>miles</i>	<i>miles</i>	<i>miles</i>	<i>miles</i>	<i>miles</i>	<i>miles</i>
Climo/Compass Traverses	..		6	37	199	200	161	603
P.T./Climo Traverses	..	..	106	72	81	5	—	264
Theodolite Traverses	..	..	25	32	—	2	—	59
Levelling (Topo)	..	..	60	112	265	51	—	488

MAP 2.

ONE INCH TO ONE MILE
TOPOGRAPHICAL SHEET INDEX DIAGRAM NEW SERIES

PROGRESS DIAGRAM

NEW SURVEYS OR REVISION	1948 - 1957	
NEW SURVEYS OR REVISION	1958 - 1961	
NEW SURVEYS OR REVISION IN HAND		
TRIANGULATION IN HAND		
COMPILED BY MULTIPLEX IN 1957		
COMPILED BY MULTIPLEX 1958 - 1961		
TRAVERSED FOR MULTIPLEX		



FEDERATION OF MALAYA

ANNUAL REPORT

OF THE

SURVEY DEPARTMENT

FOR THE YEAR

1962

by

A. L. M. GREIG, M.I.S. (N.Z.), F.R.I.C.S.,
Surveyor-General, Federation of Malaya



DI-CHETAK DI-JABATAN CHETAK KERAJAAN
OLEH THOR BENG CHONG, A.M.N., PENCHETAK KERAJAAN
KUALA LUMPUR
1964



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Survey Dept., Federation of Malaya No. 31 - 1963

APPENDIX C

TOPOGRAPHICAL BRANCH

Chief Surveyor—

G. C. Stubbs, A.M.N.	...	...	1-1-62 to 27-11-62
Chong Toong Choong	...	...	28-11-62 to 31-12-62

The main tasks of this Division are:

- (a) Standard Mapping (New): the mapping in full detail of areas where old rigorous survey does not exist.
- (b) Standard Mapping (Revision): the re-mapping of areas where old rigorous survey does exist but is out of date.
- (c) Mapping of areas for land development projects.

2. *Expenditure*—Actual expenditure for the year was \$1,160,782. Details are as follows:

(a) Mapping—

	1962	1961
	\$	\$
Office	311,017	300,677
Field	817,859	825,140

(b) Trigonometrical Branch—

Office	27,238	20,742
Field (Precise Levelling)	3,070	19,993
Field (Gravity Survey) ...	1,598	—
	<u>1,160,782</u>	<u>1,166,552</u>

3. *Organisation*—The Division is divided into the following sections:

(a) Office—

Administration and Trigonometrical Branch, Compilation and Editing Sections and Photograph Library;

Photogrammetric Machine Section, and Photographic Laboratory.

(b) Field—

Topo. Party No. 1 at Kuantan—Trengganu and North East Pahang.

Topo. Party No. 3 at Kuala Lipis—Kelantan, North and South Pahang, and Upper Perak.

Topo. Party No. 4 at Seremban—Negeri Sembilan and Johore.

Topo. Party No. 5 at Kuala Lumpur—Selangor and Langkawi Islands.

PROGRESS—

4. (a) *Area completed by Air Survey Compilation*—The area compiled in office from aerial photographs was as follows:

Hand Compilation—

		1962 sq. miles		1961 sq. miles
(i) Standard Mapping (New)	...	186	...	303
(ii) Standard Mapping (Revision)	...	1,229	...	370
(iii) Land Development Projects	...	142	...	151

Dark Machines (Multiplex)—

(i) Standard Mapping (New)	...	372	...	638
(ii) Standard Mapping (Revision)	...	119	...	187
(iii) Land Development Projects	...	30	...	59

Precise Machines (Wild A7 and A8's)—

		1962 sq. miles		1961 sq. miles
(i) Standard Mapping (New)	...	23	...	—
(ii) Standard Mapping (Revision)	...	228	...	166
(iii) Land Development Projects	...	8	...	5
Total: Standard Mapping (New)	...	581	...	941
„ Standard Mapping (Revision)	...	1,576	...	723
„ Land Development Projects	...	180	...	215
		<hr/> 2,337	...	<hr/> 1,879

(b) *Field Work Completed:**Triangulation—*

			1962		1961
Trigs cleared	...	...	7	...	32
Trigs occupied	...	...	33	...	16
Trigs computed	...	...	34	...	15
Flags cleared	...	...	33	...	28
Flags computed	...	...	17	...	69

SURVEY—

			1962 miles		1961 miles
Compass/Clino Traverses	...	...	1,611	...	3,910
P.T./Clino Traverses	...	...	52	...	834
Theodolite Traverses	...	...	65	...	61
Levelling Topo	...	...	435	...	778
Levelling, Precise	...	...	16	...	9

Area completed by Plane Table Field Compilation—

The area completed in the field was as follows:

	1962 sq. miles	1961 sq. miles
(a) Standard Mapping (New)—		
Trengganu, Kelantan, Pahang and Pulau Langkawi	425 ...	776
(b) Standard Mapping (Revision)—		
Johore, Pahang, Negeri Sembilan and Selangor	1,605 ...	1,003
Total ...	<u>2,030</u> ...	<u>1,779</u>

(c) *Sheets sent for Reproduction*—The Sheets compiled and sent for reproduction were as follows:

	1962 sq. miles	1961 sq. miles
(a) Standard Mapping (New)—		
Sheet 150 Sections 1-10;		
.. 106 .. 1 (part);		
.. 106 .. 2 and 3 ...	279 ...	739
(b) Standard Mapping (Revision)—		
Sheet 83 Sections 1, 2, 4;		
.. 83 .. 5, 7, 10;		
.. 94 .. 1-16;		
.. 106 .. 1 (part) ...	1,207 ...	1,978
Total ...	<u>1,486</u> ...	<u>2,717</u>

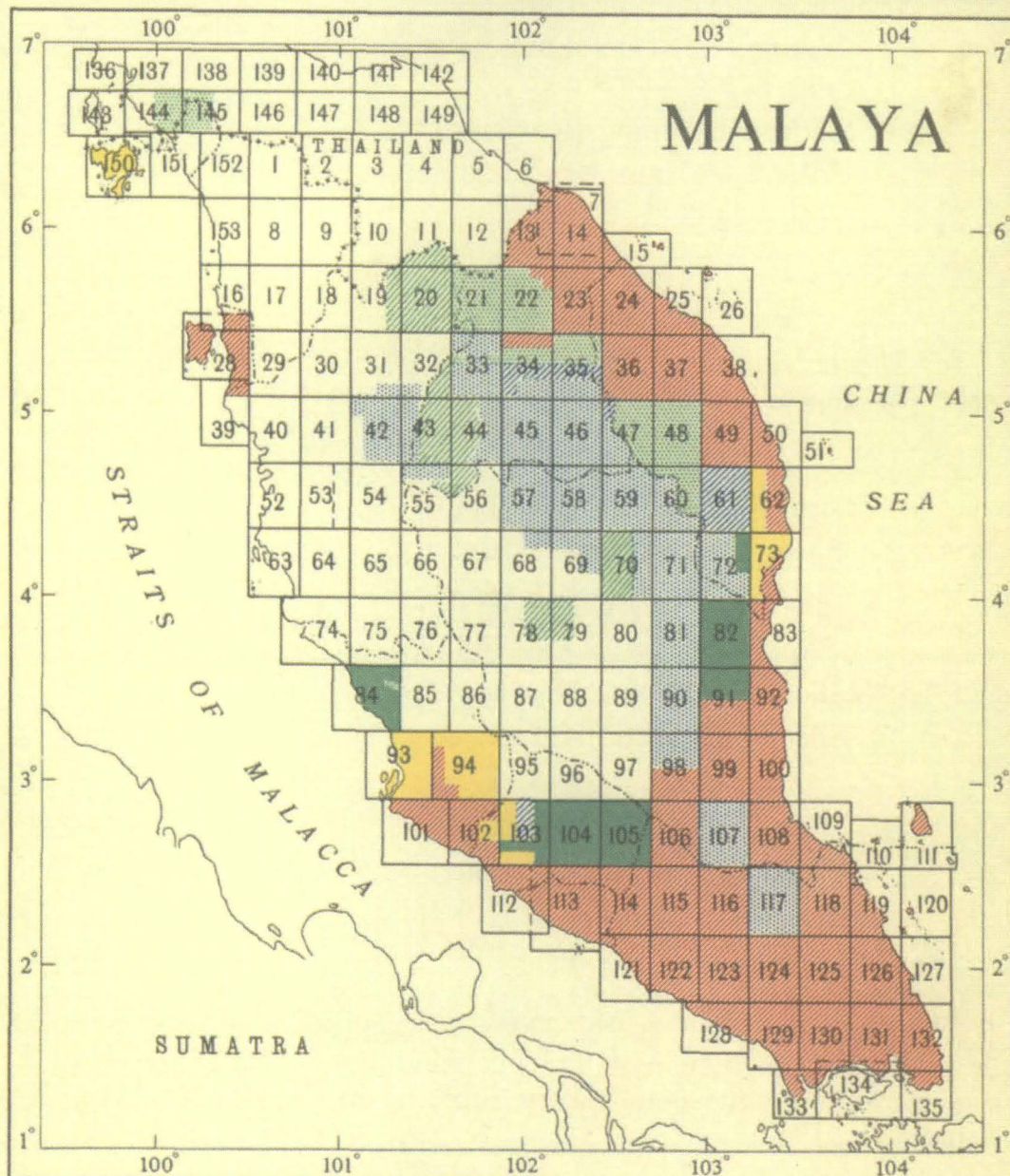
5. The Headquarters of the Division vacated its former premises at Jalan Tengah, which it had occupied since 17th August, 1954, and moved into the new Survey Building at Gurney Road on 5th September, 1962.

6. *Gravity Survey*—A gravity survey team from the Certeza Surveying Company Ltd., of Manila commenced observations on 1st August, 1962, for the U.S. Army Mapping Service. The Division provided survey information and liaison officers.

7. *Colombo Plan*—A team of engineers from Messrs C. C. Parker and Whittaker, consulting engineers, sent by the Canadian Government on the Colombo Plan, set up a base office in the Division's office on 17th October, 1962, to study maps and air photographs of the proposed Sungei Siput-Kuala Brang Road.

MAP 2.

ONE INCH TO ONE MILE
TOPOGRAPHICAL SHEET INDEX DIAGRAM NEW SERIES



PROGRESS DIAGRAM

NEW SURVEYS OR REVISION 1948 - 1961

NEW SURVEYS OR REVISION 1962

NEW SURVEYS OR REVISION IN HAND

TRIANGULATION IN HAND

COMPILED BY MULTIPLEX UP TO 31.12.61

COMPILED BY MULTIPLEX IN 1962

TRAVERSED FOR MULTIPLEX



Annex 36

Extracts from Irwin G.,
Nineteenth Century Borneo: A Study in Diplomatic Rivalry
(1955, reprinted 1967)

NINETEENTH-CENTURY BORNEO

A STUDY IN DIPLOMATIC RIVALRY

BY

GRAHAM IRWIN, M.A., Ph.D.

*Formerly Lecturer in History
University of Malaya*

DONALD MOORE BOOKS
SINGAPORE

had been completed, but on March 24th, 1824, the "Treaty between His Britannick Majesty and the King of the Netherlands respecting Territory and Commerce in the East Indies" was signed at last.

The fate of Singapore was decided by the Twelfth Article of this Treaty. In its final form, this Article ran as follows:

His Netherland Majesty withdraws the objections which have been made to the occupation of the Island of Singapore by the Subjects of His Britannick Majesty.

His Britannick Majesty, however, engages, that no British Establishment shall be made on the Carimon Isles, or on the Islands of Battam, Bintang, Lingin, or on any of the other Islands South of the Straits of Singapore, nor any Treaty concluded by British Authority with the Chiefs of those Islands.¹⁴⁷

So far as Singapore itself was concerned, the article was plain enough, but the vital question for the future of Borneo was, What, precisely, was the meaning of the expression, "or any of the other Islands South of the Straits of Singapore"?

Strictly speaking, the only parts of the East Indies that did not lie 'south of Singapore' were north-western Sumatra — from which, by a separate article of the Treaty, the British agreed to withdraw — slightly less than half of Borneo, the northern tips of Celebes and Halmahera, and the small island of Morotai. Was it then the intention of Article Twelve of the Treaty of 1824 that Britain should henceforth be prohibited from colonizing or treaty-making throughout the whole length and breadth of the Indian Archipelago?

This was certainly the view taken by many contemporary observers. T. J. Newbold, for example, an early historian of the British settlements in Malaya, complained in 1839 that "the comprehensive little sentence 'Islands south of the Straits of Singapore' politically shuts us out from the richest part of Borneo, the tin mines of Banca, the islands of Billiton, Madura, Bali, Lombok, Sumbawah, Flores, and nearly the whole of the Celebes, in addition to the loss of Achin and

¹⁴⁷ The full text of the Treaty of 1824 is given in Sir William G. Maxwell and W. S. Gibson, *Treaties and Engagements affecting the Malay States and Borneo*, pp. 8-12.

the rest of Sumatra".¹⁴⁸ A similar view was expressed six years later by a Dutch Minister of the Colonies, J. C. Baud. As a result of the Treaty of 1824, he wrote, "England may not establish herself nor conclude treaties with the rulers of any island lying to the south of 1° 30' N., for that is the latitude of Singapore Straits".¹⁴⁹ Many Dutch writers of the present day have taken the same line. H. T. Colenbrander, for example, declares: "After the Treaty of 1824 the only part of the Indies in which it was possible for England to establish her political authority was North Borneo",¹⁵⁰ while B. H. M. Vlekke, describing the provisions of the Treaty in his book, *Nusantara*,¹⁵¹ writes: "Moreover, the British promised not to interfere further with Sumatra or any of the other islands of the archipelago".

On the other hand, it has been suggested by some that the phrase, "Islands South of the Straits of Singapore", is to be understood in a more restricted sense, on the ground that its authors intended it to apply only to the immediate area of the Straits themselves. Those who hold this view point out that the purpose of Article Twelve was to set a limit to the amount of territory comprised by the term, 'Singapore', not to carve up the whole Archipelago between Dutch and British. Which of these interpretations is correct? The answer must be sought in the records of the conference between the men who drew up the Treaty, Canning, Fagel, and Falck.

Towards the end of the London talks of 1823-4 Falck produced a 'draft project' setting out the chief Dutch proposals. Appended to the main body of this draft were two special articles, the second of which contained the following far-reaching recommendation: "The contracting parties shall bear in mind that their respective possessions in the East Indies are divided by a 'line of demarcation', beginning at the entrance of the Straits of Malacca at the parallel of Kedah (the 6th degree North Latitude) and terminating at the end of Singapore Straits, thus leaving

¹⁴⁸ T. J. Newbold, *Political and Statistical Account of the British Settlements in the Straits of Malacca*, Vol. i, p. 17. The publicist, John Anderson, copied this passage direct from Newbold, and reproduced it the following year in his work, *Acheen.... with Incidental Notices of the Trade in the Eastern Seas and the Aggressions of the Dutch*, at p. 3.

¹⁴⁹ J. C. Baud to the King, August 30th, 1845, No. 302, Very Secret. (*Buit. Zaken*, No. 3133).

¹⁵⁰ *Koloniale geschiedenis*, Deel i, p. 329.

¹⁵¹ At p. 264. (My italics).

this island to the North, and the Carimon, Battam, Bintang, and Riouw islands to the South . . ." ¹⁵²

The idea of an imaginary line delimiting the areas of British and Dutch aspiration in the Eastern Archipelago had first been put forward by Stamford Raffles.¹⁵³ It was taken up again at the 1820 discussions, this time by the Dutch. Elout's plan had then been for the whole of Borneo to be placed on the Dutch side of the line, including the island of Balambangan and other parts of northern Borneo which had once belonged to the English East India Company.¹⁵⁴ But this scheme was not pursued, mainly, it seems, because of Dutch fears that the British might not be willing to withdraw completely from Sumatra if they were too formally and insistently excluded from Borneo.

Now at the Gloucester Lodge discussions, however, a somewhat similar proposal was being advanced, but with this significant difference: the new line of demarcation was to end just east of Singapore; it was not intended to be prolonged as far as Borneo. Exactly what was in Minister Falck's mind when he made this new suggestion is not clear. A member of his staff, Hora Siccama, described many years later how Falck came home in great jubilation one day after a session with Canning and Wynn, and announced that "a great principle had been agreed": the Netherlands were to cede to England all their possessions on the mainland of India, and in return "Great Britain would withdraw from the islands". Then, by way of explanation, Falck drew a line on the map, which ran "from the northern tip of Sumatra, through the Straits of Malacca, around Johore, and after that, North". Asked if this meant that Borneo fell below the line, Falck replied, "Yes, but we may not get it in the Treaty; the English ministers will have enough trouble in Parliament as it is. The question will doubtless come up later — then it will be time enough to assert our rights. For the present it is sufficient for us that the British desire no further expansion of the possessions of the East India Company, and that they hope to provide once and for all against collisions between our two Governments". ¹⁵⁵

¹⁵² Smulders, *op. cit.*, pp. 54-5.

¹⁵³ See pp. 53-4 above.

¹⁵⁴ Council of Ministers to the King, November 5th, 1845. (*Buit. Zaken*, No. 3133).

¹⁵⁵ O. W. Hora Siccama to Jhr. Mr. P. J. Elout van Soeterwoude, October 26th, 1858. (P. J. Elout van Soeterwoude, *Bijdragen tot de geschiedenis der onderhandelungen met Engeland, betreffende de overzeesche bezittingen 1820-1824*, pp. 311-12).

Believing that he had secured a 'gentleman's agreement' on Borneo with his British colleagues, Falck became the more anxious that the proposed division of the Archipelago should not cause unnecessary trouble. On January 9th, when asked by Canning to be more precise about the limits of his demarcation line, Falck again explained that it was "intended to terminate after passing between Singapore and Riouw".¹⁵⁶ Later in the same conversation, he "disclaimed any desire to make the Line more extensive than his Note proposed; the measure would create jealousy in other Powers; he objected to including Borneo; a line going through it would generate a probability of collision".¹⁵⁷

Falck received strong support for this view from the Directors of the East India Company, who had their own reasons for preferring that Borneo should not be mentioned in relation to any demarcation line. During the season of the north-east monsoon the Company's China-bound ships often had to steer by the so-called 'Eastern Passage', which took them south of Borneo, and then up to China by way either of Macassar Strait or of Djailolo Passage. Both these courses ran through the heart of an area in which, on Falck's original proposal, the Netherlands would have the sole right of forming settlements. This, the Directors pointed out, would be "most unsafe in time of war".¹⁵⁸

The British and Dutch plenipotentiaries agreed, therefore, that the proposed demarcation line should not include Borneo, and should not extend beyond Singapore Straits. But in that case, they asked themselves, what was to be gained by having a demarcation line at all? If its only purpose was to provide an Anglo-Dutch boundary in the area of the Straits, this could be more easily achieved by listing the actual islands involved and giving them either to the East India Company or to the Netherlands East Indies. Such a method would have the advantage of avoiding any suggestion in the Treaty — likely to be much resented by foreign powers — that the Dutch and British were dividing the Archipelago between them.

This reasoning was reflected in the draft proposals of February 1st, 1824, which were referred to the appropriate government departments in The Hague and London for approval. The section of this draft which eventually became Article Twelve of the final Treaty ran as follows:

His Majesty the King of the Netherlands withdraws all

¹⁵⁶ Dutch Records 'A', No. 30.

¹⁵⁷ Ibid.

¹⁵⁸ Secret Committee to Wynn, January 2nd, 1824. (Dutch Records 'A', No. 31).

objections to the occupation of the Island of Singapore by the troops and subjects of Great Britain.

His Britannic Majesty, on the other hand, binds himself to ensure that no British establishments shall be set up on any of the remaining islands belonging to the ancient kingdom of Johore, and that no treaties are concluded by British authority with the Chiefs and Inhabitants of the same.¹⁵⁹

In an accompanying note to the Dutch Government Fagel and Falck explained that the second paragraph of this article was considered necessary "to prevent the English from claiming any future right to form connections with or exert influence over the islands of Lingin, Rhio and the Carimons". Commenting on this in The Hague, Mr. C. Th. Elout, as adviser to the Colonial Minister, remarked that, in order to avoid confusion, it might be better to substitute for "any of the remaining islands belonging to the ancient kingdom of Johore", the phrase, "the remaining islands lying in those parts".¹⁶⁰

Here is conclusive proof that the Twelfth Article of the Treaty of 1824 was not intended, in the Dutch view, to do more than set local limits to British and Dutch entitlements in the immediate area of Singapore. Either Falck's draft or Elout's amendment to it, had they been accepted, would have prevented innumerable misunderstandings and recriminations in the years to come. But both were rejected in favour of the vague and entirely unsatisfactory phrase, "any of the other Islands South of the Straits of Singapore".

It is difficult to see why any such change should have been thought necessary. It may well have been made because, during the final drafting of the Treaty, some one suggested the inclusion of one of those 'cover-all' phrases, much beloved of lawyers, which are used to guard against unforeseen omissions in lists of prohibited items. The legal mind, for example, might regard the listing of the "Carimon, Battam, Bintang, Lingin" islands as by itself insufficiently comprehensive, since there were many more islands besides these in Singapore Straits and near it, some of them not yet named. Nor was the wording of Falck's sug-

¹⁵⁹ 'Project-tractaat van 1 Februari 1824', Fagel and Falck to Ridder Reinhold (Dutch Foreign Minister), February 1st, 1824. (*Kol.*, 1845, No. 442, Very Secret).

¹⁶⁰ *Nota* of February 12th, No. 18. ('Diverse stukken over Borneo', *ibid.*) Elout van Soeterwoude, *op. cit.*, p. 205. Van der Kemp, 'Londensch tractaat', pp. 171-2.

gested draft, "islands belonging to the ancient Kingdom of Johore", quite conclusive either, since no one could claim to be able to define the limits of the ancient Sultanate of Johore with any degree of certainty. And the alternative proposed by Elout, "the remaining islands lying in those parts", though clear enough in its intention, was loosely phrased and might have led to legal quibbles later.

However this may be, the wording of Article Twelve of the Treaty of 1824 was changed, and in treaties, as in other legal documents, it is the written word that counts. From this time onwards the British Government were prohibited, by solemn obligation, from attempting to found settlements on "islands South of the Straits of Singapore". It would not be long before the exact meaning of these words was put to the test.

While the negotiations which led to the Treaty of 1824 were taking place in London, the Dutch authorities in the East had been strengthening their hold on Borneo. Residents had been installed at Bandjermasin on the South Coast and at Pontianak and Sambas on the West (with Assistant-Residents at Mampawa and Landak), and by 1825 these officials, helped by Government commissioners sent over from Java, had induced all the most important native princes in both areas to recognize Netherlands sovereignty. Attempts to subdue the independent Chinese mining communities of the west had been less successful, but it was confidently assumed in Batavia that before long they, too, would be ready to submit to Dutch rule.

In 1825, however, war broke out in Java, and the heavy financial burdens which this struggle imposed on the Government, added to the serious economic situation which had arisen as a result of unwise monetary policies pursued by Governor-General van der Capellen,¹⁶¹ made further expansion in Borneo quite out of the question. For the next five years all spare resources, both of men and materials, had necessarily to be devoted to the war in Java. In the Outer Islands the policy of van der Capellen's successor, Commissioner-General du Bus, consisted in hanging on to what had been gained, and refraining from all action which might cause the Government undue expense. The principles which guided him have been summed up as, "No extension

¹⁶¹ G. Gonggrijp, *Schets ener economische geschiedenis van Nederlands-Indië*, pp. 90-1.

Annex 37

Extracts from United Nations Conference on the Law of the Sea,
Official Records, Volume I: Preparatory Documents,
Geneva 24 February-27 Apr 1958,
A/CONF.13/6 and Add.1 (Preparatory Document No. 6)



**United Nations
Conference
on the Law of the Sea**

Official Records

Volume I:

PREPARATORY DOCUMENTS



GENEVA

24 February — 27 April 1958

A BRIEF GEOGRAPHICAL AND HYDROGRAPHICAL STUDY OF STRAITS WHICH CONSTITUTE ROUTES FOR INTERNATIONAL TRAFFIC

BY COMMANDER R. H. KENNEDY

(Preparatory document No. 6) *

[Original text : English]

[23 October 1957]

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Introduction

In the following study of certain straits constituting routes for international traffic, a small plan of each strait is included showing the essential features to assist in identification. Should, in any particular case, a more detailed study be required, references are given to the relevant *Charts* and *Pilots*. These references are to the

* This paper was prepared at the request of the Secretariat of the United Nations but should not be considered as a statement of the views of the Secretariat.

Charts and Sailing Directions issued by the Hydrographic Department of the British Admiralty. It should be borne in mind that when consulting the *Pilots* (Sailing Directions), the latest supplement to those volumes should be read in conjunction with them.

Miles referred to in the descriptions are sea miles, each constituting one-sixtieth of a degree of latitude in the area.

No account has been taken of the varying breadths of the territorial sea as at present claimed by the different States. The references to "high seas" in the descriptions are based on an assumed maximum claim of twelve miles to a breadth of territorial sea. With any lesser breadth, the high seas will encroach into the straits and may alter the sense of the descriptive text. The remark that a strait connects the high seas lying at each end of it does not necessarily imply that there is no passage on the high seas through the strait.

In the directive for this study, straits of a width of twenty-six miles or less were to be considered. Certain straits are wider than this measurement at their ends; accordingly, only that part lying within this breadth has been considered. In certain other cases, however, the straits embraced by these measurements widen abruptly at their ends into the high seas, the area considered has therefore been that lying between the outermost inter-sections of twelve-miles arcs centred on the coastlines of the opposite States, at each end of these straits.

The following additional general remarks may also be of assistance when considering this study:

(i) When considering these straits, drying features have been described if they lie within twelve miles of the coastline of the mainland or of a feature permanently above water, with a view to taking them into account for the extension of the belt of territorial sea. This is on the assumption of a maximum breadth for the territorial sea of twelve miles. With lesser breadths many of these features described will not lie within a distance from permanently dry land equivalent to the breadth of the territorial sea; accordingly, such features will not qualify to form base points for the extension of the limits of the territorial sea.

(ii) Certain references have been made in the text to navigation through the straits in relation to median lines. When assessing the positions of the median lines, drying features lying within twelve miles of each shore have

The currents in the Sound are uncertain and varied; in general they are north-going and south-going, the former predominating. Their direction and rate are considerably affected by air pressure and winds and over the shoaler areas by the changes in the water level, but mostly they conform to the main directions of the fairways. In the narrow part off Helsingør their rates may attain at times 4 or 5 knots.

There are a number of ports in the Sound. In the winter these are kept clear of ice. København, the capital of Denmark, is situated on the western side close north of Amager. Here there are depths of up to 39 feet in the roadstead, plenty of alongside accommodation and all modern port facilities; alongside berths have depths up to 32¾ feet.

On the Swedish side are Malmö, Landskrona, Helsingborg, Limhamn and Hoganas.

Malmö, east of Saltholm, has depths in the roadstead of about 8 fathoms and ample alongside accommodation in depths up to 30 feet with all necessary facilities.

Landskrona, about 15 miles north of Malmö, has depths in the roads up to 36 feet; in the port there is plenty of quayage with depths alongside of from 20 to 30 feet.

Limhamn, about 3 miles south-west of Malmö, has depths at its quays of approximately 25 feet; at the tanken quay two or three vessels of 16-18,000 tons can berth simultaneously.

Helsingborg, on the eastern side towards the narrow northern end of the Sound, has quayage with depths alongside up to 32 feet and all facilities.

Hoganas, 13 miles north of Helsingborg, is a small harbour with depths of between 14 and 21 feet.

A canal with depths of 23 feet has been cut through the isthmus of the peninsula of which Falsterbo Udde forms the south-west end. Considerable driftnet fishing takes place in the Sound during certain months of the year.

4. There are no drying features charted from which the limits of the territorial sea can be extended, as there is no tide. The following are small above-water rocks which qualify to do so:

On the western side:

Middlegrund Fort, nearly 2½ miles east of the northern end of København.

Flak Fort, about 4 miles east of København and 2 miles north of Saltholm.

A number of small rocks close off the north end of Saltholm, and a number of similar ones east and south-east of the south-eastern end of that island. The most distant is 1½ miles offshore.

On the eastern side:

A small rock nearly a mile south of Landskrona.

A number of small rocks lying up to a mile offshore off the north-eastern shore of a bay or indentation of the coast, north-eastward of Falsterbo Udde.

A group of small rocks, lying between three quarters of a mile and 1¾ miles southward of Falsterbo Udde.

33. Singapore Strait (Annex, maps Nos. 35 and 36)

References: Charts Nos. 2403, 1353.

Malacca Strait Pilot, Third Edition, 1946.

1. For the purpose of this study the Singapore Strait, which separates the Indonesian islands lying off the Sumatra coast from the southern coasts of Johore and Singapore Island, will be considered as the continuation of the southern end of the Strait of Malacca lying between the intersection of 12-mile arcs centred on the opposite shores at the north-western and eastern ends of the Strait. The Strait is a focal point for international shipping, and joins the high seas of the Malacca Straits to those of the South China Sea. The Durian Strait, Sugi Strait, Chombol Strait and Riouw Strait all lead south-eastward to the South China Sea between the Indonesian islands on the southern side of the Singapore Strait.

2. The western end of the Strait may be considered as the intersection of 12-mile arcs centred on Tokong Belanda, an above-water rock about 3 miles north-west of Groot Karimun, and Pulau Pisang, about 19 miles northward, and the eastern end as the intersection of similar arcs centred on the low-water line of Tanjong Berakit and on the easternmost drying rock of the group of above-water and drying rocks on which stands the Horsburgh Lighthouse, which is maintained by the Government of Singapore. This group lies 7 miles north of Pulau Bintan and about 5¾ miles east-south-east of Stork Reef, a drying reef 2 miles off the Johore coast.

3. The length of the Strait between the above limits is about 75 miles.

(a) The Strait at the western end first narrows to a width of 7¾ miles between Pulau Iju and Pulau Kukub. Distances within the Strait will be given from the line joining these islands.

(b) 6 miles within, the breadth is 8¾ miles and thence it widens rapidly, with the entrances to Durian, Sugi and Chombol Straits on the south side and the western approach to the Johore Strait on the north side.

(c) 17 miles within, the Main Strait is restricted to a breadth of 4 miles between the reef on which is Pulau Nipa and Pulau Pawai, 6½ miles south of Singapore Island.

(d) 22 miles within, the breadth is just under 3 miles between Pulau Takong and the islet on which is Raffles Lighthouse.

(e) For the next 10 miles, a general breadth of between 2½ to 3 miles is maintained between the islets and the drying reefs lying off Pulau Batam on the south side and Singapore Island on the north.

(f) About 41 miles within, the Strait is 8 miles wide between Pulau Batam and Singapore Island, it thence widens into the eastern approach to Johore Strait and Kuala Johore, and narrows again to about the same width a further 7 miles within.

(g) Thence the Strait widens with the approach to Riouw Strait on the southern side after which it retains a general width between Pulau Bintan and the south-east coast of Johore of about 12 miles over a distance of about 9 miles.

(h) Towards the eastern end, the group of rocks on

which stands Horsburgh Light divides the Strait into two. South Channel, the southern part, is $5\frac{1}{2}$ miles wide between the north coast of Pulau Bintan and a drying rock $1\frac{1}{2}$ miles south-west of the Horsburgh group, and $9\frac{3}{4}$ miles wide between the group and Tanjong Berakit. Middle Channel, the northern part, is $5\frac{3}{4}$ miles wide between the Horsburgh group of rocks and a drying reef 2 miles off the south-eastern point of Johore.

4. The main fairway of the Strait runs between the territory of Indonesia and that of Malaya and Singapore; it is comparatively deep and depths in general vary from 10 to 30 fathoms, although there are a few shoal patches. It is well marked for both day and night navigation. There are a number of drying reefs on both sides of the Strait, but these lie within short distances of land permanently above water. The rise of the tide is about 9 feet; tidal streams may be strong with many

overfalls and eddies. Heavy rain squalls frequently reduce the visibility.

5. Ports within the area on the northern side are Singapore, with a roadstead and alongside accommodation with all modern facilities for vessels up to 33-feet draught; Pulau Bukom and Pulau Sebarok, 5 miles south-west of Singapore, with oil loading and discharging facilities and depths alongside up to $45\frac{1}{2}$ feet and 38 feet respectively. On the southern side are Pulau Sambo, about $9\frac{1}{2}$ miles east of Raffles Light-house, with oil loading and discharging facilities and depths alongside up to 30 feet; Tandjong Uban, close within the Riouw Strait, with alongside depths up to 41 feet.

