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The entries made in pencil
on the margin in the volume
were made with the help of
the papers in the bundle at
the time of the weeding and
destruction of records

23.11.41

23/XI/41

M.C. 219
A

1825 Fort d'Orgeon April 1797

4th

Diary

Received the following Letters

Resolution of Government
in Council 2d April 1797, Medical Board

3d April 1797

Upon the medical Board - declaring that they are not conscious of any want of attention to the naval Sick while under charge of Mr. Ogilvy at the General Hospital - the medical Storekeeper repeats his application for an assistant to be sworn to his Department and on Increase of his Establishment - upon representation that Mr. Gillespie have permission to proceed to the Coast for the Benefit of his health -

The Physicians Journal is concerned to find by Mr. Secretary Nepean's Letter of the 31st ultimo, that Admiral Rainier has expressed his dissatisfaction at the Treatment of the sick and wounded Seamen of his Majestys Navy at the Greenwich General Hospital, and has thought proper to put them under the separate charge of Mr. Underwood, an Assistant Surgeon on this Establishment.

In

1826 Fort St George 11 April 1797

46

In justice to Mr Ogilvy and the other Gentlemen on duty at the Hospital C. Doctor Anderson must observe, that in his occasional visits to the has not had any reason to find fault, and he cannot help expressing his surprise that his Excellency should chuse to place his men under the charge of one assistant - Surgeon in preference to the establishment of the General Hospital.

Permission granted

Mr Gillespie, Head Surgeon to the Detachment serving with his Highness the Nizam, requests permission to come to the Coast for 3 months, and as he has obtained the concurrence

D

1827 Fort St George 11 April 1797

of the Resident at Hyderabad
and Lieutenant Colonel
Roberts we recommended
his request may be granted

We beg leave to enclose
a copy of a Letter from Mr. H.
Berry, Apothecary, and as
Office is very extensive we
trust the Commander in
Chief will be induced to
lay his application before
Government and procure
their favorable attention
to it.

In consideration of the long services of the Master Attendants and the two Coolies Rama and Sawmy The Board consent to increase their Pay - the former to Eight Pagodas and the two latter to two Pagodas each P. month - The Board authorize the Provincial Storekeeper to entertain two additional Coolies at 1½ Pag.s P.r month each - In consideration of this - we Undergone the Board of Trade that the Storekeeper will be able to furnish regularly the Quarterly Statements required under date the 25th January last

The Chief Engineer will be called upon for his report upon the State of their Quarters

The Superintendant of the Dispensary represents that the Quarter allotted for him is nearly in ruins, and requests that until it can be put in a proper state of repair, he

1828 Fort St George 1797

he may be provided
with another accom=
modation.

The Medical Board
had occasion some time
ago to call the attention
of Government to the
ruinous state of this
Building, and the Chief
Engineer was in a
consequence directed to
report upon it, but as
nothing has been yet
done the Physician &
General requests Govern=
ment will be pleased
to repeat their orders on
the subject, and that in
the mean time Mr Anson
may be accommodated
with a Quarter contiguous
to the Dispensary.

(Signed) Jas Anderson
Physician General

To

1829 Fort St George 4th April 1797

To Dr James Anderson

Physician General &c.

Sir,

I have the honor to acknowledge the receipt of your Secretary's Letter of yesterday and am concerned to be therein informed that the Right Honble the President in Council should not deem it necessary to increase the Number of Servants in the Medical Store Department solicited in my Letter of the 10th Instno - & I should be extremely sorry it could be supposed that I had made an unreasonable request

There are few Departments from which there are more frequent and more various Issues, and those often at the shortest notice, and few that have had no increase for 14 years in the number or pay of those employed

as all I have requested can be cause but small additional expence, I have

to

4th to request your further support with "
Government on this subject, as I think
it will be allowed that a Deputy Apothecary,
Comicopoly, and two Cooties are not adequate
to so great a detail as supplying the
whole Coast and its Dependencies with
Europe Medicines, and that the three
latter are worthy of more additional
pay from their long and useful services
- I should not make this request, if
it was possible to comply with Indents
and make out the Returns now
required with the number at present
allowed, as must be evident from
the Indents and Returns forwarded to
your Board, and as this perhaps has
not been sufficiently pointed out to
Government I trust there is no impropriety
in my present address. -

The Sick List requested is a
particularly necessary, as we cannot
preserve the Instruments generally

in

in Store, this probably can be done without additional expence as like the one now employed, he may be ordered from the arrival.

I have also the honor to acknowledge the receipt of an Extract of a Letter from D.r John Hunter dated 23.d November 1795 which I will answer in another Letter.

I have the honor to be with the Respect
y.r m.st h.ble &.c &.c
(Signed) And.w Berry
Apothecary or Medical Storek.r

Fort St George
31.st March 1797

(A true Copy)
(Signed) T. Conolly
Sec.y on B.d

To the Right Honorable Lord Hobart
Governor in Council
&.c &.c &.c

From the military Board - recommending the Payment of two Bills for Work done at the Presidency & the amounts by the late Contractors

My Lord,

Having received from the late Contractors for Buildings and Repairs

1832

Fort St George 3d April 1797

4th Repairs two Bills, amounting to — Pagodas 769. 6. 25. for work performed by them at the Mount and Presidency during their Contract, both of which being according to Estimate, and duly Certified as to measurement by Colonel Genth, in consequence of the Repairs having been done during the time that Appeirs was Chief Engineer We accordingly herewith to your Lordship in Council, and to recommend that they be passed for payment.

Fort St George
3d April 1797

We have the Honor to be,
&c. &c. &c.
Geo: Harris
Patrick Ross
Thomas Giles
M Lymburner
Jn Richardson
By Close
George Hall

1833 Fort St George 11 April 1797

1st

To William Collins Jackson Esqr

Secretary to Government

Fort St George

Sir

I am directed by the Hon.ble the Governor in Council to transmit to you, for the information of the Right Hon.ble the President in Council the accompanying Extract of a letter from the Board to Admiral Rainier, under this day's date. —

I have the honor to be
Sir &c.
Signed John Morris
Secretary

Bombay Castle
18th March 1797

* Forwd the Secretary at Bombay with Copy of a Letter from this Government to Rear Admiral Rainier complaining of a want of Impartial Protection of the Commerce on that Coast.

Extract of a Letter from the Government of Bombay to Admiral Rainier Commander in Chief of his Majestys Ships in the East Indies, dated 18th March 1797

Nor can we omit of expressing, on this occasion, our own sense of the prejudice

1834 Fort St George 11 April 1799

4th Prejudice that may have accrued to the publick Interests from this Coast having all along shared so little, in a Comparison with the other parts of India, in the protection of his Majestys Navy; by which, and the only refuge of any force belonging to our own Marine being employed on distant Service with his Majestys Navy, the intercourse between the French and the Government of Mysore has continued open and uninterrupted through the Port of Mangalore a place which of all others ought we think to have been watched and attended to and we have still Reason to apprehend. There are yet French Privateers on this Coast who find protection in that Harbour, and through it between Tippoo Sultaun is buoyed up with hopes of more effectual aid, in so much that, if we may believe our intelligence that Prince must be in the expectation

1835 Fort St George 11 April 1797

4th of receiving Answers from our said
Enemies were before the setting in of
the Monsoon on this Coast.

True Extract
(Signed) T. Marsden
Assistant

To the Right Honble Lord Hobart
&c &c &c
Fort St George

My Lord,

Comptroller Office Writing Debtor &Co stating a Bond No. 156 in Arcots consolidated Debt, the payment of which has been stopped by Government, has been lately discovered among the Papers of this Board — and requesting that Payment this Event may be made

We beg leave to acquaint that
We are in possession of a Bond No. 156. in
the old Consolidated Debt of 1767 of His
Highness the Nabob of the Carnatic Certified
by the Honble Company's Commissioners
Appointed to ascertain the amount
due on those Bonds, for the Principal
Sum due on the 31st December 1784
Pagodas 2553: 14. 32. which We hold
as the Attorney of the late Captain
Robert Holford and request your
Lordships

1836

Fort d'Orange 11 April 1797

4th Lordship in Council will be pleased to order the Register to discharge the same. This Bond having been mislaid all this while and which was found in looking over the Papers of our House is the cause that no Claim was made before now — We are ready to grant such Indemnification as may be cumd necessary for the Sum We shall receive, to hold Government harmless, from any future Demand which might be preferred on account of said Bond.

Fort d'Orange
11 April 1797

We have the honor to be
Sir &c &c
(Signd) Pilling & de Peyster & Co.

Josiah Webbe Esqr.
Secretary to Government

Sir

On the 23d June 1796. I had the honor of addressing the Right Honble the

Governor

From Mr. J. De Peyster
Jr. Co. requesting
an adjustment
may be made of his
claim to value of
some Bills drawn
by the late agent
upon acct. of N.
Navy or the military
Department

1837 Fort St George 1st April 1797

4th President in Council for Payment of
Two Bills of Exchange drawn by Mr. Grange
Your late Paymaster to the Army and
enclosed several Documents in support
of the Demand. Not having been yet
favored with their decision & the Holders
of those Bills being anxious for the same
I hope the Board will take the Subject
into Consideration and favor me with
a Reply.

I have the honor to be
Sir, Sir
Your most
(Signed) John Hodges

Madras
1st April 1797

To W. C. Jackson Esqr
Secretary at
Fort St George

Sir

The Commander of the William
Pitt having laid before the Vice President in
Council a Letter from Colonel Frazer at
Trincomalee, stating, that he had
apprehended James Muller, and
William

from the Sub Secretary
at Bengal - requesting
the Boarder from
on board the
William Pitt
who have been
secured at Trincomalee

1838 Fort St George 4th April 1797

4th William Ridsell, the Recruits for this Establishment, who proceeded from the William Pitt whilst at that Port, I am directed to request that you will communicate to the Right Honble the President in Council the recommendation of this Government that these two Deputies may be sent round to Bengal by the first opportunity

Fort William
the 6th of March 1797

I am
Sir
Your
Obt Servt
(Signed) J Thornhill
Sub Secy

Substance of a Letter from the Nabob

Received Letter from the Nabob enclosed in G.G. No 34 inclosing Copy of a Letter from his Nabob at Arcot charging Colonel Baird with having forced the Inhabitants of Tondaver &c to sell him Sheep at the rate of four P. Pagodas, and sold the same Sheep to the Poyatts of other Districts at the rate of three P. Pagodas

Recd 8

1839 Fort St George 1st April 1797

5th Received the undermentioned Letters entered in Mil: Dpt 16-17-18-19-

From the Commandant at Malavjeebad

From Colonel Baird - reporting that the different parties of Sepoys he had detached in search of Chunniah Moodely have returned into Cantonment without any Intelligence concerning him -

From the Commandant at Chinglepet

From Lieutenant Colonel Campbell - recommending that an addition be made to the monthly Subsistence at present allowed the Malay Chief a Prisoner of war at Chinglepet

From the Military auditor General

From Major General Oxenham - reporting it as his opinion that Captain Ye Hall is entitled to Full Batta so long as he shall be retained on Duty on the Coast. -

From the agents for the Ship Fairlie -

From Messrs Tulloh Lewis and Brodie requesting to receive Bengal & Bills, for 2500 Pagodas, the Amount due on account of the Freight of the ship Fairlie

1340 Fort St George 11 April 1797

5th Fairlie lately employed in conveying the 80 Regiment from Madeira to Trincomale

6th Received the following Letter

To William Collins Jackson Esqr.

Secretary to Government

Fort St George

Sir,

From the Secretary at Bombay — stating that the late communication from the Coorga Rajah relative to Tippoo's hostile disposition — towards the English appear not to merit the consequence at first attached to it. —

The Commissioners in Malabar having transmitted to this Government the Copies of their address, and of the Letter to them from the Coorga Rajah that accompanied it to the Right Honble the President in Council, under date the 3d Instant, on the subject of the inimical intentions of Tippoo Sultaun, I am directed, by the Honble the President in Council to forward for the information of his Lordship in Council, the accompanying

addressed

1841 Fort. St George " April 1797

6th attested Copies of a Letter, and its enclosure from the Commissioners, and at the " same time, to notice that as the George Boyd caused, in January last, a similar alarm, the Board flatter themselves no worse consequences may follow this, " than flowed from the former one, but that should Tippoo invade our " territory by entering Wynaad Cotiote, or Paulghaut, this Government must rely on the most prompt, and effectual succour from that of Fort St George; which will probably have, from the Commissioners, or public report, advice of the event much sooner than it can reach Bombay.

Bombay Castle
20th March 1797

I have the honor to be
" "
(Signed) John Morris
Secy

To

1242 Fort St George 4 April 1799

6th

To The Honble Jonathan Duncan

President and Governor in Council

Bombay

Honble Sir,

We have not a moment in
laying before you the inclosed Copy
translation of a Letter from the Coorga † Rajah
together with Copies of our advices thereon
to the Government of Fort St George and
Lieutenant Colonel Dow, now on
Wynaad - our reason for not com-
municating it at the same time
by Letter to the Commanding Officer
on the frontier is, that we expect
the General will be here in the
Course of the day from Calicut, whether
he proceeded a few days ago, to fa-
cilitate the departure of Colonel
Dow's Detachment - The Coorga Rajah's
intelligence is not yet Corroborated
from any other quarter, though if
whatever further accounts may reach

† - already entered in the Diary
to the 18 March

us

1843 Fort St George 11 April 1799

6th as regarding the Sultaun, we shall
do ourselves the honor of transmitting
to you on the moment of receiving
the same, by Express Boats.

Mahe
3d March 1799

We have the honor to be
very respectfully
Gen.l &c.a
(Signed) James Rivett
Gen.l Commissioner

True Copy
(Signed) T Warren
assistant

Lieutenant Colonel Dow
Gen.l Gen.l &c.a

Sir We think it necessary to com-
municate to you the enclosed Extract
of the Translation of a Letter just received
from the Coorga Raja as well to put
you fully on your Guard against a
surprise in the event of the intelligence
proving true, as to request you will
favor

1844

Fort St George 11 April 1797

6th favor us with such information as you may yourself procure on the same subject, since from no other quarter than the one have noticed have we received account of any such motion by Tippoo, or of the object that he can have in view by the assembling of his Forces - we shall however of course remain anxious to receive your communications hereon -

We have the honor to be
Sir, Your
James Ruette
Thomas Welkinson
Robert Ricketts

(A true Copy)
(Signed) R. Ricketts
Secty

(A true Copy)
(Signed) T. Marsden
Assistant

Mahe
3d March 1797

To

1845 Fort St George 11 April 1797

6th

To The Right Honorable Lord Hobart

President and Governor in Council

at Fort St George

My Lord,

Having this Evening received advices from Madras seven days later than the Commissioners Dispatches of the 3d which induced us to write yesterday to your Government, in Terms of various apprehension as to the Intentions of Tippoo Sultaun, we find the further and more positive Intelligence that we are there enabled to communicate in the accompanying Copy of the Commissioners Letter of the 9th may reach by the same Mail and contribute to afford to your Governments that Relief that it has given to us, since we think with the Commissioners that Tippoo's March and intentions on the 20th Battalions been for the Tumbedhurry Pass, Colonel Dow must from his station at Wynaad have

found

From Bombay stating that the late Intelligence furnished by the Cuorga Rajah of Tippoos Intention to Exhibit the Rajahs Rajah, on his rebellion against the Company, as considered altogether ill founded

1846 Fort St George 11 April 1797

6th Found it necessary to advise the Commissio-
ners of Hyder Ponies approach, previous
to their Letter now communicated.

Bombay Castle
22nd March 1797

We have the Honor to be
Sir &c &c
John Duncan
I Stuart
(Signed) W Whitehill
I Spencer

To the Honble Jonathan Duncan
President and Governor in Council
Bombay

Honble Sir,

Since our address in this
Department of the 3d instant we have
received no further intelligence regarding
Tippoo's assemblage of his forces, or of the
objects of the preparations intimated in
the Coorga Rajah's Letter which formed
an enclosure of your Honorable
address, and Colonel Dirom's Letter upon
the same subject, which had up to the
Date

Fort St George 11 April 1799

6th Date of the last advice procured on
communicated march all the way from
Pamberchurry to Coorjeate in the Coorgah
Country, induces us to suppose that Tippoo's
object is foreign to what the Coorga Rajah
has suggested of his views, and that neither
from him, or from the Coorgadians
themselves, is the Pychy Rajah likely to
be materially supported in his present
rebellion, which we trust a little further
exertion, and a more fortunate concurrence
of Events will soon bring to a speedy and
honorable issue.

2. In compliance with your
orders of the 15th ultimo, we have caused
enquiry to be made regarding the Grounds
of the Coorga Rajah's Paper of intelligence,
of which you did us the honor, Sir, to
inclose a translation, & the Treachery
said to have visited Tippoo from Mangalore,
we have no particular information, but
have reason to believe what he alledges
against the Pychy Rajah to be by no

means

1848 Fort St George 4 April 1797

6th means exaggerated, or misstated, in our former Communications will shew that we have long had reason to suspect, and arrive, this Christian, of the very essential intercourse with the Sultaun which is pointed out in the Coorga Rajahs said Letter, and in justice to the latter we must observe, that he has not given us Cause to suspect him of an inclination to excite disturbances on the Coorg, his Conduct on the Contrary, having been indicative of an disposition to conform himself to the wishes of the Company's Government, a sentiment that we have been more fully confirmed in the persuation of during the period of our Resident visit to that quarter, also from his own local observations corroborates very satisfactorily the impression we had before been induced to entertain of this Rajahs Character, and Disposition. —

3d As to emptions by Tippoo into Wynaad, we do not find any of the allegations

the allegations on this head sufficiently substantiated to entitle them to any great degree of credit - Tippoo has certainly never since the Peace excepting a Military Station in Soonaad, all his frontier Stations being as inland they were have been subsequent to the period abovementioned, to the Eastward of the boundary of the District, commonly known by this Name, and claimed by the Coorimnaad Rajah as constituting a part of the former possessions of his family, that depredations have been committed on the frontier in like manner here, as they are elsewhere, by Banditty with which this and the neighbouring Countries abound is undisputed, that they may hereafter occur is also likely, since not only the face of the Country is favorable but the habits of the natives do for the most part indemnify them, to a similar practice, and the Coorimnaad Rajah,

1850 Fort St George, 4 April 1797

6th Rajah, from various that are now in
Circuit, has not failed to magnify this
Species of occasional and ordinary
predatory incursion by Robbers, into
a Hostile invasion on the part of
Tippoo himself, which from whatever
cause has we apprehend been rather
too hastily asserted. we must however
observe that we are neither able to have
or consequently to believe, that since the
Peace of 1792 there has been any hostile
attempt made on this District by any of
Tippoo's regular Troops, tho it is possible
that many have encouraged the depredations
of plunderers on Whom, as he is suspected
of doing in other adjoining parts of his &
and the Company's Dominions, &.
considering the Contempt that he would
appear to have taken of the asylum
found by the Governor in Palghaut &
Dindigul, our further reports upon
which being now nearly completed &
we shall do ourselves the honor of

Transmitting

1851 Fort St George 4 April 1797

6th transmitting it to you in the course of a few days. –

4th We have made particular enquiries from Choacara Moopa Regarding the negotiation which the Coorga Rajah alledges to be on foot between Tippoo and the Bibbee of Cannanore, and we have the pleasure to add upon the Strength of Moopa's appearance, whose information on all points regarding the Bibbee (with whom he is not upon the most cordial terms) may be considered as the best procurable, that the Coorga Rajah's allegation does not appear in this respect to be adequately founded –

Mahe
9th March 1797

We have the honor to be,
very respectfully
Gentlemen
Your most
obedient
humble Servants
(Signed) James Scott
" Thomas Wilkinson
" R Richards

/True Copies/
(Signed) Jas Grant
acting Secy to Govt

Extract

1852 Fort St George 4 April 1797

6th

Extract of a Letter from the Government of Bombay
to the Malabar Commissioners under the 13 Ult. Jan 1797

2d Para In other respects you will
express to the Coorga Rajah our sensibility
of the readiness which he has shewn in
furnishing the draft Bullocks and We
entirely approve of your answering the
Commanding Officer of the forces in
the Province to Canara with supplies of
ammunition to the Rajah in question
from the abundant stores now on the
Coast, as he may actually require for
the purpose of his defence both now
and hereafter, if attacked by Tippoo
Sultaun; in which event you will
immediately dispatch a proper European
Agent to the Spot with a Letter from your
Resident to the Sultaun, or the Officer
in Command of his Force, disclaiming
in friendly terms, on your part, all intention
to give cause for any alteration in the terms

1853 Fort St George, April 1797

6th of the existing amity between the two States,
and proposing a cessation of Hostilities, to
afford time for an amicable negociation
in which view We have already dispatched
by Express to the Government General
your advices of the 21st ultimo, but should
Tippoo, or the Officer of his Government,
refuse to listen to these amicable overtures
the Commanding Officer is of Course to
use every means in his power for
the protection of the acknowledged boundary
of Wynaad, and the Coorga District awarding
to that Rajahs undisturbed occupancy &
thereof since the last Peace

True Extract
(Signed) Jas. Grant
acting Sec.y to Govt

To The Right Honble Lord Hobart
Governor Gen.l &c.a &c.a

Madras

From the Commander of His Majesty's Ship Resistance acknowledging receipt of letter and advising of the arrival at Amboyna of Ship Indiaman bound for China

My Lord

I have the honor to acknowledge
the receipt of Copies of your dispatches by the
Ships

1854 Fort St George 4 April 1797

6th Ships Intrepid Phoenix Carteret and Union
giving intelligence of the French and
Dutch Fleets - Also beg leave to inform
you of the arrival here of the Glatton,
Malabar Castle, Thomas Duke of
Buccleugh Royal Charlotte and 4
Carnatic Indiamen who sail for China
the 20th Instant. They brought the agreeable
intelligence of the capture of the Dutch
Fleet by the Honble Sir G. K. Elphinstone
in Saldanah Bay.

I have the honor to remain with
great respect.

Yr. &c.

Resistance off Fort Victoria
Amboyna January 13th 1797

(Signd) Edwd Pakenham

The Right Honble Lord Hobart

President in Council &c.

