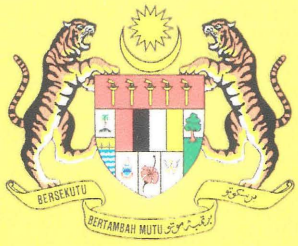


INTERNATIONAL COURT OF JUSTICE

CASE CONCERNING SOVEREIGNTY OVER PEDRA BRANCA/PULAU BATU PUTEH, MIDDLE ROCKS AND SOUTH LEDGE

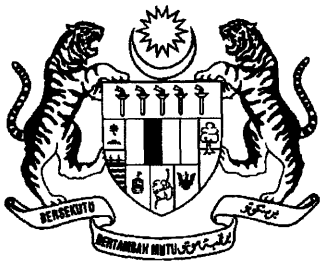
MALAYSIA/SINGAPORE

REPLY OF MALAYSIA

VOLUME 2

ANNEXES

25 NOVEMBER 2005



INTERNATIONAL COURT OF JUSTICE

CASE CONCERNING SOVEREIGNTY OVER PEDRA BRANCA/PULAU BATU PUTEH, MIDDLE ROCKS & SOUTH LEDGE

MALAYSIA/SINGAPORE

REPLY OF MALAYSIA

Volume 2

Annexes

25 November 2005

LIST OF ANNEXES

VOLUME 2

DOCUMENTARY ANNEXES

Annex (MR)	Title of Document
1.	Wubeizhi Chart Completed by Mao Yuanyi in about 1621 and English translation (by Malaysia)
2.	Extracts of Letter from Elout, Dutch Minister of Colonies, to the Governor-General of the Netherlands East-Indies, 31 August 1824, Dutch original and English translation
3.	Letter from the Government of India to John Crawfurd, 4 March 1825
4.	Extracts of Report from Mr C. van Angelbeek to Governor-General of the Netherlands East-Indies on his mission to Riau, 1825, original and English translation (by Malaysia)
5.	Letter from John Crawfurd to the Secretary to the Government of India, 16 August 1825
6.	Extracts of Copy of Report of Ch. van Angelbeek on his mission to Riau 1825, original and English translation (by Malaysia)
7.	Extract from John Crawfurd, *Journal of an Embassy from the Governor-General of India to the Courts of Siam and Cochin China; Exhibiting a View of the Actual State of Those Kingdoms*, London: Colburn, 1828. Reproduced with an Introduction by David K. Wyatt, Historical Reprints, Kuala Lumpur: Oxford University Press, 1967
8.	Extracts of Letter by the Resident of Riau to the Director of Finance and Domains (*"lands middelen en domeinen"*) dated 12 July 1833, original and English translation (by Malaysia)
9.	Letter from Governor Butterworth to Purvis & Co., 30 October 1844
10.	Letter from Governor Butterworth to Rear Admiral Sir Cochrane C. B., 8 December 1845
11.	Letter from S. Congalton, Commander of H. C. Steamer *Hooghly* to T. Church, Resident Councillor of Singapore, 12 January 1846
12.	Letter from T. Church, Resident Councillor of Singapore to the Governor of the Straits Settlement, 13 January 1846
13.	Dispatch of the Government of India to the Court of Directors, 3 March 1849
14.	Letter from Seton Karr, Under Secretary to the Government of Bengal to Governor Butterworth, 19 April 1849

15. Letter from Governor Butterworth to T. Church, Resident Councillor of Singapore, 12 December 1849

16. Letter from Governor W. J. Butterworth to the Worshipful Master of the Lodge Zetland in the East, 9 March 1854

17. Letter from Governor W. J. Butterworth to the Worshipful Master of the Lodge Zetland in the East, 12 August 1854

18. Extracts of Charles Burton Buckley, *An Anecdotal History of Old Times in Singapore* (Singapore: Fraser & Neave (1902), reprinted in Kuala Lumpur: University of Malaya Press (1965)), pp. 437, 520, 546

19. "Obsn for fixing rocks around Batu Puteh", by Mr A. Velu Pillai, from "Survey Department Federation of Malaya, Topographical Branch, Angle Book TRIG 1524 for Survey of Sheet 135, Season 1959", taken on 2, 10, 11, 14 and 15 October 1959

20 Out Telegram from the Ministry of Foreign Affairs of Malaysia (Wisma Putra) to All Missions, 20 December 1979

21. Talking Points Concerning Singapore by the Ministry of Foreign Affairs of Malaysia, 21 December 1979

22. Extracts from John Hall-Jones & Christopher Hooi, *An Early Surveyor in Singapore. John Turnbull Thomson in Singapore 1841-1853*, Singapore: National Museum Singapore, 1979, pp. 11-19, 114-115

23. Loose Minute by Mr. Ahmad Fuzi B. Hj. Abdul Razak, Principal Assistant Secretary (Political), Ministry of Foreign Affairs, Malaysia, 21 January 1980

24. Photographs of Pulau Pisang taken on 4 April 2003, Source : Land Office of Pontian, Johor, Malaysia

25. Major Masonic Events in South East Asia in the past 150 Years, from http://web.singnet.com.sg/~masonry/eventsea.htm

26. "Report in respect of the forensic examination of the letter from W.J. Butterworth (Governor of Prince of Wales Island, Singapore and Malacca) to G. A. Bushby (Secretary to the Government of India) dated 26 August 1846", prepared by Mr. Wong Kong Yong, Document Examiner, Forensic Division, Department of Chemistry, Malaysia, 21 September 2005

MAP ANNEXES

	Title of Map
Map Annex 1	"Map of Singapore Island and its Dependencies. Copied by permission from the Government Surveys, Singapore, 1852"
Map Annex 2	Sketch of the British Settlement of Singapore According to the treaty of the 2nd of August 1824, by Lieut. P. Jackson, Assistant Engineer
Map Annex 3	Singapore, 1924, Sheet No. 1 and 16-sheet map compilation, on a Scale of 20 Chains to an Inch, published under the direction of the Surveyor General F.M.S. & S.S., showing legend (Map 15 in the MM)
Map Annex 4	"Singapore", Sheet NA-48 of the World 1:1,000,000 Series GSGS 4646 produced by the UK War Office, Edition 5 of Sheet NA-48, 1954 (this sheet forms the top half of the compilation in Map 26 of Memorial of Malaysia Map Atlas)
Map Annex 5	Recently declassified United States Department of State map of the area of the entrance to the Singapore Strait, Sheet NA 48-10, 1990s

DOCUMENTARY ANNEXES

ANNEX MR 1

Wubeizhi Chart Completed by Mao Yuanyi in about 1621 and English translation (by Malaysia)

E 701
M32.1

CHINESE SECTION
ORIENTALIA DIVISION
LIBRARY OF CONGRESS

武備志卷二百三十八

防風茅元儀輯

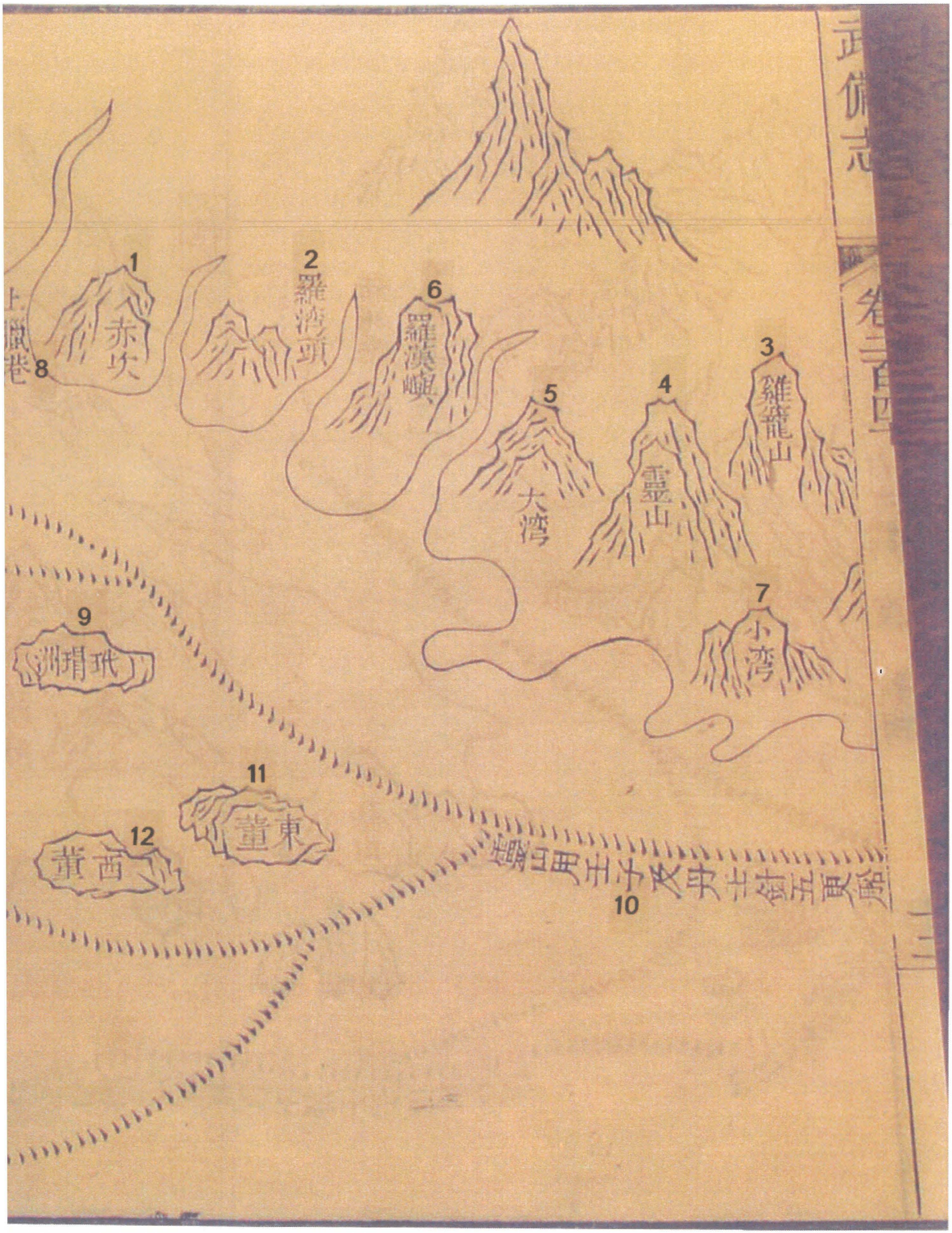
占度載

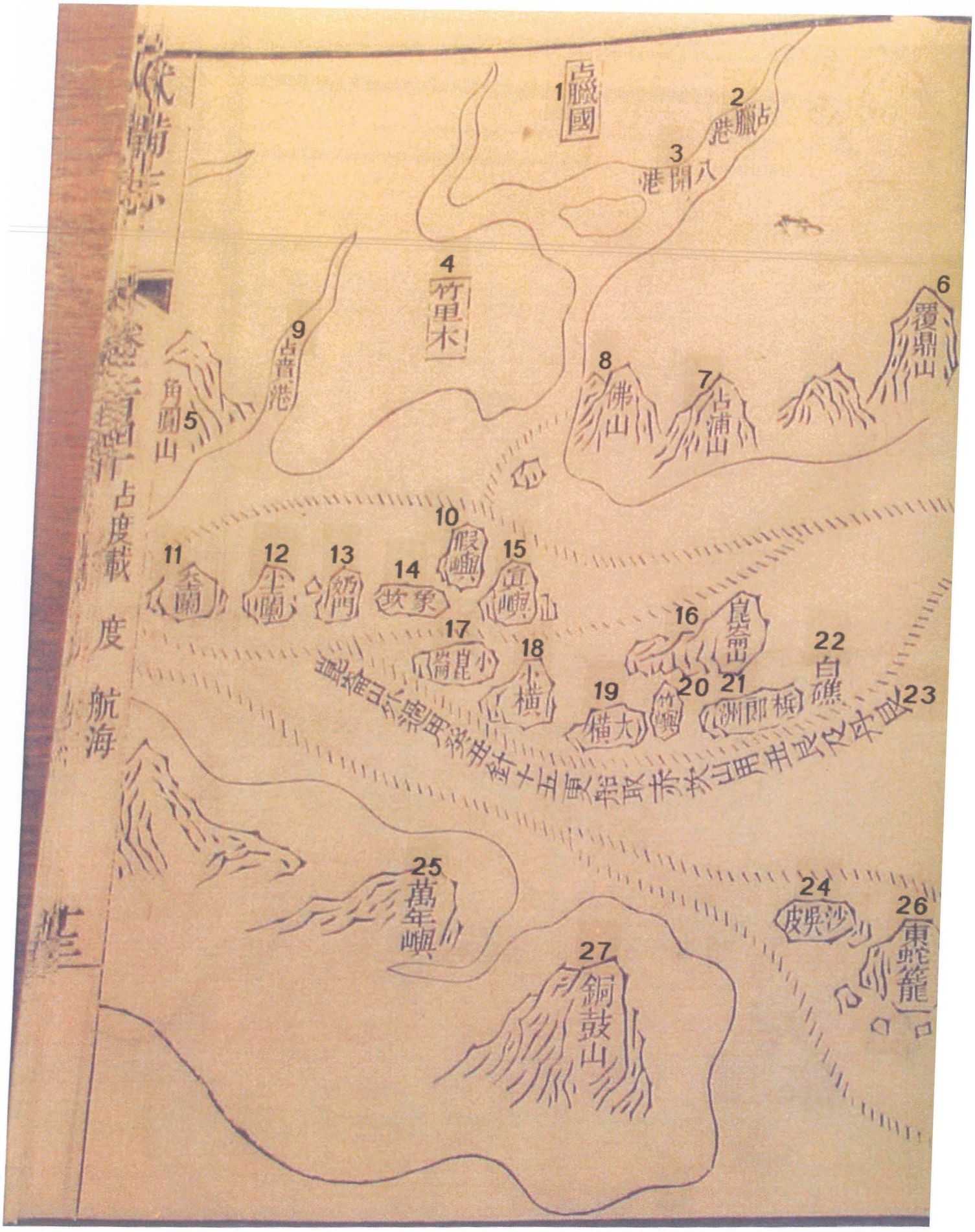
度 四十九

四夷 十六

安南考

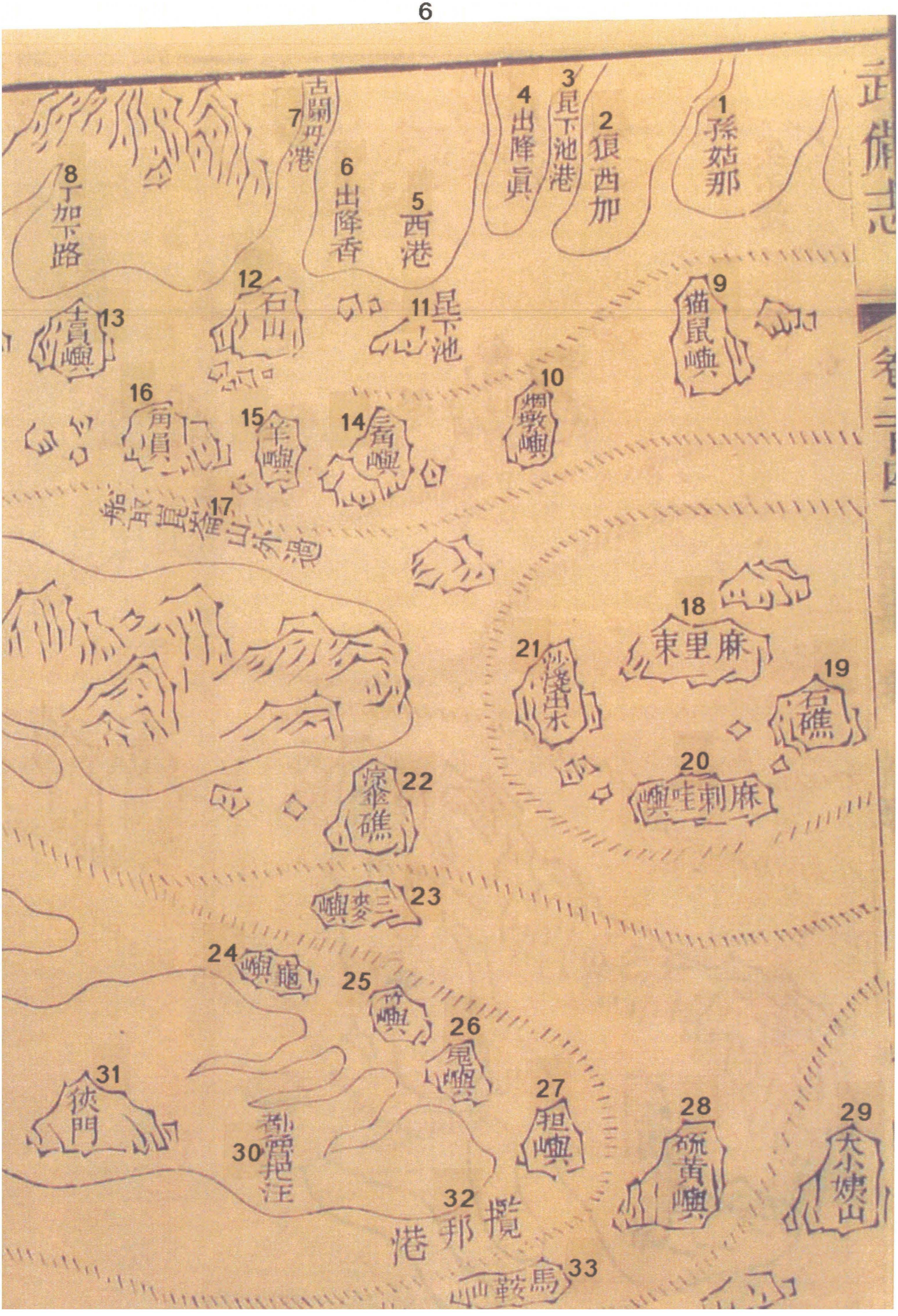
安南、唐虞時南交也、秦爲象郡、漢初、南越趙陀據之、武帝平南越、置交趾九眞日南三郡、光武時、女子徵側徵貳反、馬援討平之、建安中、改爲交州、置

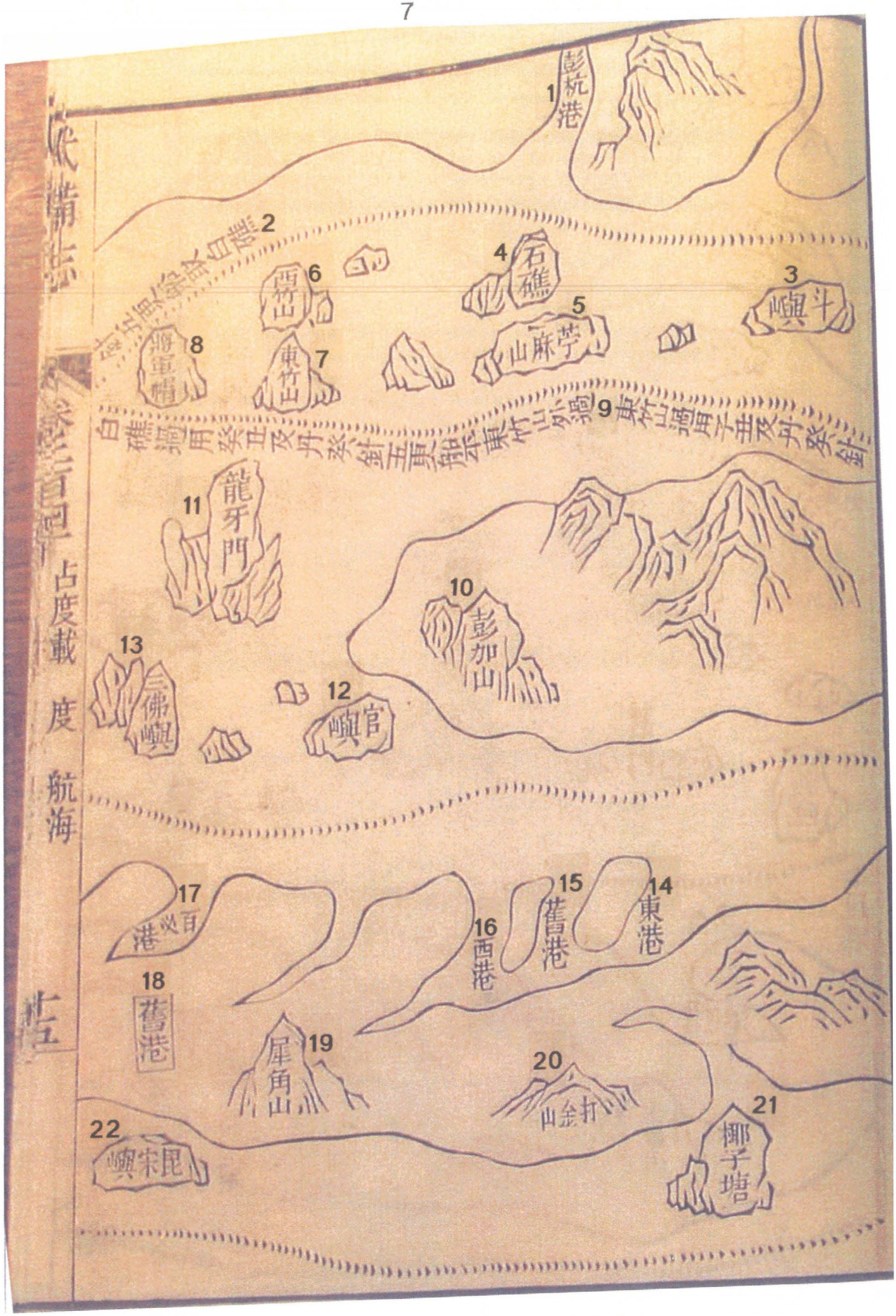

1
赤坎
2
羅湾頭
6
羅湾嶺
3
雞籠山
4
靈山
5
大湾
7
小湾
9
琅琊洲
11
東壹
12
西壹
10

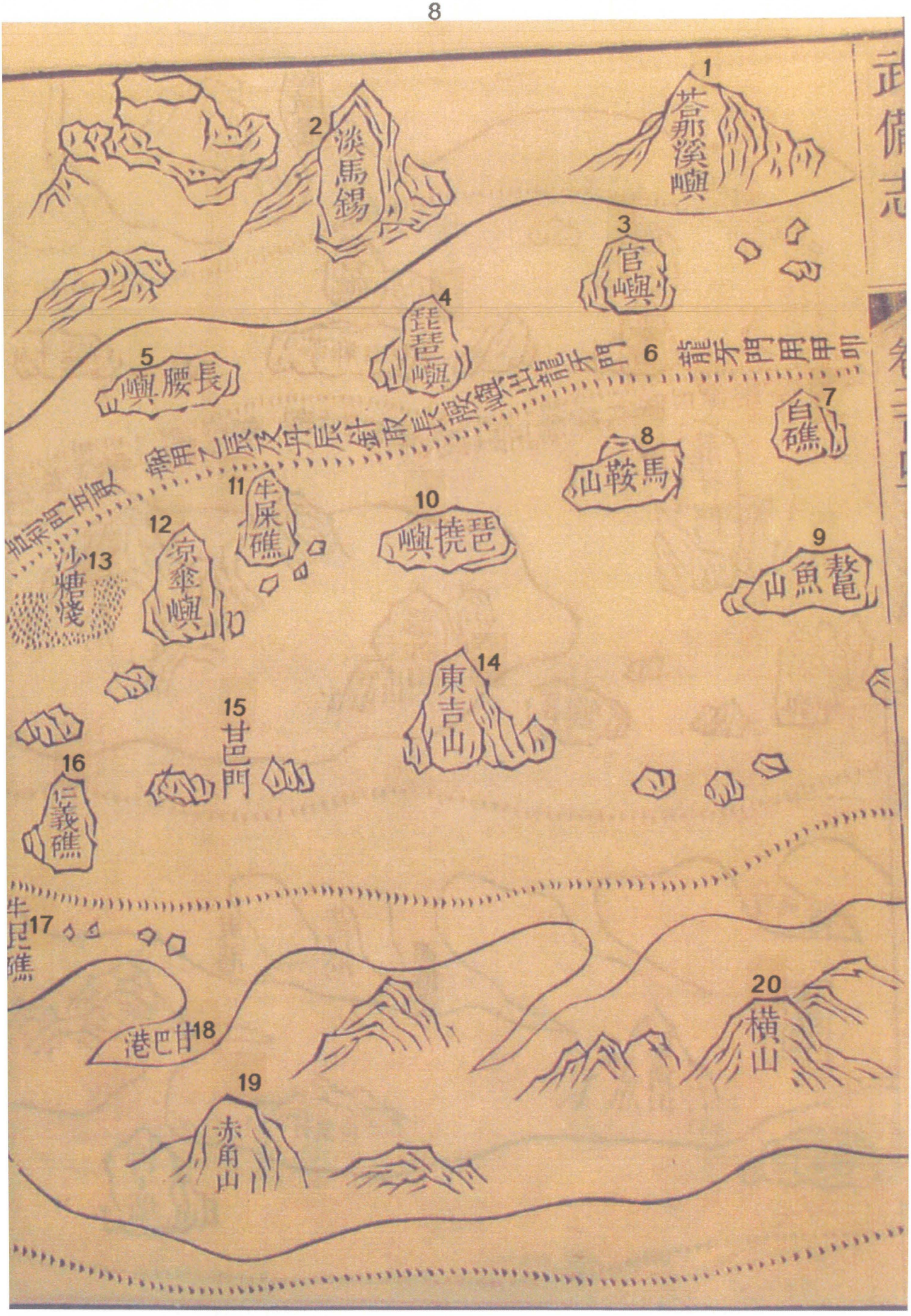

1 臘國
2 占臘港
3 八開港
4 竹里木
5 角圓山
6 覆鼎山
7 占浦山
8 佛山
9 占脊港
10 暇嶼
11 崙
12 尘嶼
13 鴨
14 坎象
15 山嶼
16 皇雷
17 小崑崙
18 小橫
19 大橫
20 竹嶼
21 洲即梹
22 白礁
23
24 皮吳沙
25 萬年嶼
26 東蛇籠
27 銅鼓山
占度載航海

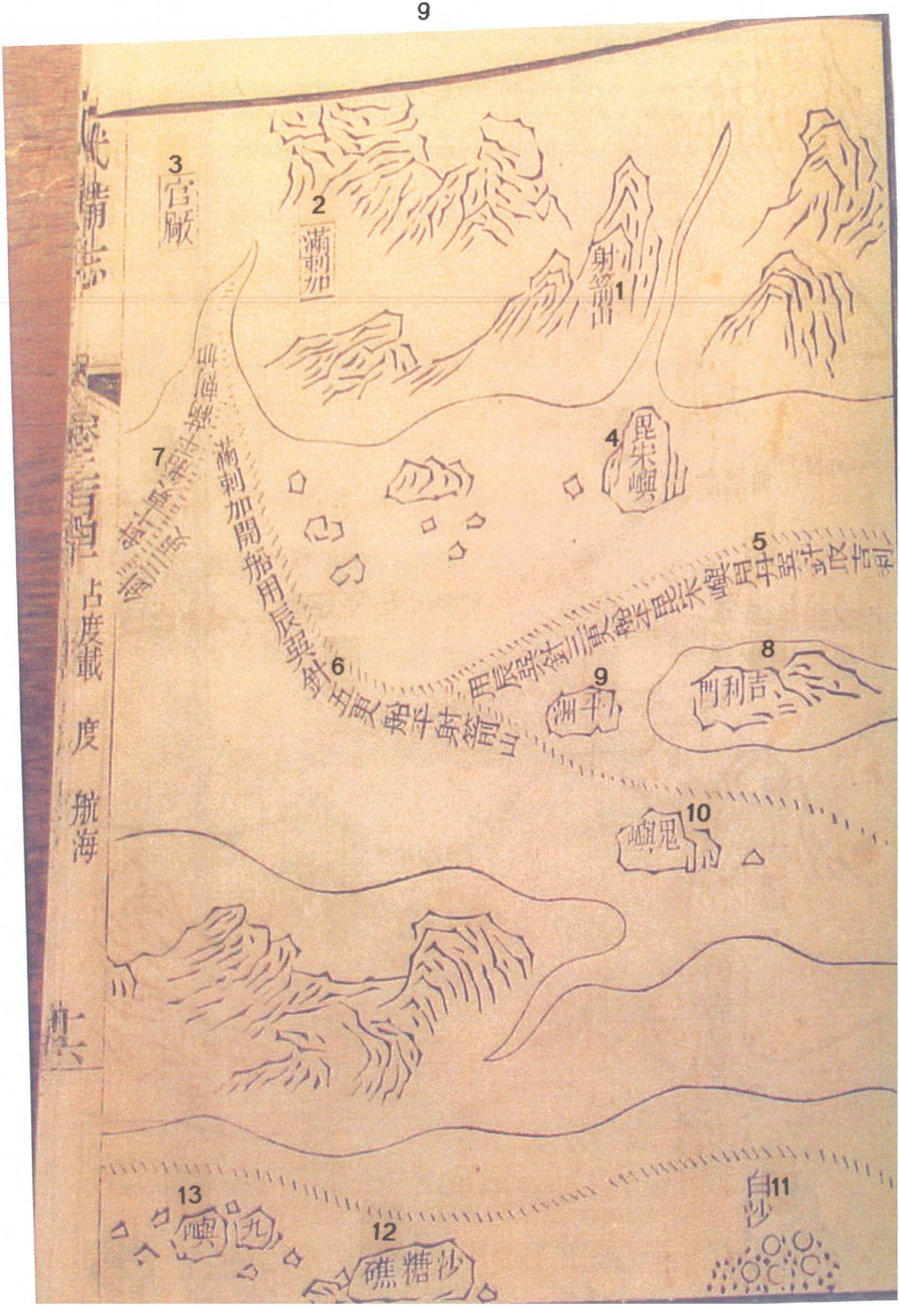
1
筆架山
2
出蘇木
3
牽頭山
4
暹羅國
5
星馬山
6
竹嶼
7
十二子山
8
假里馬達
9
交闌山

1
2
3
4
5
6
7
8
9
吉利問
馬鞍山
佛山
赤坎
海門山
石塘洲
瑪瑙珠
崑崙國

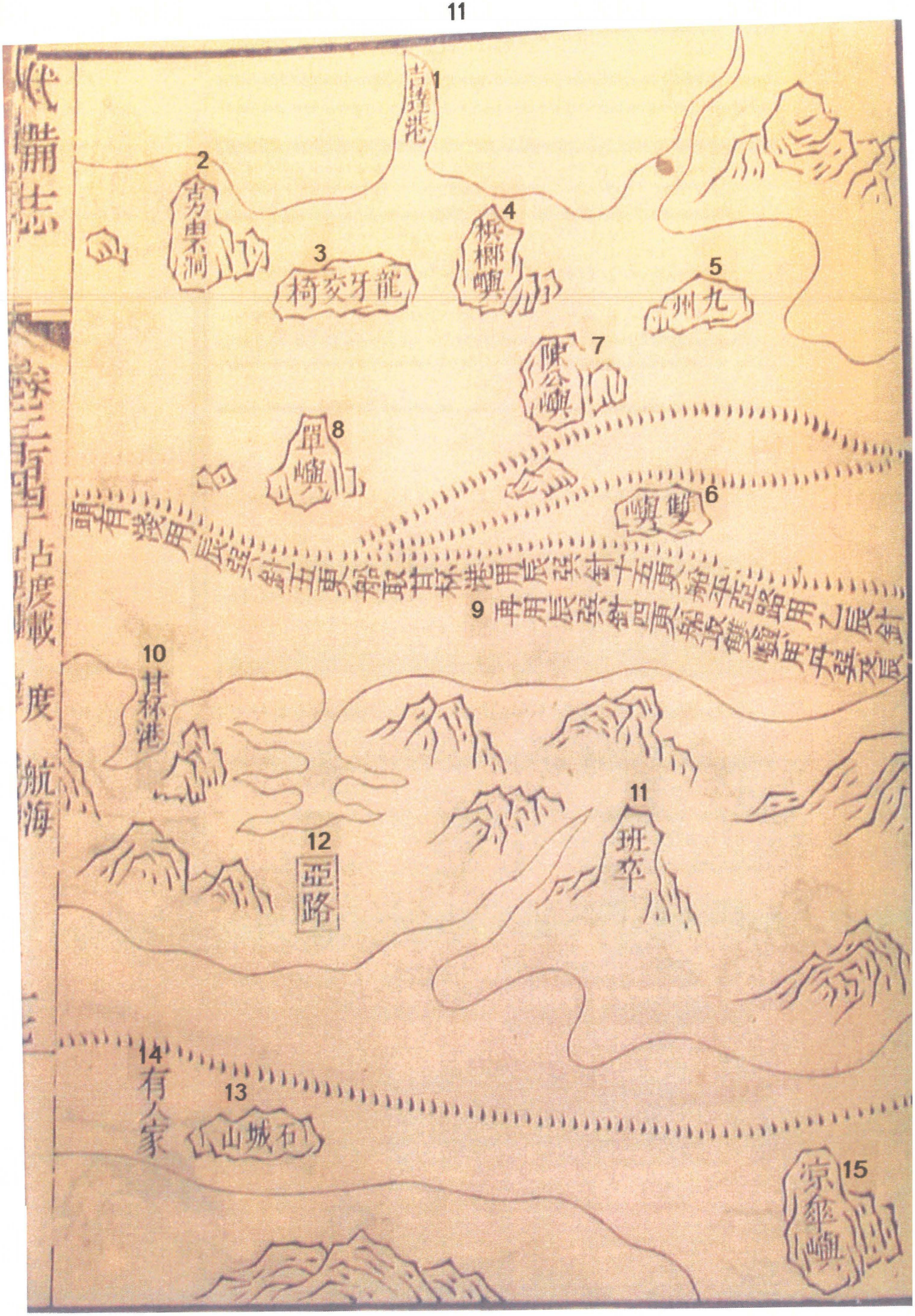

1 孫姑那
2 狼西加
3 昆下池港
4 出降眞
5 西港
6 出降香
7 古關母港
8 丁加下路
9 猫鼠嶼
10 燭墩嶼
11 昆下池
12 石山
13 青嶼
14 畜嶼
15 羊嶼
16 角員
17 華西雜毛來嶼
18 東里麻
19 礁
20 麻剌哇嶼
21 淺蛋米
22 寮傘礁
23 三麥嶼
24 嶼龍
25 嶼
26 嶼鼠
27 嶼担
28 嶼黃硫
29 太小婆山
30 荒蕪汪
31 狹門
32 港邦攬
33 馬乾山


1 彭杭港
2
3 斗嶼
4 石礁
5 山麻苧
6 嶼筒
7 東竹山
8 將軍楠
9
10 彭加山
11 龍牙門
12 嶼官
13 三佛嶼
14 東港
15 舊港
16 西港
17 港吱百
18 舊港
19 犀角山
20 山金打
21 椰子塘
22 嶼宋昆

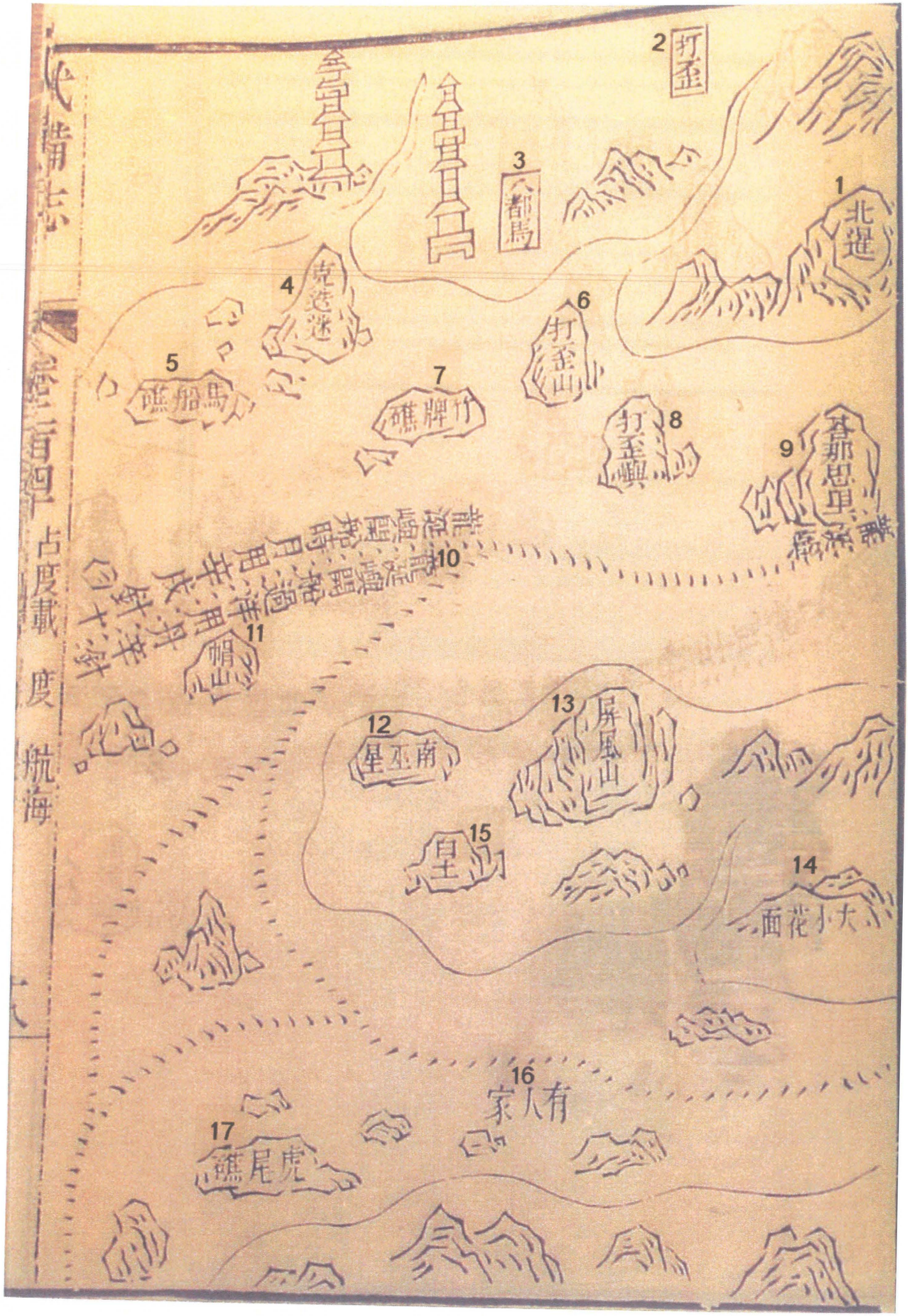

1
蒼那溪嶼
2
淡馬錫
3
官嶼
4
琵琶嶼
5
長腰嶼
6
7
白礁
8
馬鞍山
9
鼈魚山
10
琵琶嶼
11
牛屎礁
12
涼傘嶼
13
沙糖淺
14
東吉山
15
甘邑門
16
仁義礁
17
18
甘巴港
19
赤角山
20
橫山


3
宮厥
2
滿加
射箭
1
4
畏宋嶼
7
滿剌加開船用辰巽針
6
9
洲干
8
門利吉
10
鬼嶼
13
澳丸
12
礁糖沙
11
白沙

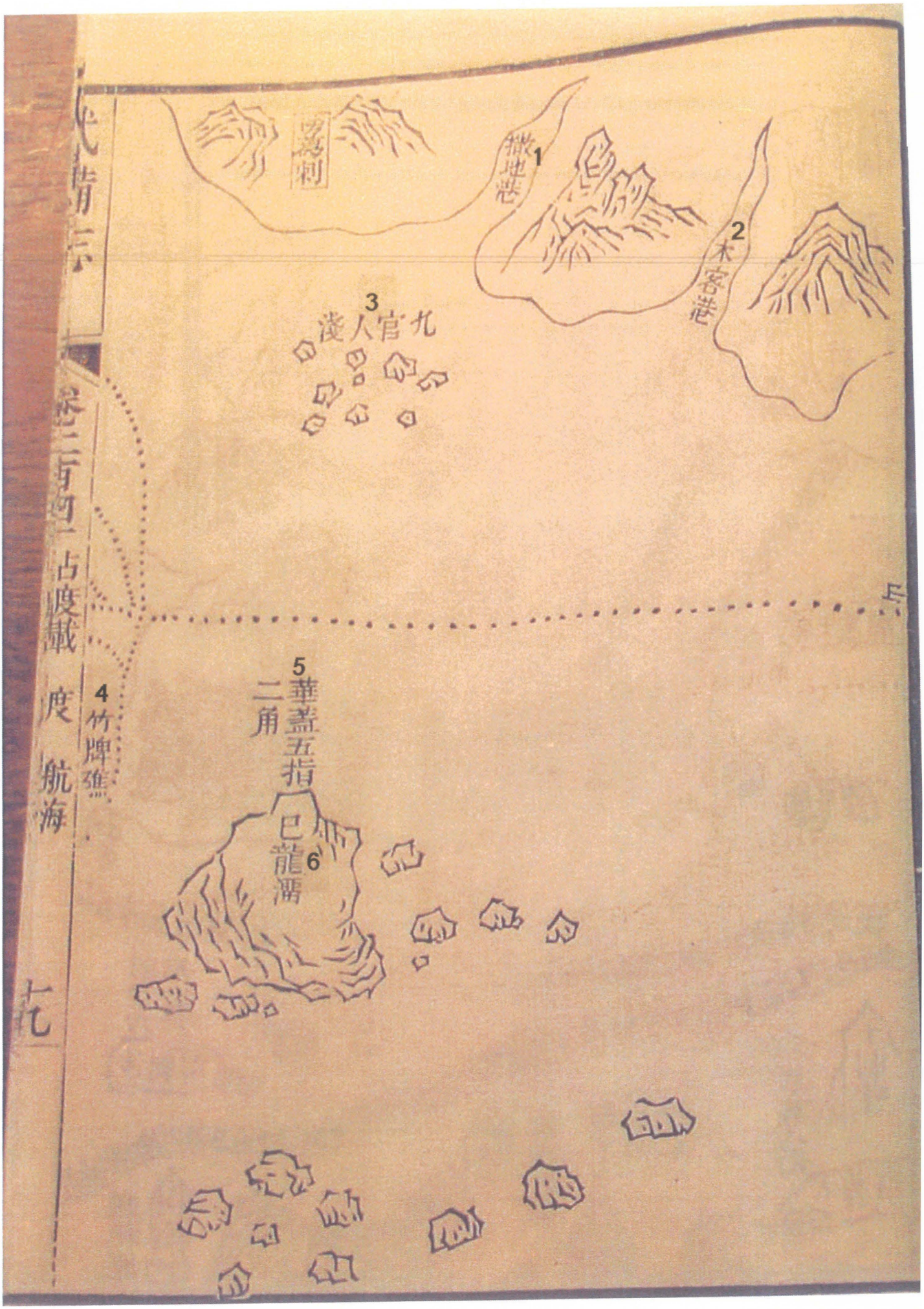
4
3
2
1
5
6
8
7
9
10
14
13
12
11


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
有人家

1
獨掛頭山
2
蒼鼠
3
4
5
官廠
6
巴祿頭
7
急水灣
8
蘇閘蒼


2
打歪
3
都馬
1
北遲
4
克迷迷
5
馬船礁
6
打歪山
7
竹牌礁
8
打歪嶼
9
10
11
帽山
12
星巫南
13
屏風山
15
星
14
花小大
16
家人有
17
虎尾礁

1
大墓山
2
小墓山
3
落坑
4
赤山
5
龜頭山
6
旺馬山
7
落坑山
8
安得堂山
9
李壽山
10
金獅山
11
翠蘭嶺
12
13
14
龍泉嶺


1
撒地港
2
木宮港
3
九官人淺
4
竹牌嶼
5
華蓋五指
二角
6
巳龍澇

Translation in English by the Malaysian Institute of Translation

Wubeizhi*[1]-volume 238

Compiled by Mao Yuanyi

Divination*[2] and geographical landscape

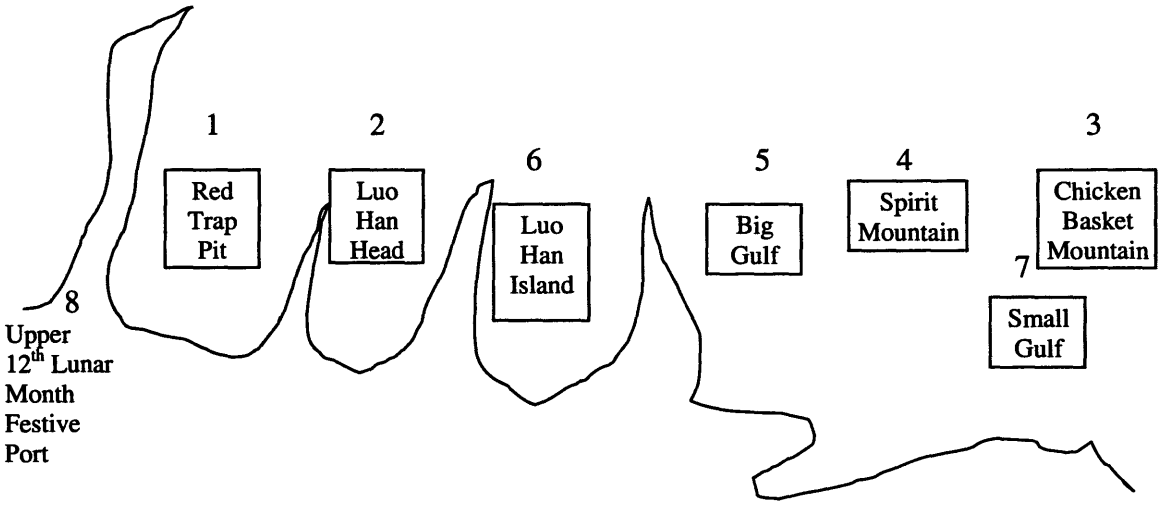
Geographical landscapes --- No. 49

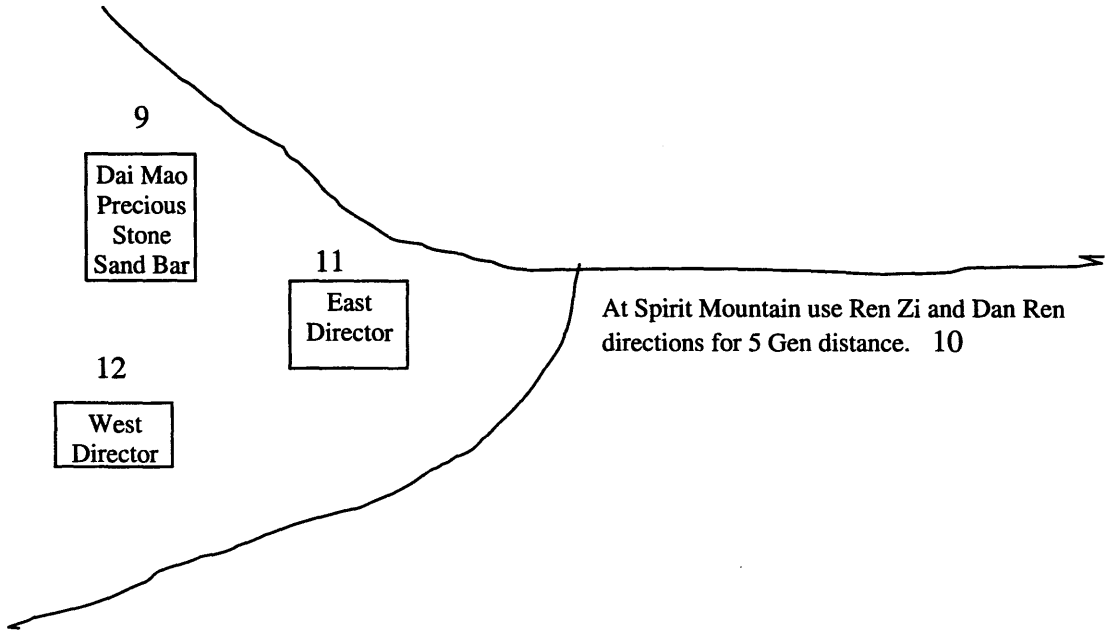
The minority races ---- No. 16

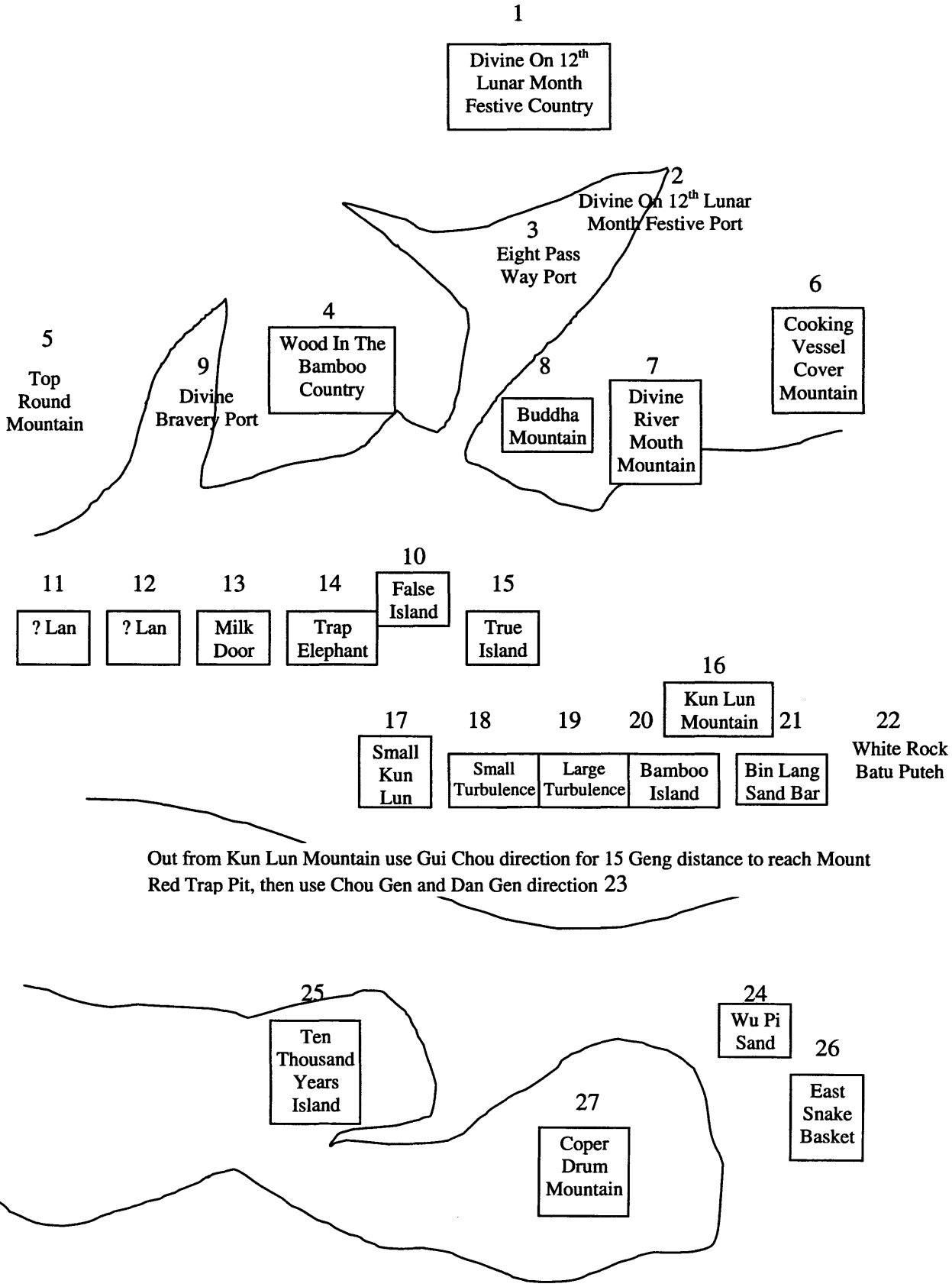
Study on Annan

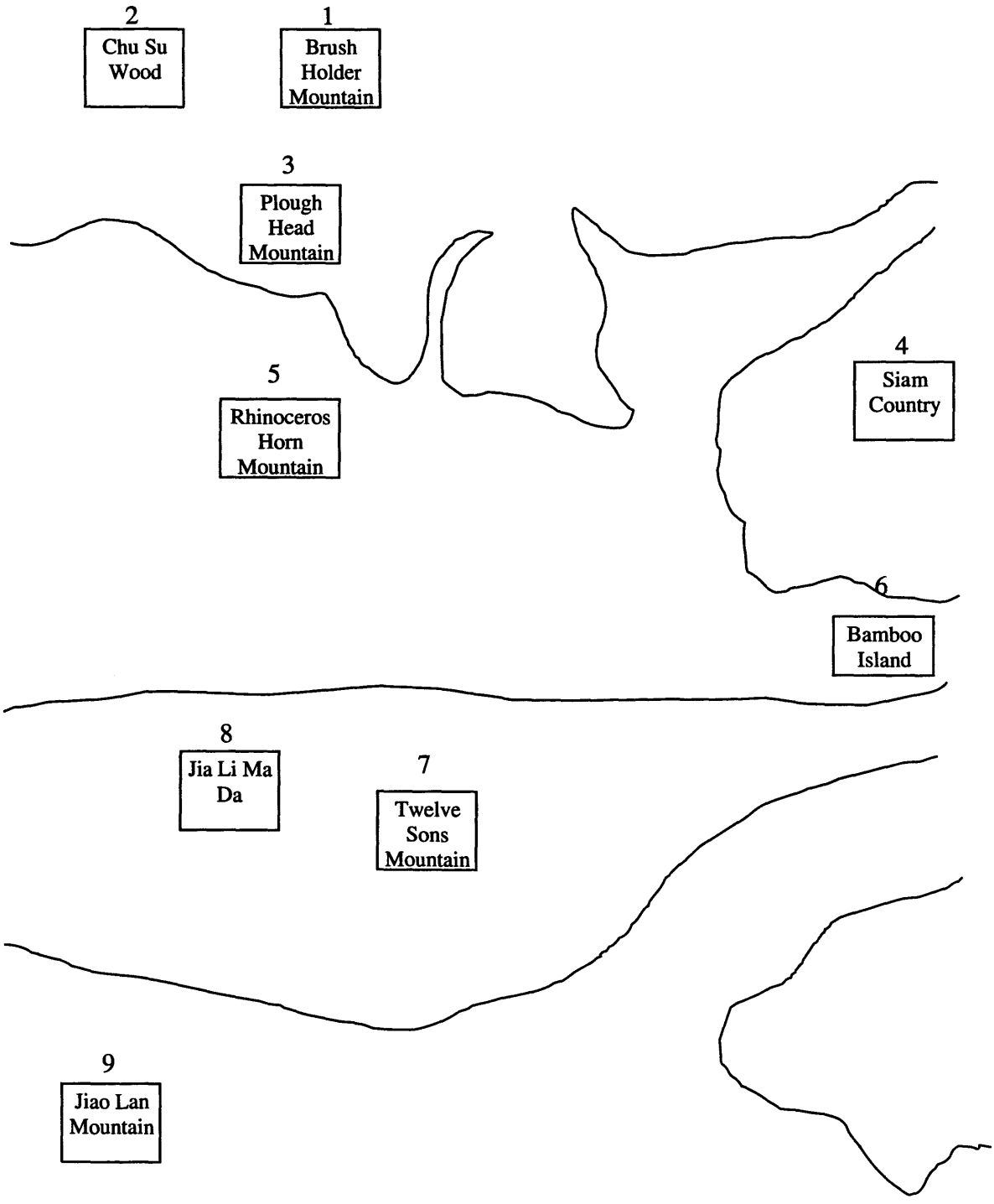
Annan in the Tang Yu era was known as Nan Jiao; in the Qin dynasty it was known as Xiang Jun. In the beginning of Han dynasty, it was occupied by Zhao Tuo from Nan Yue region. Then, Emperor Wu Di of Han dynasty conquered Nan Yue and allocated three prefectures namely, Jiao Zhi, Jiu Zhen and Ri Nan. During the Emperor Guang Wu era, two sisters Zheng Ce and Zheng Er rebelled and Ma Yuan succeeded in suppressing them. During the Jian An era, the area was renamed Jiao Zhou, ...

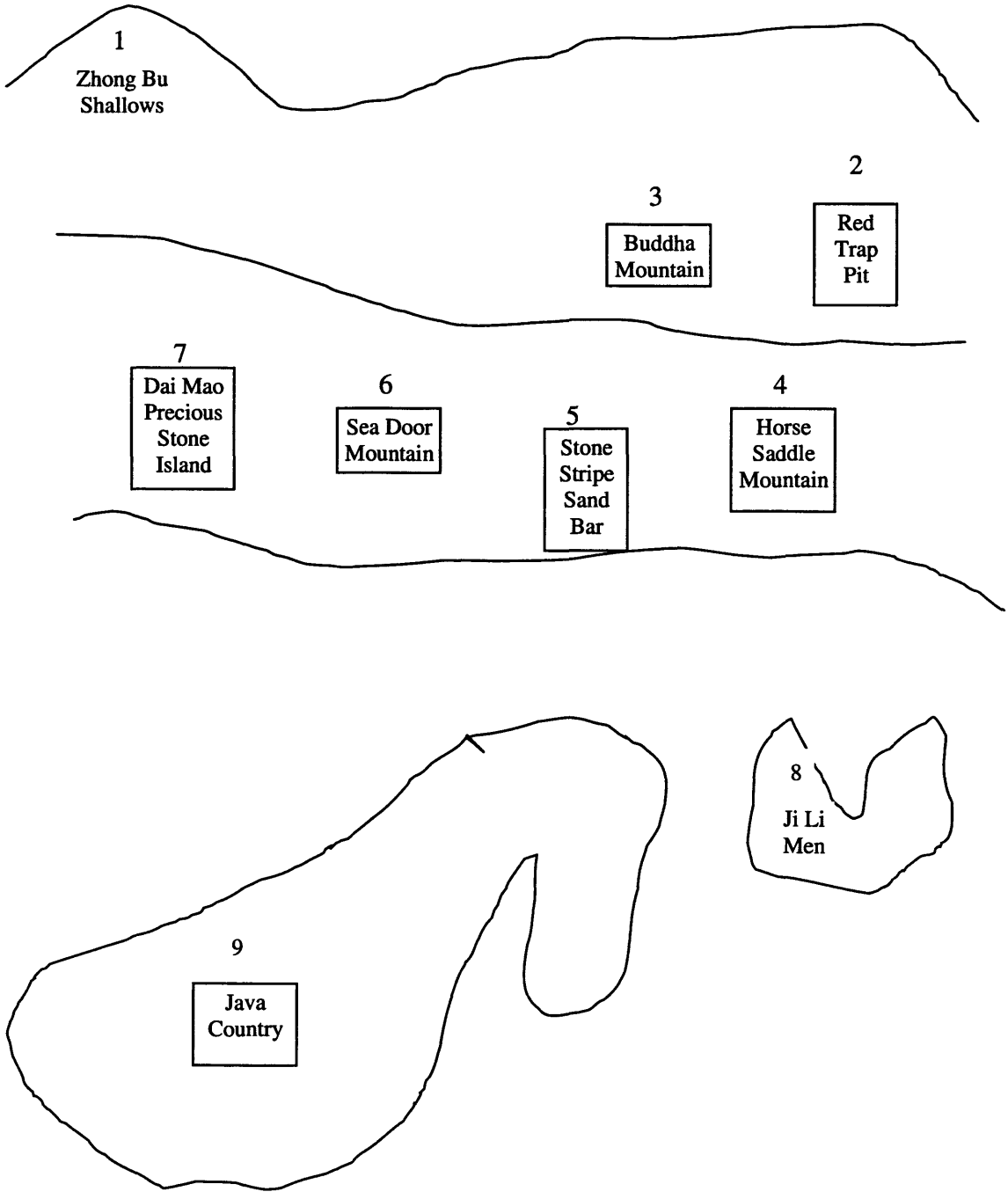
* [1]Literally means "treatise on warfare preparedness". This is a famous book on war tactics in the late Ming dynasty.
* [2] Divine by astrology and other natural phenomena.

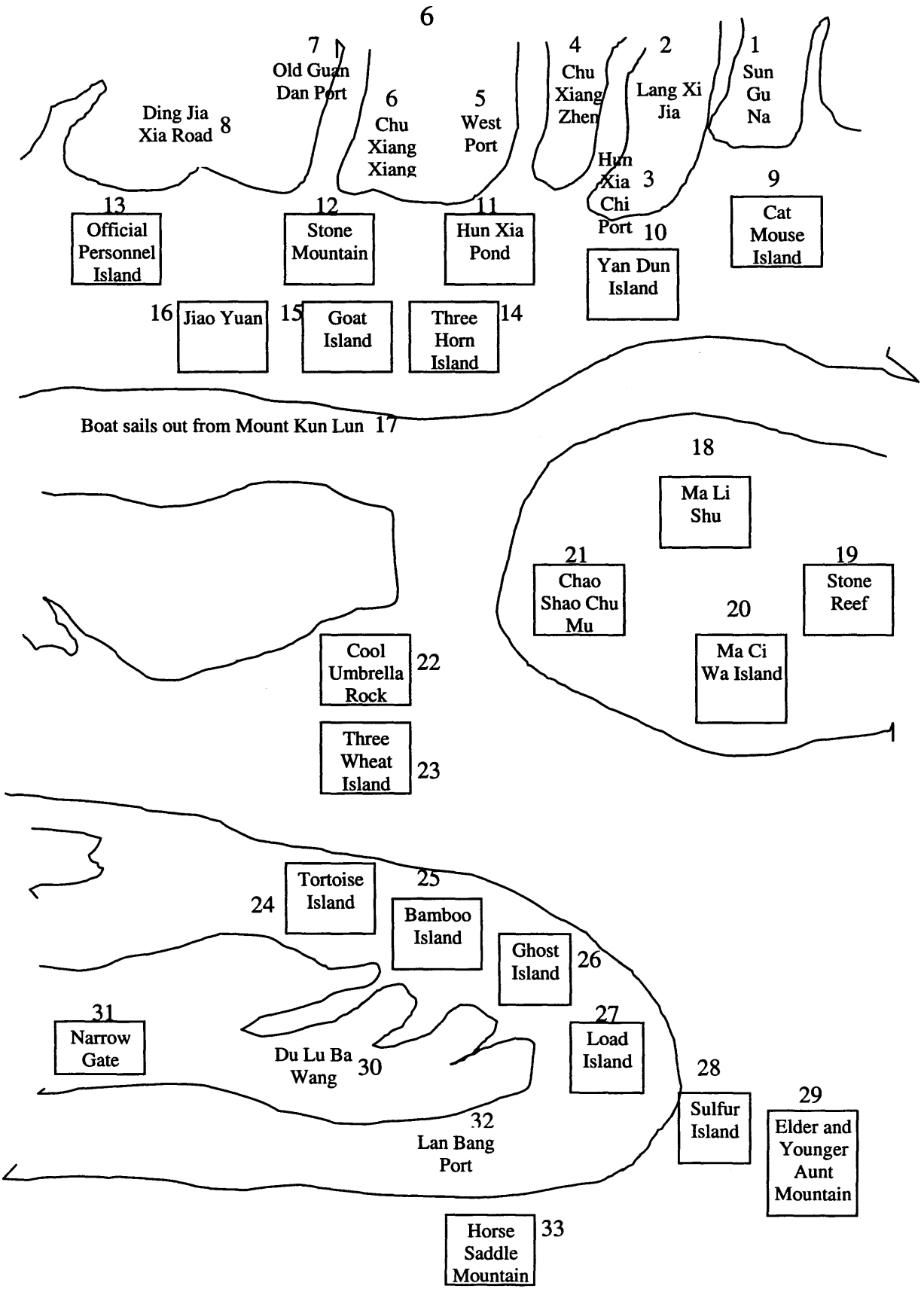

1
Red Trap Pit
2
Luo Han Head
6
Luo Han Island
5
Big Gulf
4
Spirit Mountain
3
Chicken Basket Mountain
7
Small Gulf
8
Upper 12th Lunar Month Festive Port

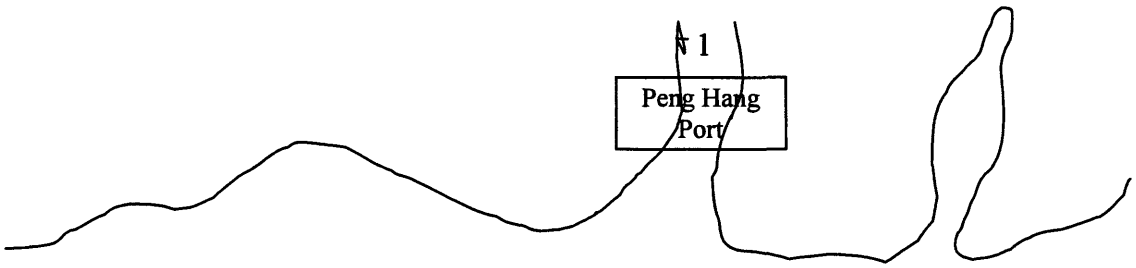

9
Dai Mao Precious Stone Sand Bar
11
East Director
12
West Director
At Spirit Mountain use Ren Zi and Dan Ren directions for 5 Gen distance. 10


1
Divine On 12th Lunar Month Festive Country
2
Divine On 12th Lunar Month Festive Port
3
Eight Pass Way Port
4
Wood In The Bamboo Country
5
Top Round Mountain
6
Cooking Vessel Cover Mountain
7
Divine River Mouth Mountain
8
Buddha Mountain
9
Divine Bravery Port
10
False Island
11
? Lan
12
? Lan
13
Milk Door
14
Trap Elephant
15
True Island
16
Kun Lun Mountain
17
Small Kun Lun
18
Small Turbulence
19
Large Turbulence
20
Bamboo Island
21
Bin Lang Sand Bar
22
White Rock Batu Puteh
Out from Kun Lun Mountain use Gui Chou direction for 15 Geng distance to reach Mount Red Trap Pit, then use Chou Gen and Dan Gen direction 23
24
Wu Pi Sand
25
Ten Thousand Years Island
26
East Snake Basket
27
Coper Drum Mountain

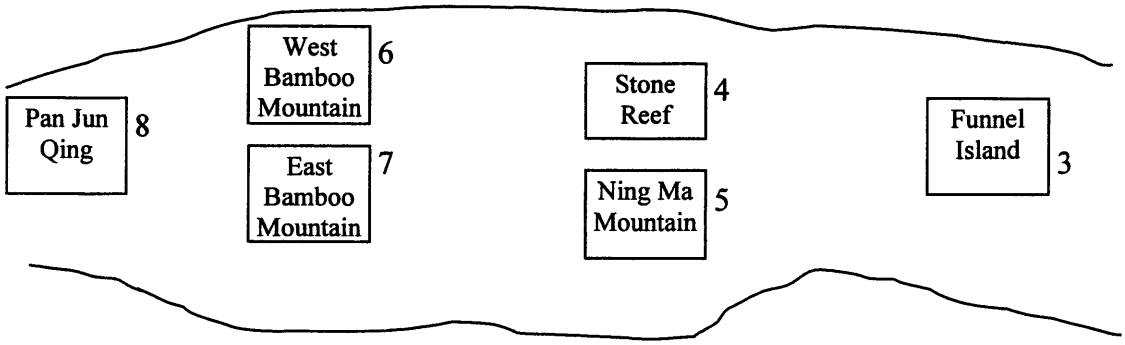

2
Chu Su Wood
1
Brush Holder Mountain
3
Plough Head Mountain
5
Rhinoceros Horn Mountain
4
Siam Country
6
Bamboo Island
8
Jia Li Ma Da
7
Twelve Sons Mountain
9
Jiao Lan Mountain


1
Zhong Bu
Shallows
2
3
Buddha
Mountain
Red
Trap
Pit
7
Dai Mao
Precious
Stone
Island
6
Sea Door
Mountain
5
Stone
Stripe
Sand
Bar
4
Horse
Saddle
Mountain
8
Ji Li
Men
9
Java
Country

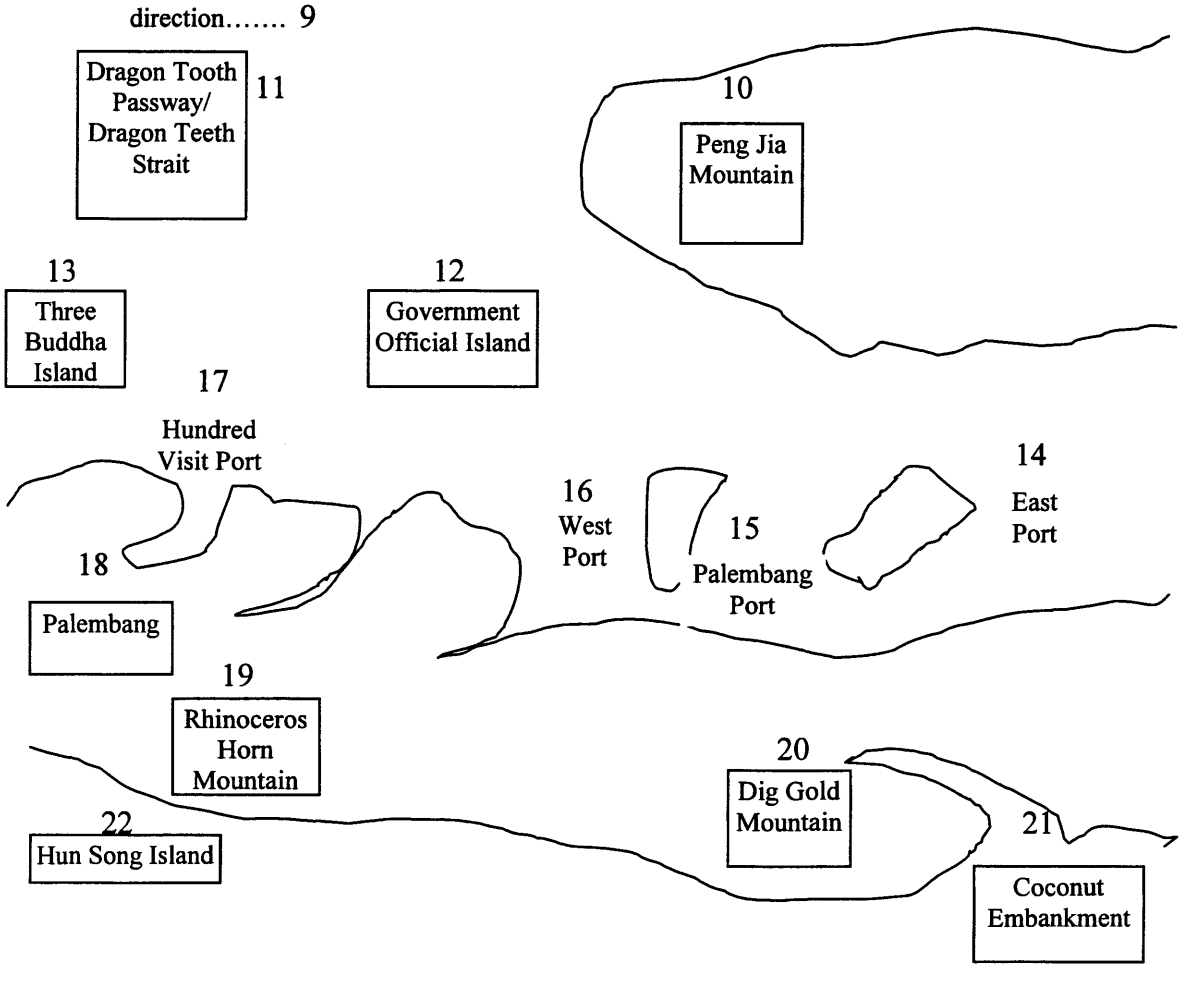

6
7
Old Guan Dan Port
4
Chu Xiang Zhen
2
Lang Xi Jia
1
Sun Gu Na
Ding Jia Xia Road 8
6
Chu Xiang Xiang
5
West Port
Hun Xia Chi Port 3
9
Cat Mouse Island
13
Official Personnel Island
12
Stone Mountain
11
Hun Xia Pond
10
Yan Dun Island
16
Jiao Yuan
15
Goat Island
Three Horn Island 14
Boat sails out from Mount Kun Lun 17
18
Ma Li Shu
21
Chao Shao Chu Mu
19
Stone Reef
20
Ma Ci Wa Island
Cool Umbrella Rock 22
Three Wheat Island 23
24
Tortoise Island
25
Bamboo Island
Ghost Island 26
31
Narrow Gate
Du Lu Ba Wang 30
27
Load Island
28
Sulfur Island
29
Elder and Younger Aunt Mountain
32
Lan Bang Port
Horse Saddle Mountain 33