6. Navigation would be possible on each side of a median line through the Strait.

Annex 38

**Singapore Legislative Assembly Debates (1958) on
the Light Dues (Amendment) Bill, 1958**

**SINGAPORE
LEGISLATIVE ASSEMBLY
DEBATES**

OFFICIAL REPORT

**THIRD SESSION
OF THE
FIRST LEGISLATIVE ASSEMBLY
PART I**

(Columns 1 to 544)

(FROM 9th APRIL, 1958, TO 16th JULY, 1958)

VOLUME 6

[MR. BRAGA.]

Clause 4 empowers the Minister to vary and remit fees and to vary the Schedules to the Ordinance.

The systematic case-finding programme which is now being carried out in certain specified areas commenced on 1st July under the direction of a team of Australian experts provided under the Australian Colombo Plan.

I would like to state that the response by the public has been more than heartening and I am glad to report to this House that if the degree of response now being experienced continues, the success of the initial programme is more than assured. From the information collected by this project, we should be able to take effective measures to prevent and control the disease and possibly in time eradicate it.

Sir, I beg to move.

Question put, and agreed to.

Bill accordingly read a Second time and committed to a Committee of the whole Assembly.

Assembly immediately resolved itself into a Committee on the Bill. [Mr. A. J. Braga].

Bill considered in Committee; reported without amendment; read the Third time and passed.

LIGHT DUES (AMENDMENT) BILL

Order for Second Reading read.

10.57 a.m.

The Minister for Commerce and Industry (Mr. J. M. Jumabhoy): Mr. Speaker, Sir, I move, "That the Bill be now read a Second time."

Sir, fifteen months of operation of the Light Dues Ordinance, 1957, has disclosed the necessity for a number of amendments to the Ordinance which are contained in this Bill. All the amendments have been agreed to by the Singapore Shipowners' Association.

The definition "waters of the Colony" in section 2 of the Ordinance is deleted by clause 2 of the Bill. This definition refers to territorial waters excluding the port limits. This deletion is effected be-

cause the intention now, as reflected in clause 3 of the Bill, is that the light dues are to be paid by ships which call at the port or place within the Colony and not by ships which are in transit in the waters of the Colony and which do not call here. The deletion of the definition would also enable the Light Dues Board to expend monies from the Light Dues Fund on the maintenance of lights and navigational aids within the port limits and on the maintenance of the light at Pulau Pisang which is not within territorial waters.

Clause 3 of the Bill, Sir, repeals and re-enacts section 3 of the Ordinance. Subsection (1) of the proposed new section 3 provides that except for ships exempted by subsection (2) of the same section, light dues shall be made, as I mentioned earlier, by ships calling at the port in the course of a voyage, for example, for bunkers and victuals, for the loading and unloading of cargo and for the embarkation and disembarkation of passengers. By necessary implication, ships, which are in transit in the waters of the Colony but which do not call at the port, that is, do not put in for any of the reasons I have just enumerated, will not be liable to pay light dues.

Subsection (2) of the proposed new section 3 grants a general exemption from payment of light dues to the following classes of vessels:

ships which put in from stress of weather or for the purpose of repairs or because of damage,

ships belonging to Her Majesty's Government in the United Kingdom or to the Singapore Government or to a Commonwealth or foreign government if such ships do not carry cargo or passengers for freight or fares,

ships under fifteen tons,
fishing craft, and
native sailing ships.

Clause 4 of the Bill gives effect to the intention I referred to earlier of enabling the Light Dues Board to provide navigational aids within the port limits and at Pulau Pisang which is outside our territorial waters.

Clause 5 amends the Schedule to the Ordinance so as to make it possible for ships calling more than ten times a year to be charged a comprehensive non-refundable payment of 20 cents per ton per year at the option of their owners, agents or masters. This amendment removes an existing anomaly in that, under the corresponding item in the Schedule as it now stands, Singapore-registered ships which make long overseas voyages and put in once or twice a year have to pay as much as Singapore-registered ships in the coastal trade which put in more frequently, and pay even more than ships not on our register which make the same number of calls at the port. This Bill will not involve the Government in any extra expenditure.

Sir, I beg to move.

Question put, and agreed to.

Bill accordingly read a Second time and committed to a Committee of the whole Assembly.

Assembly immediately resolved itself into a Committee on the Bill. [Mr. J. M. Jumabhoy.]

Bill considered in Committee.

11.02 a.m.

[Mr. SPEAKER *in the Chair*]

Clauses 1 and 2 ordered to stand part of the Bill.

Clause 3—

Mr. J. M. Jumabhoy: Mr. Speaker, Sir, I move,

In page 2, lines 14 and 15, to leave out "repairing or because of damage" and insert "emergency repairs in respect of damage occasioned on the high seas".

This amendment, Sir, is necessary to make it clear that those ships will be exempted from paying dues which come in only for emergency repairs if they had suffered damage due to stress of weather on the high seas.

Amendment agreed to.

Clause 3, as amended, ordered to stand part of the Bill.

Clauses 4 and 5 ordered to stand part of the Bill.

Bill reported with an amendment; read the Third time and passed.

SINGAPORE SAILORS' INSTITUTE INCORPORATION (AMENDMENT) BILL

Order for Second Reading read.

11.05 a.m.

The Minister for Commerce and Industry (Mr. J. M. Jumabhoy): Mr. Speaker, Sir, I beg to move, "That the Bill be now read a Second time."

Clause 2 of the Bill repeals and re-enacts section 7 of the Singapore Sailors' Institute Incorporation Ordinance which contains provisions relating to the constitution of the Committee of Management of the Singapore Sailors' Institute. The power to appoint members of the Committee is at present vested in the Governor, but is now being transferred to the Minister following the precedent set in other statutory bodies dealing with marine and seafarers' affairs. The Chairman remains as at present *ex-officio*, namely, the officer performing the duties of Master Attendant. The distinction at present drawn between *ex-officio* and unofficial members is removed, as also is the present stipulation that one of the unofficial members shall be a pilot on the Register of the Pilot Board nominated by that Board. Instead the Minister will appoint not more than six members one of whom is to be the nominee of the Bishop of Singapore. It would, of course, be open to the Minister to appoint persons to stand for the interests at present represented on the Committee. The abrogation of the *ex-officio* appointments obviously needs an amendment of the Ordinance due to mutations in titles of offices and changes in the duties of their holders.

Sir, I beg to move.

Question put, and agreed to.

Bill accordingly read a Second time and committed to a Committee of the whole Assembly.

Assembly immediately resolved itself into a Committee on the Bill. [Mr. J. M. Jumabhoy.]

Bill considered in Committee; reported without amendment; read the Third time and passed.

Annex 39

Extracts from Marks H.,
The First Contest for Singapore 1819-1824 (1959)

VERHANDELINGEN

VAN HET KONINKLIJK INSTITUUT VOOR
TAAL-, LAND- EN VOLKENKUNDE

DEEL XXVII

THE FIRST CONTEST FOR SINGAPORE 1819-1824

BY

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friendly communications have already been made with the constituted authorities of Linga and Riouw²⁵ and their permission obtained for examining and surveying the Carimon and neighboring islands and also with a general concurrence in the views of our Government and that the subject is at present under reference of the Supreme Government at Bengal.²⁶

Officially notified of the reason for Farquhar's absence at the time of their arrival, the commissioners took nine days to file their protest (31 October 1818). They acknowledged receipt of the copies of the treaties that Farquhar had sent them, but they maintained that "this disclosure seems to us a bit strange, seeing that the agreements concluded with the Sultan of Riouw contain several articles which he had not the right to sign without having previously notified the Netherlands Government." They felt that the Major had ignored the relationship subsisting between the sultan and their government, and undertook most courteously to instruct him briefly as follows:

That the entire kingdom of Riouw, Johore, Pahang, after having revolted and committed many hostile acts against us, was wholly subjugated and conquered by force of arms by the [Dutch] East India Company in 1784, and by agreement of 2 November 1784 given as a feudal fief to his Highness Prince Alsoe, Padoeka Sri Sultan Mahmoed and his ministers, and that in the same agreement the said Sultan formally declared himself and his descendents to be vassals of Holland

In view of the fact that since that time nothing has occurred which could have nullified the said treaty, we make it a point of requesting you, Sir, to convey this information on this matter officially to your Government in order to avoid a period of misunderstanding which might become the cause of many disagreements between our Governments.

As for ourselves, we are obliged in our capacity as Commissioners to inform you, Sir, that we cannot permit the Sultan of Riouw, Johore, Pahang, etc., to cede the least bit of territory of Riouw, Johore, Pahang, etc., or of the neighboring islands which formed part of the former kingdom of Johore and Riouw.²⁷

²⁵ Variant spellings include Lingga, Lingen, Lingin, etc.; Riau, Rhio, Rio, etc.

²⁶ Van der Kemp, "De Singapoorsche Papieroorlog," pp. 447—448.

²⁷ *Ibid.*, pp. 448—449.

Farquhar replied at once (1 November 1818). He directed attention to the capture of Malacca by Britain in 1795, and to "the measures that were adopted at that time for giving entire and complete effect to the absolute independence of Sultan Mohammed at Riouw, Lingén etc. and that the exclusive control and hereditary possessions were secured to him by a pledge of British authority. No circumstance", he added, mocking the Netherlands' statement, "has since occurred to invalidate such definitive negotiation; it will therefore be obvious to your Excellencies that any references to arrangements respecting the former Dutch Company (which has long ceased to exist),²⁸ have no relative analog to the present subjects . . ." Finally, Farquhar drew their Excellencies' attention to the fourth article of the standard treaty of commercial alliance that he and Cracroft had been negotiating, "in which it is expressly stipulated, that the latter [i.e., the Sultan of Johore, Pahang, etc.] shall not renew any obsolete or interrupted treaties with other nations, the provisions of which may in any degree exclude or obstruct the free trade of British subjects."²⁹

Farquhar's communication of his treaties to Wolterbeek and Timmerman Thijssen had been at Bannerman's direction. The governor of Prince of Wales island congratulated himself upon the fruits of Cracroft's and Farquhar's negotiations and regarded his precautionary measures, "undertaken from no improper views of ambition, or unjust aggrandisement" but solely to guarantee freedom of trade in the neighboring Malay states, as justified by the exhibition of Dutch "measures of force and violence" in seizing control over Pontianak,³⁰ where the Equator crosses the western coast of Borneo. In a communication to the Calcutta authorities, Bannerman sketched a potentially critical situation:

The extraordinary assumption of the place [Pontianak] by the Netherlands Government at Java, contrary to the will of its monarch,³¹ will no doubt prove to His Lordship in Council the

²⁸ The Company was several years in dying. Its charter expired 31 December 1799.

²⁹ Van der Kemp, "De Singapoorsche Papieroorlog," pp. 449—451.

³⁰ The Commissioners General had named J. van Boekholz commissioner to re-establish Netherlands authority at Pontianak. He arrived there on 18 July. Farquhar presently showed up. On 10 August the Netherlands flag was hoisted. J.J. Meinsma, *Geschiedenis van de Nederlandsche Oost-Indische Bezittingen*, 2 vols. in 3 parts (Delft, 1872-1875), II (1), 153. See note 21 above.

³¹ The basis for this statement is obscure even, or especially, if it is realized that "its monarch" means the local chief of Pontianak.

tial to the establishment of a new Sovereign. When I arrived off Singapore, I received a visit from the Tumungung, who represented to me the recent conduct of the Dutch, and stated that as the Dutch had treated with an incompetent authority, it was still left for us to establish ourselves in this division of the empire, under the sanction of the legitimate Sovereign. This Sovereign soon made his appearance, and though not yet formally installed, was recognized by us in that capacity, on his being acknowledged as Sovereign by the Bandahara and Tumungung. Fortunately also we discovered at Singapore a harbour more convenient, and a port more commanding than Rhio itself, and as no European authority had ever set foot on the Island, and the land was the property of the Tumungung, we did not hesitate to treat for the occupation of the port, and to establish ourselves pending the reference to Bengal. I have just received letters from Lord Hastings, conveying his entire approval of my proceedings, and an assurance that he is too well aware of the importance of the position, and of the necessity of opposing the encroachments of the Dutch, not to be deeply interested in the success of the establishment.⁶⁸

It was not merely the Dutch who "had considered the Sultan of Lingen as the legitimate Sovereign of Johore." Major Farquhar on 19 August 1818, not half a year back, had signed a treaty with His Highness Jaffir Rajah Mudah of Rhio, identified as agent for his nephew, His Majesty Sri Sultan Abdul Rachman Shaw, King of Johore, Pahang, and Dependencies, including his residence, Lingen. (See p. 24, above). Even more embarrassing was the fact that Raffles himself (in 1813) had acknowledged Abdul Rachman as sovereign of Johore, Pahang, and all their dependencies. But both he and his uncle, Rajah Mooda of Rhio, were now under Dutch eyes. Abdul Rachman was the younger son of the last sultan, who had died in 1812, although of the more distinguished mother. His elder brother, Tenku Husain, was living quietly at Riouw. It was this elder brother whom Raffles called to mind, and while reneging on the previous uncontested recognition of Abdul Rachman, he determined, in the words of Sir Richard Winstedt, the noted British historian of Malaya, "to install Tenku Husain as the rightful Sultan of the old Empire of Johor. Evidently the Temenggong abetted him and apparently the . . . Underking at Riau [Jaffir Rajah

⁶⁸ Lady Raffles, *Memoir*, pp. 397—398. The entire letter covers pp. 384—401.

A fourth conference, again between Falck and Wynn, was held some time between 19 and 24 December, of which the only record says: "It turned principally on the Accounts." If it were not for the date on Wynn's note to the Duke of Buckingham of 18 December 1823, it would be tempting to think that it was at this conference that the President of the Board of Control "informed Falck of the religious and constitutional obligation which we are under to be idle at Christmas," and found the Netherlands plenipotentiary "well disposed to observe the said law in his proper person."¹⁶

On 23 December 1823 Falck sent to the British representatives an eleven page note on his government's claim to Singapore. It recited the well known statements on the unity of the Empire of Johore, its subordinate relationship to Batavia, and the sole legitimacy of the Sultan Abdul Rahman, recalling the occasions when Raffles and Farquhar had treated with him as the legitimate sovereign. Once again Van der Capellen's dispatch of 16 December 1819 was invoked, and once again the absence of a British refutation was equated with an avoidance of legal defense. "But beside the question of right emerges that of political *interest* and expediency." On the one hand there was the injury to the Netherlands and its vassal, and on the other the widespread opinion in British India and England that Singapore was essential to the security of the China trade and commerce with the Eastern Archipelago. Hence "the idea of a *monetary indemnity* has been suggested." Money would scarcely compensate for the moral injury suffered by the Netherlands in the eyes of the Malay princes, and therefore a territorial exchange would be preferable, "governed in such a way as to provide a demarcation line between our respective possessions," to preclude future disputes, while not excluding purely commercial enterprises of their respective subjects. In a completely confidential note like this, wrote Falck, it was proposed to imagine a line running down the strait of Malacca, and then easterly to the south of Singapore and north of Battam, Bintang, or Rhio. All of Sumatra, including Bencoolen, would become Dutch, and the Malay Peninsula, including Malacca, would be reserved to the British; "moreover the island of Singapore would be at their disposal." In conclusion, Falck proposed to treat the monetary indemnities as secondary to the principle of territorial transfer and therefore postponed detailed consideration of

¹⁶ Dutch Records, XXX, no. 53. Buckingham, *Memoirs of the Court of George IV*, II, 20.

part of its Dominions — where Cession is not made in War or in a Treaty of Peace.” Puffendorf and Vattel seemed to deny the right to cede. Lord Eldon did not think himself at “Liberty to converse with those professional persons, who, if any body can enlighten me upon the Subject, are most likely to assist in so doing, because a paper you put into my hands intimated a disinclination to have Lawyers attention called to the Subject.” ²²

Wynn was less averse to approaching lawyers on other aspects of the negotiation, since on 19 December 1823 he had Courtenay write to ask Sir Christopher Robinson, a leading admiralty lawyer and “the leading counsel in the admiralty court,” for an opinion on some points currently under consideration. Robinson’s answer, of 31 December, had a bearing on the British claims. He advised that the Dutch government was entitled to the revenues in Java from the time its commissioners arrived on that island, since the delay in retrocession arose “solely from the non-arrival of the necessary Instructions from England.” He rejected the principle enunciated in Falck’s Note Verbale to the effect that a conquering power was merely a caretaker until a treaty of peace was concluded, and he held that the British could reasonably claim compensation for improvements. “It appears to me to be a Question peculiarly fit to be settled on principles of Liberal equity on both sides, & not to be easily reducible to strict rules of law.” ²³

Following the Christmas recess, Falck and Wynn met again on 9 January 1824 for the longest discussion of any of the sessions, if the length of the record is evidence. Falck, speaking of the several intended cessions, mentioned Singapore, whereupon “Mr. Williams Wynn reminded him that we could not admit that as a Dutch possession.” Each then rehearsed his well-known lines, beginning with the abandonment of 1795 and ending with Falck’s statement “that if Singapore were given to us, the Dutch must compensate the Sultan, at an expence *perhaps* of 4000 or 5000 a month.” Falck then proposed to regard the continental establishments as cancelling the sum owing to England, with Singapore and Malacca equated in value to Bencoolen and Billiton, and “that there might be a secret and separate article for the Line of demarcation.” In answer to a question from Wynn, he explained that this line would pass between Singapore and Rhio and then terminate. Wynn passed by

²² Dutch Records, XXX, unnumbered, but located between no. 17 and no. 19. Undated save: “House of Lords. Tuesday.”

²³ *Ibid.*, no. 69. Christ. Robinson to Courtenay, Bedford Square, 31 December 1823. Identification of Robinson comes from *DNB*.

It was questionable whether it would be expedient to stipulate any formal line of demarcation, and Falck appeared to think that too extensive a line would excite "jealously in other powers." These four words are lightly underscored, while in the margin Canning's scarcely legible hand wrote: "Undoubtedly if we do so. And especially as we are at this moment engaged in a difficult negotiation about N. American limits with Russia. The Situation in which we and the Dutch stand to each other — is part only of our difficulty — that in which we both stand to the rest of the world as exclusive Lords of the East is one more reason for terminating our relative differences as soon as we can." Courtenay thought the argument about the risk in wartime inherent in yielding Sumatra to the Dutch was illogical: if Britain had naval superiority, a few more Dutch settlements would not matter. Canning concurred: "This danger is really nothing. In War it is our own fault if we do not take everything into our own hands."

The valuation of the various territorial settlements was "the next and most difficult consideration." Falck proposed exchanging Malacca and Singapore for Bencoolen and Billiton, while for the continental possessions he seemed to want a monetary payment. "If Singapore were really Dutch," then this proposed exchange would be fair, "but the case is different if we do not admit that the Dutch have any rights over Singapore" but maintain that Britain might hold it properly as well as Bencoolen. Malacca would hardly be thought at the India House to compensate for Bencoolen, cession of which would exclude the British from the harbour of Tappanooly. This bay and its potentialities were highly rated in books, "but no use has been made of them, and the apprehension of their being developed by the Dutch, to our detriment, may probably be classed among the exaggerations which attend every part of this subject." Courtenay's astringent judgment has been confirmed by a hundred years of history: the chief town on the admirable bay has a population of only six thousand, and its insignificance is shown by the evidence of commercial activity in the fortnightly calling of the Netherlands Royal Packet Company's ships, running between Padang, Penang, and Singapore.³³ "However," Courtenay added, "it is fair to estimate highly in negotiation," and Canning would have to decide on the value of the territorial exchanges and the renunciation of claims.

³³ *Sailing Directions for Malacca Strait and Sumatra*, H. O. Pub 162, 4th ed., issued by the Hydrographic Office under the authority of the Secretary of the Navy (Washington, D. C., 1952), pp. 338-340.

with Singapore unless a quantity of pounds sterling were put in the too light balance of Bencoolen.”³⁶

Two secret and separate articles concluded Falck's projet. One obligated the Netherlands government, “in consideration of the payment stipulated in article 14,” to indemnify Sultan Abdul Rahman, and apparently offered to advise the sultan to cede not only the entire island of Singapore to Britain in full sovereignty “but also the part of his states which is situated on the peninsula of *Malacca*.” This would mean Johore and Pahang, if it means anything, but it drew no marginal fire. The other secret article traced the demarcation line, the idea of which Falck four days earlier had agreed with Wynn to abandon.³⁷

Even before the next meeting, Canning spoke to Fagel about the pecuniary phase of the sketch, and when the eighth conference opened on 21 January 1824 Fagel began by saying that he had told Falck of Canning's observations with respect to the article in the Netherlands projet concerning the payment of money. Canning interjected: “The humorous article?” but “Mr. Falck however turned seriously to the subject.” Canning put the Dutch debt to Britain at £ 320,000 but repeatedly stated that if the Dutch rejected his views respecting the payment, it would have to be reckoned at £ 350,000. Fighting a rearguard action, Falck tried to raise the question of compensation for the Sultan of Johore, but Wynn “observed that they were going back: it had been agreed to consider Bencoolen and Billiton as equivalent to Malacca and the Dutch claims to Singapore; and that the pecuniary compensation was for the Continental possessions only. Mr. Falck partly acquiesced in this,” but considered an arrangement with the sultan to be a prerequisite to drawing the demarcation line to which, it is evident, he was firmly attached. Fagel attempted to come to his aid by producing evidence on the Netherlands opium claim, which turned out to be irrelevant.

As he had suggested in his note of 17 January to Courtenay, Canning now tried to induce Falck to offer figures of his own instead of merely objecting to the British estimates, and to this end he suggested four headings, “Revenues of the Continental Settlements — The political

³⁶ *Gedenkstukken der Algemeene Geschiedenis van Nederland van 1795 tot 1840*, Achtste deel, *Regeering van Willem I, 1815-1825*, ed. Herman Theodoor Colenbrander, 3 vols. (The Hague, 1915-1916), I, 173. Falck to Wynn, 12 January 1824.

³⁷ Dutch Records, XXXI, no. 9, which is in the hand of Falck's clerk, and no. 10, which is in the hand of the India Board clerk, with marginal notations. Dated 17 January 1824.

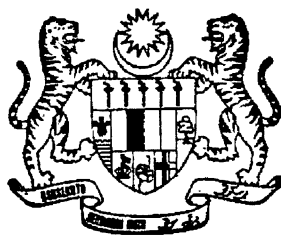
stated to be only a different mode of laying down the Line of Demarcation." He approved of the effort to obviate future claims, but when the Singapore article was read, "Mr. Falck repeated doubtingly the words 'withdraws his objections' and hesitated as to the frame [*sic*] of the article altogether." Canning proposed that it should read: objections made "by His Netherland Majesty, or on behalf of His Allies." The article against transfer, incorporating an alteration previously directed by Canning, limited its application to a case of abandonment, not of transfer as such. "It was explained, as intending to provide against the possible case of one of the settlements being abandoned by the Dutch for instance, and occupied by the Americans." If this repeated alarm lest the Americans in the 1820's help themselves to unpreempted real estate in south east Asia seems in retrospect to be premature, to say the very least, the trade statistics must be recalled, showing that the American flag at Batavia was second only to the Union Jack, while the number of American vessels reaching the Netherlands in 1818 from Batavia were only two fewer than the combined total of British and Dutch ships. (See above, p. 156). In any event, Fagel and Falck did not object to the article in the British projet.

Falck observed, whether bitterly or wistfully the report does not hint, that had the article against unsanctioned new settlements been in effect six or seven years earlier, "it would have prevented much evil." The article about the money payment, having been previously if indecisively discussed, was now passed over and attention was given to the Netherlands projet. It was agreed to transfer to the British projet the article granting time to the residents of ceded settlements to remove. "When the Secretary came to the 14th article (for payment of money by England) Mr. Canning desired that it might be passed over without saying anything." Some details were amalgamated, and the British plenipotentiaries agreed to consider Falck's first secret article. "The 2nd separate article, establishing the Line of Demarcation, was passed over, as being now unnecessary. Some objections were expressed by Mr. Canning to *Secret* articles generally." The conference ended with agreement to reconvene on Saturday, 24 January, "which Baron Fagel hoped would be a day of liberality."⁴⁰ At the end of the eighth conference it was apparent that the negotiations were over the hump and headed downhill to a successful termination.

⁴⁰ *Ibid.*, XXX, no. 57 [*sic*]. Eighth Conference, Foreign Office, 21 January 1824. Last four (unnumbered) pages.

Annex 40

**Extracts from Annual Report of the Survey Department, West
Malaysia and Directorate of National Mapping, Malaysia for the
Years 1963-1965**



ANNUAL REPORT

of the

**SURVEY DEPARTMENT, WEST MALAYSIA
AND DIRECTORATE OF NATIONAL
MAPPING, MALAYSIA**

for the years 1963 to 1965

by

HAJI MOHD. YATIM BIN YAHAYA, J.M.N., F.I.S. (M),

*Surveyor General, West Malaysia, and
Director of National Mapping, Malaysia*

REPORT OF THE SURVEY DEPARTMENT, WEST MALAYSIA, AND THE DIRECTORATE OF NATIONAL MAPPING, MALAYSIA, FOR THE PERIOD 1963 TO 1965, INCLUSIVE

The period under review was a very important one both from the National as well as from the Department's point of view. It was in September, 1963, that a new Nation called MALAYSIA was born, by joining together the Independent Federation of Malaya, the British Colonies of Singapore, Sarawak, and British North Borneo. The formation of Malaysia was attended by the usual adjustments in administration and functions, and for this Department they amounted to the assumption of new responsibilities. Cadastral surveys remained a Federal responsibility for the States comprising the Federation of Malaya and the State of Singapore, but for Sarawak, and Sabah (the new name for British North Borneo), cadastral surveys remained a State responsibility. The Inter-Governmental Committee however agreed that the Federal Government should assume the responsibilities for geodetic surveys and topographical mapping for the whole of Malaysia.

FORMATION OF DIRECTORATE OF NATIONAL MAPPING

2. In 1965 the Government approved the establishment of a Directorate of National Mapping, Malaysia, with the following terms of reference:

- (a) That the Surveyor General, States of Malaya, be appointed as Director of National Mapping, Malaysia;
- (b) To advise the Government of Malaysia on mapping, and to implement such policy as the Government shall direct;
- (c) To carry out topographical and geodetic surveys and produce and maintain topographical, and town maps of Malaysian territories at scales to be determined by the National Mapping Committee; and
- (d) As Honorary Director of Military Survey, to obtain and provide maps for the Armed Forces of Malaysia.

3. Together with this a National Mapping Committee was set up comprising the following members:

- (a) The Director of National Mapping, Malaysia—*Chairman*;
- (b) The Director of Lands and Surveys, Sabah;
- (c) The Director of Lands and Surveys, Sarawak;
- (d) Representative of the Ministry of Defence;
- (e) Representative of the Ministry of Lands and Mines (at that time it was the Ministry of Rural Development); and
- (f) The Assistant Director of Survey, Far East Land Forces.

4. The terms of reference of this National Mapping Committee were as follows:

- (a) To advise the Director of National Mapping on matters relating to mapping policy; and
- (b) To advise the Director of National Mapping on mapping priorities.

5. Although the Directorate officially came into existence in March, 1965, it had in fact started functioning *de facto* in 1963 immediately after the formation of Malaysia, and the National Mapping Committee had its first meeting in November, 1963.

6. The Directors of Lands and Surveys, Sabah, and Sarawak, who previous to Malaysia Day were doing the mapping of their respective territories were asked to continue doing the same type of mapping as agents of the Directorate of National Mapping. Costs involved in this work were chargeable to the Federal Government.

MAPPING ASSISTANCE

7. For the mapping of East Malaysia (comprising the States of Sabah and Sarawak), substantial assistance has been received from the two British Mapping Organisations assisting this country:

- (a) The Directorate of Overseas Surveys, whose assistance has been provided under the British Technical Aid Programme of the Ministry of Overseas Development; and
- (b) The Directorate of Military Survey of the Ministry of Defence, United Kingdom, whose assistance through the Assistant Director of Survey, Far East Land Forces, has been mainly in connection with military operations by British and Commonwealth Forces under treaty obligations.

8. The Directorate of Overseas Surveys assisted in the topographical Mapping of East Malaysia primarily at the Standard Mapping scale of 1: 50,000, and a small portion at larger scales. The Directorate of Military Survey assisted in the production of maps at the scales of 1: 250,000, 1: 50,000, and some at larger scales.

9. The contributions paid by Malaysia in respect of the assistance rendered by the two British Mapping Organisations stated above were as follows:

- (i) For the assistance given by the Directorate of Overseas Surveys:
 - (a) *Air Photography*—Malaysia paid a cash contribution of 15% of the cost of air photography for both Sabah, and Sarawak;
 - (b) *Field Survey*—Malaysia paid a cash contribution of 15% for field work done in either Sabah, or Sarawak; and

(c) *Map Compilation and production*—Malaysia paid a cash contribution of 15% of the cost of map compilation for Sabah but no contribution was paid for the map compilation for Sarawak. For Sarawak the 15% cash contribution to Directorate of Overseas Surveys has been offset by work done by the Lands and Surveys Department, Sarawak, in the form of photo interpretation, annotation, heighting checking of compilations, etc. But for this work done by the Director of Lands and Surveys, Sarawak, the Federal Government paid to the State Government of Sarawak a contribution equal to 20% of the total annual estimates of the Sarawak Lands and Surveys Department.

(ii) For the assistance rendered by the Directorate of Military Survey, the contribution by Malaysia took the form of local expenses in support of Survey Troops working in East Malaysia; and

(iii) The supply of maps produced by the different Agencies was subject to a separate arrangement.

10. The Survey Department of Singapore, a Pan-Malayan Department, which became a separate department in 1959 after the independence of the Federation of Malaya, again became a Federal Department on Malaysia Day in September, 1963. This re-union was, however, shortlived and it was severed again in August, 1965, when Singapore separated from Malaysia to become an Independent Republic. There is, however, co-operation between the Directorate of National Mapping and the Survey Department of Singapore in certain fields and the Directorate of National Mapping continued to print the maps of Singapore on payment.

11. During the period under review two Map Exchange Agreements were signed as follows:

(a) With the Director of Military Survey, United Kingdom, in October, 1964. This Agreement covers the exchange of maps, charts, and allied materials covering Malaysia; and

(b) With the Royal Thai Survey Department in November, 1965. This Agreement covers the exchange of maps, map information, and map making materials for the area about 30 miles on each side of the Malaysia/Thailand border.

12. The Indonesian “confrontation” which started on the creation of Malaysia in 1963, imposed heavy responsibilities on the Directorate of National Mapping, but with the assistance readily given by the two British Mapping Organisations stated above this heavy burden was much lightened. This unhappy episode fortunately ended in 1965.

13. After the creation of Malaysia the demand for accurate maps from both the Military and civilian authorities, and also from members of the public, increased tremendously. This taxed to the

SURVEYOR-GENERAL/DIRECTOR OF NATIONAL MAPPING

(HAJI MOHD. YATIM BIN YAHAYA, J.M.N., F.I.S. (M))

CADASTRAL WORK

Deputy Surveyor-General—

C. M. Narayanan, J.S.M., F.I.S. (M)

Assistant Surveyor-General—

P. Garnham, P.J.K., M.A. (CANTAB)—
up to 7th September, 1965

Ahmad Daud, B. SURV. (Q'ld.), F.I.S. (M)
from 8th September, 1965

DIRECTORATE OF NATIONAL MAPPING WORK

*Assistant Director of National Mapping
(Civil)—*

Ahmad Daud, B. SURV., F.I.S. (M)

*Assistant Director of National Mapping
(Military)—*

Lt. Col. A. C. Marles, R.E.
From 1st November, 1965

Map Research Officer—

Vacant—

The Cadastral part of the Headquarters dealt with staffing, training, finance, and all the cadastral matters referred to Headquarters by the Cadastral Divisions in the States of Malaya. The Assistant Surveyor-General has also to do the Department's Security Work, the overall control of the Instrument Repair Division and the Central Store of the Department.

MAPPING

21. The Directorate of National Mapping dealt with all matters connected with maps and mapping, Map Exchange Agreements, geodetic and topographical surveys, aerial photography, and the production, supply, and sale of maps and aerial photographs. The Directorate of National Mapping has overall control of the Topographical Division, the Central Drawing Office, the Map Printing Division, the Map Library, and the Map Store. Reports of these Divisions may be found in subsequent pages.

22. As there was no suitably qualified local officer available to fill the post of Assistant Director of National Mapping (Military), the appointment was filled by an officer seconded by the British Army. Being part of the military component of the Directorate of National Mapping, his salary and allowances were paid by the Ministry of Defence, Malaysia.