Fort St George

From the Commanders
at Malacca forwarding
a Report from Lieutenant
Farquhar that the
Dutchers may be
put upon the same
footing with respect
to Provisions and
stored gratis from
the Publick Stores
as the other Native
Troops in that
Station. —

My Lord,

Since I had the honor of writing
you in January by His Excellency Admiral
Rainier, nothing worth communicating to
your

1855 Fort St George 1st April 1797

6th your Lordship has accurred in this
Quarter —

Lieutenant Farquhar who has the
charge of the Pioneers at this Station
has sent me the accompanying Letter
on the Subject of the men of that Corps
being allowed Rice and Provisions in
the same Proportion as are issued to
the Detachment of the 19th Native Battalion
and Gun Lascars stationed here in
consequence of Special orders to that
effect by His Excellency Admiral Rainier
and which I have the honor to transmit
for your Lordships information, not
deeming myself authorized to sanction an
Expence of that Kind. —

I have the honor &c
(Signed) Rob.t Tolson
Col.l Comm.g
The Troops

To

Malacca
3d March 1797

1856 Fort St George 11 April 1797

6th

To Colonel Tolson

Commanding Malacca

Sir

I now take the liberty of writing
to you on writing what some time ago I had
the honor to mention verbally, regarding the
present very scanty allowance of Rice drawn
by the Pioneers under my Command, being no
more than 1/2 a Seer per day to each man
which every other description of Sepoys in
the Garrison receive 2/3 of a seer each per
day, besides a proportion of Soft fish, Gee
Curry Stuff, Dalle &c. amounting in all
to 2/3 of the full allowance they had when
on board of Ship. - Now as far as I can
learn no deterioration of this Kind was
made during the late war with Tippoo
Sultaun - nor at any other time or period
since, - the Pioneers being always considered
as fighting men and entitled to the same
indulgences and when it is considered that
their duty here has been fully as severe

if

1857 Fort St George 1st April 1799

6th if not more so than that of the other Sepoys and that by a late order from Admiral Rainier / the Gun Lascars are authorized to draw the same proportion of provisions as the Sepoys, leaving them the only Corps excluded / I cannot help feeling the grievance they complain of, in the same way they do themselves, - and trust that in case it is not in your power to grant them the pecuniary relief, that you will be so good as represent their case to the Government of Madras. which I hope will not only comply with this reasonable expectations. but will take a retrospect of time past. and grant them some kind of compensation for the loss they have sustained -

I have the honor to be
Sir
Your most obedient
humble Servant
(Signed) Wm Farquhar
Lieut Commandg Marines

Malacca
March 1st 1799

S.

1858

Fort St George. April 1797

6th.

J. Webbe Esqr.

Secretary to Government

From Lieutenant Colonel Roberts - with Copies of Correspondence with the Assistant Resident at Hyderabad. -

Sir,

I have the honor to enclose agreeable to the information of the Right Honble the President in Council Copies of letters of Correspondence between the acting Resident at his Highness the Nizam's Court and myself.

Camp near Hyderabad
30th March 1797

I have the honor to be
&c &c &c

(Signed) George Roberts
Lieut. Colo

Lieutenant Colonel G. Roberts

Commanding the Ellore Detachment

Sir,

I have the honor to acquaint that you will send a small Guard with some Sheriffs to the Residency House to morrow morning for the purpose

1859 Fort St George 1st April 1797

6th of receiving charge of Treasure for the use of the Detachment under your Command, being Subsidy for the Month of February 1797

Hyderabad
20th March 1797

I have the honor to be,
Sir, &c. &c.
(Signed) J. A. Kirkpatrick
Assistant and Off.g Resident

Lieutenant Colonel J. Roberts
Commanding the Ellore Detachment

Sir,

You will now receive by the Gurab you sent on yesterday the Sum of fifty three Thousand Seven Hundred and Thirteen Rupees for the Month of February and for which I have to request you will give the customary Receipt to me

I have the honor to be
Sir, &c. &c.

Hyderabad
22d March 1797

(Signed) J. A. Kirkpatrick
Assist and Off.g Resident
Lieutenant

1860 Fort St George 1 April 1791

6th

Lieutenant Colonel T. Roberts

Commanding the Ellore Detachment

Sir,

I am just favored with your Letter inclosing Copy of one you received this morning from the Government of Fort St George, and have to acquaint you that I this day received this morning from Mr Secretary Webbe intimation to the same effect as is contained in the Letter addressed to you

I have the honor to be

Hyderabad
27th March 1791

(Signed) J. A. Kirkpatrick
Aft. & Offg Resident

Captain J. A. Kirkpatrick
acting Assistant to his Highness
the Nizams Court

Sir,

Agreeable to your desire I have sent on Hamilton Bangee and Tendoo Appoys with

1861 Fort St George 11 April 1799

6th with Shroffs to take charge of and escort the Treasure for the use of the Detachment under my Command.

I have the honor to be
&c. &c. &c.
(Signed) George Roberts
Lt Col.

Camp near Hyderabad
21st March 1799

Captain I. A. Kirkpatrick
&c. &c. &c.

Sir,

I have the honor to transmit you a Receipt for the Sum of Fifty three Thousand Seven Hundred and Thirteen Rupees five and a quarter anas received on account of the public Disbursements of the Detachment.

I have the honor to be
&c. &c. &c.
(Signed) George Roberts
Lieut Colo

Camp near Hyderabad
23d March 1799

Captain

1862

Fort St George 1st April 1799

64

Captain J. A. Kirkpatrick &c &c &c

Sir

I have the honor to transmit
for your information a Copy of a Letter
I this morning received from the
Madras Government

Camp near Hydrabad
27th March 1799

I have the honor to be
&c &c &c
(Signed) George Roberts
Lt Colo

Captain J. A. Kirkpatrick
acting Resident at his Highness
the Nizam's Court

Sir

I have the honor to inform
you that Lieutenant Macintire of
artillery having been furnished by the
Surgeons with a Certificate expressing
the necessity of his proceeding to the

Coast

1863 Fort St George 6th April 1797

6th Coast without delay for the benefit of his Health, he is about to proceed thither accordingly.

Camp near Hyderabad
30th March 1797

I have the honor to be,
&c &c &c
(Signd) George Roberts
Lt Col.

To W. Jackson Esqr
Secretary at
Fort St George

Sir

I am directed by the Governor to inform you that he has received an Official Letter from the Secretary at Bengal with Copies of Signals established at the Cape supposed to have been omitted in a Dispatch to this Government from the Cape on that Subject

Mr Lumsdaine having reported to one of the Presidencies the Signals established by Admiral Pringle, and as the Dispatches from the admiral to his Government were complete, it is imagined that the Duplicate Instructions transmitted with the Signals must be required at Madras - I am therefore directed to enclose therein as necessary for the Information

1864

Fort St George 1st April 1797

6th Information of the Commanders to whom the Cape Signals may be delivered. —

Fort William
the 20th of March 1797

I have
&c &c
(Signed) I Thornhill
Sub Secy

Dispatched the undermentioned Letters entered in M.B. Nos 20-21-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45A and 45B

To the Military Board

To the Military Board — desiring their opinion on applications from Lieutenant Colonel Anderson for reimbursement of Contingent expences incurred on Marching the 2d Battalion 1st 11th Regiment of Native Infantry from Cuddapah to the Presidency — and from the Commandant at Dindegal on the Subject of Prize Guards at that Station. —

To

1865 Fort St George 1. April 1797

6th To Do. desiring them to issue orders
for the Execution of Repairs required to the
Medical Godown at Tanjore, and for rebuilding
the Surrounding Wall of the Burial Ground
at Manaulpatam - authorizing the monthly
allowance of thirty six Pots for the purpose of
watering the Trees at the Mount Cantonment

To the Commanding Officer on Ceylon — To Major General Doyle desiring
that the agent for Superintendence Surgeons may
be allowed to ship arrack upon the Hector
provided it does not interfere with any
part of the Services which that ship is
ordered to perform

To Do. approving the Disbursements
which he has ordered on account of Repairs
&c. Furniture - but desiring that no
further Expences may be incurred on
this account without the previous
authority of Government

To Do. inclosing a Letter from
the late Governor at Pedier addressed
to Mr. Van Angelbeck. —

To the Commanding Officer on Ceylon

To

1866 Fort St George " April 1797

To the late Chiefs at Pulicat &c

To Mr Elbrecht acquainting him that his Letter addressed to Mr Van angelbeck has been forwarded to the Care of Major General Doyle

To Do inclosing Copy of a Letter from Major Prophetlow, and directing him to authorize the Board of Justice at Pulicat to take such Measures in respect to Major Prophetlow's suit as they shall answer themselves legally competent to accept. –

To Major H. C. B. Prophetlow

To Major Prophetlow – communicating the purports of the above mentioned Letter to Mr Elbrecht.

To Captains Howley Isaacks Campbell and Hayes of the Artillery

To the Captains of artillery noted in the Margin acquainting them that on adverting to the advantages which the Corps they belong to peculiarly derive from the new army arrangements the Board do not conceive the Claims advanced by them in their Letter of the 26th January to

not

Fort St George 11 April 1797

6th not upon any reasonable Grounds.—

To the Chief Engineer

To Major General Ross — acquainting him that tho' the Board admit the propriety of allowing Commanding Officers to have free access to all plans and Surveys connected with the Places entrusted to their Charge, they do not allow any right for them to call upon the Engineers for Copies—

To the acting Master Attendant

To Mr H. Hall desiring him to survey the Nabob's Ship Surprize Galley and report her Tonnage and Measurement.

To the Military Board

To the Military Board desiring the Execution of the Report required to the Storeroom at Angdi; and great Economy at Chingleput — no Tents to be issued to Revenue or Commercial Servants without the express authority of Government and those at present so employed to be called into Store a Committee of their Board to report upon Bullock Bags made up by Mr Skardon — their opinion required

on

1868 Fort St George 11 April 1797

Plan on Repair and Improvements recommended by Major General Hope to the Works at Dindigul and on an application from the Commanding Officer at Chungleput for an Establishment of Carts for the cleaning of that Fort.

To the acting Commissary General of Stores and Provisions. — To Mr Hardey — enclosing for his Information, Copy of Instructions sent by the Military Board to Lieutenant Colonel Read on the Subject of lodging the Raggy and wet Stores ordered to be laid up in the Fort in the Barracuck — advising him of the appointment of a Committee to examine the Bullock Bags made up by him. — desiring him to instruct Captain Darley to provide the Grain required for Store in the Gunboat Cruiser when it may be at Cuddalore and to convey it in the most cheapest and economical Manner to the different Forts — and to order the Commissary at Arcot to receive from the Distributi

1869 Fort St George 1 April 1797

6th of Ootramalore & Canangoolay such proportion of the Paddy required, as cannot be furnished from the Conjeveram District.

W. D. D.

To Do. desiring him to call upon the different Prince Agents for the Invoices he requires, and authorizing him to write off to profit and loss the 256 Marcals of Pannaga Paddy at Arnee.

To the Collector in the Jaghire

To Mr. Place - informing him that the Commissary of Grain at Arnee has been instructed to receive from the Districts of Ootramalore and Canangoolay such part of the Grain required by him for Store as cannot be furnished from the Conjeveram District.

To the military auditor General

To Major General Sydenham - advising him of the Boards Determination of fixing Serjeant Hughes's Pension at 20 Pags. P. month, from the 1st December 1796 - and desiring that any Arrears of Pay that may be due to him may be

1870 Fort St George 11 April 1797

6th Discharged - his opinion required in a Contingents Bill forwarded by Captain Mackenzie of Engineers -

To the Military Auditor General

To Do - referring for his opinion Lieutenant Shaw's Claim to Foot allowance from the period of his sitting out from Vizagapatam to join the Nizams Detachment. -

To Ditto - Ditto

To Do - desiring him to furnish a Statement of the Sums paid to the Agents of Captain Bonny on account of the monthly Expences of the Surprize Galley while employed on the Eastern Expedition.

To the Commandant at Salem. -

To Major Cameron - forwarding him to resign the Command of Salem and advising him of Captain Johnstones appointment to relieve him

To the Commandant on the Trichinopoly Circar. -

To Lieutenant Colonel Leighton - returning Bills presented by Major Halcott

1811 Fort St George 11 April 1797

To Mr Malcolm for Intelligence, countersigned for Payment.

To the Secretary at Bombay

To Mr Secretary Morris - inclosing Lists of Horse dispatched to and received from the Bombay Detachment serving on Ceylon and requesting that the latter may be returned with the Prices annexed to each article, that "Bombay Presidency" may have credit for the amount.

To the Adjutant General of the army.

To Lieutenant Colonel Close - desiring him to furnish a List of the Officers promoted on Gd. of the 12th July last to whom Commissions are to be granted of Date the 8th January 1796 taking Care that none of the Officers promoted between the 8th January and 1st June are superseded by this retrospective Promotion

To the military Paymaster General

To Mr Roebuck transmitting Copy of the Auditors Report on Mr Paymasters

1872 Fort St George 6th April 1797

6th Paymaster Hughes's additional Estimates which accompanied his Letter of the 9th ultimo

To the Accountant General

To Mr Robert Mody - transmitting seven proposals for Clothing the army and desiring him to lay before the Board a Comparative Statement shewing which are the most advantageous for the Company

To the Garrison Storekeeper

To Mr Brodie - informing him that as a Considerable Supply of Salt Provisions is expected shortly from Bengal it does not appear necessary to adopt the Suggestion contained in his Letter of the 27th ultimo.

To the Commander of the Jane Transport

To Captain Stuart - discharging the Jane from the service.

7th Received the undermentioned Letters as entered in M.B. Nos 46 - 47 -

From the Commandants in the Ceded Districts 48 - 49 - 50 -

From Lieutenant Colonel Read - with a Letter from Captain Irton

1873

Fort St George 1st April 1797

1st Inst confirming the Intelligence formerly communicated by him of the Seizure of Tombo Gowdown by a party of Tippoo Troops - and stating the Line of Conduct adopted by him with respect to M Kenzie's between the Mahratta Troops and the Territories Bandille on the Borders of the Ceded Districts

From Major General Perkins, -

from the officer commanding the Bengal Detachment

acknowledging receipt of the Boards orders on the Subject of relieving Lieutenant Colonel Roberts Detachment. -

From Lieutenant Berkley -

from the Commandant at Angole

advising of his having succeeded Major Price in the Command of Angole

From the Chief Engineer - requesting

from the Chief Engineer

that Permission may be granted to Ensign Torriano to proceed to the Cape of Good Hope and eventually to Europe for the Benefit of his Health. -

Received

1874 Fort St George 4th April 1797

Received the following Letter
from the Secretary at Bengal

To J. Webbe Esqr
Secretary at
Fort St George

Sir

From the Secretary at Bengal forwarding Intelligence of the Departure of Admiral Linneys Squadron from Batavia on the 13th January

The Vice President in Council
desiring it possible, that the Right Honble
the President in Council may not have
received accounts of the departure of
admiral Linneys Squadron from Batavia,
he has desired me to forward the
inclosed paper of Intelligence by
Edwards
Fort William
the 25th March 1797

I am &c &c
(Signed) G. H. Barlow
Sec to the Government

Paper of Intelligence delivered by Captain Haig

Captain Haig Commander of the Snow Hope,
who was employed by the Government of
Bengal

1875 Fort St George 11 April 1797

y.e Bengal to carry Duplicates of some Dispatches
to admiral Rainier at amboyna, arrived
at Calcutta on the 24.th Instant in the
Danish Snow Bornholm, from Ba-
tavia, which place he left on the 18.th of
January last.

Captain Harg states the following particulars. -

That he was captured by admiral
Sercey's Squadron consisting of six Frigates -
on the 11.th November last, in sight of the
Island of Engano that he was put on
board the admirals Ship the La Forte,
and arrived with the Squadron at
Batavia on the 19.th of the same month.

The Squadron sailed from Batavia
on the 13 January, and from thence
having taken on board two Dutch Pilots
who formerly belonged to the amboyna
Cruizers, it was supposed that admiral
Sercey intended to proceed Eastward. -
His actual destination however, was
Kept secret. -

The

1876 Fort St George 1st April 1797

766 The Squadron had no Troops on
board when they arrived nor when
they sailed.

They acknowledged to have Cost
three hundred men whilst at Batavia
most of whom were sick when they arrived
there, and then fell a sacrifice to the
unhealthyness of the Climate, and the
Causes were able satisfy when the
Squadron sailed.

The Dutch had advanced
Eight months pay at different Seasons
to the Squadron, and Merchandize to
a very large amount, had been
received by the admiral from the
Dutch, but on what terms or for what
purpose, was not known

When the Squadron left Ba-
tavia, they had on board nine
months Provisions, and all the
Ships were completely refitted - Three
of them, the Venus, the Seine, and the

Prudente,

Fort St George — April 1797

The Providentia took in new masts, and were completely new Sheathed and Copper'd whilst at Batavia, — Those Ships were so much damaged in the Engagement with his Majesty's Ships Arrogant and Victorious, as to be unfit for Service until they underwent the repairs at Batavia.

It was said that Admiral Suffrein intended originally to have gone from Trincomalee directly to the Mauritius, in the expectation of meeting Admiral Lucas's fleet there, but his Crew being sickly and being very short of provisions, after a Consultation with his Officers, he bore away for Batavia although he was doubtful of the reception which he might meet with at that place. on hearing of the Capture of the Dutch Squadron by Admiral Elphinstone, Intelligence of which was brought by an American Vessel

from

7th from the Cape, he was extremely
anxious to expedite the Repairing
of the Ships and to get away from
Batavia He was well informed
of our force in India from a
Number of American, Danish
and other foreign Ships resorting
to Batavia and from our news
papers.

When Captain Haig left
Batavia no accounts had been
received there of the arrival of the
Spanish Squadron at Manilla,
the Intelligence of which was
brought by the Sylph.

The Dutch expressed
great Satisfaction at the depar-
ture of Admiral Dewey. He
urged the Government to

fit

1879 Fort Selegraye " April 1797

7th fitt out a Sixty Gun Ship, which
they had at Batavia and preparations
were commenced for that purpose,
but they were discontinued, and
before Captain Haig came away the
Ship was again laid up.

The Frigate which Admiral "
Elphinstone allowed to leave the Cape
is the only Ship of War now at
Batavia, and she is kept as a "
guard Ship. admiral Drury was "
desirous of carrying her with him
but the Dutch would not allow
her to leave the Island.

The ambuscade Frigate has
long since been condemned --

Thirteen Indiamen were lain
up in the port --

Whilst Captain Haig was
at Batavia he was allowed to go
about

1880 Fort St George 1st April 1797

7th About the Town without restraint.
There was not the smallest Appearance of any Military or Naval Preparations for any Expedition; on the Contrary, that the Dutch appeared generally as disinclined, as they were unable, to undertake any Offensive Operations in Concert with the French, but that Measures for the defence of Batavia had been adopted, and that the Regular & European Troops & Militia were frequently exercised. The former however said to amount to 1500 Men were Sickly, and the latter Reported to consist of four or five Thousand were badly appointed and ill disciplined. The Governor were in great Apprehension of disturbances from the Natives, especially if an Enemy should Appear

1881 Fort St George - April 1797

7th Capitan off the Place - The Orange Party was much the most Powerfull, and whilst Captain Haig was there, a Commissioner arrived from Holland empowered to take Charge of the Govern- ment, but he was not allowed to land, and was about to return on Board of an American Ship -

The Dutch were not in expectation of any more Men of War from Europe -

A great Number of Americans & Danish Ships were at Batavia particularly, the former, who had purchased or taken on Freight Merchan- dize, to a large amount. -

Tippoo's two Ships under charge of Monsieur Monneron were at Batavia

Captain Haig threw his dispatches over board when he found he could not escape from the Enemy. admiral Stirling

1880 Fort St George 1st April 1797

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pearance of any Military or
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Expedition; on the Contrary, that
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French, but that Measures for
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European Troops & Militia were
Increased. The former
however said to amount to 1500 of
them were Sickly, and the latter
aperted to consist of four or five
Thousand were badly appointed
and ill disciplined. The Govern-
ment were in great apprehension
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A great Number of Americans & Danish Ships were at Batavia particularly, the former, who had purchased or taken or fought Merchan= dize, to a large amount. -

Despoo's two Ships under charge of Monsieur Monerou were at Batavia

Captain Haig threw his dispatches over board when he found he could not escape from the Enemy. admiral Stirling

1882 Fort St George 11 April 1797

7th Survey Stood out Captain Haigs Vessel as a Tender, and this was the only Vessel that accompanied the Squadron on their sailing from Batavia. —

A true Copy

(Signed) G H Barlow

Sec'y to the Gov.t

Sent the following Letter —

To Captain Adam

Commanding his Majesty's Ship

The Careysfort

Sir

To Captain adam of the Careysfort requesting he will provide with Dispatches for the admiral and that he will convey to Colombo a supply of Cash for the Troops in that Garrison

Having received information respecting the Batavia Squadron under the Command of admiral Story, which I think it of great importance to communicate to the admiral, with as little delay as possible, I must request you would convey the accompanying Dispatch to Trincomalee for that purpose. —

I have

1883

Fort St George 7th April 1797

Sir

I have also to acquaint you that the Troops at Columbo and Point de Galle are in serious distress for money, and that we have no means of sending it, particularly at this season, with Security, except on board one of his Majesty's Ships - and as it has not been customal for the Officers Commanding Ships of War to assist the Government, upon Similar occasions, I am to request you would take on board the Corygon Fifty Thousand Star Pagodas, and some Copper money, a particular account of which you will receive from the Secretary, and deliver it to the Officer Commanding at Columbo - By a compliance with my application, you will render an essential aid to the publick Service

I am &c &c

Fort St George
7th April 1797

/Signed/ Hobart

To

1882 Fort St George 1 April 1797

y^e Survey Sailed out Captain Haigs Vessel as a Tender, and this was the only Vessel that accompanied the Squadron on their sailing from Batavia. —

A true Copy

(signed) G H Barlow

Sec^y to the Gov^t

Sent the following Letter

To Captain Adam

Commanding his Majesty's Ship

The Careysfort

Sir

To Captain Adam of the Careysfort requesting he will provide with Dispatches for the admiral and that he will convey to Columbo a supply of Cash for the Troops in that Garison

requesting the Tornado Squadron under the Command of admiral Drury, which I think it of great importance to communicate to the admiral, with as little delay as possible, I must request you would convey the accompanying Dispatch to Trincomalee for that purpose. —

I have

1883

Fort St George 7th April 1797

7th I have also to acquaint you that the Troops at Colombo and Point de Galle are in serious distress for money, and that we have no means of sending it, particularly at this season, with Security, except on board one of his Majesty's Ships - and as it has not been customal for the Officers Commanding Ships of War to assist the Government, upon Similar occasions, I am to request you would take on board the Corvette Sixty Thousand Star Pagodas, and some Copper money, a particular account of which you will receive from the Secretary, and deliver it to the Officer Commanding at Colombo - By a compliance with my application, you will render an essential aid to the public Service

I am &c &c

/Signed/ Hobart

To

Fort St George
7th April 1797

1884 Fort St George 4 April 1797

yth

To His Excellency Rear Admiral Rainier

Commander in Chief of his Majestys Ships

in

India

Sir

To Rear admiral Rainier forwarding the Intelligence recived from Bengal of the Sailing of admiral Sercye Fleet from Batavia on the 12 January - and advising him of the requisitions to Captain Adam to convey a supply of Cash to Colombo

Having received from the Government of Bengal intelligence of importance respecting the French fleet of frigats We do ourselves the honor of indosing a copy for your information.