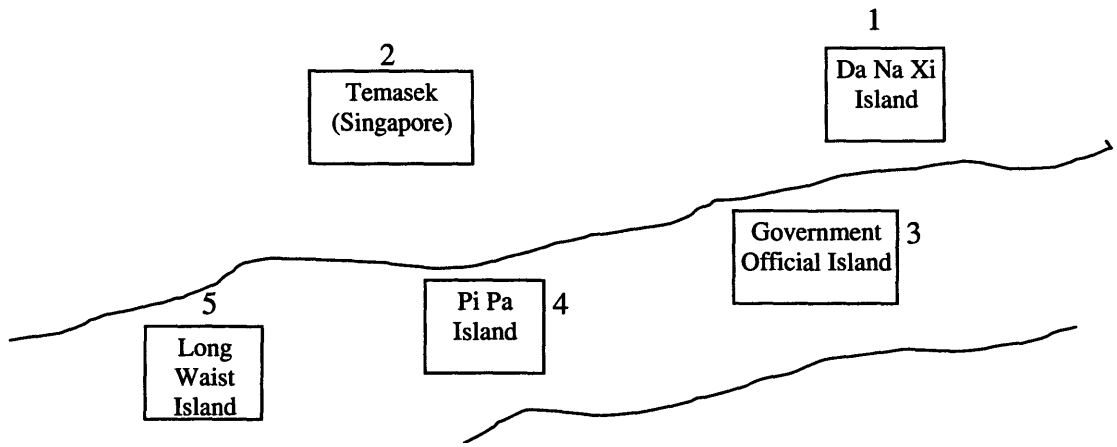


....5 Gen distance to white rock 2

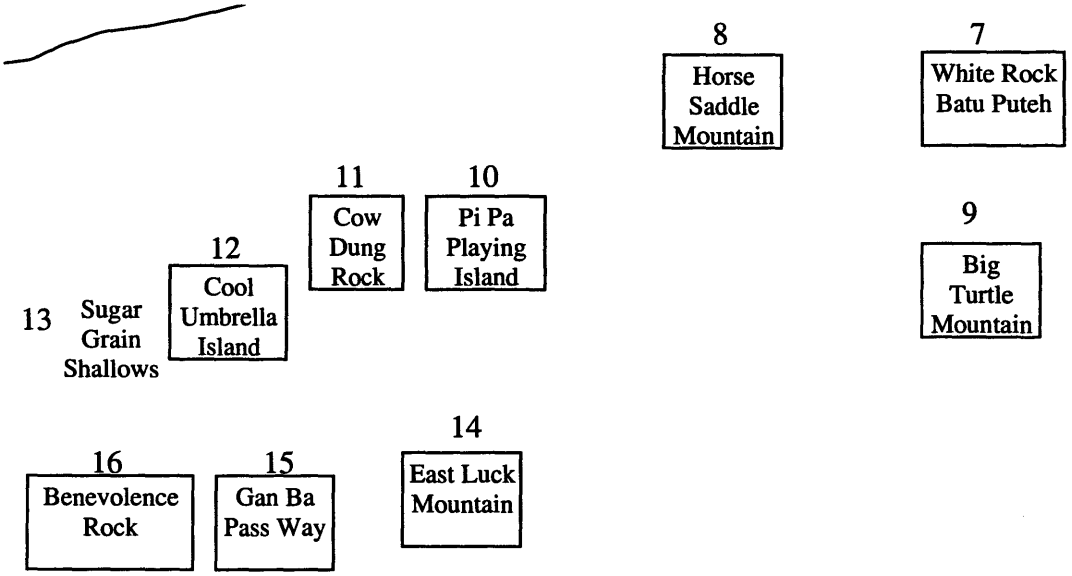


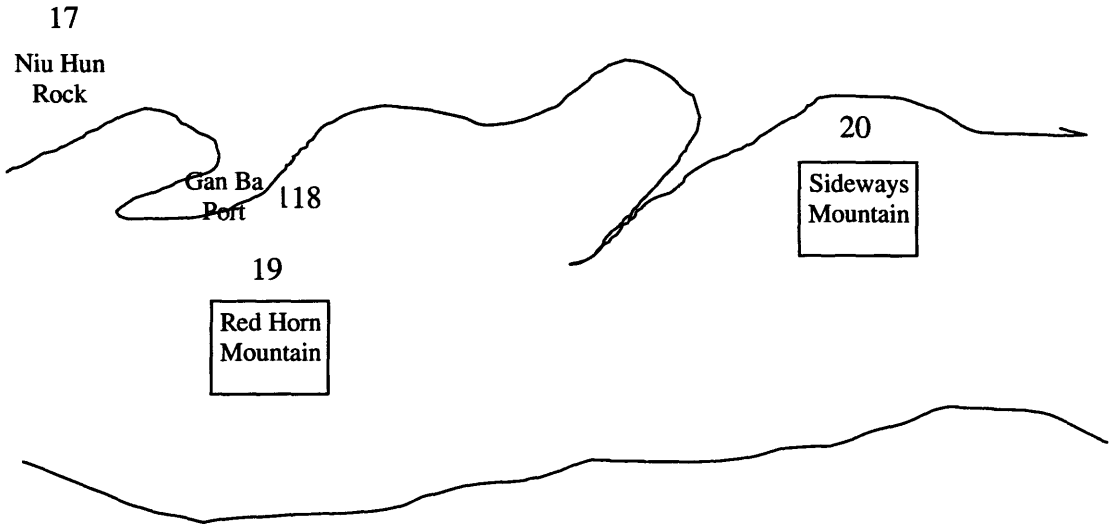
After the white rock, use Gui Chou and Dan Gui direction for 5 Gen distance straight to Mount East Bamboo Mountain. After East Bamboo Mountain use Zi Chou and Dan Gui direction..... 9

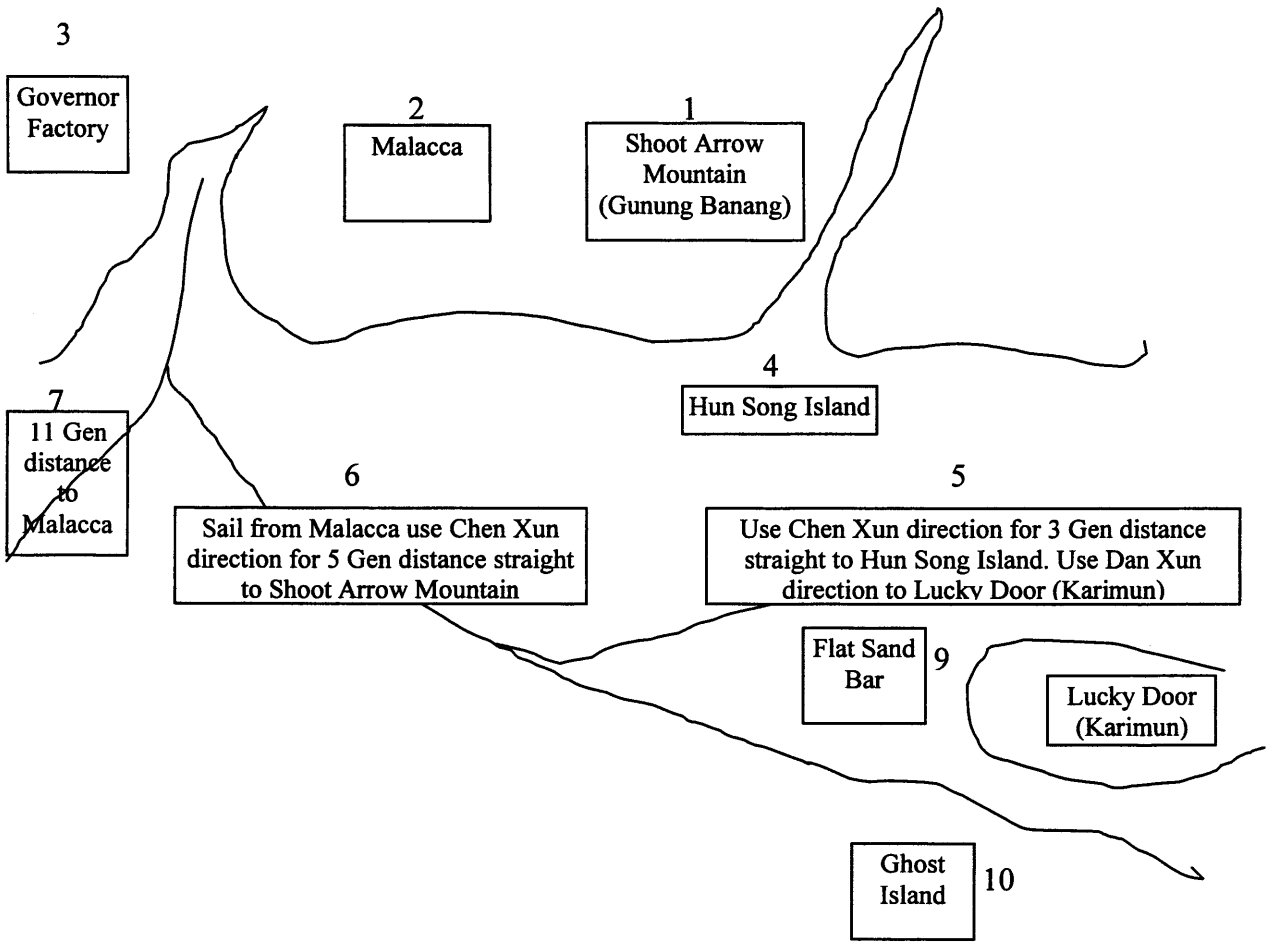


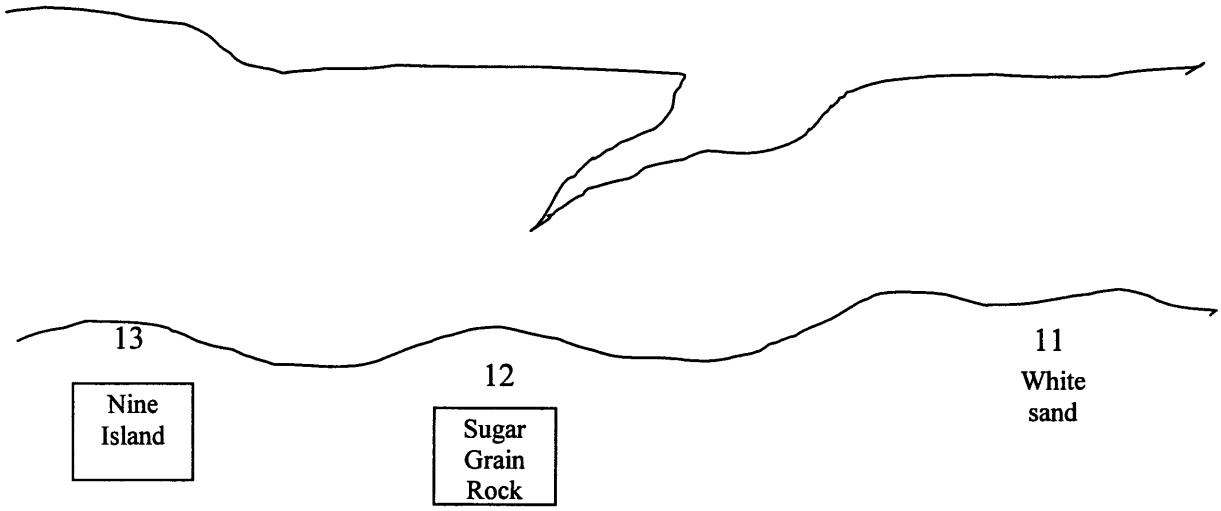


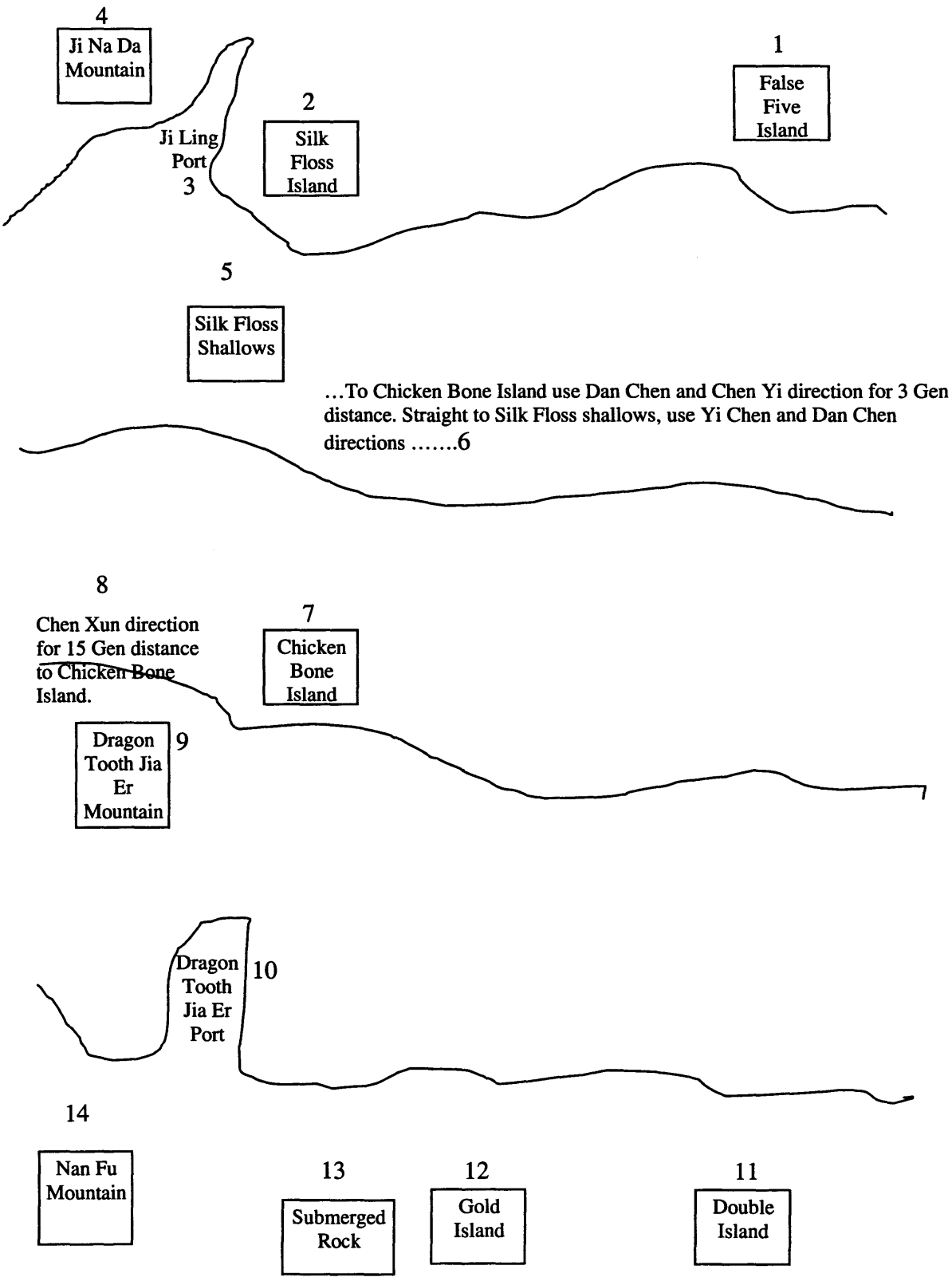
Ship uses Yi Cheng and Dan Chen direction to Long Waist Island and sail to Dragon Tooth Pass Way 6

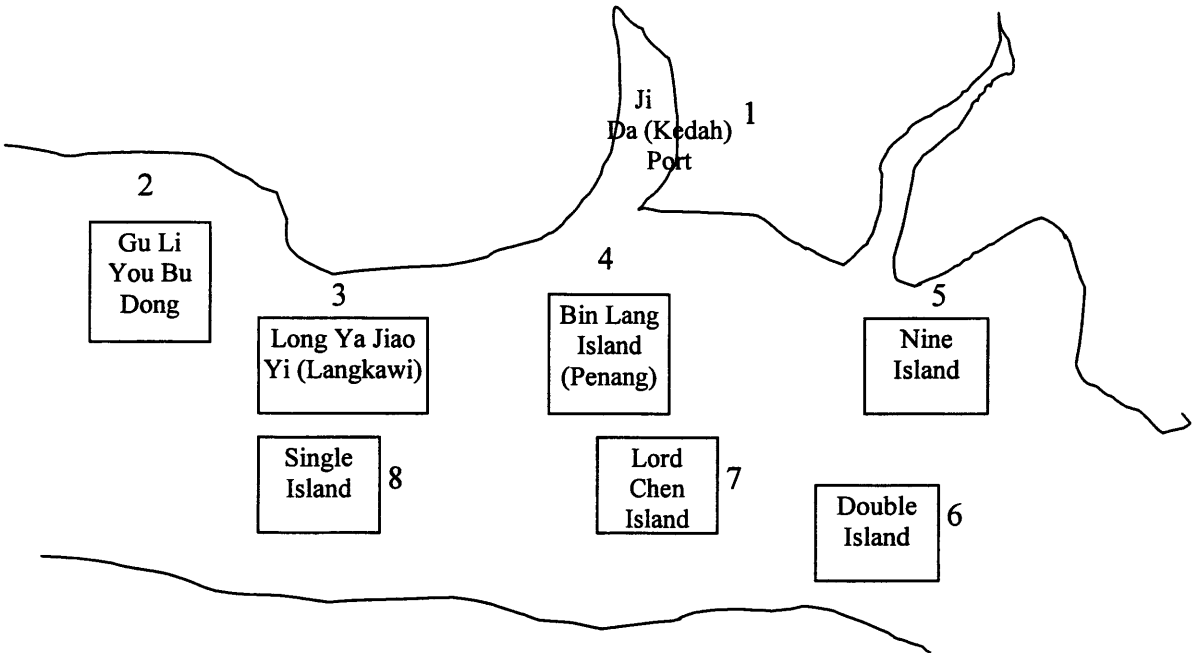




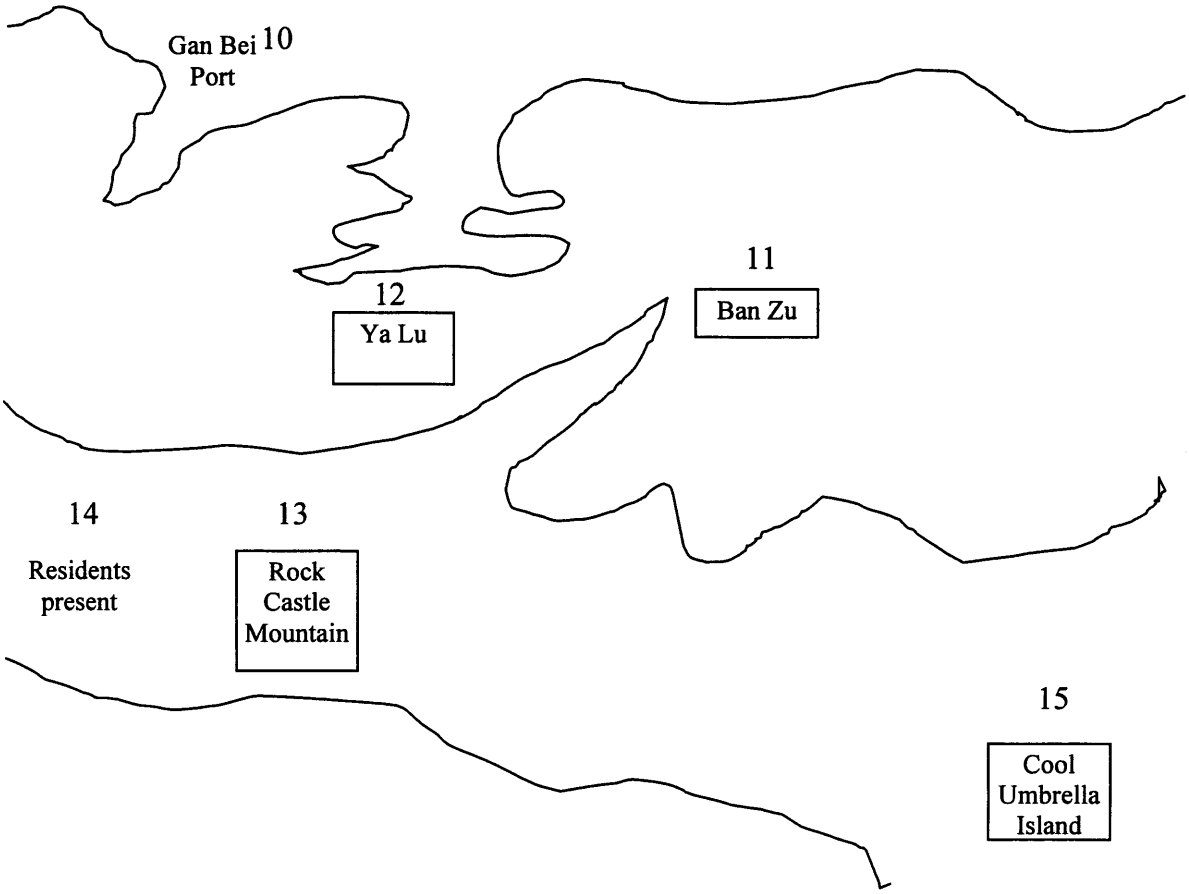

3
Governor Factory
2
Malacca
1
Shoot Arrow Mountain (Gunung Banang)
4
Hun Song Island
7
11 Gen distance to Malacca
6
Sail from Malacca use Chen Xun direction for 5 Gen distance straight to Shoot Arrow Mountain
5
Use Chen Xun direction for 3 Gen distance straight to Hun Song Island. Use Dan Xun direction to Lucky Door (Karimun)
Flat Sand Bar
9
Lucky Door (Karimun)
Ghost Island
10

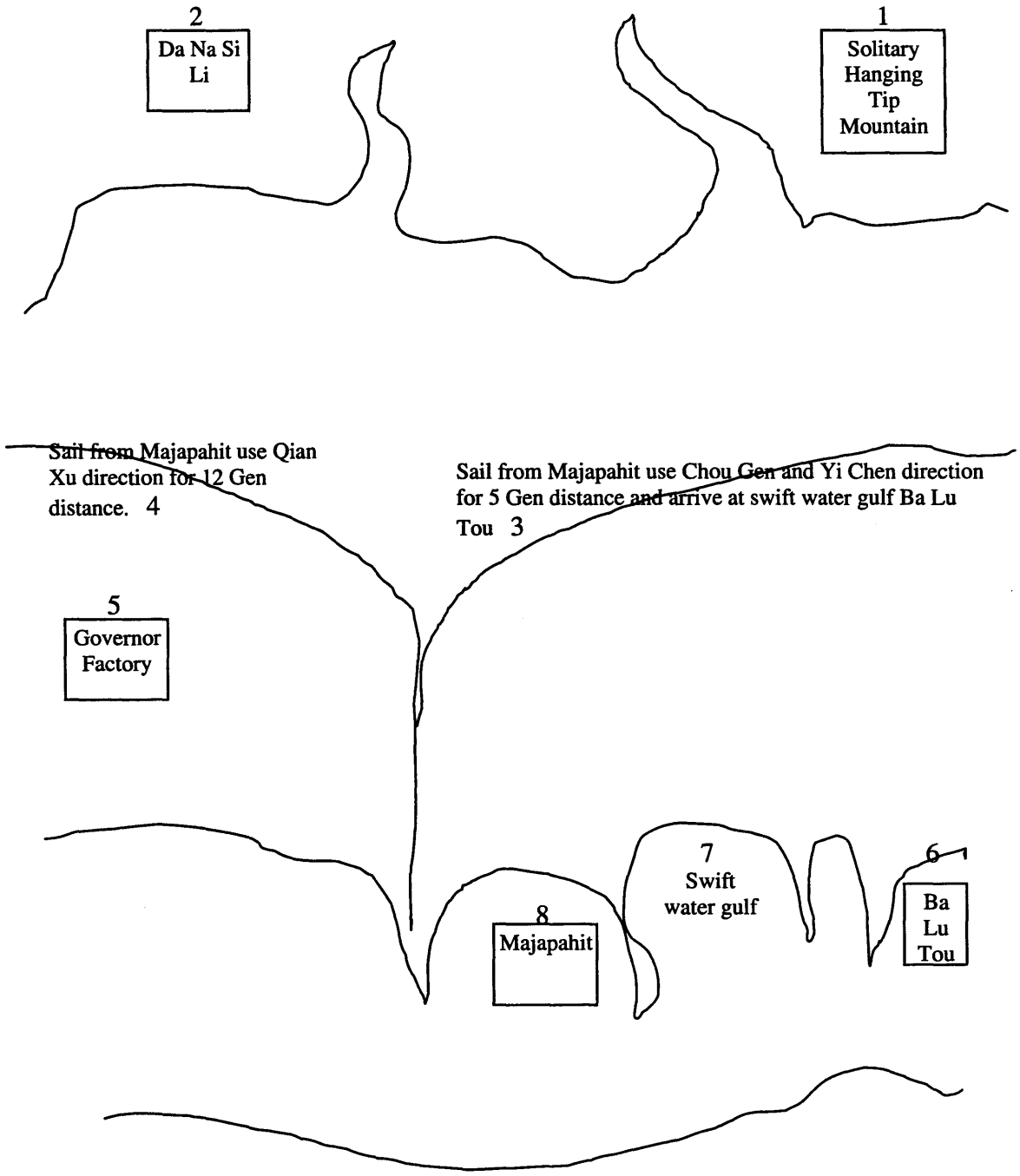

13
Nine Island
12
Sugar Grain Rock
11
White sand

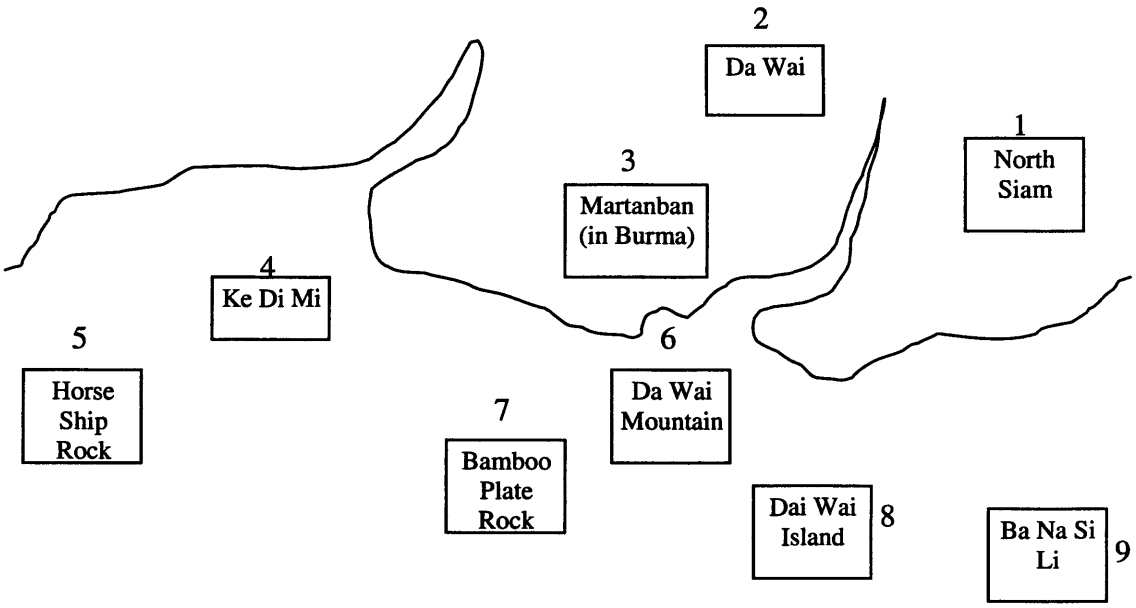

4
Ji Na Da Mountain
1
False Five Island
2
Silk Floss Island
Ji Ling Port
3
5
Silk Floss Shallows
...To Chicken Bone Island use Dan Chen and Chen Yi direction for 3 Gen distance. Straight to Silk Floss shallows, use Yi Chen and Dan Chen directions 6
8
Chen Xun direction for 15 Gen distance to Chicken Bone Island.
7
Chicken Bone Island
Dragon Tooth Jia Er Mountain
9
Dragon Tooth Jia Er Port
10
14
Nan Fu Mountain
13
Submerged Rock
12
Gold Island
11
Double Island



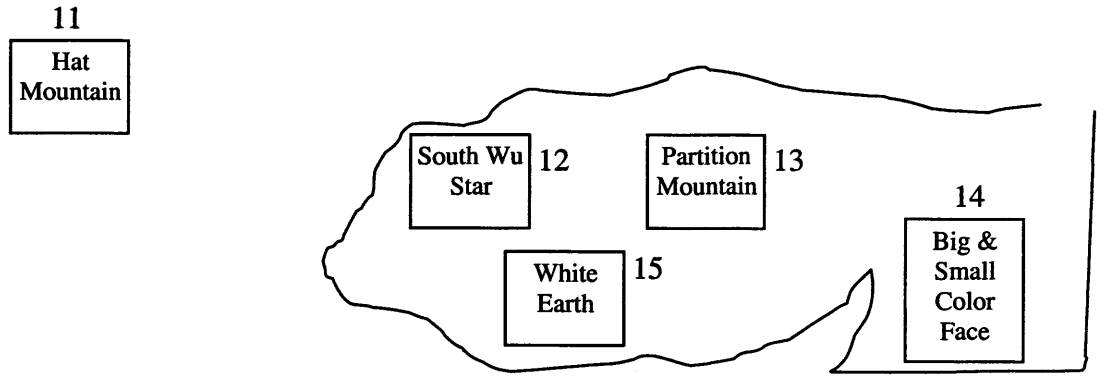
....Use Chen Xun direction 5 Gen distance to Gan Bei Port. Use Chen Xun direction 15 Gen distance straight to Ya Lu. Use Yi Zhen direction 5 Gen distance to Single Island.
Use Chen Xun direction 4 Gen distance to Double Island. Use Dan Xun and 9




2
Da Na Si Li
1
Solitary Hanging Tip Mountain
Sail from Majapahit use Qian Xu direction for 12 Gen distance. 4
Sail from Majapahit use Chou Gen and Yi Chen direction for 5 Gen distance and arrive at swift water gulf Ba Lu Tou 3
5
Governor Factory
7
Swift water gulf
6
Ba Lu Tou
8
Majapahit

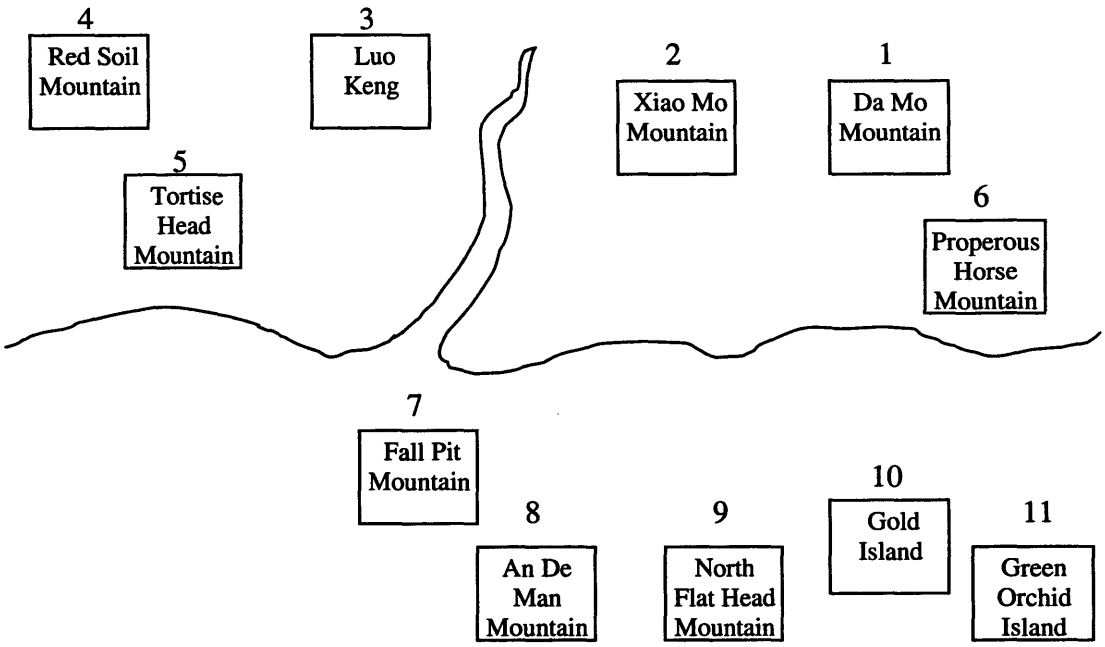


Sailing from Dragon Saliva Island across ocean, use Dan Xin direction. When sailing from Dragon Saliva Island, use Xin Xu direction.... 10



17
Tiger Tail Rock

16
Residents present

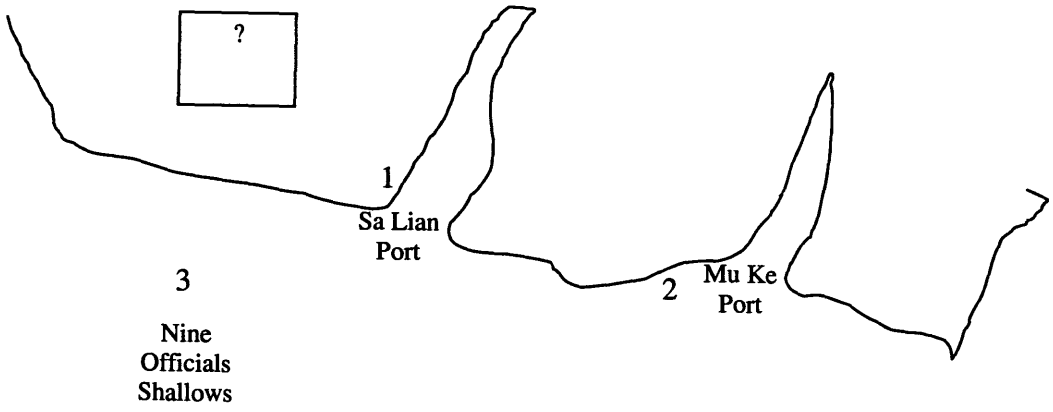


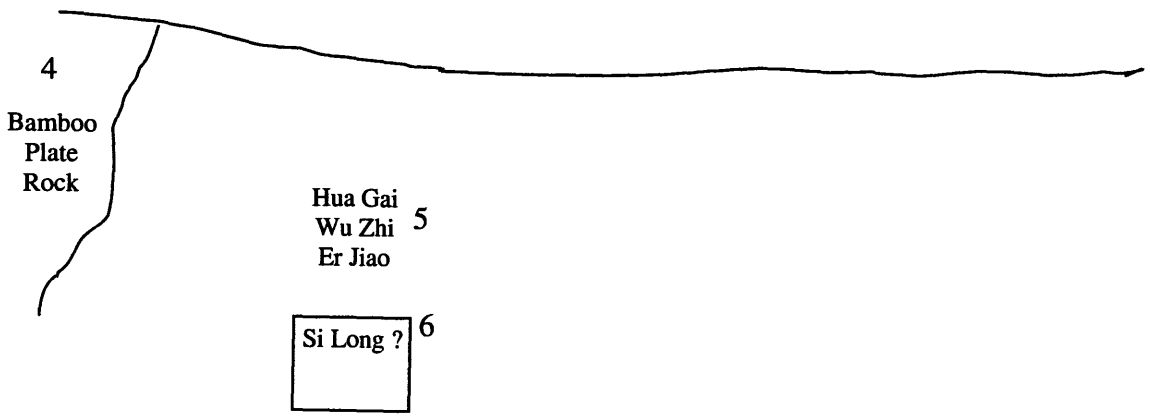
.....40 Gen distance. Then, use Xin You direction for 50 Gen distance and Sri Lanka can be seen. 12

.... Gen distance can see Green Orchid Island. Use Yue Xin direction for 30 Gen distance. Use Xin You direction for 50 Gen distance and Sri Lanka can be seen. 13

14

Dragon Saliva Island


?
1
Sa Lian
Port
2
Mu Ke
Port
3
Nine
Officials
Shallows


4
Bamboo
Plate
Rock
Hua Gai
Wu Zhi
Er Jiao
5
Si Long ?
6

ANNEX MR 2

Extracts of Letter from Elout, Dutch Minister of Colonies, to the Governor-General of the Netherlands East-Indies, 31 August 1824, Dutch original and English translation (by Malaysia)

Letter of instruction from Elout, Dutch Minister of Colonies, to the Governor-General of the Netherlands East-Indies, dated 31 August 1824.

Source: National Archives, The Hague, 2.21.007.57, inv. no. 122, dated 31 August 1824.

Translation provided by Malaysia:

> "The twelfth Article by which the Netherlands renounces all its voices of protest against the possession of Singapore by British officials, will necessarily prompt the conclusion of an arrangement with the Sultan of Lingga. Your Excellency will have to make it clear to the Sultan that the mutual interests of both European Powers have made it necessary to effectuate a certain separation between their own possessions and those of their indigenous allies, and that thereto it has become necessary to include in that arrangement that part of the Kingdom of Johor which is situated within the British sphere of influence; conversely, the possessions and territories which belong to the Sultan and which are situated within the boundaries of the Dutch government, have been confirmed once again and in a decisive way, and with the guarantee of the traditional friendly relations with the Netherlands, with the effect that south of the Straits of Singapore no British authority exists, [and] that His Excellency himself will note that the dismemberment of a part of his territories will not amount to an essential loss for His Excellency, particularly after the acts of the Temenggong of Johor by which his influence in these regions was already nil."

The original text in Dutch reads:

> "Het twaalfde Artikel bij hetwelk Nederland van alle vertoogen tegen het bezitten van Singapoera door de Britsche gezagvoerders afziet, zal noodwendig aanleiding geven tot het treffen van eenige schikkingen met den Sultan van Lingen. Uwe Excellentie zal aan dien Vorst dienen te kennen gegeven, dat de wederzijdsche belangen der beide Europeesche Mogendheden het noodzakelijk gemaakt hebben zekere scheiding tusschen hunner eigen bezittingen en die van hunne Inlandsche bondgenoten te maken, en dat daarvoor noodig geworden is, dat gedeelte van het Rijk van Djohor, hetwelk binnen de grenzen der Engelsche beheering gelegen is, aan dezer beschikking over te laten; dat daartegen de eigendommen en Landen aan den Sultan behoorende, en onder de grenzen van de Nederlandsche Regering liggende, opnieuw en krachtiglijk zijn bewaard geworden, en de oude vriendschappelijke betrekkingen met Nederland gewaarborgd, zoo dat ten zuiden van de Straat Singapoera geen Britsch gezag bestaat dat Z.H. zelve gevoelen zal dat de afscheiding van een deel zijner landen, na al hetgeen voorgevallen is, bijzonderlijk na de gedragingen van den Tomraagong van Djohor voor Z.H. geen

wezenlijk verlies uitmaakt, als blijkende daaruit, dat zijn invloed in die streken reeds vroeger nietig was."

The relevant parts of the original document in Dutch are reproduced on the next pages of Annex 2.

Stapelblad

24 B 5

№. 27/182

NB. Wordt verzocht de dagteekening en het nommer dezer, bij de aanhaling daarvan, naauwkeurig uit te drukken.

's Gravenhage, den 21 September 1824

Getal der Bijlagen.

2

Aan

Met op het Land Utrecht, naar
Rijke Rijke by Hoogere Regeering
Rijk de Inlandsche Regering genomen,
Met een uitgezet werkt gaan te maken,
Deze Edelmoedige Heb Ro. Opmerking
Mogelijke Raming mag verdienen den volledig
verklaring, dat het Gouvernement gevolging de
Ne gegane Regeling gehad is, met
Eindoogt Heb de Regeering, Middel
Naar Hunne Excellentien dat verder Rede
Raad te Rende Gemaakt.

Het Omvallende Rekest by het
Rijk Uitgaven den Alle verbonden
Legio Het Hoofd, en Hoogepraeca
Aan de Afdeeling Eindelijk verdient by,
Dat, Het Verbetering Aanbevelingen
Geen dat het Engelse van Bezoek
Schikkingen met de Hoofden van
Langen.

Uit Excellentien Heb de Het
Veel Raad te Hoofden Gaan, dat
de Mededeelingen Hoogere Hoofden
Engagementen Hoogere Hoofden Het Aan
Likelijk Gemaakt Hoofden Letters Inkomende
Eigenen Hoofden Hoogere Hoofden
Hoofden, de Als van Hoofden Inlandsche
Hoogere de Middel, en het Naar
Niet Noodig Gemaakt is, Het gebeurt
Als het Hoofd van Opmerking, Middel
Hoofden de Gemaakt Het Engelse
Verklaring

Handelingen moet gelaakt hebben, en
dat deze Excellentie Regen, dat deze
Handelingen konden dienen om verdere
Redenen te openbaren worden, afgekomen is
die andere deelen Hemelingen worden
bestraft.

Als moet by deze Excellentie een recht
te doen Handlingen om op dat dezelve moge
voort te zetten te behouden, daar ze op
Hoge gezagen, deze Exc. te vertrouwen
met de beneden door het Bericht bedingt
Maar, Koude, gelijken worden Remedie
geen adres, en welke zijne Excellentie
te bedingt niet voor deze Excellentie worden
Is bekent dat de deze Exc. niet
te deze opmerken, het belang, dat voor
ons goede steden Hemelingen, te stellen de
Europeesche Regeringen gelegen, en de
Maar Koninge opmerking, dat de Excellentie
Excellentie zij deze gegeven Hemelingen
gering dat het zijn deze Excellentie
Ook konnen te geven dat het geen steen
deden bewaren, de Hoge gelukte mede
Zijne Excellentie.

De Minister
van de Staten der Vereenigde
Nederlanden.

Fagel

ANNEX MR 3

Letter from the Government of India to John Crawfurd, 4 March 1825

National Archives of India

Foreign Department Proceedings (Microfilm Copy)

Consultation Date: 6 January – 29th December 1825

Date of Letter: 4th March 1825

Folio: 219

Extract from a letter to Mr. Crawfurd dated 4th March 1825

Para 4. It was undoubtedly expedient and consistent with a just forecast to include in the Cession of Singapore the several Islets lying within a certain distance of the shore, and the government agrees with you, that our acquisition of these Islets is not at variance with the obligations of the Treaty concluded at London in March last, as they are all situated North of the Southern limits of the Straights of Singapore, The Hon'ble Court indeed, in a dispatch recently received has ordered these Islets to be taken possession of by the British Authorities and you have been already instructed accordingly. The question stated in your dispatch of the 1st October whether the Settlements of Rhio is to be retained or relinquished by the Dutch will be referred for the consideration of the Home Authorities.

Ordered that a copy of the foregoing Extract from correspondence with the Resident at Singapore be sent to the General Department whence the question regarding Rhio will be referred for the consideration of the Home Authorities in connection with the subject of the Dispatch from the Government of Prince of Wales dated 8th April.

(A true Extract)

(Sd) Geo: Swinton-Secy. To Govt.

Fort William 19th May 1825.

No. 18 Com.

Extract from a letter to W. Crawfurd dated 4th March 1825.

Para: 4. It was undoubtedly expedient and consistent with a just [illegible] to include in the Cession of Singapore, the several Islets lying within a certain distance of the Shore, and the Government agrees with you, that our acquisition of these Islets is not at variance with the obligations of the Treaty concluded at London in March last, as they are all situated North of the Southern limits of the Straights of Singapore. The Court indeed, in a dispatch recently received has ordered these Islets to be taken possession of by the British Authorities and you have been already instructed accordingly. The question stated in your dispatch of the 1st October whether the Settlement of Rhio is to be retained or relinquished by the Dutch will be referred for the consideration of the Home Authorities.

Ordered that a Copy of the foregoing Extract from the Correspondence with the President at Singapore be sent to the General Department wherein the question regarding Rhio will be referred for the consideration of the Home Authorities in connection with the subject of the Dispatch from the Government of Prince of Wales Island dated 8th April.

A true Extract

(Sd) Geo. Swinton Secy to Govt

Resolved, that the following Letter be addressed to the Govt of Prince of Wales Island.

To The Honble R. Fullerton Esqre

Governor in Council of Prince of Wales Island

No. 19 for 1825 Dated 19th May

Honble Sir

We have had under our consideration your Secy Secretary's Dispatch dated the 11th of March enclosing a Copy of the Instructions agreed to by Mr Crawfurd on the occasion of his late visit

ANNEX MR 4

Extracts of Report from Mr C. van Angelbeek to Governor-General of the Netherlands East-Indies on his mission to Riau, 1825, original and English translation (by Malaysia)

Report from Mr C. van Angelbeek, Malay translator of the government, to Governor-General of the Netherlands East-Indies, 1825.

Source: KITLV (Royal Netherlands Institute of Southeast Asia and Caribbean Studies), Leiden, Western Manuscript Collection, D H 494, Copy Report of Ch. van Angelbeek on his mission to Riau, 1825, pp. 2-3.

Translation provided by Malaysia:

"I departed from Batavia on 6th March of this year before arriving safely in Singapore on 10th April, where I was most graciously received by the British Resident to whom I delivered the private letter from Your Excellency, in which you requested that he apprise me of those points in the London Treaty, concerning the division of the Malay Empire, about which some doubt may still exist in light of the conclusion of the treaty with the brother of the Sultan of Lingga and Bintang and the Temenggong of Johor, in August of last year, by which complete ownership is ceded to the English East India Company of the island of Singapore, with the islets, seas, straits and canals belonging to it up to a distance of ten geographical miles of Singapore, with the exception of the side of the peninsula, in consideration of which the Company paid to the aforementioned persons a sum of fifty thousand Spanish mats as well as a monthly income of thirteen hundred Spanish mats to the first and seven hundred Spanish mats to the latter.

The Resident, Mr Crawfurd, brought this treaty to my attention so that the Supreme Government of the Netherlands East Indies might be aware of the nature of the current relationship between the English East India Company and Sultan Hussein and the Tommongong of Johore, and because, as a result of His Majesty, the King of the Netherlands, ceding the same right to the Malay peninsula in the Treaty of London, all doubt concerning the legality of the Singaporean Treaty has disappeared. Furthermore, the latter can be regarded as a formal recognition of Tunku Hussein and the Tomongong of Johore as sovereigns over that part of the states of Sultan Abdel Rahman Shah.

Moreover, this treaty does not include a single article that is inconsistent with the London Treaty even though the former was concluded before news of the conclusion of the latter was received."

The original text in Dutch reads:

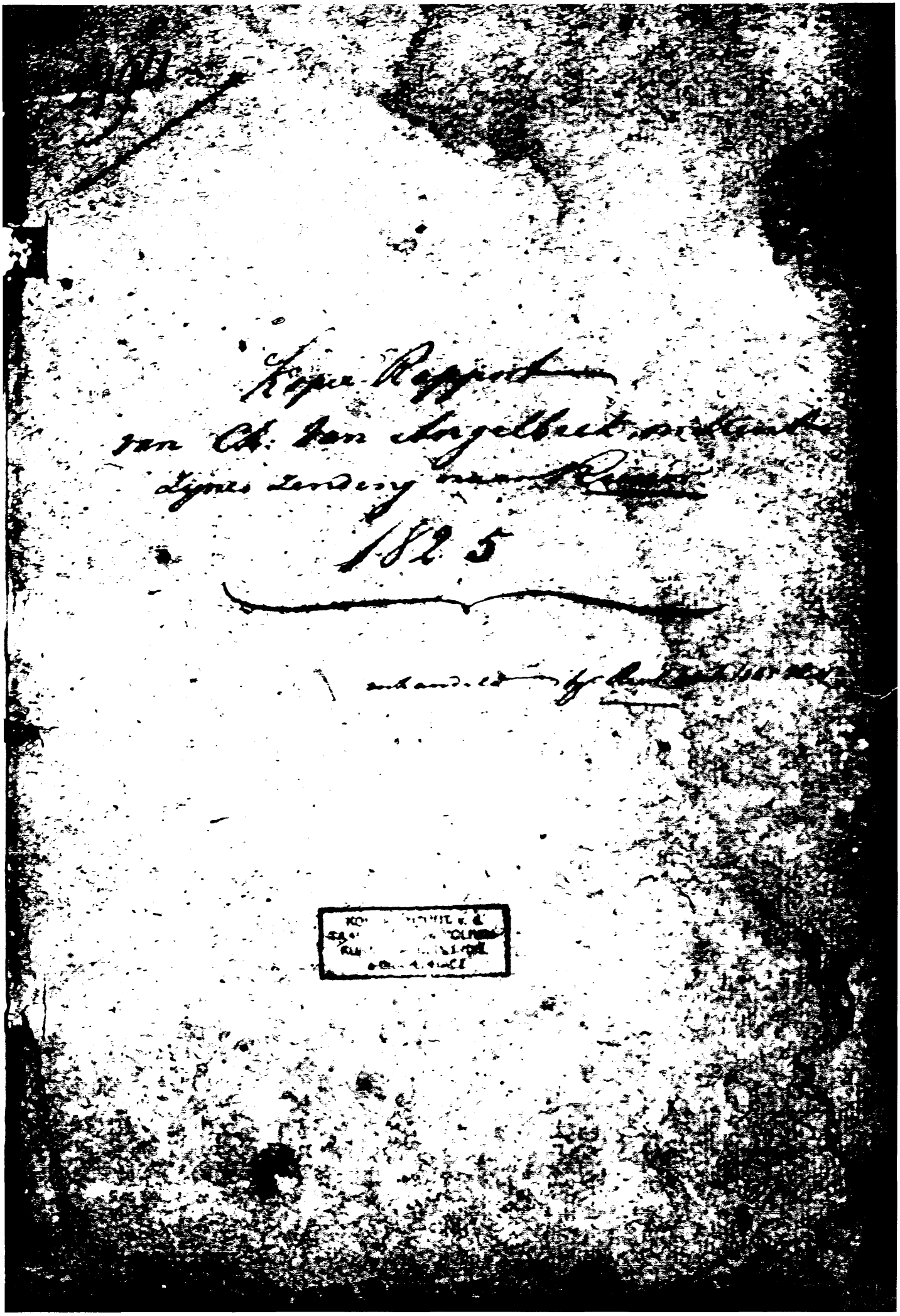
"Ik heb Batavia verlaten op den 6de Maart dezes jaars en ben, op den 10 April daar aan volgende behouden te Singapoera aangekomen, de Britisch Resident, wien ik den particuliere brief van uwe excel aanbood, heeft mij met veel minzaamheid ontvangen en mij ten gevolge van het door UE by geducht missive gedaan verzoek, om zich met my te willen verstaan omtrent die punten van het Londensch Tractaat, welke de scheiding van

het Maleische Rijk betreffen, waaromtrent nog eenige bedenking mogt bestaan, kennis gegeven, van het sluiten van het tractaat met den broeder van den Sultan van Lingga en Bintang en den Tommongong van Djohor, in de maand Augustus van het verleden jaar, bij welk tractaat aan de Engelsche EIC in vollen eigendom wordt afgestaan het eiland Singapoera met de daaraan behorende eilandjes, zeeën, straten, en kanalen op den afstand van tien geographische mijlen van daar gelegen, met uitzondering van de zijde van het schiereiland; waartegen de Compagnie, aan de gemelde personen uitbetaald een som van $50,000 vijftig duizen spaansche matten/en hun daarenboven een maandelijksch inkomen toelegd, aan den eersten van $1300 dertien honderd spaansche matten/ en aan den laatstgenoemden van 700 zeven honderd spaanschematten.

De heer resident Crawfurd heeft dit tractaat ter mijine kennis gebragt, op dat de Hooge Regering van Nederlandsch-Indië mogt vernemen op welken voet de Engelsche Oost-Indische Compagnie tegenwoordig met den Sultan Hoessein en den Tommonggong van Djohor staat; en dewijl zijne Majesteit de Koning der Nederlanden, by het tractaat van London heeft afstand gedaan van deszelfs regt op het Maleisische Schier Eiland, zoo is allen twijfel omtrent de wettigheid van het Singapoerasch verbond , dat tevens als eene formeele erkenning van Tongkoe Hoessien en den Tomonggong van Djohor, als souvereinen over dat gedeelte der staten van den Sultan Abdul Rachman Shah kan worden aangemerkt, verdweenen.

Hetzelve bevat overigens geen eenig Artikel dat strijdig is aan het Londonsch tractaat, ofschoon hetzelve, voordat de tijding van het sluiten daarvan ontvangen was, is aangegaan."

The relevant parts of the original document in Dutch are reproduced on the next pages of Annex 4.



Batavia 18 [illegible]

[illegible]

ANNEX MR 5

Letter from John Crawfurd to the Secretary to the Government of India, 16 August 1825

Foreign Proceedings 1825 (6th January – 29 December)
Folio: 495-496
Dated: 16th August 1825
National Archive India (Microfilm Copy)

Fort William 13th October 1825

Genl Dept
Thursday

At a Council Present
The Right Honble William Pitt
Lord Amherst.
Governor General President
His Excellency General
The Right Honble Stapleton
Lord Combermere G. C. B.
Commander in Chief
and
The Honble J. H. Harington, Esqre
The Honble John Fendall, Esqre

Foreign

Absent from India position

Read and Approved the Proceedings of the 6th Instant

Resident Singapore

To Charles Lushington Esqre
Secretary to the Govt
Fort William

No. 1
Residt Singapore
Dated 16th Augt

Sir,

In obedience to the instructions contained in your letter of the 13th of January directing that the islets or islands in the Straits of Singapore should be taken possession of on the part of the British Govt. as well as in conformity to the Treaty concluded on the 2nd of August last with the native Princes, I have the honour to report that having taken up a convenient Ship for the purpose, I circumnavigated the Island of Singapore, and took possession, with the necessary formalities of all

the Islands lying within 10 miles of the main Island of Singapore which includes those forming the Northern boundary of the Straits of that name.

I have &ca

(Sd) J. Crawfurd

Resident

Singapore

16th August 1825

No. 2
To Resident at Singapore dated 13th Oct^{r}

ent at Singapore

To J. Crawfurd Esq^{re}

Resident at Singapore

Sir,

I am directed to acknowledge the receipt of your dispatch of the 16th of August notifying your having taken possession of all the Islands lying within 10 miles of Singapore in pursuance of the Instructions of the Governor General in Council dated the 13th of January last.

2. His Lordship in Council being desirous to possess a Map or Chart of Singapore with the above possessions annexed to it, you are requested to cause a document of that description to be constructed and transmitted to this Presidency.

I have &^{ca}

(Sd) C. Lushington

Secy. to the Gov^{t}

Fort William

13th of October 1825

Fort William 13th October 1815

Genl Dept
Thursday

At a Council Present

The Right Honble William Pitt
Lord Amherst
Governor General President

His Excellency General
The Right Honble Thos Hislop
Lord Combermere G.C.B.
Commander in Chief

and
The Honble J. H. Harington Esqr
The Honble John Fendall Esqr

Absent from Indisposition

Foreign

Read and Approved the Proceedings of the 6th Instant

Resident Singapore

To Charles Lushington Esqr

No 1
Recd Singapore
dated 10th Augt

Secretary to the Govt
Fort William

Sir,

In obedience to the instructions contained in your letter of the 13th of January directing that the Islets or Islands in the Straits of Singapore should be taken possession of on the part of the British Govt as well as in conformity to the Treaty concluded on the 2d of August last with the Native Princes I have the honor to report that having hired a convenient Ship for the purpose I proceeded & navigated the Islands of Singapore and took possession with the necessary formalities of

Fort William 13th October 1825.

No 1 Cont. all the Islands lying within 10 miles of the main Island of Singapore which includes those forming the Northern boundary of the Straits of that name.

I have &c.
(Sd) J. Crawfurd
Resident.

Singapore 16th Augt 1825.

To Resident at Singapore.

No 2. To Resident at Singapore dated 13th Oct.

To J. Crawfurd Esqre
Resident at Singapore.

Sir,

I am directed to acknowledge the receipt of your dispatch of the 16th of August notifying your having taken possession of all the Islands lying within 10 Miles of Singapore in pursuance of the Instructions of the Governor General in Council dated the 13th of January last.

2. His Lordship in Council being desirous to possess a Map or Chart of Singapore with the above possession annexed to it, you are requested to cause a Document of that description to be constructed and transmitted to this Presidency.

I have &c.
(Sd) C. Lushington
Secy. to the Govt.

Fort William 13th of Oct. 1825.

No 3 W. W. Jennings dated 7th Sept.

Mr. W. R. Jennings.

To Charles Lushington Esqre
Secretary to Govt. Genl. Depts.

Sir, I have the honor to acknowledge the Receipt of your Letter under date the 7th July last, with its Enclosure from the Accountant General dated the 31st

ANNEX MR 6

Extracts of Copy of Report of Ch. van Angelbeek on his mission to Riau 1825, original and English translation (by Malaysia)

Report from Mr C. van Angelbeek, Malay translator of the government, to Governor-General of the Netherlands East-Indies, 1825.

Source: KITLV (Royal Netherlands Institute of Southeast Asia and Caribbean Studies), Leiden, Western Manuscript Collection, D H 494, Copy of Report of Ch. van Angelbeek on his mission to Riau, 1825, p. 2.

Translation provided by Malaysia:

> "...by which complete ownership is ceded to the English East India Company of the island of Singapore, with the islets, seas, straits and canals belonging to it up to a distance of ten geographical miles of Singapore, with the exception of the side of the peninsula..."

The original text in Dutch reads:

> "...bij welk tractaat aan de Engelsche EIC in vollen eigendom wordt afgestaan het eiland Singapoera met de daaraan behorende eilandjes, zeeën, straten, en kanalen op den afstand van tien geographische mijlen van daar gelegen, met uitzondering van de zijde van het schiereiland..."

The relevant parts of the original document in Dutch are reproduced in Annex 4.

ANNEX MR 7

Extract from John Crawfurd, *Journal of an Embassy from the Governor-General of India to the Courts of Siam and Cochin China; Exhibiting a View of the Actual State of Those Kingdoms,* London: Colburn, 1828. Reproduced with an Introduction by David K. Wyatt, Historical Reprints, Kuala Lumpur: Oxford University Press, 1967

JOURNAL OF AN EMBASSY TO THE COURTS OF SIAM AND COCHIN CHINA

JOHN CRAWFURD

WITH AN INTRODUCTION BY
DAVID K. WYATT

OXFORD
IN ASIA
Historical
Reprints

KUALA LUMPUR
OXFORD UNIVERSITY PRESS
LONDON NEW YORK
1967

JOURNAL

OF AN

EMBASSY

FROM THE GOVERNOR-GENERAL OF INDIA

TO THE

COURTS OF SIAM AND COCHIN CHINA;

EXHIBITING A VIEW

OF THE

ACTUAL STATE OF THOSE KINGDOMS.

BY

JOHN CRAWFURD, ESQ., FRS., FLS., FGS., &c.

LATE ENVOY.

LONDON:

HENRY COLBURN, NEW BURLINGTON STREET.

1828.

cavities I measured, and found to be four feet three inches long, two feet broad, and eighteen inches deep.*

Jan. 19.—At twelve o'clock to-day we passed the narrow channel of the Rabbit and Coney, the western entrance of the Straits of Singapore, and soon found ourselves surrounded in every direction by beautiful verdant islands. The sea was smooth, the sky clear, and the whole prospect equally novel and pleasing. From the deck there could be counted between fifty and sixty green and woody islands of various dimensions, and from the mast-head above seventy. I do not believe there is any part of the world which can afford a prospect, in its way, of superior beauty, and this indeed has been observed and confessed by all voyagers. At six o'clock we anchored in Singapore Roads.

Jan. 21.—Last night my old friend Colonel Farquhar, resident of Singapore, sent his staff, Captain Davies, on board to invite us on shore. We landed this morning; and Mr. Scott, a merchant of this new settlement, and the son of my respected friend, Mr. Robert Scott, an experienced and most intelligent merchant of Penang, hospitably and obligingly gave his house up for our accommodation. In the evening we dined with Colonel Farquhar, and went through the greater part of the new settlement. Notwithstanding the state of abeyance in which the political question regarding the settlement was involved, there was universally an air of animation and activity. Several miles of new road were already formed, and the habitations were so numerous, and the population so great, that we could hardly imagine that the whole was the creation of three short years.

Jan. 23.—We had to-day a visit from some individuals of the race of Malays, called Orăng-laut,—that is, "men of the sea." They have a rough exterior, and their speech is awkward and uncouth; but, in other

* In the autumn of 1825, while resident of Singapore, I visited the Carimon Islands (correctly written Krimun); the hornstone mentioned in the text is confined to the coast, and is merely a partial and overlaying formation. The interior is composed of granite, with veins of white quartz, and abounds in tin-ore. The inhabitants of the larger island amount to 400 in number.

respects, I could observe little essential difference between them and other Malays. These people have adopted the Mohammedan religion. They are divided into, at least, twenty tribes, distinguished usually by the straits or narrow seas they principally frequent. A few of them have habitations on shore, but by far the greater number live constantly in their boats, and nearly their sole occupation is fishing; those who are most civilized cultivating a few bananas. They are subjects of the King of Johore, and the same people who have been called *Orang Sallat*, or, "men of the straits;"—the straits here alluded to being, not the great Straits of Malacca, which are extensive beyond their comprehension, but the narrow guts running among the little islets that are so abundantly strewed over its eastern entrance. Under this appellation they have been notorious for their piracies, from the earliest knowledge of Europeans respecting these countries.

Jan. 27.—We went yesterday morning along the coast, to the westward, and visited the new harbour, or Sălat Panikam, as it is called by the Malays. This harbour is formed by Singapore and the islets which lie off the western limit of the roadstead. The entrance is narrow and difficult; but when a ship is once moored within it, she is secure from every danger,—from rocks, elements, and even from an enemy, for half a dozen guns would make it impregnable to any attack from sea. The prospect we had on entering it was beautiful and unexpected. We found ourselves completely landlocked, in every direction, by the green and woody shores of the islands surrounding us; and the sea, though considerably ruffled without, was here as smooth as glass. This is a favourite retreat of the Orăng-laut. On our arrival, their proas were lying along the shore; but as the flood-tide made, they advanced into the middle of the channel, and began to fish. Their principal mode of taking fish is by spearing, and hence the native name of the Strait, which has this meaning. The larger fish are followed by the proas, and easily traced through the water, which is perfectly clear and trans-

ANNEX MR 8

Extracts of Letter by the Resident of Riau to the Director of Finance and Domains (*"lands middelen en domeinen"*) dated 12 July 1833, original and English translation (by Malaysia)

Letter by the Resident of Riau to the Director of Finance and Domains at Batavia, dated 12 July 1833

Source: National Archives, The Hague, 2.10.01, inv. no. 2959.

Translation provided by Malaysia:

> "...the jurisdictional limits of the Singapore port remain, as I view it, determined to be 10 English miles".

The original text in Dutch reads:

> "...de limite of jurisdictie der Sincapoersche Rheede blijven, die meen ik op 10.Engelsche mijlen bepaald is"

The relevant parts of the original document in Dutch are reproduced on the next pages of Annex 8.

Rioru ao 12: July 1833.

No 110

Ik sub de eer ao. ontvangen op 13 dezer
de ontvangs Advocaten van zuilen in dato
26 dezer Ex. 65.

Ter Stadt Aandeling Overijssel, verzoekende
tot nader Bevel tot Executie, tegen ik ao wijlen
Het Vrijgeraden de Heer Joseph
Philippus Francois in zijn Leven of Acht
Landen Negotie, Effecten, Geld Ameuble
Schulden Vorderingen, Actien, Gewelt, als
Een Erfgenaam, Legataris, Fideicommissaris
Vruchtgebruiker en Cessionaris
Elk als deselve Bezitgenaamd, Zoodat deze
Geene Exceptien, Reden of Middelen tegen
Gemelde Sentence mogt te Hebben Bevolen wel.
Dat ook Bij Provisie
Stellen, want de Regten dezelve
Een Zeer Kleine Boedel Zijn
Gemelden, zullen Zeer Spoedig
Te Loor Gaan, en de Erfgenaamen
Zullen Zeer Groote Schade
Lijden, Dat ook Gemelde
Erfgenaamen Zeer Arm
Zijn, Dat ook Gemelde
Erfgenaamen Zeer Ongerust

Om waarmaning aan voorzitting Koekoek
verleend.

Gehoord de staten van Zeeuwsch Vlaanderen, gehouden binnen Bergen op Zoom, volgende, — over het Request by den gedeputeerden van Zeeuwsch Vlaanderen, ter vergadering der staten gepresenteerd, waar bij zy versoeken dat de Regeering van Zeeuwsch Vlaanderen, by de Regeering van Staats Vlaanderen, mogte worden gerecommandeerd, dat de Heeren Staten van Staats Vlaanderen, by de Heeren Staten van Zeeuwsch Vlaanderen, mogten

ANNEX MR 9

Letter from Governor Butterworth to Purvis & Co., 30 October 1844

Straits Settlements Factory Records
Series: V 10
Date: 30th October 1844
Folio: 59
Reel: 109 (Microfilm Copy, University of Malaya Library)

No. 216

Requesting to be informed if the amount subscribed in China towards the erection of a Light House is still forthcoming

To,

Messrs. John Purvis and Co.

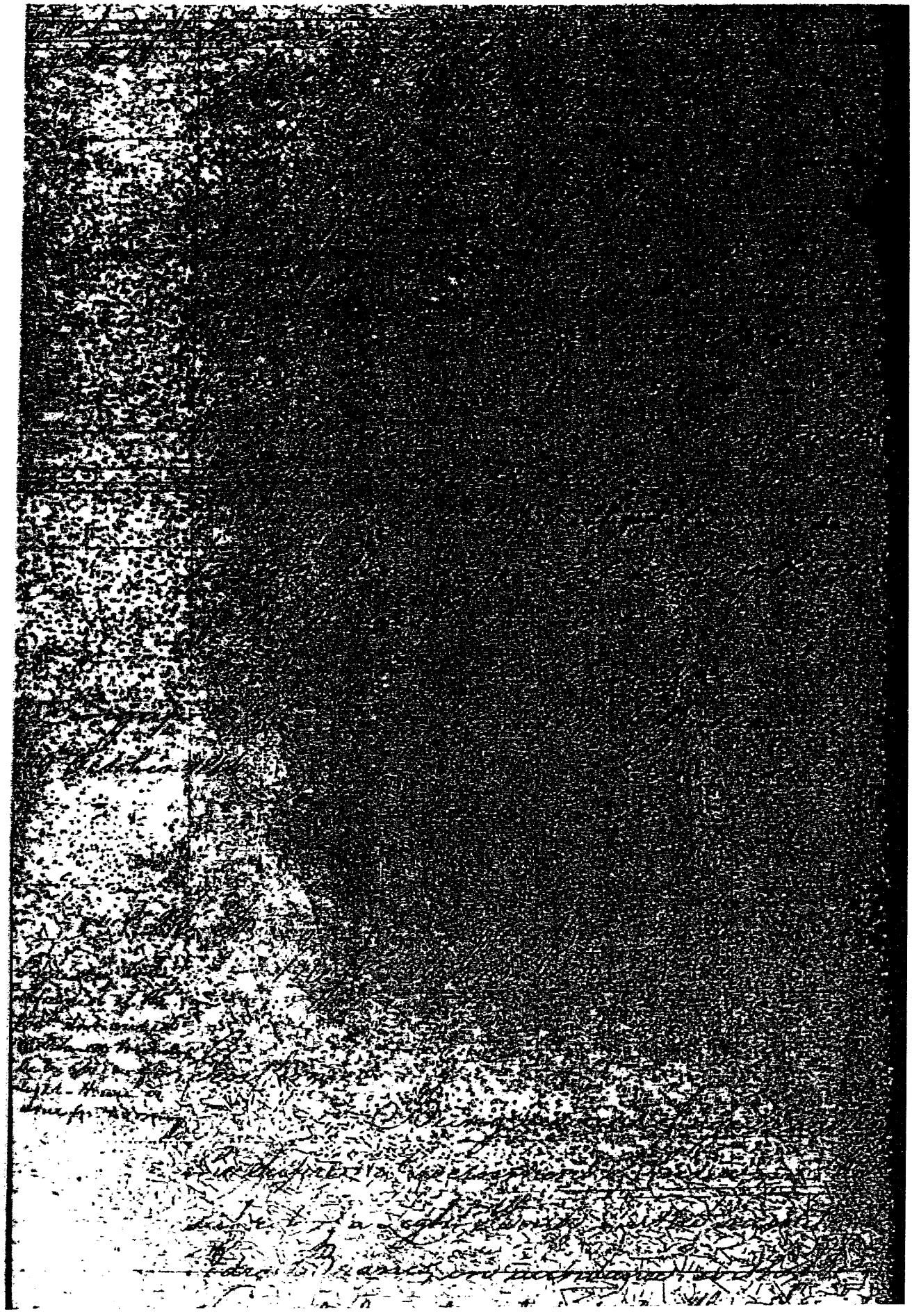
Gentlemen,

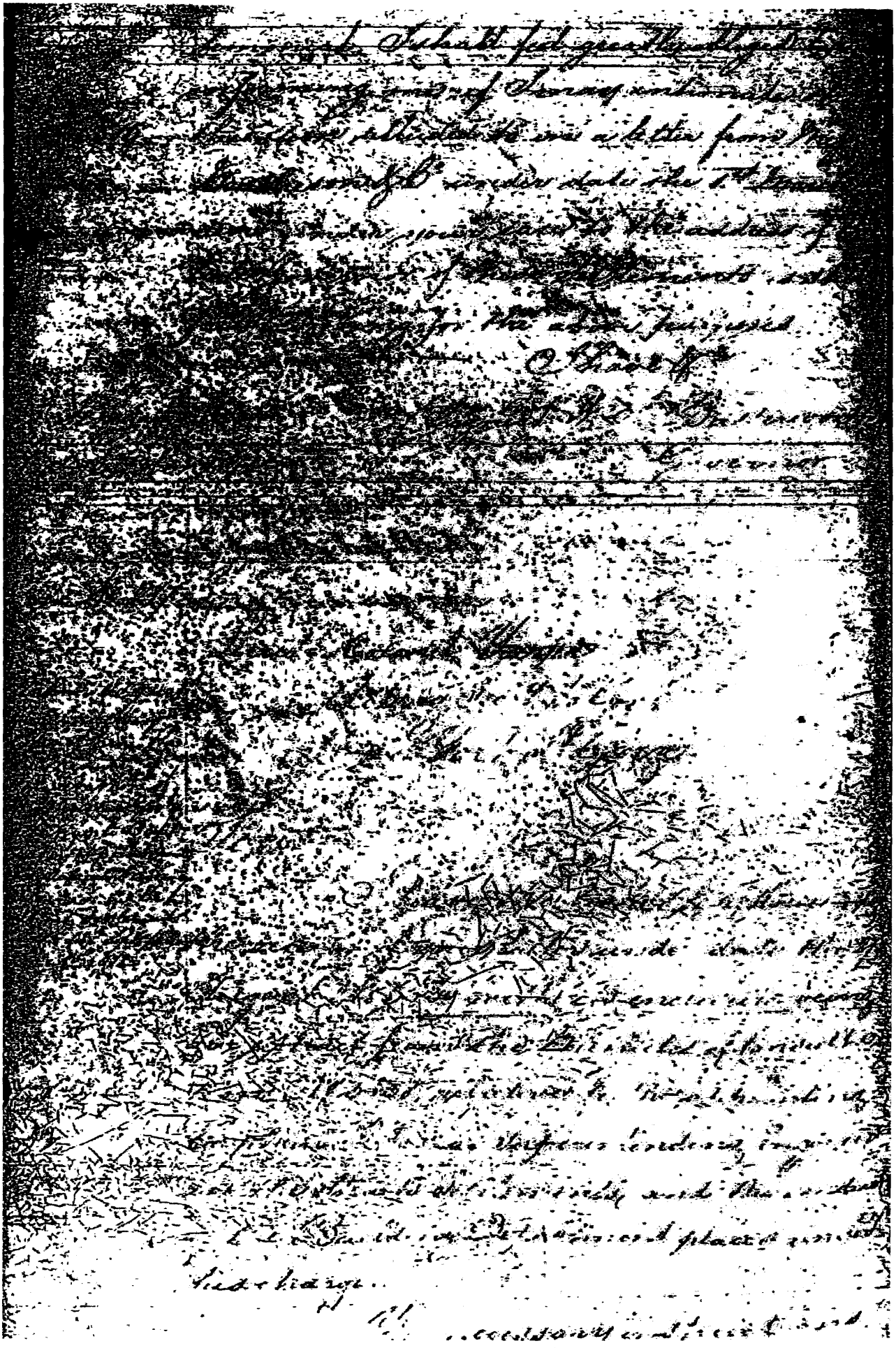
Being desirous of again moving the Supreme Government of India on the subject of a Light House in the vicinity of Pedra Branca in accordance with the views of the subscribers to the Horsburgh testimonial, I shall feel greatly obliged by you informing me, if I may intimate that the sum* alluded to in a letter from Messrs. Matheson and Co under date the 1st March 1842 sent under your care to the address of the late Governor of these Settlements is still forthcoming for the above purpose.

*$5513

I have &ca
W.J. Butterworth
Governor

Singapore
30th October 1844





No 215 To

Right Hon Lord &c

Regarding to the
Memorial of the
Ld Intended
at China towards
the erection of a
Light House &c
thereon

Gentlemen

I Have the honor to acquaint you for the information of the Court of Directors that I have received a letter from the Secretary to the Government of India on the subject of a Light House on the Island of Pedra Branca in accordance with the views of the subscribers to the Horsburgh Memorial

timonial, I shall feel greatly obliged by you informing me, if I may intimate that the sum alluded to in a letter from Messrs Matheson & Co under date the 1st March 1842

of

forthcoming for

Sarsaparilla

&c

Signed H. J. Buckworth

Governor

ANNEX MR 10

Letter from Governor Butterworth to Rear Admiral Sir Cochrane C. B., 8 December 1845

Straits Settlements Factory Records

Series: V 11

Date: 8th December 1845

Folio: 118

Reel: 111 (Microfilm Copy, University of Malaya Library)

No. 225

To,

His Excellency

Rear Admiral Sir T. Cochrane C.B.

Commander in Chief of Her Majesty's

Naval Forces in the East Indies and

adjacent Seas.

Ansd 29th Jany

Sir,

I have the honor to transmit for your Excellency's information, the accompanying report* of the meeting of the Chamber of Commerce held at Singapore on the 1st Instant, to take into consideration the expediency of erecting a Light House in the neighbourhood of Pedra Branca, to the memory of the late celebrated Hydrographer James Horsburgh Esquire.

*Printed sent in orig!

The question is one of such vast importance to the Mariner but I feel assured I shall be pardoned for soliciting the weight of your Excellency's support to the measure with the Home authorities, and especially when I mentioned that the ships noted in the margin have been wrecked in the above vicinity during the past three years.