23. (a) During the period 1963-1965 the Directorate of National Mapping produced and printed the following:

Item	MAP SERIES		NEW MAPS			REPRINT WITH OR WITHOUT REVISION			Remarks
	Series No.	Scale	No. of Sheets	No. of Copies	No. of Print Runs	No. of Sheets	No. of Copies	No. of Print Runs	
1.	L. 8,010	1 : 25,000	49	72,400	682,500	4	4,800	34,800	The figure 87 includes 15 New contoured sheets pre- pared by A.D. Survey
2.	L. 7,010	1 : 63,360	28	382,550	2,823,150	27	316,000	2,269,200	
3.	L. 707	1 : 63,360	—	—	—	53	345,900	2,028,200	
4.	T. 735	1 : 50,000	—	—	—	87	928,150	2,943,800	
5.	T. 931	1 : 12,500	5	37,150	156,575	—	—	—	Drawn by Geological Survey Drawn by Soils Division Printing of Grids only
6.	L. 905	—	1	14,000	130,000	—	—	—	
7.	T. 618	—	—	—	—	3	3,600	18,000	
8.	T. 503	1 : 250,000	2	30,000	155,000	—	—	—	
9.	—	1 : 500,000	—	—	—	2	9,000	45,000	
10.	State Maps	Misc.	6	40,900	490,000	—	—	—	
11.	Geological Maps	Misc.	—	—	—	12	23,300	166,000	
12.	Soil Maps	—	—	—	—	3	24,000	99,000	
13.	Misc. Maps	Varying	68	287,678	1,305,690	—	—	—	
14.	L. 8,010 and L. 7,010	1 : 25,000 1 : 63,360	—	—	—	61	32,788	32,788	

APPENDIX C

TOPOGRAPHICAL DIVISION

Chief Surveyor—

Chong Toong Choong, A.R.I.C.S., B.Sc.P.hE. (I.T.C.)

In 1963 and 1964 the Topographical Division was financed to a small extent from Development Funds and mainly from Survey votes but in 1965 all Topographical expenditure was met from Survey votes.

EXPENDITURE

Actual expenditure was as follows:

	1963 \$	1964 \$	1965 \$	Total \$
(a) Development Funds	23,291	152,899	—	176,190
(b) Survey votes ..	1,205,736	1,310,522	1,353,187	3,868,591
(c) Consolidated Trust Account	—	1,393	—	1,393
	<u>1,229,027</u>	<u>1,464,814</u>	<u>1,353,187</u>	<u>4,046,174</u>

REVENUE

Revenue was obtained mainly from sales of prints and aerial photographs as follows:

	1963 \$	1964 \$	1965 \$	Total \$
Sales of prints and aerial photos	1,855	4,960	4,654	11,469

AREA COMPLETED IN THE FIELD

The area completed in the field was as follows:

	1963 sq. miles	1964 sq. miles	1965 sq. miles	Total sq. miles
(a) Standard Mapping (New) ..	531	2,445	3,943	6,919
(b) Standard Mapping (Revision)	1,986	2,960	3,587	8,533
	<u>2,517</u>	<u>5,405</u>	<u>7,530</u>	<u>15,452</u>

AREA COMPLETED BY AIR SURVEY COMPILATION

The area compiled in the office from aerial photographs was as follows:

	1963 sq. miles	1964 sq. miles	1965 sq. miles	Total sq. miles
(a) <i>Multiplex—</i>				
(i) Standard Mapping (New)	1,648	1,255	436	3,339
(ii) Standard Mapping (Revision)	100	1,232	1,268	2,600

	1963 sq. miles	1964 sq. miles	1965 sq. miles	Total sq. miles
<i>(b) Wild A7, A8's and B8's—</i>				
(i) Standard Mapping (New)	1,603	1,058	470	3,131
(ii) Standard Mapping (Revision)	211	2,028	2,209	4,448
(iii) Land Development Projects	17	10	20	47
(iv) Town Maps	—	14	1	15
(v) Miscellaneous	—	7	7	14
<i>(c) Graphical Compilation—</i>				
(i) Standard Mapping (New)	328	806	69	1,203
(ii) Standard Mapping (Revision)	2,277	1,183	1,864	5,324
(iii) Land Development Projects	45	—	—	45
(iv) Town Maps	—	15	14	29

SHEETS SENT FOR REPRODUCTION

The sheets completed and sent for reproduction were:

	1963 sq. miles	1964 sq. miles	1965 sq. miles	Total sq. miles
(i) Standard Mapping (New)	829	1,876	1,973	4,678
(ii) Standard Mapping (Revision)	1,170	3,586	4,121	8,877

Sheet Number				Total
In 1963	..	..	61, 62, 84, 93 and 102	5
In 1964	..	..	34, 35, 72, 73, 74, 75, 82, 85, 98, 103, 104 and 105	12
In 1965	..	..	70, 76, 77, 79, 80, 81, 86, 87, 88, 89, 90, 91 and 95.. .. .	13
				<hr/> 30 <hr/>

ORGANISATION

The Division was administered by a Chief Surveyor (Grade I in 1965 and Grade II in 1963 and 1964) assisted by four other Division I Surveyors, a Technical Assistant, Special Grade, acting as Surveyor and a Photogrammetric Engineer. The Chief Surveyor, one Surveyor as Office Deputy and the Photogrammetric Engineer, were at the Division's Headquarters at Kuala Lumpur. The three other Surveyors and the Acting Surveyor were in charge of Topographical Parties engaged on field work, with base camps at Taiping, Kuala Lipis, Kuala Lumpur, for the full three years, 1963, 1964 and 1965, and with base camp at Seremban for period January 1964 to mid-April 1965, and at Alor Setar from mid-April 1965 to the end of 1965.

TABLE 3
WORK DONE IN THE PERIOD 1963-1965 AND COST

TOPOGRAPHICAL DIVISION															
Name of Block	Sheet Nos. in Block	Area of Block in sq Miles	TRIANGULATION					TRAVERSES				OUTPUT AND COST			Total Cost incurred so far \$
			Trigs Clea- red	Trigs Occu- pied	Trigs Com- puted	Flags Clea- red	Flags Com- puted	Compass or Clino	P.T.	Theodo- lite	Level (Topo)	Compi- led sq Miles	Comp- leted sq Miles	Cost for the Period	
Trengganu North ..	24, 25, 26, 38, 36, 37 and part of 15, 23 and 35	1,960	— (All Sheets published by 1965) —					—	—	—	—	—	—	—	1,029,510
Trengganu Central ..	48, 49, 50, 51 and part of 47	1,384	(All Sheets published except Sheet 47)					—	—	—	—	—	—	6,138	839,662
Trengganu South ..	60, 61, 62 and part of 71, 72 and 73	1,969	—	—	—	—	—	57	10	—	2	613	1,671	74,712	877,558
Kuantan	83, 92 and part of 72, 73 and 82	816	— (All Sheets forwarded for printing by end of 1964)					—	—	—	—	—	—	14,101	151,069
Pahang III	81,90,91 and part of 80, 82 and 89	1,545	— (All Sheets published by 1965) —					88	—	—	38	695	1,159	88,791	461,298
Perak I	20 and part of 11, 12 and 19	890	—	—	—	—	—	120	—	—	—	—	—	19,975	19,975
Perak II	31, 32 and part of 42 and 43	1,458	—	—	—	—	—	38	—	—	10	450	430	32,586	147,509
Perak III	29, 30, 39, 40 and 41	2,014	8	—	—	—	—	934	—	—	111	605	288	229,664	229,664
Perak IV	52, 53 and 54..	1,275	3	1	—	1	2	819	—	—	13	797	245	202,369	205,858
Perak V	63, 64, 65 and 66	1,628	32	—	4	19	6	4,483	52	—	271	946	126	162,019	162,019
Kelantan I	7, 13, 14 and part of 15	820	— (All Sheets published by 1963) —					—	—	—	—	—	—	407	242,743
Kelantan II	21, 22 and part of 23	1,365	— (All Sheets published by 1963) —					—	—	—	—	—	—	456	772,265
Kelantan III	33, 34 and part of 32, 35	1,500	— (Sheets 34, 35 forwarded for printing by end of 1964)					—	—	—	—	575	—	34,868	563,468

TOPOGRAPHICAL DIVISION																
Name of Block	Sheet Nos. in Block	Area of Block in sq Miles	TRIANGULATION						TRAVERSES				OUTPUT AND COST			Total Cost incurred so far \$
			Trigs Clea- red	Trigs Occu- pied	Trigs Com- puted	Flags Clea- red	Flags Com- puted	Compass or Clino	P.T.	Theodo- lite	Level (Topo)	Compi- led sq Miles	Comp- leted sq Miles	Cost for the Period		
								Miles	Miles	Miles	Miles				\$	
Kelantan IV	45, 46 and part of 47, 57, 58 and 59	1,280	—	—	—	—	—	—	—	—	—	674	546	55,278	345,469	
Kelantan V	44 and part of 43, 55, 56 and 57	1,014	—	—	—	—	—	354	—	—	—	644	—	87,245	198,579	
Pahang I	58, 59 and part of 57, 68 and 69	1,562	—	—	—	—	—	7	—	—	3	913	—	73,066	385,075	
Pahang II	70 and part of 71	880	7	1	—	5	3	185	—	—	—	454	454	76,098	232,485	
Pahang IV	98, 99 and part of 106 and 107	1,616	(All Sheets published except Sheet 107)						22	—	—	—	390	—	23,135	740,201
Benom Block.. ..	78 and 79 ..	938	3	(Sheet 79 was forwarded for printing by end of 1965)			22	1	732	—	—	—	812	353	150,290	204,544
North-West Pahang ..	55, 56, 57 and part of 57, 68 and 69	1,932	3	4	—	—	—	1,775	—	—	—	1,383	463	364,829	379,531	
Central Pahang ..	87, 88 and part of 80 and 89	1,342	— (All Sheets forwarded for printing by end of 1965)					—	—	—	—	—	—	255,052	255,052	
North Johore Block ..	112, 113, 114, 115, 116, 121, 122, 123 and part of 106	3,522	— (All Sheets published by 1963)					—	—	—	—	—	—	1,745	891,521	
South Johore Block ..	124 to 133 and part of 135	3,362	— (All Sheets published by 1963)					—	—	—	—	—	—	1,079	1,023,850	
Mersing/Endau Block	117, 118 and part of 109, 110 and 119	1,306	— (All Sheets published by 1963; and Sheet 117 Surveyed and Compiled by A.D. Survey at a total cost of \$87,676. Published by end of 1963)										—	—	39	332,166



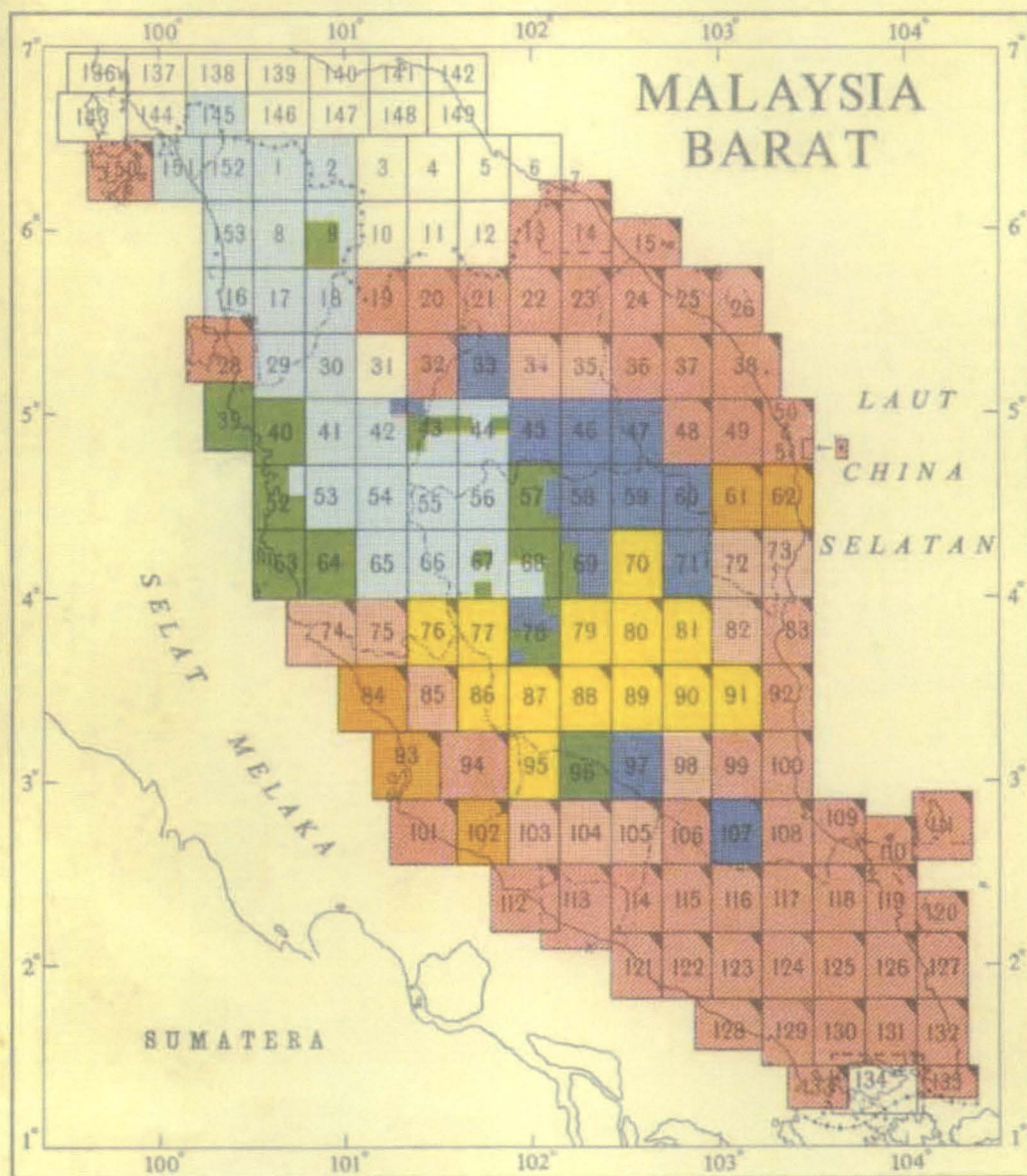
Hak Chipta Kerajaan Terpelihara

Jabatanarah Pemetaan Negara, Malaysia No. 114/1-1967

Kebenaran Pengarah Pemetaan Negara, Malaysia, wajib di-dapati
sabelom peta ini atau sebahagian daripadanya di-salin.

MAP 2.

ONE INCH TO ONE MILE
 TOPOGRAPHICAL SHEET INDEX DIAGRAM NEW SERIES
 PROGRESS OF STANDARD MAPPING



37 SHEET PRINTED
 BY SVY. H.Q.

20 SHEET PRINTED
 BY AD SURVEY

Sheets sent for reproduction prior to 1963

Sheets sent for reproduction in 1963

Sheets sent for reproduction in 1964

Sheets sent for reproduction in 1965

Survey completed, checking in progress

Compiled, survey in progress

Compilation in progress



Annex 41

**Letter from Pavitt J.A.L. (Director of Marine, Singapore) to
the Hydrographic Department in London dated 18 Mar 1966**

AIRMAIL

①

Marine/74/58(58)

18th March,

66

The Hydrographer,
Hydrographic Department, (Admiralty)
Oxgate Lane,
Cricklewood,
London, N.W.2.

Dear Sir,

Horsburgh Lighthouse

In a few months time this Department will be installing a new light in the above and to mark this event we are considering issuing a small publication detailing the history of this lighthouse.

All the Department's records were lost during the Japanese occupation of Singapore in 1942 and although certain information is available in the archives of the National Library, I am anxious to try and find some further information relating to the character, candle power, etc. of the light when it was established in 1851 and the new apparatus which was installed in later years. It is believed that the original light was changed sometime at the latter part of the last century and that the present machinery was installed in 1931.

I shall be most grateful for any information on the above that you can give from your records.

Yours faithfully,

[Signature]
(J.A.L. Pavitt)
Director of Marine.

encl (64)

K.L.V. 2 weeks.

noted for 4/4/66 17/3

J.D.M.

EO(A)

1 CSC

Annex 42

**Letter from Brown D.T. on behalf of Director of Marine, Singapore
to Permanent Secretary, Ministry of Foreign Affairs
dated 14 Sep 1967**

M 420

CONFIDENTIAL

M.F. 72/64


(45)

D. of Marine to P.S. (P.A.) - 14.9.67

Territorial waters and fishing zone
of Singapore.

158 I refer to the minute from the Singapore High Commission in New Delhi ref: SHC/ND/632:261/3/1/5 dated 27.7.67 which was addressed to me through yourself.

On receipt of the above I requested the comments of D.P.P. but note that he has replied direct to you. I have nothing to add to his minute (PP. 07/58 of 5.9.67) except to state that in addition to the waters immediately surrounding Singapore, I have been advised that the waters within 3 miles of Horsburgh Lighthouse (at the eastern entrance to the Singapore Strait) may be considered to be Singapore territorial waters.


(D.T. Brown)
for Director of Marine,
Singapore.

c.c. D.P.P.
A.G.

/cyk

Annex 43

Extracts from Annual Report of the Marine Department, Singapore,
1968



ANNUAL REPORT OF THE
MARINE DEPARTMENT
1968

Introduction

THE Marine Department, Singapore, comprises the former Marine Department and Marine Surveys Department which operated separately until mid 1967. This report therefore covers the first complete year of the new Department's existence. The retirement of several senior officers during the latter part of 1967 and the first half of 1968 slowed down the proposed reorganisation of the Department as all remaining officers were fully engaged in the maintenance of day to day operations and individual officers were sometimes required to perform duties beyond their normal working hours. Recruitment during the latter part of the year did much to assist the position and with the exception of Engineer Surveyors, officers had been selected for all vacant Division One posts by the end of the year. It must also be recorded that the Department, for the first time, made use of overseas technical assistance under the Colombo Plan and this assistance provided a marked contribution to the efficiency of the Department.

The Marine Department is responsible for the implementation of the Merchant Shipping Ordinance and deals generally with technical matters relating to shipping including the various international conventions on this subject. In addition the Department is responsible for the construction, maintenance and repair of all launches and other vessels owned by Government. This work involves the preparation of preliminary designs, calling for tenders and the supervision of construction. Supervision of vessels constructed in local yards for other Governments or private organisations is carried out when so requested. Marine Department staff also perform duties on behalf of the Light Dues Board and this report includes details of the operation and maintenance of navigational aids during the year.

In addition to duties directly relating to the Marine Department, the Director of Marine has been appointed to a number of Statutory Boards and Committees dealing with maritime affairs. During 1968 he was Chairman of both the Light Dues Board and the Seamen's Lodging House Licensing Authority. He was also a member of the Port of Singapore Authority, the Asian Seamen's Club Committee and the Seafarers' Welfare Board. The Seafarers' Welfare Board is, amongst other duties, responsible for the operation of the training ship *Singapore*; as Chairman of its Training Sub-Committee, the Director of Marine assisted by officers of the Marine Department is responsible for the training programme.

The Deputy Director of Marine (Marine Administration) in addition to his departmental duties during the past year was Deputy Chairman of the Seamen's Registry Board and a member of the Pilotage Committee of the Port of Singapore Authority. The Deputy Director of Marine (Marine Surveys) was also a member of the Sailors' Institute Committee.

The figures relating to arrivals and departures of shipping and the tonnages of cargo loaded and discharged have been compiled with the assistance of the Statistics Department. These figures differ from those published by the Port of Singapore Authority as ships arriving or departing from places which are within the Republic but outside the limits of the Port of Singapore are included. Movement of ships between the Port and other parts of the Republic are also recorded.

Examinations for Certificates of Competency continue to demand an increased proportion of the Department's time and the work of preparing question papers and marking papers from the examinations, held every month, continued throughout the year. Training schemes for foreign-going officers are now reaching full fruition and it can be expected that the number of certificates now issued will be maintained in future years. However, it is noted that although Local Trade Officers have continued to obtain the higher Home Trade certificates, the number of seamen coming forward for the Home Trade and the Local Trade Mate certificates has been disappointing. It is hoped that the increased number of young seamen now at sea will take advantage of the opportunity to obtain higher qualifications. The encouraging increase in the number of Second Class Engineer's certificates is again the result of long term training schemes and it can be anticipated that First Class Engineer's certificates will be issued in significant numbers within the next few years.

The increased number of ships registered in Singapore is reflected in the number of exemptions from manning requirements which have been issued, while the level of activity within territorial waters is indicated by an increase in the number of licensed cargo and passenger boats. The continued decline in the number of licensed sailing ships, however, shows that this type of craft is no longer suited to present day requirements.

The development of the western parts of the Port and the need for clearly marked approached channels to Jurong resulted in increased work owing to the installation of buoys and beacons planned during the preceding years. The Navigational Aids Section also completed the lighthouse electrification programme during the year.

Captain J. A. L. Pavitt, O.B.E., who had been Director of Marine since 3rd December, 1959, proceeded on leave prior to retirement on 1st March, 1968.

D. T. BROWN,
Director of Marine,
Singapore.

Annex 44

**Additional Extracts from Petroleum Agreement under Section 9 of
the Petroleum Mining Act, 1966 in Respect of Off-shore Lands
between the Government of Malaysia and Continental Oil Company
of Malaysia Concerning 24,000 (Approximate) Square Miles of the
Continental Shelf Adjacent to the East Coast of West Malaysia,
16 Apr 1968**

Petroleum Agreement

UNDER SECTION 9 OF THE PETROLEUM MINING ACT, 1966

IN RESPECT OF OFF-SHORE LANDS

SIGNED ON 16TH APRIL, 1968

BETWEEN

THE GOVERNMENT OF MALAYSIA

AND

CONTINENTAL OIL COMPANY OF MALAYSIA

CONCERNING 24,000 (APPROXIMATE)
SQUARE MILES OF THE CONTINENTAL
SHELF ADJACENT TO THE EAST COAST
OF WEST MALAYSIA

DI-CHETAK DI-JABATAN CHETAK KERAJAAN
OLEH THOR BENG CHONG, A.M.N., PENCHETAK KERAJAAN
KUALA LUMPUR

1968

PART IV

SURRENDER PROVISIONS

Company to
surrender
Scheduled
Lands com-
pulsorily.

4. (1) The Company shall—

- (i) on the expiration of five (5) Agreement Years from the date of this Agreement, surrender its rights in respect of such area or areas of the Scheduled Lands (if any), as, together with any area or areas in respect of which such rights have already been surrendered under Clause 5 amount to 50% of the area originally contained in the Scheduled Lands;
- (ii) on the expiration of ten (10) Agreement Years from the date of this Agreement, surrender its rights in respect of such further area or areas of the Scheduled Lands (if any), as together with any area or areas in respect of which such rights have already been surrendered under this Clause and/or Clause 5 amount to 75% of the area originally contained in the Scheduled Lands:

Provided that if the Company satisfies the Minister, by representations made to him in writing not less than three (3) calendar months before the due date of any surrender prescribed by this sub-clause, that by reason of such surrender the area or areas of the Scheduled Lands retained by the Company would be too small to permit of effective development, the Minister may waive its right to such and any subsequent surrender.

(2) Subject to Clause 6, the Company shall be free to select for surrender under this Clause such area or areas of the Scheduled Lands as the Company shall decide.

(3) The Company shall not less than two (2) calendar months before the due date of surrender notify the Minister in writing of the area or areas of the Scheduled Lands to be surrendered.

(4) After any such surrender, if the Scheduled Lands retained do not form a single entity, the Company shall be granted such wayleaves over any Scheduled Lands surrendered for the laying, operating and maintenance of pipes, telephone and power lines and intercommunication and passage between the Scheduled Lands retained as the Company may require for the purposes of this Agreement. Such grant shall be subject to such reasonable payment and to such other stipulations and provisions as may be agreed between the Government and the Company. The said wayleaves shall not be included in the calculation of the amount of the Scheduled Lands retained.

(5) The Minister may, in his discretion on application in writing by the Company, re-include in this Agreement at any time any part of the lands surrendered under this Clause or in respect of which all rights have been surrendered under Clause 5 (Right of Company to surrender portions of the Scheduled Lands) hereof:

Provided that, if such resumption would make the aggregate of the Scheduled Lands greater than the amount authorised by sub-clause (1) at the time of such resumption, the Company shall at the time of such resumption surrender other parts of the Scheduled Lands so that the aggregate of the lands included in the Agreement (including the area or areas resumed) does not exceed the amount authorised for the time being by sub-clause (1):

And provided further that no rights inconsistent with the rights under this Agreement in the part or parts which the Company desires to resume

have in the meantime been granted to any third party and in the event of mining rights for minerals other than petroleum or any other rights having previously been granted over any area resumed by the Company under this sub-clause not being inconsistent with the petroleum rights, the Company shall exercise its rights in the area subject to such rights so as not to hinder or interfere with the rights and privileges of the owner of such rights.

5. Without prejudice to any obligation imposed by this Agreement and subject to Clause 6 the Company shall be entitled to surrender its rights in respect of any area or areas of the Scheduled Lands at any time during the Agreement Period. Such surrender may be made by the Company by giving not less than two (2) calendar months' notice to the Government and shall take effect as from the expiration of such notice.

Company may
surrender
Scheduled
Lands
voluntarily.

6. Any area or areas of the Scheduled Lands which is or are surrendered in accordance with the provisions of this Part shall, so far as is reasonable, be an area or areas which is or are, at the date of surrender, of sufficient size and convenient shape, having regard to adjacent areas not then the subject of petroleum Agreements, to enable oil operations to be effectively carried out thereon.

Areas to be
surrendered

7. As from the date upon which any area or areas of the Scheduled Lands are surrendered in accordance with the provisions of this part, such area or areas shall for all purposes (except as provided in Clause 4), be deemed no longer to be contained in the Scheduled Lands. Furthermore, any reference to the Scheduled Lands shall thereafter (except as aforesaid) mean only the Scheduled Lands as reduced by such surrender.

Reduction of
Scheduled
Lands.

8. In the event of the inclusion by inadvertance in the Scheduled Lands of any area or areas over which it may subsequently be proved that the Government is not entitled to the petroleum rights or of lands or areas in respect of which the petroleum rights have already been granted to other individuals or companies, this Agreement shall be deemed to have been amended by the exclusion from the Scheduled Lands of any such lands or areas from the date of such proof or grant.

Lands
included by
inadvertance
in the
Scheduled
Lands

9. The Company shall, unless the Minister otherwise determines, carry out at its own expense such survey operations as are necessary to connect every angle and corner of the boundary line of the Scheduled Lands to known survey points maintained by the Survey Department, West Malaysia. Where any angle or corner is at a place which is above low water or where any boundary crosses a place which is above low water the Company may be required to forthwith erect and at all times maintain substantial boundary marks of brick stone or concrete not less than one foot high. Such boundary marks shall be connected by survey to known survey points maintained by the Survey Department, West Malaysia in such a manner that the boundaries of the Scheduled Lands can be accurately traced on the ground. The Company shall ensure that the area demarcated on the ground shall conform as closely as possible to the area delineated on the plan hereto annexed.

Establishment
of boundary
marks.

Annex 45

**Minute from Brown D.T. (Director of Marine, Singapore) to
Marine Department Engineer dated 27 May 1968**

Marine 190/56

D. of Marine to M.D.E.


- 27.5.68

Pulau Pisang

If you have not already done so, please take steps to ensure that all staff proceeding to Pulau Pisang possess valid travel documents and, when necessary, health certificates.

I feel we should be prepared for a sudden check by the Johore authorities and all staff, whether Marine Department or L.D.B. should be suitably equipped.

DDM(A) 1/1/68 DDM(5) 8/5/68
300


(D.T. Brown)
Director of Marine,
Singapore.

dtb/eyk

Annex 46

**Extracts from Gazetteer No. 10 – Malaysia, Singapore and Brunei –
Official Standard Names approved by the United States Board on
Geographic Names (2nd ed., 1970)**

GAZETTEER NO. 10

Malaysia, Singapore, and Brunei

SECOND EDITION

OFFICIAL STANDARD NAMES

approved by the

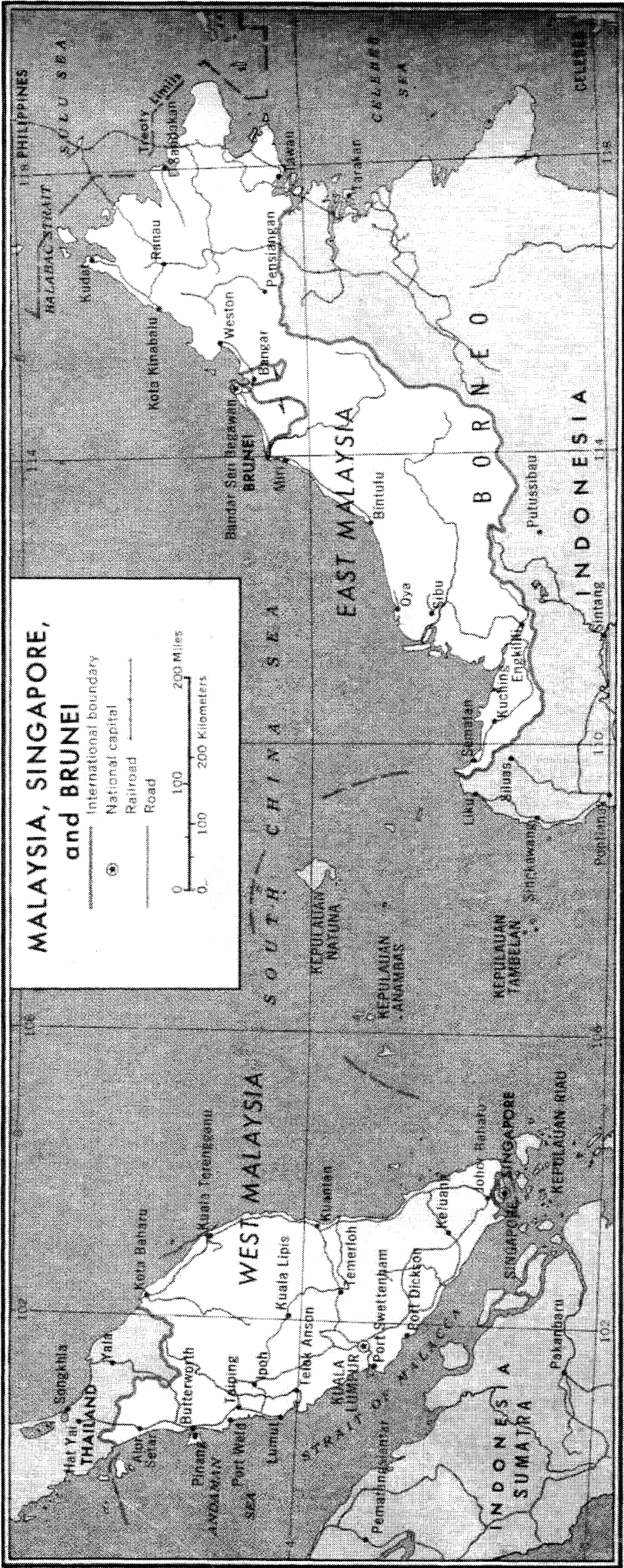
UNITED STATES BOARD ON GEOGRAPHIC NAMES

Prepared in the

Geographic Names Division, U.S. Army Topographic Command

Washington, D.C. 20315, November 1970





FOREWORD

This gazetteer contains about 62,000 entries for places and features in Malaysia, Singapore, and Brunei in five parts as follows: West Malaysia 34,150 entries, Singapore 950 entries, Sabah 6,200 entries, Sarawak 19,400 entries, and Brunei 1,300 entries. (See Table of Contents at the end of this foreword.) The entries consist of standard names approved by the Board on Geographic Names and unapproved variants, the latter cross-referenced to the standard names: *Users of the gazetteer should always refer to main entries for approved names.*

Malaysia comprises the southern half of the Malay Peninsula and two states on the north coast of Borneo. The states on the peninsula compose the region of Malaysia Barat (West Malaysia); the states of Sarawak and Sabah on Borneo are known as Malaysia Timur (East Malaysia). The Republic of Singapore, at the south end of the Malay Peninsula, was originally a state of Malaysia before independence in 1965. The independent State of Brunei, a coastal enclave in northeastern Sarawak, was invited to join the Malaysian federation but declined, remaining a protectorate of the United Kingdom. All are within the framework of the British Commonwealth of Nations.

The contribution to this gazetteer by Jabatanarah Pemetaan Negara, Malaysia (Directorate of National Mapping, Malaysia) and the Survey Departments of Singapore and Brunei is gratefully acknowledged. The entire body of names included herein was reviewed by their staffs to insure accuracy, inclusion of latest information, and incorporation of recent changes in the orthography of the Malay language.

The names in this gazetteer supersede those in all previous Board lists for the areas concerned.

Entries include names of first- and second-order administrative divisions, populated places of all sizes, various other cultural entities, and a variety of physical features.

Interpretation of entries

It has been necessary to express in code numbers and letters some of the information in the gazetteer in order to accommodate it to the machine method of tabulation.