Having received repeated and urgent applications from Major General Doyle for a supply of money for the use of the Troops upon the Island of Ceylon, and having no safe or expeditious Means of conveying it at this season of the year, We have requested Captain Adam of his majestys Ships Canopus to convey a considerable sum

1885 Fort George 7th April 1797

7th Sum to Columbo; we request it
therefore that if your Gallaway
should have no particular occasion
for the Canopus after she may have
delivered this dispatch you will
permit her to proceed to Columbo
with the money.

Should your Gallaway have
sailed from Trincomale previous
to the arrival of the Canopus at
that Place, Captain Adam has at
our request consented to continue
his Cruize to Columbo; and we
have no doubt that his acquiescence
upon a point of considerable impor-
tance to the public Service will
meet your Excellency's approbation

We have the honor to be
&c. &c. &c.
(Signed) Hobart
&c. &c. Cornwallis

Fort George
7th April 1797

To

1886 Fort St George 1st April 1797

7th

To Major General Doyle

Commanding on

Ceylon.

To Major General Doyle advising him of the Supplies of Cash shipped on the Cargo fort - and desiring that the remainder of the Bombay Battalion may be conveyed to Colombo in such Vessels as he may be able to engage at Colombo it being impossible to send the Vessel for them

Sir,

I am conformably with the
intimation given to you in my
Letter of the 2d Instant (fifty thousand
(50,000) Star Pagodas and one hundred
and eighty two casks of English
copper coin valued at ten Thousand
seven hundred and sixty five pagodas
twenty nine Fanams and eighteen
Cash are now consigned to the
Paymaster at Colombo by the
Military Paymaster General, and
upon this Subject I am directed to
express the expectation of the Right
Honble the President in Council
that you will refrain, unless
absolute necessity may compell
you, to call upon him for a
further

1887

Fort St George 7th April 1797

7th Further expectation of Specie from the Coast.

As circumstances have occurred since my letter of the 9th ultimo which make it impossible for the President in Council to dispatch the Harriet to Columbo, he desires that you will endeavour to procure tonnage for conveying the remainder of the Bombay Grenadier Battalion to Calicut; and as the most pressing application has been made for its services on the Malabar Coast, his Lordship desires that there may be as little delay as possible

I have the honor to be,

Sir

Your most obedient

humble Servant

(Signed) J Webbe

Secy to Govt

Fort St George
7th April 1797

To

1888 Fort St George 4 April 1797

7th

To Major General Sydenham
Military auditor General

Sir

To the military auditor General - his opinion on mr. Gahagan's claims confirmed mr. Surgeon Harris and Captain Mundy to draw their allowances at the Presidency - and the Officers at Vellore to draw their Horse Rents

I am directed to acknowledge the receipt of your letter dated 21st ultimo and inform you that the Right Honble the President in Council confirms your interpretation of the order of 3 November 1791 viz.t That it was not intended to affect the charges which had already been paid to the Surgeons of Sick Hospitals, but to invalidate all existing claims to the former allowance, and to prevent a repetition of them in future, his Lordship has therefore pronounced the claim preferred by mr. Gahagan on this account inadmissible

The President in Council also confirms the reinstatement of Majors Hole Batten, which you have made from

1889

Fort St George 11 April 1797

7th From Mr Gahagan charged by him while on a tour through the Vellore and Baramahal districts

His Lordship desires that you will authorize the Military Paymaster at the Presidency to discharge the Monthly pay and allowances of Mr Surgeon Harris from the period up to which he may have been paid to the Eastward until he shall join his regiment. —

As the whole of the Officers quarters at Vellore appear by the proceedings of the Military Board of 5th May 1796 to have been condemned, the President in Council desires that the Paymaster at Tanjore may be authorized to pay house rent to the Officers stationed there upon the usual Certificates. —

I inclose a certificate of the period up to which Captain Thomas stands appears to have received his pay and

1890 Fort St George 7th April 1797

7th and allowances from the Paymaster to the Eastern Expedition and are directed to desire that the Military Paymaster may be authorized to discharge his bills at the Presidency

Fort St George
5th April 1797

I have the honor to be
&c. &c. &c.
(Signed) J Webbe
Duty to Government

8th Received the following Letter

Lord Hobart

My Lord

From Captain Adam acquiescing in the Board's desire above noticed.—

I have the honor of acknowledging the receipt of yours and shall in consequence of the Rear admirals orders to me, proceed with His Majesty's ships under my command this Evening with your dispatches to Trincomalie

I shall lose no time in complying with your Lordships request and

1891 Fort St George 11 April 1797

8.th and carry the money for the Troops
at Columbo, delivering it to the Comm.=
=manding Officer there,

I have the honor to be,
&c.a &c.a
(Signed) C. Adams

Fort St George
April 8.th 1797

To The Right Honble Lord Hobart
Governor in Council
&c.a &c.a &c.a

My Lord,

From Lieutenant Colonel Read - inclosing a particular account furnished by Captain Williams what lead of the origin and Progress of the Disputes between the Nabobs Government and Subjects and the Poligars and Inhabitants of Tinnivelly -

Having received on receiving a duplicate of Mr Secretary Nobbs
letter of the 14.th ultimo through the hon=
=ble of His Highness the Nabob at
Trichinopoly, that his Highness representa=
=tion therein mentioned, had appeared to
Government, of more serious consequence
than I at first supposed, I immediately
desired my assistant Collector of the
southern districts under my charge
to give me such information as he
could relative to the depredations of
which

1892 Fort St George 4th April 1797

8th which his Highness complained, and I
I have now the honor of laying it before
your Lordship. —

I am
with great
Truth & Regard
Your Lordships
Most obed.t & most
humble Servt
/Signed/ Alex.r Read
Lieut. Coll.o Comd.t
& Superintendent
Ceded Districts

To Lieutenant Colonel Read
Superintendent

Sir,

I have been favored with your
letter of the 26th Instant accompanying
a copy of a letter from the Secretary, to
transmitted to you through the Nabob's
brother at Trichinopoly; — by which
it appears that complaints have been
made to the Government that a
Polaries who receive shelter in the
Companys

1893 Fort St George 11 April 1797

8th Company's Districts make a practice of plundering the Malabar country

Tanore. —

That representation appears to be an invention by His Highness's servants calculated to deceive their Master — and to conceal their own mismanagement, in not putting a stop to the confusion which for the last ten months has prevailed in the Tanore District — and prevented any revenue being collected from it. — In case you may think proper to address Government on it, I shall endeavor to explain it such particulars as I have heard of the nature of the contest which gave rise to the present complaints

The Tanore District, which borders on those of the Company, Chundamungalum and Nanneel, was formerly considered as a dependancy on

Tichinopoly

1894 Fort St George 11 April 1797

8th Trichinopoly - and paying an annual specific Tribute like the other Polygarcis -

About 15 years ago it was resumed - the Reddy or Zemindar was removed, and the District put under the management of an Aumildar. But at subsiquent periods - either through intrigues or necessity - the Reddy's family was twice or thrice restored and as often removed. The last period of reinstatement was about four years ago, on condition of paying a stipulated Tribute / exclusive of the Revenue accounted for by aumildars / besides other Fees - which from the accounts of the Nabob's servants - the Reddy had failed to discharge. - In consiquence of which, in June last the Nabob's brother sent a party of irregular Sepoys to seize

the

1895 Fort St George April 1797

8th The Reddy and settle the District — on
that occasion the Reddy fled to Tellingerpatty
within the Company's Bounds — but not
deeming himself safe there, as the Govern-
ment might order him to be given up
to the Rajah, he after remaining a few
Days, fled to the Tanjore country —
But his influence with the Chief
Inhabitants of Tinnevy, who are also
of the Reddy cast, was such, that a great
number of them removed with their
property to the parts of Shundamungu-
lum and Nandial Districts that border
on Tinnevy — many of whom still
continue within the Company's Districts.

In the month of January last
the Reddy returned from Tanjore with a
number of armed men to counteract the
settlement of his District by the Rajah's people,
with the hopes of creating a mutiny —
of allowing him terms. — With this idea
he and his adherents set fire to the
Houses

1896 Fort George April 1797

8th Houses of such as were not suppposed
to be attached to his Cause — and on
the other hand the Natives people took
the same means to furnish those
they thought to be attached to the Ruddy.

Some Skirmishes have taken place
between the Ruddy and the Natives people
in one of which the latter being
unsuccessful, took refuge within
the Company's Bounds — upon the
commencement of those disputes
proclamations were issued, that no
protection should be given to any
inhabitant, who might be detected
in assisting the Ruddy, or committing
any irregularity in the Tuniere
Country — and I have no reason
to suspect that any of the Tuniere
Inhabitants or others residing within
the Company's Bounds have in
any respect assisting the Ruddy

in

1897 Fort St George 1st April 1797

8th in his refractory measures to which the Natives are of opinion he is [illegible] induced to persist with the hopes of obtaining the notice of Government and being introduced among the other Zemindars paying Peishcush to the Company instead of the Nabob

I have the honor to be

Sir

Your very Obedient Servant

(Signed) William Maclean

Madras 31st March 1797

To Josias Webbe Esqr

Secretary to Government

Sir

From the adjutant General enclosing List of the officers promoted under Commissions bearing date 1st June 1796 and of officers promoted between the 1st January and 1st June 1797

I have the honor to acknowledge the receipt of your Letter under date 5th Instant and to enclose a List of those officers in each

1898 Fort St George 7th April 1797

8th each branch of the Army who received promotion and Commissions bearing date 1st June 1796 - from the adoption of the new Arrangements - also a separate List of those Officers who having been promoted in the interval from 1st January to 1st June 1796, are entitled to Commissions of the former date and to take post in their respective Ranks of those Officers who were promoted by the adoption of the new Arrangements.

I have the honor to be

Sir,

Your most obedient Servant

(Signed) BY Close

adjt General of the army

Adjutant Generals Office
7th April 1797

List

1899 Fort St George 1st April 1797

List of Officers on the Madras Establish=
ment promoted between the 1st of January
and 1st of June 1796

Cavalry

Cornet	Hugh C Donnelle	14th Jany 1796

Artillery

Lieutenants	Andrew Gibb	12th Feby 1796
	Michael Brannan	20th April
Lieut. Fire Workers	Patrick George Blair	9th Jany
	Thomas Costerley	24th — " — "
	John Noble	27th — " — "

Engineers

Ensign	Thomas Fraser	2nd Jany 1796

Infantry

Captains	Daniel Fitzgerald Griffiths	12th Feby 1796
	James Trant	13th — " — "
	Richard Gowan	18th May — "
	John Samson	18th " " — "
	John Munro	18th — " — "

Lieutenants

1900 Fort St George 1st April 1797

8th

Infantry Continued

Lieutenants Charles Edward Mantell	10th	July 1796
Charles Hodson	10th	— " — "
Benjamin Harding	10th	" — "
James Smith	10th	" — "
Henry Bowen	11th	April
Charles Mandeville	22nd	" — "
George Custance	28th	— " — "
Rowland Pyton Mainwaring	18th	May — "
Richard Burn	28th	" — "

(Signed) B.J. Close
Adjutant Genl of the
Army

List

1901

Fort St George 1st April 1797

List of Officers on the Madras Establishment promoted to the following Ranks on the 1st of June 1796.

Cavalry

Colonel Duncan Cumpbell

Lieut.t Colonel James Brunton

Major . . . . . .

Captains Thomas Dallas

" John Tovey

" Keith Mac Alister

" The Honble Arthur Sandilands

" Alexander Watson

" William Sheriff

" Charles Rumley

Capt.n Lieutenants Thomas Pearson

" John Simard

" Alexander Grant

" I. R Huddlestone

Lieutenants Hugh Mackay

" George Nash

" John Macleane

" John Burgess Hastley

Artillery

1902 Fort St George 1st April 1797

Artillery

Colonels —	Thomas Gelle
"	William Sydenham
Lieut. Colonel	George Hall
Major	Charles Carlisle
Capts. Lieutenants	John Jordan
	Richard Burke
	Ulick Burke
	James George Scott
	John Hammond
	Charles Donaldson
	Frederick Prevost
	Francis Geoghegan
	Baker Tunnell
	John H Trower
Lieutenants	James Hathway
	James Ruspini
	John Bottam
	John Sinclair, Junior
	William Murray
	Richard Charleton
	Frederick Isaacke
	David Ross
	Thomas Gill
	William Blair

1903 Fort St George, April 1797

Engineers

Colonel Patrick Ross

Capt. Lieutenants Thomas Wood

J. L. Caldwell

John Blair

Lieutenants Thomas Fiott de Havilland

John Cotgrave

John Fotheringham

Benjamin Sydenham

Infantry

1904 Fort St George " April 1797

Infantry

Colonels George Cunyngham

Thomas Trent

Thomas Prendergast

Richard Tolson

John Cuppage

Robert Cole

Lieut. Colonels Henry Malcolm

Archer Arnold Langley

George Roberts

Urban Vigors

George Muat

Archibald Brown

William Stuart

Robert Croker

George Fotheringham

George Nuthall

George Waight

Thomas Leighton

James Oliver

Francis Torrens

Carey Lalande

Cromwell Mosley

Walter Anderson

David Campbell

Lieut Colonels

1905 Fort St George April 1797

Infantry continued

Lieut.t Colonels	Alex.r MacPherson
	James Dalrymple
	John Richardson
Majors	Alexander Read
	Daniel Mac Neile
	Thomas Halcott
	Thomas Parr
	James Campbell
	Joseph Little
	William Kinsey
	Thomas Beeson
	Barry Close
	James Oram
	John Halliburton
	Charles Smart
	George Une
	P. A. Agnew
	Edward Gibbings
	Robert MacKay
	John Tindal Evans. —

Majors

1906 Fort St George " April 1797

Infantry continued

Majors Hector MacLean

Robert Cameron

Thomas Cocke

Thomas Gordon

Gabriel Doveton

Alexander Cuppage

Aldwell Taylor

Edward Tolfrey

Captains James Innes Junior

Colin MacKelvey

John Kennedy

Joseph Gulston Hall

Thomas Clarke

James Mackenzie

Thomas G. Gray

Walter Wilson

John Horne

Thomas Parkinson

Henry Smith Cosby

Captains

1907 Fort St George " April 1797

Infantry Continued

Captains Malcolm MacGregor

Mathew MacAlester

John Taylor

Richard Powis

Francis Ardesle

Darrel Carey

Willm Sommerville Sumnell

James Rodger

Robert Turing

John Dughton

Thomas Tunn

Thomas Ardesle

William Shepherd

John Darley

James Cunningham

Samuel Irbon

John Watkins

Alexander Robertson

Richard Harden

Thomas Munro

William MacLeod

Thomas Stevenson

Peter Dallas

Captains

1908 Fort St George " April 1797

Infantry Continued

Captains Ridgeway Mosley

Edward MacG Gipps

Samuel Wm Ogg -

John Read

John MacIntosh

John Hunt

Peter Moore

Alexander Denton

Roger Waine

William Davidson

Henry Webber

Thomas Gillum

John Hilly

Alexander Allan

Henry Nash. -

Captain Lieutenant

1909

Fort St George 11 April 1797

Infantry Continua

Captain Lieutenants John Hall

George Martin

Thomas Green

Thomas Peters

Alexander Greenhill

Edward O'Reilly

James Achilles Kirkpatrick

John English

Sloane Gibbons

William Oliphant

Arthur Maccally

Andrew Maccally

Patrick Mapother

Lieutenants

Fort St George — April 1797

Infantry Continued

Lieutenants	Thomas Little
	Thomas Pattle
	William Shaw
	Jeffrey Prendergast
	George Lang
	Sutton Taylor
	William Pollock
	Thomas Hampton
	John Cook Stocker
	Paisley Weir Fraser
	Joseph Hay
	Charles MacLeod
	John Milward
	George Sinclair
	John Wright
	James Duncan
	Charles Rand Junior
	James David Grubbe
	Henry Yarde.
	Joseph Britton Seward
	Henry Raymond Barker
	Henry Day.

1911

Fort St George 11 April 1797

Infantry

Lieutenants George Alexander Muat

John Stuart

Archibald Campbell Junior

John Mac Dougal

(Signed) B.V. Close

adjt. General of the army

Dispatched the undermentioned

Letters entered in Mil. B. Nos 50. 51. 52.

To the Secretary at Bengal — To Mr. Secretary Barlow

with a Letter from the Nabob to the 11
Governor General which had, thro' 11
oversight, been opened on the Persian 11
translation Office. —

To the Accountant General — To Mr. A. Wood — desiring
him to collect Statements of the Sums of
Money disbursed and of the Values
of Provisions and Stores of different 11
descriptions supplied on account of
the

1912 Fort St George 11 April 1797

8th The Suffolk's Tender as well as this Presidency, as at Bengal and Bombay

To Lieutenant Collier - desiring

To the Commander of the Suffolk's Tender

him to lay before the Board without

Delay a particular Statement of the

Disbursements made and arrears

due on account of the Suffolk's Tender

from the period of his having been

last under his command.

10th Received the following Letter

from the assistant Resident at

Hyderabad. -

I Webbe Esqr

Secretary to Government

Fort St George

Sir,

From the assistant Resident at Hydrabad with further Intelligence collected from Goode and Lennon

I have the honour to transmit

for the notice of the Right Honble the

President in Council, Extract of the Report

of two of the Residents Hurkarahs

recently

1913 Fort St George 11 April 1799

recently returned from Goote, together with
Translate of a Persian Newspaper, on
which I have only to remark, that
I have not the smallest ground for
supposing, that the apprehensions
ascribed to the Inhabitants of the
Goote District with respect to the designs
of the Mahrattahs on that Quarter, have
any just foundation

I have the honor to be,
&c &c &c

(Signed) J. A Kirkpatrick
Assistant & Offg Sec.

Hyderabad
3d April 1799

Extract Translate of the Report of two Hurkarahs
who reached Goote on the 14th March, and left it
on the 24th on their Return hither

"Soob Rao, Syud Ghuffaar,
Bunsoorie Hoosein Sahib, and Bishonapah
and the rest of the Chiefs (with the forces
frequently mentioned) are encamped
at

1914 Fort St George 11 April 1997

19th at Bufsoon Juncty near Goote"

" On the 23d March Mustaun

Sahib with a Detachment of 200 horse

and Foot set off for the Kunbah of

Paunny - The common report this

Journals in the Goote District,

is, that in consequence with a w

Perwana long urged by Doudut

Rao Saindiah of restoring Goote w

to the Family of Morar Rao, that

Tortoise is on the point of being ceded

by Tippoo - In Goote itself however,

there is no talk of its being evacuated

by the Peishwa's Garrison; though

there is even there, a confused rumour

of some Such demand having been

made to Tippoo by a Mahrattah

Vakeel deputed for the purpose to

Seringapatam.

The latest News from

Seringapatam in the Camp of Goote

was

Fort St George 11 April 1797

18th was, that the Sultaun had ordered his Cundah to be pitched in the Vicinity of his Capital, and that his Troops were assembling there very fast"

"Hurry Naig the Nunnuk ghurry Zemindar, who long ago took shelter at Koompulley has again given disturbance in the Nizam's Districts, and with a Body of his own Peons, joined by small detached parties of Tippoo's troops in the Districts of Kurpunhully, and Koompulley, fell suddenly during the night upon the Village of Kunhal, (in his Highness's Territories and near Kopal) completely rifled the Inhabitants of their whole property, and carried off all the Cattle belonging to the Village"

"The Zemindar of Kunhal by way of retaliating this attack and recovering if possible the loss sustained in

having

1916 Fort St George 11 April 1791

10th being apprized by the Killadar with a thousand horse, entered the Country of Burpeenthully and watching his opportunity in his turn attacked the Pollah of Tummerhully, and the Villages of great and little Yerghur, and after plundering the Inhabitants of those Three Places of all their effects and Cattle was on his way back to Kurtal, when he fell in with a Party of the Sultaunis Troops to the number of about 1000 horse and foot, assembled for the express purpose of attacking him, and an obstinate engagement ensuing; the Zemindar of Kunhāl who greatly outnumbered his Enemy, proved victorious, when pursuing both the Slain and the wounded, he returned in triumph with a number of captured horses, to Kunhāl"

We

1917 Fort St George 11 April 1799

16th — We further heard that two thousand horse and four thousand Infantry under Appointed with 4 artillery Ver had arrived at Chitteldroog from Seringapatam; and that the Kokullah was encamped at Davenore a place bordering on the Dominions both of Tippoo Sultaun and of the Nizam"

True Extract & Translate

(Signed) J. A. Kirkpatrick

Assistant to

Translate of Intelligence from Tanjore

received the 31st March 1799

"Yesterday arrived here from Gooty that in consequence of a report prevalent there, of their being threatened with a visit from the Mahrattas, the Killedar was preparing to evacuate that Fortress, and was actually employed

in

1918 Fort St George " April 1799

10th in sending off the Stores and Ammuni-
tion on hire Cattle to Seringapatam.

The force at present encamped
before Goole, consists of 2000 horse and
10,000 Infantry together with 50 Pieces
of Cannon, from the latter of which
7 Guns of a large Caliber had been sent to
Seringapatam. It is reported that Tippoo
Sultaun has issued an edict throughout
his Dominions, summoning all the
Mussulman Inhabitants to both old
and young to the Capital; if any "
one presumes to ask the reason of
so strange a proceeding, he is told he is
to be enlisted in the Service of the "
Sultaun - Wherever resistance against
this order is attempted, violence is "
employed to enforce it. The Sultaun "
has likewise confiscated the property of
every Banker residing in his dominions,
and declares that except Mussulmans none be
will

1919 To George 20 April 1797

10th will allow no other cast to reside in them

The Zemindars of Koorgh and

Coimbetore have excited disturbances in

the Districts of Tippoo bordering on their

Zemindaries.