Henry Davidson - 1842
Glenvia - 1842
Stork - 1844
Venus - 1844
Mars - 1845
Parsco - 1845

I have &ca

Sd) W. J. Butterworth

Governor

Singapore

8th December 1845

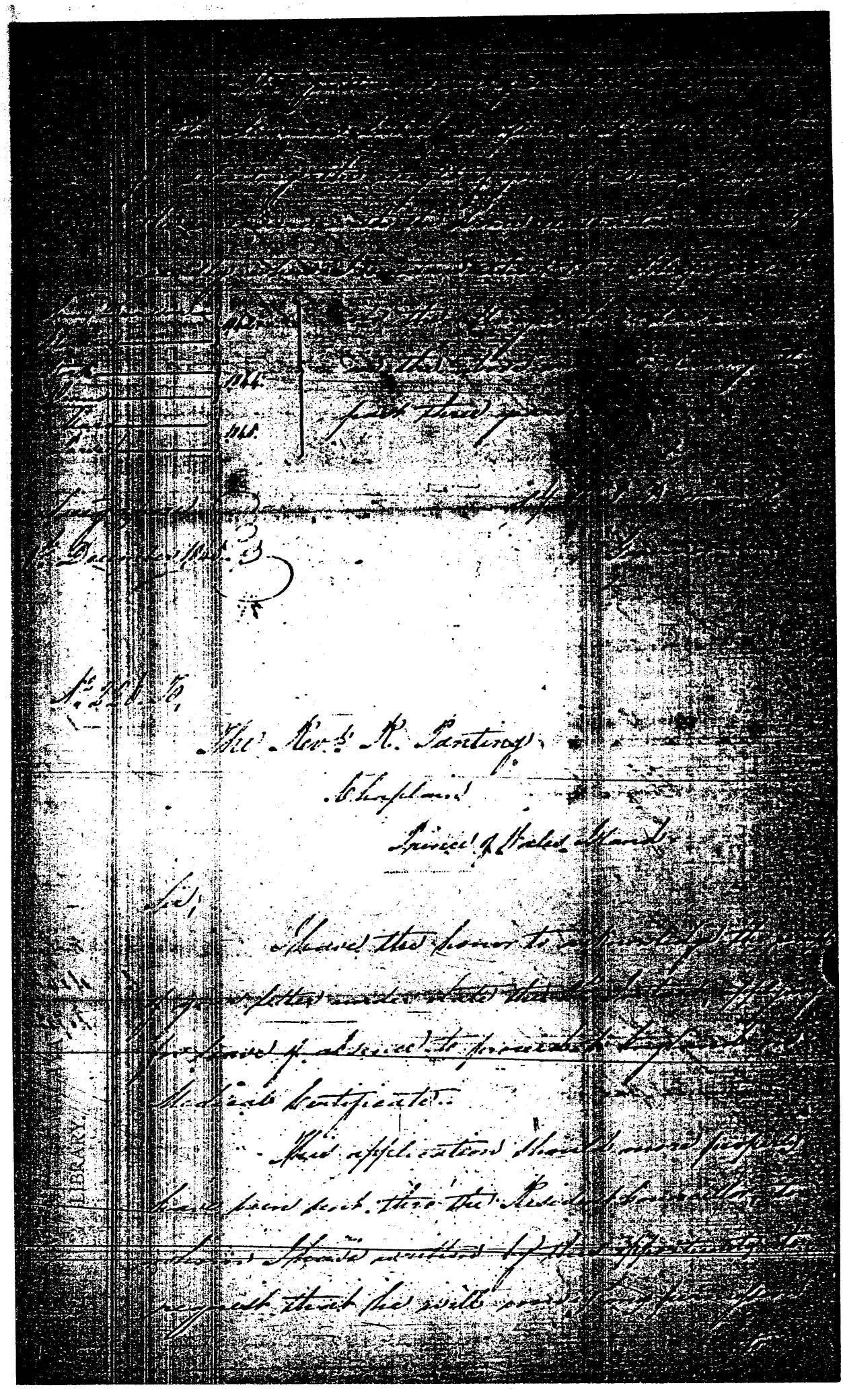
No. 225.

His Excellency
Rear Admiral Sir J. Borlase Warren K.B.
Commander in Chief of His Majesty's
Ships & Vessels in the East Indies &c &c
&c

Sir

I have the honor to transmit for your
information the accompanying report
of the Commanders of Vessels named in
the Margin of this date, to take
Stations, the expediency of practising all
Hands and the Necessity of Caulking
to the Immediate Orders of the late Celebrated
Admiral Samuel Hood Esquire.

I have



ANNEX MR 11

Letter from S. Congalton, Commander of H. C. Steamer *Hooghly* to T. Church, Resident Councillor of Singapore, 12 January 1846

Straits Settlements Factory Records

Series: BB 63

Date: 12th January 1846

Folio: 34

Reel: 10 (Microfilm Copy, University of Malaya Library)

Copy sent to the Governor 13th January 1846

To,

The Honorable

T. Church Esquire

Resident Councillor

# # #

Sir,

I have the honor to inform you of the return of the H.C. Steamer "Hooghly" from Point Romania with Mr. Thomson, after having remained there from the 9th to the 11th Inst without being able to make a landing on Peak Rock, to build Brick Pillars, on account of the sea breaking heavily all round the Rock to nearly a Cables length.

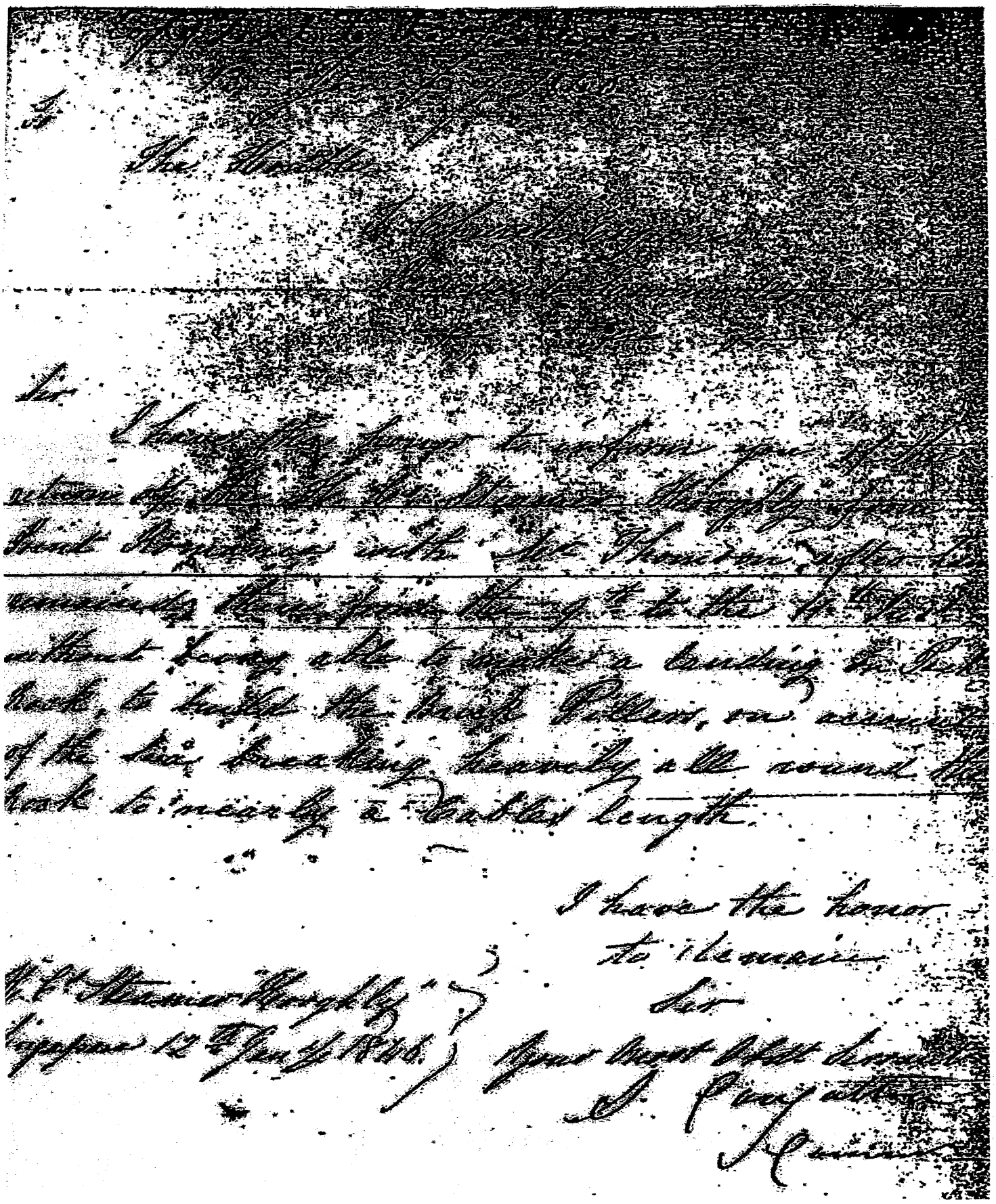
I have the honor
to remain
Sir
Your most Obdt Servant
S. Congalton
Commd

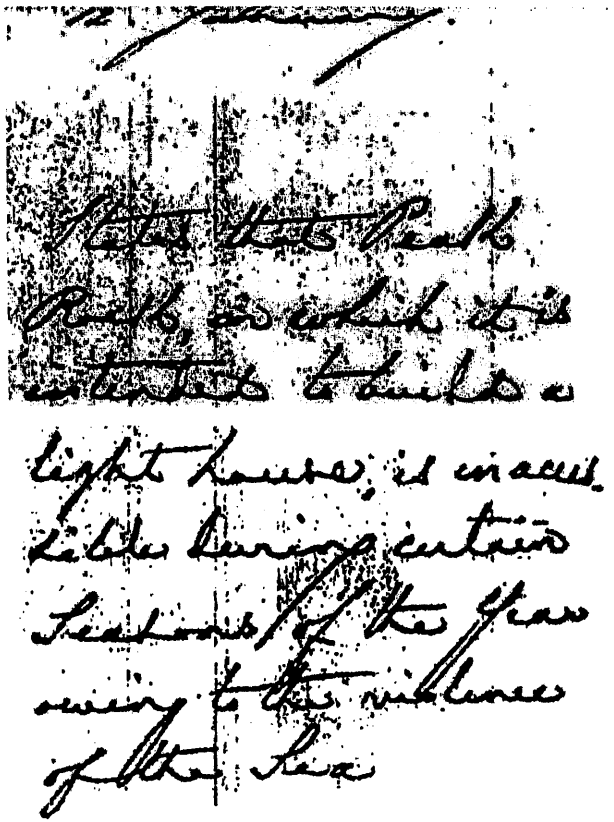
H.C. Steamer "Hooghly"
Singapore 12th January 1846

12 January

States that Peak Rock, in which it is intended to build a light house, is inaccessible during certain seasons of the year owing to the violence of the Sea

SSFR, Reel 10, BB 63, F. 34 12th January 1846





ANNEX MR 12

Letter from T. Church, Resident Councillor of Singapore to the Governor of the Straits Settlement, 13 January 1846

---

71 To The Same [The Honble the Governor]

[Malacca]

Sir,

I do myself the honor to subjoin copy of a letter, dated 12th Inst from Captain Congalton of the E. I. C. Steam Vessel Hooghly by which it appears that, should Peak Rock be eventually selected as a suitable site for a Light House, it will occasionally be inaccessible during the N.E. Monsoon.

I have &ca

Sd) T. Church

13 January 1846 Resident Councillor

Straits Settlements Factory Records

Series: BB 63

Date: 12th January 1846

Folio: 34

Reel: 10 (Microfilm Copy, University of Malaya Library)

Copy sent to the Governor 13th January 1846

To,

The Honorable

T. Church Esquire

Resident Councillor

# # #

Sir,

I have the honor to inform you of the return of the H.C. Steamer "Hooghly" from Point Romania with Mr. Thomson, after having remained there from the 9th to the 11th Inst without being able to make a landing on Peak Rock, to build Brick Pillars, on account of the sea breaking heavily all round the Rock to nearly a Cables length.

I have the honor

to remain

Sir

Your most Obdt Servant

S. Congalton

Commd

H.C. Steamer "Hooghly"

Singapore 12th January 1846

To. The Honble the Governor
Malacca.

Sir.

I do myself the honor to acquaint you that I have paid Major Stevenson the sum of 150 Dollars in full for the Lattice Bridge erected by Capt Malacca, under his superintendence, & to solicit your Honor's order as to whether the same is to be debited to the State, or the Assessment funds; the Bridge is within the limits of the town & from its locality will eventually tend to enhance the value of unoccupied land belonging to the E.I.C. I have also enabled the Superintendent of Police to carry on his work of improvement in the present locality -

I have &c
(Sd) J. T. Church
Resr Clk.

January 11th 1844

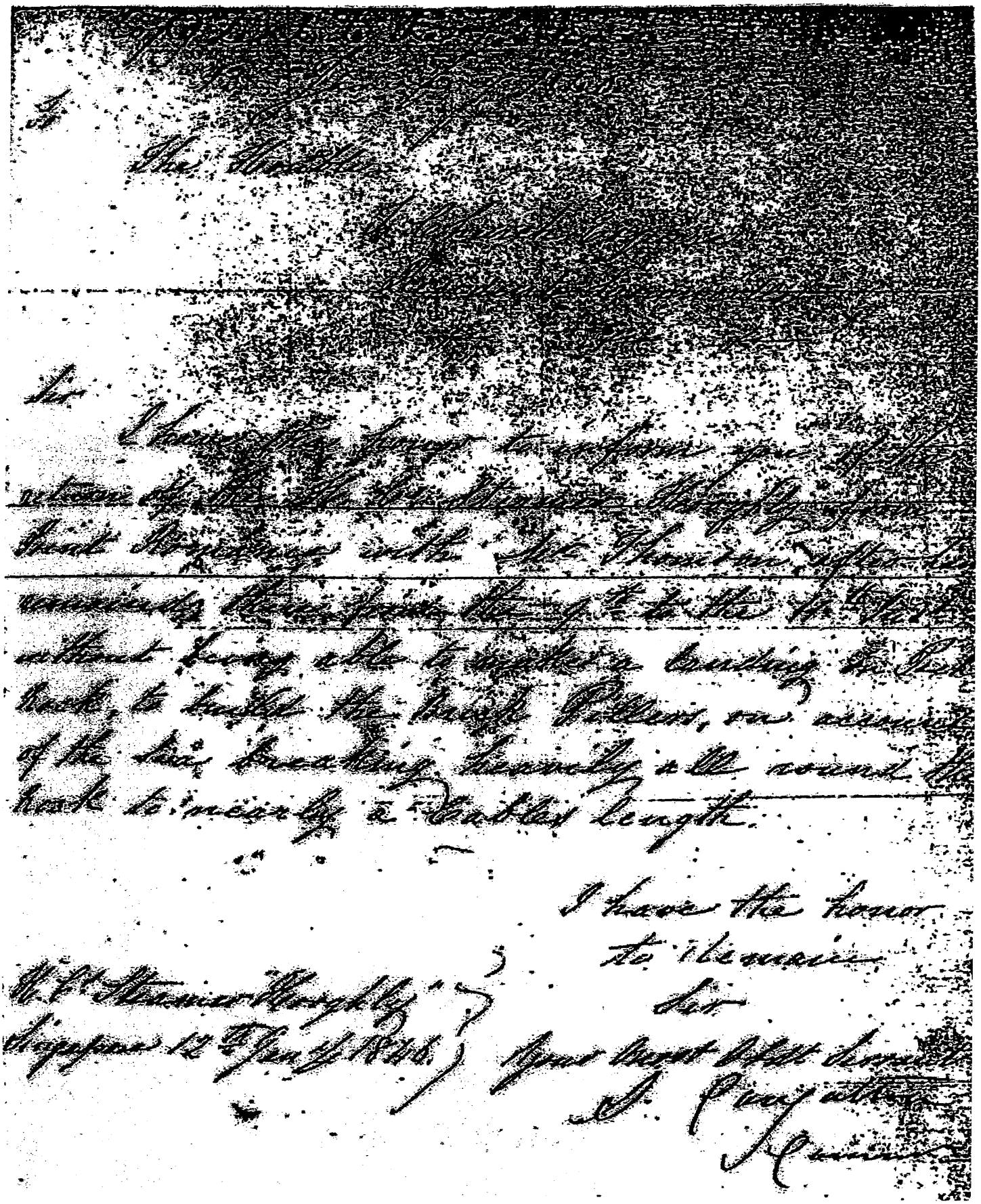
To The Same

Sir

I do myself the honor to subjoin copy of a letter dated 11th Inst from Captain Elliott of the E.I.C. Steam Vessel Hooghly by which it appears that Mount Pedah Road may eventually be selected as a suitable site for a Light House, it will occasionally be inaccessible during the N.E. Monsoon

I have &c
(Sd) J. T. Church
Resr Clk

January 15th



ANNEX MR 13

Dispatch of the Government of India to the Court of Directors, 3 March 1849

British Library (Microfilm Copy)
India Office: Board of Control's Collection 1796-1858
F/4/2316/119941

India
Marine Department

2 Colls. to Draft no. 588
of 1849

Collection No. 1

Letter from No. 3 dated 3rd March 1849

Transmitting further correspondence relative to the erection of the Horsburgh Lighthouse

Secretary's Office
Marine Branch
1849

Copy Marine Letter from the Govt. of India dated 3rd March 1849 No. 3

With reference to your Despatch No. 1 dated the 24th February 1847, we have the honor to transmit the accompanying further correspondence relative to the erection of the Horsburgh Light House, and to the proposed levy at Singapore of a duty on shipping, in order to provide for the maintenance of the Building and the necessary Establishment as well as for the re imbursement of whatever sum the Govt. might be called upon to advance for the undertaking.

2. Your Hon'ble Court will remember that the original cost of this Building, to be composed of a granite base with a superstructure of masonry, was estimated at 7000 Dollars or Rs. 15,750. This estimate however was made on the assumption that the Light House would be erected on Peak Rock near the Outer Romania Island, but subsequently in consequence of a communication from the Admiralty, forwarded to this Govt. with your Hon'ble Court's Despatch of 6th May 1846, Pedra Branca was determined on as the site most eligible in all respects for a Light House, and Lieut. Col[l] Butterworth the Governor of the Straits Settlements, now reports that by experiments which have been made, and which are detailed in the accompanying papers, it has been fully established that for a Light House on Pedra Branca, it is absolutely necessary that the entire facing of the structure should be of granite set in cement with a back work of masonry. The cost of such a building is estimated by Mr. Thomson the Govt. Surveyor at Rs. 29,417, and this estimate even has been made in "the anticipation that the work will be given to a Chinese Contractor, as that class are the only people that could undertake such a work under any limited sum". Mr. Thomson cannot himself, he says, on the system of daily labor, promise it's being done for double the amount estimated; but he has every reason to think that under all ordinary circumstances, the actual cost in the hands of a Chinese Contractor, will not exceed the sum estimated; at the same time he remarks that a work of the kind "cannot be calculated with the same precision as an Ordinary Building in Singapore Town". Beyond the sum of Rs. 29,417 for the bare building, it appears that during the estimated period of the work, which is 2 years, it is proposed that there shall be an Overseer on 100 a month, and that Mr. Thomson, as a general Superintendent shall receive 150 Rupees a month and 5 Rupees a day Table money when proceeding from Singapore and back in the steamer; the entire charge on this account however not to exceed 500 Rupees during the whole period. It is likewise

proposed to employ very extensively the Govt. Steamer and Gun Boats for the carriage of materials and workmen; the Crews of the Steamer & Boats are to be employed on a certain part of the work, and 8 convicts are to be employed at Singapore in making the Cement.

3. The total estimated cost therefore of the proposed building is

Estimate	29,417
Mr. Thomson's allowance of 150 Rs a month for 2 years	3,600
Do.....Do.....of 5 Rs a day Table Money	500
Overseer's allowance of 100 a month for 2 years	2400
	35,917
Add estimated cost of lantern	15,000
RS	50,917

Exclusive of the use of Govt. Steamers, Gun Boats & ca.

4. The expense of the Establishment now proposed is also slightly increased from Rs. 2856 to Rs. 3120 per annum.

5. Lieut. Colonel Butterworth reports that he has in hand Rs. 22194, leaving Rs. 28.723 to be provided for.

6. To meet this deficiency and also to provide for the current expenditure Lieut. Colonel Butterworth proposed levy of 2 Dollars per 100 Tons of Shipping, which he calculates would yield annually Rs. 6736 thus leaving after payment of the establishments Rs. 3616 to go towards the gradual re payment of the sum which it is hoped that the Govt. will advance to enable this work to be carried out.

7. The data upon which Lieut. Colonel Butterworth has calculated the receipts from a levy of 2 Dollars per 100 Tons are as follows.

In 1846/47 there cleared out of Singapore 797 Square rigged vessels comprising 231,812 Tons he proposes that all Ships should pay the duty without reference to their destination, as any distinction of that kind might lead to attempts at evading the levy, and to consequent litigation; but, as many of the vessels trading to short distances come backwards and forwards to Singapore 4 or 5 times in the year, he would not make any ship pay duty more than twice in one year; and this he estimates would have reduced the chargeable tonnage of 1846/47 to about 150,000 yielding at 2 Dollars per 100 tons 3000 Dollars or 6736 Rs. Lieut. Colonel Butterworth has not reckoned upon anything from a duty to be levied at the Ports of India on Vessels clearing out for China or other

places to the Eastward of Singapore, as proposed by your Hon'ble Court in Despatch No. 6 dated 15th October 1845, as he states that nearly all vessels trading between India and China touch at Singapore both going and coming.

8. It would not seem from the above that Lieut. Colonel Butterworth has overrated the amount likely to be realized, and the main question for consideration therefore is whether your Hon'ble Court are disposed to sanction the levy of so large a duty as Rs. 4.8 per 100 Tons instead of 1 Rupee, the amount authorized in your Hon'ble Court's Despatch quoted above. We see little reason to doubt that the levy of a duty at the higher rate will be found amply sufficient to reimburse the Govt. for the advance which is required to be made, but these is certainly a risk that the amount now asked for, may after all be found inadequate to complete the work.

9. A question it will be observed is raised by the Govt. of Bengal as to the time from which the law should authorize the levy of the duty, whether immediately or from the opening of the Light House.

10. We submit the whole subject anew for the consideration and orders of your Honorable Court.

J.H. Maddock
J.H. Littler
J. Lewis

Copy Marine Letter to the Govt. of India dated 24th February 1847. No. 1

1. Your letter dated 3rd October 1846 in reply to our Despatch of the 6th May preceding, forwards copy of a Report received from the Governor of Prince of Wales' Island, Singapore and Malacca, which leaves no doubt as to the superiority of Pedra Branca over Peak Rock on the outer Romania Island as a site for the Light House proposed to be erected in the neighbourhood of Singapore to the memory of Mr. Horsburgh. We concur therefore in your approval of the choice of the former site.

2. We cannot however assent to the proposal that we should order an iron light house to be sent out from England.

3. The proposition originally submitted to us was that the Horsburgh testimonial should be a light house of Masonry which we were informed could be erected at a cost of 7000 dollars exclusive of the price of a lantern. Of this sum 5513 dollars had been already raised by subscription and to supply the deficiency, and to provide funds for the current expenses of the Light house when finished, we authorised the levy of certain dues on shipping.

4. The cost of a suitable Iron light house complete with lantern and lighting apparatus is stated at £3,000 which added to the cost of erection and of preparing the foundation would form a sum more than double the estimated cost of a similar Building of masonry. You have not informed us from what source the difference of outlay is to be supplied for the only addition which appears to have been made to the subscriptions previously reported, is a sum of about £500 raised at Bombay and Madras. We stated in our Despatch of the 6th May last, that we objected on principle to the appropriation to such a purpose of any sum however small from the General Revenues of India, and we are equally indisposed to increase the light house dues of which we have authorised the imposition. We are therefore of opinion that the original design of a tower of masonry must be carried into execution.

East India House

6th May 1846

Sir,

I am commanded by the Court of Directors of the East India Company to transmit to you copy of a letter from Captn Hamilton R.N. Secretary to the Admiralty relative to the Light House proposed to be erected to the Memory of the late Mr. Horsburgh at the entrance of the Straits of Singapore.

The Court apprehend that progress may have been already made in the construction of the Lighthouse, but in the event of the work not having been commenced, they desire that it may be suspended until you have an opportunity of communicating with the Government of India, to whom a copy of Captn Hamilton's letter has been sent.

I have &ca

/Sd/ James C. Melvill

Secretary

The Govr. of Prince of Wales' Island,

Singapore, & Malacca

Copy

Admiralty

18th April 1846

Sir,

The Lords Commissioners of the Admiralty having recently received from Rear Admiral Sir Thomas. Cochrane, the Commr in Chief in the East Indies, that the Chamber of Commerce at Singapore, with the approbation of the Governor, were exerting themselves to carry out the long proposed Horsburgh Monument or Light House at the entrance of Singapore Strait, and that Captn Sir Edwd Belcher, having been consulted by the Governor as to the most appropriate site for it had recommended that it should be placed on the Outer Romania Island instead of on Pedra Branca as originally intended.

I am commanded by their Lordships to request that you will state to the Court of Directors that the proper position of this Light is a question of great importance', not only to the safety of H. M. Fleet', but also to the welfare of all Mariners that frequent the China Seas, and my Lords are inclined to think that Pedra Branca is the best point for the Light House, and for the following reasons.

The Secretary
to the Honble East India Co

1st. Because that islet stands nearly in the middle of the entrance of the Strait.

2nd. Because it may be freely approached by running down its latitude.

3rd. Because its conspicuous appearance at the distance of 9 or 10 miles renders it the usual beacon by which all Vessels endeavour to make the Strait, and by the addition of a Light, it would be rendered equally serviceable by night, and

4th. Because when a Vessel has passed it, the stern bearing of the Light would enable her to shape a safe course to Singapore.

Whereas if the Light be placed on Romania Island as proposed, ships from the China Seas, if the weather should be hazy, would run the risk of being entangled amongst the reefs which surround that Island there being but one direction in which it would be prudent to run for that Light.

The means of victualling and of defending the Light house, whichever place be chosen', ought certainly to be well considered but there is no information on that part of the subject to show that either of the proposed sites have any advantage over the other in those respects.

Their Lordships however desire me to remark that the rocks and Shoals at Romania Point seem to require some attention with a view to warning Vessels from getting entangled amongst them in dark nights.

I have &ca

/Signed/ W.A.B. Hamilton

(Copy)

Marine Letter to the Govt. of India No.4 dated 6th May 1846

We transmit herewith for your information Copy of a letter & of its enclosure which we have this day caused to be addressed to the Governor of Prince of Wales Island, Singapore & Malacca, relative to the Light House proposed to be erected in the Straits of Singapore to the Memory of the late Mr. Horsburgh.

Copy Marine Letter from India

No 5 dated 3rd October 1846.

With reference to your letter No 6 of 1846 dated 6 May in the Marine Department, and its enclosure, we have the honor to transmit for the information of Your Honble Court, copy of a Despatch from the Governor of Prince of Wales Island, Singapore & Malacca', dated 26 August', to which we have replied that we approve of Pedra Branca for the position of the Horsburgh Light House to be erected at the entrance of the Singapore Straits from the China Sea & shall request your Honble Court to take into consideration the proposition that an Iron Light House be sent from England.

2. We have directed the Governor to notice the observation in the last para: of Mr. Hamilton's letter dated 18th April to Mr. Secretary Melvill respecting the Rocks & Shoals at Romania Point which in the opinion of the Lords Commissioners of the Admiralty require some attention with a view to warning Vessels from getting entangled amongst them on dark nights.

N°. 1363

From Under Secretary to the Gov^{t} of Bengal

To

The Under Sec^{y} Gov^{t} of India

Dated Fort William, 6th October 1848

Sir,

With reference to the letter from Mr. Bushby dated 24th April 1847 N° 284 on the subject of the Horsburgh Light House, I am directed to forward Copy of a Communication from the Governor of the Straits, with enclosures in original, for the consideration of the Supreme Government.

2. It will be remembered that the Court of Directors, after communication with the Lords of the Admiralty, recommended that a duty should be levied on ships as light house dues, at one rupee for every hundred tons of shipping, and it must also be borne in mind that the amount originally estimated as the cost of the Light House, did not exceed 7000 Dollars of which the sum of 5513 Dollars was available from private subscriptions raised in different quarters.

3. It will be observed that in his present report, Col^{l} Butterworth has submitted an estimate which with the addition of a Cupola for the Light House, and the extra allowance for the Superintendents of the work during the period of two years, will rather exceed the sum of R^{s} 50,000.

4. To meet this the Governor of this Straits has only the sum of Rs 22,194,6,7, or not quite one half of the estimated expense.

5. It would thus be necessary for the completion of this work, so long delayed, but so urgently required for the preservation of our shipping, to advance the requisite funds from the Revenues of India, and afterwards seek repayments from the Light House dues.

6. Under a suggestion made by the late Deputy Governor, that these dues be raised at the rate of two Dollars per hundred tons on square rigged vessels, Colonel

Butterworth has submitted an estimate, which he calculates will leave an excess of yearly receipts over expenditure to the amount of R^{s} 3,616, after efficient provision has been made for the European and native Establishment of the Light House. This or whatever sum might remain in hand would of course be devoted to the refund of advances made by Government for the erection of the building.

7. The present question for the Supreme Govt would therefore seem to be the propriety of advancing the sum of R^{s} 28,223-7-3, to meet the expenses, after the disbursement of that now in hand, and the enactment of a Law, authorising the levying of Light House dues on the scale submitted by Col^{l} Butterworth, or on such other as may be deemed expedient.

8. But the Light House would not be constructed in less than two years from the time of commencement, and it is therefore to be considered, whether, supposing the Act for the levy of dues to be passed, any tax could be levied under its provisions while the Light house was yet incomplete nor must it be forgotten that possibly Colonel Butterworth's estimate might prove based on erroneous statistics, and that to meet the requisite demands for current expenditure as well as for the refund, it might actually be necessary to increase or alter in some degree the scale of dues now proposed.

9. Meanwhile it is obvious that the Light house cannot be completed without assistance in the shape of an advance to the amount required by Col^{l} Butterworth, after the expenditure of the sum now in his hands, and the attention of the Supreme Government is therefore requested to the above points, in order that while sanctioning the disbursement applied for, efficient precautions may be taken to established such a scale of duties as will guarantee Government against loss.

I have the honor to be &^{ca}

/signed/ W. Seton Karr

Under Sec^{y} to the Gov^{t} of Bengal

True Copy

N° 2

Home Department

Marine

From The Under Secretary to the Gov^{t} of Bengal
To The Under Secretary to the Gov^{t} of India
d/ 6th October 1848

Submitting copy of a communication from the Governor of the Straits Settlements on plans and Estimate for a proposed Light House on Pedra Branca and proposal for the levy of Light House dues at Singapore.

General No
435 of 1848

No. 72

From

The Governor of P.W. Island
Singapore and Malacca

To

Mr. Seton Karr Esq[re]
Under Secy to the Govt. of Bengal
Fort William

Dated Singapore 12[th] June 1848

Sir,

Letter to Gov[t]. d/ 28[th] Nov. 1844 No. 150;
Letter from D°. d/ 24[th] February 1845 No. 510;
Letter from D°. d/ 4[th] June 1845 No. 1463;
Letter to D°. d/ 22[nd] Aug. 1845 No. 139;
Letter to D°. d/ 26[th] Aug. 1846 No. 123;
Letter from D°. d/ 3[rd] Oct. 1846 No. 634;
Letter to D°. d/ 19[th] December 1846 No. 191;
Letter from D°. d/ 10[th] May 1847 No. 426;
Letter to D°. of 1[st] Oct. 1847 No. 141;
Letter from D°. d/ 22[nd] Dec. 1847 No. 1066.

Under date the 22[nd] Decr. 1847 No. 1066

With reference to the several communications noted in the margin regarding the construction of a Light House on Pedro Branca at the entrance of the China Sea to the memory of the celebrated Hydrographer James Horsburg Esquire I have the honor to submit the accompanying full report on the subject for the final orders of the Right Hon'ble the Governor of Bengal.

2. In accordance with the views stated in the 3[rd] para: of my letter dated the 1[st] October 1847', and approved by the Hon'ble the Deputy Governor of Bengal, Brick Pillars were erected on Pedro Branca, the site determined upon for the Horsburg Light house for the purpose of ascertaining the effect of the Waves on the Rock during the North East Monsoon', which usually prevails here from October to February; the result is detailed in Mr. Thomson's Report[0], a copy of which is herewith transmitted.

[0] A

3. The exposed position of Pedra Branco renders it subject to the full force of the North East monsoon and the heavy swell which rolls in from that side, causes the Waves to beat over the Rock to the height of 15 feet above the level of high

water mark, whilst the spray rises therefrom to so great an Elevation as to make a structure of Granite set in Cement for a facing with a back work of Brick imperatively necessary to the security of its inmates and the permanency of the Light House.

4. Having satisfied myself on this point I directed that very indefatigable and valuable public servant Mr. Thomson to prepare a plan[+] Specification[+] & Estimate for a Building of the discription proposed which with that Gentleman's observations[++]. Thereon I beg to enclose for the favorable Consideration & Sanction of the Right Hon'ble the Governor of Bengal in the hope that I may receive timely instructions so as to enable the Contractor to send to China for Stone Masons and to make such other preparations as will ensure this most important work to the safety of the mariner in these seas being commenced upon at the earliest practicable period.

[++++]**B** The plan is respectfully requested to returned

5. The Right Hon'ble the Governor of Bengal will perceive on reference to the enclosures that the Estimate for the building alone amounts to Dollars 13101.78 or Cs Rs 29417-13-10 being considerably in excess of that previously submitted for a Light House on Peak Rock but when it is remembered that the latter is only 28 Miles distant from Singapore, whilst Pedra Branco is 40 miles, and that the one is within a quarter of a mile of the main land of Johore and the other in mid channel scarcely approachable at certain Seasons of the year that the first structure was proposed to be wholly of Brick and Chunam and the one now submitted with a facing of Granite in Cement I am persuaded the charge will be deemed most moderate.

+ Vide Enclo; B

6. In a work such vast importance so far removed from all resources requiring such constant supervision and involving so much anxiety and resonsibility I am persuaded that the remuneration solicited by Mr. Thomson for himself viz. 150 Rupees per mensem in addition to his salary of Rs 350 as Government Surveyor, the general duties of which he undertakes to perform also making 500 R[s] per Mensem whilst employed on the Light House will be cheerfully granted. To this I think may fairly be added table allowance at the rate of 5 Rupees per Diem, whilst on board the Steamer, when proceeding to and from Pedra Branco, the total amount to be so drawn during the period the Light

House is under construction being limited to 500 Rupees. An overseer on 100 R^{s} per Mensem will also be necessary; Mr Thomson suggests in lieu of the latter an allowance of 50 Rupees to the Commander of the Gun Boat but as this Vessel and all the limited marine resources of this settlement will be required in aid of this humane undertaking, I would prefer the former being at once allowed.

7. The next point to be considered is the Light or Lantern to this subject I am aware Mr. Thomson has also devoted much study and incurred some little expense in procuring the latest Works treating thereon. I have therefore very great confidence in recommending the revolving Light as proposed by that Gentleman but as the Light Room or Cupola Lamp Frame &c. will have to be constructed in England I would respectfully suggest that the figure whether Vertical with 3 faces of 8 Lights each as proposed by Mr Thomson[+] , or quadrilateral with 6 Lights as recommended by the Superintending Engineer[0] may be determined on by the party entrusted with this particular Work which can be commissioned from hence on receiving His Lordships authority or the needful may be done at once from Bengal on the Document[*] herewith transmitted. Mr Thomson Estimates the Light at £ 1500 or C's Rs 15,000 .

[+] vide encls C C

[0] Vide enclose. D

[*] Vide e to Letter

8. In order that the Right Hon'ble the Gov^{r} may have at one view the several charges on account of the completion of the Light House I will here recapitulate them

For Building the House Company's Rupees	29,417-13-10
Superintendent's allowance at Rs 150 per Mensem for 2 years ----------	3,600-0-0
Overseers allowance at 100 Rupees per per Mensem for 2 years ----------	2,400-0-0
Cupola or Light room with Lamps complete ----------	15,000-0-0
Company's Rupees	50,417.13.10
Amount Brought forward ----------	50,417.13.10

To meet this I have in the Treasury upon which I trust the Government will be pleased to allow 5 per cent Interest.

Through the extreme liberality of Mess[rs] Jardine Matheson & C[o] who have allowed Compound Interest on the amount collected by them in China in 1842 the Sum of Company's Rupees – 15,858-3-11.

From the Bombay Chamber of Commerce ---------- 4299-0-9

From the Penang D[o] ---------- 404-2-6

& From that most Philanthropic Gentleman Sir Charles Forbes as his individual donation the sum of Company's R[s] ---------- 1,632-15-5 22,194-6-7

Making a deficiency of funds in hand

to meet the contemplated Expenses ----------

Company's Rupees ---------- 28,223-7-3

==========

9. Having submitted the whole of the enclosed Documents to the Superintending Engineer Major Faber of the Madras Engineer Corps; I have much satisfaction in forwarding his Report* for the information of the Right Hon'ble the Governor of Bengal and when I mention that no less than 8 Vessels have been lost in the Vicinity of the entrance of the China Seas for the want of some such Beacon I am persuaded that his Lordship will honor me with early orders to commence on the Horsburg Light House.

* Enclo;D Pascoa, Heber, Henry David, Glendina, Stork, Venus, Mars, Parsee

10. It only remains to notice the Establishment which I concur with the Government Surveyor and Superintending Engineer should consist of 3 Europeans and 3 Natives instead of that formerly proposed. One of each to be allowed to reside alternatively one month on shore; Provisions being furnished to those on the Rock by the Commissariat Department, in communication with the Master Attendant under whose supervision the Light House when completed will be placed.

The Expense would be as follows:

Three Europeans each at 50 R[s] per Mensem – R[s] 150-0

Rations for two of Europeans each at 10 R[s] 2 annas per Mensem ---------- 20-4-

Three natives each at 11 R[s] per Mensem ---------- 33-0-

Rations for two of Ditto at 3 Rupees 3 annas per Mensem ---------- 6-6-

Oil Wicks etc ---------- ---------- 50-6-

per mensem 260-0-0

Making a total annual charge of ---------- 3,120.0.0

11. Now allowing the Light House Dues to be levied at the rate mentioned in the 3rd para: of your letter dated the 22nd December last No. 1066 Viz 2 Dollars per 100 Tons on Square Rigged Vessels, and taking the No. of Tons of Shipping at 150,000 independent of Vessels proceeding to and from China without touching at Singapore as shewn in the enclosure to my letter dated the 1st October preceding it, which proposes to make payment once a year compulsory on all square rigged Vessels, clearing out from this Port, without touching the Native Craft the amount realized annually Singapore would be 3000 Dollars or 6,736 Cs Rs which after deducting the annual expenses would give a surplus of *3,616 Cos Rs in liquidation of the advance made by Government to meet the above deficiency in Funds for the Construction of the Light House as Ordered in the concluding Para: of the Despatch from the Hon'ble the Court of Directors of the 15th of October received under cover of Mr. Under Secretary Young's letter dated the 10th May 1847 No. 426.

Receipt, Rs 6,736. Expenses 3,120 Surplus 3.616

I have &ca

(Signed) W.J. Butterworth

Governor

12th June 1848

(True Copy)

(Signed) W. Seton Karr

Under Secy. to the Govt. of Bengal

No. 8 of 1848

From J.T. Thomson Esqre

Govt. Surveyor of Singapore

To The Hon'ble T. Church Esqre

Resident Councillor

Dated 8th March 1848

Sir,

I have the honor of informing you that I proceeded to Pedro Branca in pursuance of your verbal instructions to examine the brick Pillars that I built there prior to the coming on of the North East Monsoon in the Month of October last, I found now that the Sea is perfectly smooth & a landing easily effected nor do I think judging from the Report of the Natives that the Sea was much disturbed since the latter part of February.

As I formerly reported 7 Pillars were built to try the effect of the Waves upon the Rock and their positions and present state will be more clearly understood by tabulating them as follows.

1st.	1 Pillar 10 feet above level of High Water fully exposed to all Wind.	Entirely swept away
2nd.	2 Pillars 15 feet above level of High Water fully exposed to all Winds.	Swept away excepting lowest courses of Bricks which are firmly attached to the Rocks by the Mortar so could not feel much the action of the waves
3rd.	2 Pillars 15 ft. above level of high Water, but well screened by high Rock on their North Exposure.	Quite entire
4th.	2 Pillars 24 ft. above level of high Water fully exposed to all Winds.	Plaster carried away on their North Exposure and Mortar in the joints washed out to the depth of an inch.

From the above observations of the effects of this last month, I deduce the following opinions. First that the Rock is washed by the Sea to the height of 15 feet above the level of high Water on its north exposure, but on the same level on

its South exposure that the Rock remains untouched by the Waves and is also but slightly affected by the spray.

Secondly- That on the highest part of the North (24 feet) where exposed a heavy spray drives over the Rock sufficient to knock off any kind of Plaster or Cement that could applied to any brick building as a Coating. It would have been desirable to know to what height the spray rises above this elevation but this cannot be had from actual observation though an idea of its probable height may be gained by indirect inference.

The North exposure of the Rock is nearly perpendicular faced by a shallow Cove expanding itself to the full force of the Waves of the China Sea. The Apex of this Cove was closed under the Rock on which the Light House would stand it may therefore be safely argued that under such circumstances the waves will be driven with great force against the perpendicular barrier and the spray projected to a great height over the Rock for the oscillatory motion of the deep water waves receiving a sudden and complete check in the shallow Cove, their force will be expended with concentrated violence at the top of the Cove against the opposing Rock it is under nearly similar accidental workings of nature that the Churns or Kirns are formed on Rocky Coasts, where during storms force the spray to a great height. Two of these have come under my own observation on the Coast of Northumberland where the spray during storms was projected to the perpendicular height of 80 to 90 feet. In designing a Light House therefore for Pedro Branca it should be calculated to bear a heavy spray to its full height. I am consequently of opinion that it would not be prudent to use any thing but Ashlar Masonry Set in Cement for the facing of the Building with a backing of brick set in common mortar inside.

In conclusion I may state that we have only had the experiences of one Monsoon & I am informed by old Residents that they have experienced much heavier; allowance should therefore be made for extreme seasons in which it might be problematical whether the Pillars that have stood the test of this Season would do so again.

The Pillars were left untouched for future inspection if thought necessary.

I have &ca

Singapore
8th March 1848

(Signed) J.T. Thomson
Govt. Surveyor

(True Copy)
(Signed) T. Church
Resident Councillor

(True Copy)
(Signed) W.J. Butterworth
Governor

No. 20 of 1848

From

J.T. Thomson Esq[re]

Government Surveyor

To The Hon'ble T. Church Esq[re]

Resident Councillor

Dated 24[th] May 1848

Sir,

I now do myself the honor of addressing you regarding the Construction of the Cupola of the Horsburgh Light House and the mode of lighting the building but before entering into the subject myself I must first notice the opinions advanced by Officers who have at previous time been consulted by the Government thereon on perusing the Records in the Government Offices to which I was permitted access, I can only find two allusions to the subject, of a very cursory nature. One by the Committee of which Captain Mason of Her Majesty's Steamer Medea was president and another by Mr. Coleman. The former recommend a steady fixed light to show all round & not masked in any way whatever as the most suitable for Pedra Branca while the latter recommends for Barn Island a position quite analogous at the Western entrance of the Straits of Singapore a revolving one. The former in support of their opinion in favor of a fixed light advance, first that it is a central position in the Eastern entrance of the straits of Singapore, and would be a guide for ships working out to the Eastward. 2[nd]. That there being no habitation on the adjacent Land (query why should there not in future). The Lights of which could possibly be mistaken for that at the Light House, so as to render it necessary to adopt a revolving or flashing light for distinction and as it frequently occurs during thick weather in the North East Monsoon a ship in running down is enable to get observations for some days previous and is thus liable to be not in her reckoning, the interval that would elapse between the return of the light either in revolving or flashing, might be of considerable importance as connected with the safety of the Vessel. The latter in

support of his opinion in favor of a revolving light advances merely that it may be easily distinguished from the fires that are frequently made by the Natives in the surrounding Islands such opposite Opinions arrived at by the above mentioned Officers, appears to me to have been caused by their not having sufficiently considered that the object of a revolving light is to obtain a higher power of illumination with reflectors than can be obtained by a stationary reflecting or Catoptrie Light and that the brilliancy of the beam sent from them would always be sufficient to distinguish them from the dull unconcentrated rays emanating from the Lights made by Natives in their Homes or in the Jungle. With regard to the second opinion advanced by Captain Mason's Committee, it will appear on reference to the Chart, that the middle channel 4 Miles wide which ships would always use after the Lighthouse is built, in preference to the North and South Channels, that are both intricate and cumbered with shoals and sunken Rocks, is entirely free from Reefs, or other danger and that Pedro Branca can be approached from the directions in which ships come in from the China Sea Viz^{t} from the North and East free of all dangers, if therefore they but once sighted the light, all they would require to do, would be to make towards it, the same will be seen to apply to ships coming from the Westward it therefore appears to me, that the great object to be arrived at, would be to show as powerful a Light as possible in order that ships may be made aware of their position at a great distance in case of their not having got Lights, and for this purpose a revolving Catoptric light is the most suitable & economical, for by this system while it takes 26 Lamps to enable a fixed lights to illuminate the whole circle of the Horizon which would only shew the light of one Lamp to the approaching mariner 24 lamps on a triangular revolving frame would at the periods of illumination shew a light of eight Lamps, that is to say would be eight times the power of a stationary Light at the same expense to Government. In support of this opinion I will as shortly as possible notice the different modes of lighting pursued in Europe.

There are two methods of collecting the rays emitted from the burners used in Light houses the first by employing parabolic Reflectors, plated with silver, placed so that the Burners may occupy the face this is called the reflecting or Catoptric method, the second by employing a system of Glass lenses

surrounding a central burner of great magnitude, by which the rays emitted are refracted, and projected forward to the horizon this is called the refracting or dioptric method first applied to French Lighthouses by French, but now much extended to surrounding nations; of these two methods there are several modifications & combinations the latest of which worthy of notice, appears to be M^{r}. Gordon's, in which he uses a prolate and Hollow mirrors to project the central rays, while he collects and refracts to the same parallel sic lines such rays as escape over the lips of the mirror but I am not aware of this invention has been sufficiently tested practically.

In the Catophic system fountain Lamps are employed to supply the Oil to the burners. There is consequently little danger of the Lights being extinguished as one Lamp extinguished would not materially affect the Light; no danger to Mariners would arise. In the Dioptric system artificial appliances are used for supplying air and Oil to the wicks and are sometimes liable to accident and in case of accident to the one great burner here used the whole light become becomes Extinguished. This is a great objection to this system even in Europe, where exterior antigens are easily procurable, and an insuperable one for this part of the world, where little mechanical skill can be commanded; and though much more brilliancy at less expense can be obtained from Dioptric Lamp still the Catophic system from the simplicity of its parts and moderate attention and skill that it requires in keeping, recommends it as the only proper method to be adopted here I shall therefore confine myself to a description of it.

In the Catophic method there are three kinds of lights the fixed, revolving and reciprocating the latter a late ingenious invention of Capt Smith of the Madras Engineers, and eminently adopted for Coast Lines, or where only part of the circle requires to be illuminated, but obviously inapplicable to Pedra Branca, and these are susceptible of nine separate distinctions vizt fixed revolving white; revolving red and white, revolving Red and two whites, revolving white and two Reds flashing intermittent double fixed lights and double revolving white lights none of which particular distinction is it necessary to apply at Pedra Branca, the only aim as before noted being to obtain a powerful Light the question is therefore whether it is to be simple fixed, or simple revolving.

In a fixed light the effective divergence of the mirror in the horizontal Plane is estimated at 14° 22' when the ordinary focal distance of 4 Inches is used, and it has sometimes been found advisable to calculate on only a divergence of 11° as the light is found to be feeble at the outer edges of the conical beam, but for the sake of economy more or less between those points have been used & calculating from the former we would require 26 Corners ranged side by side round a circular frame or Zone to illuminate the whole horizon of 360° thus affording the light of only one reflector and the observer. The revolving light that I propose would be composed of a Frame with three sides, disposed as an equilateral triangle, and each side would contain on its perpendicular Plane 8 reflectors making a total of 24. This frame would make one revolution in six Minutes, and to an observer stationed at a great distance from it, it would show its light with full brilliancy every two minutes for 14 Seconds when it would decrease to total darkness, till succeeded by the following Plane of reflectors but in the proximity of the Rock where the danger suggested by Captain Mason's Committee could only exist; the light would never be totally eclipsed. The cost of fitting up a revolving light will 24 Reflectors is stated by Mr. Allan Stevenson to be 1,298 £ and annual maintenance 418£ that of a fixed light with 26 reflectors 950£ and annual maintenance 425£ 10/ which in point of economy gives hardly an appreciable advantage to either, while eight times the volume of light is thrown out by the revolving method to the approaching and watchful mariner whom the light of a single reflector or of a fixed light could not reach.

The height of the of the light will be a little above 90 feet above the level of the sea at high water, and to the observer stationed on the Deck of the general class of trading Vessels, will appear above the horizon at the distance of fifteen miles a distance amply sufficient to give notice to the mariner of his approach to the straits, to enable him in nearing the light to keep in the fair channel & avoid the Romania Shoal on one side distant 6 Miles N.N.W. of P. Branca & Portillion Shoal distant 10 Miles E.S.E. between which points the straits are clear of all dangers to the latter danger a Stationary reflecting light could notice calculated to reach in any but a clear atmosphere, it would therefore act as no sure guide to Vessels coming from the Eastward.

With regard to the establishment necessary for attending the Horsburgh Light; I beg to offer the following suggestions - as Pedra Branca is distant from Singapore Town nearly forty Miles, communication with the Rock could not well be maintained above once a month and this could be best done by the Gun Boat; which could carry out provisions and water at each trip three Months would elapse before communication could with safety be obtained tho' I am informed by Captain Congalton, that there will be frequent opportunities of landing even then, during the lull that takes place in the mornings. The situation of the light Keepers will therefore be somewhat similar to those employed on the Bell Rock Eddystone or such lonely positions on the Coast of Scotland and England. The Regulations observed in these therefore, would also be well adopted here with some modifications necessary to the Climate I would consequently propose that 3 Europeans and 3 Natives be attached to the service on different grades of pay four of whom would be stationed at the light while two would have relief on shore thus each person would be two Months on the Rock and one on shore with his family.

As I presume the Master Attendant would have charge of the building they should have houses built for them and their families close to the office of that functionary; so that they may be ready for service at any moment. The duties day and night at the Rock should be in regular Watches as on board of ship for which purpose a good Clock should be placed in the Light Room, the minutes of these duties will be best directed by the Master Attendant. A small flag staff should be fixed to the parapet or cupola to signalize to vessels passing, or to shew when Communication is wanted as in the event of sickness. An uniform should also be given to the Keepers as in the case of those of those employed on Light House duty in Scotland and should always be worn while on duty as typical of the order, regularity and cleanliness that should be maintained in the Light Room.

Accompanying is the outline plan* of the light Room or Cupola and Lamp frame drawn on their paper as it will require to be sent to England, where this part should be constructed and annexed are notes for the Engineer to whose direction its execution may be entrusted I cannot give an exact estimate of the cost but suppose that £ 1,500 will be required.

I will wait instructions as to whether it will be ordered to be sent out by the Bengal Authorities or that I will be required to order it myself, in which latter case I would prefer instructing the work to the Engineer to the Commissioners of the Northern Light Houses.

Singapore
24th May 1848

I have &ca
(Sd) J.T. Thomson
Government Surveyor

(True Copy)
(Sd) W.J. Butterworth
Governor

Notes on the Cupola or Lantern
and Lighting Conductor.

The Cupola will rest on a Granite circular Wall which measures on its outside 13 ½ feet diameter and inside 12 feet. The form of the Cupola is Octangular, having the windows eight feet in height surrounded by an Octangular Dome. The sill of the Cupola will have eight flanges, thro which bolts 6 feet in length will be fastened to leness' fixed in the inner ends of the platform stones. The frames will be of Cast Iron and Dome of Copper the latter should be double, so that the air during the heat of the day may circulate and thus prevent the light Room being heated by the vertical sun. The frames should be glazed with polished plate glass.

The machinery and weight that gives motion to the Lamp frame should be Calculated to give one revolution every six Minutes, and air tubes should be placed over the burners and connected with a central chimney to carry off the vapour generated by the burning of the oil. The Paraboloidal mirrors are calculated to be 25 inches over the lip with a focal distance of 4 inches. Two small sheaves should be supplied to carry the weight to the side Walls. Duplicate of such parts of the Machinery as are liable to wear should also be sent.

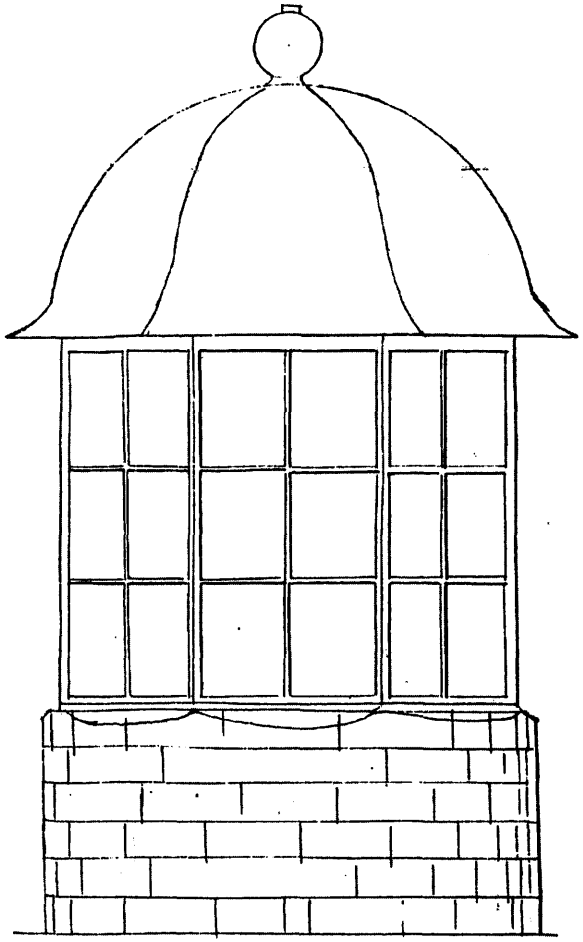
Nothing else besides the above general observations will be necessary as the work must be confided in England to an Engineer practically acquainted with the subject and where the latest improvements are better and more fully known than they can be in this distant part.

A Lighting Conductor of the most approved kind should also be furnished for the Light House from England of a Metal that is not subject to oxidize. This is very important to the safety of the Building as buildings and trees in Singapore are very frequently damaged from this cause.

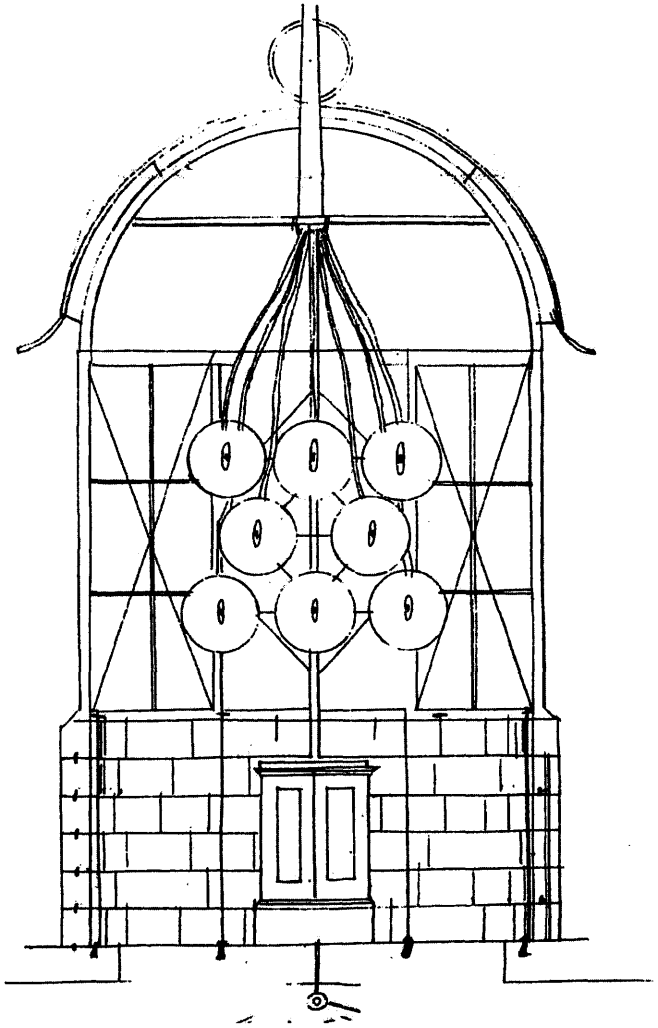
Singapore
The 24th May 1848

(Sd) J : T : Thomson
Govt. Surveyor

(True Copy of notes)
(Sd) W.J. Butterworth
Governor.



Elevation of Lamp Room



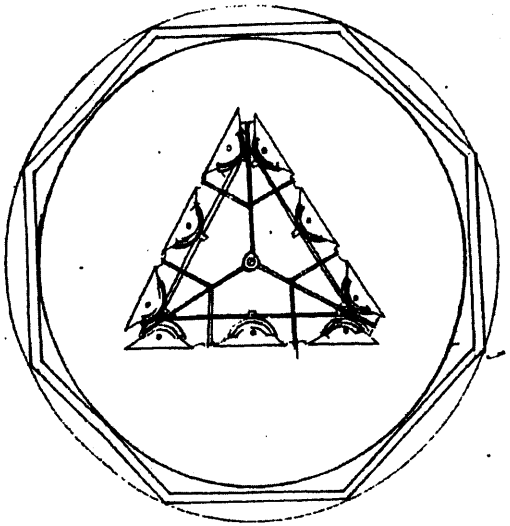
Plan of the Lamp room for the

Horsburgh Light House

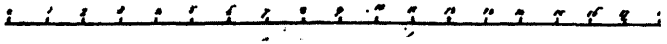
Sd/ W Thomson

Gov^{t} Lawyer

Singapore 23^{d} May 1848



Plan



Scale of feet

N° 19 of 1848

From J.T. Thomson Esqre.
Government Surveyor Singapore

To The Hon'ble
T. Church Esqre.
Resident Councillor
Dated 20th May 1848

Sir,

I do myself the honor of forwarding for your information a plan of a Light House proposed to be erected on Pedra Branco, drawn out in pursuance of the instruction contained in your letter No. 244 of 1848 and accompanying the Plan is an Estimate of the cost and specifications detailing the mode of constructing the building.

For the reasons noted in my letter to his Honor the Governor dated 20th November 1844 regarding the erection of a Light House at the adjacent Coast on Peak Rock, the Estimate has been constructed with the anticipation that the building of it will be given to a Chinese Contractor as that class are the only people that could undertaken such a work under any limited sum. I have consequently given the actual cost of material on the rock and allowed 10 per Cent to the Chinese that may under take to finish the Building. This I trust will meet with the approval of Government as being the cheapest and most expeditious mode of completing this desirable work for on the system of daily labor I could not promise its being done at double the amount now submitted.

In undertaking a work of this kind, there is more than ordinary risk to the Contractor first owing to its solitariness there will be difficulty in procuring labourer, second. The exposed position and difficulty in landing subjects those engaged to many accidents further the limited number of laborers of the class required may raise the demand to considerably above the present wages, at the time Government may sanction its commencement, and as I have taken this into

account in the Estimate, I have every reason to think that under all ordinary circumstances that the actual Cost will not exceed the sum stated but at the same time I must add, that the Cost of a Work of this kind cannot be calculated with the same precision as an ordinary building in Singapore Town.

I have further taken into account the assistance that will be afforded by Government in employing one Steamer and two Gun Boats in the manner, indicated in my letter N°. 4 of 1847. Under these circumstances the Steamer besides towing the materials will with the Gun Boats, have ample time for furnishing Wood and water to the people employed at the Rock. I have consequently proceeded on the supposition that they will do this duty. The Steamer on the commencement of the work could also carry the Workmen with the Wood and Planks for their temporary Houses and other such light stuff. I would also beg to recommend the employment of Eight Convicts to make the cement under my own Eye in Singapore, as this subject requires much attention and care and I would further suggest that the Crews of the Steamer and Gun Boats be allowed to rigg up the XXX Crane hoist the Lantern or Cupola and such work as can only be properly entrusted to seamen.

As the superintendence of an important work of this kind at so great a distance from Singapore will require constant and unwearied exertions on my part and as the Establishment allowed for my department could not furnish responsible persons to reside on the spot to overlook each detail so as to guarantee the work being unexceptionable in every way, I will almost constantly during the progress require to proceed to and from Pedra Branco. I would therefore humbly ask the favor of your moving the Government in consideration of the extra expenses, exposure exertion and responsibility that I will have to bear in addition to my surveying duties to allow me 150 Cs. Rupees additional to my present pay which is 350 Rupees while engaged in the Work, this will only be 50 R^{s} above what is sanctioned for Deputation when at Malacca, but the Survey at Malacca entails none of the responsibility that I would have in this undertaking. I would further ask the favor of your allowing one of the Commanders of the Gun Boats being employed as overseer of Work on an additional allowance of 50

Rupees to his present pay, or in case this could not be sanctioned, the employment of a private person on 100 R^{s} per mensem, under which sum no respectable person could be obtained for a limited period for such a work as this and I am of opinion, that it is essential to its stability that such a person should be employed. The probable period required for the finishing of the Light House, from it's commencement will be two years, these additions if sanctioned would consequently increase the amount of the Estimate as follows.

Deputation allowance to Surveyor	
150 R^{s} per Mensem for 24 Months.	
equal to 3600 R^{s} or	$1636.36
Allowance to Gunner of Gunboat	
50 R^{s} per Mensem for 24 Months	
equal to 1200 R^{s}. or	545.45
Estimated Cost of Contract	13,101.78
Total Sph. Dollars	$ 15,283.59

I would further humbly bring to the notice of Government that on urgent occasions it may be necessary for me to proceed in the Government Steamer instead of the Gunboat and that the Commanders by sanction of Government charge 8 R^{s}. table money and as this sum would be incurred in the service of the Light House I would beg the favor of its being allowed to be charged against the funds for its erection. With regard to the mode of lighting the building and plans for the Cupola on this subject is most important I will address you separately thereon in a few days hence.

Singapore
20th May 1848

I have & ^{ca}.
Sgd/ J.T. Thomson
Gov^{t}. Surveyor

Estimate of the probable Cost of erecting a Light House in Pedro Branco according to Plan dated 12th May 1848

Granite ashlar				
Wall to build of Rock 200 ft 18 X 16 to 20 $		300	00	
" Platform	4000 " 12 X 10 to 14	4800	00	
Parapet wall of Cupola 465 " 12 X 9		465	00	
Platform	65 " X 5^0 X1^0 X1^0	260	00	
Cook House and Privy	300 " X 12 X12	300	100	
Pavement of Rooms	810 flags 12 Sqre	324	00	
				6449 00
Bricks				
Work & wall to Platform	255.150			
Masonry vaults	285.60			
Walls of Stair Case	57.60			
	289470@30$.			
	Per 10,000	868	40	
Lime 87 Coyans @ 5 $		435	00	
Carriage of sand from Romania		200	00	
Molasses 38 Piculs		87	00	
Water by Gun Boats and Steammer		00	00	
Brick Layers @ 20 $ per Lascar		580	00	
Masons		400	00	
Cement to be made at Singapore by Government Surveyor with 8 Convicts estimated time 10 months @ $ 2 ½ per month		120	00	
Lime 10 Coyans @ 2 ½ 25$		65	00	
				27555
Wood	40$			
Carpentry				
4 Gold Windows 4 X 2 @ 7 $		28	00	
4 XXX	d° 4 X 2 @ 2 $	8	00	

4 Glass	d° 3 X 2 @ 5 $	20	00		
4 XXX	d° 3 X 2 @ 2 $	8	00		
5 Ditto	d° 2 X 2 @ 1 $ 50	7	50		
5 XXX lights	d° 2 X 2 @ 1 $ 50	7	50		
1 Battered door 6 ½ X 3 ½ Chopper Anchors		30	00		
4 Iron	Ditto Ditto	50	00		
4 Small Crane		20	00		
6 Marbaw Doors @ 4 ½ X 2 ½		72	00		
7 Marbaw Ladders with Iron unlaid steps		63	00		
6 Iron Railings at landings		40	00		
		354	00	9204	40
	Brought forward $	354	00	9204	40
1 Marbow Door of Platform 6° X 2° / 2 keepers XXX		9	00		
2 Ditto	Cook Room & Privy 6 X 2 ½ Ditto	18	00	381	00
Stepping Rock for foundation and flowers from Sea Shore		200	00		
7 Iron wings to be let XXX groves XXX the shipping of each XXX 2 X 1 estimated weight 22 Piculs		220	00		
60 Iron Cramps for 3 first courses estimated weight 90 Cattees		10	00		
Lead for D° 90 Ditto		13	50		
130 Iron Cramps for Platform 195 Catties		23	40		
Lead for Ditto	@ $ 12	30	00		
118 XXX Cramps for Walls of Cupola and parapot 177 Catties		21	24		
Lead for Ditto		30	00		
35 Copper Cramps for XXX Stones 52 Lead 70/		36	00		
Lead for Ditto		10	00		
XXX Crane including lacking to be furnished at		20	00		

the Government Stones					
Temporary Houses of workmen overseer		500	00		
Surveyors and Materials					
Filling up XXX of Gun Boat XXX		50	00		
20 Large water boats		30	00		
20 Small Ditto for Cement		10	00		
1 Cement XXX		10	00		
1 Wooden Pestle and Mortar		4	00		
Scaffolding and temporary stages		50	00		
Paint and Varnish		20	00		
Blowing up Rocks in light		40	00		
Boat hire for materials at Singapore		100	00		
2 XXX XXX with XXX XXX		300	00		
1 Sampan		30	00		
			$	1758	14
			$	11343	54
	Contingencies 5%			567	17
			$	11910	71
	Contractors Profit 10%			1191	07
	XXX Dollars		$	13101	78

Singapore
19th May 1848

E. E
/Sd/ J. T. Thomson
Govt Surveyor

Specification for the Building of the Horsburgh Light house according to Plan dated 12th May 1848

The Light House proposed consists of the Round Tower of Masonry supporting a Cupola or Lantern in which the Light is to be placed. The highest part of the Rock on which the House will stand is 24 feet above the level of the sea at high waters and the Masonry will rise 66 feet above this making the height to base of the Lantern 90 feet. The diameter of the Tower at its base will measure 22 feet having walls 5 ½ feet thick and containing round apartments 11 feet in Diameter. The Masonry will be carried up perpendicular until the highest part of the Rock has been reached when the diameter will diminish with a curved batten to the height of 58 feet at which part the walls will be 2 ½ feet thick leaving the diameter of apartments the same as those below. Above this a Circular Platform will project supported by a Plain Cornice, and above it will bear in its inner Circle the Wall that supports the Lantern and on its outer circumference the Parapet Wall. The entire building is to be faced with Ashtar Masonry which will be backed with brick work and the ceiling of each Room is to be vaulted supporting the floor of the Room immediately above, which will be paved with Granite Slabs or other hard material.

Masonry

The Rock which bear the Tower being now rough and uneven is to be stepped in horizontal levels rising 18 inches at each step. The courses of stone will be also of the same height and neatly and firmly laid into each step every third stone to be a binder reaching nearly through the whole thickness of the Wall and each courses to alternate 16 and 20 inches in depth, each stone to be cramped to its neighbour and each course to be dressed to a true level of the Rock. The ashtar Work to be carried up at 12 Inches each course with a depth alternating 10 and 14 inches, every third stones of which is to be a binder all beds are to be cut square without XXX or hollow and the facings are to be dressed smooth according to musters at the House of the Government Surveyor. The XXX stones at the top of the well to be five feet long and, one foot broad at the outside tapering from this breadth towards their common centre. The Walls of the Cupola and Parapet to be nine inches thick dressed, smooth inside and out each course being 12 inches in height. The stones for the Privy and Cook House to be 12 inches square of lengths not less than 3 to 4 feet and all stones used in the Light House and adjoining buildings to break joint more than a foot. Behind the springing of each Vault an Iron Ring

2 inches by one inch to be let into a groove in the granite masonry circumscribing the building at 6. Inches from its outer circumference. This Ring may be made in pieces which will be securely bolted together. The XXX stones to be cramped with Iron Crampes in two places vizt under the parapet Wall and Wall of the Cupola. The stones of each courses in the parapet and the Cupola wall and Wall of out houses to be cramped each to its neighbour with Iron and upper Cramps which will be exposed to the air to be copper not weighing less than mentioned in the accompanying Estimate viz dress all Windows Groins and all other works as may be necessary and to sink all anchor beds and beds for the Cramps dewels, and joggles. To lay all stones in cement which will be furnished by the Government. To construct steps from landing places, to door and finish all other kind of mason work tho' not here specified as directed by the Government Surveyor.

Brick Layer

To furnish bricks of the best description to be had in Singapore which are to be laid in mortar composed of sharp XXX sand in proportion of 3 of sand to 2 of lime well tempered and beaten with Wooden beater further 2 piculs of molasses to be mixed with every three Coyans of lime the Molasses being first mixed with the Water Crush course to be grouted with liquid mortar, and all XXX carefully flushed. The moulds to be carefully turned. The XXX beds being in the true radial line of not less than 14 inches in depth.

Plasterer

To render float and set fair and even, all Walls and Ceilings to run plaster Cornices round the several Rooms, to execute all necessary XXX quirks and crevice in the best and most accurate manner the finishing coat to be of the best shell, lime procured in Singapore trowelled smooth. Carpenter & Joiner - to erect temporary buildings of rough Plank as dormitories for the workmen employed sufficient to contain 60 individuals also to erect two small Houses for the superintendent and overseer each House to be about 10 feet square to erect temporary sheds for lime and wood and stages for the bricks and other materials all the above erections to stand on posts supporting the floors full 4 feet above level of Rocks each post being fixed to the Rock by an Iron pier driven hard into the Rock for which holes 9 inches in depth and I inch dia, must be bored into the Rock. The walls must also be strengthened by diagonal struts and Braces. To prepare Doors, Windows ladders &^{ca} of best seasoned Marbow of the description and size noted in the accompanying Estimate for the Light House and to fix locks bolts and hinges where required. All Doors to be pannelled the upper pannel being of good brown glass to admit light to the stair cases.

Plumber	-	To run with lead all Cramps
Blacksmith	-	To make a strong Iron Door of dimensions mentioned in Estimates vizt 6 ½ by 3 ½ of ½ inch Iron Plates well strengthened by Iron Bars and styles. This door when shut to be flush with the wall to prepare all Cramps of the best Swedish Iron in weight 7 ½ Catties each. The step of the ladder or stairs to be plated with Iron ½ in Plate, these to be fixed on the risings of the steps of 4 inches in depth and 11 inches in length and to make a small crane at the entrance Doors.
Copper Smith	-	To make copper anchors for hinges for the outer Doors of not less than 10 Catties each and to make the Copper Cramps of not less than 1 ½ Catties each.
Glazier	-	To glaze all windows as mentioned in estimate with thick plates Glass which is to be well bedded barks putted and to be left whole and clean when the works are rendered up as complete.
Painter	-	To paint all venitians with XXX out side, all Doors lead color, and to varnish with China varnish all Windows and Wood work inside. To paint Iron Doors lead color which when still wet is to be sand cast. Quarry Menu. To blast several stones and reduce them to low water marks, that at present encumber the small Bay where materials will be landed.

Singapore
19th May 1848

/Sd/ J. T. Thomson
Govt Surveyor

True Copies
/Sd/ J. W. Butterworth
Governor

Nº. 113

From,

The Supg Engineer in the

Straits of Malacca

To,

The Honble the Governor of the P. W. Island

Singapore & Malacca

Dated 6th June 1848

Sir,

Para: 1 I have the honor to acknowledge the receipt of your order N°. 127 of the 1st Instant directing me to submit my opinion of the Building and Light about to be erected on Pedra Branca as described in a series of original papers accompanying your letter which I am beg to return.

2nd In obedience to these instructions I propose to briefly offer my sentiments on four several points.

First -The general design & elevation of the phases.

Second -The estimated money outlay

Third -The mode by which the Work is to be executed & Fourth the description of light recommended for adoption.

3rd The general design appears to me well considered suitable and convenient, although the outline may be thought less agreeable to the eye than could have been desired. The dimensions are ample for the future strength and stability of the structure & the height is sufficient to ensure the light being visible at a distance varying from 5 to 6 leagues whereby it will also be seen as a Conspicuous beacon by Day. It is only by consulting the Estimate and specification that the means of communication between the different stories and the method of securing the Windows is to be understood. Perhaps the designation of the Light House and the occasion of its construction to perpetuate the Memory of one to whom Eastern navigation is so much indebted, should be cast in Iron and XXX in the face of the Tower during its erection together with the date &ca &ca of so important and beneficial an undertaking.

4th The money valuation is chiefly remarkable I think for its very moderate charges and the calculations correspond with the proposed structure.

5th The mode in which it is proposed to carry out the work I entirely agree with the Govt Surveyor in considering the only one that holds out any promise of confining the ultimate expenditure within any definite limits. The assistance to be derived from the use of the Government Steamer and Gunboats is doubtless considerable, but I should apprehend that without such and, the undertaking would scarcely be feasible. My general impression as that the proposed arrangement have been so carefully considered in the Minute detail sent in by Mr. Thomson that their final success seems placed beyond any reasonable doubt. It may however be possibly considered as an objection that much of the favorable issue of the operations would plainly seem to depend on the individual qualifications of the party by whom this very arduous project has been drawn up for should illness or other casualty befall the Government Surveyor who alone in these settlements possesses the practical knowledge of building, familiarity with the language. The sway and control of the Chinese head men and subordinates & acquaintances with the resources of Singapore necessary to ensure success there might be a difficulty in completing the work without considerable increase of expenses. In Mr. Thomson's careful specification, I should have wished that gauged bricks made for the purpose, in order to obtain XXX work for the circular Tower had been mentioned and should have preferred a much larger admixture of sand my own opinion being that a proportion of 5 of sand to 3 of pure lime would have made a much stronger mortar.