Name.—Approved standard names and unapproved variant names appear in the first column. The variant names are always cross-referenced to the standard names by use of the word “see”. Where part of a name is underlined, the use of the part not underlined is optional. Where two or more names are approved for a feature, each is identified in parentheses and any or all may be used. Names containing generic elements preceding the specific term (except names of populated places) are alphabetized by the specific part; thus Bukit Ading, the name of a hill, is listed as Ading, Bukit.

In a few of the names a tick (') appears following a vowel. In different types of print this symbol appears either as an apostrophe (') or as a tick ('). This usually represents a glottal stop in names of Malay and other indigenous languages and should be rendered as an apostrophe if possible.

Designation.—The second column contains designations or abbreviations of designations, as listed below. Since practically all geographic terms have varied meanings, the senses in which the designator terms are used and the range of features to which they are applied in *this gazetteer* are stated in the list to reduce ambiguity. The distinctions that can be made in a given gazetteer will vary with the quality of the maps of the area and with the nature of the entities that are named. In Malaysia, Singapore, and Brunei some of the features do not fit precisely into the categories used to designate them and others could be designated in two or more ways.

ADMD	administrative division (first-order: <i>state</i> in Malaysia, <i>district</i> in Brunei; second-order: <i>district</i> in Malaysia)
AIRF	airfield (place where aircraft land and take off, with runways and related improvements but without well-developed facilities for the commercial handling of passengers and cargo)

AIRP	airport (place where aircraft regularly land and take off, with runways and major facilities for the commercial handling of passengers and cargo)	ESTA	plantation (commercialized, usually one-crop agricultural landholding with associated dwellings and other facilities, having unified ownership and management but requiring more than a single-family labor force)
ANCH	anchorage (place within a harbor or roadstead where ships may anchor)	FLL	waterfall
BAR	bar (deposit of water-borne materials in or beside a stream channel)	FRST	forest reserve
BAY	bay	FT	fort (defensive structure or works, generally of little or no present military significance; may be in a state of ruin); military post
BCH	beach (deposit of sand or other unconsolidated material along a shore)	GRGE	gorge (relatively narrow, steep-sided segment of a streamcourse)
BGHT	bight (open body of water forming a slight recession in a coastline)	HBR	harbor (body of water providing shelter for ships)
BND	stream bend (land enclosed by the bend of a stream)	HDLD	headland (conspicuously high piece of land jutting out into or fronting the sea)
CAPE	cape (seaward end of a projection of land of such position and size as to affect the course of ships)	HLL	hill (landform of moderate relief, moderate elevation, and small summit area)
CAVE	cave(s) (underground cavity, usually in soluble rock)	HLLS	hills
CHNM	marine channel (channel between coastal islands, reefs, or shoals; between an offshore feature and the mainland; or through a shallow marine waterbody)	ISL	island
CHNS	stream channel (separately named lesser channel around an island or bar in a stream)	ISLQ	former island
CLF	cliff(s) (high, steep rock face overlooking a lower area, such as a waterbody, coastal lowland, or valley); bluff (high, steep slope without conspicuous exposed rock, facing a lower area)	ISLS	islands
CNFL	confluence (place where two or more streams flow together)	LCTY	locality (open area of unspecified or mixed character)
CNL	canal	LDNG	landing (place where small boats are tied up or beached when not in use; place where boats touch land for the purpose of taking on or discharging people or cargo)
COVE	cove	LGN	lagoon (waterbody along a coast, largely or wholly cut off from the sea by a barrier beach or other depositional feature)
CRKT	tidal creek (watercourse tidal in all or most of its length; usually short, without extensive tributary drainage areas, and located in coastal marsh or other wetland)	LICK	salt lick(s) (place where the ground is impregnated with saline particles to which animals come for salt)
DAM	dam (barrier constructed across a stream to impound water)	LK	lake (includes wide sections of streams); oxbow lake
DCKB	docking basin (section of a harbor where boats dock)	MGV	mangrove swamp (wetland with mangrove vegetation)
DTCH	ditch (small artificial watercourse)	MN	mine
		MNS	mines
		MT	mountain (landform of conspicuous relief, moderate to high elevation, and small summit area)
		MTS	mountains; mountain range

PAL	palace (official residence of a ruler)	RGN	region (large area recognized as an entity by reason of the unity of its history, people, landscape, or other condition or a combination of conditions)
PASS	pass (way over or between mountains or other high land)	RH	resthouse
PCLI	independent political entity (republic, protected state)	RKL	rock on land
PEN	peninsula (area of land projecting into and largely, but not entirely, surrounded by water)	RKSL	rocks on land
PK	peak (separately named summit on a more extensive elevation)	RKSW	rocks in water
PLAT	plateau (elevated area of flat to rolling surface; may exhibit considerable local relief due to dissection or the presence of hills or mountains rising above the general surface level)	RKW	rock in water (individual rock of such character and importance as to be identified by name, situated either above or below the surface of a body of water; often associated with reefs but separately named)
PLN	plain (landform of low relief, slope, and elevation)	RPDS	rapids
PND	pond	RSTN	railroad station (building used for the transaction of railroad business, located beside a railroad track at a point where trains regularly stop to take on and discharge passengers or freight)
POOL	pool (broader, deeper part of a stream at a bend)		
PPL	populated place (city, town, village, settlement; includes individual multi-family dwellings)	RSTP	railroad stop (place without a station building where trains stop for passengers or freight)
PPLX	section of populated place (part of a city or contiguous urbanized area named as an entity but having no known administrative status)	RSV	reservoir (large artificially impounded body of water)
PRK	national park	RVN	ravine (short, steep, V-shaped watercourse)
PT	point (relatively minor projection of land, or its extremity, into a waterbody)	SCHU	university
RCH	reach (relatively straight, low-gradient segment of a river)	SEA	sea
RDGB	beach ridge (raised beach or sandbank in rice fields or in coastal swamps)	SHOL	shoal(s) (offshore hazard to navigation with a least depth of twenty meters, or ten fathoms, or less, composed of unconsolidated material)
RDGE	ridge (elongated, relatively narrow relief feature with a more or less continuous crest)	SHRN	shrine
RDJC	road junction	SPIT	spit (projecting tongue of beach material deposited by a coastal current)
RDST	roadstead (area of navigable water, less protected than a harbor, suitable for the passage and anchorage of ships)	STM	stream
RES	reservation (Malay or aboriginal)	STMA	anabranch (stream that leaves the main stream and rejoins it after following a separate course for a considerable distance)
RESA	agricultural reserve	STMC	canalized stream (stream that has been canalized, ditched, diked, or straightened for any purpose, yet retains in part the characteristics of the original stream)
RESN	nature reserve (includes water catchment areas)	STMD	distributary (secondary watercourse carrying part of the drainage of a larger stream into another waterbody; characteristic of deltas)
RF	reef(s) (offshore consolidated rock hazard to navigation with a least depth of twenty meters, or ten fathoms, or less)	STMM	stream mouth

STMX	section of stream (separately named part of a stream, not delimited by significant confluences)
STNA	agricultural station
STNH	hill station
STRT	strait (relatively narrow water passage connecting large bodies of water); section of strait
WTCD	deltaic watercourse (lesser watercourse connecting distributaries or other drainage features on a delta)
WTLD	wetland (marsh, swamp, or other poorly drained area with a mixture of tree and grass vegetation or in rice cultivation)

Latitude and longitude.—The third and fourth columns indicate geographic coordinates, with longitude based on Greenwich. Coordinates were generally read to the nearest minute and are for finding purposes only.

Coordinates were read at the map symbol for populated places and other entities occupying limited sites, at the mouths or lower ends of streams, at the summits of mountains and hills, at the extremities of capes and points, and near the centers or mid-points of other features.

Area number.—The number in the fifth column indicates the first-order administrative division in which the place or feature is located, as listed below:

46300	West Malaysia (general)	46309	Negeri Sembilan
46301	Perlis	46310	Melaka
46302	Kedah	46311	Johor
46303	Pinang	46400	Singapore
46304	Perak	46900	East Malaysia (general)
46305	Kelantan	46910	Sabah
46306	Terengganu	46930	Sarawak
46307	Pahang	47000	Brunei
46308	Selangor		

The general numbers (46300 and 46900) are used for international features and for features in two or more first-order administrative divisions.

Glossary of generic terms

The following terms occur in the standard names listed in the gazetteer. The meanings given include those supported by application to features named in the gazetteer, whether or not these meanings are given in dictionaries. Unless identified as Thai, all terms are Malay except for about a dozen from non-Malay languages and dialects of Borneo.

alor	stream, stream channel, distributary, anabranh, canal, ditch, tidal creek, lagoon
ampang	dam
anak ayer	stream
anak sungai	stream
apo, apad	mountain
arur, aur	stream, anabranh
ayer	stream, stream mouth
bagan	landing
bang	stream
banjaran	mountains, mountain range
baroh	locality (lowland), wetland
batang	stream, distributary, deltaic watercourse, tidal creek, marine channel
batu	rock on land, rock(s) in water, hill, mountain, peak, point, island, reef
bendang	wetland
beting	shoal, reef
bukit	hill, mountain, peak, ridge, rock on land
busong	shoal
chabang	stream
changkat	hill, mountain
charok	stream
chegar	rapids
daerah	second-order administrative division
danau	wetland
empang	dam

genting	pass	merabang	stream
giam	rapids	muara	stream mouth, deltaic watercourse, marine channel
gua	cave		
gunong	mountain, hill, mountain range, peak	munggu	hill, mountain
hulu sungai	stream	nanga	stream mouth, stream
hutan baroh	wetland	olak	rapids
istana	palace	pa	stream
jenut	salt lick(s)	padang	wetland, locality
jeram	rapids	paloh	pond
karang	rock in water	panchor	stream
kebun	plantation, estate	panggong	dam
kenting (Thai)	pass	pangkalan	landing
kepulauan	islands	pantai	beach, bar
kerangan	rock in water	parit	ditch, canal, streamchannel, stream, canalized stream
keramat	shrine		
klong (Thai)	stream	pasir	bar, beach, spit
kolam	pond	paya	wetland
kuala	stream, stream mouth, marine channel	pegunungan	mountains
kuan (Thai)	hill, mountain	pelabuhan	harbor
kunung (Thai)	mountain	pemintas	ditch, anabranch
labohan	anchorage	pengkalan	landing
ladang	plantation	perhentian	railroad station, railroad stop
lam (Thai)	stream	permatang	beach ridge
lata	waterfall, rapids	pulau	island(s), rock(s) in water, penin- sula, reef, former island
lembah	wetland		
loagan	lake, oxbow lake, tidal creek, stream channel	raan	mountain
loba	stream, stream channel, distribu- tary, anabranch, deltaic water- course, tidal creek	rantau	reach
		redang	wetland
lok	bay	riam	rapids
long	stream mouth	ruan	mountain
luagan	lake, oxbow lake, tidal creek, stream channel	selat	strait, marine channel, deltaic watercourse
lubok	pond, pool, oxbow lake, wetland, bay	setesen, setesen keretapi	railroad station
malang	rock(s) in water	simpang	road junction, railroad station; confluence, stream
		solok	resthouse
		suak	stream

sungai	stream, section of stream, canal- ized stream, distributary, ana- branch, stream channel, deltaic watercourse, ditch, canal, ma- rine channel, tidal creek, lagoon, oxbow lake	tinteng	ridge, hill, mountain
tali ayer	ditch (irrigation)	tokong	rock in water, island
taman	national park	tukun	rock(s) in water
tanjong	point, cape, headland, peninsula, stream bend	ujong	point
tasek, tasik	lake, pond, wetland	ulu	stream, distributary, deltaic water- course
tebing	shoal	ulu sungai	stream
telok	bay, bight, cove, pool, lake, strait	wong	rapids
terembu	reef		
terusan	marine channel, tidal creek, stream channel, ditch, canal, distribu- tary, deltaic watercourse, canal- ized stream		

Reporting of errors

It is requested that all who use this gazetteer aid in its correction for future printings by reporting errors and name changes to the Board on Geographic Names, Department of the Interior, Washington, D.C. 20240. A statement of the source of the correct information will be helpful.

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

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BATU RONCHEK, TANJONG	PT	2 29 N	104 30 E	46311
BATU RUSA, JERAM	RPDS	5 06 N	101 50 E	46305
BATU SABELAS ESTATE	ESTA	2 37 N	102 01 E	46309
BATU SADIN, TELOK	PCOL	3 50 N	103 16 E	46307
BATU SAUH, TELOK	COVE	5 49 N	103 00 E	46306
BATU SAUH, TELOK	COVE	5 55 N	102 46 E	46306
BATU SAWAH SEE KAMPONG BATU SAWAR	PPL	3 51 N	103 13 E	46307
BATU SAWAH, BUKIT	HLL	2 59 N	102 09 E	46309
BATU SEKETUL, BUKIT	HLL	5 05 N	100 50 E	46304
BATU SELAT, TANJONG	PT	2 36 N	104 19 E	46311
BATU SEMBILAN ESTATE	ESTA	3 05 N	101 46 E	46308
BATU SEMBILAN VILLAGE SEE				
KAMPONG BAHARU CHERAS BATU SEMBILAN	PPL	3 04 N	101 46 E	46308
BATU SEPULOH	PPL	5 24 N	100 28 E	46303
BATU SERATUS, BUKIT	MT	4 34 N	100 47 E	46304

HO HUP ESTATE	ESTA	2 41 N	101 32 E	46308
HOJI ALI, PARIT SEE				
HAJI ALI, PARIT	DYCH	1 59 N	102 36 E	46311
HOK, SUNGAI	STM	5 07 N	101 51 E	46305
HOLMWOOD ESTATE	ESTA	3 22 N	101 24 E	46308
HO LOCK ESTATE	ESTA	3 45 N	103 12 E	46307
HOLYROOD ESTATE	ESTA	5 08 N	100 44 E	46304
HOLYROOD ESTATE	ESTA	5 10 N	100 41 E	46304
HO NAM ESTATE SEE HONAN ESTATE	ESTA	1 27 N	103 40 E	46311
HONAN ESTATE	ESTA	1 27 N	103 40 E	46311
HONG, BUKIT	HLL	5 48 N	101 54 E	46305
HONG, GUNONG	MT	4 58 N	101 02 E	46304
HONG, JERAM	RPDS	4 57 N	102 22 E	46305
HONG, LAM	STM	6 23 N	100 47 E	46302
HONG, LUBOK	POOL	4 57 N	102 21 E	46305
HONG, SUNGAI	STM	4 22 N	101 56 E	46307
HONG, SUNGAI	STM	4 55 N	101 01 E	46304
HONG, SUNGAI	STM	4 58 N	102 22 E	46305
HONG, SUNGAI	STM	5 07 N	101 43 E	46305
HONG AIK ESTATE SEE				
YAP THIAN LYE ESTATE	ESTA	2 49 N	101 37 E	46308
HONG AIK ESTATE	ESTA	2 57 N	101 28 E	46308
HONG GUAN ESTATE	ESTA	2 33 N	102 03 E	46309
HONG HUAT ESTATE	ESTA	5 40 N	100 28 E	46302
HONG KONG ESTATE	ESTA	2 59 N	101 36 E	46308
HONG SENG ESTATE	ESTA	5 16 N	100 26 E	46303
HONG TENG ESTATE	ESTA	2 20 N	102 05 E	46310
HOODSAN ESTATE	ESTA	1 31 N	103 44 E	46311
HOPEFUL ESTATE	ESTA	2 51 N	101 44 E	46308
HOPEFUL ESTATE	ESTA	3 28 N	101 28 E	46308
HOR, BUKIT SEE NOR, BUKIT	MT	5 25 N	101 14 E	46304
HO SENG SAN ESTATE	ESTA	2 26 N	102 31 E	46310
HOUSE ROCK SEE CHIPU, PULAU	ISL	5 41 N	102 50 E	46306

HOWARD SHOAL	SHOL	4 15 N	103 33 E	46306
HUAH, SUNGAI	STM	3 29 N	102 51 E	46307
HUAP KEAN CHOONG ESTATE	ESTA	5 26 N	100 30 E	46303
HUASAN ESTATE	ESTA	5 38 N	102 12 E	46305
HUDONG, SUNGAI	STM	4 15 N	101 41 E	46307
HUGAH, SUNGAI	STM	4 47 N	101 58 E	46305
HUJAN, BUKIT	HLL	2 13 N	103 48 E	46311
HUJAN, LUBOK	POOL	4 53 N	102 20 E	46305
HUJAN, SUNGAI	STM	4 23 N	101 13 E	46304
HUJAN, SUNGAI	STM	4 53 N	102 20 E	46305
HUJONG DA, PADANG	LCTY	5 09 N	103 14 E	46306
HUJONG KAMPONG PULAU KERENGGA	PPL	5 07 N	103 16 E	46306
HUKEK, SUNGAI	STM	4 53 N	101 39 E	46305
HULU, PARIT	DYCH	1 36 N	103 21 E	46311
HULU DAKANG, GUNONG SEE				
HULU DAKANG, KUNUNG	MT	5 56 N	101 35 E	46300
HULU DAKANG, KUNUNG	MT	5 56 N	101 35 E	46300
HULU KA-G, KUNUNG SEE				
ULU KAHU, GUNONG	MT	5 50 N	101 40 E	46300
HULU MAKAR, KUNUNG SEE				
ULU MAKAR, GUNONG	MT	5 53 N	101 30 E	46300
HULU MARA, GUNONG SEE				
ULU MERAH, GUNONG	MT	5 55 N	101 32 E	46300
HULU MARA, KHAO SEE				
ULU MAKAR, GUNONG	MT	5 53 N	101 30 E	46300
HULU MARA, KUNUNG SEE				
ULU MERAH, GUNONG	MT	5 55 N	101 32 E	46300
HULU TEMENGOR SEE				
ULU SEPAT, GUNONG	MT	5 09 N	101 29 E	46300
HULU TITI, GUNONG SEE				
ULU TITI BASAH, GUNONG	MT	5 48 N	101 19 E	46300
HULU TITIBASA, KUNUNG SEE				
ULU TITI BASAH, GUNONG	MT	5 48 N	101 19 E	46300
HUMA, TANJONG SEE BATU, TANJONG	PT	5 29 N	100 15 E	46303

PAYONG, BUKIT	MT	6 17 N	100 29 E	46302
PAYONG, BUKIT	PK	2 28 N	102 12 E	46310
PAYONG, PULAU	ISL	5 08 N	101 01 E	46304
PAYONG, SUNGAI	STM	1 58 N	104 03 E	46311
PAYONG, SUNGAI	STM	2 05 N	103 39 E	46311
PAYONG, SUNGAI	STM	3 08 N	101 34 E	46308
PAYONG, SUNGAI	STM	4 11 N	103 05 E	46306
PAYONG, SUNGAI	STM	5 43 N	102 12 E	46305
PAYONG ANAK, SUNGAI	STM	5 22 N	102 45 E	46306
PAYONG IBU, SUNGAI	STM	5 22 N	102 45 E	46306
PE, SUNGAI	STM	5 04 N	101 12 E	46304
PEAK, PULAU	RKW	1 22 N	104 18 E	46311
PEAK ROCK SEE PEAK, PULAU	RKW	1 22 N	104 18 E	46311
PEBALAI, SUNGAI	STM	2 36 N	102 10 E	46309
PECHAH, PARIT	DICH	1 55 N	102 39 E	46311
PECHAH, TANJUNG	PT	2 44 N	101 27 E	46308
PECHAH AMPAT, SUNGAI	STM	4 41 N	103 25 E	46306
PECHAH KEMAHANG	PPL	5 02 N	100 57 E	46304
PECHAH MANGKOK, BUKIT	HLL	2 58 N	103 13 E	46307
PECHAH MANGKUK, BUKIT	HLL	4 35 N	103 11 E	46306
PECHAH MANGKUK, SUNGAI	STM	3 17 N	101 32 E	46308
PECHAH TIMON, SUNGAI	STM	3 32 N	101 48 E	46307
PECHAH TOK CHIC, CHAROK	STM	6 19 N	100 42 E	46302
PECHING, SUNGAI	STM	5 03 N	102 59 E	46306
PECHUT, SUNGAI	STM	3 36 N	102 18 E	46307
PED, SUNGAI	STM	4 01 N	101 22 E	46304
PEDA BESAR, SUNGAI	STM	1 33 N	104 02 E	46311
PEDADA KUNING, PARIT	DICH	1 53 N	102 55 E	46311
PEDAH, SUNGAI	STM	5 15 N	102 18 E	46305
PEDA KECIL, SUNGAI	STM	1 33 N	104 02 E	46311
PEDAL, SUNGAI	STM	4 39 N	103 07 E	46306
PEDANG, SUNGAI	STM	3 27 N	101 38 E	46308
PEDANG, SUNGAI	STM	5 29 N	101 51 E	46305

PEDANG, SUNGAI SEE PEDANG, SUNGAI	STM	6 05 N	100 28 E	46302
PEDANG LEBAR SEE				
KAMPONG PADANG LEBAR	PPL	2 52 N	102 15 E	46309
PEDAR, SUNGAI SEE PEDOR, SUNGAI	STM	3 13 N	102 43 E	46307
PEDAS	PPL	2 37 N	102 04 E	46309
PEDAS, BUKIT	HLL	2 27 N	102 03 E	46309
PEDAS, SUNGAI	STM	2 27 N	102 04 E	46309
PEDATU	HLL	3 57 N	102 10 E	46307
PEDEKANG, PAYA	WTLU	3 25 N	102 36 E	46307
PEDO, SUNGAI	STM	5 34 N	102 35 E	46306
PEDOR, SUNGAI	STM	3 13 N	102 43 E	46307
PEDPOD, SUNGAI	STM	4 49 N	101 36 E	46305
PEDU, SUNGAI	STM	6 15 N	100 36 E	46302
PEENANG, PULO SEE PINANG, PULAU	ISL	5 24 N	100 14 E	46303
PEGANG, SUNGAI	STM	5 38 N	100 49 E	46302
PEGIN, SUNGAI	STM	3 28 N	102 40 E	46307
PEGOH, SOLOK	RH	2 24 N	102 13 E	46310
PEGOH ESTATE	ESTA	2 20 N	102 12 E	46310
PEGOH ESTATE	ESTA	2 26 N	102 12 E	46310
PEH, SUNGAI	STM	5 05 N	101 37 E	46305
PEH, SUNGAI	STM	5 09 N	102 04 E	46305
PEH, SUNGAI	STM	5 29 N	101 12 E	46304
PEH, SUNGAI	STM	5 42 N	100 59 E	46304
PEHALANG, SUNGAI	STM	5 38 N	102 02 E	46305
PEJA'AT, SUNGAI	STM	4 52 N	101 42 E	46305
PEJABAI TANAMAN BATU SEPULUH	HLL	5 49 N	102 01 E	46305
PEJAJAT, BUKIT	HLL	4 14 N	103 28 E	46306
PEJIN, SUNGAI SEE PEJING, SUNGAI	STM	3 31 N	102 42 E	46307
PEJING, SUNGAI	STM	3 31 N	102 42 E	46307
PEK, SUNGAI	STM	5 29 N	101 54 E	46305
PEKAJANG BENGKOK, SUNGAI	STM	1 22 N	103 33 E	46311
PEKAJANG LUKUS, SUNGAI	STM	1 22 N	103 33 E	46311
PEKAKA, ALOR	STM	5 45 N	102 31 E	46306

PULAI, SUNGAI	STM	4 35 N	100 59 E	46304	PULAU BETONG, SUNGAI	STM	5 18 N	100 12 E	46303
PULAI, SUNGAI	STM	4 36 N	100 46 E	46304	PULAU BLAND	LCTY	5 11 N	100 25 E	46303
PULAI, SUNGAI	STM	4 48 N	101 57 E	46305	PULAU CHE MAI ZIN FOREST RESERVE	FRST	2 57 N	101 17 E	46308
PULAI, SUNGAI	STM	4 50 N	101 06 E	46304	PULAU CHEMPEDAK, SUNGAI	STM	3 24 N	101 26 E	46308
PULAI, SUNGAI	STM	5 02 N	101 35 E	46305	PULAU DAUN, BUKIT	HLL	2 36 N	103 27 E	46307
PULAI, SUNGAI	STM	5 15 N	101 26 E	46304	PULAU JERIJAK	PPL	3 33 N	102 34 E	46307
PULAI, SUNGAI	STM	5 40 N	100 53 E	46302	PULAU KELANG FOREST RESERVE	FRST	3 00 N	101 18 E	46308
PULAI, SUNGAI	STM	5 43 N	101 00 E	46304	PULAU KEMPAS	PPL	2 52 N	101 36 E	46308
PULAI BAHARU NEW VILLAGE SEE					PULAU KENGUGA, BUKIT	HLL	6 12 N	100 21 E	46302
KAMPONG PULAI BAHARU	PPL	5 23 N	103 04 E	46306	PULAU KETAM	PPL	6 24 N	100 07 E	46301
PULAI BARAT, SOLUK	RH	2 08 N	102 22 E	46310	PULAU KETAM LUAR, SUNGAI	STM	3 03 N	101 14 E	46308
PULAI BESAR, SUNGAI	STM	4 11 N	102 33 E	46307	PULAU KOMPET, TANJONG SEE				
PULAI CHONDONG	PPL	5 52 N	102 14 E	46305	KEMPIT, TANJONG	PT	2 40 N	103 40 E	46311
PULAI CHONDONG, SUNGAI	STM	5 53 N	102 13 E	46305	PULAU KUNDOR	PPL	6 12 N	102 16 E	46305
PULAI CHONGDONG SEE PULAI CHONDONG	PPL	5 52 N	102 14 E	46305	PULAU LANG DARAT FOREST RESERVE	FRST	2 48 N	103 29 E	46307
PULAI KECHIL, SUNGAI	STM	4 11 N	102 33 E	46307	PULAU LENA, TANJONG	PT	1 37 N	103 58 E	46311
PULAI MUDA, SUNGAI	STM	4 12 N	102 33 E	46307	PULAU LILANG, SUNGAI	STM	2 12 N	103 58 E	46311
PULAI NUMBER ONE, SUNGAI	STM	1 33 N	103 33 E	46311	PULAU LIMA, BAKOH	LCTY	5 49 N	102 27 E	46305
PULAI ONE, SUNGAI SEE					PULAU LUMUT FOREST RESERVE	FRST	2 55 N	101 18 E	46308
PULAI NUMBER ONE, SUNGAI	STM	1 33 N	103 33 E	46311	PULAU MALI, SUNGAI	STM	4 41 N	103 21 E	46306
PULAI SEBATANG, PARIT	DTCH	1 34 N	103 21 E	46311	PULAU MENGKUDU, TANJONG	PT	2 25 N	101 55 E	46309
PULAS, SUNGAI	STM	3 59 N	103 03 E	46307	PULAU MERTA JAM SEE				
PULAT, SUNGAI	STM	3 45 N	102 55 E	46307	KAMPONG PULAU MERTA JAM	PPL	5 35 N	100 22 E	46303
PULAU SEE KAMPONG PULAU TIGA	PPL	4 13 N	100 56 E	46304	PULAU NARING, SUNGAI	STM	4 20 N	102 04 E	46307
PULAU, SUNGAI	STM	4 11 N	103 03 E	46306	PULAU NYAK, PADANG	LCTY	3 27 N	102 37 E	46307
PULAU, SUNGAI	STM	4 34 N	100 38 E	46304	PULAU NYATOH	PPL	2 49 N	101 26 E	46308
PULAU, SUNGAI	STM	4 39 N	103 09 E	46306	PULAU PANJANG, SUNGAI	WICD	6 12 N	102 15 E	46305
PULAU, SUNGAI	STM	4 59 N	100 47 E	46304	PULAU PELURU, SELAT	CHRM	6 25 N	99 53 E	46302
PULAU, SUNGAI	STM	5 19 N	101 03 E	46304	PULAU PINANG SEE PINANG, STATE OF	ALMD	5 20 N	100 20 E	46303
PULAU BEKAN	PPL	4 10 N	101 23 E	46304	PULAU PINANG	PPL	3 33 N	102 34 E	46307
PULAU BESAR, SUNGAI	STM	6 12 N	102 11 E	46305	PULAU PINTU GEDONG FOREST RESERVE	FRST	2 55 N	101 15 E	46308
PULAU BETONG	PPL	5 18 N	100 12 E	46303	PULAU PISANG, SUNGAI	WICD	6 11 N	102 15 E	46305
PULAU BETONG, KUALA	STM	5 19 N	100 12 E	46303	PULAU REDANG HARBOUR	MUR	5 45 N	103 01 E	46306

PURUN, TASEK	LK	3 24 N	102 41 E	46307
PURUT, PULAU	ISL	4 28 N	102 29 E	46307
PURUT, SUNGAI	STM	4 12 N	101 36 E	46307
PUSAT, SUNGAI	STM	4 22 N	101 17 E	46304
PUSING	PPL	4 30 N	101 01 E	46304
PUSING, LUBOK	PPL	3 24 N	101 26 E	46308
PUSING, LUBOK	PUOL	4 53 N	102 20 E	46305
PUSING, SUNGAI	STM	4 53 N	102 20 E	46305
PUSONG, TANJONG	PI	2 26 N	104 30 E	46311
PUSU, BUKIT	HLL	5 36 N	102 32 E	46306
PUSU, BUKIT	MT	5 25 N	101 19 E	46304
PUSU, SUNGAI	STM	3 15 N	101 44 E	46308
PUTAR, SUNGAI	SIM	3 35 N	101 56 E	46307
PUTAT, AYER	STM	6 21 N	100 22 E	46302
PUTAT, PADANG	LCTY	3 17 N	102 32 E	46307
PUTAT, PARIT	DICH	2 07 N	102 30 E	46310
PUTAT, PENGKALAN	LUNG	4 07 N	101 03 E	46304
PUTAT, SUNGAI	SIM	2 27 N	104 30 E	46311
PUTAT, SUNGAI	STM	3 17 N	102 33 E	46307
PUTAT, SUNGAI	STM	3 22 N	103 01 E	46307
PUTAT, SUNGAI	STM	3 29 N	102 49 E	46307
PUTAT, SUNGAI	STM	3 52 N	102 27 E	46307
PUTAT, SUNGAI	STM	4 00 N	102 23 E	46307
PUTAT, SUNGAI	SIM	5 24 N	102 14 E	46305
PUTAT, SUNGAI	SIM	5 58 N	100 34 E	46302
PUTAT, SUNGAI	SIMC	2 14 N	102 16 E	46310
PUTE, BATU SEE PUTEH, BATU	HLL	6 25 N	100 08 E	46300
PUTEH, ANAK AYER	STM	2 20 N	102 37 E	46311
PUTEH, AYER	STM	2 19 N	102 36 E	46311
PUTEH, BATU (MALAYSIA), BATU PUTE (THAILAND)	HLL	6 25 N	100 08 E	46300
PUTEH, BATU	RKL	2 35 N	102 51 E	46311
PUTEH, BUKIT	HLL	4 34 N	103 25 E	46306

PUTEH, CHAROK	STM	5 47 N	100 45 E	46302
PUTEH, CHAROK	STM	5 53 N	100 54 E	46302
PUTEH, SUNGAI	STM	2 20 N	102 37 E	46311
PUTEH, SUNGAI	STM	2 39 N	102 16 E	46309
PUTEH, SUNGAI	SIM	2 52 N	101 52 E	46309
PUTEH, SUNGAI	STM	2 54 N	102 02 E	46309
PUTEH, SUNGAI	STM	3 07 N	101 41 E	46308
PUTEH, SUNGAI	SIM	3 15 N	101 46 E	46308
PUTEH, SUNGAI	STM	3 37 N	101 31 E	46308
PUTEH, SUNGAI	SIM	4 08 N	103 14 E	46306
PUTEH, SUNGAI	STM	4 11 N	103 02 E	46306
PUTEH, SUNGAI	STM	5 23 N	102 44 E	46306
PUTEH, SUNGAI	STM	5 30 N	102 11 E	46305
PUTEH, SUNGAI	STM	5 34 N	102 05 E	46305
PUTEH, SUNGAI	STM	5 45 N	102 15 E	46305
PUTEH, SUNGAI	SIM	6 22 N	100 28 E	46302
PUTEH ESTATE	ESTA	4 24 N	100 39 E	46304
PUTERI, SUNGAI	SIM	5 29 N	102 14 E	46305
PUTERI, TANJONG	PT	2 17 N	102 06 E	46310
PUTERI, TANJONG SEE PETERI, TANJONG	PT	5 40 N	100 21 E	46302
PUTING, SUNGAI	STM	2 36 N	101 50 E	46309
PUTING, SUNGAI	STM	3 42 N	103 03 E	46307
PUTING BELIONG, SUNGAI	DICH	3 23 N	101 17 E	46308
PUTING BELIONG, SUNGAI	SIM	4 33 N	101 43 E	46307
PUTING BELIONG, TANJONG	BRD	3 23 N	101 17 E	46308
PUTRA, BUKIT	HLL	2 11 N	102 32 E	46311
PUTRI, SUNGAI SEE PETERI, SUNGAI	STM	2 48 N	103 28 E	46307
PUTRI NAKROWS	STR1	1 27 N	103 42 E	46300
PUTU, SUNGAI	STM	4 06 N	102 10 E	46307
PUTUS, BUKIT	HLL	2 20 N	102 11 E	46310
PUTUS, BUKIT	HLL	2 23 N	102 09 E	46310
PUTUS, BUKIT	HLL	2 27 N	102 09 E	46310