It is reported that in consequence

of War still continuing between the English

and French, Tippoo has dispatched two vessels

from Mangalore to act with the fleet

of the latter. -

A sepoy Detachment belonging

to the Battalion who were encamped at

Anagoondy had been severely handled

by the Zemindar of that place who

attacking them by surprize in the

night, killed, wounded and took four

hundred Horse - The Zemindars of

Harpenhully &c have hoisted the

Standard of rebellion.

A true Translate

(Signed) J A Kirkpatrick

Assistant

1920 Fort St George 11th April 1797

At a Consultation

Present

The Right Honble Lord Hobart

Governor President

Lieutenant General Harris

Edward Saunders and } Esquires

Ernst William Tallosied }

Minutes of last consultation

read and approved.

Read the following Letters

From the Military Board

To The Right Honorable Lord Hobart

Governor in Council

&c &c &c

My Lord

In pursuance of your

Lordships Commands communicated

to us under date the 1st of July 1796, &

21st January, and 9th of March last,

We have taken into consideration

the several proposals of Mr. Bishop,

transmitted

from the Military Board respecting the Determination of Government & Sundry Papers arising out of a Difference of Opinion amongst the Members of this Board on the Question whether it would be advisable to accept Mr Bishop's Proposal for making up Gunpowder on Contract in preference to the present System of Agency.

Fort St George 11th April 1771

transmitted therewith, for supplying
Gun Powder by Contract, and, under
the best, and fullest information that
could be procured, as well in respect
to the advantages, and disadvantages
likely to accrue to the Service from
an adoption of such Proposals, or an
adherence to the System of Agency
under certain restrictions, have
given very attention to the Subject that
its importance demanded — the
result whereof, We have the honor to
report to your Lordship in Council,
to be in favor of the provision of
Gun Powder being conducted by Agency —
but as a material difference of
Sentiment in regard to a performance
in the two modes of Supply has been
expressed in the several Minutes —
delivered on the Subject, We transmit
herewith Copy of each respectively,
(from N.1 to 7) the better to enable
Your Lordship to form a judgement
of

1920 Fort St George 11th April 1797.

At a Consultation

Present

The Right Honble Lord Hobart

Governor President

Lieutenant General Harris
Edward Saunders and
Ernst William Tallosfild } Esquires

Minutes of last consultation
read and approved.

Read the following Letter

From the Military Board

To the Right Honorable Lord Hobart
Governor in Council

My Lord

In pursuance of your
Lordships commands communicated
to us under date the 1st of July 1796, 11
21st January, and 9th of March last,
We have taken into consideration
the several proposals of Mr. Bishop,
transmitted

from the Military Board respecting the Determination of Government in sundry Papers arising out of a Difference of Opinion amongst the 11 members of this Board on the Question whether it would be advisable to accept Mr. Bishop's Proposal for making up Gunpowder on Contract in preference to the present System of agency. —

1921 Fort St George 11th April 1777

transmitted Herewith, for supplying
Gun Powder by Contract, and, under
the best, and fullest information that
could be procured, as well in respect
to the advantages, and disadvantages
likely to accrue to the Service from
an adoption of such Proposals, or an
adherence to the System of Agency
under certain restrictions, have
given very attention to the Subject that
its importance demanded — the
result whereof, We have the honor to
report to your Lordship in Council,
to be in favor of the provision of
Gun Powder being conducted by Agency —
but as a material difference of
Sentiment in regard to a preference
in the two modes of Supply has been
opposed in the several Minutes —
delivered on the Subject, We transmit
herewith Copy of each respectively,
(from N.1 to 7) the better to enable
Your Lordship to form a judgment
of

1922 Fort St George 11th April 1797

of the merits which have been accorded
to the two seperate Methods. -

We take the liberty however
to recommend to your Lordships
in Council, that whether the Saltpetre
provision of Gun Powder shall be
be conducted by Agency, or under
Contract, the particular method of
refining, and likewise preparing,
the various articles of Composition,
as well as the distinct proportions
of the Ingredients used in the
manufacture, shall be regulated
by this Board, subject at all times
to such alterations or improvements
of the process, as it may be found
necessary to prescribe

Having received from the
Military Board at Bombay a
communication of the Proceedings
of a Committee of Officers assembled
at

1923 Fort St George 11th April 1797

at that Presidency for the purpose of taking into consideration the process observed there in the Manufacture of Gun Powder, We accordingly appointed a Committee of our Board to report on those Proceedings, as well as on any former Documents connected with that Subject as might be received from Bengal, and have now the honor to forward for your Lordships information the Proceedings of such Committee, together with copy of a letter from Doctor Berry to Major General Gillespie in regard to the Botanical names of the Plants mentioned by Mr Langhorne as affording the best Charcoal for Gun Powder

We have the Honor to be,
&c &c &c
" Gn: Harris
" Patrick Ross
" Thomas Gells
" W Sydenham
" Jn Richardson
" BW Close
" George Hall

(Signed)

Minute

Fort St George
4th April 1797

1924 Fort St George 11th April 1797

Minute of the Chief Engineer

Major General Ross having
perused the papers sent in Circulation
relative to Mr. Bishop's application to
Government for a Contract for the
Manufacture of Gun Powder, begs to
observe to the Board, that on a View
of Mr. Bishop's Comparative Statement
marked B. under the Head of the
Present mode of Supply" there is an
Error in the Sum Laid out on Repairs
at the Powder Mills for 1794 and 95.
which Mr. Bishop States to be
Pagodas 7178. 41. 30 - whereas, the
actual Expence for Repairs for those
two years, was only Pagodas 4913. 34. 33.

If we look back to the
Repairs that have been made to the
Powder mills from the year 1790 to
the end of the year 1796 both inclusive,
a

1925 Fort St George 11th April 1799

a period of seven years, it will appear that
the sum of Pagodas 7422.26 has been
only laid out. Mr Bishop has taken
the two years 1794 and 1795 when it
so happened, that very considerable
repairs were made, but if he had gone
back to the year 1790, and taken the
amount of the Repairs from that year
to the end of the year 1796, which is seven
years, he would have found by his own
Method of Calculation, that the present
mode of Supply is in favor of the
Company, that Pagodas 1094.10.32 per
month, which will appear very clear
to the Board by the Comparative
Statement that I have laye before
them. -

(Signed) Patrick Ross

23d March 1799

/True Copy/

(Signed) Fred. Pierce

Secretary Military Board

1926 Fort St George 11th april 1797

Comparative Statement of the present mode of supplying
[redacted] ving that Article by Contract, as P. M.

Present mode of supply -
600 Barrels, or 72 Candy of 11 Month on average
of Pagodas 30 P. Candy . . . . . 2160 " " — 2160 " "
Repairs of the mills from the year 1790
to the end of 1796, / 6 the inclusive /
is 7 years, the whole amounting to . . . 7402 28 11
which Sum divided by 7 quota's
makes a mean of one year's Repairs . . 1060 16 2
A Ton the part of the latter Sum is the
proportion of expense for 72 Candy
as above, and gives 106 1/48

2266 1/48

Balance in favor of present mode Supply 109 10 32

Pagodas . . . 2376 " " —

Fort St George
22d. March 1797

/ Signed

1927 Fort St George 11th April 1797

Gun Powder, with the proposed Terms of Furnish=
Bishop's Statement. Fort St George

Proposed Method of supplying by Contract=
600 Barrels or 72 Candy, p. Contract, at Pag.e 33=
p.r Candy, Repair included, is — . . . . . 2376 " "

Pagodas . . . 2376 " "

Patrick Ross

True Copy
(Signed) Lord. Duree
Secretary Military Board

Minute

1928 Fort St George 4th April 1797

Minute of the Military Auditor General, Jr.
Meeting 30th March 1797 —

Having perused with attention the Letters of Government, on the subject of providing Gun Powder by Contract, and having also considered the Minute, and Statement of the Chief Engineer on the same subject, I am of opinion, that the present System of making Gun Powder by an Agent of Government is in all respects preferable to a Contract, for the following reasons —

1st Because the Company have a better security that the Powder will be composed of the best Materials, as the Agent is not restricted as to price, and having a liberal Salary allowed him, delivers in his accounts upon oath, consequently can have no

Fort St George 11th April 1797

no Interest whatever in the provision of any of the articles employed in the manufacture.

2d Because it has been found at Bengal, that a well regulated Agency is perfectable to a Contract, and as the System of that Presidency is intended to be generaley followed here, there is no good reason I apprehend for a deviation in the present instance.

3d Because it is a principle of the Bengal Regulations, equaley applicable to this Coast, that no Commissary, or other ordinance Officer, shall have any concern in the Provision of any article intended for the use of the Arsenal, or Magazines, but be a check on the Quality of all Stores delivered by the Agent, and Commissaries of supplies - under this Regulation, I am of opinion Mr. Bishop cannot consistently be employed as a Contractor. —

And

1930 Fort St George 11th April 1797

4th And lastly, because it appears from the Chief Engineer's Statement, that the Company would not save any thing in point of expence by a Contract, but be rather gainers by continueing the present System of an Agency —

Notwithstanding the objections which I have thus stated to Mr Bishop's proposal, It is only justice to him to say, that I believe him to be a better qualified, from the experience he has acquired in a long attendance at the Powder manufactory, than any other person, to superintend the making of this article in future; and I would therefore recommend that it be submitted to Government whether, it might not be an advantage to the Service, that Mr. Bishop should be employed as an assistant to the agent upon an adequate

Fort St George 11th April 1797

adequate Salary, and to be invested with the interior charge, and Management of the Gun Powder Manufactory, but to have no concern whatever, in providing materials, in the hire of Workmen or Servants, or in the Disbursement of any Money expended on the Manufactory, all which should continue in the Agent as heretofore, and his accounts be settled according to the existing Regulations. Under this arrangement the System at Bengal may be accepted here with full effect, and connected with the necessary Security to the public, & our Bishop will have, what I have no doubt he will deserve, a suitable Reward for his Trouble. –

The Report of the Committee appointed to consider the best mode of preparing the Ingredients used in making Gun powder, in reference to the annual communications on

1932 Fort St George 11th April 1797

on the subject from Bengal and
Bombay, is highly satisfactory, and
cannot fail of improving the future
manufacture of Gun Powder at this
Presidency, nor can there be a
doubt of the necessity of an alteration in
the present Home Extenders, as
proposed by the Chief Engineer, it
having been found in England
that most of the accidental explosions
at the Powder Mills have been
produced by the Collision of the
Chips which break from the Edges
of the Stone Rollers, and it is
therefore probable that some of the
accidents which have happened
at Madras, may have been
owing to the same cause.

(Signed) W. Sydenham
Mily Audr General

True Copy (Signed) Thos. Pearce.
Secretary Military Board
Major

1933 Fort St George 11th April 1797

Major General Gills gives his opinion in favor of a Contract for the following reasons.

That if the proposal submitted to the consideration of this Board is accepted, it will save the Company one Lac Pagodas 27,702. 10. 40. as is proved by an Account now laid before the Board. No. 1.

On an attentive Examination, and Enquiry into this subject, I find that Mr. Bishop had materially mis-stated the present situation of Gunpowder for Carnatic, by not having the means of adding any more than two years Supply into his accounts, but it appears at the same time, That he has not taken into his account a number of contingencies actually disbursed by the Company, and which, would have made his proposal evidently appear more advantageous. — I have drawn also

to

1934

Fort St George 11th April 1797

to believe, that the account of Repairs
given in by Major General Ross
does not embrace the extent of them, for
I recollect the Mills undergoing very
heavy Repairs during Mr. Pettie's
Contract, and I am tolerably clear, that
if the Expence of Repairs to the Company
was taken on an average for Ten, or
Twelve years back, they would appear
as much, or probably more, than Mr.
Bishop has stated them at - with -
out discovering however, to so distant
a period, I wish admit the Expence
of Repair to be what Major General
Ross has stated it at - But I take the
liberty to introduce into the account
such contingencies as have been
omitted by Mr Bishop - The actual
Cost of Gun powder by the present
mode of Provision, will then be
what is stated in Paper Marked C.
which proves a saving to the

Company

1935 Fort St George 11th April 1797

Company of Pagodas 297 - 25. 40. ins
one months Provision of 72 Candy

The quantity of Gun powder
imported annually from Calcutta, is
particularized in Paper marked A. —
The importation of so large
a quantity of Powder is attended with
an additional Expence to the Company
I am told of about 30 pr. Cent; and
the risque attending such importa =
tation is also very considerable —
Exclusive of those considerations, which
however to me appear weighty, to a
persist in being dependent on a
distant Providency for an article
of such immediate consequence, when
so fair an opportunity is offered of
relieving us from the inconveniency,
must carry with it the appearance
of some thing strange, and unaccounta =
ble — another matter of some con =
sideration is, the Bengal Powder is

Past

1936 Fort St George 11th April 1797

not so good as that Manufactured
at Madras, as I prove by the Report
of the nature of Powder now laid
before the Board marked B. and
I have very reason to conclude, that by
adopting the mode recommended
by the Committee of which I was
President, the quality of the Gun
powder will be superior to what
it ever was at any former Period

A Contract simplifies every
thing, reduces the Price to a Certainty,
and the accounts are kept in one
single Line, while on the other
hand, an Agency not only
involves a confusion of Accounts,
but is open in a very extensive
degree to speculation - for although
an Agent might be subjected to
an Oath, the business would be
conducted

1937 Fort St George 11th April 1797

conducted by his Debash, and as the
agent would be obliged to depend on
him for the truth of every thing, he would
not attend to so dangerous a business
without by some means or other, taking
care to be well paid for the risque he
run. The Price must unavoidably
vary as the Prices of Materials alters
and to alter those as often as possible,
would be the Dubashés particular
care.

Mr Bishope has attended all the
Brite above Ten years without any
advantage, but on the contrary, he has cost me
a considerable Expence in the course
of that time for Convayances. He has
made many Improvements at the
Works, and from the Manner in
which he conducted some Experiments,
I invited him to make, convinces me
he is master of the subject, and as
I know of none other person that is,

and

1938 Fort St George 11th April 1797

and see the necessity of a Person of
Integrity informed being at the Head
of the Manufactory, and whether
it is an Agency, or otherwise I beg
leave to recommend Mr. Bishop as
the only proper Person, I know of,
qualified to manage the Concern. —
From the foregoing reasons which I
can carry conviction on the face of them,
I give decidedly my vote in favor of a
Contract, and recommend that
it be immediately sent in to Govern-
ment, with the Report of the Committee
— as the delay has already been very
prove highly injurious to the
Public Service. —

(Signed) Thomas Guils

Ft. Thomas Mount
29th March 1797

Subscribed to the above
(Signed) G. Hall
G. Stones

(True Copy)
(Signed) Fred. Pirac
Secretary Military Board

Statement

Statement of the advantage arrising to the Company from making use Gun powder by Contract to such an Extent as will prevent the necessity of importing it from Calcutta, and exhibiting at one View, the Total advantage obtained by the Company, by accepting Mr. Bishop's proposal.

The amount of 5 years importation of Gun powder from Calcutta, at 43 Pag.s pr. Candy, if traced from the account particular marked A. 101,469 10 40

3600 Candy in 5 years, by the present mode of supply at 34. 5. 48 per Candy as provided by proper C. is . . . . . 122,880 " "

Pagodas . . . 224,349 10 40

2359 Candy, 15 maunds, being the quantity of three years importation from Calcutta, " made by Contract for Pag.s 33 the Candy 77,847 " "

3600 Candy, Provision as at present pr. Contract at 33 Pagd as per Candy . . . . . 118,800 " "

Balance in favor of the Contract . . . 27,702 10 40

Pagodas . . . 224,349 10 40

Mount 27th March 1797.

Signed Thomas Bails

True Copy

(Signed) Fred. Price

Secretary Military Board

Gun Powder

1940 Fort St George 11th April 1799

Gunpowder imported from Bengal in Five years

year	Month	Ship's Names.	Barrels 100 lbs
1790	March	Lord Cornwallis	750
"	"	Juno	750
"	April	Warren Hastings	500
1791	January	Snow Anna Eliza	1500
"	"	Success Galley	500
1792	April	Ship Liverpool	1799
1794	October	Ship Success	800
1795	January	Europa	800
"	April	Mary	1400
1796	February	Laurel	1000
"	March	Mercury	2000
		Total Received	11799 which

Divided by Five, gives for the annual

Importation 2359 4/5 100lbs Barrels. - or

Candy 471, Maunds 19 - which, at "

43 Pagodas the rate it costs the Company -

amounts to an annual Expence of Pag. 20293,3556 -

St Thomas's Mount (Signed) Thomas Guils

27th March 1799.

True Copy

(Signed) Fred. Price

Secretary Military Board -

Madrass

Medium Ranges made by a 10 Inch Mortar, Loaded each time with two Pounds of Powder at a Proof ordered by the Military Board to be made at St. Thomas's Mount - the Report of which is lodged in the Board's Office -

			Medium of three Medium Ranges
August 15th 1796	Madras fine Powder	1196 1/3	
do 17th do	Madras Medium do	1179	1173 4/36
" " "	Madras Coarse do	1144 2/3	
St Thomas Mount			
August 18th 1796	Bengal fine Powder	1168 2/3	
	Bengal Medium do	1097	1137 12/36
	Bengal Coarse do	1145	

38 yards, and 28/36, in favor of the Madras Powder. It is to be observed that the above Ranges being all Mediums of three Discharges, must determine to a great degree of accuracy the real Strength of each Kind of Powder -

(Signed) Thomas Gisborne
Lieut. Colonel

Mount
27th March 1797

True Copy
(Signed) Lord. Bruce
Secretary Military Board -

1942

Fort Monroe 11th April 1799

As so much has been offered
on the merits of Mr Bishop's
Proposals I am reluctant to trouble
the Board with further observations
on the subject, at the same time, as
the Statements submitted by the Chief
Engineer the Commanding Officer
of artillery, and Mr. Bishop, differ
materially in their results, it seems
necessary that some examination
should be made into the grounds
from which those results have been
respectively drawn.

I believe it is granted by every
Member of the Board, that by the
Agency system, as much Powder
may be manufactured at this
Presidency as to obviate the necessity
of ever drawing supplies of this
Article from Bengal - in forming
a comparative Statement therefore,
of the expence of the present system,

and

Fort St George 11th April 1797

and that to be incurred by the proposed Contract, the Article of Freight from Bengal should not be allowed to form any part of the expence chargeable on the Agency nor the hazard of loss from the passage, be used as an argument unfavourable to its continuance.

The retrospect on which Mr. Bishop has founded his average of the Monthly expence of repairs to the Powder Mills, is evidently too confined to be unexceptionable, whilst that taken by the Chief Engineer, and adopted by the Commanding Officer of Artillery, must be allowed to be sufficiently extensive and satisfactory.

The Commanding Officer of Artillery charges on the Agency the Monthly expence of one fourth

part

1944 Fort St George 11th April 1791

part of the Salary allowed to the
Storekeeper - whether the adoption
of the proposed Contract would be
attended with a diminution of
the Storekeepers Salary is uncertain,
nevertheless, as the Contract would
operate to relieve him from a
certain share of responsibility
and trouble, a decrease of his Salary
may, I think, be recommended upon
as a ground for calculation,
and if this be admissible, the
proportion of decrease assigned
by the Commanding Officer of
Artillery does not appear to me
to be unreasonable -

The Commanding Officer
of Artillery has charged on the
Agency, on the score of repairs for
the last seven years, that is from
1790 to 1796, both years inclusive,

the

1945

Fort St George 11th April 1797

The Sum of 2000 Pagodas as
nearly the amount now requisite
to put the Mills in a complete
serviceable State, with the additions
of the Metallic Beds for the Cylinders
as those repairs were actually
wanting in November 1796, and
for the communication of the service,
should have been completed without
delay, the Commanding Officer of
Artillery applicant hereto takes Leave
warranted in placing the above
Sum to the account of repairs for
the last 7 years - with the exception
only, of the part of it (about 400 Pags)
to be allowed for the expence of the
Metallic Beds, which being lately
thought of, and likely to have
an economical effect in future in
preventing explosions, should be
carried to the accounts of the present
and ensuing year. -

1946 Fort Stanwix 11th April 1797

It must further appear, I think, that the Commanding Officer of Artillery is fully justified in charging the Agency with the Expence of the Servants he has detailed in his Statement - The Disbursement of their monthly pay, I understand, appears on the public Books - and on reference to Mr. Bishop it will appear, I believe, that no part of their pay is included in his Estimate of 30 Pagodas per Candy, as charged by the Agency -

If the Board concur therefore in the foregoing observations, it will appear that the grounds of the Statement C submitted by the Commanding Officer of Artillery, are nearly as accurate as the present examinations require - The exception offered in regard to the expence of the Medical Men is scarcely of weight enough

1947 Fort St George 11th April 1799

enough to be noticed. There it is to be remarked however, that although the grounds of the Statement in question are found to bear the test of a close inspection it is not so in regard to the result which the Commanding Officer of Artillery has drawn from them. The gives us a Monthly balance in favor of the Contract amounting to Pagodas 297.25.48 Cash stating the cost of 600 Barrels or 72 Candies per Contract at Pagodas 33 per Candy at Pagodas Two Thousand one hundred and sixty /2160/. whereas it should be Pagodas 2376.-.- leaving a monthly balance in favor of the Contract amounting only to Pagodas 81.25.48 a result scarcely so favorable as to give a preference to the Contract merely on the ground of Economy - Under this view of the Contract my opinion must be for continueing the Agency as recommended both by the Commander on the Manufacture of Powder

1948 Tow St George 11th April 1797

Powder and the Military Auditor General.

Gun Powder Sanctive is an article, the want of which may of all others be attended with the most serious conse=quences — The Security granted by a Contractor for it may be satisfactory in so far as the assurance pledged, may be separately considered — but the Board will perceive that pecuniary gain may sometimes prove but a poor compensation for failure in the supply of an Article, on the profession, and application, of which the success of the most important objects may essentially depend. —

The Board may have observed that extensive Contracts have seldom been found to answer on the Coast — The Attack Contract, the Contract for Buildings and Repairs as well as the Contracts for Army Carriage, and finding the Cavalry Horses, proved

inadequate

1949

Fort St George 11th April 1797

inadequate to the purpose of the service
and were in course discontinued, and
perhaps in such way extension Concerned
it may be received as a general maxim
that the security afford by an Agency as far
exceeds that afford by a Contract, as the
resources of the public exceed those of an
Individual. –

Should Government then be disposed
to continue the agency the repairs wanting to the
Powder Mills may be completed. The improved process in
the manufacture of Powder may have a satisfactory
trial – and then, if the saving offered by the Contract,
should become an object with Government, the
Contract may commence on distinct grounds.