6th I consider that Mr. Thomson's advocacy of a revolving light is quite conclusive for the reasons he assigns, but I venture to greatly doubt whether a better disposition of his 24 lamps might not be found for the Navigator than the arrangement he has suggested. The period of obscuration seem to me so great that they might diminish the likelihood of them being quickly sighted, or prolong the time of doubt whether the light were really made or not. Instead of 3 vertical faces of 8 Lamps each which with a revolution in every 6 Minutes would give 14"

brilliancy and 1 ' 46" darkness to the Mariner at a distance, I would suggest a quadrilateral figure with 6 Lamps in each face in triple tiers of XXX, which would also require 24 Lamps, which would make the light recur 30' earlier and make the proportions of illumination to observation as 14: 76. instead of as 14: 106, the expense continuing the same and the intensity of light not very XXX diminished.

7th It will appear from these brief remarks that I entertain a most favorable general opinion of Mr. Thomson's project in all its parts and that it appears to me eminently deserving of recommendation and support. To contribute in any measure to the success of as important and useful an enterprize will be a sense of great pleasure to myself and whether in paying the work occasional visit of superintendence, even overlooking preparations here, I shall with your Honor's permission be at all times ready to render the Government Surveyor any assistance in the power of myself and the Engineers Establishment.

Supg Engs Deptt
Straits of Malacca
Singapore 6th June 1848

I have &ca
/Sd/ C. E. Faber Major
Supg Engr Straits of Malacca

/True Copy/
/Sd/ W. J. Butterworth
Governor

First Copy

N°. 3

Home Department

Marine

Enclosure

Documents accompanying

No. 2

Stamped mark:
Received via
Marseilles dated 2
May 1849

N°. 920

From

W Grey Esq^re^

Under Secy to the Gov^t^ of India

To

Under Secy to Gov^t^ of Bengal

Dated 21^st^ October 1848

Home Dept

Sir,

In reply to your letter No. 1363 dated the 6^th^ Instant, on the subject of the Horsburgh Light Houses I am directed to observe that the matter should first be referred to the Military Board for report. The original enclosures of your letter under acknowledgement- are therefore returned herewith.

Council Chamber

The 21^st^ October 1848

I have &^ca^

/Signed/ W. Grey

Under Secy to the Govt of India

First Copy

N°. 4

Home Department

Marine

From Under Secy to the Govt of India

To Under Secy to the Govt of Bengal

d/ 21st Octr 1848

States that the subject

the proposed Light Houses

be referred to the Military

Board for report

Stamped mark:
Received via Marseilles
Dated 2 May 1849

Nº. 949

From

Under Secretary to the Gov^{t} of Bengal

To

W. Grey Esq^{re}

Under Secy to the Govt of India

Home Department

Fort William the 13th December 1848

Sir,

Marine

With reference to your letter No. 920 dated the 21st October last, I am directed to submit in original a communication from the Military Board Nº. 6540 of the 28th Ultimo, reporting on the Light House at Pedra Branca, together with the dispatch from the Governor of the Straits Settlements, which accompanied the previous letter from this office No. 1363 dated the 6th October last.

I have &ca

(Signed) W. Seton Karr

Under Sec^{y} to the Gov^{t} of Bengal

First Copy

N°. 5

Home Department

Marine

From Under Secy to the Gov^{t} of Bengal

To Under Secy to the Gov^{t} of India

D/ 13th Dec^{r} 1848

Forwarding the Report

the Military Board

Stamped mark:
Received via Marseilles
Dated 2 May 1849

Nº. 6540

From the Military Board

To

The Honble Sir T. H. Maddock

Deputy Governor of Bengal

Fort William, 28th November 1848

Dep^{t} P.W Hon'ble Sir,

We have the honor to return the original papers relative to the construction of a Light House on Pedra Branca received with Mr. Under Secretary Seton Karr's Nº. 841 of 9th Current, with the following observations.

It appears to us that the Design has been carefully considered and that as far as regards the superstructure of the Light House, it is satisfactory; but we are unable, in the absence of any sections of the natural Rock, describing it's nature and showing it's stratification, to pronounce upon its fitness as a foundation.

From the way in which the Basement Rock is introduced in the plan, we should say that it is not sufficiently wide for the purpose of a foundation to the Light House, were a fragment to split off under the weight of the Building or from any other cause the portion of wall immediately above, would be without support. We must also state that we object entirely to the footings of the walls as shown in the section and we would lay great stress upon the necessity for making, in the construction, the cross section of the wall stand upon a flat Horizontal bed cut out of the Rock and let into it one foot.

The accompanying side sketch illustrated our meaning. We consider the Estimate to be moderate under the circumstances of the case and believing that altho' sections of the Rock are not submitted, that the authorities and the Civil Engineer must be fully satisfied that the Rock is suited to sustain the work, we venture to recommend the Estimate for sanction not wishing to delay the commencement of a work of such importance and of so much benefit as a work of humanity.

We have &ca

/Signed/ T. J. Hawkins - L^{t} Co^{ll}

" C. Garstin - L^{t} Co^{ll}

" W. Mactier - L^{t} Co^{ll}

First Copy

N°. 6

Home Department

Marine

Enclosure

Document accompanying

N°. 5

Stamped mark:
Received via Marseilles
Dated 2 May 1849

British Library
India Office: Board of Control's Collection 1796-1858
F/4/2316/119942

119.942
Draft 588 India Marine
of 1849

Collection 2

Papers on the subject of The Horsburgh Light House

Secretary's Office
Marine Branch

East India & China Association
Couper's Court, Cornhill
May 7th 1849

Sir,

This Association have received from the Chamber of Commerce at Singapore a letter, dated the 5th of March last, wherein they advert to the long delay which has occurred in measures being taken for the erection of the Horsburgh Light House notwithstanding that the Governor of the Straits Settlements had, so far back as the 11th June 1847, assured them, that the Court of Directors had sanctioned the erection of a Light House on Pedra Branca, and that he had received instructions to commence the work as soon as arrangements could be made for that purpose.

The accompanying copy of a letter, dated 1st March, from Lt. Colonel Butterworth, explains the causes which have led to a further reference to the Honble Court; and in a later communication to the Chamber (3rd Mar). His Excellency states, that "the question of constructing a Light House on Pedra Branca shall be again urged in the notice of the Government."

James C. Melvill Esq,
Secretary
East India House

The Chamber of Commerce at Singapore expresses a strong desire to press on the attention of the Court of Directors the great importance of this very necessary work being commenced without longer delay and this Association cannot refrain from earnestly seconding their representations to the Honble Court that the proposed Light House may be constructed without further postponement, convinced as they are of its manifest utility, and the incalculable benefits it must confer on British Shipping navigating the Eastern seas.

I have the honor to be,
Sir, your most obedient servant
(Signed) Greyson
Chairman

No. 79

Genl
No 16
of
1849

From

The Governor of P. W. Island
Singapore and Malacca

To

The Chairman of
the Chamber of Commerce
at Singapore

Dated Singapore 1st March 1849

Sir,

I have the honor to acknowledge the receipt of your letter under this date, calling my attention to the long delay which has occurred, in measures being taken for the erection of the Horsburgh Light House, and expressing the wish of the Chamber of Commerce for some information on the subject.

2. I most gladly comply with the wishes of the Chamber of Commerce on this subject, and proceed to detail the steps that have been taken towards the construction of the Horsburgh Light House, since I had last the honor of addressing the Chamber of Commerce under date the 11th of June 1847 No. 91.

3. I therein intimated to the Chamber that the Honble the Court of Directors had been pleased to sanctioned the Plan & Estimate for a Light House of Masonry prepared by *Mr. Thomson for erection on Peak Rock the Outer Romania Island, submitted to a deputation from the Chamber of Commerce in December 1845, but subsequent to the presentation of the above Plan and Estimate, it was determined to erect the Light House on Pedra Branca, and Mr. Thomson did not consider, that the work could be undertaken without more accurate information of the extent to which the Rock was exposed to the waves and Spray of the sea during the N. E. Monsoon.

*10th May 1847 Amounting to Dollars 7,000 XXX

4. In accordance with Mr. Thomson's wishes I despatched the Steamer with that Gentleman to Pedra Branca, and he erected the necessary number of Brick *Pillars on the Rock to obtain the required information when it was ◦discovered that

* in October 1849
◦ in March 184XX

the waves beat on the rock to the height of 15 feet above the level of high water mark whilst the spray rose therefrom, to So great XXX, as to render a structure of Granite set in cement facing with a backwork of bricks imperatively necessary to the security of its inmates, and the permanency of the Light House.

This Point having been ascertained I directed Mr. Thomson to prepare a Plan & Estimate for a building of the description proposed, which duty was readily executed by that zealous and indefatigable Officer, and approved of by Major C. R. Faber the Superintending Engineer whose acknowledged service and valuable assistance throughout, has been unobtrusively afforded to the above Gentleman.

The revised Estimate submitted by Mr. Thomson with the allowance demanded for himself, and his XXX in addition to the gratuitous aid of the Honble East India Company's Steamer, and Gun Boats was as follows

For building the House ..... Cs Rs 29,417.13.10
Supdts allowce at Rs 150 per
mensem for two years Cs Rs 3,600.0.0
XXX allowce at 100 Rupees
mensem for 2 years " " 2,400.0.0
Copola Light or Light Room with
Lamps Complete " 15,000.0.0
Company's Rupees -50,417-13-10

So much which I have in the Treasury, exclusive of interest thereon, from the date on which it was paid to Government Through the extreme liberality of Messrs Jardine Matheson & Co, who have allowed compound Interest on the amount allocated by them in China in 1842, the sum of Cs Rs. 15,858-3-4
Bombay Chamber of Commerce 4,299-0-9
From the Penang
Chamber of Commerce 404-3-6
And from that most philanthropie
Gent Sir Chs Forbes
as his individual donation
the Sum of Cs Rupees 1632-15-0

shewing a deficiency of funds in hand 22194-6-7

to meet the contemplated expenses of 28223-7-3

* in June 1848

which I forthwith solicited Government* to advance and under date the 26th August 1848, I received a reply to say that the whole question of the Light House at Pedra Branca was about to be submitted to the Supreme Government but as this involved the levy of Light House dues I conclude that the subject would have to be again laid before the Hon'ble the Court of Directors for their final Orders which I am earnestly and anxiously expecting.

7. It will afford me much Satisfaction, to lay before you or a deputation from the Chamber of Commerce, the whole of the Correspondence that had passed on the subject of the construction of Light House on Pedra Branca if you, or they will do me the favor to attend at my Office, for that purpose, at any hour that may be convenient to you, or to the deputation.

I have the honor to be

Sir

Your Most Obedt. Servant

(Signed) W. J. Butterworth

Governor

1st March 1849

Mr Gregson
Chairman EI & China
Association

Noticing the delay in
erecting the Horsburgh
Light House

Cons XXX XXX XXX
XXX 9th May 1849

P.C. 119.941

India

Marine Department.

2 Cells to Draft No 588

of 1849

Collection No: 1

Letter from No: 3 dated 3.rd March 1849

Transmitting further correspondence relative to the erection of the Horsburgh Lighthouse

Secretary's Office
Marine Branch
1849

Copy Marine Letter from the Govt of India
dated 3d March 1849 No 3

With reference to your Despatch
No 1 dated the 24th February 1847, we have
the honor to transmit the accompanying
further Correspondence relative to the erection
of the Horsburgh Light House, and to the
proposed levy at Singapore of a duty on
shipping, in order to provide for the maintenance
of the Building and the necessary Establishment
as well as for the reimbursement of whatever
sum the Govt might be called upon to
advance for the undertaking. -

2. You Honble Court will
remember that the original cost of this
Building, to be composed of a granite base
with a superstructure of masonry, was
estimated at 7000 Dollars or Rs 15,750
This estimate however was made on the
assumption that the Light House would be
erected on Pedr Rock near the Outer
Romania Island, but subsequently in
consequence of a communication from the
Admiralty forwarded to this Govt by the

Your

Your Honble Court's Despatch of 6th May 1846, Pedra Branca was determined on as the Site most eligible in all respects for a Light House: and Lieut. Col. Butterworth the Governor of the Straits Settlements, now reports that by experiments which have been made, and which are detailed in the accompanying papers, it has been fully established that for a Light House on Pedra Branca, it is absolutely necessary that the entire facing of the structure should be of granite set in Cement with a back work of masonry. The cost of such a building is estimated by Mr Thomson the Govt Surveyor at Rs 29.417, and this estimate even has been made in "the anticipation that "the work will be given to a Chinese Contractor, "as that class are the only people that could "undertake such a work under any limited "sum"... Mr Thomson cannot himself, he says, on the system of daily labor, promise its being done for double the amount estimated, but he has every reason to think that under all ordinary circumstances, the actual cost in the hands of a Chinese Contractor, will not exceed the sum estimated; at the same time he remarks that a work of the kind

"cannot

"Cannot be calculated with the same
"precision as an Ordinary Building in
"Singapore Town." Beyond the sum of
Rs. 29.417 for the base building, it appears
that during the estimated period of the work,
which is 2 years, it is proposed that there
shall be an Overseer on 100 a month, and
that Mr. Thomson, as a general Superintendent
shall receive 150 Rupees a month and 5
Rupees a day Table Money when proceeding
from Singapore and back in the steamer;
the entire charge on this account however not
to exceed 500 Rupees during the whole
period. It is likewise proposed to employ
very extensively the Govt. Steamer and Gun
Boats for the Carriage of materials and
workmen; the Crews of the Steamer & Boats
are to be employed on a certain part of the
work, and 8 Convicts are to be employed
at Singapore in making the Cement. —

3. The total estimated Cost
therefore of the proposed building is,

Estimate	29.417
Mr. Thomson's allowance of 150 Rs. a month for 2 years	3.600
Do — Do. of 5 Rs. a day Table Money	500
Overseer's allowance of 100 a month for 2 years	2400
	35.917
Add estimated cost of Lantern	1500
Rs	50.917

Exclusive of the use of Govt Steamers, Govt Boats &c

4. — The expence of the Establishment now proposed is also slightly increased from Rs 2856 to Rs 3120 per annum. —

5 Lieut.t Colonel Butterworth reports that he has in hand Rs 22194. leaving Rs 28.723 to be provided for.

6. — To meet this deficiency and also to provide for the current expenditure Lieut.t Colonel Butterworth proposes a levy of 2 Dollars per 100 Tons of Shipping which he calculates would yield annually Rs 6736 thus leaving after payment of the Establishment Rs 3616 to go towards the gradual repayment of the sum which it is hoped that the Govt will advance to enable this work to be carried on. —

7 The data upon which Lieut.t Colonel Butterworth has calculated the receipts from a levy of 2 Dollars per 100 Tons are as follows

In 1846/47 there cleared out of Singapore 797 Square rigged Vessels Comprising 231.812 Tons he proposes that all Ships should pay the duty without

reference

reference to their destination, as any distinction of that kind might lead to attempts at evading the levy, and to consequent litigation; but, as many of the Vessels trading to short distances come backwards and forwards to Singapore 4 or 5 times in the year, he would not make any ship pay duty more than twice in one year; and this he estimates would have reduced the Chargeable tonnage of 1846/47 to about 150,000 yielding at 2 Dollars ₰100 Tons 3000 Dollars or 6736 Rs. Lieut. Colonel Butterworth has not reckoned upon anything from a duty to be levied at the Ports of India on Vessels Clearing out for China or other places to the Eastward of Singapore, as proposed by Your Honble Court in Despatch No 6 dated 15th October 1845, as he states that nearly all Vessels trading between India and China touch at Singapore both going and coming. -

8. It would not seem from the above that Lieut. Colonel Butterworth has over-rated the Amount likely to be realized, and the Main question for consideration therefore is whether Your Honble Court

are

are desirous to sanction the levy of so large a duty as Rs. 4.8 per 100 Lbs instead of 1 Rupee, the amount authorized in your Honble Courts' Despatch quoted above. We see little reason to doubt that the levy of a duty at the higher rate will be found amply sufficient to re-imburse the Govt. for the advance which is required to be made, but there is certainly a risk that the amount now asked for, may after all be found inadequate to complete the work. —

9. A question, it will be observed is raised by the Govt. of Bengal as to the time from which the Law should authorize the levy of the duty, whether immediately or from the opening of the Light House. —

10. We submit the whole subject anew for the consideration and orders of your Honorable Court. —

J. H. Maddock
J. H. Littler
J. Lowis

Copy Marine Letter to the Govt. of India
dated 24th February 1847. No. 1.

1 Your letter dated 3rd October 1846 in reply to our Despatch of the 6th May preceding forwards copy of a Report received from the Governor of Prince of Wales' Island, Singapore and Malacca, which leaves no doubt as to the superiority of Pedra Branca over Pak Rock on the outer Romania Island as a site for the Light House proposed to be erected in the neighbourhood of Singapore to the memory of Mr. Horsburgh. ... We concur therefore in your approval of the choice of the former site. ...

2 We cannot however assent to the proposal that we should order an iron light house to be sent out from England.

3 The proposition originally submitted to us was, that the Horsburgh testimonial should be a light house of Masonry which we were informed could be erected at a cost of 7000 dollars, exclusive of the price of a Lantern. - Of this sum 5513 dollars had been already raised by subscription and to supply the deficiency, and to provide funds for the current expenses of the Light house when finished, we authorised the levy of certain dues on Shipping. -

4 The cost of a suitable Iron light house complete with Lantern and lighting Apparatus is stated at £3.000 which added

to

to the cost of erection and of preparing the foundation would form a Sum more than double the estimated cost of a similar Building of Masonry. - You have not informed us from what source the difference of outlay is to be supplied for the only addition which appears to have been made to the subscriptions previously reported, is a Sum of about £500 raised at Bombay and Madras. We stated in our Despatch of the 6th May last, that we objected on principle to the appropriation to such a purpose of any sum however small from the General Revenues of India, and we are equally indisposed to increase the light house dues of which we have authorised the imposition. We are therefore of opinion that the original design of a tower of Masonry must be carried into execution. —

East India House
6th May 1846

Sir

I am commanded by the Court of Directors of the East India Company to transmit to you a copy of a letter from Capt. Hamilton R.N. Secretary to the Admiralty relative to the light House proposed to be erected to the memory of the late Mr Horsburgh at the entrance of the Straits of Singapore.

The Court apprehend that progress may have been already made in the Construction of the Lighthouse, but in the event of the work not having been commenced, they desire that it may be suspended until you have an opportunity of communicating with the Government of India, to whom a copy of Capt. Hamilton's letter has been sent.

I have &c

Lt. James C. Prehoill
Secretary

The
Govr. of Prince of Wales' Island,
Singapore, & Malacca

Copy,

Admiralty
18th April 1846.

Sir,

The Lords Commissioners of the Admiralty having recently received from Rear Admiral Sir Thomas Cochrane, the Commr in Chief in the East Indies, that the Chamber of Commerce at Singapore, with the approbation of the Governor were getting themselves towards carrying out the long proposed Horsburgh monument or lighthouse at the entrance of Singapore Strait, and that Captn Sir Edwd Belcher having been consulted by the Governor as to the most appropriate site for it, had recommended that it should be placed on the Outer Romania Island instead of on Pedra Branca as originally intended I am commanded by their Lordships to request that you will state to the Court of Directors that the proper position of this light is a question of great importance, not only to the safety of H.M. Fleet, but also to the welfare of all Mariners that frequent the China Seas, and my Lords are inclined to think that Pedra Branca is the best point

The Secretary
to the Honble East India Co.

Sir

for the light house, and for the following Reasons

1.st Because that islet stands nearly in the middle of the entrance of the Strait.

2.d Because it may be easily approached by running down its Latitude.

3.d Because its conspicuous appearance at the distance of 9 or 10 Miles renders it the most eligible Season by which all vessels endeavour to make the Strait, and by the addition of a light, it would be rendered equally serviceable by night, and

4.th Because when a Vessel has —"— passed it, the stern bearing of the light, would enable her to shape a safe Course to Singapore. —

Whereas if the light be placed on Romania Island as proposed, Ships from the Chinese Seas, if the weather should be hazy would run the risk of being entangled amongst the reefs which surround that Island, there being but one direction in which it would be prudent to run for the Light. —

The means of victualling and defending the Lighthouse, wherever place be chosen, might certainly to be well considered but there is no information on that point of

the

the subject to shew that either of the proposed sites have any advantage over the other in those respects.

I beg Lordship's pardon for having to remark that the rocks and shoals at Romaine Point seem to require some attention with a view to warning vessels from getting entangled amongst them in dark nights.

I have &c.

(Signed) W. A. B. Hamilton

(Copy)

Marine Letter to the Gov^t of India
No 4 dated 6th May 1846.

We transmit herewith for your information Copy of a letter & of its Enclosure which we have this day caused to be addressed to the Governor of Prince of Wales Island Singapore & Malacca, relative to the Light House proposed to be erected in the Straits of Singapore to the Memory of the late Mr Horsburgh

Copy Marine Letter from India
No 5 dated 3rd Oct 1846

With reference to your letter No 6 of 1846 dated 6 May on the Marine Department, and its enclosures, We have the honor to transmit for the information of Your Honble Court, Copy of a Despatch from the Governor of Prince of Wales Island Singapore & Malacca, dated 26 August, to which We have replied that we approve of Pedra Branca for the position of the Horsburgh Light House, to be erected at the entrance of the Singapore Straits from the China Sea, & shall request Your Honble Court to take into consideration the proposition that an Iron Light House be sent from England.

2 We have directed the Governor to notice the observation in the last para of Mr Hamilton's letter dated

dated 6th April to Mr Secretary Stiles
respecting the Rocks & Shoals at
Romans Point which in the
opinion of the Lords Commissioners
of the Admiralty require some
attention with a view to warning
Vessels from getting entangled
amongst them in dark nights —

No. 1363.

From Under Secretary to the Govt. of Bengal

To

The Under Secy. Govt. of India

Dated Fort William, 6th October 1848.

Sir,

With reference to the letter from Mr. Bushby dated 24th April 1847 No. 284 on the subject of the Horsburgh Light House, I am directed to forward Copy of a Communication from the Governor of the Straits, with enclosures in original, for the consideration of the Supreme Government.—

2. It will be remembered that the Court of Directors, after communication with the Lords of the Admiralty, recommended that a duty should be levied on ships as light house dues, at one rupee for every hundred tons of Shipping, and it must also be borne in mind that the Amount originally estimated as the cost of the Light House, did not exceed 7000 Dollars of which the sum of 55 13 Dollars was available from private subscriptions raised in different quarters.—

3. It will be observed that in his present report, Coll. Butterworth has submitted an estimate which with the addition of a Cupola for the Light House, and the extra allowance for the Superintendents of the work during

during the period of two years, will rather exceed the Sum of Rs. 50,000.

4. To meet this the Governor of the Straits has only the Sum of Rs. 22,194--6--7, or not quite one half of the estimated expense.-

5. It would thus be necessary for the Completion of this work, so long delayed, but so urgently required for the preservation of our Shipping, to advance the requisite funds from the Revenues of India, and afterwards seek repayment from the Light House dues.-

6. Under a Suggestion made by the late.- Deputy Governor, that these dues be raised at the rate of two Dollars per hundred tons on Square rigged vessels, Colonel Butterworth has submitted an estimate, which he calculates will leave an excess of yearly receipts over expenditure to the Amount of Rs. 3,616, after efficient provision has been made for the European and native Establishment of the Light House. This or whatever Sum might remain in hand would of course be devoted to the refund of advances made by Government for the erection of the building.-

7. The present question for the Supreme Govt. would therefore seem to be the propriety of advancing the Sum of Rs. 28,223. 7. 3, to meet the expenses after the disbursement of that now in hand, and the enactment of a Law, authorising the levying of Light House dues on the Scale submitted by Coll. Butterworth, or on such other as may be deemed expedient.-

8. But the Light House would not be con
:structed in less than two years from the time of Commencement,
and it is therefore to be Considered, whether, Supposing the
Act for the levy of dues to be passed, any tax could be
levied under its provisions while the Light house was yet
incomplete nor must it be forgotten that possibly Colonel
Butterworth's estimate might prove based on erroneous statis:
:tics, and that to meet the requisite demands for Current ex:
:penditure as well as for the refund, it might actually
be necessary to increase or alter in some degree the Scale
of dues now proposed.

9. Meanwhile it is obvious that the Light
house cannot be completed without assistance in the shape
of an advance to the Amount required by Colº Butterworth,
after the expenditure of the Sum now in his hands, and
the attention of the Supreme Government is therefore re:
:quested to the above points, in order that while sanction:
:ing the disbursements applied for, efficient precautions
may be taken to establish such a Scale of duties as will
guarantee Government against loss.—

I have the honor to be &c.

(Signed) W. Seton Karr.—

Under Secy. to the Govt. of Bengal.—

Enclosure

No. 2

Home Department
Marine

From The Under Secy to the Govt
of Bengal
To The Under Secy to the Govt
of India.
Dy 6th October 1848.

Submitting copy of a com-
-munication from the G
of the Straits Settlements
plans and Estimate for
proposed Light House on
Pedra Branca and propos
for the levy of Light H
dues at Singapore.—

RECEIVED
2 MAY 1849
VIA MARSEILLES

General No. 435
of 1848.

No. 72.

From

The Governor of P. W. Island
Singapore and Malacca

To

W. Seton Karr Esqre
Under Secy. to the Govt. of Bengal
Fort William

Dated Singapore 12th June 1848.

Sir,

With reference to the several communicat
notes in the margin regarding the construction
of a Light House on Pedro Branca at the
entrance of the China Sea to the memory
the late celebrated Hydrographer James
Horsburg Esquire I have the honor to
submit the accompanying full report on the subject for th
final orders of the Right Honble the Governor of Bengal.—

Letter to Govt. dy 28th November 1844 No. 150.
Letter from Dr. dy 24th February 1845 No. 516.
Letter from Dr. dy 4th June 1845 No. 1463.
Letter to Dr. dy 22d August 1845 No. 139.
Letter to Dr. dy 26th August 1846. No. 123.
Letter from Dr. dy 5th October 1846. No. 634.
Letter to Dr. dy 19th December 1846 No. 191.
Letter from Dr. dy 10th May 1847. No. 426.
Letter to Dr. dy 1st October 1847. No. 141.
Letter from Dr. dy 22d Decr. 1847. No. 1066.

2d. In accordance with the views stated in the
3. para: of my letter dated the 1st October 1847. and approve
by the Honble the Deputy Governor of Bengal, Brick Pillar
were erected on Pedro Branca. the site determined upon f
the Horsburg Light house for the purpose of ascertaining the
: fect of the Waves on the Rock during the north East Monsoon
which usually prevails here from October to February; the resu
is detailed in Mr. Thomson's Report, a Copy of which is herewith
transmitted.—

under date the 22d Decr. 1847 No. 1066 —

A.

3. The exposed position of Pedra Branca renders it subject to the full force of the North East Monsoon and the heavy swell which rolls in from that side, causes the Waves to beat over the Rock to the height of 15 feet above the level of high water mark, whilst the spray rises therefrom to so great an elevation as to make a Structure of Granite set in Cement for a facing with a back work of Brick imperatively necessary to the security of its inmates and the permanency of the Light House.-

4. Having satisfied myself on this point I directed that very indefatigable and valuable public Servant Mr. Thomson to prepare a plan+ Specification+ & Estimate for a Building of the discription proposed which with that Gentlemans observations+ thereon I beg to enclose for the favorable Consideration & Sanction of the Right Honble the Governor of Bengal in the hope that I may receive timely instructions so as to enable the Contractor to send to China for stone Masons and to make such other preparations as will ensure this most important work to the safety of the Mariner in these seas being commenced upon at the earliest practicable period.

++++ B.- The plan is not fully requested returned.

5 The Right Honble the Governor of Bengal will perceive on reference to the enclosures that the Estimate for the building alone amounts to Dollars 13101. 78 or Co. Rs. 29.417.-13.-10. being considerably in excess of that previously submitted for a Light House on Peak Rock but when it is remembered that the latter is only 28 Miles distant from Singapore, whilst Pedra Branca is 40 Miles, and that the one is within quarter of a Mile of the main land of Lahore and the other in mid channel scarcely

+ Vide encls: B.-

approachable

approachable at certain seasons of the year that the first stru
ture was proposed to be wholly of Brick and Chunam and
the one now submitted with a facing of Granite in Cemen
I am persuaded the Charge will be deemed most moderate.-

6. In a work of such vast importance so fa
removed from all resources requiring such constant superve
and involving so much anxiety and responsibility I am pe
:suaded that the remuneration solicited by Mr. Thomson for
himself Viz 150 Rupees per mensem in addition to his salary
of Rs. 350 as Government Surveyor, the general duties of whic
he undertakes to perform also making 500 Rs. per Mensem w
whilst employed on the Light House will be cheerfully grant
To this I think may fairly be added table allowance at the
rate of 5 Rupees per Diem, whilst on board the Steamer, whe
proceeding to and from Perdra Branco, the total amount to c
so drawn during the period the Light House is under construc
being limited to 500 Rupees - An Overseer on 100 Rs. per Mense
will also be necessary; Mr. Thomson suggests in lieu of the
latter an allowance of 50 Rupees to the Commander of the Gu
Boat. but as this Vessel and all the limited Marine resources
this settlement will be required in aid of this humane under
:ing, I would prefer the former being at once allowed.

7. The next point to be considered is the Lig
or Lantern to this subject I am aware Mr. Thomson has a
devoted much study and incurred some little expense in
procuring the latest Works treating thereon. I have therefor
very great confidence in recommending the revolving Light o

proposed

proposed by that Gentleman but as the Light Room or Cupola Lamp Frame &c. will have to be constructed in England I would respectfully suggest that the figure whether Vertical with 3 faces of 8 Lights each as proposed by Mr. Thomson, or quadrilateral with 6 Lights as recommended by the Superintending Engineer may be determined on by the party entrusted with this particular Work which can be commissioned from hence on receiving His Lordships ... authority or the needful may be done at once from Bengal on the Document herewith transmitted Mr. Thomson Estimates the Light at £ 1500 or Co.s Rs. 15.000.— + Vide ex C ° Vide enc D :: Vide ex to Let

8. In order that the Right Honble the Govr. may have at one view the several charges on account of the completion of the Light House I will here recapitulate them.—

For Building the House Company's Rupees	29.417.—	13.—	10.—
Superintendent's allowance at Rs. 150 per Mensem for 2 years (Sicca money)	3600.—	0.	0.
Overseers allowance at 100 Rupees per Mensem for 2 years	2,400.—	0.—	0.—
Cupola or Light room with Lamps complete	15,000.—	0.—	0.—
Company's Rupees.—	50.417.—	13.—	10.—

Amount Brought forward ——————— 50.417.- 13.- 10.

To meet this I have in the Treasury upon which I trust the Government will be pleased to allow 5 per Cent Interest.-

Through the extreme liberality of Messrs. Jardine, Matheson & Co. who have allowed Compound Interest on the amount collected by them in China in 1842 the Sum of Company's Rupees 15,858- 3.- 11.

From the Bombay Chamber of Commerce ——— 4.299.- 0.- 9.

From the Penang Do. ——— 404.- 2. 6

& From that most Philan: Thropic Gentleman Sir Charles Forbes as his individual donation the Sum of Company's Rs. ——— 1632.- 15.- 5.- 22,194.- 6.- 7

making a deficiency of funds in hand to meet the contemplated Expenses.- ———————

Company's Rupees ——————— 28,223.- 7.- 3

9. Having submitted the whole of the encl Documents to the Superintending Engineer Major Faber of the Madras Engineer Corps; I have much satisfac in forwarding his Report* for the informati

* Enclo: D.-

of

of the Right Honble the Governor of Bengal and when I mention that no less than 8 Vessels have been lost in the Vicinity of the entrance of the China seas for the want of some such Beacon I am persuaded that his Lordship will honor me with early orders to commence on the Hoorsburg Light House.—

Pascoa
Hebe
Henry Ds
Glenein
Stork
Venus
Mars
Parsee.

10 It only remains to notice the Establishment which I concur with the Government Surveyor and Superintending Engineer should consist of 3 Europeans and 3 Natives instead of that formerly proposed.— One of each to be allowed to reside alternately one month on shore; Provisions being furnished to those on the Rock by the Commissariat Department, in communication with the Master Attendant under whose Supervision the Light House when completed will be placed.—

The Expense would be as follows.—

Three Europeans each at 50 Rs. per Mensem Rs.	150.	0.—
Rations for two of Europeans each at 10 Rs. 2 Annas per Mensem	20.	4.—
Three natives each at 11 Rs. per Mensem	33.	0.
Rations for two of Ditto at 3 Rupees 3 annas each per Mensem	6.	6.—
Oil Wicks &c.	50.	6.
per Mensem	260.	0.
Making a total annual charge of	3,120.	0.—

11 Now allowing the Light House Dues to be levied at the rate mentioned in the 3d. para: of your letter dated the

the 22d. December last No. 1066 Viz 2 Dollars per 100 Tons on Sq Rigged Vessels, and taking the No. of Tons of Shipping at 150. to and from China without touching independent of Vessels proceeding at Singapore as shewn in enclosure to my Letter dated the 1st. October preceding in wh proposes to make payment once a year compulsory on al square rigged Vessels, clearing out from this Port, without touching the Native Craft the Amount realized annual Singapore would be 3000 Dollars or 6,736 Co. Rs. which after

wt pds Rs. 6,736.
expenses 3120.-
surplus 3616.-

: ducting the annual expenses would give a surplus of 3,6 Co. Rs. in Liquidation of the advance made by Government meet the above deficiency in Funds for the Construction of Light House as ordered in the concluding Para: of the Des from the Honble the Court of Directors of the 15th. of Octobe received under cover of Mr. Under Secretary Young's Letter o the 10th. May 1847 No. 426.-

I have &c.

(Signed) W. J. Butterworth

Governor

12th. June 1848.-

(True Copy)

(Signed) W. Seton-Karr

Under Secy. to the Govt of Bengal.-

No. 8 of 1848.-

From J. T. Thomson Esqre

Govt. Surveyor of Singapore

To The Honble T. Church Esqre

Resident Councillor

Dated 8th. March 1848.-

Sir,

I have the honor of informing you that I prop

to Pedro Branca in pursuance of your verbal instructions to examine the brick Pillars that I built there prior to the coming on of the North East Monsoon in the Month of October last. I found now that the Sea is perfectly smooth & a landing easely effected nor do I think judging from the Report of the natives that the Sea was much disturbed since the latter part of February.

As I formerly reported 7 Pillars were built to try the effect of the Waves upon the Rock and their positions and present state will be more clearly understood by tabulating them as follows.—

1st.	1 Pillar 10 feet above level of High Water fully exposed to all Winds	Entirely swept away.—
2.	2 Pillars 15 feet above level of High Water fully exposed to all Winds.—	Swept away excepting lowest courses of Bricks which are firmly attached to the Rocks by the Mortar so could not feel much the action of the Waves.—
3.	2 Pillars 15 ft. above level of high Water, but well screened by high Rock on their North Exposure.—	Quite entire.—
4.	2 Pillars 24 ft. above level of high Water fully exposed to all Winds.—	Plaster carried away on their North Exposure and Mortar in the joints washed out to the depth of an inch.—

From the above observations of the effects of this last m
I deduce the following opinions- First that the Rock is
washed by the Sea to the height of 15 feet above the level
high Water on its North exposure but on the same leve
on its South exposure that the Rock remains untouche
the Waves and is also but slightly affected by the spra
Secondly- That on the highest part of the North (24 fee
where exposed a heavy spray drives over the Rock suf
:ent to knock off any kind of Plaster or Cement that co
applied to any brick building as a Coating - It would ha
been desirable to know to what height the spray rises a
this elevation but this cannot be had from actual observat
though an idea of it's probable height may be gained by
:direct interference.-

The North exposure of the Rock is nearly perp
:endicular faced by a shallow Cove expanding itself to the fu
force of the Waves of the China Sea- The Apex of this Co
was closed under the Rock on which the Light House wou
stand it may therefore be safely argued that under such cir
:stances the waves will be driven with great force agai
the perpendicular Carrier and the spray projected to a grea
height over the Rock for the ascilla tory motion of the de
water waves receiving a sudden and complete check in a
shallow Cove their force will be expended with concentr
violence at the top of the Cove against the opposing R
it is under nearly similar accidental workings of na
that the Churns or Kirns are formed on Rocky Coasts,

du

during storms force the spray to a great height. Two of these have come under my own observation on the Coast of Northumberland where the spray during storms was projected to the perpendicular height of 80 to 90 feet. In designing a Light House therefore for Pedro Branca it should be calculated to bear a heavy spray to its full height. I am consequently of opinion that it would not be prudent to use any thing but Ashlar Masonry set in Cement for the facing of the Building with a backing of brick set in common mortar inside.—

In conclusion I may state that we have only had the experiences of one Monsoon & I am informed by the Residents that they have experienced much heavier; allowance should therefore be made for extreme seasons in which it might be problematical whether the Pillars that have stood the test of this season would do so again.—

The Pillars were left untouched for future inspection if thought necessary.—

I have &c

Singapore
8th March 1848.

Signed J. T. Thomson
Govt Surveyor

(True Copy)
Signed J. Church
Resident Councillor

(True Copy)
Signed W. J. Butterworth
Governor

No. 20 of 1848.

From.

J. T. Thomson. Esqre

Government Surveyor.

To The Honble T. Church Esqre

President. Commiller

Dated 26th. May 1848.

Sir,

I am do myself the honor of addreping you r
garding the Cnetruchin of the Cupola of the Anstin
Light House and the mode of lighting the building - but
before entering into the subject myself - must first not
the opinions advanced by Officers who have at previous
times been consulted by the Government thereon or perusal
the Record in the Government Offices to which I ha
permitted access, I can only find two allusions to the
subject, of a very cursory nature. One by the Committee
of which Captain Mason of Her Majestys Steamer -
Medea was president and another by Mr. Coleman. Th
former recommend a steady fixed light to show all round
not marked in any way whatever as the most suitable f
Pedra Branca. while the latter recommends for Barn Isla
a position quite analagous at the Western entrance of th
straits of Singapore a revolving one. The former in suppor
of their opinion in favor of a fixed light advance, first
that its a central position in the Eastern entrance
the straits of Singapore, and would be a guide for

Ships.

ships working out to the Eastward.

3. That there being no habitations on the adjacent Land (query why should there not in future) the Lights of which could possibly be mistaken for that at the Light House, so as to render it necessary to adopt a revolving or flashing light for distinction and as it frequently occurs during thick weather in the North East Monsoon a ships in running down is unable to get observations for some days previous and is thus liable to err in her reckoning, the interval that would elapse between the return of the light either in revolving or flashing, might be of considerable importance as connected with the safety of the Vessel. The latter in support of this opinion in favor of a revolving light advanced merely that it may be easily distinguished from the fires that are frequently made by the Natives on the surrounding Islands. such opposite opinions arrived at by the above mentioned Officers, appears to me to have been caused by their not having sufficiently considered that the object of a revolving light is to obtain a higher power of illumination with reflectors than can be obtained by a stationary reflecting or Catoptric Light and that the brilliancy of the beam sent from them would always be sufficient to distinguish them from the dull unconcentrated rays emenating from the Lights made by Natives in their Huts or in the Jungle - With regard to the second opinion advanced by Captain Mason's Committee, it will appear on reference to the Chart, that the middle channel 4. Miles wide which ships would always use after the Lighthouse is built,

in

in preference to the North and South Channels, the
are both intricate and cumbered with Shoals and
sunken Rocks, is entirely free from Reefs, or other dan
and that Pedra Branca can be approached from
directions in which Ships come in from the China Se
Clear from the North and East free of all danger, if
therefore they but once sighted the light, all they would
require to do, would be to make towards it, the same
will be seen to apply to ships coming from the Weste
It therefore appeared to me, that the great object to be a
-rived at, would be to show as powerful a Light as poss
in order that Ships may be made aware of their proxi
at a great distance in case of their not having got
sights, and for this purpose a revolving Catoptric ligh
is the most suitable & economical, for by this system
while it takes 26 Lamps to enable a fixed light to i
luminate the whole circle of the Horizon which on
only shew the light of one Lamp to the approaching
mariner 24 lamps on a triangular revolving frame
would at the periods of illumination shew a light
eight Lamps, that is to say would be eight times th
power of a stationary Light at the same
expence to Government. In support of this opinion I
as shortly as possible notice the different modes of
lighting pursued in Europe.

There are two methods of collecting the rays
emitted from the burners used in Light Houses the first
by employing parabolic Reflectors, placed into which,

placed

placed so that the Burners may occupy the focus. this is called the reflecting or Catoptric method, the second by employing a system of Glass lenses surrounding a central Burner of great magnitude, by which the rays emitted are refracted, and projected forward to the horizon this is called the refracting or dioptric method first applied to French Lighthouses by Frenchmen, but now much extended to surrounding Nations; Of these two Methods there are several modifications & Combinations the latest of which worthy of notice, appear to be Mr. Gordons, in which he uses a prolate and Hollow spheroid mirrors to project the central rays, while he collects and refracts to the same parallel lines such rays as escape over the lips of the mirror. but I am not aware of this invention has been sufficiently tested practically.

In the Catoptric system fountain Lamps are employed to supply the Oil to the burner. There is consequently little danger of the Lights being extinguished. as one Lamp extinguished would not materially affect the Light; no danger to Mariners would arise. In the Dioptric system artificial appliances are used for supplying air and Oil to the wicks and are sometimes liable to accident and in case of accident to the one great burner here used the whole light becomes extinguished. This is a great objection to this system even in Europe, where superior Artizans are easily procurable, and an insuperable one for this part of the world, where little mechanical skill can be commanded; and though much more brilliancy at

less

less expense can be obtained from Dioptric Lam
Still the Catoptric system from the simplicity of
parts and moderate attention and skill that is r
quired in keeping, recommends it as the only prope
method to be adopted here I shall therefore confin
myself to a description of it.

In the Catoptric method there are three
kinds of lights the fixed, revolving and recipro cater
the latter a late ingenious invention of Capt. Sm
of the Madras Engineers, and eminently adapted
Coast Lines, or where only part of the circle require
to be illuminated, but absolutely inapplicable to Red
Beacons, and there are susceptible of nine separate c
stinctions viz. fixed, revolving white; revolving red an
white, revolving Red and two white - revolving whit
and two Red flashing - intermittent double fixed leg
and double revolving white lights - none of which pa
ticular distinction is necessary to apply at Red
Beacons, the only aim as before noted being to obtai
a powerful Light: the question is therefore whether it
is to be simple fixed, or simple revolving.

In a fixed light the effective divergence of
mum in the horizontal Plane is estimated at 14° 22 wh
the ordinary focal distance of 4 Inches is used, and it ha
sometimes been found advisable to calculate on only a di
gence of 8° as the light is found to be feeble at the inter
edges of the conical beam, but for the sake of economy
only between those points have been used & Calculating
from the former we would require 26 burners ranged

side

sides by sides and D a circular frame or Zone to illuminate the whole horizon of 360° thus affording the light of only one reflector and the observer. The revolving light that I suppose would be composed of a Frame with three sides, disposed as an equilateral triangle, and each side would Contain on its perpendicular Plane 8 reflectors making a total of 24. This frame would make one revolution in 8 Minutes, and to an observer stationed at a great distance from it, would show its light with full brilliancy every two Minutes for 14 Seconds, when it would decrease to total darkness, till succeeded by the following Plane of reflectors but in the proximity of the Rock where the danger suggested by Captain Mann's Committee could only exist, the light would never be totally eclipsed. The Cost of setting up a revolving light with 24 Reflectors is stated by Mr. Allan Stevenson to be 1290 £ and annual maintenance 418. £ that of a fixed light with 26. reflectors 950. £ and Annual Maintenance 426. £ 10/ which in point of economy gives hardly an appreciable advantage to either, while eight times the volume of light is thrown out by the revolving method to the approaching and watchful Mariner whom the light of a single reflector or of a fixed light could not reach.

The height of the light will be a little above 90. feet above the level of the sea, at high water, and to the observer stationed on the Deck of the general Class of trading Vessels, will appear above the horizon at the distance of fifteen Miles a distance amply sufficient to give notice to the mariner of his approach to the straits, to enable him in nearing the light to keep in the fair Channel & avoid

the.

the Romania Shoal on one side distant 6. Miles N.N.
of P. Branca & Pedra Blanca Shoal distant 10. Miles E.
between which points the straits are clear & all dang
to the latter danger a Stationary reflecting light could
calculated to reach in any but a clear atmosphere. it
therefore act as no sure guide to Vessels coming from the
Eastward.

With regard to the establishment necessary for at
ing the Horsburgh Light, I beg to offer the following sug
tions. As Pedra Branca is distant from Singapore
nearly forty Miles, communication with the Rock could
well be maintained about once a Month. and this could
be best done by the Gun boat; which could carry out pro
sions and Water at each trip. three Months would elapse
before communication could with safety be obtained this
and informed by Captain Congalton, that there will be
opportunities of landing even then, during the dark part
place in the Morning. The situation of the light keepe
will therefore be somewhat similar to those employed
the Bell Rock Eddystone or such lonely positions on
the Coast of Scotland and England. The Regulations
observed in these therefore, would also be well adapted
with some modifications necessary to the Climate. Con
consequently I propose that 3. Europeans and 3. Natives
attached to the service, on different grades of pay. four
whom would be stationed at the Light while two would be
relief on shore. thus each person would be two Months o
the Rock and one on shore with his family.

Ans.

As I presume the Master Attendant would have charge of the building they should have Quarters built for them and their families close to the Office of that functionary; - so that they may be ready for service at any moment. The duties day and night at the Rock should be as regular Watches as on board of ship for which purpose a good Clock should be placed in the Light Room, the minutiæ of these duties will be best directed by the Master Attendant. A small flag staff should be fixed to the parapet or cupola to signalize to vessels passing, or to shore when Communication is wanted as in the event of sickness. An uniform should also be given to the Keepers, as in the case of those employed on Light House duty in Scotland and should always be worn while on duty as typical of the order, regularity and cleanliness that should be maintained in the Light Room.

Accompanying is the outline plan of the Light Room or Cupola and Iron frame drawn on thin paper as it will require to be sent to England, where this portion should be constructed and annexed are notes for the Engineer to whose direction its execution may be entrusted I cannot give an exact estimate of the cost but suppose that £1,500 will be required.

I will wait instructions as to whether it will be ordered to be sent out by the Bengal Authorities or that I will be required to order it myself, in which latter case I would prefer instructing the work to the Engineer to the Commissioners of the Northern Light Houses.

J.

Singapore
24th May 1840. 3

Have the
honor to be
Sir
Your most obedient
humble Servant
J. J. Thomsen
Government Surveyor.

True Copy
W. J. Butterworth
Governor.

Notes on the Cupola or Lantern
and Lighting Contractes.

The Cupola will rest on a Granite cir-
cular Wall which measures on its outside 13½ feet
diameter and inside 12 feet. The form of the Cupola
is Octangular, having the windows eight feet in
height surrounded by an Octangular Dome. The
sill of the Cupola will have eight flanges, thro which
bolts 6 feet in length will be fastened to be rivetted
in the inner ends of the platform stones. The frames
will be of Cast Iron and Dome of Copper the latter
should be double, so that the air during the heat of
the day may circulate and thus prevent the light
Room being heated by the vertical sun. The frames
should be glazed with polished plate glass.

The machinery and weight that gives motion
to the Lamp frame should be Calculated to give one
revolution every six Minutes, and air tubes should be
placed near the burners and connected with a central
Chimney to carry off the vapour generated by the burn-
-ing of the oil. The Parabolidal mirrors are Calcu-
-lated to be 25 inches near the lips with a focal distance
of 4 inches. Two small sheaves should be supplied
to carry the weight to the side Walls. Duplicate
such parts of the Machinery as are liable to
wear should also be sent.

Nothing else besides the above general
observations will be necessary as the work must be
confided

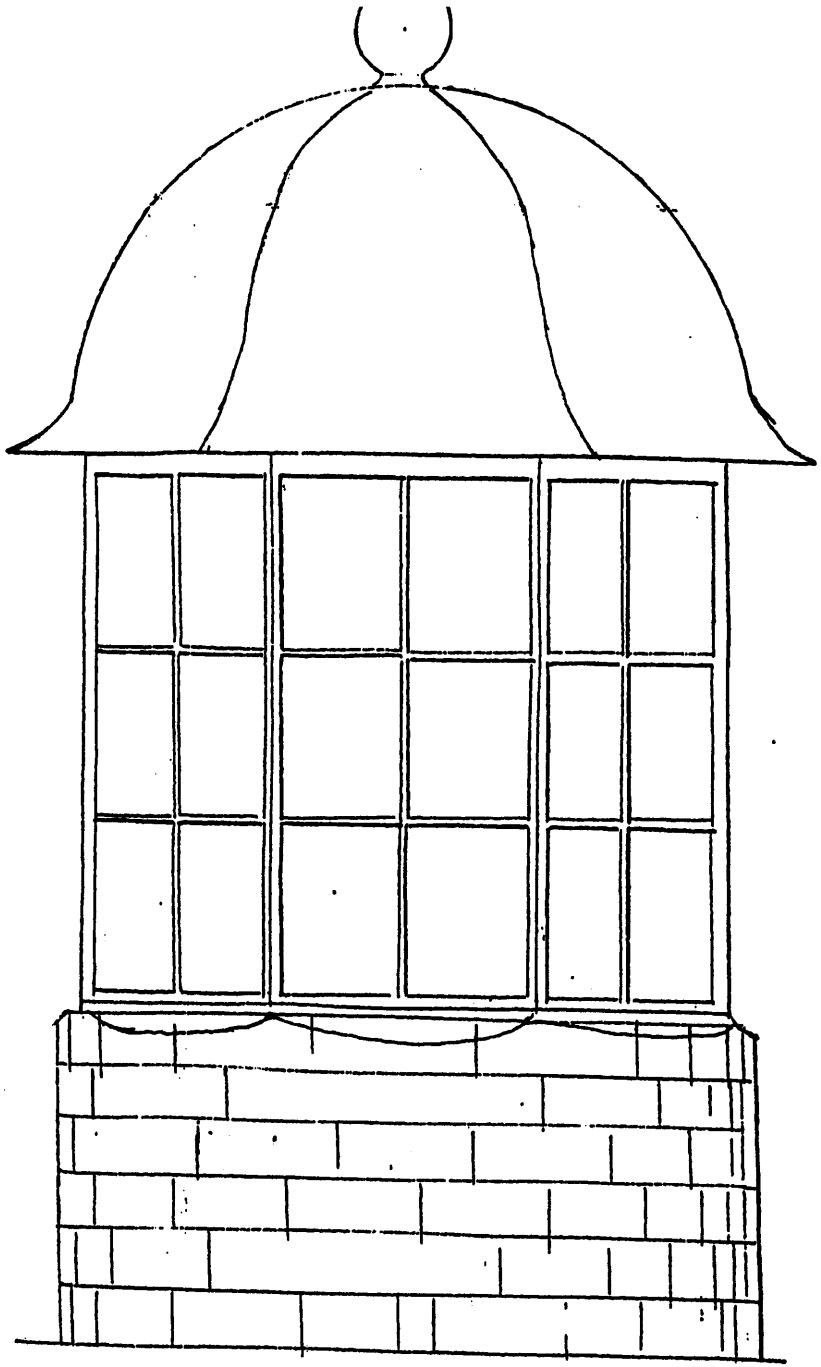
Confided in England to an Engineer practically acquainted with the subject and where the latest improvements are learnt and more fully known than they can be in this distant part.

A Lightning Conductor of the most approved kind should also be furnished for the Light House from England of a Metal that is not subject to oxidize. This is very important to the safety of the Building as buildings and trees in Singapore are very frequently damaged from this cause.

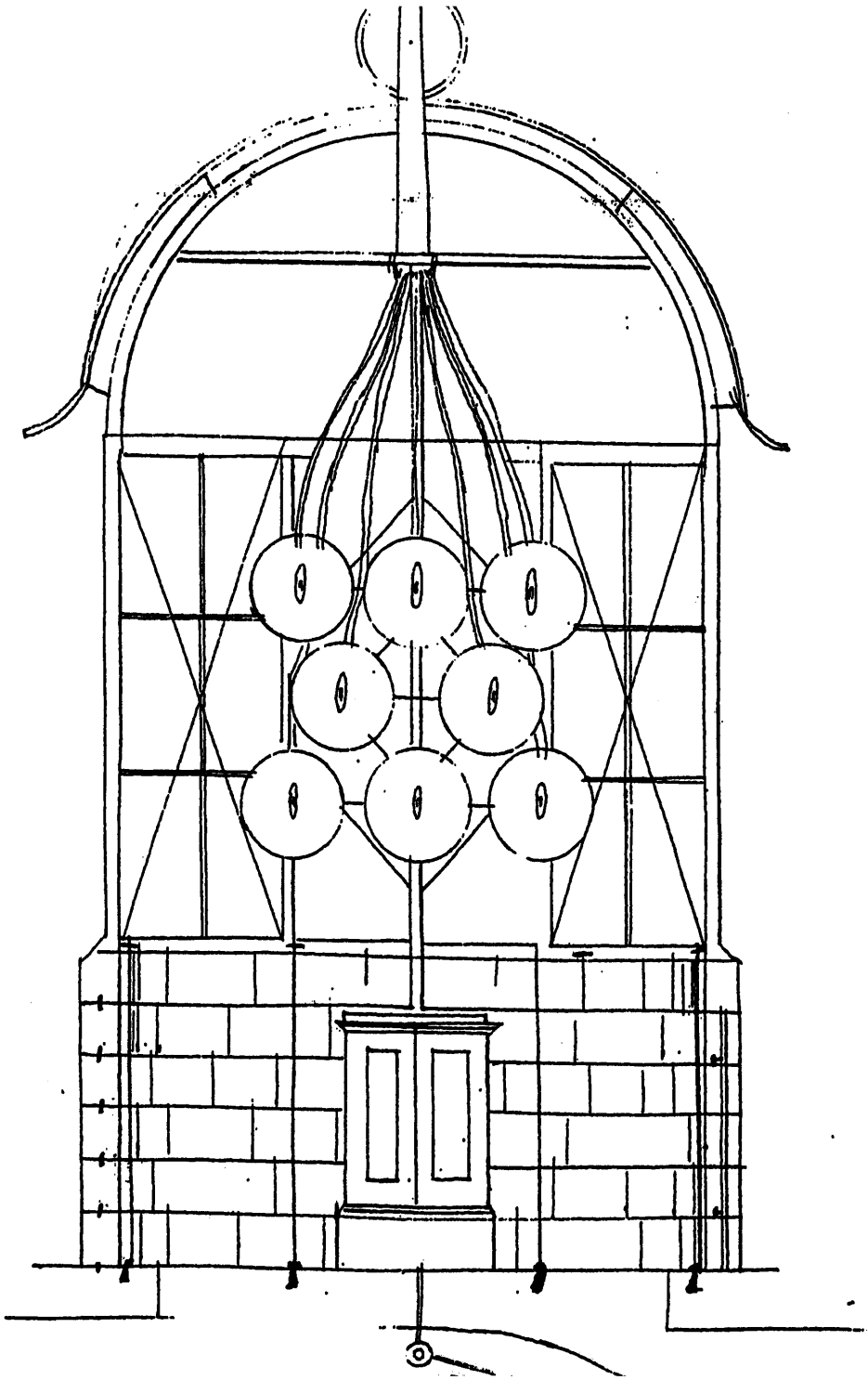
Singapore
The 24th May 1848.

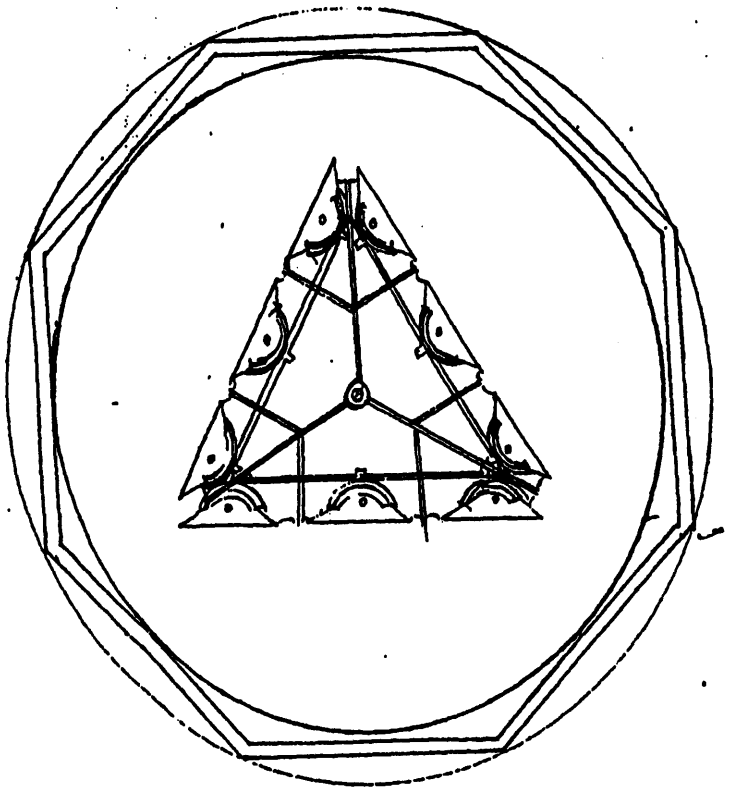
I have &c.
(Sd) W. J. Butterworth
Governor.

(Sd) J. T. Thomson.
Govt. Surveyor.



Elevation of Larch room





Plan

Plan of the Lamp room for the
Horsburgh Light House

Lt. W. Stevenson.
Gen.l Surveyor

Singapore 23d. Aug.t 1848

Scale of feet

No 19 of 1848

From J. T Thomson Esqre.

Government Surveyor Singapore

To The Honble

F. Church Esqre.

Resident Councillor

Dated 20th. May 1848.

Sir.

I do myself the honor of forwarding for your information a plan of a Light House proposed to be erected on Pedra Branca, drawn out in pursuance of the instructions contained in your letter No 244 of 1848 and accompanying the Plan is an Estimate of the Cost and specification detailing the mode of constructing the building.

For the reasons noted in my letter to the Honor the Governor dated 20th November 1848 regarding the creation of a Light House at the adjacent Coast on Point Romania, the Estimate has been constructed with the anticipation that the building of it will be given to a Chinese Contractor as that Class are the only people that could undertake such a work under any limited sum. I have consequently given the

the actual Cost of Materials on the Rock and adding 10 per Cent to the Chinese that may under take to finish the Building. This Sum will meet with the approval of Government as being the cheapest and most expeditious mode of completing this desirable work. for on the system of daily Labor I could not procure it's being done at double the amount now submitted.

the undertaking in hand of this Kind. there is more than ordinary risk to the Contractor. first owing to its peculiarity there will be difficulty in procuring Labourers. second. The exposed position and difficulty in landing supplies when engaged to many accidents. further the limited number of Laborers of the class required may raise the demand to considerably above the present wages. at the time Government may sanction its commencement. and as I have taken this into account in the Estimate. I have every reason to think that under all ordinary circumstances that the actual Cost will not exceed the sum stated. but at the same time I must add that the Cost of a Work of this Kind cannot be calculated with the same precision as an ordinary building in Singapore Town.

I

I have further taken into account the assistance that will be afforded by Government in employing one Steamer and two Gun boats in the manner indicated in my letter No. 31 of 18th July Under these circumstances the Steamer besides towing the Materials will not be Gun boats have ample time for furnishing Wood and Water to the people employed at the Works. I have consequently proceeded on the supposition that they will do this duty. The Steamer on the commencement of the works could also carry the Workmen with the Wood and Planks for their temporary Houses and other such light stuff. I would also beg to recommend the employment of eight Convicts to make the cement under my own eye in Singapore, as this subject requires much attention and care and I would further suggest that the services of the Steamer and Gun boats be allowed to reap up the Barnacles from the Lanterns or buoys and such Works as can only be properly entrusted to Seamen.

As the superintendence of an important Work of this Kind at so great a distance from Singapore will require constant and unwearied exertions on my part and as the Establishment allowed for my department could not furnish responsible persons to reside

on

on the spot to overlook each details so as to guarantee the Works being unexceptionable in every way. I will almost constantly during the progress require to proceed to and from Pedra Branca. I would therefore humbly ask the favor of your moving the Government in Consideration of the extra expenses, exposure exertion and responsibility that I will have to bear in addition to my surveying duties to allow me 150 Cost Rupees additional to my present pay which is 350 Rupees while engaged in this Work. this will only be 50 Rs. above what is sanctioned for Deputation when at Malacca. but the Survey at Malacca entails none of the responsibility that I would have in this undertaking.—

I would further ask the favor of your allowing one of the Commanders of the Gun boats being employed as Overseer of Works on any additional allowance of 50 Rupees to his present pay. or in case this could not be sanctioned, the employment of a private person on 100 Rs. per Mensem. under which sum no respectable person could be obtained for a limited period for such a work as this. and I am of opinion, that it is essential to its stability that such a person should be employed.— The probable period required for the finishing of the Light House, from its

Commencement

Commencement will be two years, these additions if sanctioned would consequently increase the amount of the Estimate as follows:

Deputation allowance to Surveyor
150 Rs. per Mensem for 24 Months.
equal to 3600 Rs. or ——— $ 1636. 36.

Allowance to Gunner of Gunboat
50 Rs. per Mensem for 24 Month Rs
equal to 1200 Rs. or ——— " —545. 45

Estimated Cost of Contract ——— 13101. 78

Total Spk Dollars $ 15283. 59.

I would further humbly bring to the notice of Government that on urgent occasions it may be necessary for me to proceed on the Government Steamer instead of the Gunboat and that the Commanders by sanction of Government charge 8 Rs. table money and as this sum would be incurred on the service of the Light House should they the favor of it to be ing allowed to be charged against the funds for its erection. With regard to the mode of lighting the building, and plans for the Cupola on this subject a most important Guide address you se parately thereon in a few days hence.

I.

Singapore
20th May 1848

I have the
honor to be
Sir
Your most obedient
humble Servant
J. T. Thomson
Govt Surveyor

Estimate of the probable Cost of erecting a Light House
on Pedro Branca according to Plan dated 12th May 1848

Granite work

Wall to Level of Rock	200 ft.	18 x 14 to 20 ft	300 00	
" Platform	1000 "	12 x 10 to 14	4800 00	
Parapet Wall of Gallery	465 "	12 x 9	4465 00	
Platform	65 "	5' x 1' x 1'	260 00	
Door & Mouldings	300 "	12 x 12	300 00	
Pavement of Rooms	810 flags	12 Sqr.	324 00	6249
Bricks				
Work & Walls to Platform	255.150			
Masonry Vaults	285.60			
Walls of Staircase	57.60			
	289.470 @ 30 $ per 10.000		868 40	
Lime 87 Lagans @ 5 $			435 00	
Carriage of Sand from Tamanica			200 00	
Wages 58 Piculs			87 00	
Water by Gun boats and Steamer			00 00	
Brick Layers @ 20 $ per Lascar			580 00	
Masons			400 00	
Lime to be made at Singapore by Government Surveyor with Convicts estimated time 10 Months @ $ 2 per Mon Lb			120 00	
Lime 10 Lagans @ 2 1/2 25 $ Wood 40 $			65 00	2755
Carpentry				
1 Sliding window 2' x 2' @ 7 $			28 00	
4 Venetians do. 1 x 2 @ 2 $			8 00	
5 Glass do. 3 x 2 @ 5 $			20 00	
3 Venetians do. 3 x 2 @ 2 $			8 00	
5 Ditto do. 2 x 2 @ 1 $ 50			7 50	
5 Fixed lights do. 2 x 2 @ 1 $ 50			7 50	
1 Panelled door 6'p x 3'p Copper anchors			30 00	
1 Iron Ditto " " Ditto			50 00	
1 Small Crane			20 00	
6 Manilla Rope @ 6p x 2 1/2			72 00	
7 Marine Ladders with Iron inlaid steps			140 00	
1 Iron Railings at Landings			100 00	
Over $			354 00	926

Brought forward $	354	00	9201	40
1 Marlore Door of Platforms 6. × 2. /2 Copperas	9.	00		
2 Ditto Centre Room & Privy 6 × 2½ Ditto	18	00	381	00
Shifting Rock for foundations and stones from sea shore	200	00		
7 Iron rings to be let into grooves in Rock the spurring of each about 2 × 1 estimated Weight 22 Peels	220	00		
60 Iron Cramps for 3 first Courses estimated weight 90 Catties	10	00		
Lead for Do. 90 Ditto	13	50		
130 Iron Cramps for Platforms 195 Catties	23	10		
Lead for Ditto @ $. 12.	30	00		
118 Iron Cramps for Walls of Cupolas and Parapet 177 Catties	21	24		
Lead for Ditto	30	00		
35 Lesser Cramps for Coat Stones 52. Cat 70/	31	00		
Lead for Ditto	10	00		
Correct Crane including Tackling to be furnished at the Government Stores	20	00		
Temporary Houses of workmen overseer Surveyor and Materials	300	00		
Fitting up Cabins of Gun Boat & Cabooses	50.	00		
20 Large water Casks	30	00		
20 Small Ditto for Cement	10	00		
1 Cement Cask	10	00		
1. Wooden Pestle and Mortar	1	00		
Scaffolding and temporary stages	50	00		
Paint and Varnish	20	00		
Blowing up Rocks in Light	40	00		
Boat Hire for Materials at Singapore	100	00		
2 Decked Lighters with Cables & Anchors	300	00		
1 Sampan	30	00		
		$.	1753.	14
		$	11343.	54
Contingencies 5%.			567.	17
		$	11910.	71
Commission Profit 10%			1191.	07
		$	13101	78

Singapore
19th May 1818

E. E.
pfd/ J. T. Thomsen
Govt Surveyor

Specification

Specifications for the Building of the Hurlburgh Light house according to Plan dated 12th May 1818

The Light House proposed consists of the Round Tower of Masonry supporting a Cupola or Lantern in which the Light is to be placed. The highest part of the Rock on which the House will stand is 22 feet above the level of the sea at high water and the Masonry will rise 68 feet above this making the height to Base of the Lantern 90 feet. The diameter of the Tower at its base will measure 22 feet having Walls 5½ feet thick and containing round apartments 11 feet in Diameter The Masonry will be carried up perpendicular until the highest part of the Rock has been reached. where the diameter will diminish & will be carried Battering to the height of 58 feet at which part the Walls will be 2½ feet thick leaving the diameter of apartments the same as those below. Above this a Circular Platform will project supported by a Plain Cornice, and above it will bear in its inner circle the Wall that supports the Lantern and on its outer circumference the Parapet Wall.

Walls The entire building is to be faced with Ashlar Masonry which will be hearted with brick work and the ceiling of each Room is to be vaulted supporting the floor of the Room immediately above which will be paved with Granite slabs or other hard materials.

Masonry. The Rock which will bear the Tower being now rough and uneven is to be stepped into horizontal levels rising 18 inches at each step. The Courses of Stone will be also of the same height and neatly and firmly laid into each steps, every third Stone to be a binder reaching nearly through the whole thickness of the Wall, and each course to alternate 16 and 20 inches in depth, each Stone to be cramped to its neighbour, and each course to be dressed to true levels of the Rock. The ashlar Work to be carried up at 12 Inches each Course with a depth alternating 10 and 12 inches, every third stone of which is to be a binder. All beds are to be cut square without bevil or hollow and the facings are to be dressed smooth according to Masters at the Houses of the Government

Surveyor

Diameter. The Cofer Stones at the top of the Well, to be five feet long and one foot broad at the outside tapering from that breadth towards their common center. The Walls of the Cupola and Parapet to ... nine inches thick dressed smooth inside and out, each course being 12 inches in height. The Stones for the Ring and Light House to be 12 inches square of lengths not less than 3 to 5 feet and all Stones used in the Light House and adjoining buildings to bond more than a foot. Behind the springing of each Vault are two Ring 2 inches by one inch to be let into a groove in the granite masonry circumscribing the building at 6 Inches from its outer Circumference. This Ring may be made in pieces such will be securely bolted together. The Cofer Stones to be cramped with Iron Cramps in two places Viz under the parapet Wall and Wall of the Cupola. The Stones of each course in the parapet and Cupola wall and Wall of out Houses to be cramped each to its neighbour with Iron. and upper Cramps which will be

expressed

exposed to the air to be of Copper not weighing less than mentioned in the accompanying Estimate &c drefs all Windows Doors and other works as may be necessary and to finish all corner beads and bed for Cramps dowels and joggles &c Lay all stones in cement which will be furnished by the Overseers &c Construct steps from landing places to door and finish all other Kinds of Masons work not here specified as directed by the Government Surveyor

Brick Layer. To examine strength of the last described to be laid in Mortar composed of sharp clean sand in proportion of 3 of sand to 2 of lime well tempered and beaten with Wooden beaters finer 2 parts of Water to be mixed with every three Gallons of lime the Water being first mixed with the Water to be poured with liquid Mortar and all Joints carefully flushed. The walls to be carefully levelled The Newfoir beds being in the true radial lines not to be less than 14 inches in depths.

Plasterer. To render float and set finer and execute all Walls and Ceilings to run plaster Cornices round the several rooms to execute all necessary breaches quirks and arrises in the best and most accurate

manner

manner the finishing Coat to be of the best stell, lime procured via Singapore travelled smooth.

Carpenter & Joiner - To erect temporary Buildings of rough Planks as dormitories for the Workmen employed sufficient to contain 60 individuals. also to erect two small Houses for the Superintendent and overseer each House to be about 10 feet square. to erect temporary sheds for lime and Wood. and stages for the bricks and other materials. all the above erations to stand on posts supporting the floors full 11 feet above level of Rocks each post being fixed to the Rock by an Iron pin drawn hard into the Rock for which holes 9 inches in depth and 1 in dia. must be bored into the Rock. The Walls must also be strengthened by diagonal struts and Brace. To prepare Doors. Windows Ladders &c. of best seasoned Marbow of the descriptions and sizes noted in the accompanying Estimate for the Light House, and to fix Locks bolts and hinges where required all Doors to be panelled the upper Panels being of good brown Glass to admit light to the Stair-Cases.

Plumber - To run with lead all Cramps.

Blacksmith - To make a strong Iron Door of

dimensions

dimensions mentioned in Estimate. viz^t 6/8 by 3/8 of 1/4 inch Iron Plate. well strengthened by Iron Bars and styles. This door when shut to lie flush with the Wall. to prepare all Cramps of the best Execution Iron. viz^t weight 1/2 pound each. The steps of the Ladders or Stairs to be plated with Iron 1/4 in Plate, these to be fixed on the Nosings of the steps of 8 inches in depth and 4 inches in length. and to make 2 small Irons at the entrance Door.

Copper Smith.- To make Copper Cramps for hinges for the outer Doors of not less than 10 pounds each and to make the Copper Cramps of not less than 1/2 pound each.

Glazier.- To Glaze all Windows as mentioned in Estimate with thick plate Glass which is to be well bedded bar'd putted and to be left whole and clean when the Works are rendered up as Complete

Painter.- To paint all Venitians with verdegris outside. all Doors lead Color. and to varnish with China Varnish all Windows and Wood work inside. To paint Iron Door lead color which when still wet is to be sand cast.

Quarry

Quarry Men. To blast several stones and reduce them to lower water mark, that at present encumber the small Bay where Materials will be landed...

Signatures

19th May 1818

/sd/ J T Thomson
Asst Surveyor

/True Copies/
/sd/ J W Butterworth
Surveyor.

No. 113.

From.

The Supg. Engineer in the
Straits of Malacca

To. The Honble the Governor of P.W. Island
Singapore & Malacca.

Dated 6th June 1868.

Sir,

Para: 1. I have the honor to acknowledge the receipt of your order No. 127. of the 1st. Instant. directing me to submit my opinion of the Building and Light about to be erected on Pedro Branca as described in a series of original papers accompanying your letter which I am beg to return.

2nd. In obedience to these instructions I propose to briefly offer my sentiments on four general points.

First— The general design & elevation of the phases.

Second— The estimated money outlay.

Third— The mode by which the Work is to be executed & fourth the description of light recommended for adoption.—

3rd. — The general design appears to me well considered suitable and Convenient, although the outline may be thought less agreeable to the eye than could have been desired— The dimensions are ample for the future strength and stability of the structure & the Weight is sufficient to ensure the lighthouse resist

at a distance varying from 5. to 6. leagues whereby it will also be seen as a conspicuous beacon by Day. It is only by consulting the Estimate and Specification that the means of communication between the different stories and the method of securing the Windows is to be understood. Perhaps the designation of the Light House and the occasion of its construction to perpetuate the Memory of one to whom Eastern navigation is so much indebted, should be cast in Iron and countersunk in the face of the Tower during its erection together with the date &c. &c. of so important and beneficial an undertaking.

The money valuation is chiefly remarkable whether for its very moderate charges and the calculations correspond with the proposed structure.

The mode in which it is proposed to carry out the work, entirely agree with the Govt. Surveyor in considering the only one that holds out any promise of confining the ultimate expenditure within any definite limits. The assistance to be derived from the use of the Government Steamer and Gunboats is doubtless considerable, but I admit apprehend that without such aid, the undertaking would scarcely be feasible. My general impression is that the proposed arrangements have been so carefully considered in the Minute detail sent in by Mr. Thomson that their final success seems placed beyond any reasonable doubt. It may however be hopefully considered as an objection that much of the favorable issue of the operations would plainly seem

to

to depend on the individual qualifications of the party by whom this very arduous project has been drawn up for should Mr. Ross or other Casualty befal the Government Surveyor who alone on these Settlements possesses the practical knowledge of building, familiarity with the language. The survey and control of the Chinese Headmen and subordinates & acquaintance with the resources of Singapore necessary to ensure success there might be a difficulty in completing the Work, without considerable increase of expence. In Mr. Thomsen's careful specification. I should have wished that gauged casks made for the purpose, in order to obtain truer work for the circular Tower had been mentioned and should have preferred a much larger admixture of sand, my own Opinion being that a proportion of 5. of sand to 3 of pure lime would have made a much stronger Mortar.