Singapore

BATU KEKEK, TANJONG	PT	1 25 N	103 58 E	46400
BATU KOYOK, TANJONG	PT	1 24 N	104 02 E	46400
BATU PENGKALAN PAKAU, TANJONG	PT	1 24 N	104 04 E	46400
BATU PUTEH, PULAU	RKW	1 20 N	104 24 E	46400
BEDOK	PPL	1 19 N	103 57 E	46400
BEDOK	HLL	1 19 N	103 56 E	46400
BEDOK, SUNGAI	STMC	1 19 N	103 58 E	46400
BEDOK VILLAGE SEE BEDOK	PPL	1 19 N	103 57 E	46400
BELAKANGMATI, POELAU SEE SENTOSA	ISL	1 15 N	103 50 E	46400
BELALAI, BATU	RKSw	1 26 N	104 04 E	46400
BELANG, SUNGAI	STM	1 26 N	104 04 E	46400
BELAYAR, TANJONG SEE BERLAYAR, TANJONG	PT	1 16 N	103 48 E	46400
BENDERA, TELOK	BGHT	1 15 N	103 50 E	46400
BENDUL, SUNGAI	CRKT	1 22 N	103 39 E	46400
BENOI YANTU, SUNGAI	STM	1 18 N	103 41 E	46400
BENWI	HLL	1 19 N	103 41 E	46400
BEREMBANG, SUNGAI	STM	1 18 N	103 44 E	46400
BERHALA, TANJONG SEE BERHALA REPING	ISL	1 15 N	103 50 E	46400
BERHALA REPING	ISL	1 15 N	103 50 E	46400
BERIH, SUNGAI	STM	1 23 N	103 40 E	46400
BERIH, SUNGI SEE BERIH, SUNGAI	STM	1 23 N	103 40 E	46400
BERIH, TANJONG SEE SKOPEK, TANJONG	PT	1 23 N	103 40 E	46400
BERKAS, PULAU	ISL	1 12 N	103 44 E	46400
BERLAYAR, BUKIT	HLL	1 16 N	103 48 E	46400
BERLAYAR, TANJONG	PT	1 16 N	103 48 E	46400
BESAR SEE PUAH BESAR, SUNGAI	CRKT	1 24 N	103 51 E	46400
BESAR, BUKIT	HLL	1 18 N	103 48 E	46400
BESAR, SUNGAI	STM	1 25 N	103 58 E	46400
BIAN SAN AND SENG NGIAP ESTATE	ESTA	1 24 N	103 40 E	46400
BIJOU, MOUNT	HLL	1 24 N	103 46 E	46400

BIN TONG PARK	PPLX	1 19 N	103 48 E	46400
BIOLA, PULAU	ISL	1 10 N	103 45 E	46400
BLAKANG MATI, PULAU SEE SENTOSA	ISL	1 15 N	103 50 E	46400
BLAKANG MATI, SUNGAI	STM	1 15 N	103 50 E	46400
BLANGA, TELOK SEE BLANGA BAY WEST BAY	BAY	1 16 N	103 49 E	46400
BLANGA BAY WEST	BAY	1 16 N	103 49 E	46400
BLANGAH, TELOK SEE BLANGA BAY WEST BAY	BAY	1 16 N	103 49 E	46400
BLAYER, TANJONG SEE BERLAYAR, TANJONG	PT	1 16 N	103 48 E	46400
BLUKANG, SUNGAI	STM	1 20 N	103 38 E	46400
BLUKANG, SUNGI SEE BLUKANG, SUNGAI	STM	1 20 N	103 38 E	46400
BLUKANG KECHIL, SUNGAI	CRKT	1 20 N	103 38 E	46400
BLUKAR, SUNGAI	STM	1 23 N	103 55 E	46400
BOEKOEM-KETJIL, POELAU SEE BUKUM KECHIL, PULAU	ISL	1 14 N	103 46 E	46400
BOON LAY	PPL	1 20 N	103 42 E	46400
BOSING, POELAU SEE BUSING, PULAU	ISL	1 14 N	103 45 E	46400
BRADDELL HEIGHTS ESTATE	PPLX	1 21 N	103 52 E	46400
BRADDELL HILL	HLL	1 20 N	103 51 E	46400
BRANCA, PEDRA SEE BATU PUTEH, PULAU	RKW	1 20 N	104 24 E	46400
BRANI, PULAU	ISL	1 16 N	103 50 E	46400
BRANI SHOALS	SHOL	1 16 N	103 50 E	46400
BRICKWORKS ESTATE	PPLX	1 17 N	103 49 E	46400
BRIGHT HILL CRESCENT	PPL	1 21 N	103 50 E	46400
BRITISH MALAYA SEE MALAYA	RGN	4 00 N	102 00 E	46400
BROOK, BETING	RF	1 26 N	104 03 E	46400
BROWN, BUKIT	HLL	1 20 N	103 50 E	46400
BUAYA, PULAU	ISL	1 17 N	103 42 E	46400
BUKIT MANDAI VILLAGE	PPL	1 25 N	103 45 E	46400
BUKIT MERAH ESTATE	PPLX	1 17 N	103 49 E	46400
BUKIT PANJANG	PPL	1 23 N	103 46 E	46400
BUKIT PANJANG VILLAGE SEE BUKIT PANJANG	PPL	1 23 N	103 46 E	46400

FISHERMAN BANK	SHCL	1 22 N	104 04 E	46400
FORT CANNING SEE FORT CANNING HILL	HLL	1 18 N	103 51 E	46400
FORT CANNING HILL	HLL	1 18 N	103 51 E	46400
FRANKEL ESTATE	PPLX	1 19 N	103 55 E	46400
FRESHWATER ISLAND SEE BUKUM, PULAU	ISL	1 14 N	103 46 E	46400

FUYONG ESTATE	ESTA	1 22 N	103 46 E	46400
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GAJA, BATU SEE GAJAI, BATU	RKSW	1 15 N	103 50 E	46400
GAJAH, BATU	RKSW	1 15 N	103 50 E	46400
GEDONG, SUNGAI	STM	1 25 N	103 40 E	46400
GEDONG, TANJONG	PT	1 25 N	103 40 E	46400
GELANG, SUNGEI SEE GEYLANG RIVER	STM	1 18 N	103 53 E	46400

GEMOK, TANJONG	PT	1 26 N	103 57 E	46400
GEYLANG	PPLX	1 19 N	103 53 E	46400
GEYLANG, SUNGEI SEE GEYLANG RIVER	STM	1 18 N	103 53 E	46400
GEYLANG RIVER	STM	1 18 N	103 53 E	46400
GEYLANG SERAI	PPL	1 19 N	103 54 E	46400

GEYLANG SERAI VILLAGE SEE

GEYLANG SERAI	PPL	1 19 N	103 54 E	46400
GLENDINNING PASSAGE	CHNM	1 26 N	103 52 E	46400
GONGONG, TANJONG SEE				
PASIR, TANJONG	PT	1 25 N	104 05 E	46400
GOODWOOD HILL	HLL	1 19 N	103 50 E	46400
GOVERNMENT HILL SEE				
FORT CANNING HILL	HLL	1 18 N	103 51 E	46400

GRAVE HILL	HLL	1 20 N	103 50 E	46400
GUL, TANJONG	PT	1 18 N	103 40 E	46400

HABIB ISMAIL, KERAMAT	SHRN	1 21 N	103 46 E	46400
HABIB NOOR, KERAMAT	SHRN	1 17 N	103 51 E	46400
HAJI ISA, SUNGAI	STM	1 23 N	103 56 E	46400
HANTU, PULAU	ISL	1 14 N	103 45 E	46400
HANTU, PULAU	ISL	1 16 N	103 49 E	46400

HANTU, SUNGAI	STM	1 25 N	103 41 E	46400
HEAP GUAN SEE HEAP GUAN VILLAGE	PPLX	1 16 N	103 48 E	46400
HEAP GUAN VILLAGE	PPLX	1 16 N	103 48 E	46400
HENDERSON SHOAL	SHOL	1 25 N	103 59 E	46400
HERALD ROCK	RKW	1 26 N	103 41 E	46400

HOE SAN ESTATE	ESTA	1 23 N	103 41 E	46400
HOKIAN, TELOK	COVE	1 24 N	104 05 E	46400
HOLLAND SEE HOLLAND VILLAGE	PPLX	1 19 N	103 48 E	46400
HOLLAND GROVE PARK	PPLX	1 19 N	103 47 E	46400
HOLLAND VILLAGE	PPLX	1 19 N	103 48 E	46400

HONG KAH	PPL	1 21 N	103 43 E	46400
HONG KAH VILLAGE SEE HONG KAH	PPL	1 21 N	103 43 E	46400
HONG KONG PARK	PPLX	1 20 N	103 47 E	46400
MORSBURGH SEE BATU PUTEH, PULAU	RKW	1 20 N	104 24 E	46400
MORSESHOE REEF	RF	1 27 N	103 41 E	46400

HO TONG JEN ESTATE	ESTA	1 20 N	103 57 E	46400
HUAT CHOE	PPL	1 20 N	103 42 E	46400
HUAT CHOE VILLAGE SEE HUAT CHOE	PPL	1 20 N	103 42 E	46400
HUME HEIGHTS	PPL	1 21 N	103 46 E	46400
HUN YEANG	PPL	1 22 N	103 56 E	46400

HUN YEANG VILLAGE SEE HUN YEANG	PPL	1 22 N	103 56 E	46400
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INNER HARBOUR SEE INNER ROADS	RDST	1 17 N	103 51 E	46400
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PADANG TERBAKAR VILLAGE SEE				
KAMPONG PADANG TERBAKAR	PPL	1 20 N	103 58 E	46400
PAGAR, TANJONG	PT	1 16 N	103 51 E	46400
PALAI, TANJONG SEE BALAI, TANJONG	PT	1 25 N	103 59 E	46400
PALAWAN, TERUMBU SEE PELAWAN	RF	1 15 N	103 49 E	46400
PALAWAN REEF SEE PELAWAN, TERUMBU	RF	1 15 N	103 49 E	46400
PANDAN	HLL	1 19 N	103 47 E	46400
PANDAN, SELAT	STRT	1 16 N	103 44 E	46400
PANDAN, SUNGAI	STM	1 19 N	103 45 E	46400
PANDAN KECIL, BUKIT	HLL	1 17 N	103 48 E	46400
PANDAN KECIL, SUNGAI	CRKT	1 18 N	103 46 E	46400
PANDAN NATURE RESERVE	RESN	1 19 N	103 44 E	46400
PANGKONG, TANJONG	PT	1 16 N	103 42 E	46400
PANG SUA, SUNGAI	STM	1 26 N	103 45 E	46400
PANJANG, BUKIT	HLL	1 22 N	103 45 E	46400
PANJARA GAY SEE BENDERA, TELOK	BGHT	1 15 N	103 50 E	46400
PAPAN, MALANG	RKW	1 24 N	103 59 E	46400
PASIR, SUNGAI	CRKT	1 19 N	103 45 E	46400
PASIR, SUNGAI	STM	1 17 N	103 42 E	46400
PASIR, SUNGAI	STM	1 22 N	103 39 E	46400
PASIR, SUNGAI	STM	1 25 N	104 05 E	46400
PASIR, SUNGAI	STM	1 26 N	103 44 E	46400
PASIR, TANJONG	PT	1 25 N	104 05 E	46400
PASIR LABA, SUNGAI	CRKT	1 21 N	103 39 E	46400
PASIR LABA, TANJONG	PT	1 21 N	103 39 E	46400
PASIR PAJANG SEE				
PASIR PANJANG VILLAGE	PPLX	1 18 N	103 46 E	46400
PASIR PANJANG SEE				
PASIR PANJANG VILLAGE	PPLX	1 18 N	103 46 E	46400
PASIR PANJANG, BUKIT SEE				
BUONA VISTA	HLL	1 19 N	103 48 E	46400
PASIR PANJANG PARK	PPLX	1 17 N	103 48 E	46400
PASIR PANJANG VILLAGE	PPLX	1 18 N	103 46 E	46400
PASIR RIS	PPL	1 22 N	103 57 E	46400

PASIR RIS SEE KAMPONG PASIR RIS	PPL	1 23 N	103 56 E	46400
PASIR RIS VILLAGE SEE PASIR RIS	PPL	1 22 N	103 57 E	46400
PAWAI, PULAU	ISL	1 12 N	103 43 E	46400
PAYA, TEREMBU	RF	1 19 N	103 38 E	46400
PAYA LEBAR	PPL	1 21 N	103 53 E	46400
PAYA LEBAR AIRPORT SEE				
SINGAPORE INTERNATIONAL AIRPORT	AIRP	1 42 N	103 55 E	46400
PAYA LEBAR NORTH	HLL	1 20 N	103 53 E	46400
PAYA LEBAR SOUTH	HLL	1 20 N	103 53 E	46400
PAYAN, SUNGEI SEE POYAN, SUNGAI	STM	1 23 N	103 40 E	46400
PEAK ISLAND SEE TEMBAKUL, PULAU	ISL	1 13 N	103 52 E	46400
PEARLS HILL	HLL	1 17 N	103 50 E	46400
PEDERA BRANCA HORSBURGH SEE				
BATU PUTEH, PULAU	RKW	1 20 N	104 24 E	46400
PEIRCE RESERVOIR	RSV	1 22 N	103 49 E	46400
PELAWAN	RF	1 15 N	103 49 E	46400
PENGKALAN PAKAU, PARIT	DTCH	1 24 N	104 05 E	46400
PENG KANG	HLL	1 20 N	103 40 E	46400
PENG SIANG, SUNGAI	STM	1 24 N	103 44 E	46400
PENJURU, TANJONG	PT	1 18 N	103 45 E	46400
PENURU, TANJONG SEE				
PENJURU, TANJONG	PT	1 18 N	103 45 E	46400
PENYABONG SEE TEKUKOR, PULAU	ISL	1 14 N	103 50 E	46400
PENYALAI, TANJONG	PT	1 12 N	103 46 E	46400
PEREMPAN, SUNGEI SEE				
PEREMPAN BESAR, SUNGAI	STM	1 27 N	103 42 E	46400
PEREMPAN BESAR, SUNGAI	STM	1 27 N	103 42 E	46400
PEREPAT, SUNGAI	CRKT	1 18 N	103 45 E	46400
PEREPAT TINGGI, TANJONG	PT	1 17 N	103 41 E	46400
PERGAM, PULAU	ISL	1 24 N	103 40 E	46400
PERGAM, SUNGAI	STM	1 24 N	103 40 E	46400
PERPAT MATI, TANJONG	PT	1 16 N	103 43 E	46400
PERSEVERANCE ESTATE	PPLX	1 19 N	103 54 E	46400
PESEK, PULAU	ISL	1 17 N	103 41 E	46400

PESEK, SUNGAI	STM	1 17 N	103 41 E	46400
PETAI, SUNGAI	STM	1 25 N	103 51 E	46400
PETEMIN, TANJONG	PT	1 25 N	104 02 E	46400
PHILLIP, SELAT SEE PHILLIP CHANNEL	STRT	1 05 N	103 45 E	46400
PHILLIP, STRAAT SEE PHILLIP CHANNEL	STRT	1 05 N	103 45 E	46400
PHILLIP CHANNEL	STRT	1 05 N	103 45 E	46400
PHOENIX PARK	PPLX	1 18 N	103 49 E	46400
PIATU, BUKIT	HLL	1 19 N	103 38 E	46400
PIATU, SUNGAI	STM	1 19 N	103 38 E	46400
PIDARA, TANJONG	PT	1 17 N	103 42 E	46400
PIERCE RESERVOIR SEE PEIRCE RESERVOIR	RSV	1 22 N	103 49 E	46400
PINANG, SUNGAI	STM	1 23 N	103 54 E	46400
PINANG, SUNGAI	STM	1 25 N	103 52 E	46400
PIOTU SEE PIATU, BUKIT	HLL	1 19 N	103 38 E	46400
PISI, POELAU SEE PESEK, PULAU	ISL	1 17 N	103 41 E	46400
PLAYFAIR ESTATE	PPLX	1 20 N	103 53 E	46400
PLEASANT, MOUNT	HLL	1 20 N	103 50 E	46400
POH THIAN HOCK SOON HIN ESTATE	ESTA	1 20 N	103 40 E	46400
POYAN, SUNGAI	STM	1 23 N	103 40 E	46400
POYAN, SUNGI SEE POYAN, SUNGAI	STM	1 23 N	103 40 E	46400
PRAWN POND RESERVE	RESN	1 19 N	103 45 E	46400
PRINCE EDWARD PARK	PPLX	1 18 N	103 46 E	46400
PRINCE EDWARD POINT	PPLX	1 18 N	103 46 E	46400
PRINCESS ELIZABETH ESTATE	ESTA	1 22 N	103 46 E	46400
PUAKA	HLL	1 25 N	103 58 E	46400
PUAKA, SUNGAI	CRKT	1 24 N	103 57 E	46400
PUAKA, SUNGAI	STM	1 24 N	103 51 E	46400
PUAK BESAR, SUNGAI	CRKT	1 24 N	103 51 E	46400
PUBLIC UTILITIES BOARD CATCHMENT AREA	RESN	1 23 N	103 48 E	46400
PULAU DAMAR, SELAT	STRT	1 18 N	103 43 E	46400

PULAU MINYAK	PPLX	1 19 N	103 52 E	46400
PULAU SERAYA, SUNGAI	STM	1 16 N	103 44 E	46400
PULAU UBIN	PPL	1 24 N	103 58 E	46400
PULAU UBIN, SUNGAI	STM	1 24 N	103 58 E	46400
PULAU UBIN ESTATE	ESTA	1 25 N	103 56 E	46400
PULAU UBIN VILLAGE SEE PULAU UBIN	PPL	1 24 N	103 58 E	46400
PULO UBIN, SUNGEI SEE PULAU UBIN, SUNGAI	STM	1 24 N	103 58 E	46400
PUNGGOL	PPL	1 25 N	103 55 E	46400
PUNGGOL, SUNGAI	STM	1 25 N	103 54 E	46400
PUNGGOL, SUNGI SEE PUNGGOL, SUNGAI	STM	1 25 N	103 54 E	46400
PUNGGOL, TANJONG	PT	1 25 N	103 55 E	46400
PUNGGOL VILLAGE SEE PUNGGOL	PPL	1 25 N	103 55 E	46400
PUTEH, BATU	RKW	1 24 N	103 59 E	46400
PUTRI NARROWS	STRT	1 27 N	103 42 E	46400
QUEEN ASTRID PARK	PPLX	1 19 N	103 48 E	46400
QUEENSTOWN	PPLX	1 18 N	103 48 E	46400
RABBIT ISLET SEE BIOLA, PULAU	ISL	1 10 N	103 45 E	46400
RACE COURSE VILLAGE	PPLX	1 20 N	103 48 E	46400
RAFFLES PARK	PPLX	1 20 N	103 48 E	46400
RAJAH PRANG CHANNEL	CHNM	1 25 N	104 02 E	46400
RANGGAN, TANJONG SEE RENGAM, TANJONG	PT	1 26 N	104 03 E	46400

Annex 47

Extracts from Bowman J.D.,
Petroleum Developments in Far East in 1973, 58 The American
Association of Petroleum Geologists Bulletin 2124 (1974)

Petroleum Developments in Far East in 1973¹

J. D. BOWMAN²
Singapore 9, Singapore

Abstract In the Far East, during 1973, more than 295 exploration wells were drilled, and 39 new oil and gas fields were discovered. Approximately 60% of the activity was focused in Indonesia. Oil production averaged 2,855,226 BOPD in the Far East, and includes 1,000,000 BOPD from the Peoples's Republic of China. That is an increase of 31% over 1972, when daily production averaged 2,178,226 BOPD and included 600,000 BOPD from the People's Republic of China. Indonesia accounts for 46.5% of the crude oil produced in the Far East, and is followed by China, 35.0%; Brunei, 8.1%; India, 5.5%; and East Malaysia, 3.2%. Although natural gas production figures are incomplete, the daily Far East average exceeded 2.5 Bcf. Plans are being formulated for the construction of LNG plants in Sarawak, offshore Western Java, and North Sumatra. Petroleum legislation is being revised in Bangladesh, Burma, and Malaysia. Areas were opened for bid in Burma, India, Malaysia, and South Vietnam. Exploration contracts may be awarded by these countries and, possibly, Bangladesh before the close of 1974. Several deep-water blocks were acquired in 1973 and test wells may be drilled in the near future. The second deep-water test, 1,200 ft (365 m), was abandoned on the south coast of Java. Plans for geothermal exploration have been formulated in the Philippines.

INTRODUCTION (Fig. 1)

The Far East report covers a vast area, which reaches eastward from Afghanistan across India, Bangladesh, Burma, the Indonesian Archipelago, and the Malay Peninsula to Indochina; thence northward across the Philippines, Korea, China, and Taiwan to Japan. Also included are the Maldives and the Kerguelen Islands.

In 1973, the world energy crisis drove petroleum exploration and development activities in the Far East to a fever pitch. Between 23 and 30 offshore drilling rigs were operating and more would have been working had they been available. Exploration wells, both offshore and onshore, discovered 39 new oil and gas fields. Two offshore discoveries were announced in Thailand's Gulf of Thailand and 2 onshore discoveries were announced in Taiwan. Japan announced its first offshore discovery, and India spudded an offshore well in the Gulf of Cambay. Burma continued to drill offshore wells as the government reviewed bids and selected contractors to explore the Gulf of Martaban and Arakan Coast. OGDC completed a gas discovery in Pakistan. There was a resurgence of drilling activity in the Philippines, where 11 exploratory wells were drilled and more are scheduled for 1974.

More aggressive land acquisition, exploration, and development work are anticipated during 1974.

ACKNOWLEDGEMENTS

Information describing petroleum developments in the Far East comes from many sources. Petroconsultants S.A. Geneva's Foreign Scouting Service provided the basic data for many areas, and their permission to use these data is appreciated greatly. Useful stories and facts were found in both the *Oil and Gas Journal* and *Platt's Oilgram*. Thanks are due to the companies which submitted the details of their activities, and also to the individuals who tabulated these data. Special thanks are due to the following contributors.

JAPAN

R. N. Taylor, Gulf Oil Company of Japan

REPUBLIC OF KOREA

K. Ablewhite, Texaco Korea Inc.

PAKISTAN

J. E. Kennedy, Amoco Pakistan Exploration Co.

PHILIPPINES

B. W. Knuth, Phillips Petroleum Co.

TAIWAN

R. L. Johnston, Gulf Oil Company of China-Taiwan Branch

REPUBLIC OF VIETNAM

A. G. Hatley, Cities Service International Inc.

THAILAND

G. E. Kelley, Tenneco Thailand Inc.

AFGHANISTAN (Fig. 2)

The Afghan Petroleum Exploration Department, with technical and financial assistance from the USSR, conducts all exploration and exploitation activities in Afghanistan. No further information has been released to substantiate reports in 1971 that legislation was being drafted, whereby the undeveloped southern part of the country would be opened to private concessionaires. No private petroleum rights have been awarded.

No official petroleum activity reports are released, but press reports indicate that 1 geologic

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¹Manuscript received and accepted, April 29, 1974.

²Sun Eastern Exploration Company.

gorae 1, in the Sea of Japan, was abandoned at 13,985 ft (4,262 m) TD; and Texaco-Chevron KV-1, in the East China Sea, at 3,891 ft (1,186 m) TD.

The drafting of a treaty by Korea and Japan to enable joint development of the disputed continental-shelf areas was completed during the year, and ratification by the 2 countries is expected to take place in 1974. China has warned oil companies and South Korea against exploration of disputed areas in the Yellow Sea. China claims a territorial water area 200 mi wide. Parts of concessions offered by South Korea and awarded to Shell, Texaco, and Gulf lie in that disputed zone.

MALAYSIA (Fig. 6; Tables 2,6)

Petroleum laws are being revised by the Malaysian Government before new exploration rights are granted in mid-1974. Conoco Malaysia, Esso Exploration Malaysia, and Mobil Malaysia have leases covering offshore areas around the Malay Peninsula. In 1973, each of these companies agreed to convert their concessions to production-sharing contracts that were patterned after Indonesian production-sharing contracts. Terms of the new contracts call for exploration periods of 10 years, a 50% relinquishment after 5 years, and a 30-year exploitation period. Forty percent of the initial production will be used to defray exploration costs and the remaining production will be split 65% for Malaysia and 35% for the company. The split adjusts to 67.5-32.5% when production reaches 75,000 BOPD. Bonuses will be paid when production reaches the levels of 50,000 and 100,000 BOPD. Malaysia may participate for as little as 15% and raise their interest later, possibly to 51%.

Conoco farmed out 50% of its concession, which encompassed 16,602 sq mi (43,000 sq km) to Broken Hill Proprietary and El Paso Natural Gas; each took 25% interest in the block. Shortly after signing the farmout agreement, the group relinquished more than 50% of their holdings and retained 7,336 sq mi (19,000 sq km). Esso, in accordance with its concession agreement, relinquished 50% of its holdings in West Malaysia and retained 12,934 sq mi (33,500 sq km). Mobil enlarged its lease holdings off the west coast of the Malay Peninsula from 7,992 to 12,162 sq mi (20,700 to 31,500 sq km).

Conoco, Esso, and Mobil each conducted seismic programs in the waters around western Malaysia during 1973. Conoco drilled 2 exploratory tests and Esso Exploration drilled 3. Each company chalked up 1 discovery for a 40% wildcat-success ratio in west Malaysia.

In eastern Malaysia, Oceanic altered its original concession agreement with the Malaysian Gov-

ernment in May 1973 to a production-sharing contract. Oceanic Exploration and Development Corporation (a subsidiary of Oceanic Exploration, Denver) also diluted its interest in the 568-sq-mi (1,470 sq km) contract area to 37.5% by farming out 25% to Forex Oil Malaysia (a subsidiary of Forest Oil, Bradford, Pennsylvania), 25% to Lone Star Gas Malaysia (a subsidiary of Lone Star Gas, Dallas) and 12.5% to Sabah Offshore Oil (a subsidiary of Fluor Drilling Service, Los Angeles). Forest will act as operator for the group. Shell also signed a production-sharing contract with the Federation of Malaysia covering approximately 4,498 sq mi (11,650 sq km) around the Samarana and Erb West fields in Sabah. Discovery wells in both of the fields tested approximately 1,800 BOPD. Teiseki also converted their Sabah lease holdings to a service contract. Esso relinquished 2,560 sq mi (6,630 sq km), 50% of its holdings offshore Sabah.

Aquitaine and Esso reported marine-seismic programs which covered 290 and 200 mi (467 and 322 km), respectively, off the coast of Sabah. Marine reports indicate Shell conducted 5.25 months of marine seismic off the coast of Sarawak.

Drilling in eastern Malaysia was slow compared with 1972. Aquitaine was inactive in eastern Sabah, and Esso Exploration has conducted no exploration in Sabah since the Tembungo discovery. Drilling platforms will be constructed before the Tembungo field is developed. Shell never has reported its activity in Malaysia, but press reports indicate Takau 3, off Sarawak, was an oil discovery. Tests recovered an aggregate of 2,750 BOPD from two zones. Apparently, 3 development wells were drilled. Teiseki drilled its initial offshore test, Sebahat 1, in East Sabah.

News reports indicate that Shell, the sole producer of hydrocarbons in northwestern Borneo, averaged 92,000 BOPD in 1973, as compared with 70,000 BOPD in 1972; that is an increase of 31.4%. Production comes from the offshore Sarawak fields of Baram, West Lutong, Bakau, and Baronia. Pipelines will be laid, and crude from Samarang and Erb West fields will begin to flow to Labuan Island in 1975. Ultimate daily production of these fields should approach 150,000 bbl. Shell closed the Miri field last year after production from 90 wells had sunk to 450 BOPD. The Miri 1 was abandoned and returned to the country of Sarawak. Discovered in 1910, the well had produced 660,000 bbl over a 63-year life span. No hydrocarbons were produced in western Malaysia in 1973.

Shell plans to construct a new LNG plant at Tanjung Kidurong, Sarawak. A joint project between Mitsubishi and Shell, the installation will

have a capacity of 725 MMCFPD and should be operational by late 1976 or early 1977. The gas probably will come from Shell's "F" area.

MALDIVE ISLANDS (Fig. 1)

On January 22, 1973, Erap (20%), Aquitaine (SNPA 15%), and Viking Resources of New York (25%) received approval from the Maldivian Government to farm 60% interest in the sole Maldivian exploration permit; Erap became the operator. Members of the original group that farmed out part of their interest are Sunningdale Oils Ltd. of Calgary (11.4%), Pan Ocean Oil Corporation of New York (9.0%), Bow Valley Industries of Calgary (5.0%), Comoro Exploration Ltd. of New York (5.2%), Angus Mackenzie (5.2%), and Consolidated Development of Dallas (4.2%). The concession encompasses an area of 22,680 sq mi (58,740 sq km); 77 sq mi (200 sq km) is on land, 5,664 sq mi (14,670 sq km) on the continental shelf, and the remainder in water more than 656 ft (200 m) deep.

Exploration activity in 1973 was limited to the gathering of 6,560 line-mi (10,600 line-km) of marine-seismic data. These lines were shot by G.S.I. and covered an area inside the atolls and the central channel. No tests have been drilled on this concession.

NEPAL (Fig. 1)

No oil- or gas-exploration rights were granted by the Nepalese Government to foreign oil companies in 1973. No exploration or drilling activity was reported in 1973. A new state company, Nepal Oil Corp., was formed in the first half of 1973. The new corporation was organized to operate Burmah-Shell's and Esso's petroleum-products import and distribution network. Those networks were nationalized by the government of Nepal in 1973. In the future, the Nepal Oil Corp. may have jurisdiction over concessions and exploration matters.

NORTH VIETNAM (Fig. 1)

The Italian state oil company, ENI, signed a cooperation agreement with the Government of North Vietnam which covers the field of petroleum exploration. Over a period of 4 to 5 years, ENI is committed to spend \$8 to \$11 million (U.S.) for joint offshore exploration. ENI also will train North Vietnamese in the techniques of offshore exploration. Production-sharing terms of the agreement were not disclosed. Several Japanese firms are discussing the possibilities of joining ENI in exploring Gulf of Tonkin for hydrocarbons. No activity has been reported, but operations were scheduled to commence in late 1973, or early 1974.

PAKISTAN (Fig. 2; Tables 2, 6)

Only the national oil company, Oil and Gas Development Corp. (OGDC) and Amoco Pakistan Exploration Co. maintained exploration activity in 1973. However, Marathon signed an agreement with the Government of Pakistan on April 9 to explore for oil in a concession covering the Makran coast, thus becoming the third company to explore actively in the country by the end of the year. Marathon reportedly had started both geologic surface work and an offshore seismic survey by November, but no details were released. Wintershall was not active during the year, after the abandonment of the Indus Marine B 1 exploratory hole in March.

OGDC maintained field parties carrying out geologic work, conventional seismic and gravity surveys. In the company's exploration-drilling ventures, one rig was at the Rodho location throughout the year. Dhadhamber 1 was abandoned after almost 12 months production testing. Kothar 1 was on test for a similar period of time, and eventually was declared a gas discovery in October. Development drilling consisted of the fifth well at Toot, which by the end of the year had reached TD of 14,432 ft (4,400 m) in Jurassic. Year-end preparations were being made to spud Hundi 3.

Amoco did not renew the previous year's exploration momentum until May, after a new agreement was signed with the Government of Pakistan on April 30 for 3 new license areas, totaling 19,780 sq mi (51,230 sq km). At the same time 7,590 sq mi (19,658 sq km) of the 1969 (Multan) license area was relinquished, to leave 9,330 sq mi (24,165 sq km) of the concession. The new areas are held jointly by Amoco and Total Pakistan, with an option for the Government to buy up to a 40% working interest on declaration of a commercial discovery. At year-end the Government had approved a farmout of interest in the Multan License, by the Amoco-Total group, to both Broken Hill Proprietary Company Ltd. and El Paso Natural Gas Co. The Government, through the assignee, OGDC, maintained its 5% interest in the Multan License.