The Powder mills may be delivered
over to the Contractor in complete repair, and he
may be bound to restore them to the public
at the expiration of his Contract, in the same
perfect serviceable State. –

3rd April 1797 (Signed) B.J Close
A.G.

A true Copy
(Signed) Ford Piere
Secretary Military Board

Comparatur

1950 Fort St George 11th April 1797

Comparative State of the present mode of Supplying Gun
of Supplying that Article by Contract. -

600 Barrels or 27 Candy, p.r Month, on average
at Pagodas 30 p.r Candy ..... 2160 " "

Repair of the Mills from 1790 to 1796 ao per
Major General Ross's account 7122,28.11
Add the Repair at present including
the Metallic Brass for the Cylinder mills — 2000. " — "

Pagodas .. 9122. 28 - 11

One Seventh of this is the Annual Exp=
=pence for Repair 1303 10 1/2
one Tenth of the latter Sum, the proper
=tion for 72 Candy is 1312 5 10
One fourth of the Storekeeper's Salary ... 125 " " — "
Pay of the following Monthly Servants
disbursed by the Company Viz.t
2 Europeans at 8 Pag.s each ..... 16 " " — "
1 Carpenter monthly ..... 4 " — " — "
2 Peons ..... 3 " — " — "
1 Writer ..... 15 " — " — 163 " "

Monthly Expence of 72 Candy of Gunpowder Pagodas 2457 25 10

Fort St George 11th April 1797

1951

Prowder - Compared with the proposed Method

600 Barrels or 72 Candy, p.r Contract, @ 133 Pagodas

p.r Candy is ..... 2160 " "

Balance in favor of the Contract p.r Month 297 25 48

Pagodas 2457 25 48

(Signed) Thomas Giles
George Stone
C.G.S.

True Copy

(Signed) Lord. Pierce
Secretary to Military Board

1952 Fort St George 11th April 1797

Having considered with attention the subject respecting the future provision of Gun Powder, and having read the several Minutes of the Chief Engineer, the Commandant of Artillery, and Military Auditor General I am inclined to consider on the Agency favourable to a Contract.

The Committee of which Major General Gils was President, after having bestowed so much pains and attention in their investigation for improvements in the manufacturing Gun Powder, appear from the reasons they have stated towards the conclusion of their Proceedings to be in favor of an Agency. I therefore am of opinion, that we should, at any rate, defer the recommendation of a Contract until the improvements suggested

1953

Fort St George 11th April 1797

suggested by the Committee shall have
been made, and proved by experiment

In consequence, I think it, of our
having been ordered to adopt a Practice
of Inspection throughout the different
branches of the Service, with the other Presidencies,
and for the reasons stated in the
Minutes of the Military Auditor General,
I am further inclined towards the
practice in Bengal of making Gun
Powder by Agency, and because I consider
it at all times the most certain, and best
way of supplying the Service with the
Necessary Article: and as I have not
heard any reasons, why an Agency
should not be able to supply any
quantity of Gun Powder regularly with
a Contract, I see no reason why we
should

1952 Fort St George 11th April 1797

Having considered with attention the subject respecting the future provision of Gun Powder, and having read the several Minutes of the Chief Engineer, the Commissariat of Artillery, and Military Auditor General I am inclined to consider an Agency preferable to a Contract.

The Committee of which Major General Gils was President, after having bestowed so much pains and attention in their investigation for improvements in the manufacturing Gun Powder, appear from the reasons they have stated towards the conclusion of their Proceedings to be in favor of an Agency. I therefore am of opinion, that we should, at any rate, defer the recommendation of a Contract until the improvements suggested

1953

Fort St George 11th April 1799

suggested by the Committee shall have
been made, and proved by experiments

In consequence, Gentlemen, of our
having been ordered to adopt a Parity
of System throughout the different
branches of the Service, with the other Presidencies,
and for the reasons stated in the
Minutes of the Military Auditor General,
I am fully inclined towards the
practice in Bengal of making Gun
Powder by Agency, and because I consider
it at all times the most certain, and best
way of supplying the Services with the
Ingredients; and as I have not
heard any reasons, why an Agency
should not be able to supply any
quantity of Gun Powder regularly with
a Contract, I see no reason why we

should

1954 Fort St George 11th April 1797

should not, in either case, render
the importation of it from Bengal
unnecessary. —

Under the above considera-
tions, I do not allow the small
balances, so differently stated, in
favor of either of the systems or the
other, to have any influence whatever
in forming my opinion on this
subject — The importance of the
Article should shew us the
prosperity of a continuation of that
mode, which from experience, we
know to be certain, in preference
to a contract, which, if it should fail,
the forfeiture of the Penalty would
afford but little compensation for
the ill consequences the Service
might eventually experience. —

I will agree most readily
with

1955

Fort St George 11th April 1794

with the other Members of the
Board, that whatever Plan Govern-
ment may think proper to
adopt, the experience and acknow-
ledged abilities of Mr. Bishop in
the Process of making Gun Powder,
with suitable encouragement,
may be employed with great
advantage to the Public Service. —

(Signed) John Richardson
Quarter Master Gen.l of the Army

Fort St George
2.d April 1794.

A true Copy
(Signed) Lind.d Pierce
Secretary Military Board

Lieutenant General Harris
has much satisfaction in reflecting
that in our different opinions
whether the Gun Powder shall be
made by Contract, or Agency, that
every

1956 Fort St George 11th April 1757

every one is eager to have it well done —
In this view, Lieutenant General Harris
has given his vote for its being made
by Contract, as that mode secures the
expence without any risque is incurred
— because Contracts are, he knows
always understood, much the wish
of the Court of Directors; and finally,
as he has the strongest persuasion
that no Contract will be granted by
the present Government but under
such security as this Board shall
report ample, in their opinion,
to secure the Powder being well
made, and the Company safe from
loss

And Agency he conceives objectionable
1. As liable to delays from the Agent not
being so interested as a Contractor, or
equally responsible — To continued H
variations

1957

Fort St George 11th April 1797

variations in price of Materials and
as it must ever involve a Multiplicity
of accounts, almost impossible to trace.—
As some proof of this last
reason against an Agency — it does not
appear at this moment to Lieutenant General
Harris, that the Board are in possession
of documents to shew the exact expence
of Gun Powder under the agency for
the last ten years, or perhaps any one
of them — at the same time, it is to be
observed from what is known, that
all the calculations appear to prove
the Agency higher than the proposed
Contract, with very vague remaining
on the Company in addition. —
To this Lieutenant General
Harris conceives may be added, but
if he is in an error he will be much
obliged to any Member for setting him
right,

Fort St George 11th April 1797

right, That under an Agency, the
Materials will be probably drawn
from so great a variety of Offices,
and the repairs and labour performed
by such various descriptions of per-
sons as to render
it very difficult to bring the whole
expence clearly in one point of view,
or for an Agent to be any check
on the expence, was he so inclined, but
but which, as he will probably be
only entrusted for the effect, it is
not likely he should care much
about, even allowing he has not a
finger in the Disbursements. -

Lieutenant General Harris
cannot conclude without observing
for the notice of Government, that
Mr. Bishop, who proposes for the
Contract, appears to be returned by all
the

1959

Fort St George 11th April 1797

The Members of this Board are employing such abilities for executing the undertaking as fully to entitle him to every encouragement from Government, and in whatever manner they may have to employ him. -

A True Copy

(Signed) Jno D. Paine

Secretary Military Board

As it will no doubt afford the Board satisfaction, and enable them to form a more correct judge-ment on the merits of the present subject, to be informed of the exact value of Gun Powder to the Public during Mr Petrie's contract, I have to state from good authority, that its actual cost to the Company was no

P. T. 6

less than 42. 2 - 20. as may be ascertained

1960 Fort St George 11th April 1797

ascertained by having reference to the
Contract itself - one Rupee daily to Serjeant
Fielder, and all repairs of the Powder Works
borne by the Company; besides which, if taken
at an average of 1000 Pagodas annually, he
make the most coolamount to nearly
45 Pagodas per Candy, so that when it is
considered, that Mr Bishopé proposal goes
to embrace the whole of this expence, and to
furnish Powder that shall not only stand
the usual proof, but shall be always
unexceptionable, I do not see any good reason
against sending up Mr. Bishopé proposal
to Government, with the Board's recommen
dation, provided no other person comes
forward with an offer to furnish Gun
Powder upon more reasonable terms than
are proposed by that Gentleman.

(Signed) Thomas Gisborne

Mount
11th April 1797

Subscribed to the above Minute
A true Copy (Signed) G. Hall
G. G Stores
(Signed) Fred. Pierce
Sec'y Military Board

1961

Fort St George 11th April 1797

General Ross acquainted the Board that he has been informed by Colonel Grant, the repairs to the buildings at the Powder Mills, included in his Estimate of Pagodas 1,617.2.76. are nearly completed; as these repairs constitute a great part of that Estimate, and of the 2000 Pagodas introduced into the Commandant of artillery's Statement, any comparative view wherein they are included, must now be incorrect.

That Statement is a part, as it appears from the Proceedings of the Committee on the manufacture of Gun powder, that the present state of the manufacture of that article requires improvement. - Upon this opinion, that we should, in the first instance, request that Committee to lay before this Board, all such improvements, and alterations, in the proportions, and methods

of

1960 Fort St George 11th April 1797

ascertained by having reference to the
Contract with one Rupee daily to Serjeant
Fielder, and all repairs of the Powder Works
borne by the Company; besides which, if either
make the most cost amount to nearly
45 Pagodas per Diem, so that when it is
considered, that Mr Bishop's proposal goes
to embrace the whole of this expence, and to
furnish Powder that shall not only stand
the usual proof, but shall be always
unexceptionable, I do not see any good reason
against sending up Mr. Bishop's proposal
to Government, with the Board's recommen-
dation, provided no other person comes
forward with an offer to furnish Gun
Powder upon more reasonable terms than
are proposed by that Gentleman.

(Signed) Thomas Giles

Mount
11th April 1797

Subscribed to the above Minute
A true Copy (Signed) G. Hall
G. G Stores
(Signed) Fred. Pierce
Sec'y Military Board

1961

Fort St George 11th April 1797

General Ross acquaints the Board that he has been informed by Colonel Gent, the repairs to the buildings at the Powder mills, included in his Estimate of Pagodas 1,617.28.76. are nearly completed, as these repairs constitute a great part of that Estimate, and of the 2000 Pagodas introduced into the Commandant of artillery's Statement, any comparative view wherein they are included, must now be incorrect.

Best Statement to a part, as it appears from the Proceedings of the Committee on the manufacture of Gun powder, that the present state of the manufacture of that article requires improvement. - Soon of opinion, that we should, in the first Instance, request that Committee to lay before this Board, all such improvements, and alterations, in the proportions, and methods

of

1960 Fort St George 11th April 1797

ascertained by having reference to the
Contract itself - one Rupee daily to Serjeant
Fielder, and all repairs of the Powder Works
borne by the Company; besides which, if either
of the two Proposals annually will
make the most cost amount to nearly
45 Pagodas per Candy, so that when it is
considered, that Mr Bishop's proposal goes
to embrace the whole of this expence, and to
furnish Powder that shall not only stand
the usual proof, but shall be always
unexceptionable, I do not see any good reason
against sending up Mr. Bishop's proposal
to Government, with the Board's recommen-
dation, provided no other person comes
forward with an offer to furnish Gun
Powder upon more reasonable terms than
are proposed by that Gentleman.

(Signed) Thomas Pitts

Mount
11th April 1797

Subscribed to the above Minute
A true Copy (Signed) G. Hall
G. G Stores
(Signed) Fred. Pierce
Secy Military Board

1961

Fort St George 11th April 1797

General Ross acquaints the Board that he has been informed by Colonel Grant, the repairs to the buildings at the Powder Mills, included in his Estimate of Pagodas 1,617.28.75. are nearly completed; as these repairs constitute a great part of that Estimate, and of the 2600 Pagodas introduced into the Commandant of Artillery's Statement, any comparative view wherein they are included, must now be incorrect.

That Statement is a part, as it appears from the Proceedings of the Committee on the manufacture of Gun powder, that the present state of the manufacture of that article requires improvement. - Some of opinion, that we should, in the first instance, request that Committee to lay before this Board, all such improvements, and alterations, in the proportions, and methods

1962 Fort St George 11th April 1797

of preparing the materials for the fabrication
of Gun powder, as have been the result of
their investigations, that this Board may
be if necessary, enabled to direct such further
experiments as shall be deemed requisite to
ascertain what the improvements required to be
made in the manufacture of Gun powder, should
be, either in the hands of our Agent, or Contractors

And as the Powder Mills require
repair and Improvement - I am further of opinion
We should not lose a moment in applying to
Bengal for every information they can give
Us on so important a subject. - particularly
for the size, composition of, and manner
of casting the metallic Cylinders, that
have been found to answer their end, and
that We should in the mean time, cover
the Flat Stone, now in use, with a
metallic composition that will secure,

from

1963 Fort St George 11th April 1797

from danger, the People employed

As neither the Experiments it may
be necessary for us to make, for the improvement
of our Powder, nor the Expence that may be
required in perfecting the Mills, can be
brought within the provision of a Contract
I am decidedly of opinion, the Company should
not now be tied down, by a Contract, to any
specific mode of prosecuting such Essential
improvements — and that the business
should, as heretofore, be conducted, under the
Direction of this Board, by an agent until both
manufactures, and Mills, are perfected

(Signed) Babcock Prof

Chief Engineer

/True Copy/

(Signed) Jno. Pierce

Secretary Military Board

Minute

1964 Fort St George 11th April 1797

Minute of the Military Auditor General

In Meeting 3rd April 1797.

The Military Auditor General

is happy to have further grounds to judge
of the effect in point of Expence between an
Agency, and a Contract, for the manufacture
of Gun powder, but although the result
of an examination of the Statements laid
before the Board by the Chief Engineer
and Commandant of Artillery, have
shown the difference to be Pagodas 81.25-48
in favor of the latter, yet this circumstance
does not induce him to alter his former
opinion on the subject, as well for the
reasons expressed in his minute at the
last meeting, as those which have
been now offered by the Adjutant
General

1965 Fort St George 11th April 1797

General, to which he gives his entire concurrence

(Signd) William Sydenham

Military Auditor General

True Copy

(Signed) J. W. Paine

Secretary Military Board

Choultry Plain 8th October 1796.-

At a Committee of the Military

Board assembled for the purpose of

the consideration of certain Papers,

on the subject of the Powder Manufactory,

at Bengal & Bombay, and to suggest

such improvements, from a comparative

View of the Process here, as may occur

to the Committee, can be introduced,

in

1966 Fort St George 11th April 1797

in the Manufactory of Powder, at this Presidency.

Present Colonel Gulls - Commandant of Artillery

Lieut.t Colonel Grant - Chief Engineer.

Lieut.t Colonel Hall - Commissary General

and Doctor Andrew Berry who have been required

to assist in case of any points in Chemistry,

or of ascertaining the Plan to be entered in

the Paper from Bengal, as proper for

making Charcoal.

The Committee are of opinion, that

it will conduce much, to the regularity of

their proceeding, to enter the processes of

the different Presidencies at length, beginning

with Bengal, and concluding with the

mode of conducting the Powder Manu-

factory at this Presidency and Bombay

following the latter up with such

proposals, or suggestions as may occur

to

1967

Fort St George 11th April 1797

to them, for the Improvement of the Powder Works after an attentive perusal of the whole; and to this end, they request of the President, to have the several Proceedings entered, by the next meeting of the Committee, which shall be on Saturday the 15th Instant, and on the want of the Papers being ready Services to that period, that they be sent in Circulation to the different Members.

Answers to Questions proposed by the Military Board to the agent for the manufacture of Gun Powder.-

1. To state the species of Woods

Different Woods yield, when charcoal coals of different good qualities which I have never found perfectly united in any one. The Euphorbia Tirucalli or Lemaie, called Nanthaum by the Bengalees, was in use at Arcot, & Works Vile about the year 1779 or 80, and from

1968 Fort St George 11th April 1771

from it may be made a Powder of a
hard grain, and consequently easily
cleaned and well fitted for keeping, but
of inferior strength to that which is made
from the Coals of several other plants of
the same Kind as the Asclepias Gigantea
(achoon of the Bengalese) which affords
a better Coal, The Dianthera Malabarica
Linn. (Bark of the Bengalese) affords
a still better Coal, and is produced in
considerable quantity, whereas the last plant
is rather scarce, about the above time,
the Ocrop of the Bengalese, was introduced
from the Coast of which a very strong Powder
may be made, but of a soft grain, and
consequently dusty, - It is I believe (for it is
now in flower) the Dolichos Soja Linn.
is an annual Plant which produces a
white

1969 Fort St George 11th April 1797

white and soft with a smooth skin like the Pea, and when split is the common Dole of India: I am informed that it is + called at Madras Toogri or Toobri; although it may be difficult or perhaps impossible to detect that principle in any plant upon which certain qualities of its seed depend, yet I have made an observation which cannot fail of being of great practical use, that Plants of the same botanical character, yield seeds of nearly the same properties, for instance, that every Plant of the Class and order Diadelphia Decandria Linn. which I have subjected to experiment has produced an excellent Oil, they are the above one, the Dunicha (Mimosa an annual Plant (not now in flower) used here for browning the bottoms of ships and Boats, and

Fort St George 11th April 1797

and from the bark of which a strong Rope is made, the Jeetee of the Bengalese (the Jeetie I am informed is called at Madras) which I found not so in Jamaica, but when young a strong resemblance of the former, it is however a perennial Plant of the quickest growth of perhaps any in the world, as it acquires the size of a considerable Tree in the space of a few months, and may therefore be cultivated with great advantage, for the above purpose or as wood for common fuel, where that is scarce. The Powder made from the Charcoal of this Tree is at least as strong as that made from either of the above two, and has the advantage of being of a harder Grain and less dusty. The Guilandina, Moringa Linn/ called by Sirgana by the Bengalese/ yields also likewise a good coal, and grows in India every part of India — But

of

1971

Fort St George 11th April 1791

of all the plants of this order the common
Indigo, Indigofera tinctoria Linn, affords the
most excellent Coal, during my residence
in the Salem province Burbhoom in 1780 and
81, I found that the native prepared the Coal
made from a Bush called by them Moorelle
Kanta, that is Morelle Thorn, to all others,
and on trial I found that the Powder made
from it unites the strength of that made from
the arrar with the hardness of Grain and
other good qualities of that obtained from the
Nim Kaya. The use of it has therefore been
adopted by this Government exclusively Sale
where where procured in sufficient quantity
It is a mimosa which grows to the height
of five or six feet, but for want of botanical
Books, which in the hills, I cannot say
whether it be described or not, it is probable
however

1972 Fort St George 11th April 1797

however that it is common in the v
hilly Countries of the Deckan, as I have
observed a striking similarity between
the Vegetable as well as mineral -ff
Productions of Burbhoom and v
Ganjam. -

2nd The Bush of whatever kind is v
carried as soon as possible after cutting,
to the burning yard, when the Tops are
cut off and rejected; the Bark peeled off
and likewise thrown away an operation
which becomes troublesome if the v
Bush has been suffered to dry - It is then
cut into pieces of 2 feet in length, and
if the Diameter exceeds 2 inches, is split
and then piled up in form of a wall, as
new made Bricks are set in order to v
dry, the greatest care should be taken v
to

1973

Fort Pelham 11th April 1797

to reject every piece that appears to be in the
least degree decayed or worm eaten. — When
thoroughly dry, some pieces are set upon
their ends in the Centre of a circular area, or
near the previously prepared by raising round the
and beating it well in the manner of the
Hause of a Cask, so as to leave a hollow of 3
or 4 Inches in Diameter at top, and some
thing more at bottom round the sides of this
hollow truncated cone, are placed three Billets
in a vertical position, their heads inclining
towards the centre, and so on till the bottom
of the Pile has acquired a Diameter of
7 or 8 feet — over this a layer is formed by
placing the Billets horizontally, and over
that another in the perpendicular position,
as at first, and so on alternately till the
Pile be completed, which may be at the
height of 6 feet, always taking care to

continue

1974 Fort St George 11th April 1771

continues the hole in the middle (which
is to be the Chimney) up to the top. The Pile
is now covered with straw, and that with
refuse ashes Coal and coal dust, and
the whole with sods. - Fire is then thrown
into the Chimney, which setting to the bottom
kindles the Pile in the centre of its base, holes
being made through the bottom coating
for the admission of air which are stopt
carefully closed when it appears that the
fire has catched. -

As the fire ascends the pile contracts,
and leaves cracks in the coating, which
are to be filled up with refuse Coal, and
covered with earth. It must constantly
be attended day and night, till the
operation is finished, which is known,
when no more smoke or vapours
appear to rise, when the heat diminishes
and

1975 Fort St George 15th April 1797

and when the Pile has subsided to a siege,
which is known by practice, it is then
to be carefully covered up with the dust
of the yard, and lays till almost cold, when,
if the process has been well conducted the
coal is found of a pretty fine figures of the
Billets before Charring, of a shining black,
and sonorous when struck: The appearance
of Ashes, indicates the admission of air
through crevices, and greater care must
be taken in future to reduce it.

I have observed that the proportion
Billets yield about 1/7 of their weight of
Charcoal; It is obvious however that
this proportion must be subject to great
variation according to the kind of Wood
and degree of dryness, it is impossible to
say what the loss on the rough Billets is,

1974 Fort St George 11th April 1797

continues the hole in the middle (which
is to be the Chimney) up to the top. The Pile
is now covered with straw, and that with
refuse small Coal and coal dust, and
the whole with sod. - Fire is then thrown
into the Chimney, which falling to the bottom
kindles the Pile in the centre of its base, holes
being made through the bottom coating
for the admission of air which are toles
carefully closed when it appears that the
fire has catched. -

As the fire ascends the pile contracts,
and leaves cracks in the coating, which
are to be filled up with refuse Coal, and
covered with earth. It must constantly
be attended day and night, till the
operation is finished, which is known,
when no more smoke or vapours
appear to rise, when the heat diminishes
and

1975 Fort St George 11th April 1797

and when the Pile has subsided to a siege,
which is known by practice, it is then
to be carefully covered up with the earth
of the yard, and left till almost cold, when
if the process has been well conducted, the
coal is found of equally the figures of the
Billets before Charring, of a shining black,
and sonorous when struck. The appearance
of ashes, indicates the admission of air
through crevices, and greater care must
be taken in future to prevent it.