6th I consider that Mr. Thomsen's advocacy of a revolving light is quite conclusive for the reasons he assigns, but I venture to greatly doubt whether a better disposition of his 24 lamps might not be found for the Navigator than the arrangement he has suggested. The period of obscuration seems to me so great that they might diminish the likelihood of them being quickly sighted, or prolong the time of doubt whether the light were really made or not. Instead of 3 vertical faces of 8 Lamps each which with a revolution in every 6. Minutes would give 14" brilliancy & 46" dark

-ness-

darkness to the Mariner at a distance, I would suggest a quadrilateral figure with 6 Lamps in each face in triple tiers of Lamps, which would also require 24 Lamps, which would make the light appear 30 miles and make the proportions of illumination to observation as 14: 76. instead of as 14: 106, the expense continuing the same and the intensity of light extremely diminished

7. It will appear from these brief remarks that I entertain a most favorable general opinion of Mr. Thomas's project in all its parts and that it appears to me eminently deserving of recommendation and support. I contribute in any measure to the success of so important and useful an enterprize will be a source of great pleasure to myself and whether in paying the work occasional visits of superintendence, or in marking preparations here. I shall with your Honors permission be at all times ready to render the Government Surveyor any assistance in the power of myself and the Engineers Establishment.

Supg Engrs. Deptt
Straits of Malacca
Singapore 6th June 1848.

I have &c
/S/ C. E. Faber Major
Actg Supg Engr Straits of Malacca

/True Copy/
/S/ W. J. Butterworth
Secretary.

Compd

First Copy

No 3

Rome Department
Marine

Enclosure

Document accompanying
No

RECEIVED
2 MAY 1846
VIA MARSEILLES

N°. 920

From

W. Grey Esqre Under Secy to the Govt of India

To

under Secy. to Govt. of Bengal

Dated 21st. October 1848.

Home Dept. Sir,

In reply to your letter N°. 1363 dated the 6th. Instant. on the subject of the Heersburgh Light House I am directed to observe that the matter should first be referred to the Military Board for report. The original enclosures of your letter under acknowledgement - are therefore returned herewith.— .

Council Chamber
The 21st. October 1848.

I have &c.
(signed) W. Grey
under Secy. to the Govt. of India

First Copy

No: 4

Home Department
Marine

From Undersecy to the Govt of
To Undersecy to the Govt of Bo
dy 21st Octr 1848.

States that the su
the proposed Light Ho
be referred to the Mili
Board for report.

№ 949.

From

Under Secretary to the Govt. of Bengal

To

W. Grey Esqre

Under Secy to the Govt of India

Home Department

Fort William the 13th December 1848.

Sir,

Marine

With reference to your letter № 920 dated the 21st October last, I am directed to submit in original a communication from the Military Board № 6540 of the 28th ultimo, reporting on the Light House at Pedra Branca, together with the dispatch from the Governor of the Straits Settlements, which accompanied the previous letter from this office № 1363 dated the 6th October last.

I have &c

(Signed) W. Below Karr

Under Secy to the Govt of Bengal

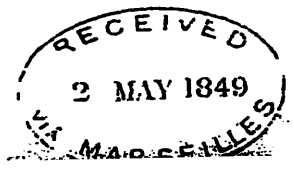
Sent Copy

No. 5

Home Department
Marine

From Undersecy to the Govt of Bo
To Undersecy to the Govt of Bo
dy 13th Decr 1848

Forwarding the Report
the Military Board -



No. 6540.

From the Military Board.

To

The Hon'ble Sir J. H. Maddock Kt.

Deputy Governor of Bengal

Fort William, 28th November 1843.

Dept. P. W. Hon'ble Sir,

We have the honor to return the original papers relative to the construction of a Light House on Petra Branca received with No. under Secretary Seton Karr's No. 841 of 9th Current, with the following observations.—

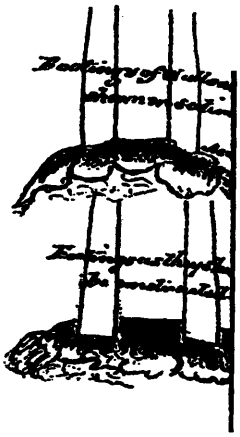
It appears to us that the Design has been carefully considered and that as far as regards the superstructure of the Light House, it is satisfactory; but we are unable, in the absence of any sections of the natural Rock, describing its nature and showing its stratification to pronounce upon its fitness as a foundation.—

From the way in which the Basement Rock is introduced in the plan, we should say that it is not sufficiently wide for the purpose of a foundation to the Light House, were a fragment to split off under the weight of the Building or from any other cause the portion of wall immediately above would be without support. We must also state that we object entirely to the footings of the walls as shown in the section and we would lay great stress upon the necessity, for making, in the construction, the cross section of the wall

stand

stand upon a flat Horizontal bed cut out of the Rock and let into it one foot.–

The accompanying side sketch illustrates our meaning– We consider the Estimate to be moderate under the circumstances of the case and believing that altho' Sections of the Rock are not submitted, that the authorities and the Civil Engineer must be fully satisfied that the Rock is suited to sustain the work, we venture to recommend the Estimate for sanction not wishing to delay the commencement of a work of such importance and of so much benefit as a work of humanity.–



We have &c.

(Signed) F. S. Hawkins– Lt. Colt.

" C. Garstin– Lt. Colt.

" W. Maclier– Lt. Colt.

Inclosure

No 6

Home Department
Marine

Earl Grey

RECEIVED
MAY 1848
VIA
MARSEILLE

Document accompanying

No 5

11942

Draft 588 of 1849. { Indict Warrant

Collection 2

Papers on the subject of the Stonebraugh Light House

Secretarys Office
Marine Branch

East India & China Association
Cowper's Court, Cornhill
May 7th 1849.

Sir,

This Association have received from the Chamber of Commerce at Singapore a letter, dated the 5th of March last, wherein they advert to the long delay which has occurred in measures being taken for the erection of the Horsburgh Light House notwithstanding that the Governor of the Straits Settlements had, so far back as the 11th June 1847, assured them, that the Court of Directors had sanctioned the erection of a Light House on Pedra Branca, and that he had received instructions to commence the Work as soon as arrangements could be made for that purpose.

The accompanying copy of a letter, dated 1st March last, from Lt. Colonel Butterworth, explains the causes which have led to a further reference to the Honble Court and in a later communication to

James C. McNeill Esq.
Secretary &c &c
East India House.

the

the Chamber (3 Mar.) His Excellen
states, that "the question of "con
"structing a Light House on Pedr a
"Branca shall be again urged on
"the notice of the Government."

The Chamber of Commerce a
Singapore expresses a strong desire
to press on the attention of the
Court of Directors the great import
of this very necessary work being
commenced without longer delay,
and this Association cannot refra
from earnestly seconding their
representations to the Honble Court
that the proposed Light House ma
be constructed without further po
ponment, convinced as they are of
its manifest utility, and the in-
calculable benefits it must confer
on British Shipping navigating
the Eastern seas.

I have the honor to be,
Sir, your most obedient servan

S. Gregson
Chairman

Mark No. 16 of 1849

No 74

From The Governor of P.P. Island Singapore and Malacca

To The Chairman of the Chamber of Commerce at Singapore

Dated Singapore 1st March 1849

Sir

I have the honor to acknowledge the receipt your letter under this date, calling my attention to the delay which has occurred, in measures being taken the erection of the Horsburgh Light House, and exp the wish of the Chamber of Commerce for some inf on the subject

2 I most gladly comply with the wishes of the Ch of Commerce on this subject, and proceed to detail the st have been taken, towards the construction of the Hors House. Since I had last the honor of addressing the C of Commerce under date the 11th of June 1844 No 91

3 I thereon intimated to the Chamber that t Honble the Court of Directors had been pleased to sanc the Plan & Estimate for a Light House of Masonry, pr by Mr Thomson for erection on Peak Rock the Outer Ro Island, submitted to a deputation from the Chambe Commerce on December 1845, but subsequent to the -ration of the above Plan and Estimate, it was det to erect the Light House on Pedro Branca, and Mr did not consider, that the work could be undertak without more accurate information of the extent the Rock was exposed to the Waves and Spray of the during the S E Monsoon.—

4 In accordance with Mr Thomsons wishes despatched the Steamer with that Gentleman to Branca, and he erected the necessary number

Brie

10th May 1847 counting to Mars 4. 100 100 Nov 1844

Pillars on the Rock to obtain the required information. x on October 1837
when it was discovered that the Waves beat on the o on March 18
the height of 15 ft. feet above the level of high water
whilst the Spray rose therefrom to the great and
danger, as to render a Structure of Granite set in cement
& facing with a backwork of brick imperatively neces.
sary to the security of its inmates, and the permanency
of the Light House

This Point having been ascertained I directed
Bombay to prepare a Plan & Estimate for a build.
ing on the description proposed, which duty was readily
undertaken by that zealous and indefatigable Officer, and x on May 18
ably seconded by Major C.R. Baker the Superintending Engi- on June 18
neer whose acknowledged science, and valuable assis-
tance throughout, has been unobtrusively afforded to
the Gentleman

The revised Estimate submitted by Mr. Thom.
as the allowance demanded for himself, and his
assistants in addition to the gratuities and of the Bombay
Company's Steamer, and Crew Boats was as follows

Building the House C. Rs	29,417-13-10
1st Allowce at Rs 150 per	
annum for two Years C. Rs	3,600-0-0
allowce at 100 Rupees	
per annum for two Years "	2,400-0-0
for a Light House with	
its Complete ——— "	15,000-0-0
Company's Rs	50,417-13-10

which I have on the Treasury exclu-
sive of interest thereon, from the date
which it was paid to Government
to the extreme liberality of Messrs
Jno Matheson & Co, who have allowed
compound Interest on the amount
deposited by them on China on 1842 the
sum of C. Rs ——— 15,858-3-4
to Bombay Chamber
of Commerce ——— 4,399-0-9

from the Surveyor Do Do 404-3-6
and from that most philan-
-thropic Gentn Sir Ch. Forbes
as his individual donation
the sum of Co Rupees 1632-15-0 22194-6-4
shewing a deficiency of Funds on hand
to meet the contemplated expenses of 28338-4-2

June 1848 which I forthwith solicited Government to advance, and under date the 26th August 1848, I received a reply to say that the whole question of the Light House at Pedro Branca was about to be submitted to the Supreme Government as this involves the levy of Light House dues I conclude that the subject would have to be again laid before the Honble the Court of Directors for their final Order which I am earnestly and anxiously expecting.

I will afford me much satisfaction, to lay before you, or a deputation from the Chamber of Commerce, the whole of the Correspondence that has passed on the subject of the construction of a Light House at Pedro Branca, if you, or they will do me the favor to attend at my Office, for that purpose, at any hour that may be convenient to you, or to the deputation

I have the honor to be
Sir
Your Most Obedt Servant
(signed) W. J. Butterworth
Governor

1st March 1849

Mr Gregson
Chairman E.I. & China
Association

noticing the delay in
erecting the Horsburgh
Light House

Com Pitt & Others Committee
Court 9 May 1838

ANNEX MR 14

Letter from Seton Karr, Under Secretary to the Government of Bengal to Governor Butterworth, 19 April 1849

Straits Settlements Factory Records
Series: Z 22
Date: 19th April 1849
Folio: 81
Reel 171 (Microfilm Copy, University of Malaya Library)

No. 314

From,

The Under Secy. to the
Govt. of Bengal

To,

Col. W.J. Butterworth
Governor of P.W. Island
Singapore and Malacca

Dated Fort William 19th April 1849.

Sir,

Your letters of the dates and numbers noted in the margin* having been referred to the Government of India, I am directed by the Deputy Governor of Bengal to state that the estimated expenses of erecting a Light House at Pedra Branca being so very much larger was originally anticipated and the rate of duty proposed to be levied in the Shipping resorting to Singapore being also considerably higher that than supposedly to have been contemplated by their Hon'ble the Court of Directors when they accorded their assent to the proceeding of a Law for that purpose, the President in Council has deemed it necessary to submit the whole question again to the Hon'ble Court for their further considerations.

etter No: 72 of 12th June/48:
etter No: 24 of 2nd March/49

I have &ca
Sd) Seton Karr
Under Secy. to the Govt. of
Bengal

Genl Dept.
4 of 1849

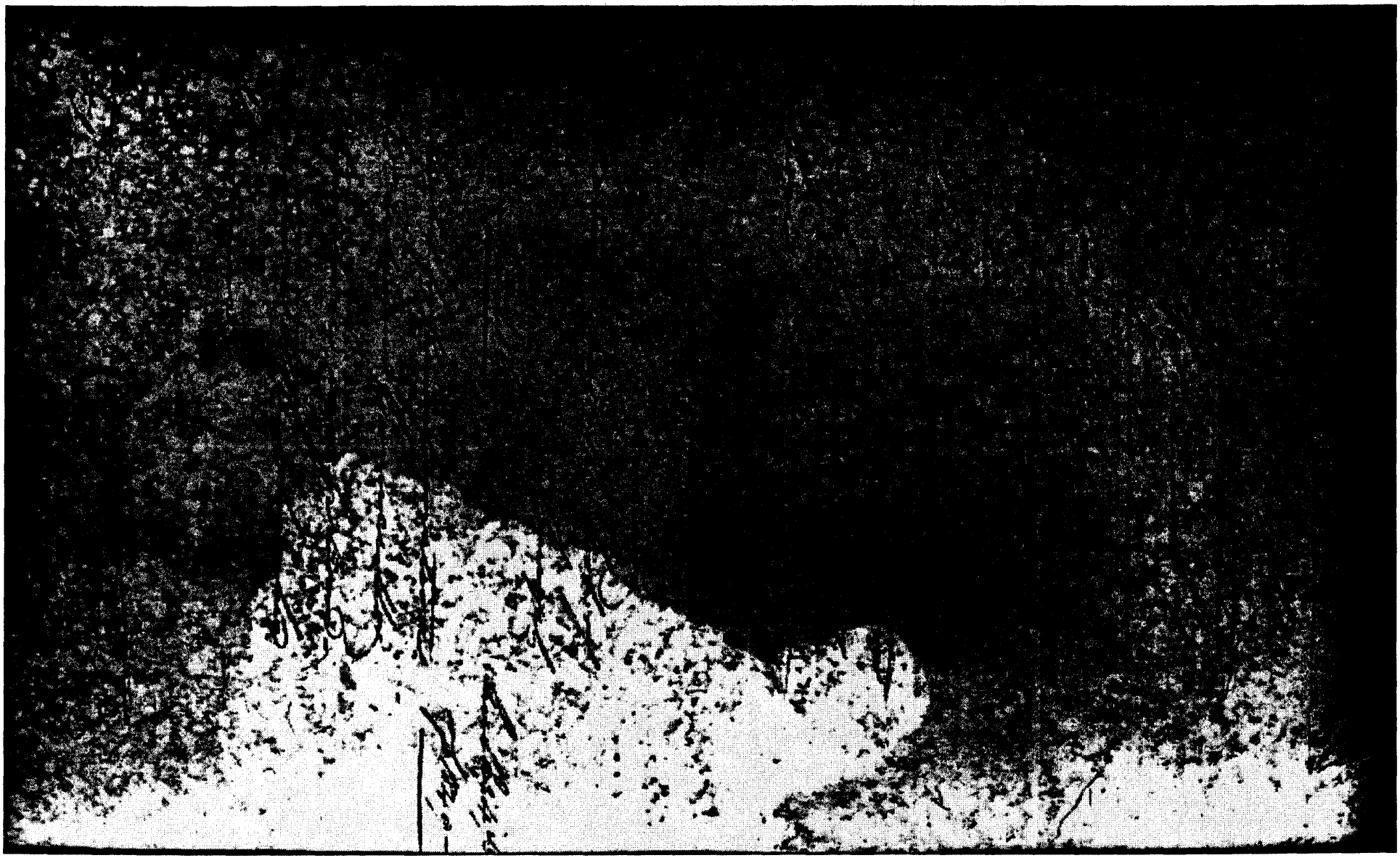
No. 216

True copy for the information of the Resident Councillor at Singapore, and for Communication to the Chamber of Commerce.

Penang

(Original Signature) W.J. Butterworth
Governor

6th January 1849



ANNEX MR 15

Letter from Governor Butterworth to T. Church, Resident Councillor of Singapore, 12 December 1849

Straits Settlements Factory Records
Series: U 19
Date: 12th December 1849
Folio: 124
Reel: 99 (Microfilm Copy, University of Malaya Library)

No. 510

To,
The Resident Councillor at Singapore
Dated Singapore 12th December 1849

Sir,

I have the honor to transmit for your information the accompanying Copy of a letter* from the Under Secretary to the Government of Bengal, giving cover to a Communication from the Government of India with its enclosure from the Honble the Court of Directors, sanctioning the immediate construction of the "Horsburgh Light House" on Pedra Branca.

* d/ 12th lovember 1849, No. 784

2. With a view to a more perfect understanding of the letter from the Honble the Court of Directors, I beg to enclose the copy of my Report* therein referred to, and to request that Mr. Thomson may be instructed to take steps in communication with the contractor to commence on the work at the earliest practicable period.

*d/ 12th June 1848, No. 72

3. The Lantern will have to be ordered from Home, and I beg that Mr. Thomson may be requested forthwith to communicate with some one of the eminent Parties in the mother Country vested in such matters, with a view of determining on the nature of the Light and the timely construction of the necessary apparatus.

4. I feel assured that it is unnecessary here to impress upon Mr. Thomson, the usefulness if I may so speak of the responsibility of the present undertaking, I repose the most perfect confidence on his having no human means unemployed to secure stability and permanence to the Building, upon which not only the lives of the Inmates, but the safety of the mariners in these seas, must materially depend when

once the Light has been erected in commemoration of that celebrated Hydrographer whose name it will been having designated the "Horsburgh Light House".

5. You will perceive by the letter* from the Superintending Engineer, which forms one of the Enclosures to my letter to the Government of Bengal, that he is prepared to render Mr. Thomson any assistance in his power, towards carrying out this most responsible and humane undertaking, and I beg that every Department of the Local Government may afford their best aid and on the occasion whenever required.

* d/ 5th June 1848, No. 113

6. Under existing circumstances, I fear Mr. Thomson will not be able to commence on the Survey of Malacca, but on this point, I shall be obliged by your consulting with that Gentleman and acquainting me with the result.

I have &ca

Sd) W. J. Butterworth

Governor

12th December 1849

No. 370

Read 1849

To the President & Council

at Singapore

Dated Singapore 12th December

1849

Sir,

I have the honor to transmit for your information the accompanying copy of a letter from the Marine Secretary to the Government of Bengal, dy 12 Dec 1849 R 484

giving cover to a Communication from the Government of India with a view to your submitting the Court of Directors sanction of the immediate construction of the "Floating Light House" in the Straits

2 With a view to a more perfect understanding of the letter from the Secretary the Court of Directors object to

2 C

enclose the Copy of my Letter to the
June Board referred to, and to request that Mr
1848. Thomson may be instructed to
take steps in communicating
with the Contractors to commence
on the Work at the earliest practi-
cable period -

3. The Lantern will have to be
ordered from Stone, and I beg
that Mr Thomson may be requested
forthwith to communicate with
some one of the eminent Artists
in the Mother Country versed in
such matters, with a view of ascer-
taining on the nature of the
Light and the timely construction
of the necessary apparatus -

4 - I feel assured that it is
unnecessary to impress
upon Mr Thomond, the importance
of every exertion to ensure the
early completion of the Work
I therefore entertain
confidence that

[illegible] Lighthouse [illegible]
[illegible] proposed to secure stability
[illegible] permanence to the Pile-
[illegible] upon which shall stand the
[illegible] of the Tower, and the
safety of the persons in these
[illegible], must materially depend,
when once the Light has
been erected in commemora-
tion of that Celebrated Sydney-man,
that name it will bear, and
dedicated the "Hedington
Light House."

5th. You will perceive by the
letter from the Superintending
Engineer, which forms one of the
Enclosures to my letter to the
Board of Bengal, that he is
prepared to undertake the
Tower, towards erecting such
Pile as must be obtained and
Lascars under his charge, are

Ref. to Board 1824 L. 113

I beg that every department of the Local Government may afford him their best aid on the occasion of any services required.

6 — Understanding Commander St. Clair Dr. Stenson will be able to commence on the Survey of Salcedo but on this point I shall be obliged by your conducting with that Gentleman and acquainting me with the result —

I have &c

Lt. W. O. Butterworth

Governor

21st December 1849 —

No 51

ANNEX MR 16

Letter from Governor W. J. Butterworth to the Worshipful Master of the Lodge Zetland in the East, 9 March 1854

Straits Settlements Factory Records

Series: V 19

Date: 9th March 1854

Folio: 11

Reel 112 (Microfilm Copy, University of Malaya Library)

No. 42

No. 160 of 1854

To,

The Worshipful Master of the Lodge Zetland in the East

Ansd. 16th March /54

D/ Singapore 9th March 1854

Sir,

I had occasion in 1850, to solicit the exercises of your Craft in laying the foundation Stone of the most Philanthropic work, the Horsburgh Light House, which has been in full operation at Pedra Branca for the past two years to the infinite benefit of the Mariner in these Seas.

2. I am now desirous of again enlisting the services of the Lodge Zetland in the East, in a similar undertaking. I allude to the Light House about to be constructed on the "Coney", in the immediate vicinity of this Island, by the Hon'ble East India Company.

3. This Light House, I propose to dedicate to the memory of that eminent Statesman, Sir Stamford Raffles to whose enlightened Policy we are indebted for this unrivalled Emporium, and the entire Freedom of the Port from all restraints on its extensive Commerce.

4. I feel persuaded that the work alluded to, which is so immediately connected with the safe and speedy Navigation of the Southern entrance to the Straits of Malacca, as well as to this Harbour, and so closely coupled with the name of the illustrious Founder of Singapore, will ensure me a favourable response to the call I now make upon you Sir, the Worshipful Master, and the Members of the Lodge Zetland in the East, to take upon yourselves the pleasing task of laying the Foundation Stone of the Raffles Light House.

I am led to believe that arrangements will be made for having everything in readiness for the aforesaid Ceremony, at as very distant period but I shall do myself the pleasure of communicating further with you, after receiving a reply to this communication.

I have &ca.

Sd/ W. J. Butterworth

Governor

9th March 1854

1854

Dated 16th March 54

"Worshipful Master and
of the Lodge [illegible]
"[illegible] you [illegible]
laying the [illegible]
"[illegible]

[illegible]

[illegible]

ANNEX MR 17

Letter from Governor W. J. Butterworth to the Worshipful Master of the Lodge Zetland in the East, 12 August 1854

Straits Settlements Factory Records
Series: V 19
Date: 12th August 1854
Folio: 191
Reel 112 (Microfilm Copy, University of Malaya Library)

No. 163

Genl No. 161 of 1854

To,

The Worshipful Master
Of the Lodge Zetland in the East
Dated Singapore 12th August 1854

Sir,

It affords me very sincere satisfaction to forward herewith the trowel which I had prepared for your acceptance, when laying the foundation stone of the Raffles Light House as a momento of the call made by me on the Lodge Zetland in the East on that auspicious occasion.

I am happy to be able to acquaint you and the members of the Lodge that the above Building is progressing very rapidly and that it will, in all probability be completed by the termination of the current year.

I cannot close this communication without expressing the gratification I experience at having my name associated with that of the Lodge Zetland in the East in connexion with two such Philanthrophic works as the Horsburgh and Raffles Light Houses.

I have &ca.
Sd/ W. J. Butterworth
Governor

12th August 1854

[illegible] Interval [illegible]
[illegible] particularly at Bimaji and
[illegible] Yanbu at the rate of 500 Copies
[illegible] to the Pilgrims at Cheap may
[illegible]
[illegible] shall be happy to record the
[illegible] of any Parties that may be incurred
[illegible] account to the Colonial
[illegible] manner that you may
[illegible] to estimate.

I have &c

(Sd) W. F. Butterworth

Colonial Secretary

No 153

Last No

1254

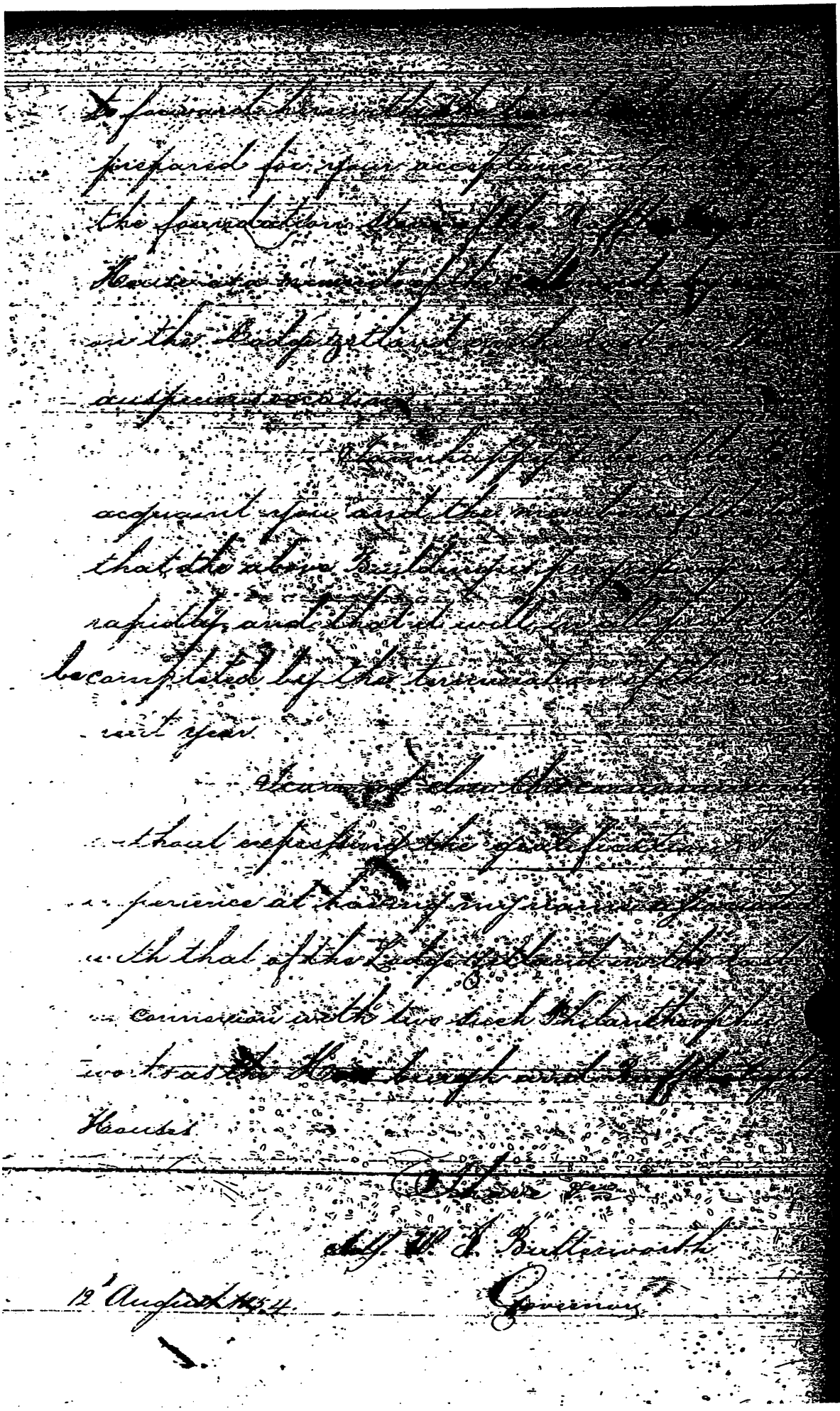
To W. Butterfield Master

[illegible] Ship Leader for Jeddah via Suez Canal

Dated Singapore 12th August 1854

Sir,

It affords me very sincere satisfaction



ANNEX MR 18

Extracts of Charles Burton Buckley, *An Anecdotal History of Old Times in Singapore* (Singapore: Fraser & Neave (1902), reprinted in Kuala Lumpur: University of Malaya Press (1965)), pp. 437, 520, 546

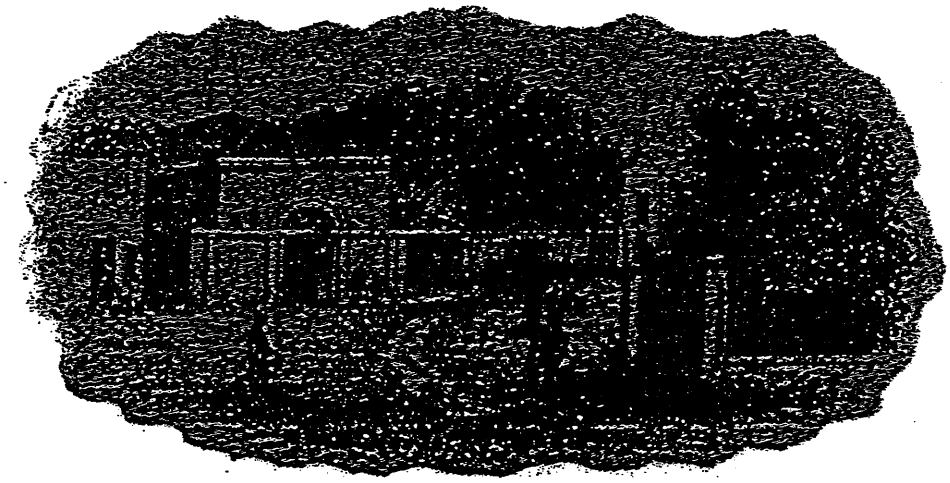
INVC.....

AN ANECDOTAL HISTORY OF OLD TIMES IN SINGAPORE

FROM THE FOUNDATION OF THE SETTLEMENT
UNDER THE HONOURABLE THE EAST INDIA COMPANY
ON FEBRUARY 6TH, 1819
TO THE TRANSFER TO THE COLONIAL OFFICE
AS PART OF THE COLONIAL POSSESSIONS OF THE CROWN
ON APRIL 1ST, 1867

BY

CHARLES BURTON BUCKLEY



KUALA LUMPUR
UNIVERSITY OF MALAYA PRESS
1965

SOLE DISTRIBUTORS

Oxford University Press, Amen House, London E.C.4

GLASGOW NEW YORK TORONTO MELBOURNE WELLINGTON
BOMBAY CALCUTTA MADRAS KARACHI LAHORE DACCA
CAPE TOWN SALISBURY NAIROBI IBADAN ACCRA
KUALA LUMPUR HONG KONG

© *University of Malaya Press 1965*
This edition reproduced by
kind permission of Fraser & Neave, Ltd.
Singapore

REPRINTED PHOTOGRAPHICALLY IN HONG KONG BY
SOUTH CHINA PHOTO-PROCESS PRINTING CO. LTD.

An Anecdotal History of Old Times in Singapore

(With Portraits and Illustrations)

FROM

The Foundation of the Settlement under the Honourable the East India Company, on February 6th, 1819,

TO THE

Transfer to the Colonial Office as part of the Colonial Possessions of the Crown on April 1st, 1867,

BY

CHARLES BURTON BUCKLEY.

IN TWO VOLUMES—VOLUME II.

[All rights reserved.]

SINGAPORE:
PRINTED BY FRASER & NEAVE, LIMITED.
1902.

then installed in due and ancient form. Zetland Lodge has been fitted up in a manner which does the highest credit to its members, and few stations in India, as I said before, can boast of a Masonic temple so creditable to themselves and the Craft. In four months there have been upwards of twenty initiations, and from the well-known respectability and indefatigable zeal of the officers and members of the Lodge, a permanent and most satisfactory career of success and usefulness may very reasonably be calculated upon. Zetland Lodge has voted a handsome Past Master's jewel to Bro. R. Taylor, in acknowledgment of his zeal and services.

"*List of the Officers of Zetland Lodge*, No. 748, established in Singapore, December 8th, 1845:—W. Bro. J. C. Smith, K.R.C., K.I. and M. W. Master; Bros. C. A. Dyce, S.W.; T. O. Crane, J.W.; J. B. Cumming, Sec. and Actg. Treas.; T. Smith, R.A., S.D.; W. Gibb, J.D.; J. Craig, I.G.; W. Rainford, Tyler."

On the 8th December, the first Masonic Lodge called *Zetland* was opened. The following account was given in the paper:—

"Pursuant to the Warrant of Constitution lately received from the Grand Lodge of England [dated February, 1845], 'Zetland Lodge, No. 748,' was opened in due form on Monday evening last, the Worshipful Master and Officers being installed and invested with their respective badges. There appears to be every prospect of this Lodge meeting with great success from the number of members already belonging to it, as well as from the numerous list of respectable candidates for *legitimate* admission to the mysteries and privileges of the ancient and honourable fraternity."

The Lodge was held in a house in Armenian Street. Mr. Wm. Napier was the first brother initiated, Mr. W. H. Read was the second, at the first meeting of the Lodge; and Mr. J. D. Vaughan at a meeting in the January following.

The following list of the Officers and Members was in the Directory at the commencement of 1846:—

W. Bro. J. C. Smyth	Worshipful Master.
Bro. C. A. Dyce, M.M.	Senior Warden.
„ T. O. Crane, M.M.	Junior Warden.
„ J. B. Cumming, M.M. ...	Secretary and Treasurer.
„ T. Smith, R.A.	Senior Deacon.
„ W. Gibb, M.M.	Junior Deacon
„ J. D. Scott, M.M.	Inner Guard.
„ W. Rainford, M.M. ...	Tyler.

Members:—E. A. Q. Apel, J. D. Booth, J. Chimmo, J. Craig, S. F. Cumming, C. J. J. Curteis, G. S. Darby, D. Davidson, T. Dunman, B. B. Keane, L. Fraser, W. S. Lawson, J. Myrtle, W. Napier, W. H. Read, W. Rodyk, W. Scott, J. Simson, J. Thomson, E. J. White and R. W. Wiber.

The *Singapore Free Press* had then been established ten years, and the following was written about it. In Mr. Horace St. John's *Indian Archipelago*, he said:—"The year 1835 is distinguished in the history of Singapore as that in which the *Free Press* was established. It is among the ablest and most influential journals in the East, conducted with remarkable vigour, and animated always by the

The Raffles Lighthouse.

In July, 1838, it was proposed to build a lighthouse on some one of the islands at the western entrance of Singapore Straits; and Barn Island, Alligator Island, and the Coney (where the light now stands) were each suggested as the most advantageous. Mr. Coleman thought the Coney island was too small, having only a superficial area of seventy feet by twenty-two, and only thirty feet above the sea-level, while Barn Island was seventy, and Alligator Island one hundred, but the position of the Coney was considered the best of the three. Captain Begbie in his book written in 1834, said, "The cluster of islands on the sea; Barn Island, Alligator Island, the Rabbit and Coney (two small islands which bear a strong similarity in figure to the animals whose name they bear) present a labyrinth through which the mariner has to thread his way." The island on which the lighthouse is built is fifteen miles south-west of Singapore, and marks the outer and south channel round St. John's Island to the Singapore roads.

It was not until 1854 that the project was carried into execution and the following account of the proceedings at the laying of the foundation stone is taken from the *Free Press*:—"Wednesday the 24th May, being the anniversary of the birthday of Her Majesty, had been fixed upon for laying with Masonic honours, the foundation stone of the Lighthouse on the Coney, at the entrance to the Straits of Malacca. The Hon'ble Colonel Butterworth, C.B., Governor of the Straits Settlements, proceeded to the place in the H. C. Steamer *Hoogly*. Amongst the gentlemen who accompanied the Governor were the Hon'ble the Resident Councillor, the Hon'ble Sir W. Jeffcott, Recorder; Colonel Cameron, Commanding the Troops in the Straits; the Hon'ble Captain Elliot, H. M. S. *Sybille*; Captain Blane, H. M. S. *Rapid*; Captain Saunderson, H. M. S. *Lily*; M. D'Egremont, Consul-General for Belgium; M. Gautier, Consul-General for France; and the other Consuls, a number of the merchants, and the Worshipful the Acting Master, Mr. W. H. Read, and a party of the Brethren of Lodge Zetland in the East. About twenty of the Masons embarked on board the Sultan of Linga's Schooner *Young Queen*, which was taken in tow by the *Hoogly*, and the whole got under weigh about half-past ten in the forenoon. The day was singularly favourable for the excursion, being cloudy with light breezes, while only a very slight shower fell. The Band of the 43rd Regiment M. N. I. was on board the *Hoogly* and beguiled the time with music. The vessels anchored off the Coney about 1 p.m. when the Masonic party disembarked and proceeded to make arrangements for the ceremony. When all was ready the Hon'ble the Governor landed and was received by the Worshipful the Acting Master and the Masons who then proceeded to the spot in the following order:—

Tyler with drawn Sword.
Members of the Lodge and other Brethren
two and two.
Banners
borne by Brothers Gordon and Passmore.

der him after having robbed him. The coolies escaped and reported the fact; on which Mr. Dunman with a small number of peons went himself in search. On the road a man informed him that Tan Ah Choon had been carried to Loh Siah's plantation. The chase was continued, some *bangsals* were passed, where Chinese were gambling to their heart's content; and Mr. Dunman finally succeeded in delivering Tan Ah Choon, who was in the custody of three of his captors in Loh Siah's premises, who himself was secured. The other criminals escaped, having been informed by the calls and cries of the nearest neighbours of the approach of the Police. Here is a most visible proof of the effects of the power of the Hoé. A man is kidnapped, carried through some crowds of Chinese, without any person interfering to prevent the crime, and these same men save the criminals by their calls and signals. Tan Ah Choon's plantation has since been robbed of nearly all its contents."

In April, a subscription was made for the purpose of making a steel engraving of the painted likeness of the late Mr. A. L. Johnston, of which there are now copies in the Library, and in several of the mercantile offices.

On the 22nd April, a meeting was held to establish a Sailors' Home, and a Committee appointed composed of Mr. James Guthrie, Captain J. S. Sparkes of the P. & O. Company, Mr. John Harvey, and Mr. W. H. Read as Honorary Secretary. It was proposed that a fancy dress ball should be given in aid of the funds, and it took place on the 15th May in the Assembly Rooms, single tickets were $5, and family tickets $7.50.

A new flag-staff was put up on Mount Faber in May, and within a month it was struck by lightning and destroyed; it happened before daybreak, before the signal-men had come to work. The mast was split into pieces and fragments of it were thrown to a considerable distance.

On the 17th April, Mr. H. C. Rautenberg, the senior of the two partners in Rautenberg, Schmidt & Co., and Mr. Hurtlaub, the junior assistant employed in Behn, Meyer & Co.'s, left Singapore with two other gentlemen for Rhio in a boat belonging to the Tumongong. They met with a strong current and a high sea in the Straits, and a squall caused the boat to heel over and take in so much water that she sank about two miles from the shore. One of the gentlemen clung to the mast of the boat and another kept himself afloat by means of a cushion and a mat, and were picked up by a fishing boat after being several hours in the sea. Mr. Rautenberg and Mr. Hurtlaub were drowned. The whole of the Malay crew and a Chinese servant got safely to shore. Mr. Frederick George Schmidt remained the sole partner in the firm until 1858, when Gustav Cramer and Adolph Emil Schmidt became partners.

In one week at that time several tigers were shot by natives in the jungle, and Dr. d'Almeida gave a reward of $50 in addition to the same amount given by Government. It was stated on good authority that in the Serangoon district alone more than thirty persons had been killed by tigers within a few weeks. The following account of deaths by tigers in the same month is taken from the *Free Press*:—"While

ANNEX MR 19

"Obsn for fixing rocks around Batu Puteh", by Mr A. Velu Pillai, from "Survey Department Federation of Malaya, Topographical Branch, Angle Book TRIG 1524 for Survey of Sheet 135, Season 1959", taken on 2,10,11,14 and 15 October 1959

TRIG

1524

SURVEY DEPARTMENT

FEDERATION OF MALAYA

TOPOGRAPHICAL BRANCH

ANGLE BOOK

Survey of ~~Sheet~~ 135 section 3 & 6.

Season 1959

Form No. 443

TOPOGRAPHICAL BRANCH

Triangulation ~~for~~ Obsns. ~~for fixing~~ rocks round about Batu Putch.

Survey of Sheet 135 Scale 1:25,344 Year 1959

1. This angle book has been designed for use with optical direct reading theodolites.
2. When used with other instruments or when a striding level is used, bubble readings may be entered in the correction columns.
3. Stations should be entered in order clockwise on alternate lines commencing with the R.O. For swing right book face L on the odd lines down the page. For swing left book face R on the even lines up the page.
4. The F L and F R measures of each angle are thus entered one above the other until meaned in the "Means" columns.

INDEX

	Page		Page
Obsns on Tg. Sepang.	1 – 2		
" " Punggai	83-4		
" " St. Ayer ladang.	5 - 6.		
" " Batu Putch.	7 - ~~12~~ 11		
" Rock. (4)	12		

Form No. 443
(Topo)

HORIZONTAL
VERTICAL ANGLES from Tanjong Sepang (Flag) Pkt (Primary / Secondary / Topo)

Centre Mark
(Description & Condition)

Date 9.10.59. Time 10 to 12 am Height of Instrument 4.5'

Observer A. Velu Pillai Booker A. Velu Pillai

Theodolite Wild T2. Value 1 Div. Striding Lev: _____ Alidade Lev: _____

Stations Observed	Signal Observed	Face	1st. Arc. (Zero 0°) °	'	"	Corr'n. '	"	2nd Arc. (Zero 45°) °	'	"	Corr'n. '	"	3rd Arc. (Zero 90°) °	'	"	Corr'n. "
Centre of light house Bata Putch.	Top.	L.	0	01	04	-1	04	45	01	00	-1	00				
		R	180	00	45	-	45	225	00	35	-	35				
1		L	2	28	17	-1	03	47	28	15	-	59				
		R	182	27	57	-	46	227	27	59	-	36				
2		L	2	36	26	-1	02	47	36	16	-	58				
		R	182	36	15	-	47	227	36	04	-	37				
3		L	2	56	36	-1	01	47	56	32	-	58				
		R	182	57	17	-	45									
4		L	3	25	34	-1	00	48	25	27	-	58				
		R	183	25	19	-	49									
centre of Peak.		L	8	20	10	-1	00	53	20	11	-	58				
		R	188	20	10	-	50									
Centre of Light beacon Pemanggil		L	25	08	35	-	58	70	08	23	-	58				
		R	205	08	19	-	51	250	08	13	-	41				
Top Centre of P. Lima.		L	31	38	44	-	57	76	38	38	-	58				
		R	211	38	22	-	52	256	38	32	-	44				
Top most tree on Pulau Gunda		L	353	33	14	-	56	38	33	09	-	58				
		R	173	33	13	-	53	218	33	10	-	46				

Note: For 2 Arcs observe Zeros 1 & 3

Signal (Diagram & Dimensions)

Reference Marks (Diagram Description & Measurements)

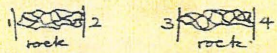
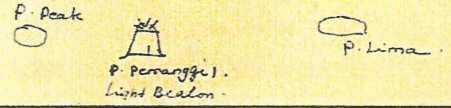


Photo Identification & Remarks

Photo Sortie No._____ Serial No._____



4th Arc. (Zero 135°)					REDUCED ANGLES									MEANS						Stations Observed
°	'	"	Corr'n.		1st			2nd		3rd		4th		1 & 3		2 & 4		FINAL		
			'	"	°	'	"	'	"	'	"	'	'	'	"	'	"	°	'	"	
					2	27	14	27	16									2	27	~~14~~ 16	1
						27	11	27	~~13~~ 23											
					2	35	24	35	~~14~~ 18									2	35	~~18~~ 24	2
						35	29	35	~~17~~ 27											
					2	55	35	55	~~01~~ 34									2	55	51	3
						56	29													
					3	24	~~24~~ 34	24	29									3	24	31	4
						24	30													
					8	19	10	19	13									8	19	14	Centre of P. Peak.
						19	20													
					25	07	37	07	25									25	07	~~28~~ 30	" " Light beacon Perangga(1).
						07	25	07	~~22~~ 32											
					31	37	47	37	40									31	37	41	Top Centre of P. Lima.
						37	30	37	48											
					353	32	18	32	~~13~~ 11									353	32	17	Topmost tree on P. Gunda
						32	20	32	~~24~~ 17											

Angles reduced by: A. Velu Pillai

Checked by

Form No. 443
(Topo)

HORIZONTAL
~~VERTICAL~~ ANGLES from _____ (Primary / Secondary / Topo)

Centre Mark
(Description & Condition)

Date _____ Time _____ Height of Instrument _____

Observer _____ Booker _____

Theodolite _____ Value 1 Div. Striding Lev: _____ Alidade Lev: _____

Stations Observed	Signal Observed	Face	1st. Arc. (Zero 0°) ° ' "	Corr'n. ' "	2nd Arc. (Zero 45°) ° ' "	Corr'n. ' "	3rd Arc. (Zero 90°) ° ' "	Corr'n. "
			~~353 43 06~~					
			~~178 42 58~~					
Centre of Batu Putch light house.		L	360 00 54	- 54	45 00 58	- 58		
		R	180 00 53	- 53	225 00 53	- 53		
Compass Bearings from Tg. Sepang								
To Light house Batu Putch			111 40					
Light house Pemanggil			137 00					
P. Gamda.	approx. Centre		105 15					
P Peak.	"		120 00					
P. Besar.	"		133 00					
P. Lima.	"		143 30.					

Note: For 2 Arcs observe Zeros 1 & 3

Signal
(Diagram & Dimensions)

Reference Marks
(Diagram Description & Measurements)

Photo Identification & Remarks
Photo Sortie No._____ Serial No._____

4th Arc. (Zero 135°)					REDUCED ANGLES									MEANS						Stations Observed
°	'	"	Corr'n.		1st			2nd		3rd		4th		1 & 3		2 & 4		FINAL		
			'	"	°	'	"	'	"	'	"	'	"	'	"	'	"	°	'	"	

Angles reduced by:_____ Checked by_____

Form No. 443
(Topo)

HORIZONTAL (Flag)
~~VERTICAL~~ ANGLES from Pkt. Tg. Buaggan

(Primary / Secondary / Topo)

Centre Mark
(Description & Condition)

Date 10/10/59 Time 10 to 13:30 Height of Instrument 4'-3"

Observer A. Velu Pillai Booker A. Velu Pillai

Theodolite Wild T-2 Value 1 Div. Striding Lev: ____ Alidade Lev: ____

Stations Observed	Signal Observed	Face	1st. Arc. (Zero 0°)					2nd Arc. (Zero 45°)					3rd Arc. (Zero 90°)				
			°	'	"	Corr'n. '	Corr'n. "	°	'	"	Corr'n. '	Corr'n. "	°	'	"	Corr'n. '	Corr'n. "
R.O.																	
Top centre of light house Batu Putch.			0	00	43	-	43						90	00	23	-	23
			180	00	42	-	42										
1			0	56	56	-	43						90	56	36	-	23
			180	56	50	-	42										
2			1	06	49	-	43						91	06	32	-	23
			181	06	50	-	42										
3			2	04	55	-	43						92	04	42	-	23
			182	04	56	-	42										
4			2	15	52	-	43						92	15	32	-	23
			182	15	51	-	42										
P. Garuda. highest point			39	20	23	-	48						129	19	35	-	27
			219	20	25	-	46										
P. Peak. (Centre)			43	00	33	-	48						133	55	05	-	27
			223	00	20	-	46										
Light beacon P. Penanggil			44	36	35	-	48						134	36	20	-	27
			224	36	49	-	47										
P. Lima (Centre)			43	11	34	-	48						139	11	35	-	27
			229	11	55	-	48										

Note: For 2 Arcs observe Zeros 1 & 3

Signal
(Diagram & Dimensions)

Reference Marks
(Diagram Description & Measurements)

Photo Identification & Remarks
Photo Sortie No._____ Serial No._____

4th Arc. (Zero 135°)					REDUCED ANGLES										MEANS					Stations Observed
°	'	"	Corr'n.		1st			2nd		3rd		4th			1 & 3		2 & 4		FINAL	
			'	"	°	'	"	'	"	'	"	'	'		'	"	'	"	° ' "	
					0	56	13			56	11								0 56 11	1
						56	08													
					1	06	05			06	~~07~~ 09								1 06 07	2
					1	06	~~06~~ 08													
					2	~~06~~ 04	~~09~~ 12			04	~~15~~ 19								2 04 15	3
					2	04	14													
					2	15	09													
					2	~~04~~ 15	~~17~~ 09			15	09								2 15 09	4
					39	19	35													
						~~04~~ 19	~~14~~ 39													
										19	~~27~~ 08								39 19 27	P · Gamda
					42	59	~~45~~ 38			59	~~39~~ 38								42 59 39	P · Peak.
						59	34													
					44	35	~~48~~ 53			35	~~44~~ 53								44 35 54	P · Pemanggil (Light beacon)
						36	025													
					49	10	46			11	~~00~~ 08								~~49 11 00~~ 49 10 57	P · Lima ·
						11	07													

Angles reduced by: A. Velu Pillai

Checked by: [signature]

Form No. 443
(Topo)

HORIZONTAL
VERTICAL ANGLES from _____ (Primary / Secondary / Topo)

Centre Mark
(Description & Condition)

cks in P. 3.

Date _____ Time _____ Height of Instrument _____

Observer _____ Booker _____

Theodolite _____ Value 1 Div. Striding Lev: _____ Alidade Lev: _____

Stations Observed	Signal Observed	Face	1st. Arc. (Zero 0°)					2nd Arc. (Zero 45°)					3rd Arc. (Zero 90°)				
			°	'	"	Corr'n. '	Corr'n. "	°	'	"	Corr'n. '	Corr'n. "	°	'	"	Corr'n. '	Corr'n. "
flag at Tg. Sepang.	top centre		60	27	29	-	52						150	27	13	-	30
			240	27	41	-	50										
hut on Bt Ayer Lelang	centre.		70	22	26	-	53						160	22	15	-	31
			250	22	38	-	52										
Light house Batu Putch			0	00	56	-	56						90	00	32	-	32
			180	00	54	-	54										

Pris. Compas Bearing from flag Tg. Rengai To

Batu Putch.	132	55	
P. Lima.	182	20	
hut on Top of Ayer Lelang.	202	55	

Note: For 2 Arcs observe Zeros 1 & 3

Signal
(Diagram & Dimensions)

Reference Marks
(Diagram Description & Measurements)

Photo Identification & Remarks
Photo Sortie No. _____ Serial No. _____

4th Arc. (Zero 135°)					REDUCED ANGLES									MEANS						Stations Observed
°	'	"	Corr'n.		1st			2nd		3rd		4th		1 & 3		2 & 4		FINAL		
			'	"	°	'	"	'	"	'	"	'	"	'	"	'	"	°	'	"	
					0	26	37 / 43			26	43			60	26	43		60	26	43	flag fg : sepang
						26	51														
					70	21	33			21	47			70	21	41		70	21	41	but no BE Agcw Ladalang
						21	46														

Angles reduced by: A. Kalu Pillai

Checked by: [signature]

Form No. 443
(Topo)

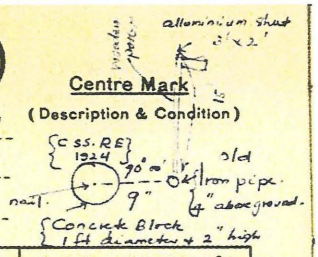
HORIZONTAL
VERTICAL ANGLES from Flag CSS RE (1224) (No beacon)

(Primary / Secondary / Topo)

Date 11.12.17 Time 8 to 9 am. Height of Instrument 4' 8"

Observer A. Velu Pillai Booker A. Velu Pillai

Theodolite _____ Value 1 Div. Striding Lev: _____ Alidade Lev: _____



Stations Observed	Signal Observed	Face	1st. Arc. (Zero 0°) ° ' "	Corr'n. ' "	2nd Arc. (Zero 45°) ° ' "	Corr'n. ' "	3rd Arc. (Zero 90°) ° ' "	Corr'n. "
Light house Batu Putch Rd.			0 00 30	- 30			90 00 29	- 29
			180 00 21	- 21				
1			2 30 39	- 30			92 30 [illegible]	- 29
			182 30 38	- 21				
2			2 38 06	- 30			92 38 [illegible]	- 29
			182 38 15	- 21				
3			2 50 26	- 30			92 58 34	- 29
			182 50 14	- 21				
4			2 57 36	- 30			92 57 41	- 29
			182 57 36	- 21				
Rock in sea between Tg. Chelahan			60 09 48	- 34				
and Tg. Kelok.			240 09 53	- 23				
Flag at Punggai			277 48 37	- 35			7 48 37	- 26
"			97 48 30	- 24				
Light house Batu Putch			0 00 36	- 36				
Rd.			180 00 25	- 25			90 00 23	- 23
(at Ayer Lalang to flag Tg. sepetag Not visible.)								

Note: For 2 Arcs observe Zeros 1 & 3

Ht. of top of Flag from ground = 15'

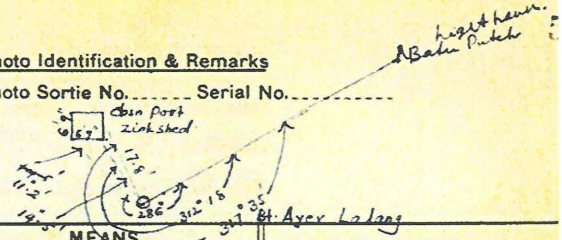
Signal (Diagram & Dimensions)

Reference Marks (Diagram Description & Measurements)

Concrete block with nail c/s 9 inches. to the west of pipe. The inscription C.S.S. RE 1924 is on the Concrete block.

Photo Identification & Remarks

Photo Sortie No._____ Serial No._____



4th Arc. (Zero 135°)			REDUCED ANGLES								MEANS				Stations Observed
			1st		2nd		3rd		4th		1 & 3		2 & 4		FINAL		
°	'	"	Corr'n. '	Corr'n. "	° '	"	'	"	'	"	'	"	'	"	° '	"	
					2 30	09											
					30	47											
					2 30	09		>> 24							2 30	15	1
					30	17											
					2 37	36	37	46							2 37	45	2
					37	54											
					2 49	51	50	05							2 49	58	3
					49	53											
					2 57	06	57	12							2 57	11	4
					57	15											
					60 09	14									60 09	22	
					09	30											
					277 48	02	48	11							277 48	06	Flag at Tg. Punggai
					48	06											

Angles reduced by: A. Kesu Pillai

Checked by: Sam Boyle

Form No. 443
(Topo)

~~HORIZONTAL~~
VERTICAL ANGLES from Pipe Bt. Ayers Lalang (Primary / Secondary / Topo)

Centre Mark
(Description & Condition)

Date 11.10.87 Time 9.00 am Height of Instrument 4.18"

Observer A. Velu Pillai Booker A. Velu Pillai

Theodolite Wild T2 Value 1 Div. Striding Lev: ____ Alidade Lev: ____

Stations Observed	Signal Observed	Face	1st. Arc. (Zero 0°) ° ' "	Corr'n. ' "	2nd Arc. (Zero 45°) ° ' "	Corr'n. ' "	3rd Arc. (Zero 90°) ° ' "	Corr'n. ' "
Top of light brown			89 50 51		89 50 51		89 50 48	
			90 08 48		90 08 48		90 08 53	
			89 44 45		89 44 42		89 44 38	
~~Bottom~~ of Light brown i.e. Top of Rock			90 15 00		90 15 00		90 14 50	

Note: For 2 Arcs observe Zeros 1 & 3

Signal
(Diagram & Dimensions)

Reference Marks
(Diagram Description & Measurements)

Photo Identification & Remarks
Photo Sortie No._____ Serial No._____

4th Arc. (Zero 135°)					REDUCED ANGLES										MEANS							Stations Observed
°	'	"	Corr'n.		1st			2nd		3rd		4th			1 & 3		2 & 4		FINAL			
			'	"	°	'	"	'	"	'	"	'	'		'	"	'	"	°	'	"	
89	57	00																				
90	02	15																				
89	44	47																				
90	14	18																				

Angles reduced by: _____

Checked by _____

Form No. 443 (Topo)

HORIZONTAL
~~VERTICAL~~ ANGLES from Batu Putch (Y.) (Primary Secondary Topo. (4'3") or)

Centre Mark (Description & Condition)

Date 14.10.57 Time 9.30 to 9.40 Height of Instrument 25 above ISM at 9.30

Observer A. Velu Pillai Booker

Theodolite Wild T2 Value 1 Div. Striding Lev: Alidade Lev:

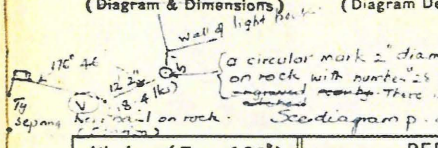
Stations Observed	Signal Observed	Face	1st. Arc. (Zero 0°) ° ' "	Corr'n. ' "	2nd Arc. (Zero 45°) ° ' "	Corr'n. ' "	3rd Arc. (Zero 90°) ° ' "	Corr'n. "
Ro. Flag Tg. Sepang			0 00 33	- 33	~~90~~		90 00 39	- 39
			180 00 31	- 31			270 00 37	- 37
1			222 11 24	- 26			312 11 37	- 39
			42 11 30	- 33			132 11 40	- 36
2			225 45 33	- 29			315 45 30	- 39
			45 45 35	- 33			135 45 32	- 35
3			241 43 34	- 19			331 43 37	- 32
			61 43 29	- 28			151 43 35	- 34
4			245 41 17	- 12			335 41 51	- 32
			65 41 05	- 20			155 41 16	- 32
Ro. Flag Tg. Sepang.			0 00 11	- 11			90 00 40	- 40
			180 00 34	- 34			270 00 33	- 33
Punggai not visible from Batu Putch due to bad weather								

Note: For 2 Arcs observe Zeros 1 & 3

(Top of Light house is about 60 lks on line Ayer Iaag to V. produced)

7

Signal (Diagram & Dimensions)



Reference Marks (Diagram Description & Measurements)

Photo Identification & Remarks

Photo Sortie No._____ Serial No._____

4th Arc. (Zero 135°)					REDUCED ANGLES								MEANS						Stations Observed
					1st			2nd		3rd		4th			1 & 3		2 & 4		FINAL	
°	'	"	Corr'n.		°	'	"	'	"	'	"	'	'		"		"	°	'	"	
			'	"															
					222	11	04												
						11	17												
					222 225	11	04			10 11	58 02							222	11	06	1
						11	17			11	04										
					225	44	43			44	51							225	44	50	2
						45	02			44	57 47										
					241	48	35			49	50							241	48	37	3
						48	57			48	56										
					245	47	50			47	12							245	47	05 00	4
						47	02			46 47	07										

Angles reduced by: A. Velu Pillai

Checked by: [signature]

Form No. 443
(Topo)

HORIZONTAL VERTICAL ANGLES from Batu Putch (V)

(Primary / Secondary / Topo)

Centre Mark
(Description & Condition)

Date 14.10.89 Time 10:30 am Height of Instrument _____

Observer A. Velu Pillai Booker A. Velu Pillai

Theodolite _____ Value 1 Div. Striding Lev: _____ Alidade Lev: _____

Stations Observed	Signal Observed	Face	1st Arc. (Zero 0°) ° ' "	Corr'n. ' "	2nd Arc. (Zero 45°) ° ' "	Corr'n. ' "	3rd Arc. (Zero 90°) ° ' "	Corr'n. "
Ro. Flag at Ayer Lalang	R.O. is Mission Scout Hqrs. Use Basin	R	0 00 34	- 34			90 00 20	- 20
		L	180 00 20	- 20			270 00 27	
Flag at Tg. Sepang		R	5 27 29	- 35			95 27 09	- 20
		L	185 27 12	- 20				
1		R	227 38 38	- 35			317 38 30	- 17
		L	47 38 32	- 20				
4		R	251 14 55	- 40			341 14 41	- 16
		L	71 14 49	- 20				
flag at Tg. Sepang R.O.		R	360 00 41	- 41			90 00 14	- 14
		L	180 00 20	- 20				

Note: For 2 Arcs observe Zeros 1 & 3

Signal (Diagram & Dimensions) | Reference Marks (Diagram Description & Measurements) | Photo Identification & Remarks
Photo Sortie No.____ Serial No.____

See diagram p. 9.

4th Arc. (Zero 135°) ° ' "	Corr'n. ' "	REDUCED ANGLES 1st ° ' "	2nd ' "	3rd ' "	4th ' "	MEANS 1 & 3 ' "	2 & 4 ' "	FINAL ° ' "	Stations Observed
		5 25 54		26 43				5 26 51	flag at Tg. Sepang
		26 32							
		227 38 08		38 13				227 38 08	1
		38 12							
		251 14 12		14 25				251 14 23	4
		14 29							

Angles reduced by: A. Velu Pillai
Checked by: [signature]

Form No. 443 (Topo)

HORIZONTAL VERTICAL ANGLES from Batu Puteh (V)

(Primary / Secondary / Topo)

Centre Mark (Description & Condition)

Date 14.10.27 Time 5 to 5.15 pm Height of Instrument

Observer A. Velu Pillai Booker

Theodolite Wild T2 Value 1 Div. Striding Lev: Alidade Lev:

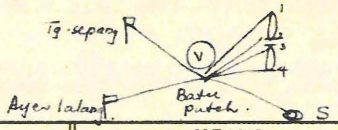
Stations Observed	Signal Observed	Face	1st Arc. (Zero 0°) ° ' "	Corr'n. ' "	2nd Arc. (Zero 45°) ° ' "	Corr'n. ' "	3rd Arc. (Zero 90°) ° ' "	Corr'n. "
R.O. 4			0 00 48	- 48			90 00 21	- 27
			180 00 33	- 33			270 00 29	- 29
Centre of rock 8.			293 29 55	- 49			113 30 17	- 32
			203 29 37	- 36			293 29 26	- 31
			0 00 53	- 53			90 01 15	- 1 15
R.O.			180 00 50	- 50			270 00 40	- 40
				5.30 pm.				
RO. Flag at Ayer Labog.			0 00 30	- 30			90 00 25	- 25
			180 00 23	23			270 00 27	- 27
Flag at Tg. Sepang			5 27 47	- 31			95 27 31	- 24
			185 27 34	- 27			275 27 43	- 24
~~Centre of Rock~~ 4			251 15 24	- 34				
			71 15 22	- 37				
Centre of rock 8.			274 44 22	36				
			94 44 20	- 44				
R.O. Flag Ayer Labog.			0 00 39	- 39			90 00 21	- 21
			180 00 50	- 50			270 00 18	- 18

Note: For 2 Arcs observe Zeros 1 & 3

Signal (Diagram & Dimensions)

Reference Marks (Diagram Description & Measurements)

Photo Identification & Remarks
Photo Sortie No._____ Serial No._____



4th Arc. (Zero 135°)					REDUCED ANGLES									MEANS						Stations Observed
°	'	"	Corr'n.		1st			2nd		3rd		4th		1 & 3		2 & 4		FINAL		
			'	"	°	'	"	'	"	'	"	'	"	'	"	'	"	°	'	"	
					23	29	06			29	43							23	29	12	Centre of rock 5.
						29	01			26	53									
					5	27	16			27	07							5	27	12	flag at Tg. sepang
						27	07			27	19									
					251	14	50											251	14	47	A
						14	35													
					274	43	46											274	43	46	Centre of rock.
						43	30													

Angles reduced by: A. Vedu Pillai

Checked by: [illegible]

Form No. 443 (Topo)

~~HORIZONTAL~~
VERTICAL ANGLES from Batu Puteh (V)

(Primary / Secondary Topo)

Centre Mark (Description & Condition)

Date 14.10.59 Time 5:30 pm. Height of Instrument 4' 3"

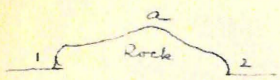
Observer A. Velu Pillai Booker A. Velu Pillai

Theodolite Wild T2 Value 1 Div. Striding Lev: ____ Alidade Lev: ____

Stations Observed	Signal Observed	Face	1st. Arc. (Zero 0°) ° ' " Corr'n. ' "	2nd Arc. (Zero 45°) ° ' " Corr'n. ' "	3rd Arc. (Zero 90°) ° ' " Corr'n. "
Top of flag at Bt Ayer Labong.			90 07 54	90 07 42	90 07 46
			89 51 42	89 51 44	89 51 48
			at 3:45 pm. m. 14.10.59. ht of inst.		
Top most part of rock 1–2 (a)			89 45 04	89 45 02	
			90 14 16	90 14 12	
Topmost part of rock 3–4 (b)			89 38 48	89 38 46	
			90 20 48	90 20 46	

Note: For 2 Arcs observe Zeros 1 & 3

Signal (Diagram & Dimensions)



Reference Marks (Diagram Description & Measurements)

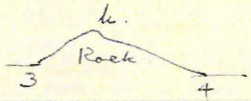


Photo Identification & Remarks

Photo Sortie No._____ Serial No._____

4th Arc. (Zero 135°)					REDUCED ANGLES								MEANS							Stations Observed
°	'	"	Corr'n.		1st			2nd		3rd		4th	1 & 3		2 & 4		FINAL			
			'	"	°	'	"	'	"	'	"	'	'	"	'	"	°	'	"	
90	07	47																		
89	51	44																		

4' 3"

Angles reduced by:_____ Checked by_____

Form No. 443
(Topo)

HORIZONTAL
~~VERTICAL~~ ANGLES from Batu Pulah (V)

(Primary / Secondary Topo)

Centre Mark
(Description & Condition)

Date 15.10.79 Time 7:50 a.m. Height of Instrument .....

Observer A. Velu Pillai Booker A. Velu Pillai

Theodolite Wild T2 Value 1 Div. Striding Lev: ..... Alidade Lev: .....

Stations Observed	Signal Observed	Face	1st. Arc. (Zero 0°)					2nd Arc. (Zero 45°)					3rd Arc. (Zero 90°)				
			°	'	"	Corr'n. '	Corr'n. "	°	'	"	Corr'n. '	Corr'n. "	°	'	"	Corr'n. '	Corr'n. "
R.O. flag at sepang.			0	00	35	-	35										
			180	00	26	-	26						90	00	34	-	34
old mark on rock as shown on diagram.			176	44	45	-	30						270	00	30	-	30
			356	44	37	-	28						266	44	50	-	38
			0	00	25	-	25						86	44	30	-	32
R.O. flag at sepang.			180	00	30	-	30						90	00	40	-	40
													270	00	35	-	35

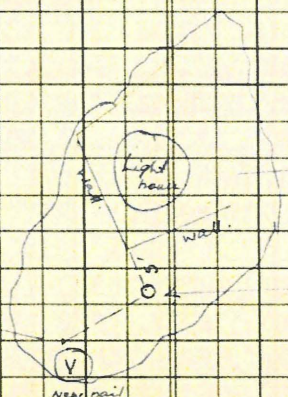
Note: For 2 Arcs observe Zeros 1 & 3

Signal (Diagram & Dimensions)

Reference Marks (Diagram Description & Measurements)

Photo Identification & Remarks
Photo Sortie No._____ Serial No._____

4th Arc. (Zero 135°) Corr'n.	REDUCED ANGLES 1st	2nd	3rd	4th	MEANS 1 & 3	2 & 4	FINAL	Stations Observed
	176 ~~44~~ 15		~~44~~ ~~20~~ 12				176 ~~44~~ 02	To Circular mark as shown in diagram p. 7
	~~44~~ 29		~~44~~ ~~20~~ 43 58					
								Badu Puteh.
								Tg. Sepang.
								2 circular mark 2" diameter on rock with number. 28.7.54. There is no centre mark for this circular mark. This mark does not appear to be a trig point as a theodolite cannot be set on it. the mark being very near to the edge of rock.



Angles reduced by: A. Kelvin Pillai

Checked by: S.S. Sylva

Form No. 443
(Topo)

HORIZONTAL
VERTICAL ANGLES from A (a point on south side of rock) (Primary / Secondary / Topo)

Centre Mark
(Description & Condition)

Date 15.10.57 · Time 10.10 am to 10.45 am · Height of Instrument 4' 4"

Observer A. Velu Pillai · Booker A. Velu Pillai

Theodolite Wild T2 · Value 1 Div. Striding Lev: ____ Alidade Lev: ____

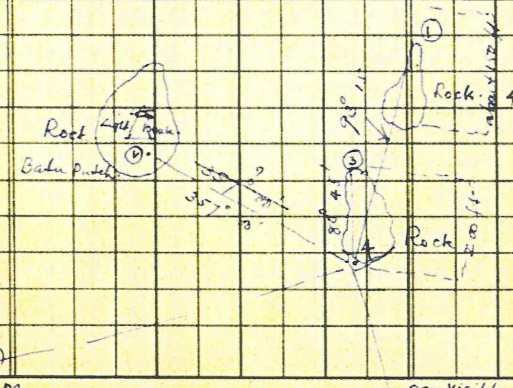
Stations Observed	Signal Observed	Face	1st. Arc. (Zero 0°) °	'	"	Corr'n. '	"	2nd Arc. (Zero 45°) °	'	"	Corr'n. '	"	3rd Arc. (Zero 90°) °	'	"	Corr'n. "
Flag at Ayer Lalang R.O.			0	00	10	–	10						90	00	11	– 11
			180	00	00											
(V) Batu Putch:			67	46	08	–	7						157	45	18	– "
1			165	01	22	–	0.3						255	01	40	– "
3			152	27	43	–	03						242	28	00	– "
Rock: Observed to boat Anchored near it.			280	08	50	–	03						?	58	00	– "
			100	11	10	–	10						190	00	00	– –
			0	00	00	–	–									
			180	00	10	–	10									

Note: For 2 Arcs observe Zeros 1 & 3

Signal (Diagram & Dimensions) | Reference Marks (Diagram Description & Measurements) | Photo Identification & Remarks

Photo Sortie No._____ Serial No._____

4th Arc. (Zero 135°)				REDUCED ANGLES								MEANS						Stations Observed
°	'	"	Corr'n.	1st			2nd		3rd		4th	1 & 3		2 & 4		FINAL		
			' "	°	'	"	'	"	'	"	'	'	"	'	"	°	'	"	
				67	46	01			45	07						67	46	04	67 46 04 (V) Batu Putch.
				165	01	14			01	29						165	01	24	1
				152	27	40			27	49						152	27	44	3
				280	08	47			58	00						280	03	00	Boat at rock S.
					11	00												



Ayer Lalang.

Angles reduced by: A. Velu Pillai

Checked by: [signature]

~~Can~~ visible only in low tide. (6 inches below water at 10.30 am on 15·x·57

ANNEX MR 20

Out Telegram from the Ministry of Foreign Affairs of Malaysia (Wisma Putra) to All Missions, 20 December 1979

20th December 1979

Tel. No. : C 144

From : Wisma Putra Kuala Lumpur

To : All Missions

For Head of Mission from TKSU I.

The Government has decided to officially announce publication of New Map defining boundary of Malaysia's continental shelf on Friday, December 21, 1979. Announcement will be made vide gazette notification. A short press statement will also be issued by Menteri Kemajuan Tanah and Kemajuan Wilayah on same day.

2. Above Map is made pursuant to our objective of having a continental shelf boundary recognised by our neighbours as well as by the international community. In drawing the Map, account was taken of the following:-

(i) Malaysia's Continental Shelf Act, 1966

(ii) Agreements concluded between Malaysia and Indonesia and Thailand on the boundaries of the continental shelf in the northern part of the Straits of Malacca, the Gulf of Thailand and in the South China Sea.

(iii) Agreement concluded during the colonial rule of North Borneo.

(iv) The 1958 Geneva Convention on Continental Shelf of which Malaysia is a party.

3. I wish to emphasise here that production of New Map does not constitute new claim by Malaysia but merely indication on specific map of our right to the continental shelf, the boundary of which was drawn in conformity with above mentioned laws.

4. New Map however, affects Thailand and Vietnam due to overlapping claims in Gulf of Thailand; Vietnam due to its claim

over Amboyna Cay which comes within our continental shelf; Singapore due to our incorporating Pulau Batu Putih on which exist Horseburgh Lighthouse and Pulau Pisang on which exist another lighthouse predently administered by Singapore; Indonesia due to our incorporating Pulau Litigan and Sipadan also claimed by Indonesia into our New Map; Brunei due to the yet unresolved limit of Brunei's own continental shelf within our continental shelf; the Philippines due to concessions given by her to foreign companies to explore and exploit marine areas coming within our continental shelf and lastly China due to its maritime boundary line claim made in 1975.

5. Government is fully aware of implications of publication of New Map, briefly indicated above. However, the right to do so is ours.

6. It is definitely not our intention to bring about tension in this area by coming out with New Map at this time. Should any of our neighbouring countries feel unhappy with New Map matter could be brought up to us for our consideration. Malaysia on her part would be prepared to resolve whatever problem that arise through peaceful negotiations.

7. In meantime, as a measure of our goodwill to our neighbours all ASEAN Heads of Missions will be called up individually to Wisma Putra to be officially informed of New Map on the very day of announcement i.e. December 21, 1979.

8. Malawakil Bangkok, Singapore, Jakarta, Manila and Peking kindly tailor above as talking points if repeat if summoned by host Government. Other Missions just for information.

Distributions:
MFA
LOG
CYPHER
FLOAT
TKSU I
FILE : SR(900)443-24 Vol. VII

(AHMAD FUZI B. HJ. ABDUL RAZAK)

ANNEX MR 21

Talking Points Concerning Singapore by the Ministry of Foreign Affairs of Malaysia, 21 December 1979

TALKING POINTS

Singapore

Malaysia is a party to the 1958 Geneva Convention on the Continental Shelf which we ratified in 1966. Pursuant to this we enacted the Continental Shelf Act in 1967 to declare our sovereignty over the natural resources in the sea-bed and subsoil thereof of the continental shelf adjacent to our coast.

2. For Your Excellency's information, Malaysia has already concluded a number of Agreements on the delimitation of the continental shelf boundary with our neighbours. There is now even a Treaty concluded way back in 1927 defining the maritime boundary between Johore and Singapore in the Straits of Johore.

3. Our main objective is to have a continental shelf boundary recognised by our close neighbours as well as by the international community. Towards this end we have decided to come out with a new map defining the outer limits of our continental shelf boundary, taking into account the provision laid down in para 1, Article 6 of the 1958 Geneva Convention on the Continental Shelf as well as, where applicable, Agreements already concluded with our neighbours.

4. It is measure of the goodwill esixting between our two countries that we have taken the liberty of informing Singapore in advance of our intention to announce the publication of our new map on the continental shelf which would be made tomorrow Friday 21st December, 1979

5. [In drawing the continental shelf boundary between Malaysia and Singapore, account was also taken of the fact that the island called Pulau Batu Putih belongs to Malaysia thus coming within Malaysia's continental shelf.]