Amoco had 2 contract vibroseis crews operating in 2 of the 3 new license areas after May 1. One geologic field party operated in the winter months. An exploratory drilling campaign was begun in December, when Amoco spudded its first well at Sarai Sidhu, in the Multan License. Pakistan Petroleum Ltd. (PPL) and Pakistan Oilfields Ltd. (POL) only engaged in development drilling. PPL drilled well 18 in the Sui gas field, and completed the well as a producer at TD 4,338 ft (1,323 m) on December 28. POL completed Meyal 3 in July as

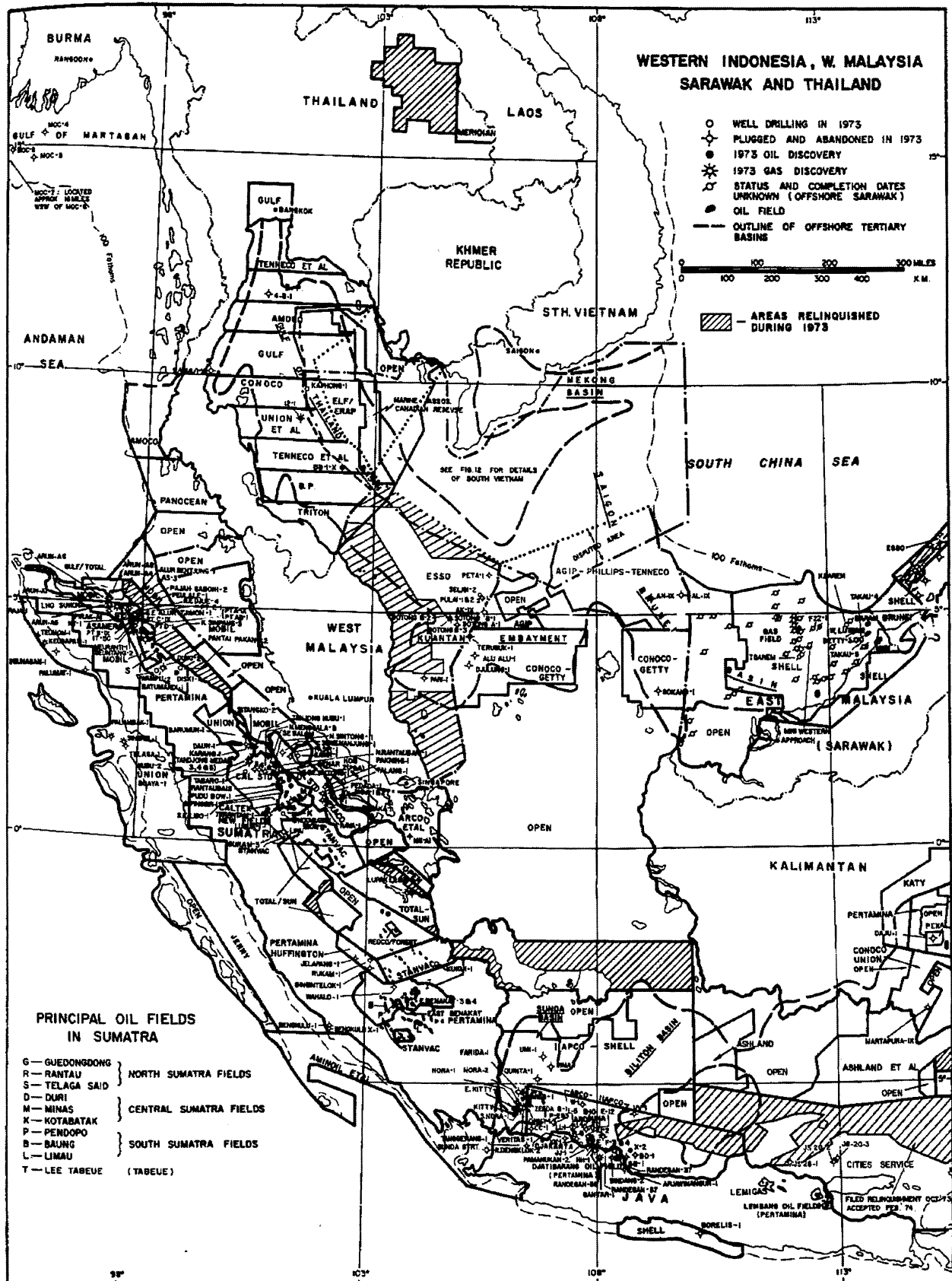


FIG. 6—Western Indonesia, Malaysia, Thailand, Southern Burma, and Khmer contract, concession areas, and exploratory wells, 1973.

Annex 48

**Extracts from Limits in the Seas No. 60 – Territorial Sea Boundary:
Indonesia-Singapore, The Geographer, U.S. Department of State,
dated 11 Nov 1974**

This paper is one of a series issued by The Geographer, Bureau of Intelligence and Research of the Department of State. The aim of the series is to set forth the basis for national arrangements for the measurement of the territorial sea or the division of the continental shelf of maritime nations.

Intended for background use only, this research document does not represent an official acceptance of the United States Government of the line or lines represented on the charts or, necessarily, of the specific principles involved, if any, in the original drafting of the lines. Additional copies may be requested by mail from The Geographer, Department of State, Washington, D.C. 20520, or by telephone (Area Code 202, 632-2021 or 632-2022).

LIMITS IN THE SEAS

No. 60

TERRITORIAL SEA BOUNDARY: INDONESIA-SINGAPORE

November 11, 1974

The Geographer
Office of the Geographer
Bureau of Intelligence and Research

Annex 49

**Records of Survey Conducted on Pedra Branca and Middle Rocks
from 28 June to 1 July 1977**

P S A

FILE No.

HD.SS.HS 54/77

DEPARTMENT

APPROPRIATE
OFFICER

HORSEBURGH. LT.
HOUSE.

CH04
\$
LEE

He

DEPARTMENTAL
REFERENCE
NUMBERS

RELATED
FILE

19C/74

18C/73

4/25/54-73.

3/6L/4.1-77

3/64/4.2-77

Data Bank. (LS-MISC-A-1129A & B)

PORT OF SINGAPORE
AUTHORITY
HYDROGRAPHIC DEPT.

WORK PROGRESS SHEET

HD 11

Date

1 9 0 8 7 7


*CHARGEABLE/NON-CHARGEABLE

Originator/Department Self-Initiated			Originator/Department Ref. Number -		Reference File ES/HD 1/N/5	Job Number 54/77
Nature of Job Sounding			Location of Job Horsburgh Lighthouse		Amount \$5,650/-	
Date	T I M E		Officer-in-charge	Name of Launch	Remarks	
	Start	End				
28/6/77	0800	-	Mr Choy Kum Weng	Dinghy		
29/6/77	-	-	Mr Lee Weng Hun	"		
30/6/77	-	-	"	"		
1/7/77	-	1800	"	"		

CERTIFIED BY:

Name of Officer: MR CHOY KUM WENG

Designation: TECHNICAL OFFICER (H)

Signature: 

*Delete where necessary

D-1074A4

W

THEODOLITE OBSERVATION SHEET

 Ref: H b / 007
 FILE 17/2
 FORM 19/4

10

OBSERVER: CHOY KUM WENG		DATE: 29-6-77		WEATHER:	
STATION OCCUPIED: \uparrow MK.D.		VIZ:			
OBSERVATIONS FOR: MA.D Horsburg Light House Survey.					
TRUE/FALSE STATION MA.D		DIST. TO T.S. —		DIR. OF T.S. —	
REFERENCE OBJECT: Control					
	CIRCLE READING	RETURN	MEAN CORR.	CORRECTED CIR. READING	
1	01° 00' 46"	01° 00' 33"	01° 00' 40"	J 360 00 00	
2	180° 59' 54"	180° 59' 55"	59 55	J	
3					
4					
5					
6					
7					
8					
STA	Rock Dist. 955 m				
	OBS. READING	CORR.	CORRECTED READING		
1	124 24 28	-01° 00' 40"	123 23 48		
2	304 23 37	59 55	303 23 42		
3			303		
4					
5					297 23
6					123 24
7					174 00
8					
			8) 123 23 45		
ACCEPTED DIRECTION Z					
STA	248 18 02"	-01 00 40	247 17 22		
1	68 17 31"	59 55	67 17 36		
2					
3					
4					
5					
6					
7					
8					
			8) 247 17 29		
ACCEPTED DIRECTION					
STA	298 23 48	-01 00 40	297 23 00		
1	118 23 15	59 55	117 23 20		
2					
3					
4					297 23
5					247 17
6					50 06
7					
8					
			8) 297 23 12		

THEODOLITE OBSERVATION SHEET

FORM : FH/007

11

OBSERVER:- LEE W. H. DATE 29/6/77 WEATHER: SUNNY
 STATION OCCUPIED:- Control Station (Malacca Straits Survey)
 OBSERVATIONS FOR:- Horsburg Light House Survey.
 TRUE/FALSE STATION DIST. TO T.S. DIR. OF T.S.
 REFERENCE OBJECT:- Mangung Stn.

	CIRCLE READING	RETURN	MEAN CORR.	CORRECTED CIRCLE READING
1	000 00 30		00 30 /	
2	180 01 08		01 08 /	
3	090 02 25		02 25 /	
4	270 01 56		01 56 /	
5				
6				
7				
8				

STA Trig. Stn (Mt. Gunung Pelali)

	OBS. READING	CORR.	CORRECTED READING
1	003° 29 40	00 30 /	03° 29 10 /
2	183 30 15	01 08 /	29 07 /
3	093 31 43	02 25 /	29 18 /
4	273 31 21	01 56 /	29 25 /
5			
6			
7			
8			

0) 03 29 16 /

ACCEPTED DIRECTION

STA	Stn. D	Dist. 19.7m (15.86 Hor. Dist. N.A.)
1	094 49 28	00 30 / 94 48 58 / 126 24 10 /
2	274 50 40	01 08 / 49 32 / 233 36 47 /
3	184 52 01	02 25 / 49 36 /
4	004 51 08	01 56 / 49 07 /
5		
6		
7		
8		

8) 04 49 18 18 /

36° 23' 41"

THEODOLITE OBSERVATION SHEET

FORM : B5/007

13

OBSERVER:- LEE W-H DATE 29/6/77 WEATHER: SUNNY

STATION OCCUPIED:- Control Stn. (Malacca Straits Survey)

OBSERVATIONS FOR:-

TRUE/FALSE STATION DIST. TO T.S. DIR. OF T.S.

REFERENCE OBJECT:- Mangung Stn.

	CIRCLE READING	RETURN	MEAN CORR.	CORRECTED CIRCLE READING
1	090° 02 22		02 22	
2	270 01 48		01 48	
3				
4				
5				
6				
7				
8				

STA Black Bn. (Next to Mangung Lt.)

	OBS. READING	CORR.	CORRECTED READING
1	090° 04' 39	02 22	090 02 17 /
2	270 04 08	01 48	02 20 /
3			
4			
5			
6			
7			
8			

0) 090 02 19 /

ACCEPTED DIRECTION

STA			
1			
2			
3			
4			
5			
6			
7			
8			

8)

THEODOLITE OBSERVATION CONTINUATION SHEET

FORM: Hb/007

15

STATION OCCUPIED: Jetty A (Horsburg) Date: 1/7/77OBSERVER: Lee W. H.

STA	OBS. READING			CORR.	CORRECTED READING		
1	230	53	03	00 35 /	230	52	28 /
2	50	53	16	00 35 /	52	37	1 /
3	320	55	03	02 27 /	52	36	1 /
4	100	54	58	02 20 /	52	38	1 /
5							
6							
7							
8							

8) $230^{\circ} 52' 35''$

ACCEPTED DIRECTION

STA	OBS. READING			CORR.	CORRECTED READING		
1	247	43	42	00 35 /	247	43	07 /
2	67	42	10	00 35 /	43	31	1 /
3							
4							
5							
6							
7							
8							

8) $247^{\circ} 43' 19''$

ACCEPTED DIRECTION

STA	OBS. READING			CORR.	CORRECTED READING		
1	251	31	03	00 35 /	251	30	28 /
2	71	31	14	00 35 /	30	35	1 /
3	321	33	06	02 27 /	30	34	1 /
4	161	32	55	02 20 /	30	35	1 /
5							
6							
7							
8							

8) $251^{\circ} 30' 34''$

ACCEPTED DIRECTION

STA	OBS. READING			CORR.	CORRECTED READING		
1							
2							
3							
4							
5							
6							
7							
8							

8)

ACCEPTED DIRECTION

Horsburg to Southern Rock (Right)

16

CA1000 FIELD RECORDER

MASTER SERIAL NO. DATE 1/7/77 REMOTE ~~Western~~ Southern Rock (Right)
SITE Horsburg
OPERATOR Choy Toh

READINGS

B	0	3							
C		3	1						
D			2	3					
E				2	7				
A					7	7	5		

x 3

322	7	7	5
968	3	2	5

 METRES

SYSTEM ZERO CORRECTION

--	--	--	--

 METRES

MET. CORRECTIONS

	20.5		
MASTER	30.0		
REMOTE	27.0	27.5	
MEAN	1012	1012	
REFRACTIVE INDEX FROM NOMOGRAM			

968.325
968.355
968.355
968.309

Δ 13873.384
968.346

CORRECTION = 1.000325 - REFRACTIVE INDEX PARTS/MILLION
SLOPE DISTANCE METRES

CA1000 FIELD RECORDER

MASTER SERIAL NO. DATE REMOTE ~~Western~~ Southern Rock
SITE Horsburg
OPERATOR Choy Toh

READINGS

B	0	3							
C		3	1						
D			2	2					
E				2	7				
A					7	8	5		

x 3

322	7	8	5
968	3	5	5

 METRES

SYSTEM ZERO CORRECTION

--	--	--	--

 METRES

MET. CORRECTIONS

MASTER			29.9
REMOTE			27.1
MEAN			1012
REFRACTIVE INDEX FROM NOMOGRAM			

CORRECTION = 1.000325 - REFRACTIVE INDEX PARTS/MILLION
SLOPE DISTANCE METRES

MASTER SERIAL NO. DATE 1/7/77 REMOTE ~~Western~~ Southern Rock
SITE Horsburg
OPERATOR Choy Toh

READINGS

B	0	3							
C		3	2						
D			2	2					
E				2	7				
A					7	8	5		

x 3

322	7	8	5
968	3	5	5

 METRES

SYSTEM ZERO CORRECTION

--	--	--	--

 METRES

MET. CORRECTIONS

MASTER			
REMOTE			
MEAN			
REFRACTIVE INDEX FROM NOMOGRAM			

CORRECTION = 1.000325 - REFRACTIVE INDEX PARTS/MILLION
SLOPE DISTANCE METRES

MASTER SERIAL NO. DATE REMOTE
SITE
OPERATOR

READINGS

B	0	3							
C		3	1						
D			2	2					
E				2	7				
A					7	8	3		

x 3

322	7	8	3
968	3	4	9

 METRES

SYSTEM ZERO CORRECTION

--	--	--	--

 METRES

MET. CORRECTIONS

MASTER			
REMOTE			
MEAN			
REFRACTIVE INDEX FROM NOMOGRAM			

CORRECTION = 1.000325 - REFRACTIVE INDEX PARTS/MILLION
SLOPE DISTANCE METRES

CA1000 FIELD RECORDER

MASTER SERIAL NO.
 DATE 1/7/77 REMOTE

READINGS

B 0 3
 C 3 5
 D 5 6
 E 6 1
 A 0 7 5

x 3 356 0 7 5 METRES
 1068 2 2 5

SYSTEM ZERO CORRECTION
 METRES

MET. CORRECTIONS

MASTER REMOTE MEAN
 DRY BULB
 WET BULB
 PRESSURE
 REFRACTIVE INDEX FROM
 NOMOGRAM

1068 . 225
 1068 . 240
 1068 . 225
 1068 . 243
 4 14272 . 933
 1068 . 233

CORRECTION = 1.000325 - REFRACTIVE INDEX PARTS/MILLION
 SLOPE DISTANCE METRES

CA1000 FIELD RECORDER

MASTER SERIAL NO.
 DATE REMOTE

READINGS

B 0 3
 C 3 6
 D 5 7
 E 6 1
 A 0 8 0

x 3 356 0 8 0 METRES
 1068 2 4 0

SYSTEM ZERO CORRECTION
 METRES

MET. CORRECTIONS

MASTER REMOTE MEAN
 DRY BULB 29.5 29.5 29.8
 WET BULB 26.6 27.0 27.0
 PRESSURE 1012 1011 1012
 REFRACTIVE INDEX FROM
 NOMOGRAM

CORRECTION = 1.000325 - REFRACTIVE INDEX PARTS/MILLION
 SLOPE DISTANCE METRES

MASTER SERIAL NO.
 DATE REMOTE

READINGS

B 0 3
 C 3 5
 D 5 6
 E 6 1
 A 0 7 5

x 3 356 0 7 5 METRES
 1068 2 2 5

SYSTEM ZERO CORRECTION
 METRES

MET. CORRECTIONS

MASTER REMOTE MEAN
 DRY BULB
 WET BULB
 PRESSURE
 REFRACTIVE INDEX FROM
 NOMOGRAM

CORRECTION = 1.000325 - REFRACTIVE INDEX PARTS/MILLION
 SLOPE DISTANCE METRES

MASTER SERIAL NO.
 DATE REMOTE

READINGS

B 0 3
 C 3 6
 D 5 7
 E 6 1
 A 0 8 1

x 3 356 0 8 1 METRES
 1068 2 4 3

SYSTEM ZERO CORRECTION
 METRES

MET. CORRECTIONS

MASTER REMOTE MEAN
 DRY BULB 30.0 30.0
 WET BULB 27.0 27.5
 PRESSURE 1012 1012
 REFRACTIVE INDEX FROM
 NOMOGRAM

CORRECTION = 1.000325 - REFRACTIVE INDEX PARTS/MILLION
 SLOPE DISTANCE METRES

18

D	t'	t-t'	P	A	B	B.P. 10^{-3}	Q	DQ 10^6	L
1068.233	27.0	2.8	1012	182	249	251.99	-69.99	-0.070	1068.263

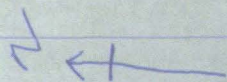
(To Eastern Rock)

968.346	27.1	2.7	1012	183	249	251.99	-68.99	-0.070	968.276
---------	------	-----	------	-----	-----	--------	--------	--------	---------

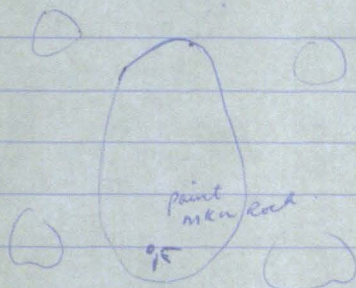
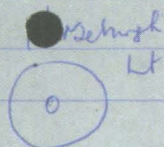
(To Western Rock)

23

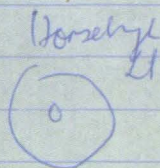
in line
with Eastern Rocks



WESTERN ROCKS



EASTERN ROCKS



Annex 50

**Extracts from Trocki C., Prince of Pirates: The Temenggongs and
the Development of Johor and Singapore (1979)**

PRINCE OF PIRATES

THE TEMENGGONGS AND THE DEVELOPMENT
OF JOHOR AND SINGAPORE
1784-1885

Carl A. Trocki



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1

Prelude to Singapore

1784–1819

The term “Johor” is used by historians to refer to two different states — an old one and a new one. Old Johor was the maritime Malay empire that succeeded Malacca. It began in 1512 when the defeated Sultan of Malacca established a capital on the Johor River,¹ and gradually disintegrated in the eighteenth century. Sir Richard Winstedt has written the first comprehensive account of this state in his *A History of Malaya*.² Modern Johor occupies the southern tip of the Malay Peninsula and is one of the eleven states of the Federation of Malaysia. It dates from the mid–nineteenth century.

There are historical, geographic, and dynastic connections between these two states, as Winstedt has shown in his “History of Johor”.³ In many respects, the present state of Johor is a successor of the earlier empire. While the relationship between old Johor and modern Johor is undeniable, other Malay states, including Pahang, Trengganu, Selangor, Perak, and the nineteenth-century Residency of Riau, have as much claim to the heritage of old Johor as does new Johor. The dividing-line between the two, as near as one can make out, was the foundation of Singapore by Sir Thomas Stamford Raffles in 1819.

Raffles received the island of Singapore for the East India Company from a chief who was known as Abdul Rahman,

1. The capital of the Johor kingdom was moved about twenty times between 1512 and 1682, generally because of Portuguese or Achehnese attacks or because of the installation of a new ruler. From 1513 to 1526, it was at Bentan (Riau). From 1526 to 1618, it was at various sites on the Johor River. In 1618, it was moved to Lingga and then to Tambelan. From 1637 to 1673, it was again located at various places on the Johor River, generally Batu Sawar. It was again at Riau in 1673–85. It was back on the Johor River at Kota Tinggi from 1688 to 1700. From 1722 to 1819, it was at Riau.
2. Richard O. Winstedt, *A History of Malaya* (Singapore, 1935). First published as *JMBRAS*, v. 13 (1935), pp. 1–270. All references are to the first edition.
3. R. O. Winstedt, “A History of Johor 1365–1895 A.D.”, *JMBRAS*, v. 10, pt. 3 (December 1932), pp. 1–167, with appendices. His treatment of post-1819 Johor is contained in Chapters 10, 11, and 12 of this work (pp. 86–120).

as his overlord. Newbold claims that all of these "petty states" were under the "Sultan of Johore", but he does not say whether he means Abdul Rahman of Lingga or Hussain of Singapore. Winstedt, in one article, follows Newbold in stating that Engku Konik, Temenggong of Muar (1801–30), had been installed by Sultan Mahmud III and that his successor was installed by Sultan Hussain of Singapore in 1830.⁶ However, in his "A History of Johor", Winstedt takes a different line. "The immediate sway of the Temenggong of Johor ran from Pontian round Cape Rumenia to Sedili Besar. But Engku Konik, Temenggong of Muar from 1801 to 1830, was appointed by 'Abdu'r-Rahman, Temenggong of Johor and Singapore'.⁷ This discrepancy is probably indicative of the fact that these territories were not very important at this time.

It is of interest that no contemporary account (c. 1800–30), whether Malay, English, or Dutch, has much to say about the Temenggongs' government on the mainland of Johor. This is probably because there really was not one to speak of. In addition, neither Newbold nor Begbie indicate that the Temenggong exercised authority in the islands to the south. But Dutch reports and those from other British colonial officials do connect the Temenggong with the sea peoples and the off-shore islands.

Legitimate authority on the mainland, whoever held it, did not change the fact that outside of Muar there was hardly anything worth governing. In 1826, some Europeans from Singapore travelled up the Johor River as far as Kota Tinggi and found only three settlements.⁸ The account of Crawford's circumnavigation of Singapore Island in 1825 reports that along the entire southern coast of Johor, from Tanjong Ramunia in the east to Kukub in the west, "the country is one dreary forest without human habitation or apparently the marks of there ever having existed any." Outside of a few "wretched and temporary" woodcutters' huts on Pulau Ubin

6. Winstedt, "The Temenggongs of Muar", *JMBRAS*, v. 10, pt. 1 (1932), p. 31. See also Newbold's article in J. H. Moor, *Notices of the Indian Archipelago and Adjacent Countries* (Singapore, 1837), Appendix, pp. 73–76, "Sketch of the State of Muar".

7. Winstedt, "A History of Johor", p. 90.

8. "Trip to the Johore River", *Singapore Chronicle*, August 1826, in Moor, *Notices*, pp. 264–68. The Temenggong did exercise authority on the Johor River to some extent. The writer claims he had appropriated some old cannons from Bukit Seluyut (p. 266). However, the Bugis of Johor Lama were apparently under a Suliwatang in Singapore (p. 264).

In about 1824, the Temenggong's following of maritime peoples numbered anywhere from 6,000 to 10,000. This figure includes his kampong at Singapore which had about 1,000 people, including 500 Bugis who fled from Riau in 1820 under their chief, Arong Belawa.¹³ Beyond this, or perhaps with this, the Temenggong controlled the whole western section of the Riau Archipelago. Taken together, various contemporary accounts show that the Temenggong controlled the following:

TABLE 1
The Temenggong's Maritime Following, c. 1823¹⁴

Island	Suku*	Population	Boats
Karimon	?	1,250	?
Buru	Buru	670	3
Galang	Galang	1,300	20
Moro	Moro	560	15
Batam	Trong	?	10
Sugi	Sugi	1,600	6
Bulang	Pekaka	1,050	?
Timiang	Timiang	1,100	30
Singapore	.....	1,500	?
Johor	.....	1,000	?
		10,030	84

* Tribe name

These islands, together with Johor and Singapore, gave the Temenggong a chain of strategically located bases which made possible the control of all traffic moving between the Straits of Malacca and the South China Sea (see Map 1). Whether or not the population figures are accurate (Begbie does not give his source),

13. Arong Belawa apparently took over the following of Engkau Karaeng Talibak (see p. 43 above). His wives included a daughter of Yang Di-Pertuan Muda Raja 'Ali (1784–1805) and a daughter of Karaeng (Begbie, pp. 283–84). The *Tufhat* has a long account of his expulsion from Riau, claiming that he eventually returned to Riau and made his peace with the Dutch and Raja Ja'afar (p. 279). However, Gibson-Hill reports that he was buried in the Temenggong's cemetery at Teluk Belanga. C. A. Gibson-Hill, "Singapore, Old Strait and New Harbour", *Memoirs of the Raffles Museum*, no. 3 (December 1956), p. 80.
14. Population figures based on Begbie, *The Malayan Peninsula*, pp. 270–72. Boats based on Presgrave, "Report on Piracy", p. 71. See also Appendix A.



Map 1. The Temenggong's Domain c. 1818–1823

There was no future for him at Riau with Raja Ja'afar and the Dutch. All that was left was Johor, and there was nothing there to attract him. Singapore, despite all its troubles, had become a populous and successful port. There were many reasons which compelled the Temenggong to remain there, beyond the fact that he had no alternative.

While Crawford's argument regarding the success of Singapore as being the responsibility of the British may have some validity, he appears to have ignored certain realities which his successors ultimately were forced to recognize. Singapore's size and prosperity left many opportunities for the Malay chiefs to augment their wealth and power. They had agreed to aid in the suppression of piracy by the treaty of 1824, and there was really no way that the British alone could police the many channels and straits of the region. In the past the sea peoples under the Temenggong had carried out the function of patrolling these waters. However, since they were not allowed to collect presents or port duties from the native and Chinese vessels, who would pay to suppress the pirates? The allowances given to the Sultan and the Temenggong were insufficient to pay their followers. The only recourse for these people was to continue in their former occupation on a free-lance basis — they became pirates.

We should define the word *pirates*. As long as the Malay political system of the region was operative, the activities of the sea peoples had been violent but perfectly legitimate pursuits. The sea peoples possessed the seas and what floated on them by hereditary-feudal right from the Sultan of Johor. So long as their chief held a valid title from the Sultan, their "patrol" activities regarding trade were a legitimate naval operation.

Some groups of *orang laut*, however, did not come under recognized chiefs. These were *perompak* — wanderers and renegades who included hereditary outlaw bands with no fixed abode.⁴¹ There were also *perompak* who were temporary bands of outlaws under down-on-their-luck rajas and foreign adventurers. At this time, certain groups were disorganized and in a turbulent state because of recent economic difficulties. They too had a

41. Begbie, *The Malayan Peninsula*, pp. 271–73. Begbie describes some *suku* as being perpetual wanderers, while most lived more or less ashore or at least had bases on the islands from which they drew their names. There were also the Illanuns, whom everyone looked on as pirates.

new elements to lay the foundation for an agricultural state in Johor. It is hard to say just how much he had inherited from his father. In 1825, Ibrahim was only fifteen years old. He was too young to effectively manage the affairs of his father's government. From 1825, the state went into a period of interregnum and disintegration. There was a power vacuum in the area around Singapore. It was ten years before the Temenggong's successor began putting the pieces back together again. From 1826 to 1836 politics were in abeyance and "piracy" reigned.

3

The Temenggong of Singapore 1825 – 1848

Temenggong Daing Ibrahim¹ was the founder of modern Johor. He was a transitional figure who bridged the gap between the ancient maritime and the modern landed state. When he was left with the responsibility for the family's fortunes, he had very few resources. If he was to survive as a ruler, he was faced with two apparently mutually exclusive alternatives: the way of the English or the way of his own followers and Malay tradition. He could be a puppet or a pirate. He managed a compromise.

In 1826, his only tangible resources were his father's pension, which the Straits government continued to pay to him, and his own kampong at Teluk Belanga. Cut off from the Riau court and the Sultan, he had no title.² He was not officially installed as Temenggong until 1841. The period between Abdul Rahman's death and his own installation was one of trial and testing, during which the young chief made his own way in a changing and dangerous world.

His father's death had very nearly brought about the disintegration of the Temenggong's government. Many of Abdul Rahman's followers drifted off and went their own way; some may have rallied briefly around Tengku Yahya, the son of Sultan Hussain. In 1826, he is reported to have sent people to work the tin

1. Temenggong Daing Ibrahim (b. 1810, d. 1862), also known as Daing Ronggek, Daing Kechil, and Tengku Chik, was a younger son of Temenggong Abdul Rahman. The elder son, Abdullah, is reported to have been mentally unbalanced (Winstedt, "A History of Johor", p. 91). Winstedt notes that he was also wrongly called Ganggek and Renggek by Munshi Abdullah. See also Major Dato Haji Mohamad Said bin Haji Sulaiman, *Hikayat Johor dan Tawarikh Al-Marhum Sultan Abu Bakar Johor* (Johor Baharu, 1950), p. 3.
2. Winstedt, "A History of Johor", p. 91. Winstedt suggests: "Probably the delay in installing Ibrahim as Temenggong of sixteen years was due to hesitation on the part of Sultan Hussain of Singapore to usurp the prerogative of the Sultans of Lingga and to the fact that after Sultan Hussain's decease in 1835 there was no Sultan of Singapore until 1855."

following had become fragmented, by the time Ibrahim came of age he had already begun to show his strength among these peoples.

In 1835, a report in the *Singapore Free Press* accused the Temenggong and his followers of a number of piracies in the immediate region:

It is reported that a number of piratical boats manned by people belonging to Telok Balanga have been and still are lurking in the straits between this and Rio, committing atrocities of more than usual number and daring. In the hope that it may attract the notice of Government, I request that you will publish this list of them in your next paper.

One Pucat which left Rio on or about the 1st inst. bound for this place, captured; crew 25 or 26 in number missing, supposed to have been all murdered.¹¹

The account goes on to give details about four more vessels which had allegedly been attacked by pirates from Teluk Belanga.

Bonham's subordinates also suspected the Temenggong of being involved in piracy. In his book, T. J. Newbold recommended "a discreet surveillance over the conduct of the present Tumungong of Johore; who is more than suspected of being the mainspring of the daring system of piracy which has so long been an opprobrium to the eastern extremity of the Straits. A threat of withdrawing the stipend he enjoys gratuitously from the British Government might be useful."¹²

The Dutch, too, cast suspicion on the establishment at Teluk Belanga. In 1836, the Resident of Riau "pointed out that although the population of Rhio and Lingga was altogether bad, it was notorious that a great number of pirates actually lived in the New Harbour and Telok Belanga districts of Singapore itself — where they got their information and their powder and shot, and where they were able to get rid of their booty without difficulty".¹³

Bonham himself was well aware that Ibrahim had become a rather disreputable character at Singapore. He left the following description of him in 1835:

11. *SFP*, 12 November 1835.

12. Newbold, *Political and Statistical Account*, v. 1, p. 37.

13. Walter Makepeace, R. St. J. Braddell, and G. E. Brooke, *One Hundred Years of Singapore* (London, 1921), p. 383.

His father died in December, 1825, and was succeeded by his eldest son who is naturally imbecile [*sic*]... his next brother therefore has the management of the monthly sum we pay him.... This young man is about 18 years of age [actually Ibrahim was 25 at the time] idle and completely illiterate; indeed, except by his clothes and consequent personal appearance, not a remove higher on the scale of Civilization than the meanest of his followers. I make these remarks because an opinion exists here that the last is very deeply involved in many of the Piracies which take place in the neighbourhood.... they [the Temenggong and the Sultan] are indeed incapable of restraining their own dependents, among whom, though I have no tangible evidence to prove it, there can be little doubt that there are many who live upon what they get by this mischievous and atrocious way.¹⁴

Despite the Temenggong's unsavoury reputation, Bonham decided to set a new course in Anglo-Malay relations. In 1836, the Temenggong agreed to cooperate with Bonham in suppressing piracy. This was a turning-point for the Temenggong. For the next thirty years, he came to be considered the primary Malay ally of the British, not only as a controller of the sea peoples but also as a negotiator on behalf of the Straits government in its dealings with other Malay chiefs. In order to do this, Bonham followed his inclinations "in assisting the Temenggong's family in regaining and upholding the authority exercised by their father".