I have observed that the preparing
Billets yield about 1/7 of their weight of
Charcoal; It is obvious however that
this proportion must be subject to great
variation according to the kind of Wood
and degree of dryness, it is impossible to
say what the loss on the rough Beech is,

1976 Fort St George N. 16 April 1777

is, both for the same reasons and because
all pieces of a less Diameter than the latter
singer are rejected, besides the Tops and
the Bark. Nought to be observed that the
Orrs both and some other, cannot be
barked - great caution is necessary against
the infidelity of Servants, who will
otherwise receive a different Kind of
Buck from that which the Contractors
were bound to deliver, and after it
burning, it is impossible to detect the
fraud, and on the whole the manufac-
turers will always find the provision
of the best Kind of Coal, to be the most
troublesome part of his business. The
Pile being cold, the Coating is removed,
and every bit of Coal is seperately
examined, & all the Morotty and brown
or ill burnt pieces rejected, the former
contented by the latter for a fresh Pile. It is

When

1777

Tom St George 11th April 1777

When carried to the grinding House it
where it is weighed and undergoes a viscous
examination, in case any ill humour
prices should have crept the motive of
the Burners +

3.d - During the raising season, or if the
Coal has been kept in stove any considerable
time, it requires to be dried, or at least
dried in a proper spell Soon before it is +
carried to the mill. The quantity of 30 or +
32 lb is then thrown upon the upper +
part of the bed of a mill with two vertical
Cylinders which I need not describe, as
a full description is given by +
Watie of its construction in
another person - It is kept there till +
reduced to a coarse powder, which +
frequently requires to be dried over again,
and is then put into very fine wire +
or horse hair sieves, and all that passes
thro

1978 Fort St George 11th April 1797

There is ready for the composition, the
coarse powder is carried back to the mill
and the same operations repeated, care should
be taken however not to continue them
too long as the particles of sufficient texture
are found to have been left imperfectly
burnt and are therefore to be thrown
away. —

4th — The Salt Petre of Oude, known in
Commerce by the name of Khausjore Salt
Petre, I have found much superior in quality
to any other, containing much less earth and
other impurities, and to less common salt
what are still worse perhaps in much
less quantity of earth with Magnesian
base, but this salt is subject to great
variation — In 1783 and 4, it was of
an excellent quality and what is of still
greater consequence in this Manufacture
of an uniform quality, it afterwards degenerated
greatly. For three years past some very
good)

1979

Fort St George 11th April 1797

good parcels have occasionaly been brought
to market, but not in any considerable &
quantity, unless bespoken on purpose. How-
ever the Patna Salt Petre may be purified
so as to equal the Khaumpore, is no part
of the present question. –

5 – 600 ℔ of very pure Water, being put
into a Copper Boiler and a fire made
under it 11 ½ m^s^ or 1045 1/3 ℔ of Khaumpore
Salt petre are thrown in, when the solution
begins to boil part of the impurities
rise and float on the surface, they &
are scummed off and cold water is
added the nothing more appears to
rise, it will then be found that
about 1560 ℔ of water has been used
including the 1st 600 ℔. That is to say
that the water requisite is six
sixgesimal to one

1980 San Giorgio 11 April 1797

sesquialtterate of the rough salt Petre,
a proportion greater than that which
is supposed necessary by some authors,
but which I have not been able to reduce
the solution being boiled down to ascertain
Mark on the Boiler, is drawn off into
an inverted Tub capable of containing
the whole, / that is a Tub with the bottom
at the wide end, which has a Cock at
the height of 3 inches from its bottom /
it is then closely covered, and when all
the heterogeneous particles of greater
specific gravity, than that of the
solution, are settled to the bottom / which
is known by drawing off a little of
the solution and observing whether
it be perfectly transparent / it is
drawn off into a large Copper Basen
with handles and distributed among st
the

1981 Fort St George 11th April 1797

The Cooling Basons which are of Copper
24 Inches in Diameter, and 10 or 11 in
Depth, the Basons are then covered
and set in the Coolest place till the
Christals of Nitre appear to have
formed, the solution is then poured
off and the Basons set on their Edge
in pairs, so as to support each other, over
a trough, which has a small degree
of inclination towards a Reservoir—
They remain in this position while
any water drops from them. The Crystals
are then collected, and if the rough Salt
Petre, is of a very good quality, that
part of the Cake which is nearest the
surface, the rest is put aside to be
boiled again, the solution poured off
from the fine Crystals is carried to

then

1982 Tan George 11th April 1797

other bodies and incorporated like a fusible
efflorescence on the surface. It is then procured
into the cooling pans, without stopping
when the inverted Tube and guide are im-
" pure Nitre, which must again be
refined. From the above account,
it appears that this operation / or "
is done any number of times continued
in succession) affords only an "
approximation towards purity, and
resembles the operation of extracting the
air from a reservoir which can never
be perfectly exhausted, however long
the engine may be wrought, nor "
does Chemistry yet afford a Direct,
method of separating different salts "
mixed together, the knowledge of
which fact will account for the "
difficulty of being able to assign the
loss in the refining of the Salt Petre.

&c

1983 Fort St George 11th April 1797

In a solitary instance out the first Crystals may be accounted pure, the solution will be boiled down again and the produce obtained from it again refined, but never so often in an extensive Manufacture - In November 1782 I tried the experiment on Tr. Wt 642 11-4 of rough Khaunpore Salt petre which yielded onaunces 462 29, or nearly 72 per Cent, but the remainder yielded, with other Salt Petre water a considerable quantity more of refined nitre, again when the Case is doubled from the results of the Manufacture it is evidently combined with extraneous circumstances such as petty thefts, wastage in grinding and shifting &c. which cannot be ascertained the Eye on staining is easily found &

is

1984 Fort St George 11th April 1797

is not less than 3½ per Centum when
reduced to a fine powder, by the
evaporation of part of the water of
Crystallization although the
Crystals were before perfectly dry.
It may be observed that the true
quantity would be obtained by
weighing the refined Crystals before
they are carried to the mills, this
certainly might be done were a
sufficient provision of refined Salt
Petre made before the Commencement
of the Manufacture, as I long ago
recommended, but the expence of
Casks or Chests to hold it would be
considerable; and I know of no other
way of keeping it clean, at present
it is carried to the mills frequently
only half dried and therefore any
endeavour

1985

Fort St George 11th April 1797

induction drawn from the weight in
that Stile would be ridiculous; from
a comparison of the weight of the "
rough Salt Petre, as purchased from
the Merchant, with those of the "
pulverized and stoved, as weighed in
the mixing House, the former appears
to be to the latter as . but in
this loss is included the wastage or "
transportation, which is probable not
less than one per cent, and likewise "
another, not much attended to which "
arises on simply drying the Salt Petre
in the Sun and is from 2 to 4 per Cent
besides the former already mentioned.

In the above account no mention
tion is made of the several Drugs recom-
mended by different authors, the whitest of
Eggs would be useful and are always
used

1986 — Fort St George 11th April 1797

would in small Experiments, but might
be deemed too expensive in the manufac-
ture. Alum would certainly be a
powerful agent, could it always and sufficiently
be procured, but
the use of it would be a vast improvement
in the process of refining, and as that
alone I have no doubt of attributing the
superiority of the Russian Gun Powder.
They have Potash at a very cheap rate,
and find it advantageous to decompose
the Magnesian Nitre and convert it into
that; another very good improvement
which I am convinced every manufac-
turer in this Country, who may
happen to be entirely his own Master
will adopt, would be to use only
the first Crystals in the manufacture
and to sell the salt Petre obtained from
the Water. —

The

1987 Fort St George 11th April 1797

The Russia Soft Paste is carried to
a smile of softly similar to the former, where
it is brought 110 lb. at a time to a rough
Powder, which is carried to a stove and
dried with a degree of heat equal to that
of boiling water, in which operation it
loses about 3½ per Cent of its weight,
although the Crystals were before perfectly
dry as I have already observed. It is then
sifted in wire sieves of very small meshes,
such as are used for flour, or with a
canvas bottome made of the bark of the
Crotolaria juncea, or sunn of the Bungalore,
and all that passes through is deemed
fit for the mixing House, but the much
greater part is carried back to the Mill
and ground again, and so on till the whole
has passed through the sieves.

These

1988 Fort St George 11th April 1797

These operations of Sowing &
sifting are totaley omitted by every author,
whose work I have had an opportunity
of consulting, and yet it is indispensable
for the procuring of good Powder with
respect to the quantity of fine Wood con-
sumed in the operation of refining, the
same difficulties present themselves that
did respecting the loss on the last Petre, &
unless I had an opportunity of trying the
experiment in the great way, that is to
say, on 1000 Pounds unincumbered
with any other occupation, I could
not pretend to assign it without
great error. In the course of the manu-
facture, the fine Wood being used
for so many other purposes, no
satisfactory inference can be drawn
from the consumption of it.

The

1989

Fort St George 11th April 1797

6th The Gombroon sulphur is by much the best of any I have met with, and I believe is superior to any known in the World, that has hitherto been found in commerce, of one kind only the fine yellow, and so far as I have been able to learn the mines or quarries are confined to a narrow space, but it appears that an agent of Tippoo Sultans resides at Bunder, Bunder, having engaged the produce of all the mines and consequently by raised the price of this commodity to a height never known before. The Natives discovered other mines at the distance of 3 days journey from the former which produced a black sulphur, returned by them superior in strength

1990 Fort St George 11th April 1797

strength to the old, and on trial
their judgment assured to me
to be well formed, although for want
of an accurate mode of proving
Powder, I cannot positively assert
its superiority. –

All the Gombroon Sulphur
is imported just as quarried from
the Pit, partly pure and partly
imbided in a white argil Lacious
stone. –

The Bahurs Sulphur is
much inferior in quality to the
former, it differs from it in having
undergone a rough fusion or a
sort of refining, and yet its produce
is not nearly so great as that of
the native Gombroon. –

The Manilla brimstone
seems the worst of all although
refined

1991 Fort St George 11. K April 1791

refined and not unlike Mould Sugar,
as it is seldom met with in Com-
merce, and was invoiced at a
very high price, I have not made many
experiments upon it

The majestic Sulphur Shad
out on Hill last Season, when a quantity
was brought out on a French Ship, for
many years, and was much surprised
at its apparent inferiority to the
Gombroon, and I found that it was
cold, although refined, at a lower
rate than the common rough.

The first part of the process of
refining, is the picking out all the stones
that seem to contain little or no Sulphur;
while this is doing, a very thick coat
Iron pot is heated to such a degree as to
fuse the Sulphur which is then thrown
in

1990 Fort St George 11th April 1797

strength to the old, and our trial &
their judgment appeared to me
to be well formed, although for want
of an accurate mode of proving &
Powder, I cannot positively speak
its superiority. –

All the Gombroon Sulphur
is exported just as quarried from
the Pit, partly pure and partly &
imbided in a white argil laceous
stone. –

The Ashen Sulphur is &
much inferior in quality to the
former, it differs from it in having
undergone a rough fusion or a
sort of refining, and yet its produce
is not nearly so great as that of
the native Gombroon. –

The Manilla brimstone
seems the worst of all although
refined

1991 Fort St George 11th April 1791

refined and cast into moulds, such
as it is seldom met with in Com=
merce, and was invoiced at a li'
very high price, I have not made many
experiments upon it

The majolica Sulphur Shade
cast out well last Season, when a quantity
was brought out on a Friends Ship, for
many years, and was much surprised
at its apparent superiority to the
Gombroon, and I found that it was
cold, although refined, at a lower
rate than the common rough.

The first part of the process of
refining, is the picking out all the stones
that seem to contain little or no Sulphur;
while this is doing, a very thick coat
Iron pot is heated to such a degree as to
fuse the sulphur which is then thrown
in

1992 Fort St George 11th April 1797

on it in small parcels, at a time, that
is to say, a subsequent is not thrown
on, till the former be entirely fused, while
a man keeps constantly stirring it with
an iron Rake, when in perfect fusion
a black scum rises, which is to be
taken off at intervals, and when the
whole is dissolved, a quantity of mustard
seed oil is added, about 3½ Pt. to 5 Cwt.
of rough brimstone, / the usual quantity
refined at a time here / and well mixed,
upon which a further quantity of
Scum arises, when the surface appears
perfectly clear, the Sulphur is ladled
out into a high Tub, previously
wetted / the latter if capable of containing
the whole quantity / when cold the
Tub is inverted, when it generally separates
without being taken to pieces, and leaves
a

1993

Fort St George 11th April 1797

a truncated Cone of calico sulpher — about
5 or 6 inches — of the raw Tap, and often
more according to the quality of the rough
Commodity is found to consist of a congeries
of minute particles of stone mixed with
sulphur and is cut off and rejected.

In the common way of refining, when the
sulphur is cast into small moulds or
tubes, the whole of the above refuse enters
into the Composition of the Gun powder
It is obvious that this simple improve-
ment of casting the liquid sulphur into
moulds of such capacity as that it may
remain long in a state of fusion, and
so allow the heterogeneous to precipitate,
may be carried to a much greater degree
of perfection, by an exact imitation of
the above process for refining the said Petre
with

1992 Fort St George 11th April 1797

on it on small parcels, at a time, that
is to say, a subsequent is not thrown
on, till the former be entirely fused, while
a Man keeps constantly stirring it with
an iron Rake, when in perfect fusion
a black scum rises, which is to be
taken off at intervals, and when the
whole is dissolved, a quantity of mustard
seed oil is added, about 3½ ℔ to 5 Cwt:
of rough Sulphur, / the usual quantity
refined at a time here) and well mixed,
upon which a further quantity of
Scum arises, when the surface appears
perfectly clear, the Sulphur is ladled
out into a high Tub, previously
wetted / the latter is capable of containing
the whole quantity / when cold the
Tub is inverted, when it generally separates
without being taken to pieces, and leaves
a

1993

Tom St George 11th April 1797

a truncated Cone of native Sulphur — about
5 or 6 inches — of the raw Tap, and often
more according to the quality of the rough
Commodity is found to consist of a congeries
of minute particles of Stone mixed with
Sulphur and is cut off and rejected.
In the common way of refining, when the
Sulphur is cast into small Moulds or
Tubs, the whole of the above refuse enters it
into the Composition of the Gun powder
It is obvious that this simple improve-
ment of casting the liquid Sulphur into
Moulds of such capacity as that it may
remain long in a state of fusion, and
so allow the heterogeneous to precipitate,
may be carried to a much greater degree
of perfection, by an exact imitation of
the above process for refining the Sulphur
with

1994 Fort St George 11th April 1797

with this only difference that instead
of an Iron Pot there ought to be a thick Cast
Iron Pot with a small fire under it,
for the reception of the sulphur from
the Boiler. I have tried this Mode
with Copper vessels, but found
it difficult to keep up an equal degree
of heat, an inconvenience to which
an Iron Pot would not be subject.
I ought to observe that although the
use of oil affords a considerable greater
produce, yet there cannot be a doubt
that the sulphur is really rendered
by it as it is sensible by the difference
of smell, altho' the smallness of the
quantity may prevent the easy
discovery of its bad effects on the Gun
powder. I have tried all in repeatedly,
but

Fort St George 11th April 1797

but I cannot say with any good effect.—
The produce I have found to be from 52 to
57 per cent and the drops when subsiding
yields about half of its weight of flowers.)

It is ground in the same
Kind of mill as the Charcoal and Nitre,
but reduced to still finer powder which
is passed through Cocoon sieves (so called
as the made of silk) to which we have
an excellent substitute in sieves made
of a remarkable strong silk, the produce
of Bengal called Tusser, or in the
common Cassia Cloth which
the people have the art of preparing for
this purpose, by dexterously drawing
out every alternate thread of the web
7th — It has never happened in
my time that the demands of the
Manufacture

1996 Fort St George 11th April 1797

manufacture have suffered any great
quantity of fresh wirized Material to
accumulate, nor ought they, as the
humidity, they could not fail of
combating from the air, would disturb
their proportions which weighed for composition;
I have already observed that the longer the
Salt Petre is kept before grinding, so
much the better. —

8th — The Ingredients being reduced, as
above described to the finest powder possible,
are carried to the weighing House, where they
are weighed seperately, so as when united
to make up parcels of 20 lb. for the Cylinder
Mills, and four Pilons when they were
at Work and 14 lb. for the Pilon Mills
by three hollow weights for each parcel,
only adjusted to the intended proportions

by

1997

Fort St George 11th April 1797

by Law passed that a hole, which is
afterwards closed up with a screw in order
to prevent the possibility of mistake to
which the use of common weights are
certainly subject. The Ingredients being
weighed, each parcel is thrown into a
separate wooden Box (a Table with a
ledge round it like a Bakers) where
they are wrought with a Roller, made
of the hard wood, procurable in length
exclusive of the handles, 20 inches and in
Diameter 5. — until it appears the Ingredients
are well mixed — The People employed
are of course in proportion to the
number of Mills at work, 3 to each
Bullock, and 5 to each Pelon mill — for
the first Pelon it was not mixed at
all, the want being made up by their
Superiors

1998 Fort St George 11th April 1797

Superior efficacy.

The Ingredients being mixed, are,
for the Cylinder mills put into 60 lbs of
Barrels and for the Pistle into Tubs
the 20 lbs of Composition for the former
and 14 for the latter which are carried at
stated hours to the mills. —

9th — They ought never to be kept any
time, but only mixed as required for
the mills.

10th — I have always found the Piston,
or Pistle and Mortar much preferable to
the Cylender mill, and it appears that
such is the Sentiments of every Person
in Europe, readily acquainted with the
knowledge as likewise of the Legislature,
which when it compelled the use of the
Cylender mill in 1791 on account of the
violence of the explosion of the Hounslow
Pistle

1999 Fort St George 11th April 1791

Pistle mills in the Spring of that year, allowed
the use of the Pistle mill to the Manufacturers
of the Parishes of Baltic — Cawhurst and
Saddlescomb Thinks; for Iquote the act
from memory, in the Country of Sussex, a
for the purpose only of making fine a
shooting Powder, commonly called Battle
Powder, and in the following Session one
fine an act passed for enabling certain
Persons in the Country of Kent, to erect
a Pistle mill likewise, for the sole a
purpose of making such fine shooting
Powder as that commonly called Battle
Powder — I find besides, that the Honble
Miser, whose Office afforded him ample
means of information, attributes the
present inferiority of English Powder
to the introduction of the Cylinder a
mills. — But I should imagine, that
the

1998 Fort St George 11th April 1777

Superior efficacy.

The Ingredients being mixed, are,
for the Cylinder Mills put into 60 lbs of
Barrels and for the Stamp Mills into Tubs
the 20 lbs of Composition for the former
and 14 for the latter which are carried at
stated hours to the Mills. —

9th — They ought never to be kept any
time, but only mixed as required for
the Mills.

10th — I have always found the Pilon,
or Pistle and Mortar much preferable to
the Cylinder Mill, and it appears that
such is the Sentiments of every Person
in Europe, really acquainted with the
knowledge as likewise of the Legislature,
which when it compared the use of the
Cylinder Mill in 1771 on account of the
violence of the explosion of the Powder
Pistle

1999 Fort St George 11th April 1791

Battle mills in the Spring of that year, allowed
the use of the Battle Mill to the Manufacturers
of the Parishes of Battle — Cranbrook and
Sedlescomb & thinks, for I quote the act
from memory, in the Country of Sussex, "
for the purpose only of making fine "
shooting Powder, commonly called Battle
Powder, and in the following Session one
finds an act passed for enabling certain
Persons in the Country of Kent to erect
a Battle mill (Kennick), for the sole "
purpose of making such fine shooting
Powder as that commonly called Battle
Powder — I find besides, that the Honble
Miss, whose Office afforded him ample
means of information, attributes the
present inferiority of English Powder
to the introduction of the Cylinder "
mills. — But I should imagine, that
the

2000 Fort St George 11th April 1797

the bare inspection of the operation
of the Eyelevers on the composition, or
which is to prove it unto hard bodies,
over which they pass repeatedly with the
no other effect than that of polishing
their surface, unless constantly broken
down by the People of the mill, were
sufficient to establish the fact beyond
controversy - With respect to the
different kinds of Pistol mills, it
is obvious that in whatever manner
wrought, their effect must depend upon
the momentum of the falling body &
compounded with the number of
strokes it makes in a given time, for
it signifies nothing whether the Ball
be wrought by human force or any
kind of Machinery, its sole effect
depending upon its fall, after it is
disengaged

2001 Tom's George 11th April 1797

Pis engaged from either power — The 2 n
Pistles of the Bullock Mills weigh
from 65 to 70 lb, Fall from the height
of 18 inches, & make commonly from
14 to 17 strokes in a minute. — The
foot Pistles weigh from 90 to 115 lb / that
is to say / the one which Falls requires
so much weight to keep it in equilibrio,
the whole weight of the Piston being
at least double / Fall from the height
of 17 to 18 Inches, and make from 42
42 to 48 Strokes in a Minute / therefore
taking the mean number, the effect
of the mile Piston will be to that
of the foot as 0 18 + 65 + 16 to 0 17 + 100 + 45,
or as 11 to 48 nearly; but as it is impossible
to make the People raise the foot
Piston always to the same height,
a considerable abatement ought to
be made from the above Effect.

11th The Perfect incorporation of
the Ingredients depends upon the
weight

2002 Tom St George 11th April 1797

weight of the Cylinder combined with
the number of revolutions they
make in a given time surpassing a
Cylendars of the King of Prussia's mills
at Essone, weighed between 10 and 11
thousand ℔, and made between 4 and
5 Revolutions in a minute, and a
Manufactures 20 ℔ of composition,
our Cylendars weighs when filled about
5300 ℔ and never make quite 2 hun-
dred Revolutions in a Minute, they incorporate
40 ℔ of Composition in the space of
12 hours or 20 ℔ as has been usual
at the new works in 6 Hours. — In
Europe they reckon that 20 ℔ of
Composition charged in one Mortar
should be beat with a Pestle weighing
70 English ℔ at the rate of from 56 to
60 strokes a minute for the space of
22 hours. That it should receive from
73920 to 79200 strokes for a perfect
Mixture,

Fort St George 11th April 1797

mixture, over Pilons of the same weight making 16 strokes in a Minute work upon 14 lb. of composition at one time for the space of 18 hours, or allowing for the frequent changes of Cakes not 17 hours the composition. Therefore, must be only 16320 strokes at most, or little more than 1/5 of what is deemed necessary in Europe.