ANNEX MR 22

Extracts from John Hall-Jones & Christopher Hooi, *An Early Surveyor in Singapore. John Turnbull Thomson in Singapore 1841-1853*, Singapore: National Museum Singapore, 1979, pp. 11-19, 114-115

AN EARLY SURVEYOR IN SINGAPORE

John Hall-Jones
Christopher Hooi

AN EARLY SURVEYOR IN SINGAPORE

John Turnbull Thomson in Singapore 1841-1853

National Museum
Singapore

John Hall-Jones
Christopher Hooi

First published 1979 by
The National Museum
Stamford Road
Singapore 0617
Republic of Singapore

ISBN 9971-917-00-9

© 1979 The National Museum, Singapore
John Hall-Jones
Christopher Hooi

All rights reserved. No part of this book may be reproduced or transmitted, in any form or by any means, without the prior written permission of the publisher

Printed by Koon Wah Lithographers, Singapore.

THE FIRST LIGHTHOUSE IN THE EAST

> From the Cape of Singapura lyeth a cliffe in ye sea called Pedra bianque (Branca), or white Rock, where the shippes that come and goe to and from China passe in great danger.
> Van Linschoten (1583)

Thomson's greatest work in the East was probably his construction of the Horsburgh Lighthouse at the eastern entrance to the Singapore Straits. The lighthouse was the first of its kind in the Eastern Seas and still stands as a fine monument to Thomson's skill as an architect and engineer. Considering that it took the bureaucracy of the day 13 years to make up its mind about simply proceeding with the project, it is amazing that Thomson was able to complete the difficult task within only two years. The achievement was even more remarkable when you consider that the lighthouse was erected well out to sea, 54 kilometres (or 34 miles) off Singapore, on the exposed Pedra Branca Rock, and that all the building stone had to be quarried and transported 40 kilometres (or 25 miles) by sea through pirate-infested waters. The monsoon season limited the work to only seven months of the year and, as if this was not enough in the way of a handicap, Thomson was provided with a work force of convicts and opium addicts all in the charge of a dishonest contractor who absconded with their pay. What with a multi-language problem, a riot and a strike to contend with, and also his own illness, Thomson's account (in the *Journal of the Indian Archipelago and Eastern Asia*, Vol 6, 1852) of how he surmounted each challenge reads like some saga from the past.

Thomson first visited Pedra Branca (the name means 'white rock' – white because of the great accumulation of bird droppings encrusted on it) in 1847 when he set up a trial of bricks and mortar, but subsequently concluded that the lighthouse would have to be built of granite and the best hydraulic cement, if it was to endure. Pulau Ubin (an island north-east of Singapore main island, at the eastern entrance of Selat Johor)

provided a suitable quarry, but the granite would have to be transported 40 kilometres (or 25 miles) out to Pedra Branca by decked-lighters escorted by gun-boats. Chinese labourers were set to work cutting out the slabs of granite which were all marked out in patterns and numbered ready for assembly at their final destination. But when Thomson first visited the quarry at Pulau Ubin he found great discontent among the workmen and that virtually no rock had been cut at all. It then evolved that the stone-cutters had not been paid by the contractor who was 'feathering his own nest' with the money advanced to him for their wages. Thomson sacked the contractor, taking over control himself, and, with regular wages and trust restored, the men worked with a will. While supervising this aspect of the work, Thomson made an unique series of sketches of the stone-cutters at labour. "In the working of granite," wrote Thomson, "the stone-cutter accommodates himself to his work, and in doing so he places himself in many postures; sitting on his heels or squatting, is the favourite position, and the one which comes most easy to him, but at times he sits on the floor, at others he works with the left hand under the thigh, sometimes he crouches so as to be almost doubled up." The various postures are depicted in his sketches.

No great lover of the pompous, Thomson reveals how another sailor, Captain William Scott, the Harbour-master at Singapore, also fell foul of Governor Butterworth. Beloved by many and respected by all for his strict integrity, Captain Scott was used to an informal relationship with Colonel Butterworth's predecessor, the amiable Sir George Bonham. Whenever there was a knotty problem to be solved, Captain Scott would drop unannounced on the Governor and discuss the matter informally over a cigar. Sir George also appreciated Captain Scott's company and his name was high on the guest list at Government House, where any dinner was graced by his presence.

But times changed and when Captain Scott called unannounced at the new Governor's office in his everyday suit of clothes (albeit clean white) this was taken as a great personal affront. "But such a compound of ignorance and pomposity," wrote Thomson, "could not be expected to appreciate genuine worth." The insult was mortal and without any effort to call for an explanation, Captain Scott was dismissed from office.

Although he felt the injustice acutely, recorded Thomson, Captain Scott was not one to lodge an appeal, "for he had a good deal of Sir Walter in him." (He was a first cousin to the famous poet and novelist, Sir Walter Scott).

Thomson also revealed that when the popular Sir George Bonham resigned as Governor, he was to have been succeeded by Thomas Church, who as Resident Councillor was the logical choice. "But unfortunately for Church it was reported that he did not give good dinner parties!" So to overcome this essential qualification, Colonel Butterworth(without any knowledge of the local languages or problems) was appointed from the Cape of Good Hope instead. Butterworth's good fortune was ascribed to Lord Ellenborough who had met him, accidentally, at the Cape and had been impressed by his taste for good dinners and dress. And so it was that the rightful successor, the able Thomas Church, was passed over for an outsider. But, fortunately for the Settlement, Church was kept on as adviser to the Governor.

Advanced to the charge of the Straits Settlements, Colonel Butterworth sheathed his sword for a statesman's portfolio. But his love of uniforms and ceremony was deeply ingrained. "Governor Butterworth sat daily in state to receive the adulations of great strangers passing to and fro from all corners of the earth," wrote Thomson. "I think I still see the superfine blue frock-coat, so uncomfortable to wear, yet borne, for the sake of example to be governed; and well do I recollect the high pomp and circumstance that ravished the visitor's sight as he approached the portals of the Governor's office! These were guarded by sumptuously clothed Indians, bearing silver clubs, on whose tops were lion's heads."

"But with all his forced dignity it must be admitted that Butterworth had not the refined perception of the true gentleman. Thus he was occasionally deceived in the position of his callers. One day, a stout person, dressed in full black, having a massive pinchbeck chain hanging to his waistcoat pocket, presented himself at the Governor's office door. His card was delivered by the footman; it was a foreign one, and he was instantly admitted. The foreigner's portly appearance commanded at once Butterworth's most profound respect; there seemed to be an intutive attraction between equals. Butterworth rose from his seat and clasped the stranger's hands, leading him at the same time to the seat of

honour. The foreigner seemed nobly condescending, he possessed a charming humility, which appeared to the Governor the beau ideal of greatness. The stranger's accent was interestingly foreign, and nothing less than a German prince, or at least a baron, suggested itself."

"Butterworth was all smiles and courtesy, and, with due attention to the foreigner's words, he waited the development of the distinguished man's mission. At length 'Sar' said he, 'I am de great magician vot trabels all ober de varld to make trick dat surprise de peoples, and I keep two girls dat do dance on de tightrope, and all de young men be fond to see! At this announcement Butterworth raised his eyebrows and dilated his eyes with an expression of horror mingled with surprise, and shuddered involuntarily. The magician continuing came to the object of his mission- the Governor's patronage. But the interview was now serious. Butterworth gave a gasp; the magician ran for water, and the footmen rushed in. The poor magician was instantly laid hold of and pushed out of the office."

"Like all pompous people of plebian origin," continued Thomson, "Butterworth was very vain." He desired to be remembered after he had departed this world but unfortunately he had no children to pass the image on. So he aspired to have a full-length portrait painted of himself and hung in the Town Hall. To this end he gave many dinner balls and suppers to Her Majesty's subjects" until his "darling wish was attained." Small wonder that he was known as *Butter-Pot the Great.* (Unknown to him the great man was to be immortalized in the town of Butterworth in Malaysia).

Meanwhile, work was under way out on Pedra Branca. Thomson had designed a tower 29 metres (95 feet) high with a light that would radiate 15 nautical miles out to sea. Special provisions had to be made for the pirates who infested these waters. The whole lighthouse would be of granite so that it could not be burnt down, and it was to be stocked with enough food and water to withstand a siege of six months. The light-keeper's room would be at the top of the tower and could be entered only by a ladder that was to be drawn up inside. By April, 1849, Thomson was established on the rock with huts for his workmen and a 'wigwam' for his foreman, John Bennett, and himself. His work force of 46 men consisted of Malays, a number of Indian convicts, three of whom had 'Murder' tattooed on their foreheads, and Chinese nearly all of whom

were inveterate opium smokers. Work under the same dishonest contractor commenced slowly, but after he was dismissed and regular wages established the men worked with a will. "Paying the workmen myself," wrote Thomson, he found them "more obedient and tractable whereas before they had been fractions. Personal chastisement was never inflicted and in fact never called for." Prior to this, however, on one occasion when the rascally contractor was leaving for the mainland, the men rushed his boat and pelted it with stones. Thomson bravely planted himself between the boat and the angry men, arresting several, and halted the onslaught. He recorded the incident in a little sketch which is now published for the first time.

But as if this riot was not enough to contend with, the crew of one of the gunboats, the *Nancy*, now refused to work because of the stormy weather they were experiencing in escorting the lighters out to Pedra Branca. As the *Nancy* came under Thomson's jurisdiction, he detained her at Pedra Branca until the steamer *Hooghly* (Captain Stewart) arrived and escorted her to Singapore, where the captain and crew were replaced.

Order restored, the work now proceeded more smoothly. The rock was levelled for the foundations by blasting and the 24 May 1850, Queen Victoria's birthday, was fixed for the laying of the foundation stone. On the morning of that day, a flotilla of three vessels arrived off the rock with the Governor, Colonel William John Butterworth, and entourage aboard. Then, with all pomp and circumstance, the party disembarked and marched solemnly in order to the top of the rock for a masonic laying of the foundation stone. Apart from a similar function at the Raffles Lighthouse four years later, there is no other record of such a masonic ceremony at a lighthouse. The Governor concluded with a request for the assembled company "to proceed with the least practicable delay" - perhaps indicating his anxiety to be clear of the storm-prone rock as quickly as possible.

But Thomson was now stricken with illness (he had already had one trip to Singapore for this reason) and availed himself of the opportunity to return to Singapore to seek further medical advice. A fortnight later, he was back on the rock feeling better and, on the day of his return, he was visited by His Highness the Temenggong of Johore, with 30 followers. The Temenggong stayed with Thomson in his house for two days,

"employing his leisure in fishing, to which sport he is greatly devoted." But the rock was being subjected to a plague of mosquitoes and the Temenggong, having no mosquito netting, was forced to depart. It was only after he had left that Thomson found that the mosquitoes were hatching in the water barrels. The water had been obtained from a running stream containing eggs and as they matured into the adult phase the mosquitoes "infested every nook and cranny of the rock." The mosquitoes might well have been the cause of Thomson's illness, which was probably malaria, and which was to lead to his eventual departure from the East. Be this as it may, the conditions of work on the exposed rock were bad enough for the local people, let alone a European. Within the hour they could be burnt by the fierce heat of the tropical sun then soaked by the sudden sumatras (squalls) of this region.

As the tower began to rise, Thomson was able to look down into the surrounding sea. "During neap tides the water was perfectly clear and displayed in its bosom numerous fish of various species playing about the rocks and corals. A beautiful green species particualrly attracted our attention from the splendour of its tints," wrote Thomson. "And the gigantic skate called by the sailors the devil fish (probably the manta or devil ray, *Mobula diabolous*) would sometimes approach close to the rock, and might occasionally be noticed to leap out of the water and make a summerset (somersault) 20 feet above its native element." At other times, Thomson observed water-spouts out in the Straits and on at least two occasions, these approached within 800 metres (or half-a-mile) of their rock. One he described as a hissing column of vapour rising 300 metres (or 1,000 feet) out of the sea to enter a cloud above. The column played for about five minutes, then disappeared entirely. He recorded the phenomenon in one of his watercolour sketches.

By October 1850, the monsoon was approaching and Thomson was forced to evacuate the rock, and it was not until March 1851 that work could be resumed. On landing again, it was found that the sheds and pier and also a trial garden had all been washed away, but the base of the lighthouse and material around it were just as they had left them. The final stages now proceeded rapidly and, by 14 June, the top of the tower was laid and made ready to receive the lantern. On 8 July, the Hon Thomas Church, the Resident Councillor at Singapore with whom Thomas seemed to have developed an excellent working relationship,

came out to inspect the building and departed well pleased. By August, the lantern, which had been designed by Alan Stevenson, Engineer to the Northern Lighthouse Board in Great Britain (and an uncle of Robert Louis Stevenson the author), arrived in Singapore and was immediately taken out to Pedra Branca by lighter. And we can appreciate Thomson's mounting excitment as he opened each package and assembled the pieces. The copper dome was hoisted up from outside with a fearless workman riding on top and staving it off the tower with a pole. By 21 September, the lantern was installed and ready for lighting; and, on 27 September, Governor Butterworth came out to inspect the completed work. Thomson returned with the Governor in the *Hooghly* and we can imagine his feeling of quiet satisfaction as he watched 'his' tower lighting up the sea for the first time. The effect was brilliant at a distance of 800 metres(or half-a-mile) and the light could still be seen at a distance of 15 nautical miles where it finally faded below the horizon. The Horsburgh Lighthouse was lit up officially in October, 1851, and has continued to function (with the installation of modern equipment) to this day.

On his survey of the off-shore islands, the edible bird-nests attracted his attention. As his boat passed beneath the cliffs of Tioman Island, the pilot pointed to the narrow crevices where only the swallows could enter. Man's access to the nests, the pilot explained, was by diving under the water to enter a huge subterranean cavern. But to do so was to invite death by "a spirit, most destructive and a fish, most voracious." No doubt, a natural desire to protect this special delicacy had something to do with the origin of the legend.

Piracy

In his account of the Horsburgh Lighthouse, Thomson gives a long list of the acts of piracy in and about the Singapore Straits from 1846-50. By 1848, the pirates had become so bold that Singapore Island was being used as the headquarters for at least two pirate squadrons. One was based in the mangrove-shaded rivers in the Old Straits (Selat Johor) at the back of the island, while another gang of "daring and reckless men" actually sailed from Singapore itself. Four vessels with 100 Chinese pirates aboard were cleared out at the proper office on the pretence of collecting some gutta percha from the islands in the Straits, but then promptly altered course for the coast of Malaya. They attacked several

vessels but each fought back and the pirates returned to Singapore licking their wounds - only to take it out on the local population. A large detachment of the gang, about 40 or 50 in number, attacked a house in Kampong Glam, on the northern outskirts of the town. The door was forced open with a battering ram, wounding several of the inmates, and the gang proceeded to plunder the house. But what was the Government doing about such outrages and piracy in general? Very little, it seems, until Captain Samuel Congalton arrived on the scene.

Described by Thomson as "a man of small stature, but compact and active," Congalton had been brought up in the rough school of the Sunderland coal trade. "Early on, in an encounter with a gang of pirates in the Muda River, he proved that his sword was wielded by a firm and dextrous hand." Later, in command of the H.C. *Diana* and then the H.C. *Hooghly*, he was to have many a skirmish with pirate gangs, eventually clearing them off the seas. At times, he was engaged as consort to one of Her Majesty's ships of war where his knowledge of the habits of the pirates was invaluable. As such, he was invariably employed in "the more dangerous and arduous duties of boat expeditions up the rivers. In such services he had to run the risk of being shot by hidden enemies concealed behind mangrove bushes."

Thomson sailed with Congalton in the H.C. *Diana* for his survey of the Straits and in a fitting tribute to the sturdy little captain he named Congalton's Carr (island) after him (and also Diana Cove and Diana Shoal after his ship). Thomson also revealed the true story of H.M.S. *Wolf's* encounter with pirates, as vouched to him by Congalton. On 18 May, 1838, H.M.S. *Wolf* (Captain Edward Stanley) was cruising on the east coast of the Malay Peninsula when she came upon a Chinese junk defending itself against an attack by six pirate prows. Unfortunately, there was not a breath of wind to carry the British man-of-war to the rescue and Captain Stanley ordered the little paddle-steamer *Diana* (160 tons) to attack. As he came up to each pirate prow, Congalton stopped the *Diana's* paddles and raked it with a terrible sweep of gunfire. The last and largest of all was actually boarded and sunk. Two hundred and forty pirates were killed and wounded by the little *Diana* (33 men) and 30 were taken prisoner. This was the first real check that the pirates had received and, for some time afterwards, the seas were safe to sail on. But what did a grateful Government do to recognise this feat, asked

Thomson. Captain Stanley, as commander of the expedition, was presented with a sword valued at a 100 guineas and honoured with a public dinner, but Congalton was not even thanked. Some years later, after Congalton had died, his friends in Singapore tried to rectify the injustice by hanging his portrait in the Institution. But the gesture met with the disapproval of the Governor, Colonel William Butterworth, as Thomson revealed. "I happened to call on his honour shortly after my friend's portrait had been hung in the Institution," he wrote "and he was very cross and ill-humoured about it." Indeed, Thomson left with the suspicion that the portrait might well be removed as "that high functionary, of such small mind, intended the same honour for himself."

Butter-Pot the Great

When I first put this uniform on,
I said as I looked in the glass,
It's one in a million that any civilian
My figure and form will surpass.

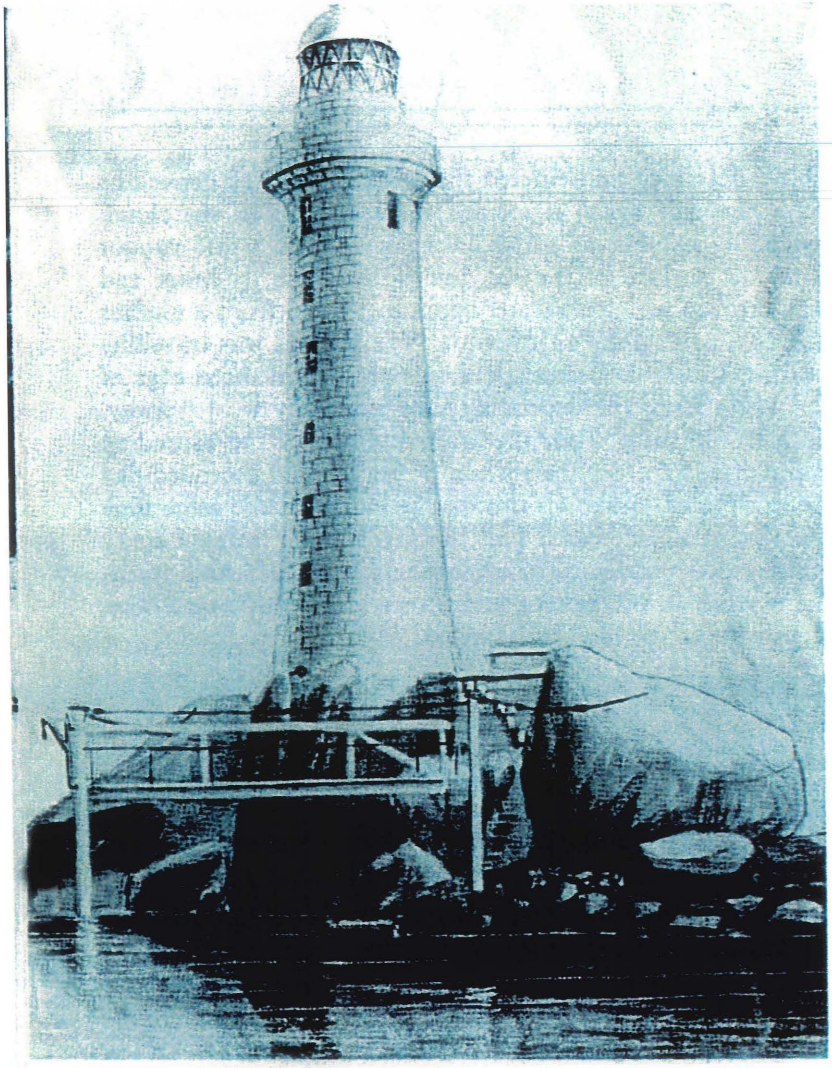


Plate 41 A painting of the Horsburgh Lighthouse by J T Thomson in 1852, after the lighthouse was completed in 1851. The plans for the lighthouse and the estimates for erecting it were drawn by J T Thomson in November, 1844. Construction of the lighthouse began in earnest in December, 1847. The foundation for it was laid by the Brethren of the Lodge "Zetland in the East", on the instruction of the Governor, Colonel William John Butterworth, on 24 May, 1850. When the lighthouse was completed in 1851, a plaque bearing the

following inscription was installed in the Visitor's Room of the lighthouse:

Pharos Ego
Cui nomen praebuit
Horsburgh Hydrographus
In maribus Indo Sinicis praeter omnes proeclarus
Angliae Mercatorum nisi imprimus indole
Ex imperii opibus Anglo Indici denique constructa
Saluti nautarum insignis viri memoriae
Consulo
A. D. MDCCLI
W.J. Butterworth, C.B.,
Prov: Malacc. Proef.

———

A. D. 1851
The Horsburgh Lighthouse
is raised by the British enterprise of British Merchants,
and by the liberal aid of the East India Company,
to lessen the dangers of navigation,
and likewise to hand down,
so long as it shall last,
in the scene of his useful labours,
The Memory of the Great Hydrographer
whose name it bears

———

Col. W.J. Butterworth, C.B.,
Governor in the Straits of Malacca.

———

J.T. Thomson,
Architect.

ANNEX MR 23

Loose Minute by Mr. Ahmad Fuzi B. Hj. Abdul Razak, Principal Assistant Secretary (Political), Ministry of Foreign Affairs, Malaysia, 21 January 1980

LOOSE MINUTE

SR(900)443-24 Vol.VII

Mr. Frederick Tan Im Kian, Counsellor, Singapore High Commission called on me at 3.00 p.m., on Tuesday, 8th January, 1980.

2. Among other things, Frederick Tan raised the question of the publication of Malaysia's Peta Baru. He stated that Singapore's initial reaction to the matter was one of alarm. Singapore views it as a serious matter as it affects its immediate national interest. A meeting had been called among the relevant Ministries to study the Peta Baru including its implications on Singapore in greater detail. All aspects including particularly the legal aspect of the case would be made so as to ascertain the actual legal position with regard to the ownership of Pulau Batu Putih.

3. Frederick Tan also stated that Pulau Batu Putih is important for Singapore from the point of view of international navigation. At present Singapore even has control over the air-space over the island (FIR).

4. During the Tripartite SOM held in Kuala Lumpur from 15 - 16 January 1980, the subject was again raised by a member of the Singapore delegation, Mr. Chao Hick Tin, Senior Federal Counsel of Singapore. He informed me and Encik Zakaria Yatim of Attorney-General's Chambers at separate occasions the following:-

i) Malaysia should at least discuss the matter first with Singapore before issuing the Peta Baru. In other words what Malaysia had done was more or less presenting Singapore with a fait accompli.

ii) Singapore do not have all the relevant documents with regard to the ownership of Pulau Batu Putih. This is contrary to our previous assumption that all these documents are in the hands of Singapore. This information was conveyed to Encik Zakaria purely on the personal basis.

iii) He would be happy if Encik Zakaria could furnish him with the necessary documents that are now in Malaysia's possession.

iv) Singapore would have to come up with an official response to Malaysia's publication of the Peta Baru.

v) Singapore hoped that the conflict between the two countries on this issue would not be brought out in the open and would prefer to resolve the matter quitely.

5. Encik Zakaria merely informed him that the decision to publish the Peta Baru was made at the highest political level i.e. the Cabinet and that Malaysia would be prepared to consider Singapore's problems at the most opportune time possible.

6. Following the above developments Encik Zakaria and I agreed that immediate action should be taken on our part to prepare ourselves in the event that we have to meet with Singapore sooner than we expect to resolve the problem. Towards this end Encik Zakaria would try to make a trip to Johore Bharu soonest possible to obtain whatever documents he could get in the relevant Departments in Johore Bharu

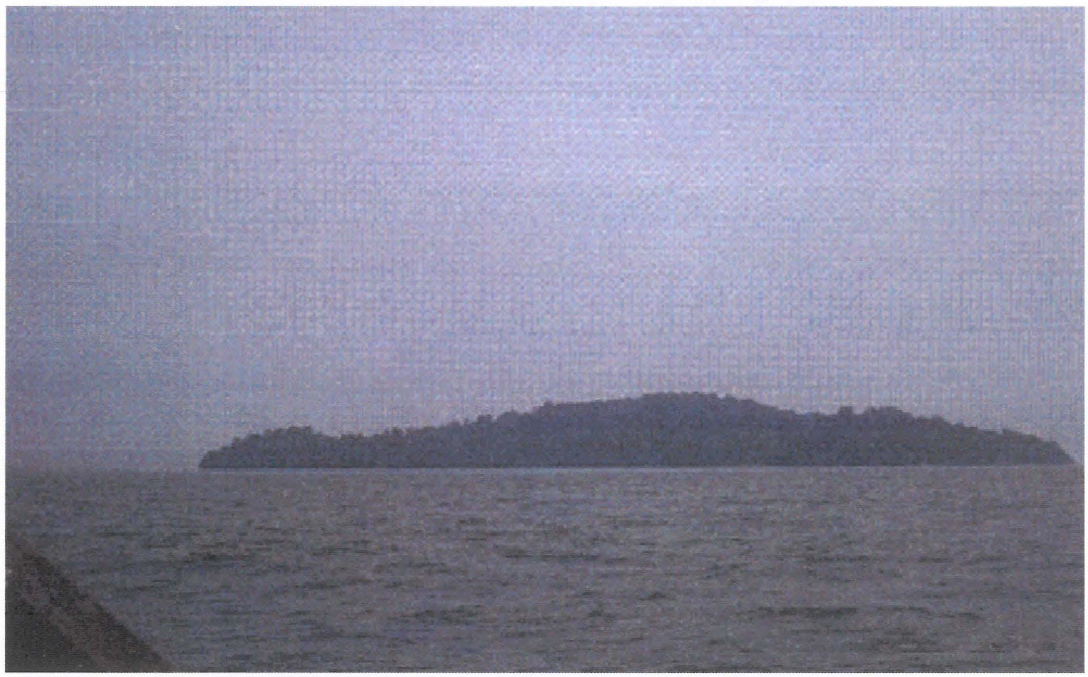
(AHMAD FUZI B. HJ. ABDUL RAZAK)

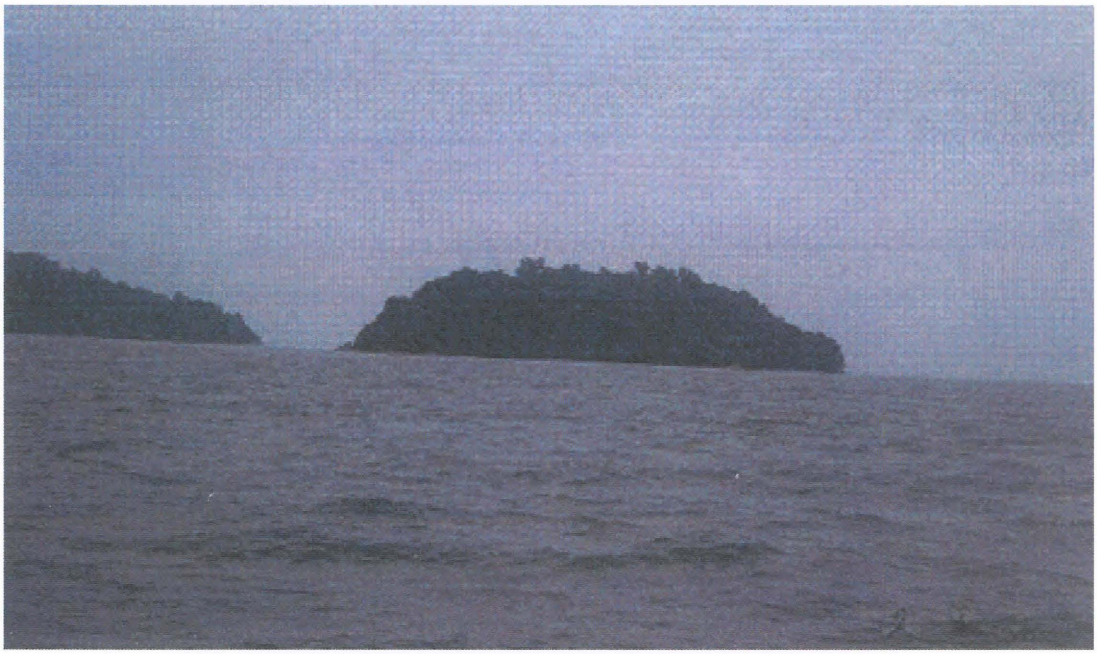
21st January, 1980

ANNEX MR 24

Photographs of Pulau Pisang taken on 4 April 2003, Source: Land Office of Pontian, Johor, Malaysia

PULAU PISANG





HUTS ON PULAU PISANG

ORCHARD ON PULAU PISANG

ORCHARD ON PULAU PISANG

OLD GRAVES ON PULAU PISANG

THE SITE OF WHERE A MOSQUE USED TO BE

JETTY LEADING TO THE LIGHTHOUSE

ROAD FROM THE JETTY TO THE LIGHTHOUSE

STORE BELONGING TO SINGAPORE AUTHORITIES

ANNEX MR 25

Major Masonic Events in South East Asia in the past 150 Years, from http://web.singnet.com.sg/~masonry/eventsea.htm

Major Masonic Events in South East Asia in the past 150 years

1765 - Lodge No. 1 Bencoolen warranted.

1772 - 10 February, Marlborough Lodge warranted.

1786 - Founding of Penang.

1791 - Marlborough Lodge renamed "Rising Sun".

1793 - John Macdonald (son of Flora Macdonald the Jacobite heroine) first Provincial Grand Master.

1796 - Humanity & Industry Fort Marlborough warranted.

1809 - 6 September, Lodge Neptune, Penang warranted.

1810 - First meeting of Lodge Neptune, Penang.

1811 - Last meeting of Lodge Neptune, Penang.

1812 - Stamford Raffles initiated Lodge Virtutis et Artis Amici, Java.

1813 - Lodge No. 1 Bencoolen erased.
- Humanity and Industry Fort Marlborough erased.
- 5 July, Stamford Raffles raised Lodge de Vriendschap Soerabaya.

1816 - 25 April, Stamford Raffles perfected Chapter La Vertueuse Batavia.

1819 - Lodge Neptune, Penang erased.
- 28 January, Stamford Raffles arrived off Singapore.
- 6 February, Founding of Singapore.

1822 - Lodge Humanity with Courage warranted in Penang.

1824 - Bencoolen handed over to the Dutch by Treaty.

1825 - Lodge Neptune, Penang revived.

1826 - Humanity merged with Neptune.

1845 - 26 February, Lodge Zetland No. 748, Singapore warranted.
- 8 December, First meeting of Lodge Zetland No. 748.
- 15 December, 1st initiate W. J. Napier.
- 15 December, 2nd initiate W. H. Read

1846 - Lodge Zetland renamed "Lodge Zetland in the East".
- Lodge Neptune Penang dormant

1848 - Bro. James Brooke (Rajah Brooke) visited Lodge Zetland in the East.

1849 - Sir James Brooke joined Lodge Zetland in the East.
- 25 August, Hon. Capt. H. Keppel (Admiral) initiated in Lodge Zetland in the East.

1850 - 24 May, W. M. of Zetland M. F. Davidson laid the foundation stone of Horsburgh Light House at the request of the Governor of the Colony.
- 3 August, Lodge Neptune Penang rewarranted.

1854 - 24 May, Acting W. M. of Zetland W. H. Read laid the foundation stone of Raffles Lighthouse at the Governor's request.

1856 - Masonic Hall Esplanade, Singapore, opened.

1858 - 3 April, Lodge Fidelity, Singapore, warranted.
- 5 August, Lodge Fidelity, Singapore, consecrated.
- 4 December, District Grand Lodge constituted.
- 4 December, W. H. Read installed as D.G.M

1862 - 4 June, Lodge Neptune Penang erased.
- 4 June, Sun Lodge erased.

1863 - Lodge Zetland in the East No. 748 renumbered "Lodge Zetland in the East No. 508".

1867 - Fidelity united with Lodge Zetland in the East.
- 24 June, Lodge St. George No. 1152 consecrated

1871 - 10 March, Masonic Hall, Kampong Glam, consecrated.

1873 - 29 March, Clyde Terrace Market Corner Stone laid with Masonic honours.

1875 - 4 December, Royal Prince of Wales Lodge No. 1555 consecrated.

1878 - 27 December, First Masonic Temple built and consecrated in Penang.

1879 - 14 April, Foundation stone of Masonic Hall, Coleman Street laid.

- 27 December, Freemasons' Hall, Coleman Street consecrated.

1885 - 13 August, Lodge Elupoa, North Borneo warranted.
- 28 December, Colonel Samuel Dunlop installed as D.G.M.

1888 - 2 January, Elupora No. 2106 never constituted. Erased.
- 14 April, Perak Jubilee Lodge No. 2225 consecrated.
- 2 July, Masonic Club, Singapore inaugurated.

1889 - 21 October, Read Lodge, Kuala Lumpur consecrated.
- November, Dunlop Masonic Benevolent Society inaugurated.
- 28 November, Lodge Shadwell Clerke, Penang warranted.

1890 - 2 May, Shadwell Clerke No. 2336 consecrated.
- 3 October, District Grand Lodge elected to membership of Q.C.C.C.

1891 - 1 May, Borneo Lodge of Harmony No. 2403 warranted.
- 13 August, Sir Charles Warren G.C.M.G. installed as D.G.M.

1893 - 3 March, Borneo Lodge No. 2403 constituted.
- 6 November, Foundation stone of Masonic Building in Kuala Lumpur laid.

1894 - 15 October, Read Masonic Temple, K.L. consecrated.

1895 - Bro. Pavitt installed W.M. of Harmony in Lodge St. George, Singapore.
- 13 June, Sir Charles Mitchell installed as D.G.M.

1896 - Bro. Raffles Flint (nephew of Sir Stamford Raffles) installed as W.M. of Borneo Lodge of Harmony in Lodge Zetland in the East.

1899 - 19 May, Shadwell Clerke warrant returned.
- 19 May, Borneo Lodge of Harmony No. 2403 erased.
- 7 December, Sir Charles Mitchell D.G.M. died in Singapore.

1902 - 30 January, Zetland held special meeting to welcome Bro. Admiral Sir. H. Keppel.
- 29 September, Lodge St. Michael No. 2933 consecrated.

1903 - 20 February, W.J. Napier installed as D.G.M.
- 16 July, Eastern Gate Lodge No. 2970 consecrated

1906 - 17 May, Founding of Scottish Freemasonry - Scotia No. 1003.
- 21 August, District Grand Chapter constituted.

1907 - 16 April, Kinta Lodge No. 3212, Ipoh, consecrated

1909 - 10 May, Death of W.H. Read C.M.G., P.D.G.M.
- 20 May, Jubilee of District Grand Lodge.
- 24 June, First issue of Pentagram published.
- 9 October, Klang Lodge No. 3369, K.L. consecrated.

1910 - 25 February, F.M. Elliot installed as D.G.M.
- 4 March, Napier Lodge No. 3418 consecrated. 1912
- 6 January, Negri Sembilan Lodge No. 3552, Seramban, consecrated.
- 7 December, Lodge Elliot No. 3557, Malacca, consecrated.

1913 - 6 September, Makepeace Lodge No. 3674, K.L. consecrated. 1914
- 1 August, commencement of First World War.

1915 - 15 February, Mutiny of Indian Troops in Singapore. Murder of D.G. Secretary.

1916 - 20 October, District Grand Lodge of the Middle East, Scottish. 1918.
- 2 August, Lodge Kedah No. 3830 Sungai Petani consecrated.
- 11 November, Cessation of First World War (Armistice Day)

1919 - 26 July, Johore Royal Lodge No. 3946 consecrated.

1920 - 28 May, W.F. Nutt installed as D.G.M.

1922 - 17 December, Foundation stone of Seramban Masonic Temple laid by D.G.M.

1923 - 9 January,Foundation stone of Teluk Anson Masonic Temple laid.

- 31 March, Sir Neil Malcolm installed as D.G.M.

1924 - 8 November, P.G. Sprule installed as D.G.M.

1929 - 15 November, Consecration of Penang Masonic Temple by D.G.M.

- 14 December, Foundation stone of Johore Royal Temple laid by D.G.M.

1931 - 10 October, Foundation stone of Tiger Lane Temple, Ipoh laid by D.G.M.

1932 - 6 February, Johore Utara Lodge No. 5324 consecrated.
1933 - 25 March, Sir George Trimmer installed as D.G.M.
1938 - 28 May, W.H.W Gubbins installed as D.G.M.
1939 - 3 September, Second World War commenced.
1941 - Last pre-war Pentagram published (Vol. XXXI).
1942 - 12 February, Last Masonic meeting held by Lodge Zetland in the East.
- 15 February, Fall of Singapore.
1945 - 15 August, End of Second World War.
- 12 September, Formal surrender of Japanese troops in Singapore.
- December, Centenary of Lodge Zetland in the East.
- 15 September, First Masonic meeting held in Singapore after the Second World War by Lodge St. Michael.
1947 - 25 January, Baldwyn Lowick installed as D.G.M.
- First post war Pentagram published (War Years' Edition Vol. XXXII).
1948 - 29 May, Read Temple re-dedicated.
1951 - 26 January, Lodge Kinabalu No. 7047, K.K., consecrated.
- 17 March, Baldwyn Lowick Lodge No. 7004, K.L. consecrated.
1952 - 28 June, Lodge Singapore No. 7178, consecrated.
1954 - 5 June, Founding of Irish Freemasonry in South East Asia - St. Patrick No. 765.
- 25 September, E.G. Holiday installed as D.G.M.
1956 - 2 May, Stamford Raffles Lodge No. 7444 consecrated.
1957 - 8 August, Horsburgh Lodge No. 7533 consecrated.
- 2 November, Elupora Lodge No. 7545, Sandakan, consecrated.
1958 - 7 December, Centenary of the District Grand Lodge.
1959 - 27 May, Centenary Lodge No. 7629 consecrated.
1960 - 20 February, Sentosa Lodge No. 7661, K.L., consecrated.
1963 - 31 August, Malaysia declared independence.
1964 - 31 October, Beaufort Lodge No. 7989, K.K., consecrated.
- 28 November, Edward Holiday Lodge No. 7997, K.L., consecrated.
1965 - 9 August, Republic of Singapore formed.
1966 - 15 January, Leslie Rayner installed as D.G.M.
1967 - 1 July, Mustapa bin Osman installed as D.G.M.
1973 - 10 February, Fidelity Lodge No. 8469, K.L., consecrated.
1974 - 16 February, Berakas Lodge No. 8560, B.S.B., consecrated.
- 9 November, J.W.Y. Eu installed as D.G.M.
1978 - 14 December, Read Temple, Damansara Road evacuated because of city development.
1994 - 9 November, J.W.Y. Eu's 20th Anniversary as D.G.M.
- 3 December, Launch of J.W.Y. Eu Foundation.
- 5 December, J.W.Y. Eu Lodge No. 9572 consecrated.
1995 - 8 March, Berakas Lodge No. 8560 erased.
- 8 December, Sesquicentenary celebration held.

© W.Bro. E. F. Mullan

Return to the Homepage of Freemasonry in the Eastern Archipelago.

ANNEX MR 26

"Report in respect of the forensic examination of the letter from W.J. Butterworth (Governor of Prince of Wales Island, Singapore and Malacca) to G. A. Bushby (Secretary to the Government of India) dated 26 August 1846", prepared by Mr. Wong Kong Yong, Document Examiner, Forensic Division, Department of Chemistry, Malaysia, 21 September 2005

JABATAN KIMIA MALAYSIA
(DEPARTMENT OF CHEMISTRY MALAYSIA)
Jalan Sultan, 46661 Petaling Jaya, Selangor Darul Ehsan.
Tel: 03-79853000 Fax: 03-79556764

REPORT

Report in respect of the forensic examination of the letter from W.J. Butterworth (Governor of Prince of Wales Island, Singapore and Malacca) to G.A. Bushby (Secretary to the Government of India) dated 26 August 1846

Prepared by: Wong Kong Yong
Document Examiner
Forensic Division
Department of Chemistry
Malaysia.

JABATAN KIMIA MALAYSIA
(DEPARTMENT OF CHEMISTRY MALAYSIA)
Jalan Sultan, 46661 Petaling Jaya, Selangor Darul Ehsan.
Tel: 03-79853000 Fax: 03-79556764

Date: 21st September 2005

This report is in respect of the examination of four sets of photocopied documents received from the Attorney General's Chambers on 5th and 11th August 2005.

These four sets of photocopied documents were identified as follows:

1. FILE 1 - Letter from W.J. Butterworth (Governor of Prince of Wales Island, Singapore and Malacca) to G.A. Bushby (Secretary to the Government of India) dated 26 August 1846, signed W.J. Butterworth, and its enclosures; source: National Archives of India comprising 33 pages (including the cover page).

2. FILE 2 - Letter from W.J. Butterworth (Governor of Prince of Wales Island, Singapore and Malacca) to G.A. Bushby (Secretary to the Government of India) dated 26 August 1846, without signature; source: Strait Settlements Factory Records comprising 4 pages.

3. FILE 3 - Letter from W.J. Butterworth (Governor of Prince of Wales Island, Singapore and Malacca) to G.A. Bushby (Secretary to the Government of India) dated 26 August 1846, without signature; source: British Library comprising 5 pages.

4. Counter-Memorial of Singapore comprising 16 pages (excluding the title page).
[Vol. 2 Annex 12 and pages 103-105 of the Counter-Memorial of Singapore]

For referencing convenience, the pages of all the above documents were marked in ascending order starting from 1 for each set and hereafter the said documents shall be referred to as simply File 1, File 2, File 3 and Counter-Memorial of Singapore. The above documents are annexed as File 1, File 2, File 3 and Counter-Memorial of Singapore respectively to this Report.

Summary of Findings:-

1. The handwriting characteristics of File 1 and File 2 were similar to each other and therefore it can be concluded that the two documents were written by the same writer. [See Appendix 1]

2. File 3 which showed different handwriting characteristics from File 1 and File 2, was written by a different person.
[See Appendix 2]

WONG KONG YONG
Pemeriksa Dokumen
Jabatan Kimia Malaysia

JABATAN KIMIA MALAYSIA
(DEPARTMENT OF CHEMISTRY MALAYSIA)
Jalan Sultan, 46661 Petaling Jaya, Selangor Darul Ehsan.
Tel: 03-79853000 Fax: 03-79556764

3. There was significant variation in the handwriting characteristics shown by the writer in respect of the letters "s"/ "r" and "se"/ "re" in File 1. There were nine variants of the character "r" and three variants of the character "s" of which one from each set had a common form i.e. the form shown in the questioned word ("case"/ "care" on page 3 of File 1).
[See Appendix 3]

4. The writer had shown a tendency to write "s" and "r" in a similar style such that the words had to be read in the right context to register the correct spelling.

5. More specifically, numerous words in File 1 having "s" / "se" / "ase", similar in form to the corresponding characters in the questioned word were identified which showed that the "s", "se" or "ase" can be misconstrued as a "r", "re" or "are" respectively if not taken in the right context.
[See Appendices 4, 5 and 6]

6. 24% of the words (i.e. 28 out of 119) having "se" throughout File 1 can be misconstrued as "re", as described in paragraph 5 above.
[See Appendix 7]

7. Likewise 62% of the words (i.e. 5 out of 8) having "ase" in File 1 can be misconstrued as "are".
[See Appendix 8]

8. The word "case" occurred a total of 4 times elsewhere in File 1 and three of them showed a great degree of similarity in style/form, spacing and line quality to the questioned word.
[See Appendix 9]

9. The word "base" occurring twice in File 1 was also similar in style / form, spacing and line quality to the questioned word.
[See Appendix 10]

10. File 2 showed similar variations as described above and this is expected, coming from the same writer. There were a total of 13 words with the letters "se" of which 8 (i.e. 61%) were written in the form shown in the questioned word of File 1. However, no word was found with the letters "ase" in File 2.
[See Appendices 7 and 11]

WONG KONG YONG
Pemeriksa Dokumen
Jabatan Kimia Malaysia

JABATAN KIMIA MALAYSIA
(DEPARTMENT OF CHEMISTRY MALAYSIA)
Jalan Sultan, 46661 Petaling Jaya, Selangor Darul Ehsan.
Tel: 03-79853000 Fax: 03-79556764

11. A discrepancy was observed between the phrase bearing the questioned word in File 1 and the corresponding phrase in File 2. The File 1 phrase read as "for the case (or "care") of Light Houses" while the File 2 phrase read as "for the care (or "case") of a Light House". In addition in the File 2 phrase the spaces between the "a" and its adjacent words, "of" and "Light", appeared to be unusually small.
[See Appendix 12]

Comments on the Singapore Counter-Memorial:

1. Annex 12 of Singapore Counter-Memorial had only made reference to 3 pages (out of 33 pages) of File 1 and therefore did not take into account the variations described in paragraphs 3 to 9 (under "Summary of Findings").

2. Particular attention should have been given to the form of the word "case", in File 1, which was very similar on 3 out of 4 instances to the questioned word. Therefore, it would be wrong to assume that the questioned word should read as "care" and not "case" (see also paragraph 8 under "Summary of Findings").
[See Appendix 9]

3. Superimposition of the words "case" in File 1 (pages 16, 26 and 27) over the questioned word (page 3) showed close agreement indicating that the questioned word could read as "case" and not "care".
[See Appendix 13]

Conclusion:

Based on the above observations, the questioned word would more likely read as "case" rather than "care".

WONG KONG YONG
Pemeriksa Dokumen
Jabatan Kimia Malaysia

APPENDICES

JABATAN KIMIA MALAYSIA
(DEPARTMENT OF CHEMISTRY MALAYSIA)
Jalan Sultan, 46661 Petaling Jaya, Selangor Darul Ehsan.
Tel: 03-79853000 Fax: 03-79556764

List of Appendices

Appendix 1 : Chart showing handwriting similarities between File 1 and File 2.

Appendix 2 : Chart showing handwriting differences between File 1 and File 3.

Appendix 3 : Chart showing the different forms of "s" and "r" in File 1.

Appendix 4 : Words in File 1 bearing letter "s" written like "r".

Appendix 5 : Words in File 1 bearing letters "se" written like "re".

Appendix 6 : Words in File 1 bearing letters "ase" and "are".

Appendix 7 : Frequency table showing variation of letters "se" in File 1 and File 2.

Appendix 8 : Frequency table showing variation of letters "ase" and "are" in File 1.

Appendix 9 : Chart showing questioned word "case"/ "care" and specimen words "case" from File 1.

Appendix 10 : Word bearing letters "base" from File 1.

Appendix 11 : Words in File 2 bearing letters "se" written like "re".

Appendix 12: Chart showing discrepancy between phrase in File 1 bearing questioned word and corresponding phrase in File 2.

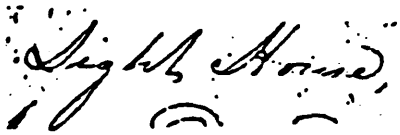
Appendix 13: Superimposition of the questioned word "case"/ "care" and specimen words "case" from File 1.

Appendix 1

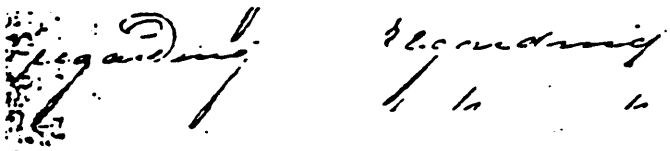
Chart showing handwriting similarities between File 1 and File 2

FILE 1

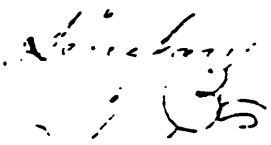
Page 2, Line No. 4



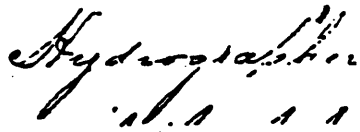
Page 2, Line No. 21



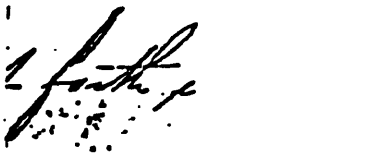
Page 3, Line No. 5 Page 20, Line No. 10



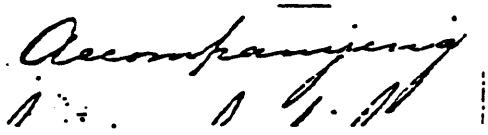
Page 2, Line No. 14



Page 2, Line No. 16



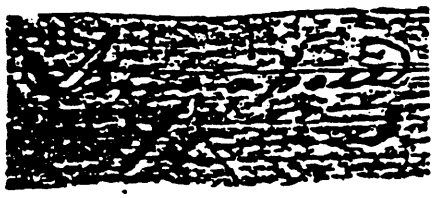
Page 3, Line No. 26



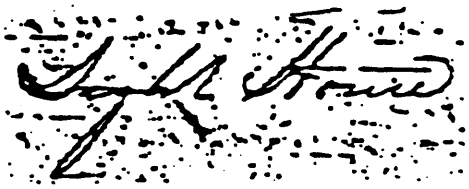
Page 19, Line No. 19

Page 3, Line No. 28

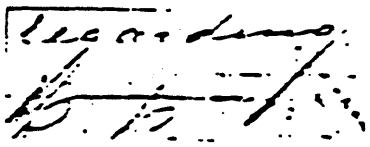
FILE 2



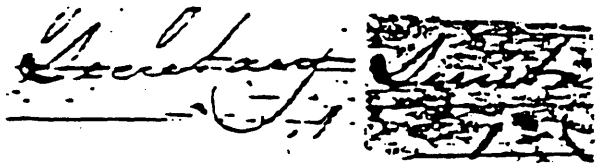
Page 4, Line No. 16



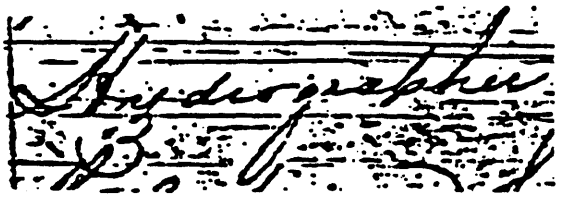
Page 2, Line No. 21



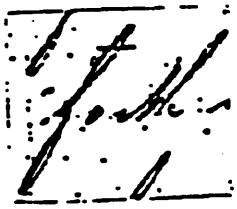
Page 2, Line No. 14



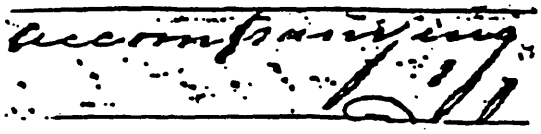
Page 1, Line No. 16 Page 1, Line No



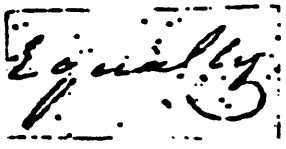
Page 1, Line No. 20



Page 3, Line No. 13



Page 3, Line No. 6



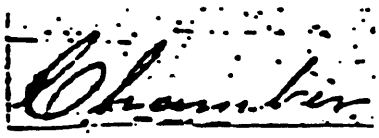
Page 3, Line No. 15

FILE 1

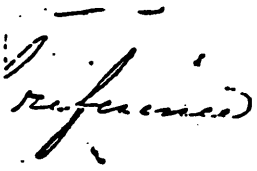
Page 3, Line No. 21

Page 20, Line No. 4

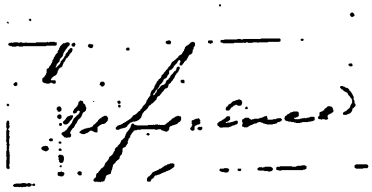
FILE 2



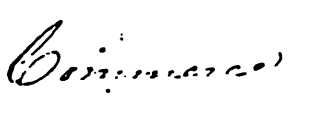
Page 3, Line No. 21



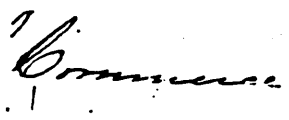
Page 20, Line No. 8



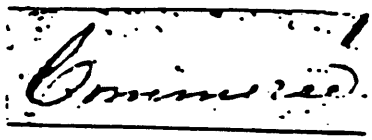
Page 3, Line No. 14



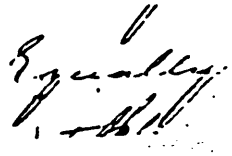
Page 3, Line No. 21



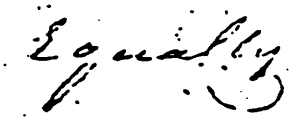
Page 20, Line No. 9



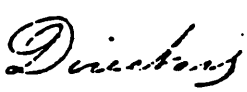
Page 3, Line No. 8



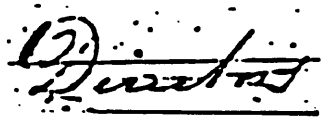
Page 12, Line No. 7



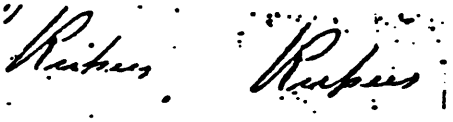
Page 3, Line No. 15



Page 3, Line No. 23

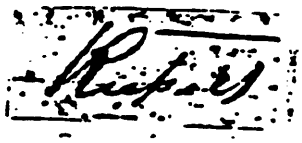


Page 3, Line No. 10



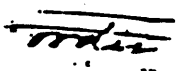
Page 20, Line No. 23

Page 19, Line No. 10



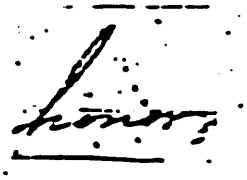
Page 3, Line No. 19

Page 3, Line No. 23



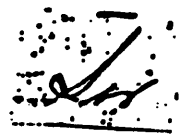
Page 3, Line No. 10

Page 2, Line No. 11

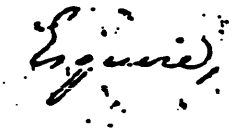


Page 1, Line No. 14

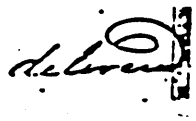
FILE 1



Page 10, Line No. 3



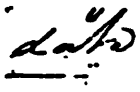
Page 2, Line No. 16



Page 4, Line No. 2

Page 4, Line No. 3

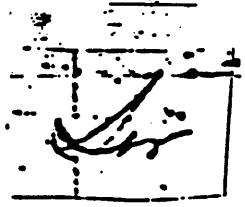
Page 4, Line No. 1



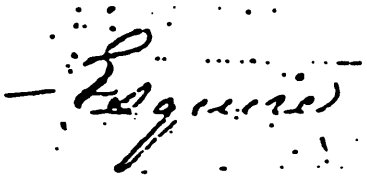
Page 3, Line No. 26

Page 2, Line No. 5

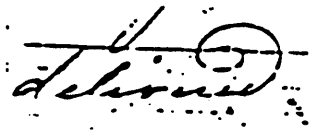
FILE 2



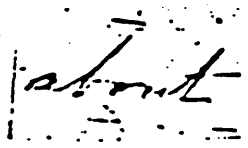
Page 1, Line No. 13



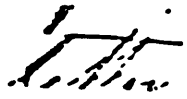
Page 4, Line No. 13



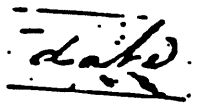
Page 3, Line No. 18



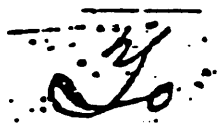
Page 3, Line No. 19



Page 3, Line No. 13



Page 3, Line No. 13

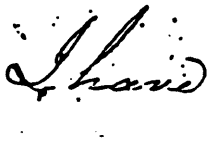


Page 1, Line No. 8

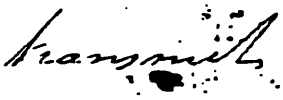
FILE 1

Page 4, Line No. 6

Page 2, Line No. 17

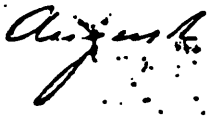


Page 2, Line No. 11

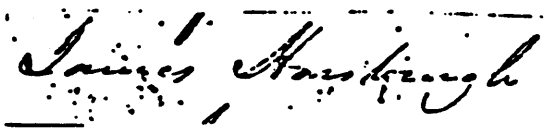


Page 2, Line No. 11

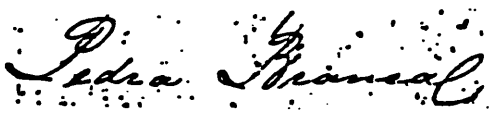
Page 10, Line No. 7



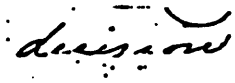
Page 2, Line No. 9



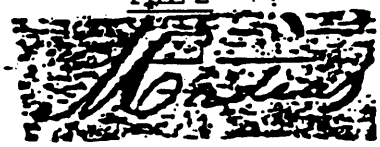
Page 24, Line No. 9



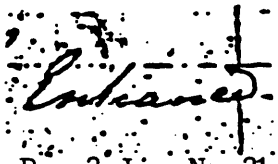
Page 2, Line No. 20



FILE 2

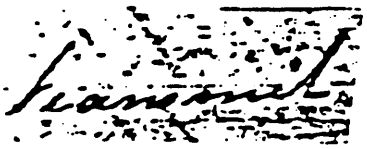


Page 3, Line No. 22

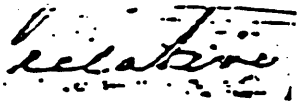


Page 2, Line No. 21

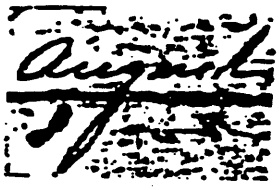
Page 1, Line No. 14



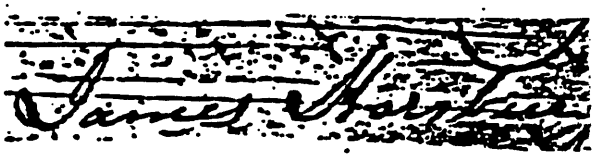
Page 1, Line No. 14



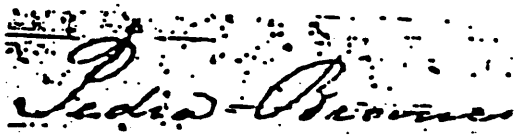
Page 1, Line No. 18



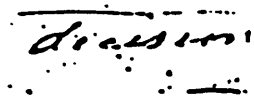
Page 1, Line No. 12



Page 1, Line No. 20



Page 2, Line No. 20



Comparing the handwriting in File 1 and File 2

Similarities observed were as follows:-

1. Form of words
2. Alignment
3. Sequence of stroke
4. Style of writing
5. connecting stroke

No significant differences were observed.

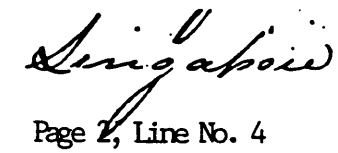
Conclusion:

File 1 and File 2 were written by the same writer.

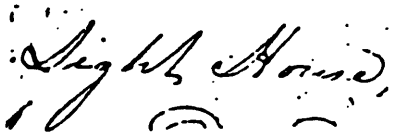
Appendix 2

Chart showing handwriting differences between File 1 and File 3.

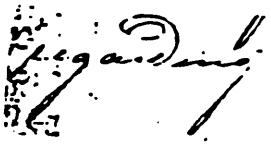
FILE 1



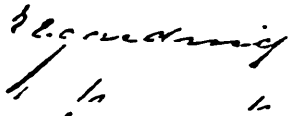
Page 2, Line No. 4



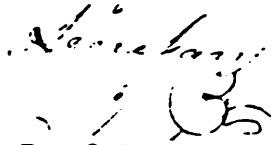
Page 2, Line No. 21



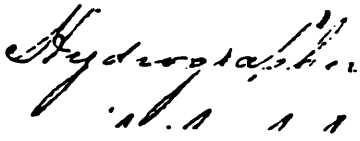
Page 3, Line No. 5



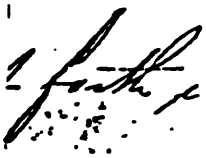
Page 20, Line No. 10



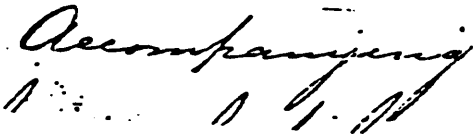
Page 2, Line No. 14



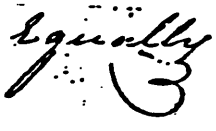
Page 2, Line No. 16



Page 3, Line No. 26

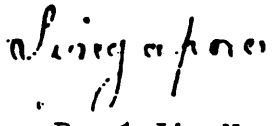


Page 19, Line No. 19

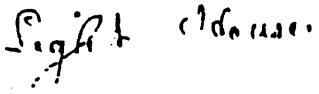


Page 3, Line No. 28

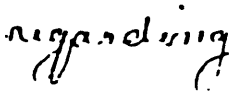
FILE 3



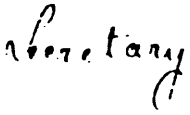
Page 1, Line No. 8



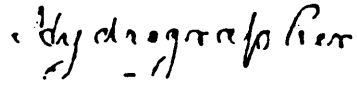
Page 1, Line No. 14



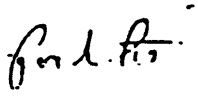
Page 2, Line No. 9



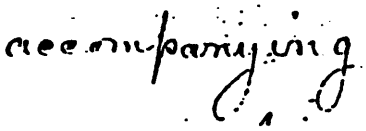
Page 1, Line No. 13



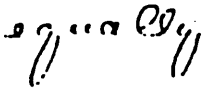
Page 1, Line No. 15



Page 3, Line No. 7



Page 3, Line No. 1



Page 3, Line No. 9

Comparing the handwriting in File 1 and File 3

Differences observed were as follows:-

1. Form of words
2. Alignment
3. Sequence of stroke
4. Style of writing
5. connecting stroke
6. Speed of writing

No significant similarities were observed.

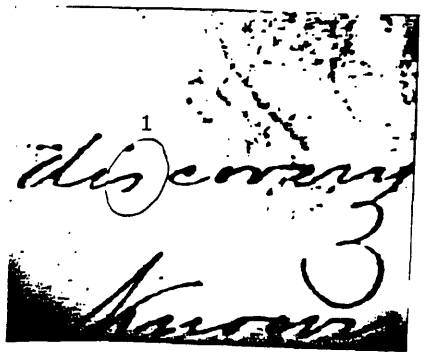
Conclusion:

File 1 and File 3 were written by different person.

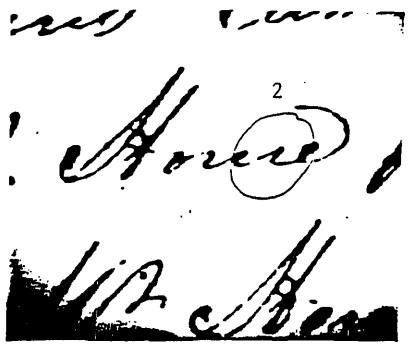
Appendix 3

Chart showing the different forms of "s" and "r" in File 1.

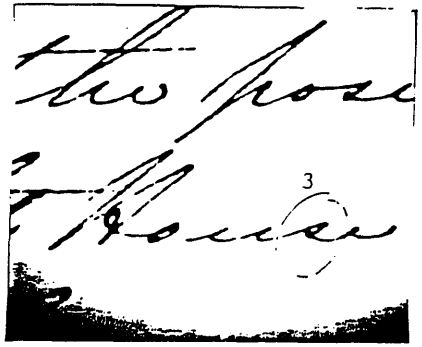
VARIATIONS OF 'S'



File: 1
Page: 3
Line No: 1
Word: 'discovery'

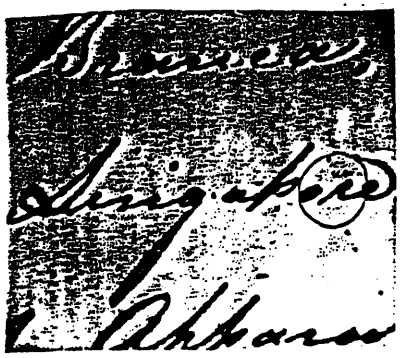


File: 1
Page: 14
Line No: 9
Word: 'House'

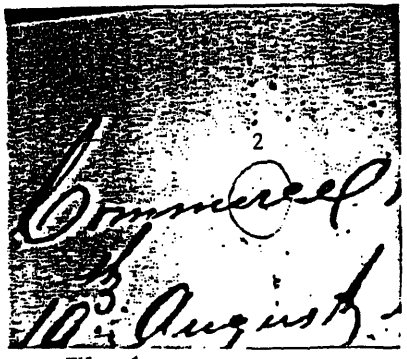


File: 1
Page: 31
Line No: 12
Word: 'House'

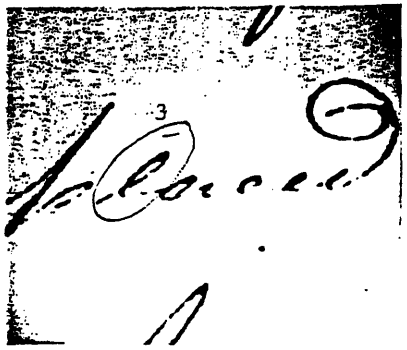
VARIATIONS OF 'R'



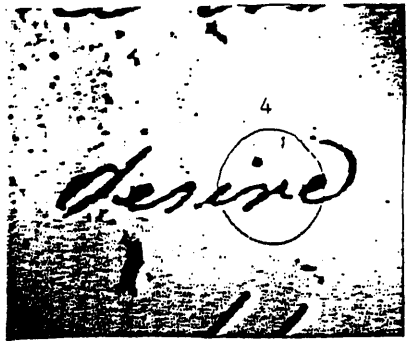
File: 1
Page: 27
Line No: 2
Word: 'Singapore'



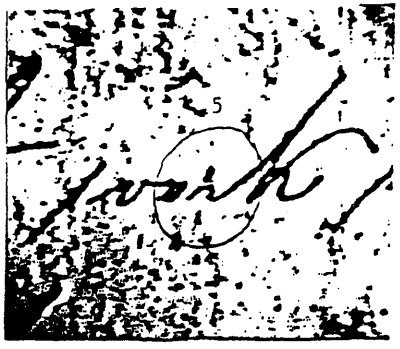
File: 1
Page: 19
Line No: 1
Word: 'Commerce'



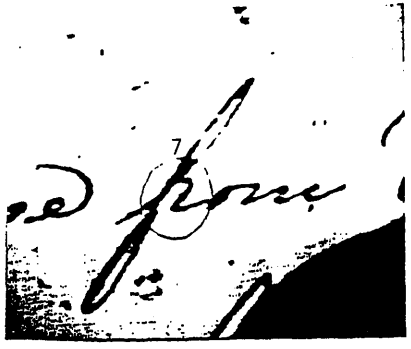
File: 1
Page: 11
Line No: 13
Word: 'proceed'



File: 1
Page: 10
Line No: 13
Word: 'desire'

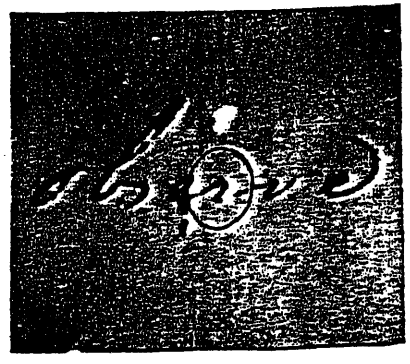


File: 1
Page: 10
Line No: 12
Word: 'work'

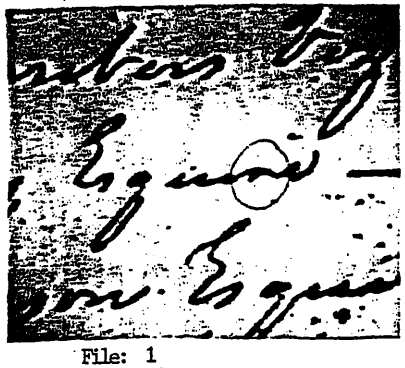


File: 1
Page: 3
Line No: 24
Word: ''from'

File: 1
Page: 3
Line No: 4
Word: 'erection'



File: 1
Page: 3
Line No: 15
Word: 'observe'



File: 1
Page: 22
Line No: 11
Word: 'Esquire'

Appendix 4

Words in File 1 bearing letter “s” written like “r”.

Highly desirable to the Navigation of Dangerous Rocks and Shoals formerly mentioned, that I only waited to learn the decision of Government touching the erection of a Light House, to institute further Enquiries regarding the Two Isles and Pedra Branca or Bush Rock.

On receipt of Mr Melvill's communication I forthwith called upon the above Officers for their Reports which I have the honor to enclose, and by which Government will clearly observe that Pedra Branca is the only true position for a Light House at the entrance of the China Seas.

My Letters under dates the 28th November 1841 No 150, and 22nd August 1842 No 139, will have informed the Hon'ble Court of the Light House on the Southern shore of Singapore, but since which nothing has been done in the work has not been commenced upon as anticipated by the Secretary to the Hon'ble East India Company. I sincerely trust however that the question will receive early consideration, and that the accompanying Copy of a letter from its enclosures, just received from the Chamber of Commerce at Singapore to induce the Hon'ble the President in Council to move the Hon'ble Court of Directors to order an Iron Light House from England for erection on Pedra Branca. The whole of the Details for the Cast Light House as set forth in my letter under date the 20th November 1841 is perfectly adapted to its being erected on Bush Rock & be equally applicable to the Iron Structure.

A. Copy of the Letter from the Secretary to the Chamber of Commerce Singapore dated the 28th August 1842.

B.

C.

कॉपीराइट राष्ट्रीय अभिलेखागार
भारत का भारत सरकार का आधिपत्य
Copyright vests in the National Archives of India. Government of India

East India House

6 May 1816

Sir

I am commanded by the Court of Directors of the East India Company to transmit to you Copy of a Letter from Captain Hamilton R.N. the Secretary to the Admiralty relative to the Light House proposed to be erected to the Memory of the late Sir Stamford Raffles at the Entrance of the Straits of Sunda. The Court observe that Progress may have been already made in the construction of the Light House, but in the event of the work not having commenced they desire that it may be suspended until you have an Opportunity of communicating with the Government of India, to whom a Copy of Captain Hamilton's Letter has been sent.

I have &c.

Jas. Cumming

Secretary

To

The Governor of

Prince of Wales Island

Singapore & Malacca

Admiralty

कॉपीराइट राष्ट्रीय अभिलेखागार
भारत
Copyright Reserved
National Archives
of India, Government of India

2nd Because it may be fairly apprehended by running down it's latitude — 12

3rd Because it's conspicuous appearance at the distance of 9 or 10 Miles pending at the usual Rea-con by which all Ships endeavour to make the Island and by the addition of a Light it would be rendered Equally Cognizable by night as day.

4th Because from a Ship has passed N. the Main bearing of the Light would enable her to shape a Safe Course to Europe —

Whereas if the Light be placed on Romans Island as proposed Ships from the Channel Seas of the pres-ent Trade would be many weeks run the risk of being Cast away at the Keys which Romans Island, that being low and dangerous perhaps it would be prudent to pass for the Light —

The Means of protecting and defending the Light House whatever place be chosen ought certainly to be fully considered, but there is no reason on that head of the Subject to shew that either of the proposed Sites had any advantage over the other in this respect —

Then Lordships humanity leads me to remark that the Rock and Shoals at Romans Point seem to require some attention to the safety of passing Ships from getting entangled among them in dark Nights —

I have &c.

Thomas Lee

S. H. B. Hamilton

Governor

कॉपीराइट राष्ट्रीय अभिलेखागार
भारत सरकार
Copyright Reserved National Archives
Copyright Government of India

To the Hon'ble
Colonel Butterworth C.B.
Governor of P.W. Island
Singapore and Malacca

Sir

We have the honor of acknowledging the receipt of your letter No 112 dated 14th August 1846 with enclosures from the Admiralty and Capt Anderson relative to the position of a Light House proposed to be erected to the — Northward of the Lake Mr Bunting at the Eastern Entrance of the Straits of Singapore —

In reply we beg leave respectfully to state to your Honor that we are decidedly of opinion that Pedra Branca is the only position for a Light to be placed there for the Safety of Shipping whether entering or departing from the Straits of Singapore and in answering an opinion on the subject contrary to the recorded opinion of Eminent Surveyors, Captain Sir Ed. Belcher &c we beg to state for the information of your honorable Authorities that we do so after having completed a careful Survey of the Straits and which Survey includes all the Space to which the Light House extends whether it may be placed on Pedra Branca or on Horsburgh Rock, and the former has had the advantage of an experience of twenty five Years of almost constant cruizing in the vicinity during all months in the Hon'ble Company's Ships both Sailing and Steam —

We deem the prevalence of the Northerly Current from November that the point of a Light is most felt by Ships passing through the Straits, for at that time they have a lee Shore on the Malay Peninsula and Island of Bintang with a Current from the Northward, driving them on to the dangers that are situated along their Coasts

They

कॉपीराइट राष्ट्रीय अभि... Archives
भारत ... सरकार
Copyright National Archives of India. Government of India

thus if night should come on before a Ship passed from all danger inwardly or outwardly, being prevented from anchoring by the high Sea running and driven out of her reckoning by the strong Currents, her safety becomes very precarious when on the darkness no known mark can be seen, and it has been under these circumstances that most of the lamentable shipwrecks have taken place within these few years.