Why did Bonham do this? Tarling considers it a fatal mistake which led the British into a fumbling policy of intervention in the Malay states.¹⁵ Other reports from the period suggest that Bonham had decided on a comprehensive solution to a number of Singapore's chronic problems. Piracy was one of these, taxes were another, and the economic cycle was yet a third. In the years 1835–36, these problems converged on Bonham.

In April 1835, a public meeting was held in Singapore and a letter drafted to India and the King in Council asking for government assistance in suppressing piracy. In reply, the Indian government proposed a plan to levy duties at Singapore to pay for piracy-suppressing expeditions.¹⁶ The Singapore merchants were

14. SSR, R-3, Bonham to Prinsep, 23 April 1835.

15. Tarling, *Piracy and Politics*, p. 61.

16. Buckley, *An Anecdotal History*, pp. 276–77.

outraged at this threat to free trade and enlisted aid from England to forestall the proposal. Mary Turnbull reports that the East India and China Association in London brought pressures to bear on the Board of Directors of the E.I.C. The scheme of levying taxes at Singapore was duly scuttled and the Straits Settlements continued as free ports "exempt not only from import and export duties, but also from tonnage and port dues, wharfage and anchorage duties, port clearance and stamp duties". The Singapore merchants, *laissez-faire* capitalists to the core, were willing to put up with anything, even piracy, rather than pay taxes. This situation continued until about 1867, and left the Singapore government in a state of continual poverty, thus forcing it to seek rather extraordinary means in order to make ends meet.¹⁷

Bonham and the Straits government were thus trapped between the Singapore merchants and the East India Company. The merchants would complain about piracy, but they would not pay for its suppression. Undoubtedly, a certain amount of their reluctance to pay taxes in 1835 stemmed from the current economic crisis. Munshi Abdullah reports that there had been a crash and that many Chinese merchants, who had borrowed heavily from European merchants, had gone bankrupt. The European merchants naturally were forced to absorb substantial losses.¹⁸

Piracy may or may not have been a contributing cause of the poor economic situation; it certainly did not help. In the early 1830s, not only Malay and *orang laut* traders were being attacked but Bugis, Chinese, and even a few European vessels were victims.

Bonham was thus forced to find a means of ending piracy which would cost the Singapore government nothing. Much of Bonham's success in solving these outstanding problems lay in the fact that he appears to have been an extremely practical man. Buckley reports that he had had long experience in the Malay world by the time he became Acting Governor of Singapore in 1836, and that "Mr. Bonham, afterwards Sir George Bonham, was very popular among the Europeans and natives." Bonham "commenced life in the East in the Civil service in Bencoolen, and had a considerable knowledge of mankind, and, like a sensible man,

17. C. M. Turnbull, *The Straits Settlements 1826-1867* (Kuala Lumpur, 1972), p. 191.

18. A. H. Hill, trans., *The Hikayat*, p. 281.

exerted himself to keep things in easy train and make them pleasant when he could".¹⁹

We have identified some of the things that must have been uppermost in Bonham's mind at the time. Many Europeans also favoured a more expansive and interventionist policy than Singapore had traditionally pursued. One of these was T. J. Newbold, Bonham's subordinate.²⁰

Tarling shows the first evidence of Bonham's new policy with the expeditions of the gunboat *Andromache* in 1836. In May 1836, the *Andromache* arrived in Singapore under Captain Henry Ducie Chads. Chads had a commission from the Indian government to assist in piracy suppression and to deliver a proclamation to the Malay chiefs, informing them of a system of passes which was to be instituted for identifying trading boats. The Commissioners also had authority to communicate directly with the Dutch.

After surprising a number of pirates in Singapore harbour, the *Andromache* with Bonham and Chads headed for Riau in June 1836. They met with Goldman, the Dutch Resident, and informed him of their intentions regarding the pass system stating that they would henceforth hold the local chiefs responsible for piracies committed in their jurisdiction. They also made reference to the alleged pirate settlement on the nearby island of Galang. Goldman pointed out that under the Treaty of 1824, the British Commissioners had no authority in the Riau-Lingga Archipelago. He said he would have to consult with Batavia before he could cooperate with them. Upon this, the *Andromache* sailed straight to Galang and wiped out the settlement there.

The following month, they went to Pahang where some "Johor" pirates had sold as slaves the captives that they had taken from a Cochin-Chinese trading junk. It was at this point that the name of Ibrahim became associated with the anti-piracy campaign, and undoubtedly with the activities of the *Andromache*. Regarding Pahang, Tarling points out that "as force could not be employed in this Peninsular state, Bonham accepted the offer of Temenggong Ibrahim of Johore, still resident in Singapore, to use his good offices with the Bendahara."

Tarling describes this liaison with Ibrahim as a definite departure from the policy which the Straits authorities had

19. Buckley, *An Anecdotal History*, p. 383.

20. Newbold, *Political and Statistical Account*, v. 1, pp. 40–46.

followed since 1824. It was also continued by his successor, Butterworth.

The significant fact here is the close association of Bonham and Butterworth with Temenggong Ibrahim. Through their operations for the suppression of piracy and the slave trade, the Governors were carrying on "intercourse" with the native states. The Temenggong was the first of the reformed princes, and he offered his aid, readily accepted, in communicating with other chiefs, particularly the Bendahara of Pahang. The influence of Government and of the Temenggong were thus closely associated.²¹

While Tarling is of the opinion that this association brought unforeseen problems for the Straits government, there can be little doubt that it worked to the benefit of Temenggong Ibrahim. In 1837, the Temenggong's status among the *orang laut* and the Malay chiefs of the region visibly increased.

In April 1837, 270 small boats containing the families of *suku* Galang came to Singapore to seek refuge under the Temenggong.²² Ibrahim asked the government for permission to receive them and promised that he would be responsible for them. If Bonham's statement about the various *suku* of Riau who had broken away from the Temenggong's control is correct, the *Andromache's* raid on Galang had had the effect of driving them back into the fold. The Galang people had a very high reputation among other *orang laut*.²³ It is therefore possible that many of the other *suku* followed their example and now looked to the Temenggong for protection, support, and leadership.

A Malay report of the *Andromache's* cruise indicates that the Commissioners did not limit their attack to Galang but went down

21. Tarling, *British Policy*, pp. 48–55.

22. Tarling, *Piracy and Politics*, p. 102.

23. J. T. Thomson, "Description of the Eastern Coast of Johore and Pahang with Adjacent Islands", *JIA*, v. 5 (1851), p. 143. Thomson gives evidence of the reputation of *suku* Galang among the other groups of *orang laut*. He reports a conversation with some men from *suku* Buru: "Judging from occasional expressions which escaped from them they appeared to look upon piracy as a highly manly pursuit, and as giving them a claim to the approval of their fellows. Thus Attak would occasionally say, 'the orang Gallang (Men of Gallang) do so and so, or such is the custom with them.' He appeared to think that notorious class highly worthy of imitation; when asked to sing, he would say I know none but Gallang songs."

through the Riau Straits shooting at every *perahu* they chanced upon: "As they sailed back to Singapore from Galang they kept watch for native craft and whenever they met one it would be destroyed by cannon fire." At that time, Sultan Muhammad was travelling from Lingga to Riau with some other chiefs. "When they arrived at the Sambu Straits, they stopped to let the women go ashore to bathe. There they heard the news that a gun-boat was roving about the sea shooting at all perahus with mat sails."²⁴

Fear of the gunboats appears to have driven many sea peoples to Ibrahim for protection. He was the only Malay chief who had a legitimate voice at Singapore. The Galang raid and other excursions of the *Andromache*, together with the coming of the steam-cruiser *Diana* in 1837, and Ibrahim's involvement in the Pahang negotiations seem to have acted as a catalyst for the Singapore chief's prestige among other Malay chiefs. Buckley reports that in July 1837 "the Rajah of Selangor came to Singapore in his own brig, and was received with a salute of 15 guns. The Sultan of Lingga paid a visit to Singapore at the same time, so the Free Press remarked that there were 'two crowned heads' in the same place; but both more than suspected of giving countenance to piracy."²⁵ The *Tufhat*'s report of this visit indicates that some effort was made at this time to patch up the split that had existed between the Riau-Lingga and Singapore chiefs. Sultan Muhammad²⁶ of Lingga had come to get the body of his aunt, Raja Maimunah, for burial at Riau. While he was there, he also married Tengku Ampuan, a half-sister of Ibrahim.²⁷

Ibrahim was able to begin playing an important role in all further contacts between the Straits government and Malay chiefs throughout the region. Under Bonham, the Straits government embarked on a policy of intervention to suppress piracy. This intervention took the form of negotiations and occasional gunboat diplomacy. We may also suspect, although no mention of the topic is found in the sources, that the Temenggong himself must have outfitted patrol boats of his own at this time.²⁸ Since the

24. The *Tufhat*, pp. 330–31.

25. Buckley, *An Anecdotal History*, p. 315.

26. Sultan Abdul Rahman had died in 1830. He was succeeded by his son, Sultan Muhammad Muzaffar Shah (b. 1803; d. 1841).

27. The *Tufhat*, p. 334.

28. At a later date, there is evidence that the Temenggong did outfit some boats to

Temenggong was not a wealthy man, his source of provisions and arms must have come from the government, or through intermediaries on their behalf.

The most likely sources for such supplies were the European merchants of Singapore. It is thus of great importance that the year 1837 also saw the relocation of two of Singapore's leading merchants to Teluk Belanga. James Guthrie and William Wemys Ker are both reported to have purchased land from Ibrahim and built houses near his kampong.²⁹ In the case of Ker, this marked the beginning of a long and profitable association between his company and the Johor government. The firm, Ker, Rawson & Co., later known as Paterson & Simons, was the principal European agent for the Johor government throughout the nineteenth century. The exact nature of the association between Ibrahim and these merchants in its initial years must remain a matter of speculation, but by 1843 there were reports of regular business dealings between the Temenggong and Ker.

The year 1837 was a watershed for the Temenggong. The key event was his relationship with Bonham, and everything else followed from that. He aided in the Pahang negotiations and was most likely suspected by other Malays of having had a hand in the Galang raid. This made him a man of importance as far as the sea peoples and many other Malay chiefs were concerned. His relationship with Bonham was also instrumental in the connections that the Temenggong was subsequently able to form with the Singapore mercantile community. This new configuration of relationships did not automatically ensure the Temenggong's success as a ruler; however, it did place him in a position where he could utilize one type of resource to reinforce his influence with other groups and thus acquire access to further resources. None of this was done without fighting and struggle. The next twenty-five years of Ibrahim's life were marked by constant conflict and turmoil. In 1841, the first of his many achievements was gained. He was officially recognized as the Temenggong of Johor by Governor Bonham in the presence of the Bendahara of Pahang.

suppress pirates; see, *SFP*, 9 June 1859, which carries a report of the apprehension of some "Galang" pirates by the Temenggong's men.

29. C. A. Gibson-Hill, "Singapore: Notes on the History of the Old Strait, 1580-1850", *JMBRAS*, v. 27, pt. 1 (May 1954), p. 200.

The Temenggong did not, however, rely solely on the British for recognition of his new position. It is noteworthy that Bendahara Tun Ali of Pahang had been present and had thereby given his approval to the appointment. Since there was no longer a recognized Sultan at Singapore, Temenggong Ibrahim then travelled down to Lingga. The *Tufhat* reports: "... after Daeng Kechil Ibrahim had been installed as Temenggong Sri Maharaja he then went to Lingga to come before Sultan Mahmud Muzaffar Shah and to meet his 'uncle' Raja Ali the Yang Di-Pertuan Muda. Raja Ali was the husband of Ibrahim's sister, Raja Chik. When he arrived at Lingga he was honoured by Sultan Mahmud and Raja Ali according to the prescribed custom followed when rajas meet."³⁰

Tarling has discussed at some length the leading role which Temenggong Ibrahim now began to play in this phase of British intervention in the Malay world. He began by negotiating with Pahang. Ultimately, he became involved in the Pahang succession dispute and brought in the British on his side. He and the British lost this war, but the credibility he had gained with British governors of Singapore was not destroyed. According to Tarling, "Trengganu was named as one of the states in which the Temenggong had influence."³¹ He goes on to describe a subtle series of manoeuvres which seem to have been initiated by the Temenggong. In 1850, Sultan Omar of Trengganu suddenly started negotiating with the Dutch, much to the alarm of the Singapore authorities. "This was a move in native politics and the Dutch were not instigators. Its cause was undoubtedly Omar's alarm at the extending influence of the Temenggong in Pahang and in the Peninsula as a whole, associated as it appeared to be with the power of the British Government."

The Temenggong also became involved in a struggle with the successor of Sultan Hussain, Tengku Ali.

In 1852, after describing a visit from the Temenggong, Church analysed the situation on the east coast. "In this neighbourhood, there are two parties, on one side, the Sultan of Lingga, the Sultan of Trengganu, and the young princes of Johore [Tengku Ali]; on the other, the Raja Bendahara of Pahang, and the Temenggong Sri Maharaja." But as yet there

30. The *Tufhat*, p. 338.

31. Tarling, *British Policy*, p. 57–58.

Peninsula. In Pahang, a succession crisis developed into a full-scale civil war with the Temenggong intervening to support one side and Sultan Omar and Sultan Ali the other. "This war was a profound problem for the Straits Government, anxious as ever to preserve peace between the states. Its methods are illustrated by the history of its relations with Trengganu, and these again are bound up with the operations for the suppression of piracy."

One of the ultimate failures of British policy on the east coast of Malaya was that Trengganu eventually became a tributary state of Siam. Tarling suggests that this unfortunate result was owing to the Temenggong "on whose influence British policy on the east coast was largely founded".³⁴

It is difficult to speak of the Temenggong as having pursued an independent foreign policy. Since he continued to keep his residence within the colony of Singapore, his freedom of action was highly limited and ambiguous. Tarling shows him, however, as having played a key role in the manipulating, if not directing, of British policy towards the Malay states. For the British, it appears to have been a relatively unsuccessful policy on the whole. But while the Temenggong suffered set-backs, he also reaped some permanent advantages, not the least of which was the ultimate recognition of his claim to Johor in 1855.

Until the 1840s Johor had remained an uninhabited jungle. As a resource, it was more of a liability than an asset. This was one of the reasons why Ibrahim had first turned to the sea peoples and to piracy when faced with the task of rebuilding the family's political prestige. Although he was successful in gaining allies among the British and respect from his fellow chiefs by this expedient, these offered no permanent solution to the overriding question of his poverty. One of Bonham's considerations in accepting the Temenggong's aid was that it offered a reasonably cheap method at a time when the government was beset with financial troubles. Piracy suppression could never have offered much in the way of financial remuneration for the Temenggong and his followers. If the pirates were to remain dormant and if the Temenggong was to retain his power over them, he needed additional resources, and Johor offered the only possible alternative. It was wide open for agricultural development. However, this demanded both labour

34. Tarling, *British Policy*, pp. 61–63.

and capital, and the Temenggong had neither. At this time, the Temenggong benefited by a stroke of luck. Gutta-percha was discovered in the forests of Johor.³⁵

The story of gutta-percha illustrates the benefits which recognition by the Europeans had brought to the Temenggong. Malays had long been aware of gutta-percha and its remarkable properties. There are reports that they had occasionally used the rubber-like substance for making the handles of choppers. However, it was of no great value to them. During the 1830s, some enterprising Malays began to manufacture buggy whips from gutta-percha and sold them to Europeans in Singapore. Some of these found their way back to England.

In 1832, William Montgomerie, an English surgeon, published a paper on the properties and potentialities of gutta-percha. His research, however, did not attract general notice until 1843, when the Royal Asiatic Society recognized the potential of the substance for manufacturing surgical and chemical apparatus. A few years later, with the development of submarine telegraphy, gutta-percha was found to be the only substance capable of protecting underwater cables from the elements.³⁶

Ibrahim was able to capitalize on this discovery through his contacts with the European merchants of Singapore. His neighbour, W. W. Ker, seems to have been instrumental in alerting the Temenggong to the value of Johor's gutta-percha.³⁷ One source reports that the first commercial shipment of gutta-percha to England was sent by Ker, Rawson & Co.³⁸ The Temenggong

35. Burkhill, *Dictionary*, pp. 1623–25. Gutta-percha (*getah taban*) is the latex-like sap of various varieties of *Blanco Palaquim*. From the time of its discovery in the 1840s, its most important use has been in the coating of trans-oceanic telegraph cables. It is also used for surgical and chemical apparatus, corks, golf balls, and dental fillings. Ordinarily, gutta-percha is a hard, solid, yet slightly elastic, substance. However, it can be softened simply by putting it in hot water and then remoulded into shape. On cooling it resumes its original hardness.
36. Two good accounts of the story of the discovery of gutta-percha are generally available. Buckley, *An Anecdotal History*, pp. 402–5; and Thomas Oxley, "Gutta Percha", *JIA*, v. 1 (1847), pp. 22–29.
37. W. H. Read, *Play and Politics: Reminiscences of Malaya by an Old Resident* (London, 1901), p. 14. Read, without giving names, simply notes that the Temenggong was made aware of the value of gutta-percha by "a Singapore merchant".
38. Allister MacMillan, comp. and ed., *Seaports of the Far East, Historical and*

beginning to exercise control on the spot. As shown on map 3, most of the small rivers flowing into the Johor Straits had been opened to cultivation, as well as some of the tributaries of the Johor River.

The Johor of about 1860 was largely the creation of Temenggong Ibrahim. He had begun in 1825, without title or estate, but only as the heir to his father's leadership of the Teluk Belanga community. He did not begin to attract attention until about 1834, when he emerged as a suspected pirate chief. In many ways, his career began like those of hundreds of Malay rajas before him — he was a disinherited prince forced to claim a state by conquest.

His battleground was, however, British-controlled Singapore and he faced a power that greatly outweighed anything he could hope to muster. Thus, in 1836, he took the only opportunity available to him and joined forces with Bonham against the pirates. On the basis of this alliance, he gained power and received recognition from Europeans as well as his brother chiefs at Riau and on the Peninsula, and he finally received his title in 1841.

He began to build a state in Johor shortly after this. The discovery of gutta-percha and the development of difficulties among the Chinese pepper and gambier planters of Singapore supplied him with the wealth and manpower to begin agricultural settlements on the empty land. His government here was of a very traditional style and seems to have amounted to no more than the collection of taxes and management of trade monopolies. The Temenggong did not see Johor as a sphere for political administration. For him, politics were in Singapore and the Malay world which centred around it. Johor was simply an economic resource.

There was little need for him to exercise the actual powers of government over the Chinese. He merely appointed a Kapitan, as had been done at Riau, and took the precaution of excluding all secret societies with the exception of the Ngee Heng. The Kapitan and the Kangchus were the major administrators of the cultivation and whatever law and order was maintained on the plantations. They were also responsible for the collection of taxes and the Temenggong's revenues.

From a strictly pragmatic point of view, the Kangchu system made possible the initial development of large tracts of virgin land

in Johor. As a pattern of social, political, and economic organization, it was admirably suited to the resources and requirements of the period. Efforts were concentrated on the cultivation of two crops which were in high demand throughout the nineteenth century — pepper and gambier. Successful cultivation and initial processing of these crops required a minimum of technological sophistication and equipment. They drew primarily on the most readily available resources of the area: Chinese labour, the unoccupied land and ample forests of Johor, and the many small but navigable rivers which gave access to them.

At the same time, minimal and appropriate demands were placed on the available capital and on the existing social and economic institutions. The family-run Chinese businesses of Singapore, the Chinese clan and secret society structures, and the Malay political organization of the Temenggong were admirably suited to finance, manage, and control this system of agricultural production. Moreover, they were able to do so at a profit.

It would be incorrect, however, to presume that such a task as that of opening up the Johor wilderness to cultivation could have been done without the British presence in Singapore. It is doubtful that such an enterprise would have been undertaken were it not for the entrepot. As we saw with Riau, this cultivation had long been a part of the entrepot complex. In the nineteenth century, British Singapore provided a market at which the produce could be gathered, sold, and exported. It was at Singapore that the monetary resources, the supplies, and the labour force were concentrated. Without the entrepot, the development of commercial agriculture in Johor would have been impossible.

Singapore's dominant position in the pepper and gambier business long pre-dated the opening of Johor. Singapore remained the financial and commercial centre of the industry throughout the nineteenth century. Johor was destined to continue its existence as a state which, though politically independent, was economically totally dependent on Singapore.

Until the end of the 1850s, Johor was largely governed *in absentia*. The Temenggong and his more important followers remained at Teluk Belanga. On the Chinese side, the merchants and shopkeepers of Singapore financed the planters in Johor. As Temenggong Ibrahim aged and his son Abu Bakar began to assume control over the state, they set out to build a state administration in

appointed a Kapitan to govern the Kangchu. This individual in the first instance was the secret society chieftain, Tan Kee Soon.

The cap-stone of the Johor government was the following of the ruler. The small group of kin and associates from Teluk Belanga became the managers of the Chinese agricultural and tax-farming system. This group developed into the State Council and eventually grew into the Malay administration. Individuals such as Ungku Abdul Rahman and Abdul Majid, Dato Mohamad Salleh bin Perang, Dato Mohamad Ibrahim bin Munshi Abdullah, and Dato Mentri Ja'afar bin Haji Mohamad managed day-to-day relations with the Chinese. Their primary function seems to have been the issuing of revenue farms and, beyond that, laying down the ground rules within which the Chinese were to operate. In establishing relations with the Chinese on a systematic basis, they laid the foundation for the patterns of political and economic domination which continue to characterize the present-day Federation of Malaysia.

The key to understanding the nature of the Temenggong's control of Johor is to be found in the position which he held as an unofficial policeman of the Singapore government. As the chief pirate suppressor, his authority was first established in Singapore's off-shore waters. From here it was a natural step to begin policing the coast of neighbouring Johor. The spread of the gambier cultivation from Singapore to Johor is seen as a mere extension of the port. As the policeman of Singapore's frontier zone, the Temenggong came to control this agriculture. The statements in the earliest *surat sungai*, that the Kangchu was subject to the same laws as those laid down by the Company in Singapore, add weight to this argument. It was not until Temenggong Ibrahim died that any attempt was made to resolve the ambiguities and anomalies in the status of the Temenggong and of Johor.

The early 1860s were another watershed period. The treaty of 1855 had given the Temenggong full control of Johor. However, no move was made to establish an effective government there, let alone attempt to separate the state from Singapore, until Abu Bakar succeeded his father. Abu Bakar appears to have taken the initiative here and decided that the time for ambiguities had ended. Taking the offensive in the Pahang civil war, he sought to translate Ibrahim's intermediary role into one of outright hegemony. His failure here appears to have resolved the question of Johor's

Annex 51

**Report of Survey of Pedra Branca (Horsburgh)
from 10 Sep to 12 Sep 1991**

SURVEY OF PEDRA BRANCA
(HORSBURGH)
FROM 10 SEPTEMBER TO 12 SEPTEMBER 1991

REPORT OF SURVEY

PART ICONTENTS - DESCRIPTIVE

1. INTRODUCTION
2. GEODETIC CONTROL
3. NAVIGATIONAL AIDS
4. BATHYMETRY
5. COASTLINE AND TOPOGRAPHY
6. CHART DATUM
7. WRECKS AND OBSTRUCTIONS
8. MOORING BUOYS
9. CONCLUSION

1. INTRODUCTION

a. The purpose of the survey is to pick up topographical details of Pedra Branca and carry out a bathymetric survey of its surrounding waters.

b. The survey team departed Blangah Bay at 0600 hours on 10 September 1991 and arrived at Pedra Branca for the survey on the same day at 1000 hours. The survey was completed 3 days later at 1300 hours on 12 September 1991 and returned to Blangah Bay at 1830 hours.

c. The weather throughout the survey was fair but hazy with occasional rain/shower. The haze restricted visibility to about 6 - 8 kilometres and caused a slight delay in completing the traverse. A maximum sea-state 1 was experienced throughout the survey period.

d. The undulating seabed, isolated submerged rocks and the strong tidal stream around Pedra Branca Lighthouse made surveying the area particularly difficult. These also posed problem in manoeuvring the survey launch - "Investigator" and dinghy.

e. The survey team was divided into 2 ie. land and sea. The land survey team picked up details of the rocks above chart datum surrounding the lighthouse, including the drying line by using the dinghy, wherever possible. The list of personnel in the Survey Team appears as Annex A.

f. The survey team onboard the launch "Investigator" covered the waters surrounding the lighthouse up to a maximum of 400 metres radius, excluding the area surveyed in September 1988. A sketch showing the survey limits appears as Annex B.

2. GEODETTIC CONTROL

a. The survey is on the Universal Transverse Mercator (UTM) Grid in metres based upon the false easting of 500 000 metres for longitude of origin at Central Meridian 105 East and false northing of 0 for latitude of origin at Equator 0. The spheroid used is Everest Modified.

b. On arrival at Pedra Branca, the horizontal control network was established and levelled to previously coordinated points and bench mark. In addition, 2 new offshore points were established at Middle Rocks. A sketch of the traverse established appears as Annex C.

c. As there had been reconstruction work carried out since the last survey in September 1988, only the points established on the parapet of the light tower and at the jetty were recovered. These were used and closed to Mungging Light, off the Malaysian Coast (about 12.5 km). A misclosure of 38 seconds was achieved.

d. To improve the geometry for the bathymetry survey, 2 new points on Middle Rocks located at about 1 kilometre south of the lighthouse. These were used for setting the Electronic Positioning Fixing (EPF) System Remote stations. These points strengthen the survey geometry, as Pedra Branca is isolated and limited in size. The 2 points lie in an east / west direction and are about 400 metres apart. Photographs of the 2 points established on Middle Rocks appear Annex D.

3. NAVIGATIONAL AIDS

a. The survey team on land used Theodolite and Electronic Distant Measuring (EDM) instruments to pick up the land details.

b. A microwave EPF System ie. Del Norte Trisponder 542 with 3 remotes were used for positioning of the survey launch. The brochure for this system appears as Annex E.

c. The EDM and Trisponder instruments were calibrated at known points in Singapore. The calibration results for the Del Norte Trisponder System appear as Annex F. In addition to the calibration checks were made before and after each day's survey.

4. BATHYMETRY

a. The dual-frequency (33khz and 210 khz) Atlas Deso-20 and Raytheon 719C (208 khz) echo sounders were used on the survey launch "Investigator" and dinghy respectively. The brochures for both echo sounders appear as Annex G.

b. With regard to the Atlas Deso 20 echo sounder, a calibration transducer was utilised before and after each day's survey. A bar-check plate was used to calibrate the Raytheon 719C before and after each day's survey.

c. The area covered by "Investigator" had sounding lines run in the north-south direction at 5 metres interval and cross-lines at 50 metres interval. The average sounding speed was 7 knots. Data was automatically acquired and logged onboard.

d. On the other hand, the position of the dinghy surveying in the northern and eastern sectors of the lighthouse had its position fixed by 2 simultaneous theodolites intersection set on coordinated points. Due to the hazardous submerged rocks and tidal stream, the work was extremely difficult and time consuming, thus affecting the output.

5. TOPOGRAPHY AND COASTLINE

a. The topography and coastline details surrounding the lighthouse were surveyed using theodolite and EDM. The details picked up included the size and height of rocks, wherever possible. The main areas of survey were on the northern and eastern sectors of the lighthouse. All heights were reduced to chart datum.

b. Due to the constraint posed by the tidal height and rocks exposed during low waters, the land survey team's daily progress was limited.

6. CHART DATUM

a. All depths and heights are reduced to Chart Datum or 5.541 metres below the Bench Mark of Brass bolt embedded on the rock beside the southern entrance to the lighthouse. This mark was established during the Malacca and Singapore Straits Joint Survey in 1978. A temporary benchmark was also transferred to the jetty.

b. A tide watcher was deployed to measure the tidal levels at 15 minutes interval during the course of the survey. The predictions coincide closely with the observed values. The tidal observations appear as Annex H.

7. WRECKS AND OBSTRUCTIONS

a. There is only one known charted wreck ie. M/V Yu Seung Ho within the survey limits. The position of the wreck and adjacent rock were verified. As the wreck had disintegrated with smalls part of the vessel visible during low waters, least depths for both the wreck and rock could not be ascertained by echo sounder. Instead, the drying heights were physically measured using the dinghy. A photograph showing the exposed part of the vessel and rock appears as Annex I.

b. In addition to the above, the stretch of waters east of the lighthouse is characterised by several patches of isolated spots of lesser than 4 metres.

8. MOORING BUOYS

a. The following 4 mooring buoys located west and south of the lighthouse were positioned using the Del Norte Trisponder Positioning System.

- i. 2 nun buoys on the west - fixed on ebb tide.
- ii. 1 nun buoy off the jetty - fixed on flood tide.
- iii. 1 mooring buoy SW of jetty- fixed on flood tide.

9. CONCLUSION

a. Despite the difficulties in gaining accessibility to the outlining rocks, the topographic details acquired during the 3 days was considerably good. However there were certain areas where attempts to survey were unsuccessful made by the land and dinghy survey teams. These areas are indicated in the topographic plan which appears as Annex J.

b. Evidence of rock size at Pedra Branca suggests the northern area to be the main area of erosion and the southern area to be an area of deposition. The photographs appear as Annex K. This observation further suggests the confluence of tidal streams on the south. However, a float track study would have to be conducted to determine the tidal pattern in the area.

c. The bathymetric survey results confirm the undulating nature of the seabed surrounding Pedra Branca, except for the southern and south-western sectors. On the eastern sector, it appears that the main rock where the lighthouse rests is linked by a rock band to the outer rock located about 400 metres due east (near the position of Yu Seung Ho wreck). Within this same area, there are several patches of high spots of lesser than 4 metres depth.

d. The turbulent tidal current in the eastern sector is most probably attributed to the undulating seabed. In this sector, sudden changes in depths of about 10 metres within a distance of lesser than 50 metres are apparent. In this respect, it is suspected that a stronger sub-surface tidal current in this area may also exist. The Bathymetric plan appears as Annex L.