It is difficult to make the People work at any certain rate, notwithstanding there are People constantly over them, and therefore the only check to be depended upon is the Examination of samples taken from the different mills every 6 hours, and if at the Expiration of the above 18 hours the composition should not appear to be well mixed, it is ordered to remain for 24 the bylanders, as I have already observed, work upon 20 lb. of Composition for 16 hours in fair weather and in

The

2004 Fort St George 11th April 1797

the rains, or while foggy, subject to the "
same limitation in case the examples "
should not appear good. The examination
of the examples requires only practice and
the assistance of a good Lens, and here
it may be necessary to add a caution "
against the tricks of the Pions, who if not
carefully watched, will fetch all the "
examples from one mile after having "
gone through the form of taking exp
me at every one of the other miles, which
they throw altogether into some of the
Mortars of the Mole whose people are
privy to the trick. The first Pilote "
work 12 hours on 24 Hs of Composition,
but with the disadvantage of not being
called at the mixing House

With respect to the effects
of the different state of the atmosphere,
on the composition, it should have been
before observed, that the 14 Hs of composition,
being

2005 Fort St George 11th April 1797

being put into each Mortar from 12 to
9 ounces of water are added, according
to the state of the weather, but that care
is taken to keep the Composition of the
Cylinder mills as dry as possible, &
otherwise the above inconvenience of
running into hard cacks is still more
considerable; and during the rains and
the foggy Weather, I have often been under
the necessity of ordering it back to the
mixing house to be broken down with
the Rollers and then beat for 2 or 3 hours
with Pilons, or when they were not
at Work to be returned to the Mills. The
Pilons make the Powder equally Well
during all seasons with as little trouble
than that of proportioning the dose of
Water to the different States of the
atmosphere.

12 — To each Cylinder mill there
are 6 men working Day and night,
two at a time, who both drive the Cattle

and

2006. Fort St George 11. April 1797

and turn the Composition, and 8 or
Bullocks or Buffaloes, working between
two at a time, relieved every two hours
and frequently oftener, besides two spare
Cattle to each Mill. To each Pan Mill
consisting of 12 Mortars, there are 12 or
Drivers and 12 turners and 6 Cattle
working 4 at a time, besides 4 spare
ones. There is one Sirdar assisted by
two mates, besides European Overseers
and Peons to keep them at work.

13 — The Composition being carried
to the Press-House, that from the 4
Cylinder Mills is filled with spare
water poured thro the bruised Speed
of a Pot, like a common Garden or
watering Pot, and well mixed by
hand, so as to form a hard Lump
when strongly pressed, an operation
which requires a good deal of
attention, for if too much water
be added, the Saltpetre will shoot before
the

2007 Fort St George 11th April 1797

the composition can be granulated as is
usual, and here I cannot help cautioning
against all the Receipts found in
common Books, which nothing but
the greatest Ignorance of Chemistry
could have suggested, such as mixing
the solution of Sal ammoniac &c with
respect to sperits of wine, if it could
be of any service its dearth would put
it out of the question. I was however
informed by the People of the works, that
it having been frequently found
difficult to make the grains sufficiently
hard, when charcoal was used, in
various trials had been employed which
on trial, I found to be detrimental to
the strength of the Powder, one substance
I did indeed find which notably
improved the hardness of the Grain
without impairing the force of the
Powder, but not being certain what
effect it might operate in long Keeping,

J.

2006. Fort St George 11. April 1797

and turn the Composition, and 8 or
Bullocks or Buffaloes, working Relievd
two at a time, relievd every two hours
and frequently oftner, besides two spare
Cattle to each Mill. To each Pilon Mill
consisting of 12 Mortars, there are 12 or
Drivers and 12 turners and 6 Cattle
working 4 at a time, besides 4 spare
ones. There is one Sirdar assisted by
two mates, besides European Overseers
and Peons to keep them at work.

13 — The Composition being carried
to the Press-House, that from the 4
Cylinder Mills is mixed with three
water pourd thro' the perforated Spout
of a Pot, like a common Garden Pot
watering Pot, and well mixed by
hand, so as to form a hard Compact
when strongly pressed, an operation
which requires a good deal of
attention, for if too much water
be added, the dust pastes will shoot before
the

2007

Fort St George 11th April 1797

the composition can be granulated and
dried, and here I cannot help cautioning
against all the Receipts found in
common Books, which nothing but
the greatest Ignorance of Chemistry
could have suggested, such as mixing
the solution of Sal ammoniac &c with
respect to sprits of wine, if it could
be of any service the dearth would put
it out of the question. I was however
informed by the People of the works, that
it having been frequently found
difficult to make the grains sufficiently
hard, when charcoal was used, it
various sorts had been employed which
on trial, I found to be detrimental to
the strength of the Powder, and discharge
I did indeed find which notably
improved the hardness of the Grain
without impairing the force of the
Powder, but not being certain what
effect it might operate in long Keeping,

J.

2008 Fort St George 11th August 1797

I did not think it prudent to use —

The composition being melted and well wrought by hand is put to the
of a very powerful press, and perfect
with a simple Lever the screw will
move no longer: another longer Lever
is then introduced into the hole of the
screw to the opposite end of which is
attached a strong Rope, one end of which
is made fast to a fixed stake and
the other to the Cylender of a vertical
axis in Peritrochio wrought by 4 men
at a time and the pressing is continued
till the screw stops again. The fore side
of the platter / a strong Plank kept
in its place by 2 wooden Bars /
instead of the iron screw, by which
one recived from England as a model
was fixed on / is then opened and the
composition

2009 Fort St George 11th April 1797

composition taken out in one piece, of
the figure of the Chamber, almost as hard
as a Stone, – being broken with a large
Wooden Mallet into portable pieces, it is
carried to the Breaking house or if there
is none immediately to the Corning house,
on the boarded floor of which it is broken
down with small Wooden Mallets and
put into the sieves of the corning frame
which are double made so as to fit in
each other. The upper are of Parchment
with round holes of the size of the largest
grained Powder intended to be fabricated.
They are two of the diameter of nearly
1 Line, the lower one is made of the w
Cantabaria like those already described
for sifting the mixture but with larger meshes,
a disk of the hardest wood procurable,
some times loaded with lead of the +
diameter of 8 inches thick enough, but w
thinner towards the edge, so as to w
form a very Spheroid of 1½ is then
put into each sieve over the broken
pieces

2010 Tom St George 11th April 1797

Prices of compositions & the Reasons
is just in motion - The Disks
moving with great velocity circular
& spiral Directions, makes
the prices of compositions to be less and
less according they are able to pass
thro' the holes of the Parchment and
fall into the lower sieve, and it is
evident that all the particles that
happened to be broken down to a
smaller less diameter than that of the
holes of the Sieve, will pass through
with a less greater ease than the largest
ones, and that therefore the lower
sieve must contain a gradation of
all sized grains from those that were
only just capable of passing through
the holes to the finest dust. The latter
passes thro' the lower sieve and
falls into a great Box under the
frame at intervals, the lower sieve
are

2011 Fort St George 11th April 1777

are unfitted into Barrels, which are
unavoidably carried to the drying Platforms.
The Powder when sufficiently dry is
then delivered over to the People of the
adjoining House, who sift it into hair &
bottomed sieves, or what I found much
better, into very fine brass wire sieves,
but their exceeding high prices and
short duration obliged me to discontinue
the use of them. It is then put into a
brass wire sieve, the meshes of which
are just sufficiently large to allow
passage to the largest grains of what
is intended for the coarse Powder,
what does not pass thro is returned
to the Press House, and not the Parchments
shrink, none would be there too
large — and I understand there may
now be coming sieves now in England
with

2010 Fort St George 11th April 1797

Pieces of composition & the Tourne
is put in motion - The Disks
moving with great velocity cir -
cular and spiral directions, reduce
the pieces of composition to a size
less size till they are able to pass
thro' the holes of the Parchment and
fall into the lower sieve, and it is
evident that all the particles that
happened to be broken down to a
smaller size diameter than that of the
holes of the Sieve, will pass through
with still greater ease than the largest
one, and that therefore the lower
sieve must contain a gradation of
all sized grains from those that were
only just capable of passing through
the holes to the finest dust. The latter
passes thro the lower sieve and
falls into a great Box under the
frame at intervals, the lower sieve
are

2011 Fort St George 11th April 1797

are unsuited in the Bowels, which are
constantly carried to the drying Platforms.
The Powder when sufficiently dry is
then delivered over to the People of the
adjoining Houses, who supply it in hair &
bottomed Sieves, or what I found much
better, in very fine brass wire sieves,
but their expensive high price and
short duration obliged me to discontinue
the use of them. It is then sent into a
large wire sieve, the meshes of which
are just sufficiently large to allow a
passage to the largest grain of wheat.
is intended for the coarse Powder
what does not pass thro is returned
to the Press House, did not the Parchments
shrink, more would be there too
large — and I understand there may
be Coming sieves now in England
with

2012 Fort St George 11th April 1771

with bottoms of united brass, which will not be subject to this inconvenience. The Powder is now put into another sieve, the meshes of which are finer, large enough to suffer the largest of what is intended for the Medium to pass thro' them, and what remains in the sieve is now manufactured coarse Powder, what has passed thro' is again put into a third sieve, the meshes of which are of the size that is intended for the largest grains of the fine, what remains in the sieve is the medium, and what has passed through is the fine—

The different Parcels are then dried again, and the opportunity of a moderately strong wind and clear day being desired; they are winnowed like Corn, where the fine dust flying off, the heavier grains fall clear upon a floor Cloth. —

The whole process is now — finished, and the Powder is sent into

2013 Fort St George 11th April 1797

into Boxes belonging to the Works
for Proof

The Dust of Trasted during
all the above operations is for Europe
worked for the space of two hours morni=
ning of the 24 but it has been the
practice here, in order to save that
expence, to mix it with fresh composi=
tion from the mills, when however
the Manufacture is first stopped
it is absolutely necessary to mill it
over again, otherwise the mass will
not cohere however hard it may
be pressed, and the operations
of corning and sifting & returning
the dust to the mills occasion an
additional for a considerable time

14 The Powder was formerly
dried here in Stoves under the plat=
forms of which now stands like the
common Limmums of the Natives
of this Country. The Pipes of the
Works

2014 Fort St George 11th April 1797

Works apart, that it was done in this manner all the year round, a practice so extremely different from what I have found elsewhere I could not have given credit to these accounts was it not confirmed by a very violent explosion of one of the Stoves in the fair season, for my own part I have always found the stove dried Powder, greatly superior in every good quality, to that dried by the Sun and particularly in being so dusty as to be dissipated by proof, I have, therefore never had a recourse to the Stoves but in case of necessity, during the Rains and in January, when the Sun does not some times appear for many Days.

The present stove is a Platform heated by steam, the greatest heat I have found it require is 146 of Fahrenheit's Thermometer, the quantity of 1000 lbs is dried

2015

Fort St George 11th April 1797

dried in the space of 12 or 14 hours, + during which time it is frequently + turned. -

15 The Powder is spread upon canvas floor Cloths laid over flat forms + sloping a little to the south to the + thickness of a Sixpence breadth and frequently stirred with wooden + Rakes -

The old Platforms were of scalid masonry and have the inconvenience of being very long in drying. The new are laid with Slates under them + open at both ends and are covered with large flat tiles, and one is a + boarded Platform covered with Sheet Copper, which I find answers much the best, great part of the morning sun being lost before the former become dry after the night Dews and Fogs

16 The only Proof that the agent has

any

2016 Fort St George 11th April 1777

any concerns with is that of the daily
Produce in order to satisfy himself
that the Manufacture is going on well,
which should never be omitted when
fresh Parcels of materials are brought
into use. I use at present a 6
condemned brass Eprouvette Mortar
of 7 Inches in Diameter, with a solid
brass Ball which ought to weigh 60 lbs
and when the Ball is thrown with
10 oz averdupoise of Powder to the 6
distance of 24 yards, I judge that it will
stand a good Proof — This mode of
proof is in itself extremely inaccurate.
and besides the Plane of the Muzzle
is not perpendicular to the axis of
the Piece and if elevated in the 6
common way, I have found all
the Quadrants so bad from their
Spirit levels being only a straight
Bd of common Barometer Tube,
instead of the Portion of the circum-
ference of a circle as made by 6
Ramsden

2017

Fort St George 11th April 1797

Resolved that no dependance
can be placed on them. —

As none but the very vulgar
make any distinction of Country
in matters of science I sincerely
believe in the truth of the relation
of Experiments made at the King of
France's principal Manufactory
at Essone, by the Chevalier D'Arcy
and M Baume, the former an
Officer of rank in the army, and
a Member of the academy of
Science in the Class of Mechanics,
the latter a celebrated Chemist in a
word they assure us that they found
all the common modes of proof so
extremely vague as would have
enabled them from making any
attempt to improve the composition
of Gun Powder, which it seems was
the object of their Mission, had not
M Darcy thought of the application
of

2016 Fort St George 11th April 1777

any concern with is that of the daily
produce in order to satisfy himself
that the Manufacture is going on well,
which should more be attended to from
fresh Parcels of materials are brought
into use. I use at present a 6
condemned brass Eprouvette Mortar
of 7 Inches in Diameter with a solid
brass Ball which ought to weigh 60 lbs
and when the Ball is thrown with
10 oz and purpose of Powder to the 6
distance of 24 yards, I judge that it will
stand a good Proof — This mode of
proof is in itself extremely inaccurate,
and besides the Plane of the Muzzle
is not perpendicular to the axis of
the Piece and if situated in the 6
common way, I have found all
the Quadrants so bad from their
Spirit levels being only a straight
Rd of common Barometer Tube,
instead of the Portion of the circum-
ference of a circle as made by 6
Ramsden

2017

Fort St George 11th April 1797

Remember that no dependance
can be placed on them. —

As none but the very vulgar
make any distinction of Country
in Matters of Science, I firmly
believe in the truth of the relations
of Experiments made at the King of
France's principal Manufactory
at Essone, by the Chevalier D'arcy
and M Baume, the former an
Officer of rank in the army, and
a Member of the academy of
Science in the Class of Mechanics,
the latter a celebrated Chemist in a
which they assure us that they found
all the common modes of proof so
extremely vague as would have
enabled them from making any
attempt to improve the composition
of Gun Powder, which indeed was
the object of their Mission, had not
M Darcy thought of the application
of

2016 Fort St George 11th April 1777

any concern with is that of the daily
produce in order to satisfy himself
that the Manufacture is going on well,
which should more be attended to than
fresh Parcels of materials are brought
into use. I use at present a 6
condemned brass Eprouvette Mortar
of 7 Inches in Diameter with a solid
brass Ball which ought to weigh 60 lbs
and when the Ball is thrown with
10 oz and a quarter of Powder to the 6
distance of 24 yards, I judge that it will
stand a good Proof — This mode of
proof is in itself extremely inaccurate,
and besides the Plane of the Muzzle
is not perpendicular to the axis of
the Piece and if situated in the 6
common way, I have found all
the Quadrants so bad from their
Spirit levels being only a straight
Rd of common Barometer Tube,
instead of the Portion of the circum-
ference of a circle as made by 6
Ramsden

2017

Fort St George 11th April 1797

Remember that no dependance
can be placed on them. —

As none but the very vulgar
make any distinction of Country
in matters of science, I firmly
believe in the truth of the relations
of Experiments made at the King of
France's principal Manufactory
at Essone, by the Chevalier D'arcy
and M Baume, the former an
Officer of rank in the army, and
a Member of the academy of
Science in the Class of Mechanics,
the latter a celebrated Chemist in
which they assure us that they found
all the common modes of proof so
extremely vague as would have
deterred them from making any
attempt to improve the composition
of Gun Powder, which it seems was
the object of their Mission, had not
M Darcy thought of the application
of

2018

Fort St George 11th April 1771

of Mr Robins's mode of finding the initial velocity of the flame of Gun Powder, by the recoil of small cannon suspended at the extremity of a Pendulum, lent, to this purpose and on trial they found that this mode of Proof answered perfectly well – vide Essai sur L'artillerie par Mr. le Chev.r D'arcy & Chymie de Baume Tom 1.r – I find likewise that it has been introduced into the annals of Spain – vide L'Histoire Naturelle de L'Espagne par Don Bowles or count I believe now a Lord Dillons abridgement of that Work, who was himself likewise an eye witness – The cannon proves with the rising sun & grooves scarcely deserve any notice

The final proof is as follows, the artillery Officer being informed that 100 or 150 Barrels are ready for Proof, repairs to the Magazine, where

2019

Fort St George 11th April 1794

where he finds the Powder in Barrels,
placed on their ends in rows with their
heads loosely covered, the Barrels being
numbered with Chalk, he passes a
hand full of the Powder taken out of the
middle of the hand upon a piece of
white paper, held obliquely so that
the grains may run entirely but
slowly off, and if little or no dust
be left he weighs the quantity of
3 Oz avoirdupoise which is put into a paper
previously made up and marked
No. 1. every Barrel being examined in
the same manner, & the proof ounces
weighed and Numbered the last Number
last into the bottom of the Barrel
the others following it in a Retrograde
order so that the 1st Number is first put
in, the Barrel is then carried to the
range, and the proof Mortar being
fired once and sponged, the Contents
of Paper No 1 are emptied into the Chamber
but

2020 Fort St George 11th April 1771

Cut not out up by hand and a set of
quick Match of the length of 5 Inches
being introduced into the vent and a
the Mortar fired, if the shell is
projected to the distance of 63 yards
the Powder is received as proof. The
Mortar is a common cast iron 8
inch one, and the Shells are
likewise taken from the common
Pile, but picked out so as to be
nearly as possible of the same size
and are made up to the weight
of 50 lbs, which mode of proof is
directed to be practised only, when
the above mentioned condemned
Brass Mortar or one of the same
Dimensions may be out of
order — The Brass Mortar is
evidently copied from Le Roux's
with no other alteration but of the
reduction of the French Weights and
Measure to the English — The Proof
is that 30 ℔ of Powder shall throw
the

2021 Tom St George 11th April 1797

the Brass Ball weighing 60 lbs to the distance of 175 yards. This Proof has not been in practice for many years past, nor is it possible that it should, for in the 1st Place, the Balls would very soon wear and lose their figure, when falling with such Velocity, and in the next, it was found when it attempted that the Ball sunk to the depth of nearly 3 feet, and that it required 1/4 of an hour for every fire, but there is no doubt that such a Mortar will cast and truly bored would be very useful as a standard to be referred to on any change of the former Mortar or of the shells when worn too small. I ought to observe that the thickness of the above Mortar was not nearly sufficient to resist the force of 3 ℔ — of Powder, several cracks appearing on the 2d or the 3d — discharge —

I have not found that the different states of the atmosphere &

influence

2022 Fort St George 11th April 1797

influences the proofs in any great degree and
this life, the terms of the day notwithstanding
the assertion of Lt Penny, that the morning
proofs are always the strongest – of the proof
Papers are not kept in any place, they
will be affected by the night dampness, the
Bengal Paper being very bibulous and
therefore it would be better if the Powder
was filled at the Magazine into copper
Boxes, capable of containing 3½ oz. to be
weighed at the Mortar, for besides the
above inconvenience it sometimes
happens that the Papers being torn
a considerable quantity of Powder falls
out unobserved, and of course makes
the proof appear short, when in
reality it is as good, as it always
happens that when the same
Barrel is tried over again, and that
without being tried it gives a good
proof.)

In
17 External Diameter of the ends or chimbs 18-1-
Do – Do – of the middle bulge – 17-1-

External

2023

Fort St George 11th April 1797

External height of the ends of the staves above the hoops 1-2
Internal Do / the different being the head / 0-0 — 97-0
Thickness of the staves at the ends from 75 or 80 to — 85-0
Do in the middle 57-
Depth of the grooves for the heads from 15 to — 18—
Breadth of Do . . . . . 10—
Thickness of the heads from 68 to . . . . . 78—
Hoops in Breadth from 1.03 to 1.14
Do in Thickness . . . . . 1—
They lap over each other from 2½ to . . . . . 6—
are 4 in Number which weigh together 8 lb
averdupoise, They are perforated with a
round hole in one end about 4 inches
from the side to be filled with a plug &
turned in the lath in height 1 in:— &
In diameter at the Broad end . . . . . 2 inch—
at the small end . . . . . 1.75—
Being covered with a bit of coarse Country
Cloth dipt into a Composition of Dammer
and Linseed oil They are driven into the
above hole and a bit of Budgar hide Fastned
over them with Copper nails.

This

2024 Fort St George 11th April 1797

18 This Question requires some
discussion I conceive that there ought
to be different kinds of powder for
different purposes, as it is impossible to
unite all the desirable qualities in
the same composition for great Guns,
the strongest ought doubtless to be preferred
because the very saving of quantity to the
state, and also more the saving of
Carriage to an Army is an important
object, but for Musquetry, the preference
ought to be given to the Powder that
fouls the Piece the least, and
accordingly we find that all the
old authors give different proportions
for different intentions, and the
Modern practice is pretty much
the same, the proportions of the
English fouling Powder being very
different from those of Government
Powder. The fact seems to be, that
they have been adopted very where,

more

2025 Fort St George 11th April 1797

more according to the Interest than the
judgement of the Manufacturer for
we may always observe that where
Nitre is dear and Sulphur cheap, the
dose of the former is small and that
of the latter large and vice versâ -

In several Governments of Europe,
the dose of all the ingredients is prescribed
in some others as in Sweden that of
the Nitre only, and I believe in all
the Saltpetre is taken 3/4 of the mass,
as far as the rough modes of proof,
we in my Powder have enabled me
to judge. I believe that the limits may
be 75 & 76 per Cent for the strongest
Powder, and the best division in a
whole Numbers of the remaining
quantity to be as 2. to 3. The Less
quantity for the sulphur the greater
for the Charcoal, and according to the
proportions at present used here are
15 lbs of Saltpetre 2 lbs of Sulphur 3 lbs

of

2026 Fort St George 11th April 1797

of Charcoal. I thought however to be observed that in the great wastage, which the composition suffers in + grasping through the different stages of the Manufacture the lighter + substances will be most and that + consequently the proportion of the + other two Ingredients will increase a little. —

The Sulphur may be increased to an equal weight with the Coal + without notably affecting the strength of the Powder, but if much beyond that it loses much of its force, for instance I found that powder made in the proportions given by Bishop Watson, as those of the Battle Powder threw the Ball at the distance of 14 yards only, when common Powder of the + Manufacture threw it to 29 yards.