In considering the Question touching the erecting of a Light during the North East Monsoon, should it be held amongst other objects that of most paramount importance?—

Pedra Branca as mentioned in the Enclosure from the Lords Commissioners of the Admiralty has been generally understood to be the Isle [Pulo Aor] mentioned by Edward Belcher reported on page 9 East Pack, and Isle for fully concur with the Opinions set forth in the Enclosure from their Lordships, in both of the same time give an Account as correct as possible of the circumstances of each position so that Your Honor may judge of the correctness from pursuing Yourself—

Pedra Branca is situated in the middle of the Straits, and in the most advanced position towards the China Seas—so that it is the first Object that Vessels make on steering for the Straits of Singapore and supposing the Light to be placed and to be seen at all distances fifteen Miles only, for a further distance could not be safely relied upon, however brilliant the Light during hazy or foggy weather it will be entirely useless to the Ships, that the Light proposed to be placed to warn the dangers in the way of Ships proceeding on the Coast of—

कार्यालय, ... Archives
भारत ...
Copy ... Government ...
of India. ...

of Bombay, the Ramanic Shoal or appearing the Coast of Salsette, and that Vessels coming from China should when from the Northward or Eastward, would only require to shoot a mid Channel to the light, and by keeping to the Northward of it, when it is shut in, and five fathom-ings, and consequently could safely approach it. Shou bearing proud Cairy Vessels into the Straits of Salt Rock in the contrary supposing it light to be of the same magnitude, and bellowing it would put Vessels behind to the principal of the dangers to be apprehended from thence on the South East Coast of Bombay where Ships are so liable when working out of the Straits to be drawn by the Current, which as formerly stated set from the Northward on that Shore, when the most common fault is not only low and d. Wg. of the drowned, but the dangerous Rupee Sunken Rock lying from the a mile and a half [illegible] The Instruction of Light for Salt Rock of course to Ships going out or coming in from the Eastward, and Ships coming in from the Northward would be equally embarrassed, for owing to the seeming Sunken Rocks that lie off the Roman Island they cannot be safely approached. Ships would consequently be forced Contenuelly to alter their bearings of the light, and not approach within one mile of the [illegible] of Salsette Banks — Another objection against Salt Rock which appears to us unsurmountable is, that in order to procure a Channel, Ships in hazy weather would be apt to be run among st the Sunken Rock, which lies a mile past the Channel, by their Commanders judging the light to be round the Rock while in reality they were on the opposite danger

कॉपीराइट राष्ट्रीय अभिलेखागार भारत

would be pointed on the Romaine Shoal by the Light being obscured to the Eastward

The distance of Pisk Rock from Singapore is 28 Miles and of Pedra Branca 34, and with regard to protracting and communicating with them, the Bearings on the Compass there would be pre-determined as they are equally distant to the South of the Islands in the South East Monsoon — Both Rocks are equally barren and devoid of fresh Water, and are nearly of the same Size and height (30 feet above high Water.) so that before the commencement of the Storms — Months of December — January and February a supply of Provisions and Water for the Natives would require to be laid on, as the Rocks are seldom then Accessible — but at other times, as the Sea is always smooth a Monthly Supply would suffice —

We have &c
Sig^d J. Congalton C.
" Comg H.C.S. 16^a Steamer Hooghly
" J. J. Thomson
Government Surveyor

Singapore
25th August 1846

August

True Copy

J. W. Pitman Esq
Governor

कॉपीराइट राष्ट्रीय अभिलेखागार
भारत सरकार
Copyright National Archives of India, Government of India

C.

Chamber of Commerce,

Singapore 19th August 1846.

Sir,

I am directed by the Chamber to forward to you Copies of Letters received by the Chamber, relative to funds available for the erection of a Light House as a Memorial to the late Mr Sam. Kentagh —

No 1. From Captain C Bedon of Madras forwarding Copy of an Account Current showing a Balance of Company's Rupees 7,80-0-0 available for the above purpose

No 2. From the Secretary of the Bombay Chamber of Commerce, advising that Co Rupees 13,00-0-0 had been subscribed in Bombay, and Accompanying a Letter from the Members of a Committee for the management of the Funds, stating their decision not to hand over the Amount pending the proviso that the Lighthouse in question be called the Kentagh Light —

No 3. A Letter from Mr A Gordon with his remarks relative to Lighthouses, and Accompanying a plan of a pomegranate Lighthouse which he recommends to the Chamber, as suitable and applied for the purpose

I beg leave to state that these Documents would have been forwarded earlier, but the Chamber was in hopes of procuring further Support from other Bodies that were addressed on the Subject —

I have the honor also to enclose Copy of a Letter from the Manchester Chamber acknowledging receipt of the Tabular Statement presented per your hand

To the Hon'ble Col Butterworth &c &c &c

I have &c &c

Govt &c &c &c

J. T. Braund

Secretary

Light House

Lighthouse

al

Manchester

कॉपीराइट राष्ट्रीय अभिलेखागार

Copyright ... National Archives ...

8/14

(No 1)

Madras 23rd January 1846

20

To

Thomas Mc Micking Esquire

Chairman of the Chamber of Commerce

at Singapore, —

Sir

With reference to your letter of the 5th December & Copy of a report read at a Meeting of the Singapore Chamber of Commerce on the 1st December regarding the [erection] of a Light House on or adjacent to Pedra Branca, as a testimonial in Memory of the late Hydrographer Captain James Horsburgh, by which you request that I would endeavour to ascertain in what manner such a work has been undertaken in Madras, and what method of assessment of subscriptions would be adopted to carry into effect the desired object — I have the honor to acquaint you, in reply, that I have ascertained that a subscription such as you have described, was raised at the Presidency in 1838, and that Messrs Parry & Co received the amount thereof, and the enclosed Statement which I have transmitted with it by Messrs Parry & Co to the Secretary to the Trinity Board Exhibits the Sum of Rupees 761 and Annas 8, and that the same was remitted to H. H. Bruce Esquire as Equivalent to £91-11-1 on the 9th March 1838 —

As one of the Subscribers to the Horsburgh Memorial at Canton, I shall most cordially assist to the best of my ability in carrying into effect the purpose as set forth by the Singapore Chamber of Commerce, and shall be glad to learn by their request that I should undertake and pay from proceeds the Attainment, [illegible] should

[illegible] archives

9/14

bale for the Encouragement of so good and laudable a Work
as the said Captain Ambrigh. I shall make Returns to
most Ready and Willing to co-operate with the Chamber
in furthering of the Design they stand in contemplation.

I beg leave to state that in September last, I
had some communication with Mr Samuel Dashwood during
the Amount subscribed at Canton for the Longitude Light
and from his Observations I came to believe the Amount
collected at Canton has been subject for three years. I
know that a Subscription was Started by the Commanders and
Officers of the East India Company's Ships Warehoused
Teas, and I think it was limited individually to one
Guinea, I think therefore it is an aggregate Sum, able to be
realized on my application to the Chamber of Commerce to
Erect a Substantial Stone Light House on a Rocky
Mountain of Natural Granite as known, where a strong
Stream continues to the Tide and communicates to
Every Merchant and Every Seaman of Navigation through
out the Globe.

In my humble Opinion the whole Amount
of Subscriptions should be devoted to One Light House and
that it should Surpass in Stability and design Every other
Light House in the World.

In the Event of a further Sum being required
than that which (from Every Quarter) may now be available
I feel confident, from my Knowledge of the Country and Island
a Ambrigh Light House is to be Erected, that private
donations will be most Cheerfully contributed.

I have the Honor
to be Sir
Your Obt Servt
Thos C Bacon

Sir Chas Burn
&c &c &c

Bombay 22nd January 1846

To The Secretary
Chamber of Commerce
Bombay

Sir

We the undersigned are the Remaining Members of the Committee formed in 1837, to procure Subscriptions for erecting a Testimonial of Respect in Bombay to the Memory of the late James Hartleigh Esquire and also solicited for the purpose having only amounted to Rupees (4308) four thousand three hundred and eight, the object of erecting such Testimonial was abandoned, but having left the option that there should be a Lighthouse or Beacon Light erected to commemorate the Memory of the deceased, and that you are the Chairman of Committee, we beg to request you that you will call a meeting to consider the above sum of the disposal of the Singapore Committee, under the proviso that the Lighthouse or Beacon Light be called The Hartleigh Light.

Lighthouse

If this proposition is complied with you can remit the Sum to Messrs Remington & Co the Treasurers for the Subscription, and who have been requested by the above Sum and we would suggest that such Sum for from Singapore by some Party from Committee.

We remain &c
Jas K Leslie
Jamsetjee Jejeebhoy
Framjee Cowasjee

To The Chairman
Bombay Chamber

कॉपीराइट राष्ट्रीय अभिलेखागार
भारत सरकार के आधीन
Copy Right vests in the National Archives
of India, Government of India

London
31st January

Remarks upon the Proposal for erecting a Lighthouse at Dungeness to the Trinity of James Houtinghe—

I have refused in my Letter which accompanies the remarks to the Survey which has attended any entrance from of Dun Lighthouse—

A Journal of my Evidence before the Select Committee of the House of Commons on Lighthouses 11th August 1815 and the Report of that Committee thereon, and a Journal of the accompanying Deposit from the House of Assembly on Dunnes point stand for our Amusement of Gentlemen, and I continue to suggest an arrangement for the proposed Lighthouse at Dungeness which will effectually prevent vessels from passing from the Back, per order to assembly with the same Conditions of Security from danger to the Town Light and the Light Keepers on case of a Suspension from Duty and offering the Drawings of a Signal Station & for mounting a Gun or Guns for Signal or defence as suggested by Sir Edward Pellew of His Majesty's Ship Venerable—

I shall not stay that I am prepared to submit Designs, Drawings, Specifications, Estimates, and all details of a circular pyramidal Iron Tower 18 Feet Diameter at the Base and ten feet diameter at the top shewing a Light over the pitch or any required portion of the Circle, which can be seen and be had in Window removed Parts and delivered

* An Altitude of 100 Feet above the Sea is sufficient for any Lighthouse to be seen at the distance required with a Light

कॉपीराइट राष्ट्रीय अभिलेखागार
भारत सरकार की ओर से
Copyright in the National Archives of India. Government of India

delivered when at Point Romania, the Romania with Ballast or any other Light pressure Steamboat - The Expense of this Tower, Station and Light Apparatus not to exceed £3000 to be defined at the Estimate -

Such a Tower can be placed upon any Coral reef Table of Rock or other found above and have a case of Concrete hastily thrown in to the lower Compartment for a small additional Sum of Money

I have arranged that the lower Room of the Tower shall be 20 or 25 feet above the base and that in Stead of Loop Holes for Guns or Musquetry Embrasures or Stanchions -

The Tower being constructed of strong Hewn Stone Work should be perfectly secure against Earthquakes, and the Experiment had in the present Instance of Her Majesty's Ship Spartan against Steam Boat funnels shews that Iron being Shot would be a long time making much impression against it -

The Poles could be erected and Lighted in Batavia within three Months time & the Erection and Lighting in Singapore (on the point or on the Island) could be accomplished within four Months from the arrival out - It would seem to be desirable that such a Lighthouse as Blue, easily erected Strong to resist Obstructions in Hurricanes, cannot be injured by Lightning and is safe in case of Earthquakes or fire - The Planning of the Tower and the Particulars given as Comments and Reasons suggested, all of which Advantages and fully studied in the Report of the Select Committee of the House of Commons on Lighthouses August 1845 22 Vic. Short Whitehall, Sunday 31st January 1846

Signed A. Gordon

at the City

by Lieut. Brand

[illegible]

Commr

Lighthouse

Case

Stone

Lighthouse

कार्पोराइट राष्ट्रीय अभिलेखागार
भारत
Copy Right vests in National Archives of India Government of India

D.

No 122

From

The Governor of the Straits Settlements Singapore and Malacca

To

James C. Melvill Esquire

Secretary to the A.E.I.C.

Dated Singapore 26th August 1846

Sir

I have the honor to acknowledge the receipt of your letter of the 6th. May last with its Enclosure from Captain Hamilton Secretary to the Admiralty relative to the Light House proposed to be erected to the Memory of the late Mr James Horsburgh, at the Entrance of the Straits of Singapore

Hon'ble

Sincerely I beg very respectfully to intimate that no progress has been made in the construction of the Light House, and that I have this day communicated further to the Government of India on the Subject with reference to the communication under Acknowledgment

I have &c

Sgd H. J. Butterworth

Governor

Singapore
26th Augt 1846

True Copy

Governor

कॉपीराइट राष्ट्रीय अभिलेखागार
भारत ©
... National Archives

roably has led to the discovery of formerly Rocks & Shoals previously unknown, that I only waited learn the decision of Government touching the ction of a Light House, to institute further Enquiries and the Surveys of Pedra Branca & Horsburgh Rock

On perusal of Mr Melvill's communication I thought it right to call upon the above Officers for their Re- and which I have the honor to submit, and by which I am fully at one with them in considering that Pedra Branca is the only true position for a Light on at the entrance of the China Sea

My Letter under date the 20th November 1841 No 158, and 22nd August 1845 No 139, will have informed the Hon'ble Court of the Steps taken since the receipt of the Letter above mentioned, but I am sorry to observe that the Work has not been commenced upon as anticipated by the Secretary to the Hon'ble East India Company — I earnestly trust however that the question will receive early consideration, and that the accompanying Copy of a Letter with its enclosures, just re- from the Chamber of Commerce at Singapore to induce the Hon'ble the President in Council to move Hon'ble Court of Directors to order an Iron Light ed from England for erection on Pedra Branca — The of the Details for the Cast Iron Light House as with my Letter under date the 20th November 24, with reference to it being fixed on Horsburgh Rock be equally applicable to the Iron Pattern

A. Forwarded to the Board of Trade Commerce and the Letter to Mr Hudson dated Nov 1845 —

B.

C.

Cast

कॉपीराइट राष्ट्रीय अभिलेखागार
भारत सरकार के आधीन
Copyright rests in the National Archives
of India. Government of India

A

East India House

6 May 1806

Sir

I am commanded by the Court of Directors of the East India Company to transmit to you a Copy of a letter from Captain Hamilton R.N. the Secretary to the Admiralty relative to the Light House proposed to be erected to the Memory of the late Mr. Horsburgh at the Entrance of the Straits of Singapore

The Court apprehend that Progress may have been already made in the construction of the Light House, but in the event of the work not having been commenced they desire that it may be suspended until you have an Opportunity of communicating with the Government of India, to whom a Copy of Captain Hamilton's letter has been sent.

I have &c.

Sig.d James Cobbell

To

The Governor of

Prince of Wales Island

Singapore and Malacca

Admiralty

कॉपीराइट राष्ट्रीय अभिलेखागार
Copyright: National Archives of India, Government of India

2nd Because it may be safely approached by running down a Latitude —

3rd Because its conspicuous Appearance at the distance of 9 or 10 Miles pending at the usual Beacon by which all Vessels endeavour to make the Island and by the addition of a Light it would be rendered equally Conspicuous by night as day.

4th Because when a Vessel has passed it, the Stern Beams of the Light would enable her to shape a safe Course for Singapore —

Whereas if the Light be placed on Romania Island as proposed this from the Chinese Seas & the prevailing Winds the hazy weather upon the Straits of Singapore Amongst the Reefs which surround that Island, thick fogs and dark nights it would be prudent to burn for the Light.

The means of protecting and of defending the Light House whichever place be chosen ought certainly to be fully considered, but there is no information on that head of the Report to shew that either of the proposed Sites have any advantage over the other in those respects —

Your Lordships honour, desire me to remark that the Rock and Shoals at Romania Point seem to require some attention with a view of warning Vessels from getting entangled amongst them in dark Nights —

I have &c.

S. R. B. Hamilton

Governor

कॉपीराइट राष्ट्रीय अभिलेखागार
भारत से
Copyright Archives

— B —

To the Hon'ble
Colonel Butterworth C.B.
Governor of P.W. Island
Singapore and Malacca

Sir

We have the honor of acknowledging the receipt of your letter No 112. dated 16th August 1846 with enclosures from the Admiralty and Earl Auckland relative to the position of a Light House proposed to be erected to the Eastward of the late Mr Anthony at the Eastern Entrance of the Straits of Singapore —

In reply we beg leave respectfully to state to your Honor that we did decidedly disapprove that Pedra Branca is the only proper position for a Light to be placed there for the safety of Shipping whether entering or departing from the Straits of Singapore and in answering an opinion on the subject contrary to the recorded opinion of Eminent Surveyors as Captain Sir Ed. Belcher &c we beg to state for the information of your distant Authorities, that we do so after having completed a careful Survey of the Straits and which Survey includes all the Shoal to which the Light House is intended, whether it may be placed on Pisk Rock Romania or on Pedra Branca, and the former has had the advantage of an Experience of Twenty five Years of almost constant cruizing in the vicinity during all weathers in the Hon'ble Company's Ships both Sailing and Steam —

It is during the prevalence of the North East Monsoon that the want of a Light is most felt by Ships passing through the Straits, for at that time they have a lee Shore on the Malay Peninsula and Island of Bintang with a Current from the Northward, driving them on to the dangers that are situated along their Coast

Thus

कॉपीराइट राष्ट्रीय अभिलेखागार
भारत ... National Archives
Copyright Government of India

ers if might should come on to pass a Ship keep
on shore dangerously or outward bye, being pre-
vented from anchoring by the high Sea running and
worn out of her reckoning by the strong Currents,
- safety becomes very precarious when in the dark-
ness no known mark can be seen; and it has been
under these circumstances that most of the lamentable
Shipwrecks have taken place within these few years -
In considering the Question touching the Erecting of
a Light during the Night East Monsoon, should be held
amongst other objects that of most paramount im-
portance. —

Pedra Branca as mentioned in the Enclosure
from the Lords Commissioners of the Admiralty had
been originally intended to been the Light [Stone] intended
Edward Belcher reported in favor of that Rock, and
I do perfectly concur with the Opinions set forth in
the Enclosure from their Lordships, in fact all the same
is given as Nearest a view as possible of the relative
merits of each position to that you Honor may
judge of the correctness from pursuing Yourself
Pedra Branca is situated in the middle of the
Strait, and is the most advanced position towards
China Seas - so that it is the first object that
Ships make on Steering for the Straits of Singapore
and Supposing the Light to be placed on it to be seen
all round to fifteen Miles only, for a further dis-
tance could not be safely relied upon, however brilliant
the Light during heavy or hazy weather it will be noticed
referred to the Chart, that the Light should expose to
the dangers in the way of Ships sailing on the Coast

of

[Stone]

कॉपीराइट, [illegible]
भारत [illegible] Archives
Copy Right [illegible]
of India. Government [illegible]

of Bintang, the Romania Shoal on approaching the Coast of Johore, and that Vessels coming from China shall perceive them from the Northward or Eastward, would only require to shape a direct course to the light, and by passing to the Northward of it, shew it is clear too, and free of all dangers, and consequently can be safely approached — a Steam bearing would carry Vessels into the Straits — A Sunk Rock in the Gaspar may disappear its light to be of the same magnitude, and brilliancy it would put Vessels behind to the principal of the dangers to be apprehended viz those on the South East Point of Bintang where Ships are so liable when working out of the Straits to be driven by the Current, which as formerly stated set from the Northward on that Shore, where the most Lamentable fate is not only known and dreaded by the discerning, but has dangerous Reefs and Sunken Rocks extending from it 2 miles and a half to the S.E. — The Indication of Light for Pedra Rock of course to Ships going out or coming in from the Eastward, and Ships coming in from the Northward would be equally embarrassed, for among the numerous Sunken Shoals that lie off the Romania Islands they cannot be safely approached — Ships would consequently be forced Continually to alter their bearings of the light, and not approach with one direct course as in the case of Pedra Branca — Another objection against Sunk Rock which appears to us unanswerable is, that in to pass on a Channel, Ships hazy weather would be apt to be run amongst the Sunken Rocks, that lied a mile past the Channel, their Commanders judging the light to be more and while in clear or smoke the opposite danger would

कॉपीराइट राष्ट्रीय अभिलेखागार
भारत ... National Archives

— C. —

Chamber of Commerce,
Singapore 19th August 1846.

Sir,

I am directed by the Chamber to forward to you Copies of Letters received by the Chamber, with Notes to funds available for the erection of a Light House as a Memorial to the late Mr Lamy Norbugh —

No 1. From Captain C. Bedem of Madras forth Copy of an Account Current showing a Balance of Company's Rupees 780-0-0 Available for the above purpose

No 2. From the Secretary of the Bombay Chamber of Commerce, advising that Co Rupees 1305-0-0 had been subscribed in Bombay, and Accompanying a Letter from the Members of a Committee for the management of the Funds, stating their readiness to hand over the Amount, under the proviso that the Lighthouse in question be called the Norbugh Light —

No 3. A Letter from Mr A Gordon with his remarks relating to Lighthouses, and Accompanying a plan of a pyramidal Stone Lighthouse which he recommends to the Chamber, as suitable and applicable for Singapore

I beg leave to state that these Documents would have been forwarded earlier, but the Chamber was in hopes of receiving further support from other Bodies that were addressed on the Subject —

I have the honor also to enclose Copy of a Letter from the Manchester Chamber acknowledging receipt of the Tabular Statement presented per your hand to the Honble Col Butterworth Bank Agent Governor &c &c &c

I have &c &c &c
J. T. C. Crane
Secretary

Light House

Lighthouse

कॉपीराइट राष्ट्रीय अभिलेखागार
Copyright of the National Archives of India, Government of India

(No 1)

Madras 23rd January 1839.

To

Thomas Mc Micking Esqre
Chairman of the Chamber of Commerce
at Singapore, —

Sir

With reference to your letter of the 5th December & Copy of a report read at a Meeting of the Singapore Chamber of Commerce on the 1st December regarding the loss of a Light House on or adjacent to Pedra Branca, & a Testimonial in Memory of the late Hydrographer Capt James Horsburgh; I am directed to request that you will undergo any expense incurred in ascertaining what would be required in Madras, and what the Government of India would be willing to carry into Effect the desired Object. — I have the honor to acquaint you, on Enquiry I have ascertained that a Subscription such as proposed at that Port would be paid through the Treasury in 1838, and that Messrs Remy Dare & Co received the Amount thereof and the United States Dollar should be transformed into by Messrs Remy Rs 165 the Sum of Rupees 761 and Annas 8, and that the same remitted to H. M. Treasury as Equivalent £76-11-1 on the 9th March 1838. —

As one of the Subscribers to the Horsburgh Memorial at Canton, I deprecate cordially any Grant to the purpose set forth by the Singapore Chamber of Commerce, flattered as I am, by their request that I should tender and receive from Friends the Testimonial, I am of opinion that

would

8/13

while possibly the memory of so good and talented a man as the late Captain Ambaugh. I shall at all times be most ready and willing to co-operate with the Chamber in furthering of the designs they have in contemplation.

My friend to state that in September last, I had some conversation with Mr Samuda Deputy Secretary the Amount subscribed at Canton for the foregoing object and from his observations I am led to believe the Amount collected at Canton has been subscribed for some years. I know that a subscription was started by the Commanders and Officers of the East India Company's late Maritime Service, and I think it was limited individually to one Guinea; I must therefore think an aggregate sum will be realized as may enable the Chamber of Commerce to erect a substantial and Elegant Structure as a lasting Monument of National Gratitude to one whose meritorious Services continue to be the pride and admiration of every Merchant and every Seaman of Navigation through out the Globe.

In my humble Opinion the whole Amount of Subscriptions should be devoted to One Light House, and that it should surpass in Stability, and design every other Light house in the World.

In the event of a further sum being required than that which (from every Quarter) may now be amicably & all confidently, to our knowledge as it is known there, and where a Ambaugh Light House is to be erected, that increased donations will be most cheerfully contributed.

I have &c.
Sir Chas Bruce

a True Copy
Sir Thos C Chambers
Secy

Light House

House

Bombay 22nd January 1836 —

To The Secretary
Chamber of Commerce
Bombay —

Sir

We the undersigned and the remaining Members of a Committee formed in 1837, to carry into effect a resolution unanimously passed by a Public Meeting held at Bombay in the Evening of the late James Farish Esquire — the Sum collected for this purpose having only amounted to Rupees (4308) four thousand three hundred and Eight — we are of opinion that such Memorial was abandoned, but having by the papers that there is to be a Lighthouse erected at Singapore to commemorate the Memory of the deceased, and that you are the Channel of Communication, we beg to request that you will be pleased to hand the above Sum at the disposal of the Singapore Committee, under the proviso that the Lighthouse in question shall be called The Farishy Light —

If this proposition is complied with you can communicate the same to Messrs Remington & Co — the Treasurers for the Subscribers, and who have been requested to pay the above Sum and we presume suggest that Such a Draft for same Singapore by some Party from your Committee —

We remain &c
Sd/ R. A. Leckie
" Jamsetjee Jejeebhoy
" Framjee Cowasjee

Lighthouse

True Copies
R. H. C. Crawford

कॉपीराइट राष्ट्रीय अभिलेखागार
भारत सरकार के अधीन
Copy Right vests in the National Archives
of India. Government of India

low

1st January

Remarks upon the Journal for erecting a Lighthouse at Sangor sent to the Secretary of James Routenghi—

I have refused in my Letter which accompanies remark to the Journal which has attended my endeavours of Sam Lighthouses—

A perusal of my Journal before the Select Committee House of Commons on Lighthouses [11th August 1815] and that of that Committee thereon, and a perusal of the papers exempt from the House of Assembly in some pole Plan for and a measure of confirmed, I venture to suggest an arrangement for the pro- Lighthouses at Sangor which differs in principle from any form Plan, in order to enable by public and conditions of Assembly from danger to the Tower lights and the Light Keepers in case of a Lighthouse from by and offering the advantages of a Signal Station & erecting a Gun or Guns for Signal or defence as by Sir Edward Pellew of His Majesty's Ship.

Permit me to say that I am prepared to submit Drawings, Specifications, Estimates, and all details called for by the Tower Sangor Town & Fort Dhamtaghi and the full dimension of the top showing a Light house or any required portion of the Circle, which can and will be delivered

* An altitude of 50 feet above the Sea is sufficient for seeing the Light Vessels to Windward which distinguished within 20 Miles

Lighthouse

Lighthouses

House

Lighthouses

Surprise

House

Lighthouses

Lighthouses

Lighthouses

delivered either at Pedra Branca, the Romania rocks
or at any other like proper Anchorage. The Expense of this
Tower, Lantern and Light Apparatus per to be
defined at the Isle.

Such a Tower can be placed upon any Detached
Table of Rock or other found above and have a Cave of Com-
-modious Dwelling therein in the Lower Compartment for
a small additional Sum of Money

I have arranged that the Lower Room of the Tower
shall be 20 or 25 feet above the base and that it should
be for two or three Caretakers or Storekeepers.

The Tower being constructed of strong Iron
Plates could be perfectly secure against Hurricane, and the
Expense based on the present practice of Her Majesty's
Ship Excellent against Steam boat funnels shows that
Iron heavy Shot could be a long time making much im-
-pression against it.

The Lights could be erected and lighted in Eight
months from the Contract and Lighting in
Singapore (on the spot) or on the Island, could be accom-
-plished within four months from the arrival out. It
should be seen that such a Lighthouse as Chief, easily or-
-ected Strong to resist Vibration or hurricanes, cannot be
-ingured by lightning and is safe in Case of Earthquake
or fire. The having of the Tower and the Workshops
gives a Convenient and Permanent Temporary, all of
which advantages and fully shadowed in the Report of the Select
Committee of the House of Commons on Lighthouses August 1845
22 Vict. Chap. Thirteen.

Sentosa, 31st January 1846

Signed A. Guthrie

A true Copy

Sgd. Thos. C. Braund / Secy to Govt

J. H. Butterworth Esq
Comm

कार्पोरेट राष्ट्रीय अभिलेखागार
भारत सरकार के अधिकार
Copy Right vests in the National Archives
of India, Government of India

— D. —

No 122 —

From

The Governor of P. W. Island
Singapore and Malacca —

To

James C. Melvill Esquire
Sec.y to the H. E. I. Co.
Dated Singapore 26th August 1826 —

Sir

I have the honor to acknowledge the receipt of your letter of the 6th. May last, with its Enclosure from Captain Hamilton, the Secretary to the Admiralty relative to the Light House proposed to be erected to the Memory of the late Mr. James Horsburg, at the Entrance of the Straits of Singapore —

Hereby I beg very respectfully to intimate that no progress has been made in the Construction of the Light House, and that I have this day communicated further to the Government of India on this Subject, with reference to the Communication under Acknowledgment —

I have &c.
Sig.d W. J. Butterworth
Governor

A true Copy,
W. J. Butterworth
Governor

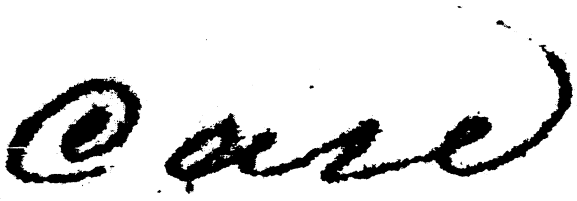
Singapore
26th Aug.t 1826

कीर्तिराइट राष्ट्रीय अभिलेखागार
National Archives

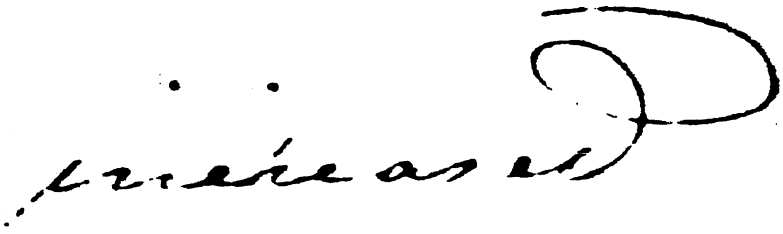
Appendix 5

Words in File 1 bearing letters “se” written like “re”

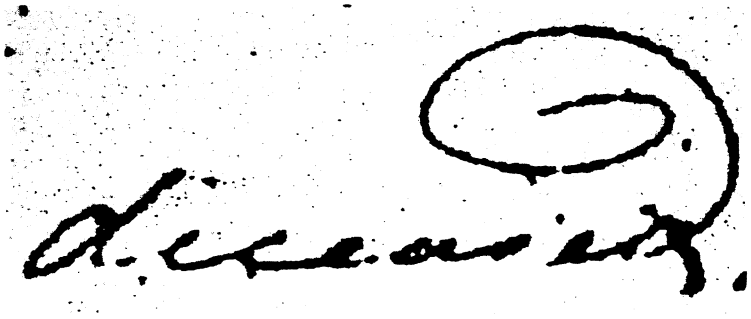
Words bearing letters ‘ase’
File 1



‘ase’ page 16 line 25

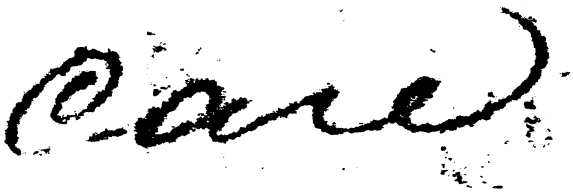


‘ase’ page 21 line 27

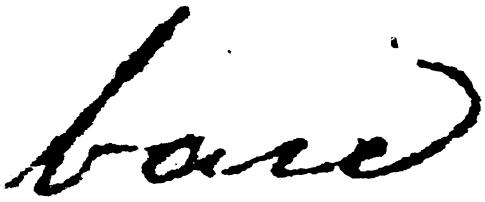


‘ase’ page 24 line 15

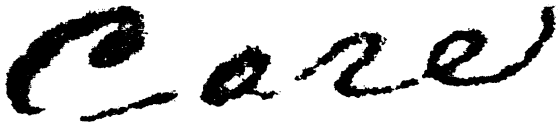
‘ase’ page 26 line 25



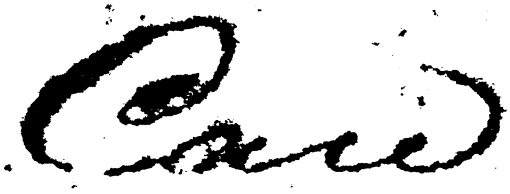
‘ase’ page 26 line 18



‘ase’ page 27 line 10

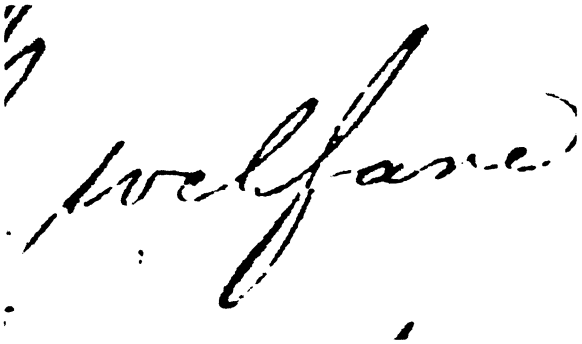


‘se’ page 27 line 6

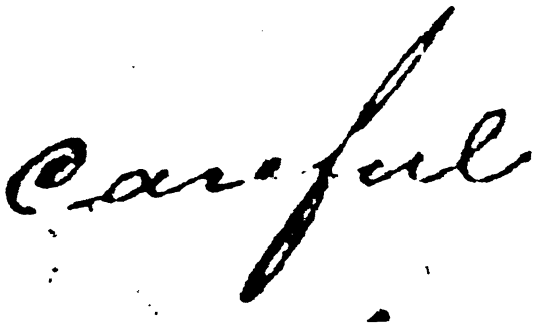


‘ase’ page 27 line 24

Words bearing letters ‘are’
File 1

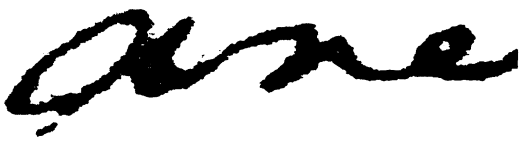


‘are’ page 11 line 20



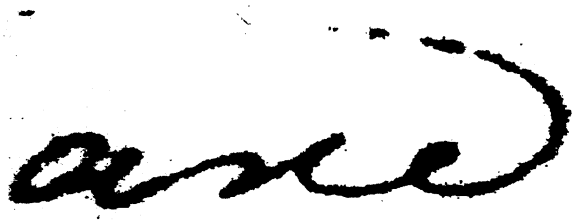
‘are’ page 14 line 21

‘are’ page 14 line 13



‘are’ page 16 line 12

‘are’ page 16 line 31



‘are’ page 17 line 7

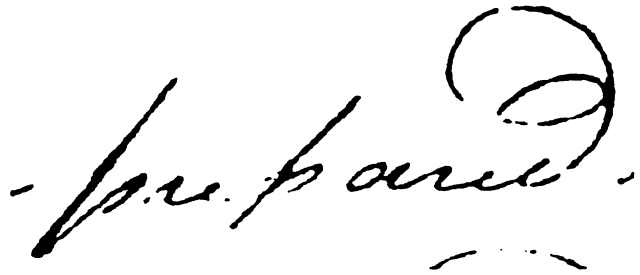
‘are’ page 17 line 9

‘are’ page 17 line 8

'are' page 17 line 15

'are' page 24 line 15

'are' page 24 line 16



'are' page 26 line 23

'are' page 27 line 27

Appendix 6

Word in File 1 bearing letters “ase” and “are” .

Frequency of words having "se"

Form of 's' in "se"	File 1		File 2	
	No. of words	%	No. of words	%
1.	72	60.50	5	38.46
2.	28	23.53	8	61.54
3.	19	15.97	0	0.00
Total / **%**	**119**	**100.00**	**13**	**100.00**

Appendix 7

Frequency table showing variation of letters “se” in File 1 and File 2.

Frequency of words having "ase"

Form of 's'	File 1	
	No. of words	%
1.	3	37.50
2.	5	62.50
3.	0	0.00
Total / **%**	**8**	**100.00**

Note :

1. List of words found in File 1 :-

   1) Case * (pg 16, line 25)
   2) Increased (pg 21, line 27)
   3) Deceased (pg 24, line 15)
   4) Case * (pg 26, line 18)
   5) Base * (pg 26, line 25)
   6) Case (pg 27, line 6)
   7) Base * (pg 27, line 10)
   8) Case * (pg 27, line 24)

   * words having 's' of form 2.

2. No word having "ase" was found in File 2.

Frequency of words having "are"

Form of 'r'	File 1	
	No of words	%
1	4	30.77
2	2	15.39
3	0	0.00
4	2	15.39
5	0	0.00
6	4	30.77
7	0	0.00
8	0	0.00
9	1	7.69
Total / %	**13**	**100.00**

Note:

1. List of words found in File 1 :-

1.	welfare	(pg 11, line 20)
2.	are *	(pg 14, line 13)
3.	careful	(pg 14, line 21)
4.	are	(pg 16, line 12)
5.	clearer *	(pg 16, line 31)
6.	are	(pg 17, line 7)
7.	are	(pg 17, line 8)
8.	are	(pg 17, line 9)
9.	are	(pg 17, line 15)
10.	are *	(pg 24, line 15)
11.	are *	(pg 24, line 16)
12.	prepared	(pg 26, line 23)
13.	are	(pg 27, line 27)

* words having 'r' of form 1.

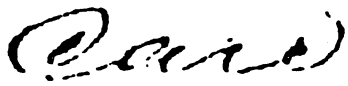
2. No word having "are" was found in File 2.

Appendix 8

Frequency table showing variation of letters “ase” and “are” in File 1.

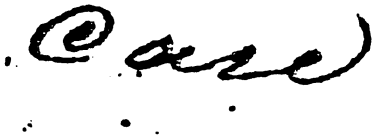
Comparison between questioned word and specimen words
(Enlargement 4X)

Questioned word

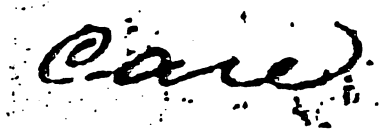


(Page 3, line 25)

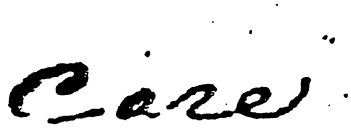
Specimen words



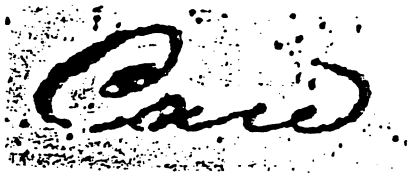
(Page 16, line 25)



(Page 26, line 18)



(Page 27, line 6)



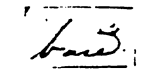
(Page 27, line 24)

Appendix 9

Chart showing questioned word “case”/ “care” and specimen words “case” from File 1

Word 'base' from File 1 (National Archive of India)

Page 26/ line 25

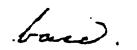


Actual size

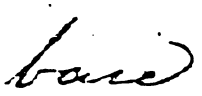
Enlargement 2X

Enlargement 4X

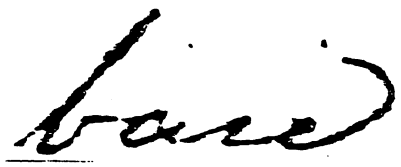
Page 27/ line 10



Actual size

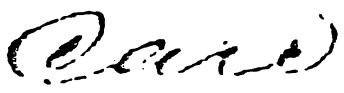


Enlargement 2X



Enlargement 4X

Questioned word



(Page 3, line 25)

Appendix 10

Word bearing letters “base” from File 1.

353

also of any Damage to ensue from taking away
Foreign Ships with reference to the Decision of
Admiralty, touching the Settlement of the Amount
(Continued)

Wand Yau
2 Augt 60 Lieut Gen. Sir Butterworth Bt
Governor

3 Oct. 60 R 6 Jan 61

No 123 To
C. A. Fairtby Esquire
Secy to the Govt of Trade
Fort Wellesley

Dated Singapore 26th August 1860

Sir,

I have the honor to transmit herewith
for your information a Copy of a Letter and Enclosure from
the Secretary to the Straits Court of Admiralty
Enclosing the Copy of an Order from the Court of
the Admiralty relative to the Expenses of
Pilots to be allowed to the Masters of
Foreign Ships Detained in the Harbour of Singapore
the Entrance of the China Sea

I am Sir
Your most obedient humble Servant
Sd Edward Butterworth
Governor

Sir
I have the honor to transmit herewith for your information a Copy of a Letter and Enclosure from the Secretary to the Straits Court of Admiralty Enclosing the Copy of an Order from the Court of the Admiralty relative to the Expenses of Pilots to be allowed to the Masters of Foreign Ships Detained in the Harbour of Singapore the Entrance of the China Sea

I am Sir
Your most obedient humble Servant
Sd Edward Butterworth
Governor

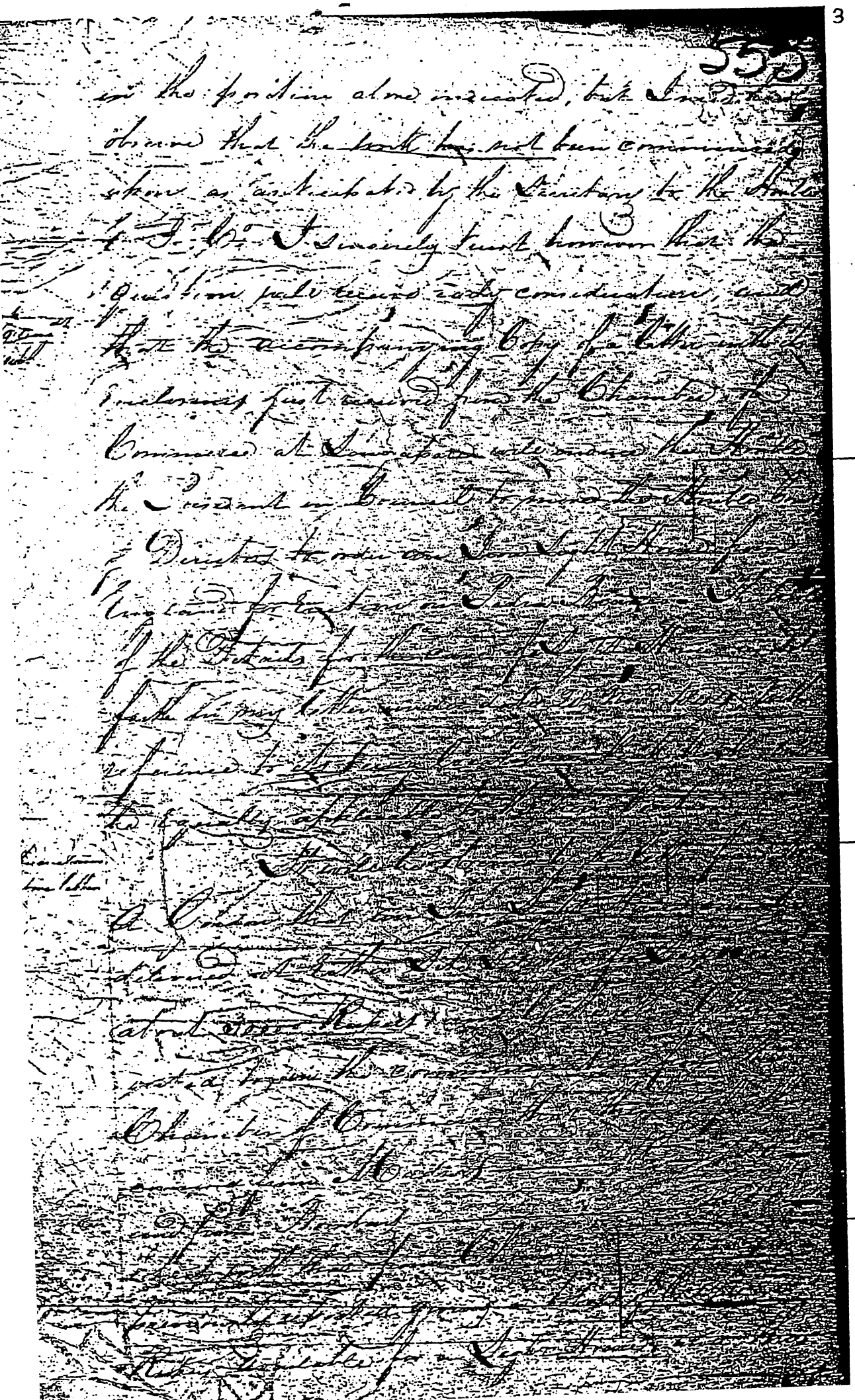
Reference to Keppel Rock in outer Roman à
Island. The position selected by Captain Sir
Edward Belcher C.B. in consequence of the former
Island being to remote from Singapore, at to
great a distance from the Main Land and
untenable at certain Seasons of the Year

The Recent Survey of the Straits made
by the Government Surveyor Mr Thomson and
Captain Congalton Commanding the Honble Coys
Steamers Hooghly has led to the
discovery of Rocks and Straits previously
unknown to Navigators & to warrant the decision
of placing the Erection of a Light
House on the Eastern Entrance leading to
Singapore Keppel Rock.

The Plan of Mr Morrill's communica-
tion will be laid upon the above Officers
Report when received from England,
& submitted to the Resident in Council
for Decision. Mr Jeda Prisoner to be
sent for by Mr Read at the Entrance

Appendix 11

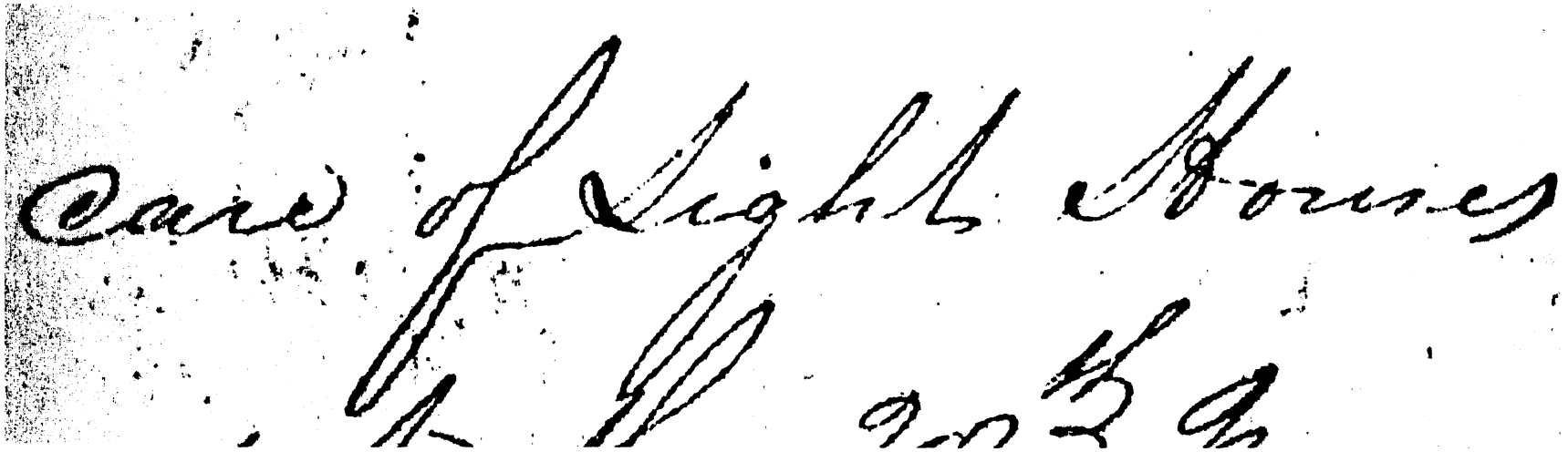
Words in File 2 bearing letters “se” written like “re”.



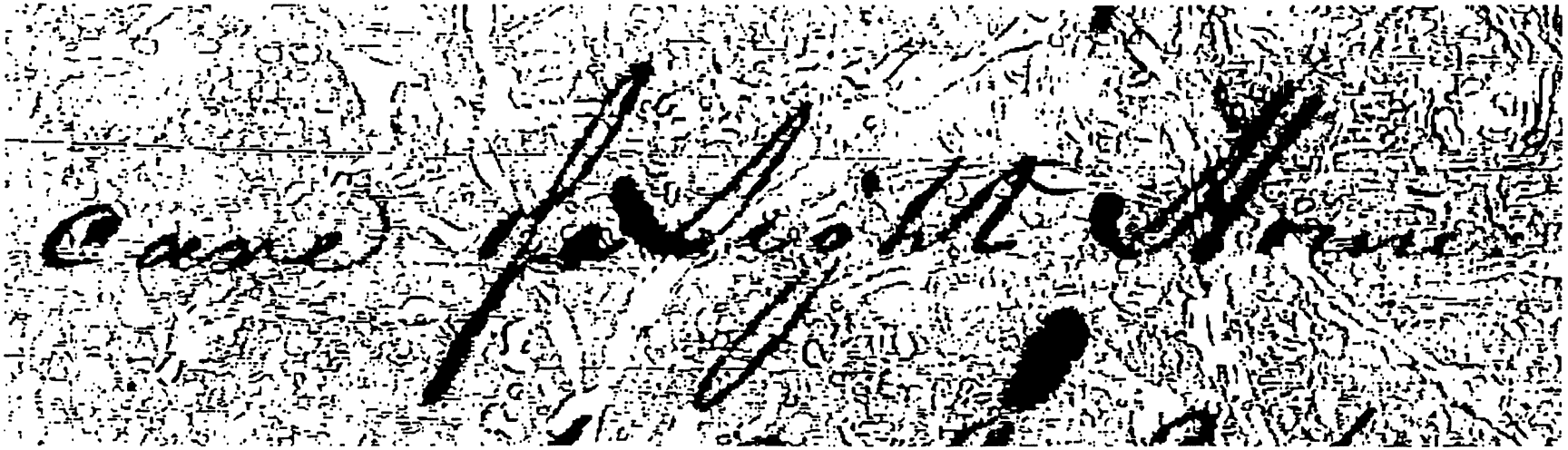
Appendix 12

Chart showing discrepancy between phrase in File 1 bearing questioned word and corresponding phrase in File 2.

Phrase bearing questioned word “case” / “care” from File 1



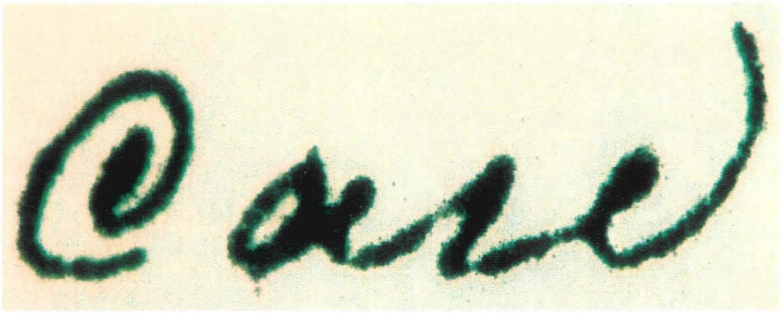
Phrase which read as “care of a Light House” taken from File 2



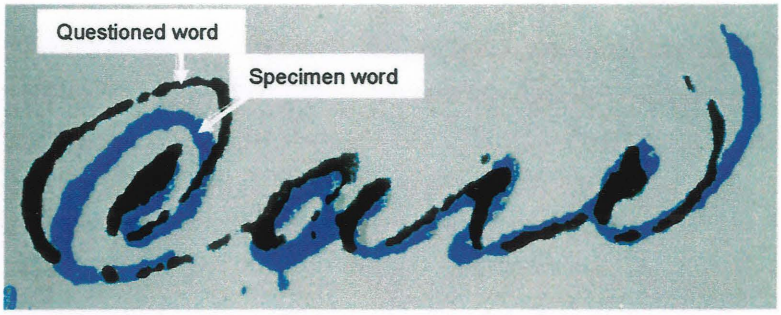
Appendix 13

Superimposition of the questioned word "case"/ "care" and specimen words "case" from File 1

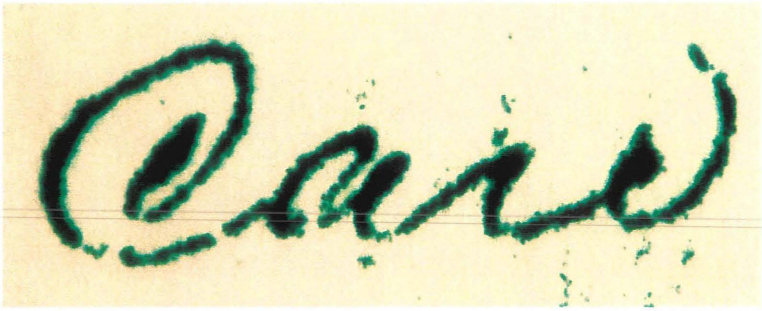
Questioned word



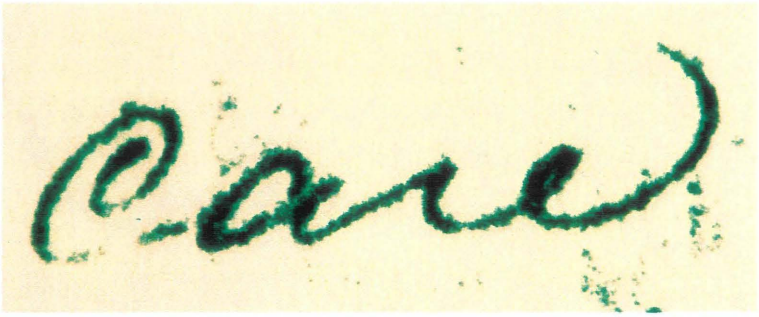
Specimen word, Page 16 Line 25



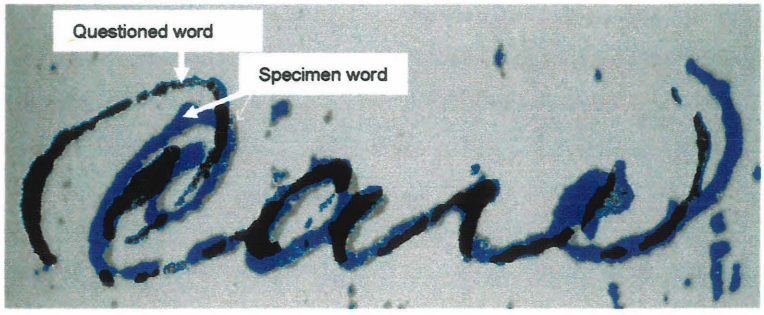
Superimposition



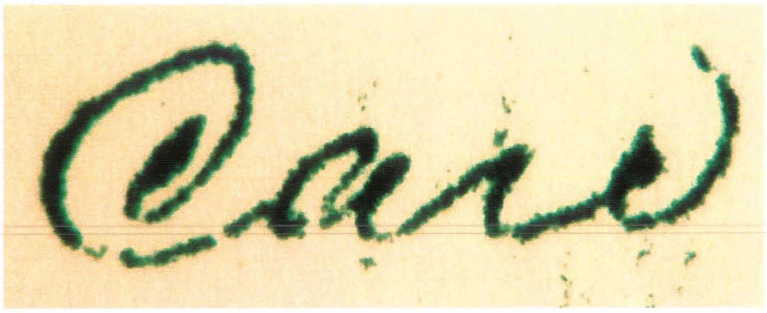
Questioned word



Specimen word, Page 26 Line 18

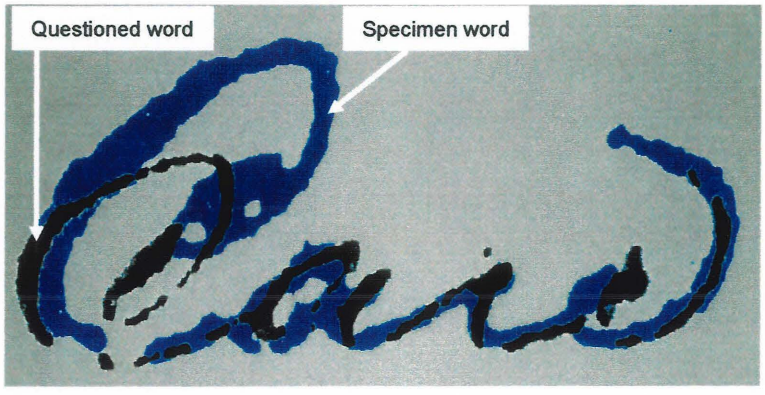


Superimposition



Questioned word

Specimen word, Page 27 Line 24



Superimposition

ANNEXES

JABATAN KIMIA MALAYSIA
(DEPARTMENT OF CHEMISTRY MALAYSIA)
Jalan Sultan, 46661 Petaling Jaya, Selangor Darul Ehsan.
Tel: 03-79853000 Fax: 03-79556764

List of Annexes

1. **FILE 1 :** Letter from W.J. Butterworth (Governor of Prince of Wales Island, Singapore and Malacca) to G.A. Bushby (Secretary to the Government of India) dated 26 August 1846, signed W.J. Butterworth, and its enclosures; source: National Archives of India

2. **FILE 2 :** Letter from W.J. Butterworth (Governor of Prince of Wales Island, Singapore and Malacca) to G.A. Bushby (Secretary to the Government of India) dated 26 August 1846, without signature; source: Strait Settlements Factory Records.

3. **FILE 3 :** Letter from W.J. Butterworth (Governor of Prince of Wales Island, Singapore and Malacca) to G.A. Bushby (Secretary to the Government of India) dated 26 August 1846, without signature; source: British Library.

4. **Counter-Memorial of Singapore.**

FILE 1

Letter from W. J. Butterworth (Governor of Prince of Wales Island, Singapore and Malacca) to G.A. Bushby (Secretary to the Government of India) dated 26 August 1846, signed W.J. Butterworth, and its enclosures; source: National Archives of India.

(1)
MILITARY Dept
Marine Branch
3 October 1846
No. 5 9 KW 4 10-11
Complete file
34

No 123.—

My Hon.

The Governor of Prince of Wales Island Singapore and Malacca &c—

To

C. A. Bayley, Esquire,
Secy to the Govt of India
Fort William.

Dated Singapore 16th August 1846.—

Sir

I have the honor to transmit the accompanying Copy of a Letter from the Acting Master Attendant to the Hon'ble Board of Ordnance, enclosing the Copy of a Letter from the Master Attendant, relative to the Light House proposed to be erected on the Island of Pedra Branca, at the entrance of the China Sea.—

In my letter under date the 22nd August 1845 No 139, I intimated my unqualified opinion that Pedra Branca would be the most favorable position for a Light House, so far as the Light is concerned, but I was induced to agree the preference to Beak Rock in Outer Romania Road, the position selected by Capt. Sir Edward Belcher R. N. in consequence of the former Island being so remote from Singapore, about 40 miles distance from the main land, and so inaccessible at certain Seasons of the Year.—

The present Survey of the Straits made by the Government Surveyor Mr. Thomson and Captain Congalton Commanding the Hon'ble E. I. Co's Steamer

Hon'ble

Relative to erecting a Light House on Pedra Branca

Recd 4th Sept 1846

No 63

कौमीराज्य राष्ट्रीय अभिलेखागार
भारत सरकार के आधीन
Copyright rests in the National Archives
of India, Government of India

Lately has led to the discovery of so many Rocks and Shoals previously unknown, that I only waited to learn the decision of Government touching the Erection of a Light House, to institute further Enquiries regarding the two Sites viz Vedda Banca & Flat Rock.

On receipt of Mr Melvill's communication I forthwith called upon the above Officers for their Report; which I have the honor to enclose, and I think the Evidence I have collected proves that Vedda Banaal is the only true position for a Light House at the entrance of the China Seas.

My Letter under date the 20th November 1844 No 150, and 22nd August 1845 No 139, will have furnished the Hon'ble Court with the Charts & Plans of the Position above mentioned, by which they will observe that the Work has not been commenced upon as anticipated by the Secretary to the Bengal Asiatic Company. I earnestly trust however that the question will receive early consideration, and that the accompanying Copy of a Letter with its enclosures, just received from the Chamber of Commerce at Singapore may induce the Hon'ble the Governor in Council to move the Honble Court of Directors to order an Iron Light House from England for Erection on Vedda Banaal. The whole of the Details for the case of Light Houses as set forth in my Letter under date the 20th November 1844, with reference to it being erected on Flat Rock will be equally applicable to the Iron Pattern.

A. To forward to the Secretary to the Govt of India Marine Department

B.

C.

M

कॉपीराइट राष्ट्रीय अभिलेखागार
भारत सरकार का अधिकार
Copy Right vests in the National Archives of India, Government of India

It will be observed by the letter from Mr. A. Gordon, that an Iron Light Vessel can be delivered at the Site selected for £ 3,000, or about 30,000 Rupees and by the other letter addressed to me the Communication from the Chamber of Commerce that there is forthcoming from Madras ——— R. 7,000—

and ——— from Penang ——— 4300

which with that from Singapore ——— 11,300

leaves to be supplied ——— 17,450

Rupees available for a Light House, upon this I have no doubt will be added, what is known that Government has agreed upon carrying out the views and wishes of the Honorable Commissioners —

In conclusion I have the honor to enclose a Copy of my Reply to the Secretary to the Hon'ble E. I. Company which I trust will be approved of by the Hon'ble the Governor in Council —

I have the honor to be

Sir

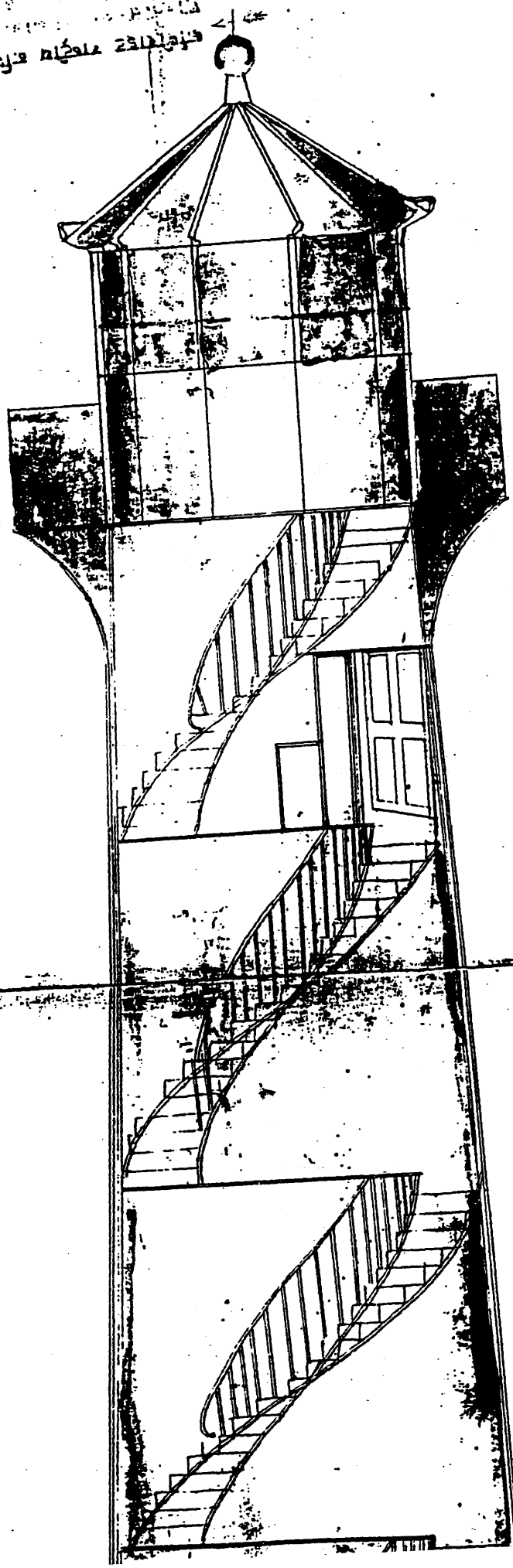
Your Most Obed't Servant

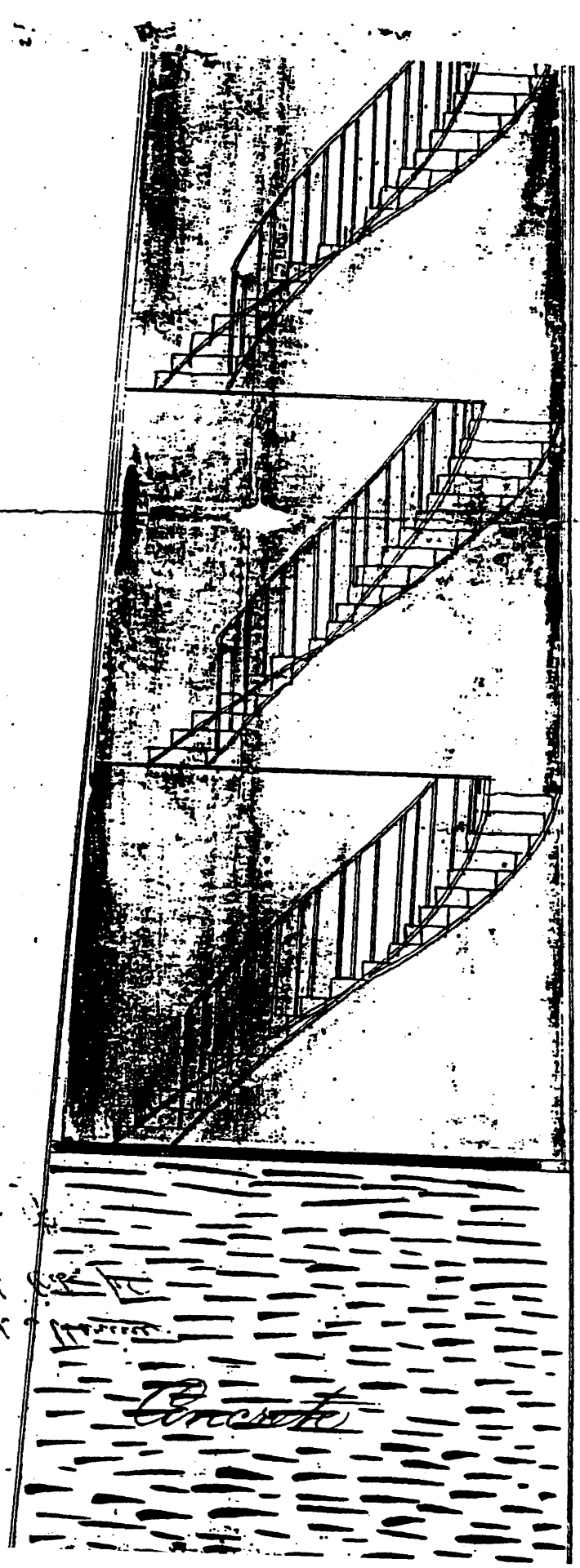
Gordon

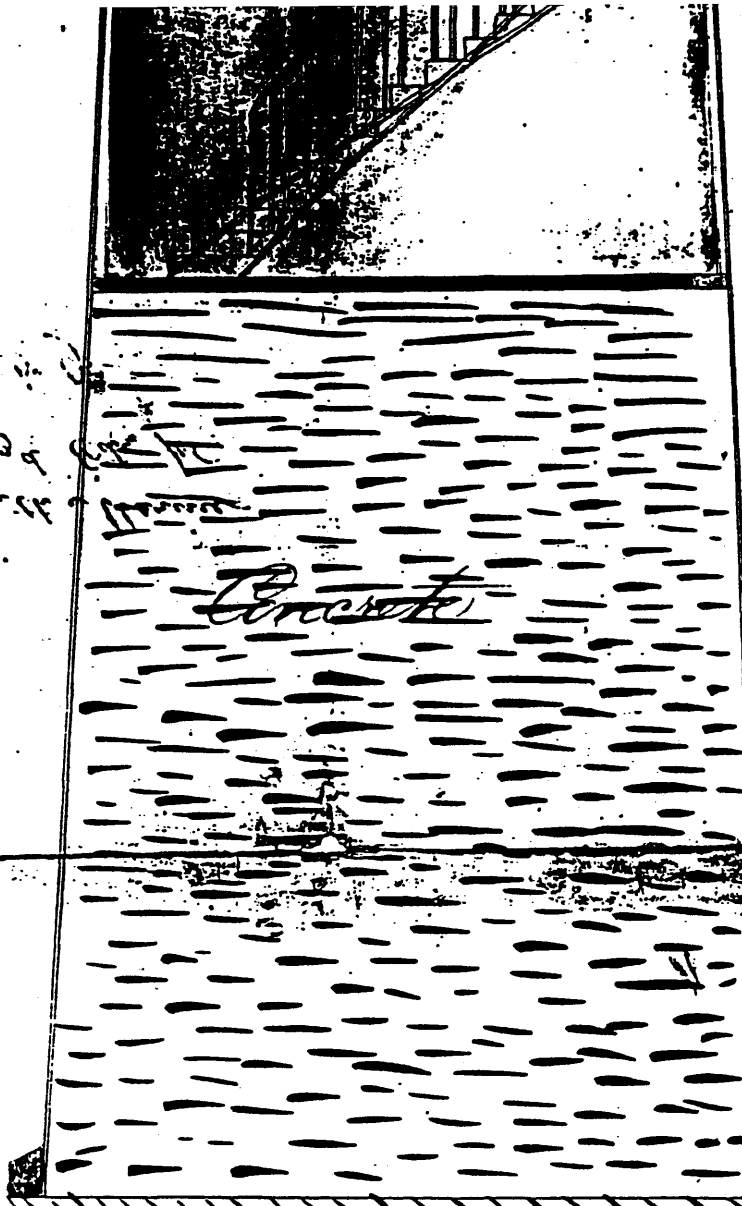
Singapore
26th Aug't 1846

कीपीराइट राष्ट्रीय अभिलेखागार
भारत सरकार
Copy Right reserved in the National Archives
of India, Government of India

कॉपीराइट: राष्ट्रीय अभिलेखागार
Copyright vests in the National Archives
of India. Government of India




Concrete



Vertical Section of a Wrought Iron Light House

proposed for

Singapore

Referred to in my Letter to the Committee of the Chamber of Commerce at Singapore and the accompany Remarks

by Alexander Gordon

Scale

Inches 12 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 Feet

22 Rudger Street

Whitehall 31st Jany 1840

London

कॉपीराइट राष्ट्रीय
of India, Gov

Kept with Chancery
Copy 3rd Oct 46.

A.G.-

कीर्तीराहट राष्ट्रीय अभिलेखागार
Copy Right vests with National Archives
of India, Government of India

East India House
6 May 1846

Sir

I am commanded by the Court of Directors of the East India Company to transmit to you Copy of a letter from Captain Hamilton R.N. the Hydrographer to the Admiralty relative to the Light House proposed to be erected to the Memory of the late Mr. Horsburgh at the Entrance of the Straits of Singapore

The Court apprehend that Progress may have been already made in the construction of the Lighthouse, but in the event of the work not having been commenced they desire that it may be suspended until you have an opportunity of communicating with the Government of India, to whom a Copy of Captain Hamilton's letter has been sent

I have &c
Sig. James G. Melville

To
The Governor of
Prince of Wales Island
Singapore and Malacca

Admiralty

कॉपीराइट राष्ट्रीय अभिलेखागार
भारत
Copyright reserved
of India. Government of India

Admiralty

18th April 1846.—

My Lords Commissioners of the Admiralty having recently learned from Rear Admiral Sir Thomas Cochrane, the Commander in Chief in the East Indies, that the Chamber of Commerce at Singapore, with the approbation of the Governor, were exerting themselves to carry out the long projected Northern Monumental Light Vessel at the Entrance of Singapore Straits, and that Captain Sir Edward Belcher, having been consulted by the Governor as to the most appropriate Site for it had recommended that it should be placed on the outer Romania Shoal instead of on Pedra Branca as originally intended—

I am commanded by their Lordships to request that you will state to the Court of Directors that the proper position of this Light is a question of great importance not only to the safety of Her Majesty's Fleet, but also to the welfare of all Mariners that frequent the Chinese Seas—and my Lords are inclined to think that Pedra Branca is the best point for the Light Vessel, and for the following reasons.—

1st Because that Islet stands nearly in the middle of the Entrance of the Straits:—

The Secretary to the
Honble East India Company

2nd

कॉपीराइट राष्ट्रीय अभिलेखागार
भारत
Copy Right National Archives
of India. Government of India

2nd Because it may be first approached by running down its latitude—

3rd Because its conspicuous appearance at the distance of 9 or 10 Miles pending at the usual Beacon by which all Vessels endeavour to make the Strait and by the addition of a Light it would be rendered equally Conspicuous by night, and

4th Because when a Vessel has passed it, the Stern Lights of the Light would enable her to shape a safe Course for Singapore—

Whereas if the Light be placed on Romania Island as proposed, Ships from Bengal Seas if the prevailing Winds should be hazy, would run the risk of being Benighted Amongst the Reefs which surround that Island, there being but one direction in which it would be prudent to run for the Light—

The means of installing and of defending the Light House, whichever place be chosen ought certainly to be well considered, but there is no information on that part of the Subject to shew that either of the proposed Sites have any advantage over the other in those respects—

Their Lordships however desire me to remark that the Rock and Shoals at Romania Point seem to require some attention with a view of warning Vessels from getting entangled amongst them in dark Nights—

I am &c.
S. H. B. Hamilton

I have &c.
Governor

कॉपीराइट राष्ट्रीय अभिलेखागार
भारत सरकार
Copy Right: National Archives
of India. Government of India

Marine Letters 5 Dec. Calcutta 1846

A.

Rome 1846 Dept

Marine

Enclosed in a letter

From Governor of

Prince of Wales Island

Singapore & Malacca

D. 26 Aug.
R. 30 Sept. } No. 123.

Ans: 3 October

No. 10.

Copy of Government of India

To the Hon'ble
Colonel Butterworth C.B.
Govnor of P.W. Island
Singapore and Malacca

Sir

We have the honor of acknowledging the receipt of your letter No 112. dated 14th August 1846 with enclosures from the Admiralty and East India Hond relative to the position of a Light House proposed to be erected to the memory of the late Mr Horsburg at the Eastern Entrance of the Straits of Singapore —

In reply we beg leave respectfully to state to your Honor that we are decidedly of opinion that Pedro Branca is the only proper position for a Light to be placed there for the Safety of Shipping whether entering or departing from the Straits of Singapore and in advancing an opinion on the subject contrary to the recorded opinions of so Eminent a Surveyor as Capt Owen & Sir Ed. Belcher it will be necessary for us to state for the information of our distant Authorities, that previous to offering completed a careful Survey of the Straits and which Survey includes all the Space to which the Light House could extend whether it may be placed on Pedra Branca or on Pedra Blanca, and the former of us has had the advantage of an experience of twenty five years of almost constant cruizing in the vicinity during all weathers in the Hon'ble Company's Ships both Sailing and Steam —

It is during the prevalence of the South East Monsoon that the want of a Light is most felt by Ships passing through the Straits, for at that time they have a lee Shore on the Malay Peninsula and Island of Bintang with a Current from the Southward, driving them on to the dangers that are situated along their Coast.

Thus

Thus if a light should come to be seen a Ship passed clear of all dangers inwardly or outwardly, being prevented from anchoring by the high Sea running and drove out of her reckoning by the strong Currents, her safety becomes very precarious when in the darkness no known mark can be seen, and it has been under these circumstances that most of the lamentable Shipwrecks have taken place within these few Years.

In considering the question touching the Anchoring of Ships during the North East Monsoon, should be held amongst other objects that of most paramount importance.—

Pedra Branca as mentioned in the Enclosure from the Lords Commissioners of the Admiralty had been originally intended to bear the Light House until Sir Edward Belcher reported on some Rock, and while we fully concur with the Opinions set forth in the Enclosure from those Lordships, we think at the same time give an Answer as possible of the relative merits of each position so that Your Honor may judge of the correctness for ourselves.