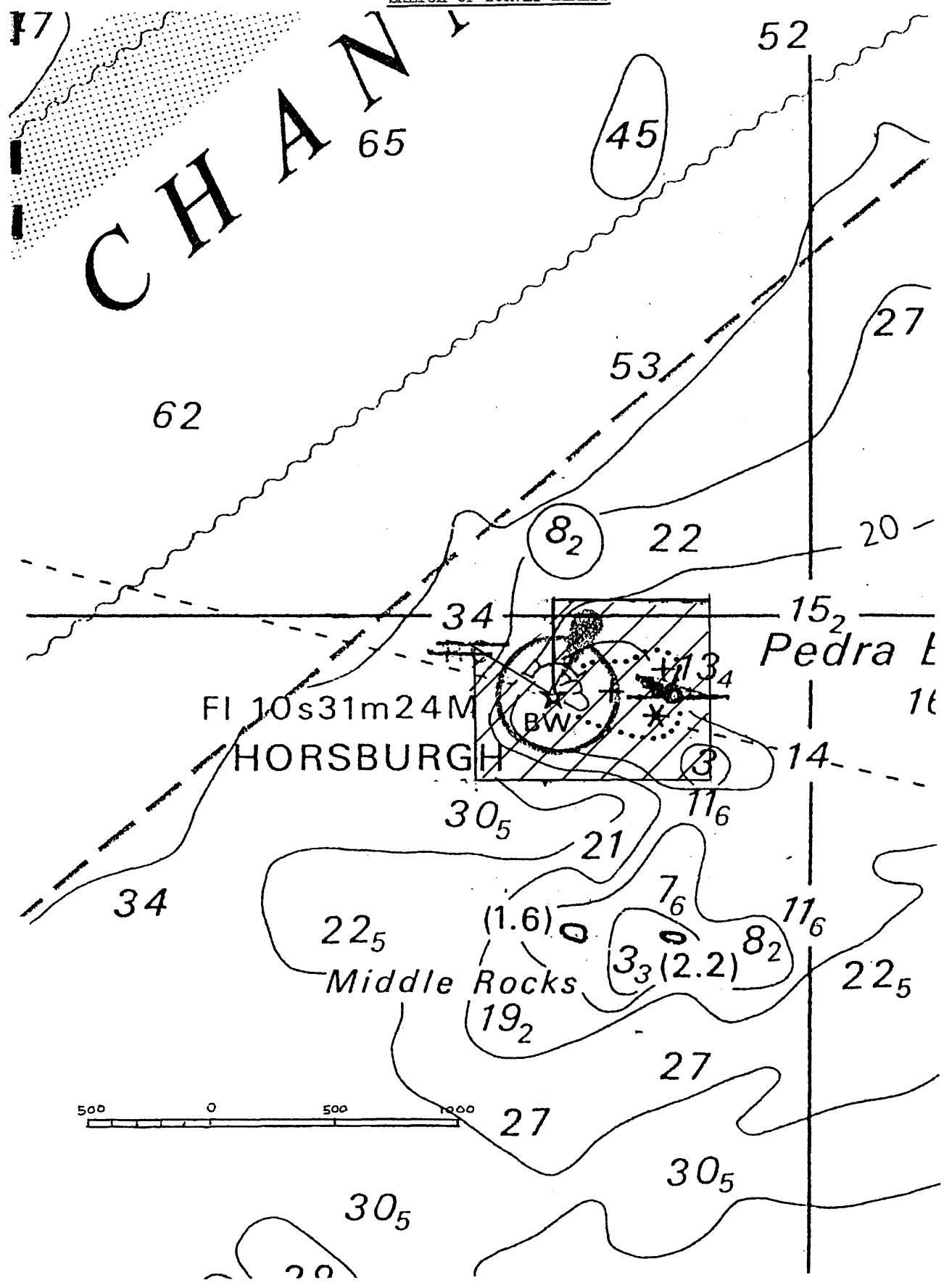
PART IICONTENTS - TECHNICAL

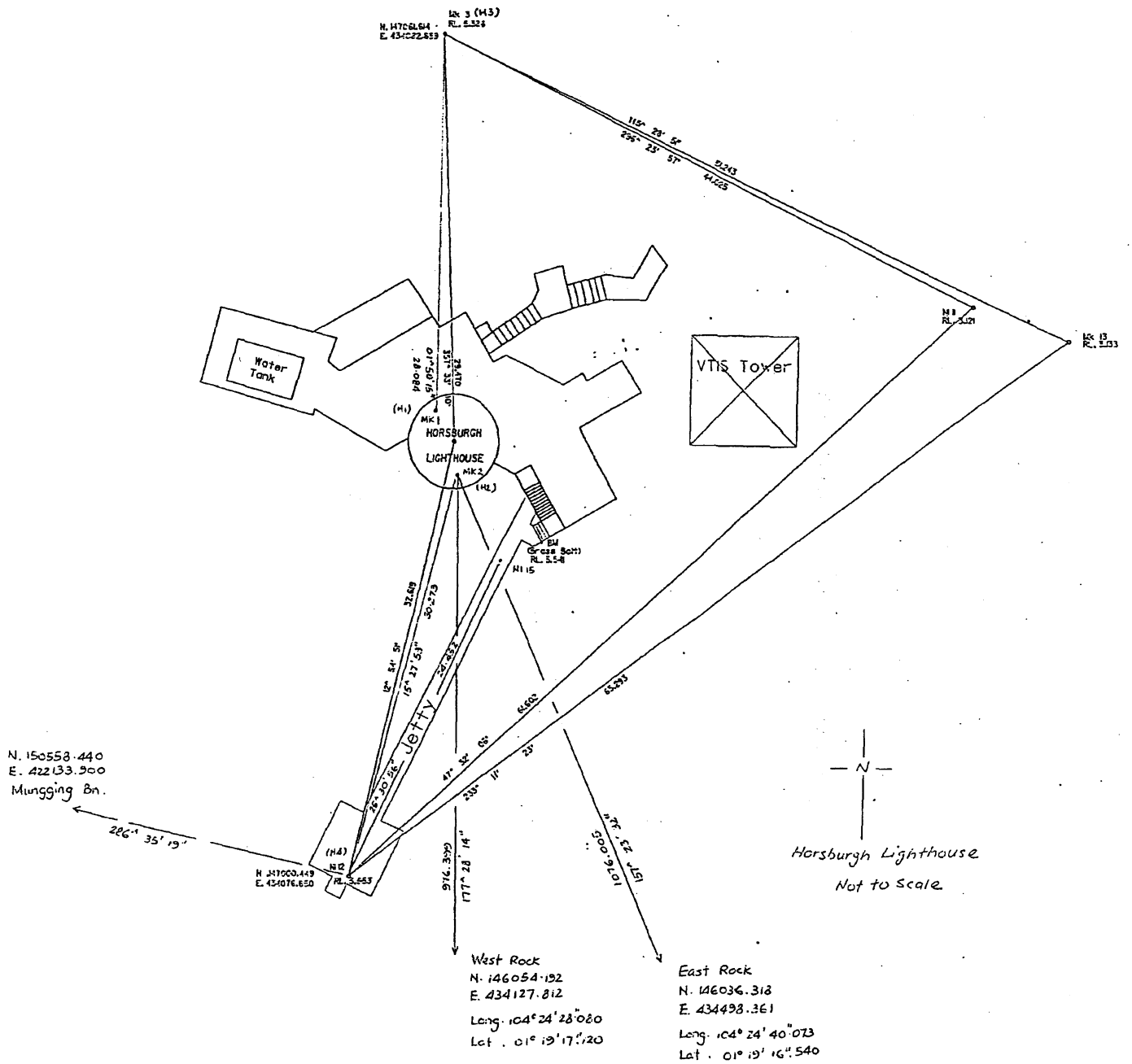
ANNEX A	-	List of Personnel in Survey Team
ANNEX B	-	Sketch of Survey Limits
ANNEX C	-	Sketch of Traverse Established
ANNEX D	-	Photographs of Points Established on Middle Rocks
ANNEX E	-	Brochure of Del Norte Trisponder Electronic Positioning System
ANNEX F	-	Del Norte Calibration Results
ANNEX G	-	Brochure of Atlas Deso 20 and Raytheon 719C Echo Sounders
ANNEX H	-	Tidal Observations
ANNEX I	-	Photograph of Yu Seung Ho wreck and exposed rock
ANNEX J	-	Topographic Plan
ANNEX K	-	Photograph showing Rock Sizes on Northern and Southern Area of Pedra Branca
ANNEX L	-	Bathymetric Plan

LIST OF PERSONNEL IN SURVEY TEAM

Mr Parry Oei	Asst Hydrographer
Mr Abdullah Sarmani	Technical Officer
Mr Lam Swee Kiong	Technical Officer
Mr Kang Kim Ping	Technical Officer
Mr Lee Lay Soon	Technical Officer
Mr Hoon Mui Chuen	Higher Technician
Mr Moktar Md Amin	Technician
Mr Lam Yan Kei	Technician

SKETCH OF SURVEY LIMITS



SKETCH OF TRAVERSE ESTABLISHED

PHOTOGRAPHS OF POINTS ESTABLISHED ON MIDDLE ROCKS



PHOTOGRAPH OF MIDDLE ROCKS . .



PHOTOGRAPHS OF YU SEUNG HO WRECK AND EXPOSED ROCK



Annex 52

**Singapore's Note MFA 1115/93 to the High Commission of the
United Kingdom dated 14 Dec 1993**

MFA S072-711/23/02 Vol 40
MFA 1115/93

The Ministry of Foreign Affairs of the Republic of Singapore presents its compliments to the High Commission of the United Kingdom and has the honour to refer to a map produced under the direction of the Director-General of Military Survey, Ministry of Defence, United Kingdom 1993, Series 1501 AIR, SHEET NA 48-10 Edition 4 - GSGS in which Pedra Branca is described as:

"Pulau Batu Puteh (Horsburgh) (MALAYSIA)"

In all previous editions, i.e., 1-GSGS(1967), 2-GSGS (1973) and 3-GSGS(1976), Pedra Branca was described as:

"Pulau Batu Puteh (Horsburgh)"

The Ministry of Foreign Affairs protests against the issuance of the abovementioned map which erroneously describes Pedra Branca as Pulau Batu Puteh (Horsburgh) (MALAYSIA). Singapore has since the 1840s, by virtue of both its acts and those of its predecessor governments, occupied and exercised sovereignty over Pedra Branca and the waters around it. Since that time, no country has exercised or claimed jurisdiction or contested Singapore's sovereignty over Pedra Branca for over 130 years.

The Ministry therefore strongly protests against the publication of the said map which represents an infringement of Singapore's sovereignty over Pedra Branca.

The Ministry therefore requests the High Commission to point out this error to the relevant authorities in the UK for their immediate rectification.

The Ministry of Foreign Affairs of the Republic of Singapore avails itself of this opportunity to renew to the High Commission of the United Kingdom the assurances of its highest consideration.

SINGAPORE

14 December 1993

High Commission of the United Kingdom
Singapore



93P2\PB\TPH3-1

Annex 53

**Notes of Conversation at the Singapore Ministry of Foreign Affairs
between the United Kingdom High Commissioner, Mr. Gordon
Duggan and the Singapore Ministry of Foreign Affairs Deputy
Secretary (South-East Asia) on 14 Dec 1993**

CONFIDENTIAL

72b

**NOTES OF CONVERSATION BETWEEN THE UK HIGH COMMISSIONER,
MR GORDON DUGGAN AND DS/SEA AT MFA ON 14 DECEMBER 1993
AT 4.00 PM**

Also Present:

Mr Howard Drake,
First Secretary (Political/Coordination)
UK High Commission

Mr Christopher Cheang
Assistant Director (Malaysia and Brunei) (Notetaker)
Ministry of Foreign Affairs

1 Showing Mr Duggan and Mr Drake the UK Defence Ministry map, Series 1501 AIR, SHEET NA 48-10 EDITION 4-GSGS (1993) which described Pedra Branca as Pulau Batu Puteh (Horsburgh) (MALAYSIA), DS/SEA pointed out that previous editions of the map simply described Pedra Branca as Pulau Batu Puteh (Horsburgh). DS/SEA then handed the attached TPN to Mr Duggan.

2 DS/SEA stressed that despite the fact that there was a disclaimer in the abovementioned map, the reference to Pedra Branca as Pulau Batu Puteh (Horsburgh) (MALAYSIA) implied that Pedra Branca belonged to Malaysia. Our position was that the island belonged to us and Malaysia was laying claim to it. DS/SEA expressed concern that the abovementioned map could be used by the Malaysians to argue that other countries recognised Malaysia's claim to Pedra Branca.

3 Mr Duggan expressed understanding of our concern, adding that he would send the copy of the abovementioned map to UK Defence Ministry. He emphasised that the abovementioned map was not a statement of the UK's position on the issue. He assured DS/SEA that the UK government had no intention of interfering in the dispute between Singapore and Malaysia on Pedra Branca. Replying to his question, DS/SEA said that MINDEF Mapping Unit had spotted the reference to Pedra Branca and informed MFA of it. Mr Duggan said that he would ascertain the circulation of the abovementioned map and determine whether it was publicly sold. DS/SEA said that if the Singapore government could obtain a copy, other governments could also do so.

CONFIDENTIAL

CONFIDENTIAL

4 In response to Mr Duggan's questions, DS/SEA said that the first round of talks on Pedra Branca took place in KL in February 1993. Another meeting would be held soon. We had proposed to Malaysia that the issue could be brought before the International Court of Justice (ICJ); but both parties had to agree to this proposal before it could be submitted to the ICJ. However, Malaysia had so far not agreed to the proposal. DS/SEA noted that Malaysia had disputes with other ASEAN countries - with Indonesia over Sipadan and Ligitan, with Brunei over Limbang, with the Philippines over Sabah, with Thailand over their common border and with the other claimants over the Spratleys.

5 The call ended at 4.30 pm

.

Vetted and cleared by: Peter Ho
Deputy Secretary (Southeast Asia)
Ministry of Foreign Affairs

16 December 1993

NC/NC-UKHC.DS1

CONFIDENTIAL

Annex 54

**United Kingdom's Note 79/94 to the Ministry of Foreign Affairs of
Singapore dated 28 Apr 1994**

Scp2-711/23/02

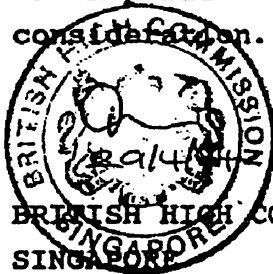


NOTE NO. 79/94

The British High Commission presents its compliments to the Ministry of Foreign Affairs of the Republic of Singapore and has the honour to refer to the Ministry's Note MFA 1115/93 of 14 December 1993, concerning the UK MOD Military Survey's map, Series 1501 AIR, SHEET NA 48-10 Edition 4-GSGS, and its formulation describing Pedra Branca as: "Pulau Batu Puteh (Horsburgh) (MALAYSIA)".

The High Commission is pleased to inform the Ministry that MOD Military Survey propose to reprint SHEET NA 48-10, adopting the form used in previous editions, namely: "Pulau Batu Puteh (Horsburgh)".

The British High Commission avails itself of this opportunity to renew to the Ministry of Foreign Affairs of the Republic of Singapore the assurances of its highest consideration.



BRITISH HIGH COMMISSION
SINGAPORE

28 April 1994

Annex 55

Extracts from Nadarajah N., *Johore and the Origins of British Control 1895-1914* (2000)

JOHORE AND THE ORIGINS OF BRITISH CONTROL, 1895-1914

by

NESAMALAR NADARAJAH NEE RAMANATHAN

function of legislation seems to have been patterned on the State Councils in the Protected Malay States and the Legislative Council of the Straits Settlements. The Council of Ministers, the advisory body in the government, was probably an imitation of the Executive Council of the Straits Settlements. It was Sultan Abu Bakar's hope that a Sultan ruling Johore with the aid of a modern government would keep the British out of Johore by denying them an opportunity to build up a case of maladministration. Also, there would be no grounds for doubts and questions once these institutions were formalised and declared in a written constitution.

The Constitution of the State of Johore first dealt with the question of succession to the Johore throne.³ Priority in succession, after the death of Sultan Abu Bakar, was reserved to the male descendants of Sultan Abu Bakar. In the event of his male descendants being disqualified⁴ or becoming extinct in the future, the succession clauses provided that the male descendants of Temenggong Ibrahim should succeed to the throne. If the same circumstances left no male descendants of Ibrahim eligible to ascend the throne, then provision was made for male descendants of Temenggong Abdul Rahman to be eligible to succession on the same conditions. Sultan Abu Bakar did not overlook the extreme possibility of the Temenggong dynasty failing to provide an eligible successor to the throne of Johore. In such an eventuality, the Johore Constitution reserved the right of succession to a Johore Malay elected by the Council of State and the "Supporters of the Country".⁵

It is of significance to note that female descendants of the Temenggongs, and male descendants from female members of the Temenggong families were not constitutionally eligible to succeed to the Johore Sultanate. Also, Sultan Abu Bakar and his advisers did not give the right to ascend to the Johore throne to male descendants of royal families of the other Malay states, whether through marriage or otherwise, in any eventuality. Furthermore, the succession clauses made no reference to the descendants of Sultan Husain of Johore. Sultan Abu Bakar tacitly denied the one time royal family of Johore the right to claim succession to the Johore Sultanate. Thus, Sultan Abu Bakar and his advisers incorporated strict provisions in the Constitution to ensure that the Johore Sultanate remained a preserve of the Temenggong dynasty.

Sultan Abu Bakar took precautions to see that the Johore Ruler was

Annex 56

Extracts from Thomaz L.F., The Image of the Archipelago in Portuguese Cartography of the 16th and Early 17th Centuries, *in* Borschberg P. (ed.), 1 Southeast Asia: Colonial History (2001)

SOUTH EAST ASIA

Colonial History

Edited by Paul H. Kratoska

Volume I

Imperialism before 1800

Peter Borchberg



London and New York

There is finally another «classical» trace which does not come from either Ptolemy or Polo, but rather, it seems, from Poggio Bracciolini in his edition of Nicolo de' Conti's itinerary:⁸ the appellation of *Taprobana*, the classical name of Ceylon, now given to Sumatra. Apparently such a confusion resulted from the reluctance of the humanist to contradict Ptolemy, who in his Geography describes Taprobana as crossed by the Equator. In other European cartography this appellation lasts throughout the 16th century. In Portuguese maps, however, it vanishes quite soon: it appears in the planisphere of 1502 (plate I), where the name *Çamatora* still designates the port of Samudra-Pasai, in the northern extremity of the island; it reappears, for the last time, in the classicizing «Atlas Miller» of 1519 (plate V). Elsewhere the name *Çamatra* or *Samatra*, that appears already in Jorge Reinel's map of 1510 (plate II), is the common usage. Copies of Portuguese maps made abroad (plates XI and XII), prefer nevertheless Taprobana (or by patronymy *Tropobona*, «the too good», plate XI).

Although empirical knowledge was the main source for Portuguese cartography, it is important to note that the speed of diffusion of such knowledge was quite irregular, depending upon several factors, among which are the official or unofficial character of the exploration and the skill of the cartographer. The planisphere called «map of Cantino» (because it was bought in Lisbon for his master by Cantino, an agent of Ercole da Este, Duke of Ferrara), which was drawn in October 1502, includes the results of the exploration of the East Coast of Africa by Diogo Dias, who had come back from the East with the fleet of João da Nova in September. But the Celebes, which were reached by Simão de Abreu in 1523,⁹ and again by Gomes de Sequeira and Diogo da Rocha in 1525–26¹⁰ do not figure in maps before 1535 (see plate VIII) or even 1537 (plate IX).

Besides first-hand knowledge, the main source for old Portuguese cartography is local information, rather than classical erudition. During the first decade of the Portuguese presence in Asia, when the eastern limit of their navigation was Ceylon, their main informants seem to have been Arab pilots, in spite of the religious and commercial rivalry that existed from the very beginning. Traces of this are evident in the planisphere of 1502: beyond Ceylon the latitudes are given in *polegadas*, «inches» (a faulty translation of Arabic *isba*, «fingers») measuring the height of the North Pole above the horizon, as Arab astronomers used to do; and many Malay place-names seem to have passed through Arabic-speaking lips, not able to pronounce the *p*, as appears with *Fulo Tumona* (Pulau Tioman), *Fulucondera* (Pulau Kundur), etc. The name of *Ansiam*, given to Siam in Diogo Ribeiro's map (plate VII), as well as in the *Book* of Duarte Barbosa, apparently represents a transcription of the Arabic *as-Siyâm*, with assimilative agglutination of the article *al*.

Later on, however, the Malays became the main informants of the Portuguese. The whole Portuguese toponymy of the Far East and South-East

IMAGE OF THE ARCHIPELAGO

Asia, is Malay: *China*, *Japão* (< *Jepun*), *Cauchichina* (sometimes *Chinacauchi*) or *Cochinchina* (< *Kauci Cina*, «Cauchi of China» to distinguish it from *Kauci Kolam*, «Cochin of Quilon», i.e., Cochin in India) for Tonkin, *Pulo Condor* and *Pulo Sisi*, off the Delta of Mekong (see e.g. plate ix), *Ilhas dos Papuas* (< *pepuah*, «frizzy-haired») for New Guinea and neighbouring islands, (see e.g. plates iii, ix, x) etc. In some maps (see plate xviii) the Indian Ocean south of the Archipelago is called *Mare Lant Chidol* (a faulty transcription of the Malay-Javanese *Laut Kidul* «South Sea»). Even common nouns such as *luça* or *nuça* (< *nusa*) and *pulo* (< *pulau*) for «island» and *guno* (< *gunung*) for «mountain» have been adopted by the Portuguese and appear in maps. Malay place-names tend even to predominate over local names: such is the case, for instance, of *Pulo Cambim* or *Luça Cambim* (Pulau Kambing or Nusa Kambing), north of Timor, off Dili (see plate xix-D), which locally is called *Ataúro*, and perhaps also of *Batugadé* (Batu Gedé, «the Great Stone») on the northern coast of Timor, etc. Malay or hybrid names (formed with *pulo* and a Portuguese or local name) are especially frequent along the sea-route between Malacca and the South China ports.

It is interesting to note that beyond the boundaries of the world frequented by Malay seafarers, Malay toponymy fades again: east of *Maluco* (Maluku, i.e., the Moluccas), in the Marianas and Carolines, or on the coast of New Guinea almost all the place-names are Portuguese or Spanish: *Ilha da Aguada*, *Ilha dos Mártires*, *Ilhas das Velas*, *Islas de los Crespos*, *Los Jardines*, etc. (see plates xiv, xv, xvii and xviii). Conversely, within our Archipelago, Portuguese names are very rare: the commonest are *Rio Formoso*, south of Malacca (see plates iv and v) and *Cabo das Froles* or *Cabo das Flores*, on the NW corner of Flores (plates iii and ix), that later became the name of the whole island, replacing that of *Ilha de Larantuca* or *Ilha de Ende*. On the contrary, the name of *Terra Alta* («High Land»), once given to the neighbouring island of Wetar, disappeared.

The archipelago in the mist

No maps immediately subsequent to the voyages of Vasco da Gama (1497–99) and Pedro Alvares Cabral (1500–1501) are known; but there are references to the Archipelago in written documents, such as the letters of the Portuguese King Dom Manuel to a cardinal in Rome and to his parents-in-law, the Catholic Monarchs of Spain,¹¹ and those of the agents of the Marchionni family in Lisbon to their partners in Florence.¹² The King seems better informed than the merchants: whilst the latter display their disappointment since they could not get notices of «the famous Taprobana, about which Plinius writes so many marvels, which lies perhaps farther», the former explains that «Taprobana is nowadays called Ceylon, and is not so large as it was said». But they all agree that most of the spices are not produced in India, but come from certain islands that lie farther to the East. The Italian

Annex 57

**Singapore and Malaysian Geographic Names downloaded from the
GEOnet Names Server maintained by the United States Board on
Geographic Names (extracts) (15 July 2004)**

SINGAPORE GEOGRAPHIC NAMES

downloaded from the GEOnet Names Server (http://earth-info.nga.mil/gns/html/cntry_files.html)
i.e., the official repository of foreign place-names approved by the U.S. BOARD ON GEOGRAPHIC NAMES
(extracts from Country File "sn.txt", downloaded on 15 July 2004, arranged in alphabetical order)

[Notes :

1. The Country File "sn.txt" is a computer data file made available by the U.S. Board On Geographic Names on the Internet through the GEOnet Names Server. The file contains **1,660** Singapore geographic names.
2. The following table contains relevant extracts from the file, arranged in alphabetical order. This table demonstrates that Pedra Branca has been identified by the U.S. Board on Geographic Names as a Singaporean geographic feature.
3. The GEOnet Names Server uses certain abbreviations to designate the type of geographical feature to which the geographic name is applied. In the table below, the designation "ISL" means "island", "LTHSE" means "lighthouse", and "RKS" means "rocks".]

SORT_NAME	FULL_NAME	DESIGNATION	LATITUDE	LONGITUDE	LATITUDE (Degree,Minute, Second)	LONGITUDE (Degree,Minute, Second)
...						
BATUPENKALANPAKAU TANJONG	Tanjong Batu Pengkalan Pakau	PT	1.4002778	104.0711111	1 24 01	104 04 16
BATUPUTEH PULAU	Pulau Batu Puteh	ISL	1.3302778	104.4075	1 19 49	104 24 27
BATURIMAU	Batu Rimau	TRIG	1.4480556	103.7883333	1 26 53	103 47 18
...						
HONGLIMPARK	Hong Lim Park	RESN	1.2852778	103.8452778	1 17 07	103 50 43
HORSBURGH	Horsburgh	ISL	1.3302778	104.4075	1 19 49	104 24 27
HORSBURGH	Horsburgh	LTHSE	1.3302778	104.4072222	1 19 49	104 24 26
HORSBURGHLIGHTHOUSE	Horsburgh Lighthouse	LTHSE	1.3302778	104.4072222	1 19 49	104 24 26
HORSESHOEREEF	Horseshoe Reef	RF	1.4422222	103.6952778	1 26 32	103 41 43
...						
MIDDLEROCKS	Middle Rocks	RKS	1.3211111	104.4116667	1 19 16	104 24 42
...						
PEARLSHILLRESERVOIR	Pearl's Hill Reservoir	RSV	1.2844444	103.84	1 17 04	103 50 24
PEDERABRANCHAHORSBURGH	Pedera Branca Horsburgh	ISL	1.3302778	104.4075	1 19 49	104 24 27
PEDRABRANCA	Pedra Branca	ISL	1.3302778	104.4075	1 19 49	104 24 27
PEIRCERESERVOIR	Peirce Reservoir	RSV	1.3705556	103.8213889	1 22 14	103 49 17
...						
PUNGGOLVILLAGE	Punggol Village	PPL	1.4144444	103.9069444	1 24 52	103 54 25
PUTEH BATU	Batu Puteh	RK	1.3919444	103.9755556	1 23 31	103 58 32
PUTRINARROWS	Putri Narrows	NRWS	1.4391667	103.6911111	1 26 21	103 41 28
...						

MALAYSIA GEOGRAPHIC NAMES

downloaded from the GEOnet Names Server (http://earth-info.nga.mil/gns/html/cntry_files.html)
i.e., the official repository of foreign place-names approved by the U.S. BOARD ON GEOGRAPHIC NAMES
(extracts from Country File "my.txt", downloaded on 15 July 2004, arranged in alphabetical order)

[Notes :

1. The Country File "my.txt" is a computer data file made available by the U.S. Board On Geographic Names on the Internet through the GEOnet Names Server. The file contains **62,010** Malaysian geographic names.
2. The following table contains relevant extracts from the file, arranged in alphabetical order. This table demonstrates that *neither* Pedra Branca *nor* any of its variant names (such as Pulau Batu Puteh, Horsburgh or Pedra Branca Horsburgh) have been included by the U.S. Board on Geographic Names as a Malaysian geographic feature.
3. As the table on the previous page for Singapore geographic names indicates, the GEOnet Names Server gives the co-ordinates of Pedra Branca as Latitude 1° 19' 49" N, Longitude 104° 24' 27" E. Although the table below shows that there are many features in Malaysia by the name "Batu Puteh", it is clear from the co-ordinates of these features that *none* of these are the Pedra Branca/Pulau Batu Puteh which is the subject of the present dispute.]

SORT_NAME	FULL_NAME	DESIGNATION	LATITUDE	LONGITUDE	LATITUDE (Degree,Minute, Second)	LONGITUDE (Degree,Minute, Second)
...						
BATUPUNGUL	Batu Pungul	PPL	4.6333333	116.6	4 38 00	116 36 00
BATUPUTEH	Batu Puteh	PPL	6.8666667	116.8166667	6 52 00	116 49 00
BATUPUTEH	Batu Puteh	PPL	5.4	100.2	5 24 00	100 12 00
BATUPUTEH	Batu Puteh	PPL	5.4166667	117.9166667	5 25 00	117 55 00
BATUPUTEH ANAKAYER	Anak Ayer Batu Puteh	STM	2.4166667	102.4	2 25 00	102 24 00
BATUPUTEH BUKIT	Bukit Batu Puteh	HLL	2.3166667	102.1333333	2 19 00	102 08 00
BATUPUTEH BUKIT	Bukit Batu Puteh	HLL	2.3333333	102.1833333	2 20 00	102 11 00
BATUPUTEH BUKIT	Bukit Batu Puteh	HLL	2.35	102.5	2 21 00	102 30 00
BATUPUTEH BUKIT	Bukit Batu Puteh	HLL	2.3833333	101.9833333	2 23 00	101 59 00
BATUPUTEH BUKIT	Bukit Batu Puteh	HLL	2.5333333	101.9166667	2 32 00	101 55 00
BATUPUTEH BUKIT	Bukit Batu Puteh	HLL	2.6	102.0333333	2 36 00	102 02 00
BATUPUTEH BUKIT	Bukit Batu Puteh	HLL	3.9	103.0333333	3 54 00	103 02 00
BATUPUTEH BUKIT	Bukit Batu Puteh	HLL	4.1666667	103.3333333	4 10 00	103 20 00
BATUPUTEH BUKIT	Bukit Batu Puteh	HLL	4.25	100.5666667	4 15 00	100 34 00
BATUPUTEH BUKIT	Bukit Batu Puteh	HLL	4.8	103.3833333	4 48 00	103 23 00
BATUPUTEH BUKIT	Bukit Batu Puteh	HLL	5.0333333	103.3	5 02 00	103 18 00
BATUPUTEH BUKIT	Bukit Batu Puteh	HLL	5.2166667	103.05	5 13 00	103 03 00
BATUPUTEH BUKIT	Bukit Batu Puteh	MT	3.3166667	102.75	3 19 00	102 45 00
BATUPUTEH BUKIT	Bukit Batu Puteh	MT	4.25	101.5166667	4 15 00	101 31 00
BATUPUTEH BUKIT	Bukit Batu Puteh	MT	4.3833333	101.45	4 23 00	101 27 00
BATUPUTEH BUKIT	Bukit Batu Puteh	MT	4.9833333	100.8333333	4 59 00	100 50 00

BATUPUTEH GUNONG	Gunong Batu Puteh	MT	6.0333333	100.95	6 02 00	100 57 00
BATUPUTEH PARIT	Parit Batu Puteh	DTCH	1.9	102.9	1 54 00	102 54 00
BATUPUTEH SUNGAI	Sungai Batu Puteh	STM	2.6166667	103.5166667	2 37 00	103 31 00
BATUPUTEH SUNGAI	Sungai Batu Puteh	STM	3.25	101.55	3 15 00	101 33 00
BATUPUTEH SUNGAI	Sungai Batu Puteh	STM	3.8333333	101.75	3 50 00	101 45 00
BATUPUTEH TANJONG	Tanjong Batu Puteh	PT	4.25	100.5833333	4 15 00	100 35 00
BATUPUTIH GUNUNG	Gunung Batu Putih	MT	4.2166667	101.45	4 13 00	101 27 00
BATUPUTIH TANJUNG	Tanjung Batu Putih	PT	4.25	100.5833333	4 15 00	100 35 00
BATURABONG TANJONG	Tanjong Batu Rabong	PT	5.7833333	102.9833333	5 47 00	102 59 00
...						
HOPEFULESTATE	Hopeful Estate	EST	3.4666667	101.4666667	3 28 00	101 28 00
HOR BUKIT	Bukit Hor	MT	5.4166667	101.2333333	5 25 00	101 14 00
HORSESHOEPOINT	Horseshoe Point	PT	1.5666667	110.3833333	1 34 00	110 23 00
HORSESHOEREACH	Horseshoe Reach	RCH	1.5666667	110.3702778	1 34 00	110 22 13
HOSE PEGUNONGAN	Pegunongan Hose	MTS	2	114.1666667	2 00 00	114 10 00
HOSEMOUNTAINS	Hose Mountains	MTS	2	114.1666667	2 00 00	114 10 00
...						
MIDDLEHILL	Middle Hill	HLL	4.2833333	117.8666667	4 17 00	117 52 00
MIDDLEPATCHES	Middle Patches	SHOL	5.6166667	115.3166667	5 37 00	115 19 00
MIDDLETONESTATE	Middleton Estate	EST	2.7	102.4666667	2 42 00	102 28 00
...						
PEDOR SUNGAI	Sungai Pedor	STM	3.2166667	102.7166667	3 13 00	102 43 00
PEDPOD SUNGAI	Sungai Pedpod	STM	4.8166667	101.6	4 49 00	101 36 00
PEDRO SUNGAI	Sungai Pedro	STM	1.9666667	114.6166667	1 58 00	114 37 00
PEDU SUNGAI	Sungai Pedu	STM	6.25	100.6	6 15 00	100 36 00
PEDUK PULAU	Pulau Peduk	ISL	6.0833333	116.1	6 05 00	116 06 00
...						
PULAUAJAN TANJONG	Tanjong Pulau Ajan	STMB	1.5	109.9166667	1 30 00	109 55 00
PULAUBEKAU	Pulau Bekau	PPL	4.1666667	101.3833333	4 10 00	101 23 00
PULAUBERUITPROTECTEDFOREST	Pulau Beruit Protected Forest	FRST	2.6166667	111.3333333	2 37 00	111 20 00
PULAUBESAR SUNGAI	Sungai Pulau Besar	STMD	6.2	102.1833333	6 12 00	102 11 00
PULAUBETONG	PulauBetong	PPL	5.3	100.2	5 18 00	100 12 00
...						
PULAPELURU SELAT	Selat Pulau Peluru	CHNM	6.4166667	99.8833333	6 25 00	99 53 00
PULAUPINANG	Pulau Pinang	PPL	3.55	102.5666667	3 33 00	102 34 00
PULAUPINANG NEGERI	Negeri Pulau Pinang	ADM1	5.3333333	100.3333333	5 20 00	100 20 00
PULAUPINGGAI BUKIT	Bukit Pulau Pinggai	HLL	2.0333333	112.7166667	2 02 00	112 43 00
PULAUPINTUGEDONGFORESTRESERVE	Pulau Pintu Gedong Forest Reserve	FRST	2.9166667	101.25	2 55 00	101 15 00
PULAUPISANG SUNGAI	Sungai Pulau Pisang	STMD	6.1833333	102.25	6 11 00	102 15 00
PULAUREDANGHARBOUR	Pulau Redang Harbour	HBR	5.75	103.0166667	5 45 00	103 01 00
PULAURUSA BUKIT	Bukit Pulau Rusa	HLL	5.05	103.2833333	5 03 00	103 17 00
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