Pedra Branca is situated in the middle of the Straits, and in the most advanced position towards the China Seas—so that it is the first object that Vessels make in steering for the Straits of Singapore and supposing the Light to be placed on it to be seen in all directions fifteen miles only, for a further distance could not be safely relied upon, however brilliant the Light during heavy or hazy weather—it will be noticed on reference to the Chart, that the Light would extend to all the dangers in the way of Vessels, whether on the Coast

of—

कार्यालय ... Archives
भारत ...
Copy Right reserved
of India, Government of ...

of Britany, the Romanie Shoal or adjoining the Coast of Ishoed, and that Vessels coming from Channel Seal whether from the Northward or Eastward, would only require to steer a direct Course to the Light, and by passing to the Northward of it, when it is Steep to, and free of all dangers, and consequently can be safely approached as when bearing would carry Vessels into the Straits — Ar Vraik Rock in the contrary supposing its Light to be of the same magnitude, and brilliancy it would not extend to the principal of the dangers to be apprehended viz those on the North East Point of Britany where Ships are so liable when working out of the Straits to be driven by the Current which as formerly stated set from the Northward on that Shore where the most advanced point is not only low and difficult to be discerned, but has dangerous Rugged Sunken Rock extending from it — a mile and a half [illegible] — This supposition of Light for Vraik Rock of ground to Ships Going out or coming in from the Eastward, and Ships Coming in from the Northward would be equally Embarrassed, from owing to the numerous Sunken Shoals that lie off the Romanie Islands they cannot be nearly approached — Ships would consequently be found Continually to alter their bearings of the Light, and not approach it by one direct Course as in the case of Pedra Branca — Another objection against Vraik Rock which appears to us insuperable is, that in so narrow a Channel, Ships in hazy weather would be apt to be run among st the Sunken Rocks which extend a mile into the Channel, by their Commanders judging the Light to be more distant, while in clear weather the opposite danger would

Archives
Copy [illegible]
of India. Govern[illegible]

would be minimized on the Romanic Shoal by the Light, being estimated to be two years

The distance of Peak Rock from Singapore is 28 Miles and of Pedra Branca 34, and with regard to victualling and communicating with them, we think in this respect there would be no difference as they are equally exposed to the force of the waves in the North East Monsoon — Both Rocks are equally barren and devoid of fresh Water, and are nearly of the same size and height (30 feet above high Water) so that before the commencement of the three Months of December — January and February a supply of Provisions and Water for the Keepers would require to be laid in, as the Rocks are seldom then accessible — but at other times, as the Sea is always smooth a Months supply would suffice —

We have &c
Sig[d] A. Bingham
Comm[g] H.C.[s] Ship Thames Straits
J. T. Thomson
Government Surveyor.

Singapore
25th August 1846

True Copy,

W. W. Bird
Governor

Archives
Copy [illegible]
of Indian Government

B.

Colonel Wilcox
Resident Councillor
Penang

Lieutenant Colonel William Farquhar
Late Governor & Commandant
P.D. Prince of Wales Island
Singapore & Malacca

Sir

I have the honor to transmit herewith a Copy of a Letter from the Commissioners of Arbitration at Ghent, dated the 26th Ultimo, with its Enclosure, addressed to Mr. Secretary Adams, and to request that you will be pleased to communicate the same to the Government of Prince of Wales Island.

I have the honor to be
Sir
Your most obedient
humble Servant
J.Q. Adams

कौलीराइट राष्ट्रीय अभिलेखागार
Colonial Archives
of India, Government of India

— C. —

Chamber of Commerce,
Singapore 19th August 1846.

Sir,

I am directed by the Chamber to forward to you Copies of Letters received by the Chamber, relative to funds available for the erection of a Light House as a Memorial to the late Lt. Col. Johnston —

No 1. From Captain C. Biden of Madras with Copy of an Account Current showing a Balance of Company's Rupees 780-0-0 available for the above purpose

No 2. From the Secretary of the Bombay Chamber of Commerce, advising that Co. Rupees 4300-0-0 has been subscribed in Bombay and Accompanying a Letter from the Members of a Committee for the management of the Funds, stating their readiness to hand over the Amount under the proviso that the Lighthouse in question be called the Horsburgh Light —

No 3. A Letter from Mr. A. Gordon with his Remarks relative to Light Houses, and Accompanying a plan of a pronged Iron Lighthouse which he recommends to the Chamber, as one adapted for Singapore

I beg leave to state that these Documents would have been forwarded earlier, but the Chamber was in hopes of procuring further support from other Bodies that were addressed on the Subject —

I have the honor also to enclose Copy of a Letter from the Manchester Chamber acknowledging receipt of the Statistical Statement presented in your name to the Honble Col. Butterworth &c. I have &c

Governor &c &c &c

Sd. J. C. Crane
Secretary

कॉपीराइट राष्ट्रीय अभिलेखागार
Copyright National Archives
of India

(No 1)

Madras 3rd February 1836.

To

Thomas Mc Micking Esquire
Chairman of the Chamber of Commerce
at Singapore, —

Sir

With reference to your letter of the 3rd December & the Copy of a Report read at a Meeting of the Singapore Chamber of Commerce on the 1st December regarding the Erection of a Light House, on or adjacent to Pedra Branca, or a Memorial, in Memory of the late Hydrographer Captain James Horsburgh; together with your request that I would endeavour to obtain for Contributions towards such Amount has been subscribed in Madras, and whether such Amount of Subscriptions is available to carry into effect that desired Object — I have the honor to acquaint you, that on Enquiry I have ascertained, that a Subscription for such a purpose as that you have described, was raised at this Presidency in 1838, and that Messrs Parry, Dare & Co received the Amount thereof, and the Enclosed Statement which I have been favored with by Messrs Parry & Co Exhibits the Sum of Rupees 781 and Annas 8, and that the same was remitted to H. H. Bruce Esquire as Equivalent to £ 71-11-1 on the 9th March 1838. —

As one of the Subscribers to the Horsburgh Memorial at Canton, I do most cordially assent to the Proposition set forth by the Singapore Chamber of Commerce, and flattered as I am, by their request that I should render any aid in my power towards the Attainment, for object

held

vote to the Memory of so good and talented a Man as the late Captain Horsburgh. I shall at all times be most ready and willing to co-operate with the Chamber in furtherance of the Design they stand in contemplation.

I beg leave to state that in September last, I had some conversation with Mr Samuel Dent respecting the Amount subscribed at Canton for the foregoing object and from his Observations I came to believe the Amount collected at Canton has been subject for nine years. I know that a Subscription was started by the Commanders and Officers of the East India Company's late Marine Service, and I think it was limited individually to one Guinea; I think therefore such an aggregate Sum might be realized as may enable the Chamber of Commerce to Erect a substantial and Elegant Structure as a lasting Ornament of National Gratitude to one, whose meritorious Services contributed to the safety and accommodation of Every Merchant and Every Seaman & Navigator through out the Globe.

In my humble Opinion the whole Amount of Subscriptions should be devoted to One Light House, and that it should be upon the Island, and design Every other Light house pr the World.

In the Event of a further Sum being required than that which (from Every Quarter) may now be available I feel confident, so soon as it is known when, and where a Horsburgh Light House is to be Erected, that increased donations will be most cheerfully contributed.

I have &c.
Chas Bosanquet

A true Copy
Thos. C. Cram
Secy.

Archive
Copy Rec
of India Govern

Dr. The late Captn Jas. Horsburgh's Monument a/c Current with Parry H[o]

1838			R	a	1838			R	a
March	9	To postage of Letters	–	14	Jany	6	By rec[d] from A. J. Bonsor Esq[r] his Subscr[n] to the late Captn		
		Amount of a Bill from Wills No 58					J. Horsburgh Monument	12	0
		of this date on Mess[rs] Crawford Colvin H[o]				29	– Rec[d] from Capt[n] M[c] Kinnon his Subscription	3	8
		in favr of W[m] Bonsor Esquire at Penrith			Feby	7	. W. Ashton Esq[r] 12 – Mess[rs] Sons H[o] 50 – 62		
		Sight for £71-11-1 6/10 pm Ruffed	780	10		9	. Mess[rs] Sam[l] H[o] 50 Mess[rs] Bunny H[o] 100 – 150		
						–	. Mess[rs] Ashton[s] H[o] 100 – 100		
						–	. M[r] Cruickshanks 12	324	0
						10	. Rec[d] from Mess[rs] Ashton[s] H[o] the undermentd		
						–	. Persons Subscribers Viz		
						–	. . A. J. Bonsor Esquire 12		
						–	. . W. B. Anderson Esquire 12		
						–	. . Lord E. Montagu 20	44	0
						12	. Rec[d] from the following Gent[n] their Subscript[n]		
						–	. Captain Dalrymple 12		
						–	. Mess[rs] Amadeus H[o] 20		
						–	. Captain J. Anderson 12		
						–	. M[r] Col[l] Dundas a Rebate 12 – 22		
						–	. Co[l] Abel 12 – M[r] Standen 12 – 24		
						–	. J. Bird Esquire 12		
						–	. Z. Macaulay Esquire 12		
						–	. C. Farrer Esq[r] Treasr 12		
						–	. H. E. Unthank Esquire 12	138	0
						14	Rec[d] from R. B. Smith Esq[r] his Subscr[n] 12		
						–	. J. C. Mawer Esquire 12		
						–	. Mess[rs] Parry, Dr. Hrs Share 100	124	0
						–	. The Hon[ble] J. Jefferson Esquire	12	0
						–	. M[r] P. Elliot for Lord Elphinstone bond	100	0
						–	. E. L. Elliot his Subscription 12		
						–	. J. Chawner Esquire 12	24	0
			Rubes	781	8			Rubes	781 . 8

A true Copy
Sig[d] W[m] D Crawd

Madras 9th March 1838.

No 113 of 1846.—

To J. McMurray Esquire
Chairman of the Chamber
of Commerce, Singapore—

Sir

I am directed by the Committee of the Bombay Chamber of Commerce to acknowledge the Receipt of your Letter of the 3rd December last relative to the Amount Subscribed in Bombay towards the Hamburgh Memorial and to inform you pursuant thereto that a Sum of upwards of Rupees 4,300 is lying in the hands of Messrs Remington & Co of Bombay, and will be available for the purpose specified, and that they learn that the Governing Members of the Committee of the Fund have addressed a Letter to you on the Subject.—

I have &c
Signed H. A. Jarth
Secy C.C.

Bombay
Chamber of Commerce
20th February—

कॉपीराइट राष्ट्रीय अभिलेखागार
भारत सरकार के अधीन
Copyright vests in the National Archives
of India, Government of India

Bombay 22nd January 1836.

To The Secretary
Chamber of Commerce
Singapore

Sir

We the undersigned and the remaining Members of a Committee formed in 1834, to procure Subscriptions towards erecting a Testimonial of Respect in Bombay to the Memory of the late James Horsburgh Esquire — The Sum collected for this purpose having only amounted to Rupees (4308) four thousand three hundred and Eight — We did not deem it meeting such Testimonial was abandoned, but observing by the papers that there is to be a Lighthouse erected at Singapore to commemorate the Memory of the deceased, and that You are the Channel of Communication, we beg to acquaint You that we are willing to place the above Sum at the disposal of the Singapore Committee, under the proviso that the Lighthouse in question shall be called The Horsburgh Light —

If this proposition is complied with you can communicate the same to Messrs Remington & Co — the Treasurers for the Subscriptions, and who have been requested to pay the above Sum and we would suggest that Such be drawn for from Singapore by some party of your Committee —

We remain &c
Sig. H. L. Seckie
" Jamsetjee Jejeebhoy
" Framjee Cowasjee

True Copies
D. Mc. O. Grant

कॉपीराइट राष्ट्रीय अभिलेखागार
भारत सरकार के अधीन
Copy Right vests in the National Archives
of India, Government of India

No 3.

22 Sludger Street
Whitehall London –

31st January 1846 –

Gentlemen

I have the honor to submit for the information of the Chamber of Commerce at Singapore and (if by them deemed fit) of his Honor the Governor some Remarks upon the proposal for erecting a Lighthouse at Singapore to the memory of James Horsburgh.

In thus announcing my opinions I only speak upon my Surveys in the Erection of Lighthouses for the Honorable Company and for Her Majesty's Government, as also on the position I occupy with them and other Employers in regard to other important Works of this kind. —

I have &c
Signed Alex Gordon

To the Committee
of the Chamber of Commerce
Singapore

A true Copy
A. Thos. Braine
Secy

कॉपीराइट राष्ट्रीय अभिलेखागार
भारत सरकार का संपत्ति
Copy Right vested in the National Archives
of India. Government of India

London
31st January

Remarks upon the Protocol for erecting a Lighthouse at Singapore to the Memory of James Brooke Esq.

I have referred in my letter which accompanies these remarks to the Success which has attended my introduction of Iron Lighthouses.

A perusal of my Evidence before the Select Committee of the House of Commons on Lighthouses (1st August 1845) and the Report of that Committee thereon, and a perusal of the accompanying Excerpt from the Report of a Committee of Jamaica pile Houses for the measure of confidence, and I venture to suggest an arrangement for the proposed Lighthouse at Singapore which differs in many particulars from my former Work, in order to combine with the more conditions of Security from danger to the Tower the Light and the Light Keepers in case of a Surprise from Pirates and offering the advantages of a Signal Station & for mounting a Gun or Guns for Signal or defence as suggested by Sir Edward Belcher of Her Majesty's Ships Samarang.

Permit me to say that I am prepared to submit designs, Drawings, Specifications Estimates, and all details for a circular pronged Iron Tower 18 Feet Diameter at the base and ten feet diameter at the top shewing a Light for the Straits or any required portion of the Orbit*, which can be made erected and lited in London removed packed and delivered

* An Altitude of 20 feet above the Sea is sufficient for rendering the Light visible to Steamers & Ships decks anywhere within 20 miles.

कॉपीराइट राष्ट्रीय अभिलेखागार
भारत सरकार की संपत्ति
Copy Right vests in the National Archives
of India Government of India

delivered either at Pedra Branca, the Romania outer Isle or at any other Isle near Singapore. The Expence of this Tower, Lantern and Light Apparatus not to exceed £3000 delivered at the Isle.

Such a Tower can be placed upon any hitherto undiscovered Table of Rock or other found above and have a Cave of Comfort hastily thrown in to the lower Compartment for a small additional Sum of Money

I have arranged that the lower Room of the Tower shall be 20 or 25 feet above the base and there is Space enough for two or three Cannonades or Howitzers.

The Tower being constructed of strong Iron Plates, could be perfectly secure against Earthquakes, and the Experiment tried in the present practice of Her Majesty's Ship Excellent against Steam boat funnels shews that even heavy Shot could be a long time piercing punched impressions against it.

The Rocks could be erected and lighted in Batavia within three Months time & the erection and lighting at Singapore (on the point or on the Island) could be accomplished within two Months from the arrival out. It will be seen that such a Lighthouse is Cheap, easily & quickly erected strong against vibrations in hurricanes, cannot be injured by lightning and is safe in Case of Earthquakes or fire — The lighting of the Tower and the Establishment a convenient and uniform temperature, all of which advantages are fully stated in the Report of the Select Committee of the House of Commons on Lighthouses 1st August 1845

22 Hyde Street Whitehall,
London 31st January 1846

Signed A. Gordon

A true Copy
Sgd. W. A. Brand

I have the honor,
Sir,
Your most obedient
humble Servant
W. A. Brand
Commr

कार्यालय राष्ट्रीय अभिलेखागार
भारत सरकार के अधिकार
Copy Right vests in the National Archives of India, Government of India

To C.
The Hon'ble Deputy
Commissioner
Barwie.

Enclosed is a letter
from Gopi Nath
Allahabad Bank
Ltd. Kanpur
requesting the release
of Rs 2000/- & Rs 423
Rs 2423/- Bonds
Gen. 3rd Collection
A/12

कॉपीराइट राष्ट्रीय अभिलेखागार
भारत
Copy
of Do...

No 122

From

The Governor of P. P. Island
Singapore and Malacca

To

James C. Melvill Esquire
Sec.y to the A. E. I Co.

Dated Singapore 26th August 1846

Sir

I have the honor to acknowledge the receipt of your letter of the 6th. March last with its Enclosure from Captain Hamilton, the Secretary to the Admiralty relative to the Light House proposed to be erected to the Memory of the late Mr. James Horsburg, at the Entrance of the Straits of Singapore.

In reply I beg very respectfully to intimate that no progress has been made in the construction of the Light House, and that I have this day communicated further to the Government of India on this subject with reference to the communication under acknowledgment.

I have &c.
Sig.d W. J. Butterworth
Governor

Singapore
26th Aug.t 1846

True Copy,
Governor

कॉपीराइट ... अभिलेखागार
... National Archives
... ment of India

D.

Marine Dept.

Enclosed is a letter from the Government to the Collector of Surat and Broach

No 826 Dated 3 Sept. 1823.

Com. 3rd Collector

Ans.

कॉपीराइट राष्ट्रीय अभिलेखागार
भारत सरकार
Copyright National Archives
of India Government of India

Home Dep.t
Marine
The 3.d Oct. 1866

No 634

To
The Gov.r of S.t W. Island
Singapore & Malacca

Sir

In reply to your letter No 123 of 26.th Aug.t last I am directed to inform you that the Court in C.l approve of Pedra Branca for the position of the light House to be erected

Endorsed

~~in commemoration of the late Hydrographer~~
~~Captain Bowling Esq.r~~ at the entrance of the Singapore Straits from the China Sea and propose to address the Hon.ble the C.s of D.r requesting the Court to take into consideration the proposition that an Iron light House ~~being~~ sent from England.

I am directed to

कॉपीराइट राष्ट्रीय अभिलेखागार
भारत सरकार का प्रभाग
Copy Right vested in the National Archives
of India. Government of India

Upon it But you will notice
draw your attention to
the observation in the
last para. of Mr. Hamilton's
letter of 18th April to Govr.
Cay Melville respecting
the rocks & shoals at
Romania Point which
in the opinion of the
Lords Commissioners of
the Admiralty require
some attention with a
view to warning Vessels
from getting entangled
amongst them in dark
nights.

I have &c.

कॉपीराइट राष्ट्रीय अभिलेखागार
भारत सरकार
Copyright National Archives
of India, Government of India

33

Mar. L. No 5 of 3. Oct. 1846

Rome 1846. Dept Marine

To Govr. of P. W. Island Singapore & Malacca

of 3d Oct. 1846

Com. B. C. Collier

No 14

Appoves of Pedra Branca as a position for the Horsburgh Light House & informs that the Court of Dirs will be addressed relative to the proposition that an Iron Light House be sent from England.

Archives

Copy of letter

FILE 2

Letter from W. J. Butterworth (Governor of Prince of Wales Island, Singapore and Malacca) to G.A. Bushby (Secretary to the Government of India) dated 26 August 1846, without signature; source: Strait Settlements Factory Records.

553

[illegible] Name to transmit from taking any
proper Steps with regard to the Detail of
Affairs, pending the Settlement of the Treaty
(Continue

Hand for
26 Augt 46 Sig. W. C. Butterworth C.
Governor

2 Oct. Rec'd 26 Aug.

2 123 To

C. A. Bushby Esquire
Secy to the Govt of Straits
Fort Wellesley

Dated Singapore 26th August 1846

Sir,

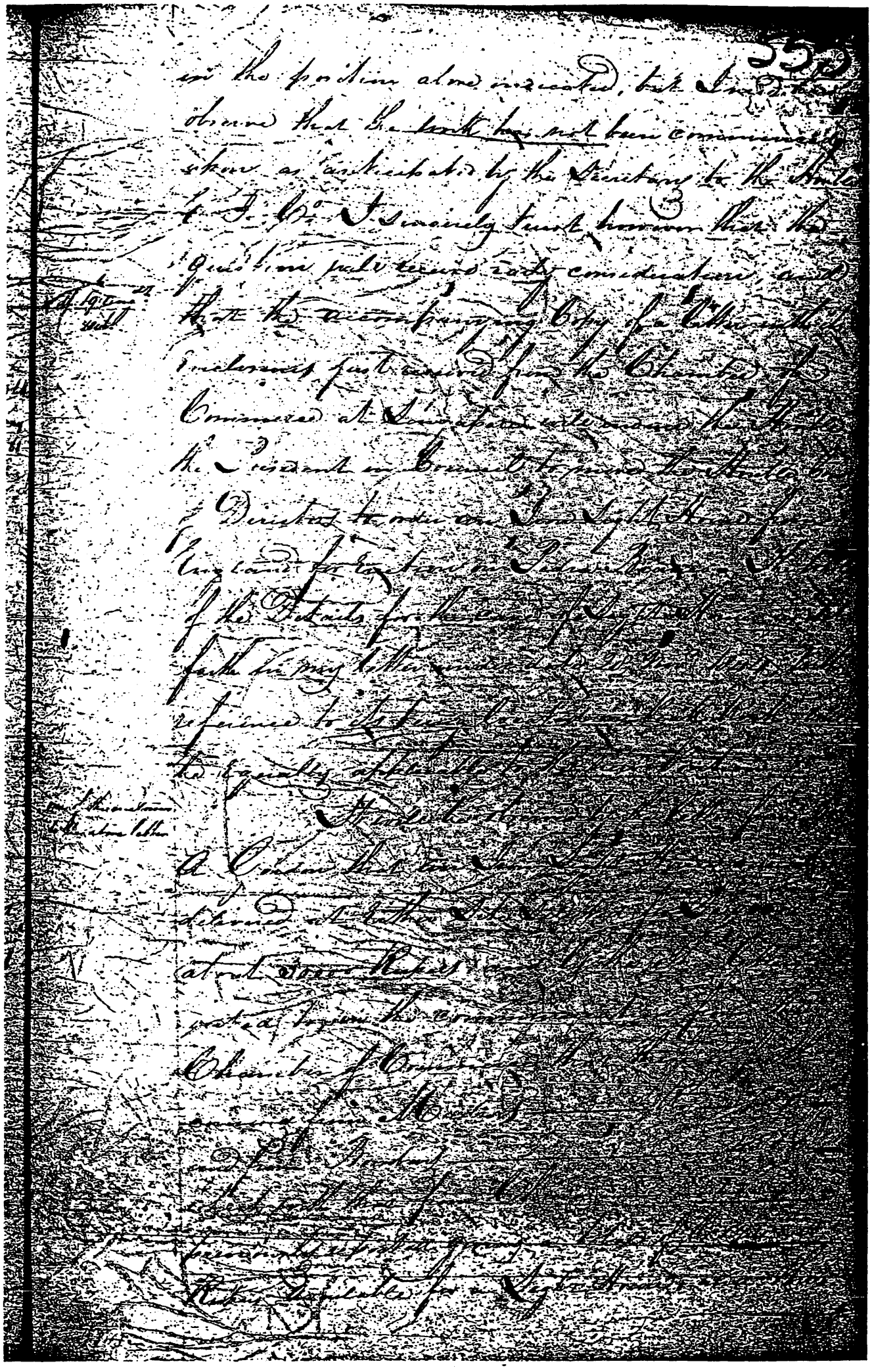
I have the honor to transmit the accompanying Copy of a letter I am directed from the Secretary to the Straits Govt of Penang enclosing the Copy of one from the Secretary to the Admiralty Registrar to the Supreme Court to be delivered to the Proctor of the Reg. Vice Admiralty James Hamilton Esq. for the Recovery of the Chinese Junk [illegible]

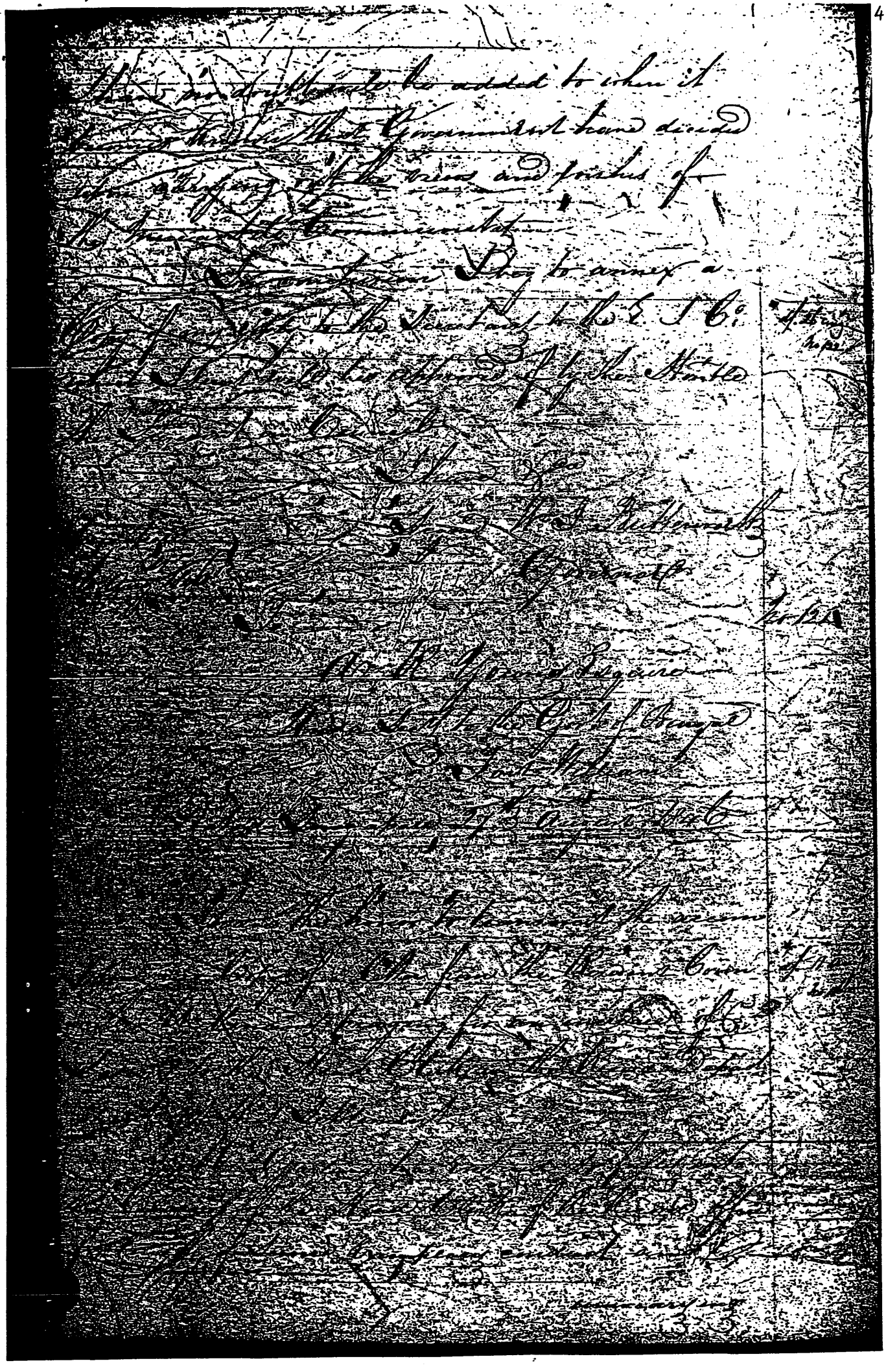
I am further directed to request [illegible]
[illegible] Hamilton Esq. [illegible]
[illegible] Sales [illegible]
position for a Light [illegible]
[illegible] Straits [illegible]

[illegible] Reef near Rock ne. of the Roman à
Island. The Position selected by Captain Sir
Edward Belcher C. B. in consequence of the former
Island being so remote from Singapore, abt. to
[illegible] distance from the Main Land and
[illegible] at certain Seasons of the Year
the recent Survey of the Straits made
by the Government Surveyor Mr. Thomson and
[illegible] Commanding the Hon'ble East
India Company's Steamer Hooghly has led to the
[illegible] Rock and Shoals previously
[illegible] to lead the direction
[illegible] the Erection of a Light
[illegible] Enquiries regarding the
[illegible] Rock.
[illegible] Mr. Mitchell's communic-
[illegible] calls upon the above Officers
[illegible] Shoal the knowledge
[illegible] the Navigation in Council
[illegible] Rock Pedra Branca is the
[illegible] Light House at the Entrance

in January
of the
Coll 2061

Captain
Horsburgh
1851





FILE 3

Letter from W. J. Butterworth (Governor of Prince of Wales Island, Singapore and Malacca) to G.A. Bushby (Secretary to the Government of India) dated 26 August 1846, without signature; source: British Library.

No. 123.

From

The Governor of Prince of Wales Island

Singapore and Malacca.

To G. D. Bushby Esqre.

Secretary to the Govt. of India

Fort William

Dated Singapore 9th. August 1815

Sir,

I have the honor to transmit the accompanying Copy of a Letter to my address from the Secretary to the Honble. Court of Directors enclosing the Copy of a Letter from the Secretary to the Admiralty relative to the Light Houses proposed to be erected to the memory of the late Hydrographer James Horsburg Esqre. at the entrance of the Straits, &c. &c.

By my Letter under date the 22d. August 1815 No. 139 I intimated my unqualified opinion that Pedra Branca would be the most preferable position for a Light House as far as the Light is concerned, but I was induced to give the preference to Bintang Rock on Outer Romania Island, the position selected by Captain Sir Edward Belcher R. N. and consequence of the former Island being so remote from Singapore and so great a distance from the

Vessels Lands and so inaccessible at certain seasons of the year.

The accurate Survey of the Straits made by the Lieutenant Surveyor Mr. Thomson and Captain Congalton Commanding the Honble E. I. Company's Steamer Hooghly has led to the discovery of so many Rocks and Shoals previously unknown that Government would learn the decision of Government how long the erection of the Light House to institute further enquiries regarding the two sites viz Pedras Branca and Point Romania.

On receipt of the Marquis's communication for Straits called upon the above Officers for their Report which I have the honor to enclose, and by which the President in Council will at once perceive that Pedras Branca is the only true position for a Light House at the entrance of the Pulo Aor.

By letters under dates the 28th November 1845 No 150 and 22d August 1845 No 139 will have perceived the pressing necessity for a Light House on the position above indicated, but I need hardly observe that the work has not been commenced upon or anticipated by the Secretary to the Honble East India Company. I may trust however that the question will receive early consideration and that the

* Vide my Letter [illegible] of the Straits of Malacca [illegible] under date the [illegible] No. [illegible]

* B

* The former the address of the Governor and the latter to Mr. Secretary Beadon.

F/4/2166

The accompanying copy of a letter with its enclosure just received from the Chamber of Commerce at Bombay will indicate the desirability of the President in Council to move the Honble Court of Directors to order new Light Houses from England forthwith on Padra Branca. The rules of the Board for the care of Light Houses as set forth in my letter under date the 28th November 1845 with reference to its enclosure on Port Charges will be equally applicable to the new Position.

It will be observed by the letter from Messrs. Gordon Mackenzie & Co. that new Light Houses can be built at the rate selected for of 3000. or about 30,000 Rupees and by the other letters addressed to and the communication from the Chamber of Commerce that there is for Receiving from Madras Rs. 780 -

and —— from Bombay " 4,300 -

which with that from China " 12,378

previously reported gives a total of " 17,458 Rupees available for new Light Houses. and this I have no doubt will be added to on receipt of Accounts that Government have decided upon carrying out the views and wishes of the Merchants & Community.

F/4/2166

In conclusion I beg to annex a Copy of my
Memorial to His Excellency the Honble the Commu-
-nity which I trust will be approved of by His
Excellency the President in Council.

I have &c.
(Signed) W. Butterworth
Governor

Singapore
the 5th August 1841.

F/4/2466

First Copy 5

No: 4

Home Department
Marine

India Mar: Cons: 3d Oct 1846
No

From the Govt of Prince of Wa
Island Singapore & Malac
To the Secy to the Govt of Ind
Dy 26th Augt 1846.

Transmits Copy of Corresp
with the Secy to the Court of Di
with other papers and recommen
Pedra Branca as a site for the
Horsburg Light in preference
to Pisang Road. Requests that
Court of Directors may be requ
to send out an Iron Light Ves
from England.

F/4/2166

COUNTER-MEMORIAL OF SINGAPORE

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 2

(Annexes 1 to 23)

25 JANUARY 2005

5.79 The report of the Government Surveyor, J.T. Thomson, referred to by the newspaper, also confirms that Peak Rock was the location in question: see the letter from Thomson to Butterworth, dated 20 November 1844.[232]

5.80 The Malaysian Memorial pursues the argument with the unfounded assertion that in retrospect "[t]he British authorities in Singapore understood the extent of the consent given by the Sultan and the Temenggong as being applicable to Pulau Batu Puteh".[233] In this connection the Malaysian Government refers to Butterworth's letter to the Government in India dated 26 August 1846.[234]

5.81 Care is needed at this point. The language used by Butterworth gives no support to the suggestion that the consent was understood "as being applicable to Pulau Batu Puteh". What Butterworth wrote was as follows:

> "My letters under dates the 28 November 1844 No 150, and 22nd August 1845 No 139 will have pointed out the glaring necessity for a Light House in the position above indicated, but I need hardly observe that the work has not been commenced upon as anticipated by the Secretary to the Honble E.I. C°. I sincerely trust however that the question will receive early consideration, and that the accompanying Copy of a letter, with its enclosures just received from the Chamber of Commerce at Singapore will induce the Honble the President in Council to move the Honble Court of Directors to order an Iron Light House from England for erection on Pedra Branca. *The whole of the Details for the care of Light House as set forth in my letter under date 28 Nov^{r} 1844, with*

---

232 *See* Letter from Thomson J.T. (Government Surveyor at Singapore) to Butterworth W.J. (Governor of Prince of Wales Island, Singapore and Malacca) dated 20 Nov 1844 (SM Vol. 2, Annex 12). *See also* para. 5.38 above.

233 MM p. 65, para. 134.

234 *See* Letter from Butterworth W.J. (Governor of Prince of Wales Island, Singapore and Malacca) to Bushby G.A. (Secretary to the Government of Bengal) dated 26 Aug 1846 (SM Vol. 2, Annex 16; MM Vol. 3, Annex 51).

reference to its being located on Peak Rock, will be equally applicable to the new Position."[235] [emphasis added]

5.82 The associated Malaysian contention is this:

> "Amongst the 'details' of the letter of 28 November 1844 can be found the consent given by the Sultan and the Temenggong of Johor to the construction of the lighthouse. Governor Butterworth clearly explained to the Government of India that '*the whole* of the details' related to Peak Rock are '*equally* applicable' to Pulau Batu Puteh."[236]

5.83 This passage is misleading. Butterworth (see the penultimate paragraph above) refers to "The whole of the details *for the care of Light House...*" (emphasis added). Malaysia has wrongly transcribed the word "care" as "case".[237] There are sections in his letter of 1844 which are concerned with "the care" of the lighthouse envisaged but such sections do not include the passage relating to the question of permission. The section in the letter of 1844 which deals with the "care" of the lighthouse is as follows:

> "A Light House, if not properly attended, would prove infinitely more perplexing and dangerous to the Mariner, than its total absence. I am therefore of opinion that less than two European and Eight Natives would barely answer the purpose of keeping watch and working the Gun in case of need, I would therefore recommend that two steady Pensioners from the Artillery might be allowed to volunteer for the service, who should receive an additional Salary and Rations, with 8 Malays or Lascars, making the annual cost to the state including the Estimated cost of materials for feeding the light, 2856 Rupees per

---

235 *See* Letter from Butterworth W.J. (Governor of Prince of Wales Island, Singapore and Malacca) to Bushby G.A. (Secretary to the Government of Bengal) dated 26 Aug 1846 (SM Vol. 2, Annex 16; MM Vol. 3, Annex 51).

236 MM p. 66, para. 135.

237 Singapore has obtained manuscript copies of the letter of 26 Aug 1844 from three different sources (the National Archives of India, the National Archives of Singapore and the India Office Collection of the British Library) and compared these copies to ascertain the correct transcription. In Singapore's view, it is evident from all 3 manuscripts that the word transcribed as "case" by Malaysia should read "care". *See* Three Manuscript Versions of the Letter from Butterworth W.J. (Governor of Prince of Wales Island, Singapore and Malacca) to Bushby G.A. (Secretary to the Government of Bengal) dated 26 Aug 1846, attached to this Counter-Memorial as Annex 12, where the relevant words have been magnified and highlighted in red.

> annum should it be deemed advisable to employ 1st Class Convicts in place of the Malays or Lascars, the expense would be considerably reduced."[238] [underlining in original]

5.84 Even if the word in Butterworth's 1846 letter is "case", this does not help Malaysia's claim. As Singapore has shown in paragraphs 5.43 to 5.50 above, in the first place those letters of permission cannot be read as extending to Pedra Branca. Moreover, many aspects of Butterworth's letter of 1844 are simply not applicable to Pedra Branca, for example, Thomson's survey of Peak Rock. By making the simplistic argument that everything in the 1844 letter relating to Peak Rock applied to Pedra Branca in 1846, Malaysia is simply seeking to evade the difficulties of showing that the 1844 letters of permission applied to Pedra Branca.

5.85 The relevant section of the Malaysian Memorial continues its trail of unfounded assertions with the following passages:

> "136. The British authorities in India were also aware that the consent given by the Sultan and the Temenggong included Pulau Batu Puteh, as emerges from the exchange of letters between the Government of India and the Marine Department in 1846 with regard to the request to send an iron lighthouse from England. This exchange includes the reports that Pedra Branca has been approved as the position for erecting Horsburgh Lighthouse and contains the letters of the Sultan and the Temenggong referred to above.
>
> 137. The material referred to above confirms that the permission of Johor included different locations envisaged for the construction of the Horsburgh Lighthouse, amongst them Pulau Batu Puteh. There is nothing in it to show that the Sultan and the Temenggong did more than approve the building of a lighthouse on Johor's territory."[239]

5.86 In reality the British documents in the period 1845 to 1847 provide a simple and consistent picture to the effect that for practical reasons Pedra Branca

---

238 *See* Letter from Butterworth W.J. (Governor of Prince of Wales Island, Singapore and Malacca) to Currie F. (Secretary to the Government of India) dated 28 Nov 1844 (SM Vol. 2, Annex 13).

239 MM p. 66, paras. 136-137.

Annex 12

Three Manuscript Copies of Letter from Butterworth W.J. (Governor of Prince of Wales Island, Singapore and Malacca) to Bushby G.A. (Secretary to the Government of Bengal) dated 26 Aug 1846 (to resolve transcription discrepancy between Annex SM16 and Annex MM51) namely:

(i) Facsimile copy of letter signed by Governor Butterworth (Source: National Archives of India)

(ii) Contemporaneous manuscript copy in Straits Settlements Records R13/210-213 (Source: National Archives of Singapore)

(iii) Contemporaneous manuscript copy in Board of Control Records, F/4/2166: Collection No. 104700 (Source: British Library, India Office Collections)

No 123.

From

The Governor of Prince of Wales Island
Singapore and Malacca

To

G. A. Bushby Esquire,
Secy to the Govt of India
Fort William

Dated Singapore 26th August 1846

Sir

I have the honor to transmit the accompanying Copy of a letter to my address from the Secy to the Hon'ble Court of Directors, inclosing the Copy of a letter from the Secretary to the Admiralty, relative to the Light House, proposed to be erected to the Memory of the late Hydrographer, James Horsburg Esquire, at the entrance of the Chinese Seas.

In my letter under date the 22nd August 1845 No 139, I intimated my unqualified opinion that Pedra Branca ought to be the best possible position for a Light House, so far as the Light is concerned, but I was induced to give the preference to Vauk Rock in Outer Romania Island, the position selected by Capt Sir Edward Belcher C. B. in consequence of the former Island being so remote from Singapore, about 40 miles distance from the main land, and so inaccessible at certain seasons of the year.

The present Survey of the Straits made by this Government Surveyor Mr Thomson, and Captain Congalton Commanding the Hon'ble E. I. Co Steamer Hooghly

Forwarding letter to the address of Mr Horsburg Record under date the 4th August No 63.

National Archives of Singapore

Copyright ... National Archives of India. Government of India

Accordingly has led to the discovery of so many Rocks and Shoals previously unknown, that I only waited to learn the decision of Government touching the Erection of a Light House, to institute further Enquiries regarding the two Sites viz Pedra Branca & Pedra Blanca

On receipt of Mr. Melvill's communication I forthwith called upon the above Officers for their Reports, which I have the honor to enclose and by which the President in Council will observe that Pedra Branca is the only known position for a Light House at the entrance of the Chinese Seas

My Letters under dates the 20th November 1844 No 150, and 22nd August 1845 No 139, will have pointed out the glaring impropriety of a Light House on the position above mentioned, but I could hardly observe that the point has not been commanded upon as anticipated by the Secretary to the Honble East India Company — I accordingly must however that the question will receive early consideration, and that the accompanying Copy of a Letter with its enclosures just received from the Chamber of Commerce at Singapore will induce the Honble the President in Council to move the Honble Court of Directors to order an Iron Light House from England for Erection on Pedra Branca — the whole of the Details for the Case of Light Houses as set forth in my Letter under date the 20th November 1844, with the Amendment which I am now directed on Basset Rock will be equally applicable to the Rainy Positions &c

Example of word ending with "se" (i.e., "enclose")

enclose,

Example of word ending with "re" (i.e., "enclosures")

enclosures

Example of word ending with "se" (i.e., "House")

House

The word "care" mis-transcribed by Malaysia as "case"

Case

National Archives of Singapore

(i) National Archives of India

It ought to observed by the letter from Mr A. Gordon, that an Iron Light House can be delivered at the Site selected for it 3,000, or about 3000 Rupees and by the other letter addressed to us the Commuttee from the Chamber of Commerce that there is forthcoming from Madras ——— R. 7000—

and ——— from Bombay ——— 4300

which with that from Penang 1,000 ~~1,000~~ 12,300

previously supplied, and the Rupees 6,174 50 Rupees available for a Light House, and this I have no doubt will be added to, it must be known that Government have decided upon carrying out the views and wishes of the Mercantile Community—

In conclusion I beg to annex a Copy of my Reply to the Secretary to the Honble E. I. Company which I think will be approved of by the Honble the President in Council—

I have the honor to be

Sir

Your most Obed. Servant

[signature]

Governor

Singapore

26th Aug. 1846

Example of word ending with "re" (i.e., "Singapore")

Singapore

...tional Archives
...India.

(i) National Archives of India

355

ales of any having expressed their taking any positive steps with reference to the District of Khotah, pending the Settlement of the Burmese Question.

I have &c.

26 August 1826

Sig^d W. J. Butterworth M^c

Governor

No 123

To

G. A. Bushby Esquire

Secy to the Govt of India

Fort William

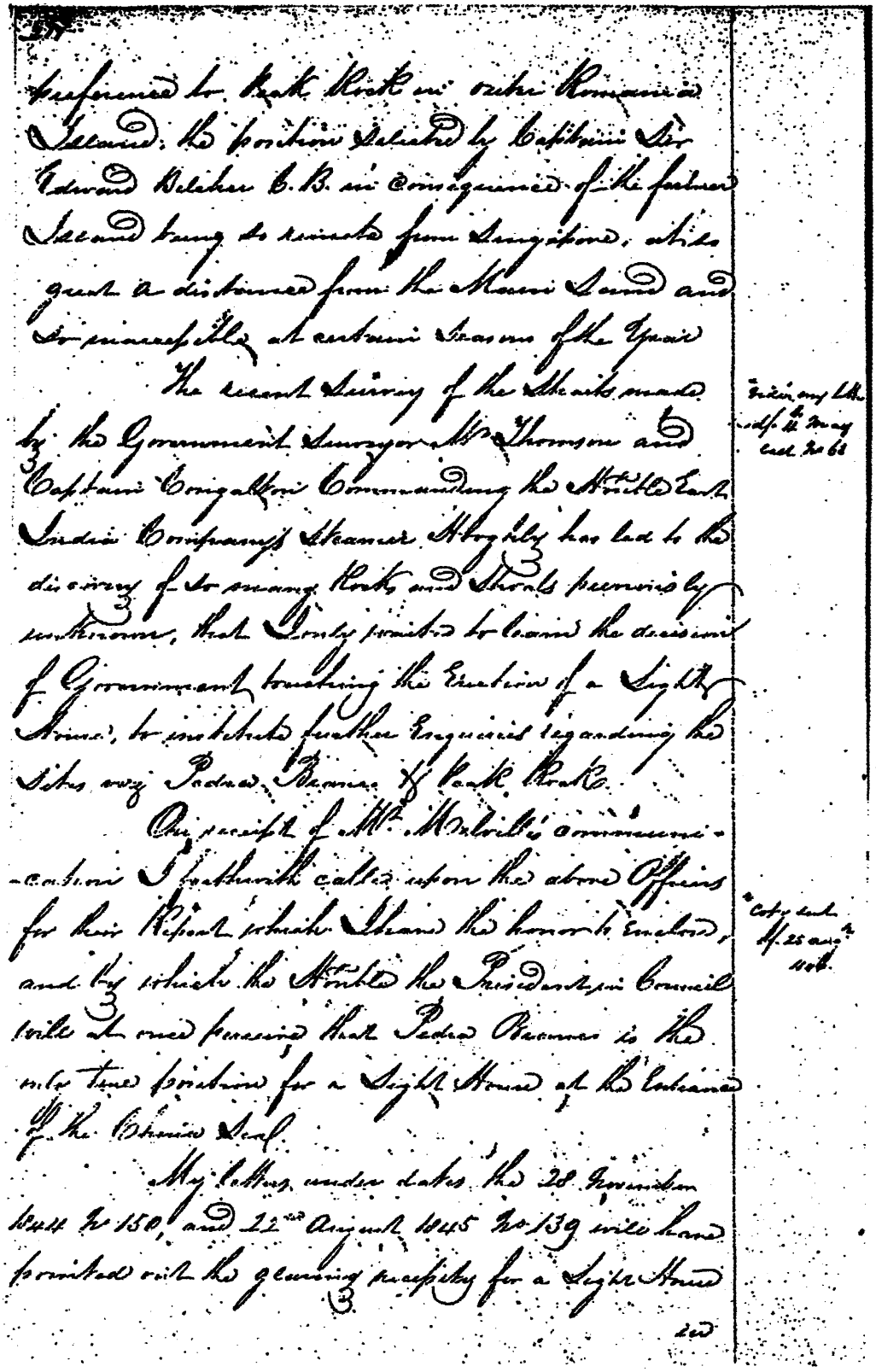
Dated Seng^r pore 26th August 1826.

Sir

I have the honor to transmit the accompanying Copy of a letter to my address from the Secretary to the Straits Court of Directors enclosing the Copy of one from the Secretary to the Admiralty relative to the Light House proposed to be erected to the memory of the late Hydrographer James Horsburgh Esquire, at the Entrance of the China Seas.

ad. 6 May 26

In my letter under date the 22nd August 1825 No 139. I submitted my disqualified opinion that Pedra Branca proved to be the best possible position for a Light House so far as the light is concerned, but I was induced to give the preference



Pursuance to Pedra Blanca or Romania
Island. Its position Situated by Captain Sir
Edward Belcher C.B. in consequence of the former
Island being to remote from Singapore, while
quite a distance from the Main Land and
so inaccessible at certain Seasons of the Year

The recent Survey of the Straits made
by the Government Surveyor Mr Thomson and
Captain Congalton Commanding the Honble East
India Company's Steamer Mogby has led to the
discovery of so many Rocks and Shoals heretofore
unknown, that I only waited to learn the decision
of Government touching the Erection of a Light
House, to institute further Enquiries regarding the
Sites of Pedra Blanca & Pedra Branca

On receipt of Mr Morrill's communi-
-cation I forthwith called upon the above Officers
for their Report which I have the honor to enclose,
and by which the Honble the President in Council
will observed perceive that Pedra Blanca is the
most eligible position for a Light House of the Colonies
of the Straits Seat

My Letters under dates the 28 November
last No 150, and 22nd August 1845 No 139 will have
pointed out the pressing necessity for a Light House

2nd

(ii) Straits Settlements Records, National Archives of Singapore

33

in the position above mentioned, but I am to
observe that the work has not been commenced
upon as anticipated by the Secretary to the Hon'ble
E. I. Co: I sincerely trust however that the
question will receive early consideration, and
that the accompanying Copy of a Letter with its
Enclosures just received from the Chamber of
Commerce at Singapore will induce the Hon'ble
the President in Council to recommend the Hon'ble Court
of Directors to order an Iron Light House from
England for erection on Pedra Branca. The Estimate
of the Details for the cane for Light House as set
forth in my Letter under date 28th Nov. 1844, with
reference to its being erected on Pedra Branca, will
be equally applicable to the new Erection.

It will be observed by the Letter from Messrs.
A. Condon that an Iron Light House can be
delivered at Either Site Selected for $ 3,000 or
about 3000 Rupees, and by the other Letters ad-
verted to, in the Communication from the
Chamber of Commerce that there is forth-
coming from Madras _____ Rs — 780 —
and from Bombay _____ — 1300 —
which with that from China _____ — 123.78 —
previously specified giving a total of Rs 17258
Rupees available for a Light House, and this

The word "care" mis-transcribed by Malaysia as "case"

Cane

(ii) Straits Settlements Records, National Archives of Singapore

I have no doubt will be added to when it becomes known that Government have decided upon carrying out the views and wishes of the Mercantile Community.

In conclusion I beg to annex a Copy of my Letter to the Secretary to the G. I. Co. which I trust will be approved of by the Hon'ble the President in Council.

I have &c.

Signed W. J. Butterworth

Governor.

Sent in pro 26 Aug. 1846

To

A. R. Young Esquire

Under Secretary to the Govt of Bengal

Fort William

Dated Singapore 27th August 1846.

Sir

I have the honor to transmit the accompanying Copy of a Letter from the Resident Councillor Mr Cavanagh praying for an increase of £6 a month to the Head Clerk in the Record Department at that Settlement.

Mr Garling has entered fully into the Claims of the Head Clerk of the Record office for length of Service, Competency, conduct and unremitting

* of 26 Aug. No 122.

* of 11 Aug. No 66.

(iii) Board of Control Records, British Library, India Office Collections

No. 123.

[redacted]

Secretary to the Govt. of India

Fort William

Dated Singapore 26th. August 1825.

Sir,

I have the honor to transmit the accompanying Copy of a Letter to my address from the Secretary to the Honble. Court of Directors: enclosing the Copy of a Letter from the Secretary to the Admiralty, relative to the Light Houses proposed to be erected to the memory of the late Hydrographer, James Horsburgh Esqre. at the entrance of the Straits &c.

By my Letter under date the 22d. August 1825 No. 139 I intimated my unqualified opinion that Pedra Branca would be the most possible position for a Light House, so far as the Light is concerned, but I was induced to give the preference to Batu Rocks on Outer Keramian Islands, the position selected by Captain Sir Edward Belcher R. N. and consequences of the former Islands being so remote from Singapore, not so great a distance from the

Straits

(iii) Board of Control Records, British Library, India Office Collections

Vessels, Lands and be inaccessible at certain seasons of the year.

Recommends Sending of the Under Secretary [illegible]

Commissioners [illegible]

Commanding Officer [illegible]

Under Secretary [illegible]

previously instructed [illegible]

decision of Government [illegible] erection [illegible] Light House, to institute [illegible] enquiries regarding the two sides [illegible] Pedras Brancas and Point Pedro.

On receipt of the Melville's communication [illegible] for Melville called upon the above Officers for their Report* which they have the honor to enclose, and by which the President and Council will see, first, that Pedras Brancas is the only true position for a Light House at the entrance of the Palmyra Reef.

By letters under dates the 28th November 1815 No. 156 and 22d. August 1815 No. 139 will have perceived, that the pressing necessity for a Light House on this position alone indicated, but induced Captain Pearce that the work has not been commenced upon as anticipated by the Secretary to the Bombay East India Company. Impressed by that circumstance however that the question will receive early consideration, and that the

*B

* The former [illegible] address of the Commissioners and the Letter to the Under Secretary Pendarves.

I do accompanying Copy of Letter with its enclosures just received from the Chamber of Commerce at Singapore will indicate to the Worthy Chairman and Court of Directors the Sentiments of the Honble Court of Directors on the Subject of Light Houses and Lights for the Straits of Malacca and the Rates for the Care of Light Houses as set forth in my Letter under date the 28th November 1846 with reference to the Scale recited in Para No 2 of the Letter will be equally applicable as to the new Positions.

It will be observed by the Letter from Messrs. D. Gardner that one Light House can be obtained at the rate selected for Rs 3000. or about £300 Rupees and by the other Letters adverted to in the Communication from the Chamber of Commerce that

There is for Screening from Madras	Rs	780 -
and —— from Bombay	"	3300 -
in all with that from Pulo Penang	"	12378
previously referred to gives a total of	"	17458

Rupees available for one Light House, and this it may have no doubt will be selected. It seems somewhat strange that Government have decided upon carrying into the views and wishes of the Merchants & Community.

In

(iii) Board of Control Records, British Library, India Office Collections

In conclusion I beg to annex a copy of my :: D
reply to the Secretary to the Hon'ble E. I. Comp-
-any which I trust will be approved of by the
Hon'ble Court of Directors
I have &c &c
24th August 1846. (Sd) H. Pottinger Bt
Governor

E & O E

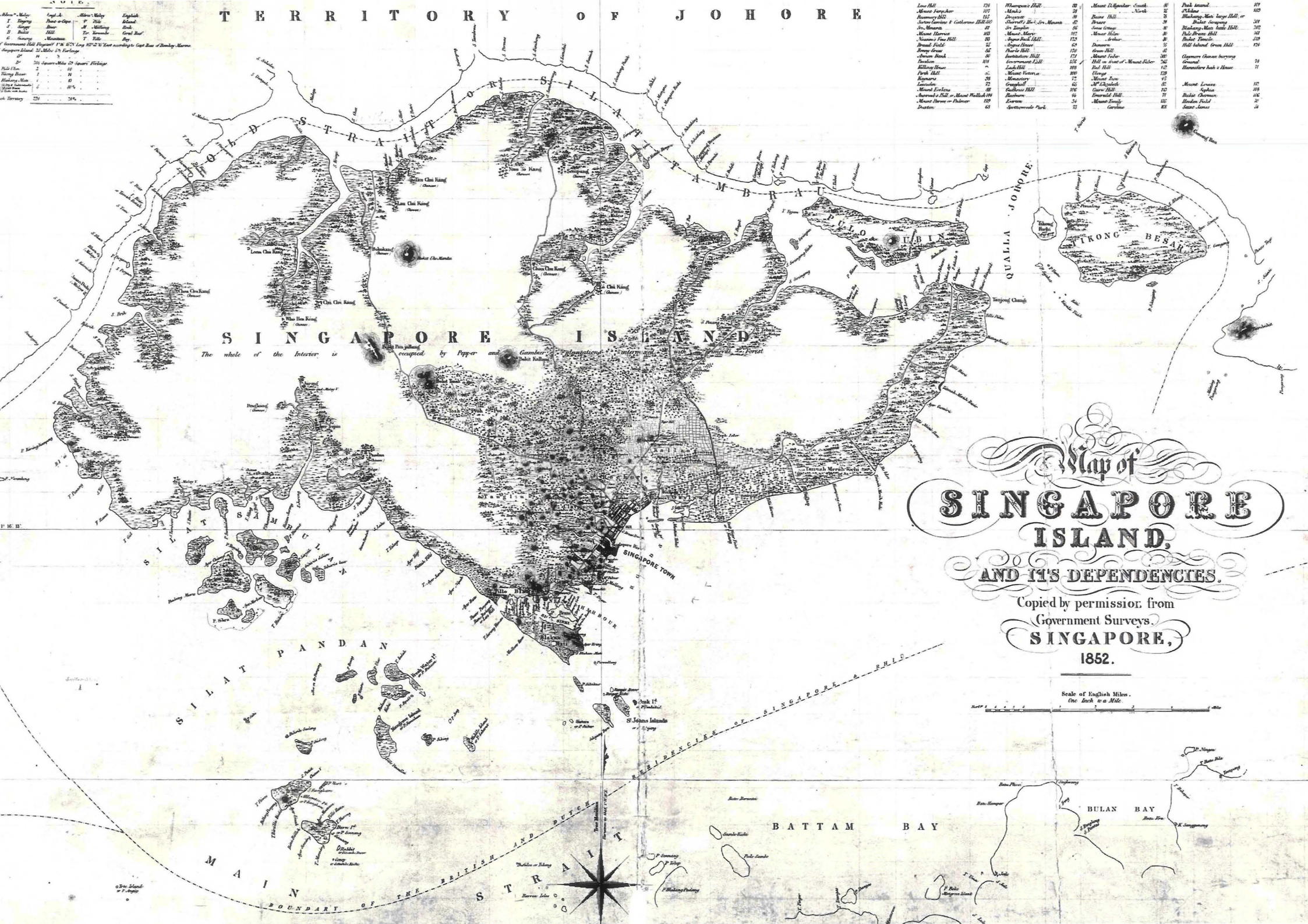
MAP ANNEXES

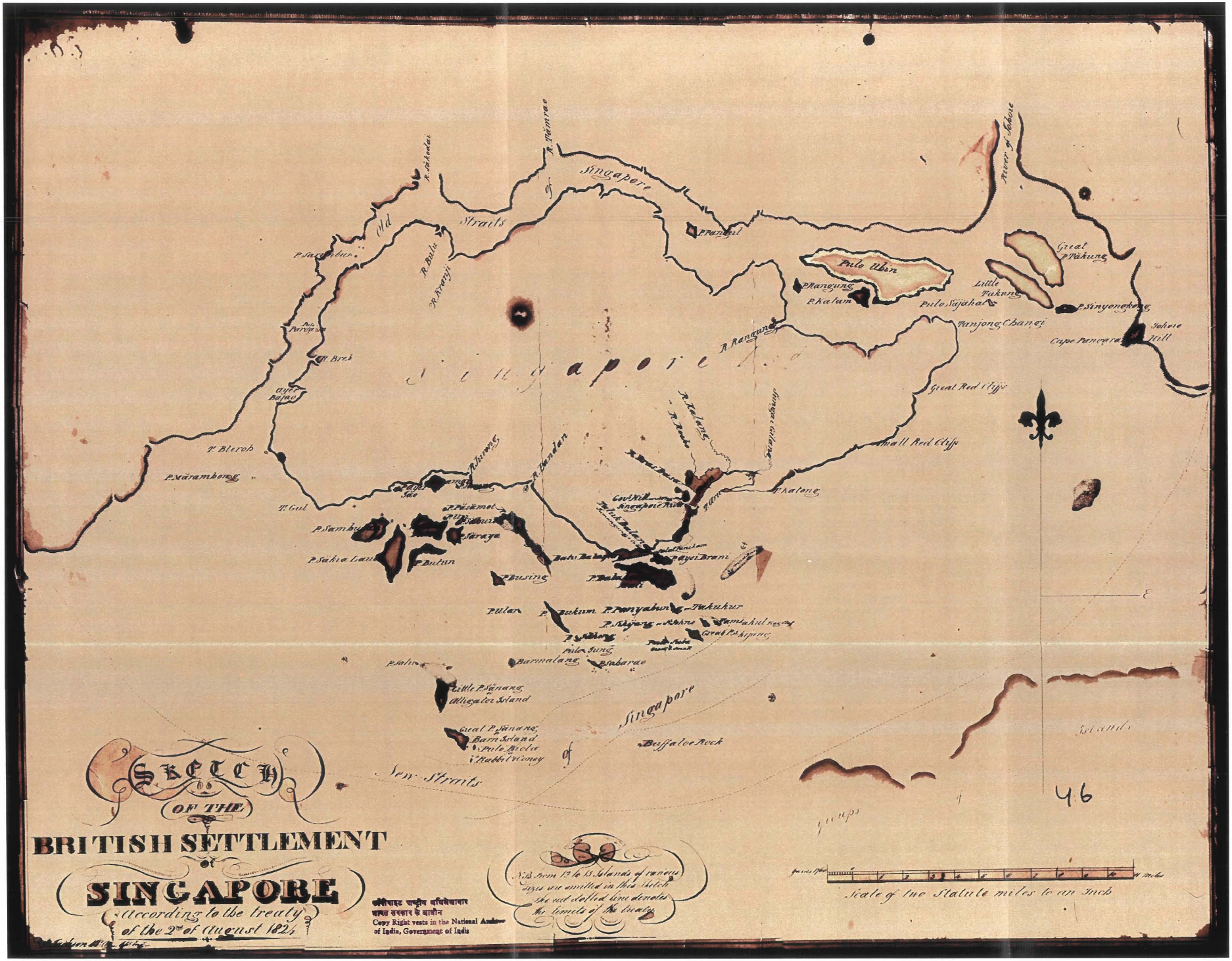
MAP ANNEXES

	Title of Map
Map Annex 1	"Map of Singapore Island and its Dependencies. Copied by permission from the Government Surveys, Singapore, 1852"
Map Annex 2	Sketch of the British Settlement of Singapore According to the treaty of the 2nd of August 1824, by Lieut. P. Jackson, Assistant Engineer
Map Annex 3	Singapore, 1924, Sheet No. 1 and 16-sheet map compilation, on a Scale of 20 Chains to an Inch, published under the direction of the Surveyor General F.M.S. & S.S., showing legend (Map 15 in the MM)
Map Annex 4	"Singapore", Sheet NA-48 of the World 1:1,000,000 Series GSGS 4646 produced by the UK War Office, Edition 5 of Sheet NA-48, 1954 (this sheet forms the top half of the compilation in Map 26 of Memorial of Malaysia Map Atlas)
Map Annex 5	Recently declassified United States Department of State map of the area of the entrance to the Singapore Strait, Sheet NA 48-10, 1990s

MAP ANNEX 1

"Map of Singapore Island and its Dependencies. Copied by permission from the Government Surveys, Singapore, 1852"

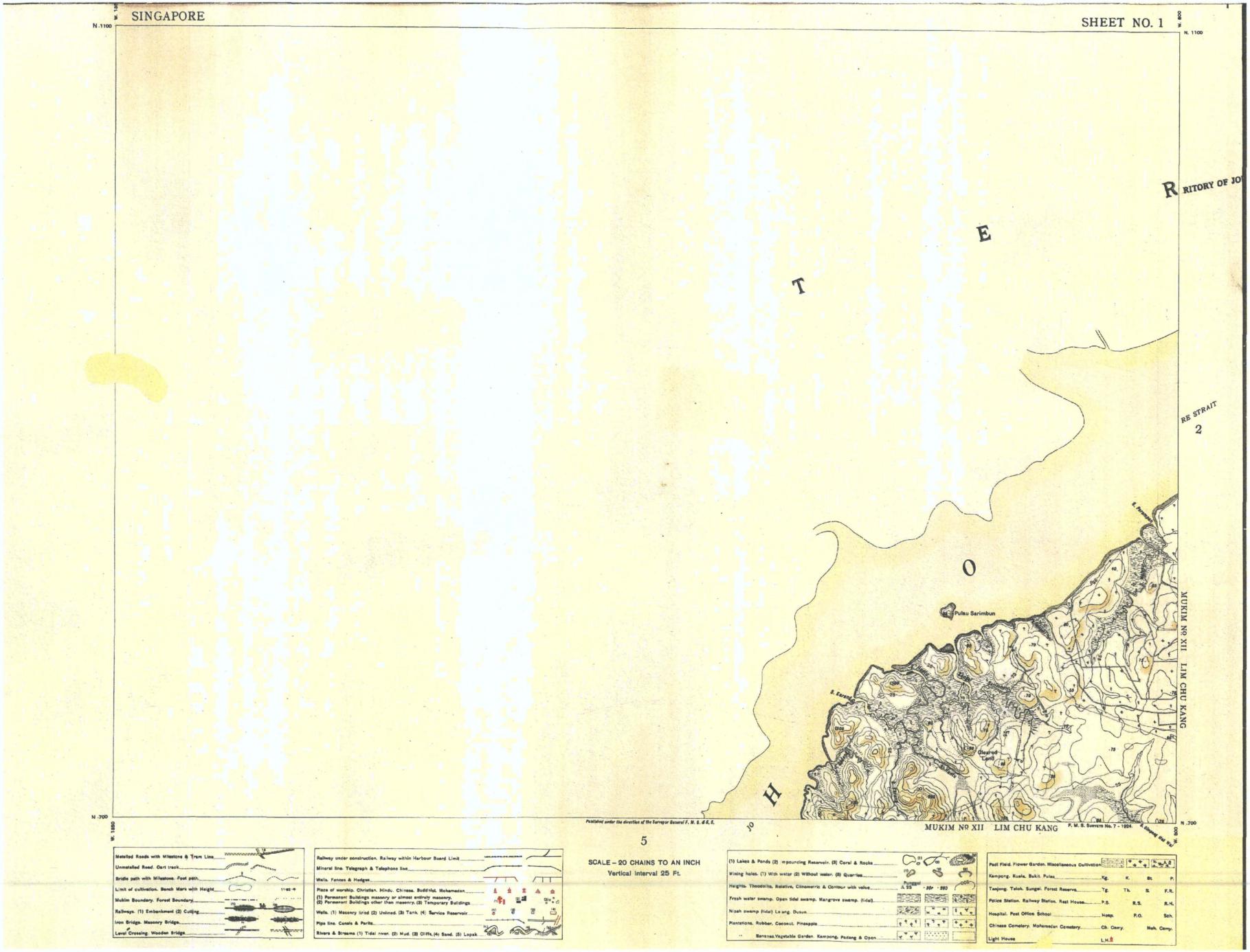

TERRITORY OF JOHORE
SINGAPORE ISLAND
The whole of the Interior is occupied by Pepper and Gambier Plantations intermixed with Jungle and Forest
SINGAPORE TOWN
Map of
SINGAPORE
ISLAND,
AND IT'S DEPENDENCIES.
Copied by permission from
Government Surveys.
SINGAPORE,
1852.
Scale of English Miles.
One Inch to a Mile.
SILAT PANDAN
MAIN STRAIT
BATTAM BAY
BULAN BAY
QUALLA JOHORE
RESIDENCIES OF SINGAPORE & MALACCA
BOUNDARY OF THE BRITISH AND DUTCH
St Johns Islands
PULO UBIN
TRONG BESAR


SKETCH
OF THE
BRITISH SETTLEMENT
OF
SINGAPORE
According to the treaty
of the 2d of August 1824
Old Straits of Singapore
New Straits of Singapore
Pulo Ubin
Great P. Tekung
Little Tekung
Pulo Sajahat
Tanjong Chanei
Cape Pancyra
Johore Hill
Great Red Cliff
Small Red Cliff
Buffaloe Rock
Barn Island
Pulo Brola
Rabbit Island
Scale of two Statute miles to an Inch
N.B. From 12 to 13 Islands of various sizes are omitted in this Sketch the red dotted line denotes the limits of the treaty
Copy Right vests in the National Archives of India, Government of India
46

MAP ANNEX 2

MAP ANNEX 3

Singapore, 1924, Sheet No. 1 and 16-sheet map compilation, on a Scale of 20 Chains to an Inch, published under the direction of the Surveyor General F.M.S. & S.S., showing legend (Map 15 in the MM)



Singapore, 1924, Sheet No. 1, on a Scale of 20 Chains to an Inch
Published under the direction of the Surveyor General F.M.S. & S.S.

MAP ANNEX 3-1

Singapore, 1924, compilation of 16 sheets, on a Scale of 20 Chains to an Inch
Published under the direction of the Surveyor General F.M.S. & S.S.

MAP ANNEX 3-2

MAP ANNEX 4

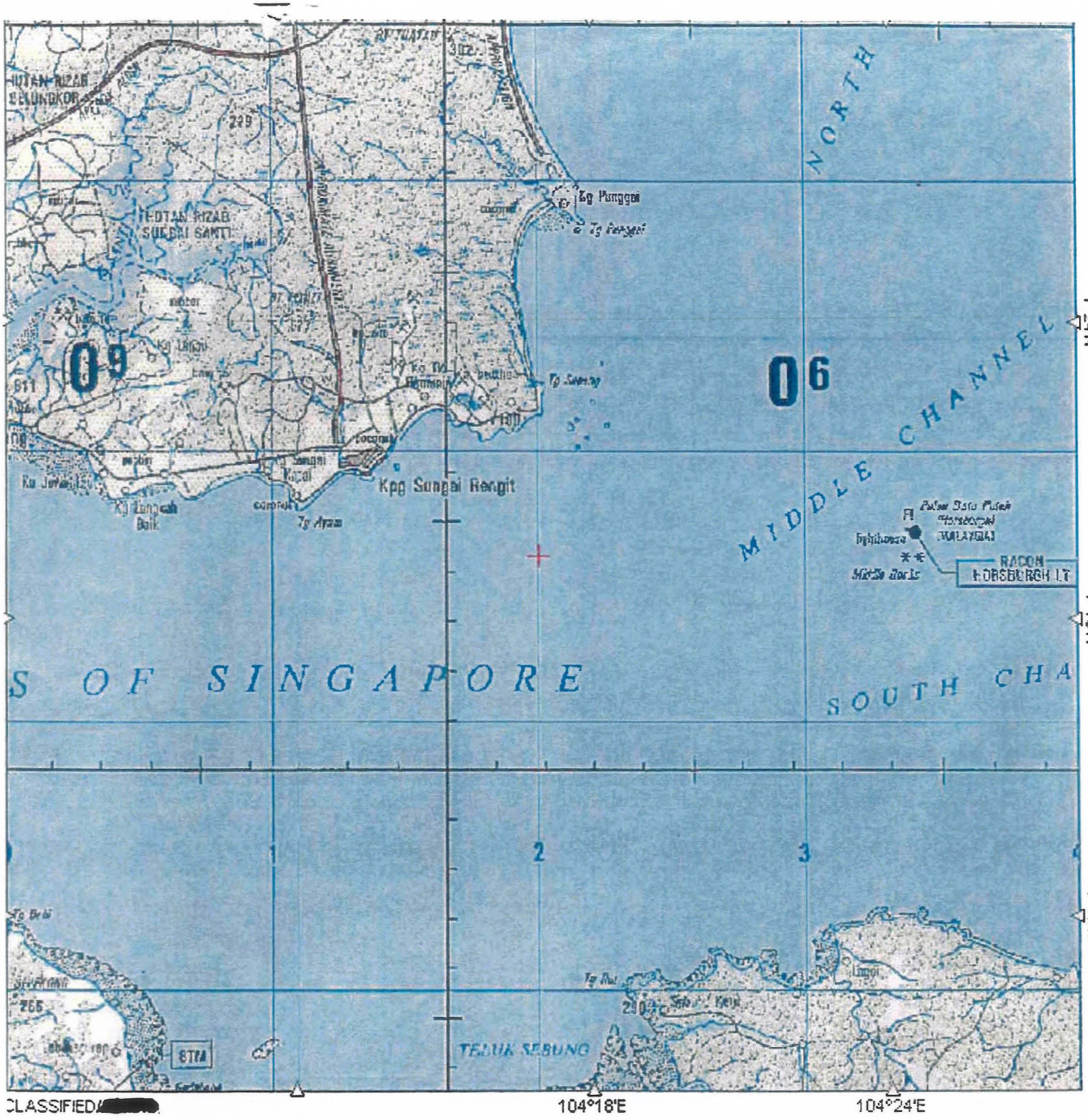
"Singapore", Sheet NA-48 of the World 1:1,000,000 Series GSGS 4646 produced by the UK War Office, Edition 5 of Sheet NA-48, 1954 (this sheet forms the top half of the compilation in Map 26 of Memorial of Malaysia Map Atlas)

WORLD
1 : 1,000,000
SINGAPORE
EDITION 5 — GSGS
Sheet NA-48
CONVERSION TABLE
Metres
Feet
Kuantan
Pekan
Temerloh
K. Klawang
K. Pilah
Tampin
Seremban
Mersing
Alor Gajah
Jasin
MALACCA
Bandar Maharani
Klang
Bandar Penggaram
Batu Pahat
Kota Tinggi
JOHORE BAHRU
SINGAPORE
Kukup
Bengkalis
Siak Sri Indrapura
Selatpanjang
Tebingtinggi
Padang
Bukittinggi
Pakanbaru
Rengat
Tembilahan
Muar
Batu Anam
ANAMBAS ISLANDS
NATUNA IS.
TAMBELAN ISLANDS
BINTAN
PANDJOENGPINANG
RIOUW ARCHIPELAGO
LINGGA ARCHIPELAGO
STRAIT OF MALACCA
SOUTH CHINA SEA
SUMATRA
MALAYA
SINGAPORE COLONY
102° E. of Greenwich.
103°
104°
105°
106°
107°
108°
Scale (Échelle) 1:1,000,000
English miles
Kilometres
1 Inch = 15·78 Miles or 1 914 Inches = 16 Miles
1 Millimetre = 1 Kilometre
ADJOINING SHEETS
(Feuilles adjacentes)
PENANG ISLAND N.B.47
TRENGGANU N.B.48
CHINA SEA N.B.49
MEDAN N.A.47
105° E.
2° 45' N.
105° E.
PEKANBARU N.A.48
GSGS 4204
PADANG S.A.47
PALEMBANG S.A.48
PONTIANAK S.A.49
HEIGHTS IN METRES
Certain main spot heights are indicated by a white tab to improve legibility
This map must NOT be considered an authority on the delimitation of international boundaries
RELATIVE RELIABILITY
(Exactitude relative)
N A 48
REFERENCE
(Légende)
Reproduced by War Office 1954
Geographical Section, General Staff No. 4446
Published by War Office 1954
Edition 5—GSGS 1954
Reproduced from WNO 5000 Area 1 : 1,000,000
Sheet NA-48 Fourth Edition 1948
International boundaries revised by War Office 1954
Refer to this map as: GSGS 4646 Sheet NA-48 1954
UNIVERSITY OF CALIFORNIA
JUN 20 1954
GOVT. PUBLICATIONS

MAP ANNEX 4

MAP ANNEX 5

Recently declassified United States Department of State map of the area of the entrance to the Singapore Strait, Sheet NA 48-10, 1990s



CLASSIFIED [redacted]

NO LIMDIS RESTRICTION
VERIFIED (LtCr) MAP ANNEX
21 May 2004. MSN/INAIGGI

Source: JOG 1:250,000 no date (1990's) Sheet NA 48-10

MAP ANNEX 5