It seems probable however that

2027 Fort St George 11th April 1797

That the best proportions bear a relation to the state of the machinery that if with more powerful machinery we could reduce the Charcoal to a finer Powder, as it would then decompose a greater quantity of Nitre, we might increase the dose of the latter, upon which the explosive force entirely depends — For Musquetry, I believe the proportions of the English Government Powder may be the best, that is the Nitre of the whole composition and the remaining quantity divided into equal parts between the other two ingredients as with these proportions I have made a very clean shooting Powder. — —

19 — If the Powder has been damaged by Salt Water it ought to be totally condemned; if by fresh water it is to be analized and the deficient Ingredients made up; it is then rolled at the

Mijuing

2028 Fort St George 11th April 1797

mixing House like Such compositions
and mixed Wet by examination of
samples the ingredients seem to be
perfectly mixed.

If it has been damaged by the shooting
of Mortars only, which is known by an
efflorescence appearing on the grains, it
requires no fresh addition, but only
to be weighed and rolled in the
mixing Boxes, principally on account
of Nails, gravel or other extraneous
substance that may happen to have
fallen into it -

The rest of the process - is the same
as that above described for the common
composition. It generally requires to
be melted for the space of 2 or 3 hours -

A true Copy
(Signed) I Trenbath

Subsidy

Process -

2029 Fort St George 11th April 1797

Process of making Gun Powder at Madras. –
Refining Salt Petre

Two Thousand six hundred pounds being put into the large Boiler, a quantity of water is added sufficient to cover it, which is generally half the weight of the Salt Petre or 1300 lbs, and when made boil, as the scum and filth are given up, they are carefully taken off until they cease to rise. –

When cold water is added to a Boiling Solution of Salt Petre and water, it causes it to give out a fresh scum. As soon therefore as the liquor is clear'd by the first boiling, cold water is added at different times, about 75 lbs each time, and the scum which arises at each addition of Water is taken off; this process is continued until no more scum appears, which is usually

Fort St George 11th April 1797

usually happens after 1300 lbs of Water has been used: so that in the whole Process the weight of the Water is generally equal to the weight of the Nitre. but if the Salt petre is very bad, this proportion will not hold good, - for some Salt Petre will require double its weight of water to purify it. -

When by this process, the Solution is deprived of its saulsure, it is evaporated until a drop taken up on the end of a straw, Crystalizes the instant it is exposed to the cold air. which generally happens after eight hours boiling. when it is ladled off into a Tub, made in form of a the Frustrum of a Cone placed on its Base, with a hook fixt 6 inches above its bottom; here it is agitated with a Circular motion, by a wooden Spatula until the Liquor acquires a whirling motion, when about half

2031 Fort St George 11th April 1797

half a Pound of Vegetable alkali is
put in, this substance in a few minutes
precipitates all impurities, and settles
them at the bottom of the Pot, exactly
in the middle in form of a perfect
cone set on its base, and the
Solution then appears limpid as pure
Crystal. It is now let off by the Cock
into wooden troughs, which conveys
it into Copper Pans, where it cools and
Crystallizes. —

The first Crystals are taken out
and strained thro' Rattan Baskets, &
placed over Pots, and the Water remaining,
is boiled the next day in a smaller &
Copper, and treated in the same Manner
as before, this gives a second quantity
of Crystalline Nitre, but not so pure
as the first — It is however mixed
with it and they are dried together
for the purpose of the Manufacture.
The Water remaining after the second
Boiling

2032 Fort St George 11th April 1797

boiling, contains various species of Salts, with Magnesian and earthy bases, intermixed with an inconsiderable quantity of pure Nitre, but the expence of extracting it, being greater than its value, the water is thrown away altogether.—

Sulphur.

The Sulphur is broken into small lumps, with Mallets, and the stone, and Chalky earth, carefully picked out by hand.— A fire is made under a large iron Boiler, and when it is a little heated, four or five pounds of the broken Sulphur is thrown in, and this being melted, as much more, always observing not to make any addition until the Sulphur already put in, is fused; in this manner they proceed until the boiler is become about

2033

Fort St George 11th April 1797

about three parts fuse, which it
requires about 500 lb of Sulphur.
when the whole is in fusion, the
impurities rise in form of a
thick scum, which is carefully
taken off, and the fire continued
until it ceases, when this happens
the fire is diminished so as to
allow just heat enough to keep the
Sulphur in a fluid state, that the
particles of matter containing a
greater specific gravity than the
sulphur may subside, which they
do in about an hour, arranging
themselves at the bottom of the
Boiler, whence all the liquid
Sulphur that appears of a fine
yellow hue, is ladled off into
Iron Pots, where it hardens and
finishes the process. —

Charcoal

This is burnt by the Natives in the
Country

2034 Fort St George 11th April 1797

Country, from the Wood of the Alnus, which bears a single grain of the Palm Kind, and is called in the Tamul, Tooree. The only Preparation it undergoes before it is used, is the picking out all such pieces as appear not to be sufficiently Charred - It makes a strong Powder, and would make it still stronger, was it burned with more care.

Making Gunpowder

The Salt Petre is provided by four Peons, sifted three times, and put by for use in a place called the weighing House. - The Sulphur and Charcoal, are provided by Workmen with hand Peons sifted in the same manner as the Salt Petre, and carried to the weighing House for use.

The proportions of materials used

2035 Fort St George 11th April 1797

used for sixty pounds of Gunpowder,
ie, 45 parts Salt petre 8 parts Charcoal
and 7 parts sulphur. —

The proportion of Salt petre for
20 Barrels of Powder, is weighed over
night and put into small tubs, a
each containing 22½ lbs and —
Delivered in the morning at 6 Oclock
to 40 Coolies, who grind it with black
wood rollers until ten, when they
go to the mixing house and bring
each mans portion of Sulphur, which
is 3½ lbs: This they grind up with
the Salpetre, for 2 hours more: when
they fetch the Charcoal, which they
grind up with the Salt Petre, and
Sulphur, another hour; making in
the whole for this part of the process
seven hours, —

Powder Cloths being spread in
a House for the purpose, each man
carries his Tub of Composition, which

Mixed

2036 Fort St George 11th April 1797

now contains half a Barrel, or 30 lbs.
and discharges it upon the Cloths in
a heap. It is now incorporated and
formed into a mass by mixing it &
with pure Water, in the proportion of
three pounds to each Barrel. The composition
thus mixed, is carried to the Cylinder
mills, which are made to pass over every
60 lbs of it, one hundred and thirty times,
after which it is carried to the Press room,
and with a powerful machine pressed for
half an hour, when it takes the form
of the Press, and comes out in a Cake
nearly as hard as free stone. - The Cakes
are carried to the Cutting Room, and
with Wooden Mallets broken as fine
as possible, the Pieces thus broken,
are put into the Cutting machine, &
which is kept in motion until the
whole of it passes through the sieves,
in this state, it is carried to the Operating

House

2037 Fort St George 11th April 1797

House, and contains Coarse, Medium and fine Powder. The seperation is effected by means of sieves with meshes of different sizes. Those intended to extract the Coarse Powder, are used first, and by the operation of sifting, the Coarse Powder is obtained, and such part as has passed thro' the first sieve, contains Medium, fine Powder and Dust. The second sett of sieves, extract the Medium Powder, and the third, or finest Sieves, seperate the fine Powder from the Dust.

From the seperating Room, it is carried into Barrels, kept for that purpose only, to the Drying Terrace, where it is exposed to the Sun and Wind four hours or more, according to the State of the atmosphere.

After it has been exposed on the Terrace four hours, an ounce of it

2038 Fort St George 11th April 1797

it is carefully weighed, and carried to a small proving Mortar, the Shell of which weighs eight pounds, and if this is ounces projects the Shell from sixty to ninety yards, the Powder is weighed and put into Barrels, 60 lbs in each. -

If after 4 hours exposure to the Sun, the Powder will not throw the shell sixty yards, it is exposed another hour & tried again, and if it should then fall short, another hour is given to it, and if it is yet found deficient in strength, it is carried back again to the Gylender Mills and ground for half an hour, which has never yet failed of bringing it to its proper strength. It is seldom found too weak but when it is, the fault always has been found to originate with the Buckoat Drivers; who

2039

Fort St George 11th April 1797

Sometimes to save the Caste, take the Composition from the mill, before it has performed the allotted number of Revolutions.

The Weighing and Barrelling up the Gunpowder, finishes the process.

(Signed) Wm Webb
Mg - Storekeeper

Fort St George
8th July 1796 -

To the Secretary of the Military Board
at Fort St George

Sir

1st I have been directed by the Military Board at this Presidency, to acknowledge the receipt of your Letter of the 9th of July, and to forward to you, Copy of the report delivered in by the Committee for inspecting Gunpowder, on the 20th - of april last. -

The

2040 Fort St George 11th April 1797

2d - The following method has been observed here without variation for many years. The improvements proposed in future will appear in the report of the Committee, which has been transmitted to Bengal for the consideration of the Supreme Government. -

3 - A quantity of Salt petre was boiled with a little more than the same weight of water for several hours, and any scum that arose was removed. It was then drawn off into Copper Pans and allowed to crystallize. A certain quantity of water remained after each crystallization, which was loaded with Salt petre, Sea salt and salts with base of Earth. This water was made part of the water for the next crystallization, & so on without removing any of the hurtful Salts -

4. - For the mode recommended by the Committee, see the annexed de

2041

Fort St George 11th April 1791

de Chenier for December 1792, and
several other members before that time.
The Committee have some Charcoal
and vegetable dirt in their dust petre
which gives it a colour, but produces
no ill effect, but they remove very nearly
all the sea Salt, and the whole of the
other injurious Salts.

5 The Salt Petre being refined in this
manner, was mixed with Charcoal and
Sulphur in the following proportions, -
- Salt petre 65 Sulphur 11½ and
Charcoal 15

6 - This mixture being moistened
with Water, was put into a Grating
Mill, where it was usually kept for
four days, from whence it was
transferred to a Cylinder Mill, where
it was kept for half a day more. It was
then considered to be ready for the Press-
House, where it was compressed into
hard Cakes. It was next carried to
the sifting House, where it was broken

to

2042 Fort St George 11th April 1771

to pieces by their Wooden Mallets, when it was put into a long Cylindrical Sieve, which turned on its axis by means of a Winch, the fine dust passed through this sieve, but the coarser parts were driven forwards to one of its extremities by means of the circular Motion, the sieve being placed on an inclined Plane to the horizon. The different Kinds of grains were next separated in another House by Sieves of different sizes, a Third Cylindrical piece of loose Wood being kept in them which by its motion broke the larger pieces into small grains. The Dust left by this process was transferred again to a 2d Cylinder Mill, where being kept for two hours, it was carried as before to the Press-House

7th — The Powder, being thus properly granulated, was removed to the Store for three days on Chinam Tunnes, when it was packed for

2043 Fort St George 11th April 1797

for use, but before it was received by the Commissary, it underwent a trial by an artillery Officer.

8— In consequence of an accident which happened in the year 1786, by which nearly the whole of the Powder Works at Mazagon, within 3 miles of Bombay, were destroyed, the Honble the Governor in Council, at the recommendation of a Committee of Officers, ordered that the several Buildings should be erected at a considerable distance from each other, that they should be constructed of a strong frame of Timber, but that the Walls should only be of brick and Clay, plastered with Chunam, that in case of a future explosion, the building only in which it took place, should be injured. This Resolution of Government was immediately carried into execution, since which, one of the Mills or beating houses, actually blew

2044 Fort St George 11th April 1797

blew up, without the least detriment
to any other Buildings. The whole of the
Powder Works are also inclosed by a Wall
of Masonry about a mile in extent, the
refining houses excepted, which are
just without the walls, as well as the
Guard House, Powder Magazine &
House &c. &c. As soon as a convenient
opportunity offers of sending Plans &
and Sections of the several Buildings,
they shall be transmitted, but they
are rather too Voluminous to go by
Post.

I have the honor to be,
&c. &c.
(Signd) Johan de Panthaine
Secretary to the Board

Bombay
6th September 1796.

Proceedings

2045 Fort St George 11th April 1797

Proceedings of the Committee, for improving Gunpowder, assembled by order of the Honble the Governor in Council Bombay 20th April 1796.

The Committee, on examining the Powder Works at this place and getting an account of the Process hitherto in use for making Gunpowder, have observed several sources of waste & Error.

A most obvious source of waste is the construction of the Furnaces, in which the Boilers for refining Salt-petre are placed. Those Furnaces have no Chimney. Their gratings are far too distant from the vessel to be heated — The flame can only touch the Bottom of the Boiler, & as it is not more than confined than in an open fire place, a great loss of fuel must take place.

The

2046 Fort St George 11th April 1797

The Committee therefore resolved to erect Furnaces for the Boilers on a better construction. The body of these Furnaces is so well closed in, as is possible to confine the heat. The opening into the ash-pit, the Situation and opening of the gratings, & the size of the chimneys, are properly adjusted. The Flues that go from the sides of the Boilers, square 10 inches each, and they meet in a Chimney behind, of which square 14 inches. a great part of the external surface of the Boiler is exposed to the fire, and it is hoped it will appear that every contrivance has been employed to save the heat or direct its action. The Committee have found from experience that 300 Billets of wood, have as great an effect in the new Furnaces as could have been produced in those of the former Construction by 10 or 12 hundred. —

One

2047 St Georges 11th April 1791

One error in refining Salt-petre
has prevailed at the Powder Works, which
could not for a moment escape the
observation of the Commissioners. It is indeed
of so great importance that good Gun
powder cannot be made where such
a Method is in use. It is known that
common Salt with some other Neutral
Salts are constantly found in the
Salt petre of the Market, and make
it unfit for Gunpowder, and other
delicate purposes. In order to seperate
those Salts, a quantity of Salt petre is
dissolved in boiling water and the
Solution is allowed to cool, as boiling
water dissolves much more Salt=
petre than cold water. The salt petre
Crystallizes on cooling and it rejects
in this operation a great part of
the salts with which it was mixed;
as those salts are not nearly in so
large a quantity as the Salt-petre,

they

2048 Fort St George 11th April 1797

They are held in solution by the water together with a portion of the Salt Petre. The Crystals of salt Petre, that are formed in this way, are found to be much purer than before, although a portion of sea salt is still found to be united to them. This is to be separated by going thro' the same operation a second time. The Crystals reject again another portion of sea salt, which remains in the water, while they become proportionally more pure. —

This being established, it will be evident that the practice of the Bombay Powder Works, has been extremely hurtful and injudicious, for the water loaded with different salts of one Crystallization was constantly returned among the new quantities of Salt-Petre, which were introduced

Fort St George 11th April 1797

intended to be purified and the whole
stock of foreign matter very carefully
retained. The Nitre therefore of each
Manufactory of Gunpowder was at
least as much tainted with other salts
after the operation for purifying it
as before. It will afterwards appear
that it was with the less reason for those
expensive operations.

As a want of chemical knowledge
gave rise to the hurtful method
that the Committee have just
mentioned, a defect of knowledge
has also been the source of several
other practices that are very injurious.
The Committee observed that the
water, in use for refining salt Petre
was drawn from a Well very near
to the sea and highly tainted with
sea salt and salts with a basis of
Lime. as this Water was so salt
that

2048 Fort St George 11th April 1791

they are held in solution by the water together with a portion of the Salt Petre. The Crystals of salt Petre, that are formed in this way, are found to be much purer than before, altho a portion of sea salt is still found to be united to them. This is to be separated by going thro the same operation a second time. The Crystals reject again another portion of sea salt, which remains in the water, while they become proportionally more pure.

This being established, it will be evident that the practice of the Bombay Powder Works, has been extremely hurtful and injudicious, for the water loaded with different salts of one Crystalization was constantly returned among the new quantities of salt-Petre, which were introduced

2049

Fort St George 11th April 1797

intended to be purified and the whole
stock of foreign matter in any case being
retained. The Nitre Works of Salt
Manufactory of Gunpowder was at
least as much tainted with other salts
after the operation for purifying it
as before. It will afterwards appear
that it was even the less pure for those
expensive operations.

As a want of chimical knowledge
gave rise to the hurtful method
that the Committee have just
mentioned, a defect of knowledge
has also been the source of several
other practices that are very injurious.
The Committee observed that the
water, in use for refining salt Petre
was drawn from a Well very near
to the sea and highly tainted with
sea salt and salts with a basis of
Lime. as this water was so salt
that

2050 Fort St George 11th April 1797

that it could not be drank by the natives.
It never occurred that it might be a
proper for the purification of Nitre.
Their only object in this purification
seems to have been to separate by boiling
the vegetable matters & their impurities
that are apparent to the eye, while they
never thought of the much more hurtful
salts which they left behind it
among the nitre. If it be considered
that this water was used for the process
of refining and afterwards added to
the composition for Gun powder, during
its progress thro' the mixes for several
days together, it will be evident
that the salt petre of the Gunpowder
was of an inferior quality to the
rough salt Petre of Bengal. During
the process for refining the Salt Petre,
it was proved to long continued
boiling, which was not necessary,

and

2051 Fort St George 11th April 1797

and must have dissipated a part
of that volatile substance, whether
Gun powder shall be made by contract
or otherwise it is indispensibly re
quisite that good waters only be
used: and that the water that remains
after the Crystallization of salt-petre
be waporated and Crystallized by
itself, as often as is necessary to re
bring its salt Petre, to a due degree
of purity.

The Committee have taken re
markable pains to get good Water, for
the use of the Powder Works but
they have found none, that does
not contain a little sea salts or
salts with earthy basis. It is true
that Water with may be considered
as remarkably pure in comparison
with the Well that was formerly
used, but it would be right to re

have

2050 Fort St George 11th April 1797

that it could not be drank by the natives.
It never occurred that it might be a
conveyance for the purification of Water.
Their only object in this purification
seems to have been to separate by boiling
the vegetable matters & their impurities
that are apparent to the eye, while they
never thought of the much more hurtful
salts which they left behind it
among the water. If it be considered
that this water was used for the process
of refining nitre afterwards added to
the composition for Gunpowder, during
its progress thro' the mixes for several
days together, it will be evident
that the salt petre of the Gunpowder
was of an inferior quality to the
rough salt Petre of Bengal. During
the process for refining the Salt Petre,
it was exposed to long continued
boiling, which was not necessary,

and

2051

Fort St George 11th April 1797

and must have dissipated a part of that volatile substance, whether Gun powder shall be made by contract or otherwise it is indispensibley requisite that good water only be used: and that the water that remains after the Crystallization of salt-petre be waporated and Crystallized by itself, as often as is necessary to bring its salt Petre, to a due degree of purity.—

The Commitee have taken much pains to get good Water, for the use of the Powder Works but they have found none, that does not contain a little sea salts or salts with earthy basis. It is true that those wells may be considered as remarkably pure in comparison with the Well that was formerly used, but it would be right to

have

2052 Fort St George 11th April 1797

have Water that contains no
foreign saline substances whatever.
The Committee are of opinion that
it would be advisable to secure
a sufficient supply of water during
the rainy Season, for the purpose
of the manufacture for the year
which quantity need not be
very considerable. At any rate
the water that is added to the
Composition for Gun powder
during the process of beating &c
should be of the greatest purity. The
quantity of water for the whole
purposes of the manufacture for
the year, would not exceed 600 Butts
of Water of 100 Gallons each, but
even a Third part of that quantity
of pure water, would be a most
material improvement. The
Committee have observed that

Tanks

2053

Fort St George 11th April 1797

Tanks which on this Island, & contained sweet water, than Wells immediately after the rains have now their water of an inferior & quality, as result from the evaporation of the pure waters, while the Salts are left behind. -

The Committee have read with pleasure the Memorial of Mr. Farquhar on the Manufacture of Gunpowder in Bengal, It is certainly the best account of the whole operation that they have seen, nor can they conceive that Gunpowder, made after his Methods would approach very much towards perfection. The Committee however believe that no Person here will undertake to refine the Salt petre in the way that Mr. Farquhar has practised, unless the

2054 Fort St George 11th April 1797

The terms of the Contract be made much more advantageous than they have lately been, for Salt Petre may be considered as at least 50 per Cent dearer here than in Bengal. For the course of Boiling, his Salt Petre, in order to refine it, Mr. Targuhar adds to it 1½ times its weight of water, when this solution is well clarified, and sufficiently evaporated he lets it Crystallize; of those Crystals, he takes for use only the uppermost, which are the purest — The remaining Crystals are refined again, not only Salt Petre, but wood, is very dear at this place, of both of which there would in this way be a considerable expence; for Salt Petre, is volatile in the heat of boiling and soon suffers a material loss —

These Considerations indeed the

2055

Fort St George 11th April 1797

The Committee have a method of refining Salt petre which has lately been recommended by some of the most eminent Chymists of France. It consists of washing the crude Salt Petre with two different portions of Cold water, & is at once the most simple & the most frugal way of getting free from the foreign Salts, & which it contains. The effect of these washings depends on the principle, that Water saturated with Nitre does not the less readily dissolve common Salt, or Salts with an Any basis. Let it be supposed for a moment, That a quantity of Salt Petre & contains 12 per Cent of sea Salt & that we wash it with 40 per Cent of water. it will be found that 2/3ds of this water will be got back again from the first washing, even when operating in the greate.

That

2056. Fort St George 11th April 1797

That is to say, the Sea Salt among the nitre is now reduced to 1/3. of its original quantity, or to 4 per Cent. If the Salt Petre is washed a second time with 25 per Cent of water, it will be found that a greater quantity of water will be got from this second washing than was added to it, or that out of 4 parts, 3 and nearly one half of sea Salt are now removed. That is to say, the Salt petre remaining contains less than 1 per Cent of sea Salt. It is evident that in this example a great deal more water is used than is necessary for dissolving 12 per Cent of sea Salt, but it ought to be observed that an additional quantity of water is necessary, from the very Salt petre obtaining a considerable proportion of it. This operation is the most advantageous where the nitre is the far least removed from

2057

St Georges 11th April 1797

From Security. —

Baumé, Lavoisier and some other of the French Chemists have lately on a similar principle to this method of refining Salt Petre, described a process for ascertaining its Security, which the Committee conceive would be highly useful in every Manufacture of Gun = Powder. It appears to be more to be depended upon than any way hitherto known, for ascertaining the values of quantities of Salt-petre. It consists in washing a certain portion of the Salt Petre to be examined by a saturated Solution of pure Salt Petre in water. It is evident that this solution can dissolve no more Salt-petre than it already holds, but it will carry away the foreign salts that do adulterate it. By this method

the

2058 Fort St George 11th April 1799

The Committee have ascertained the value of a variety of quantities of Salt Petre, and they think they can determine by the mean of a few trials, the quantity of a Specimen of Salt petre to one per Cent. This analysis therefore may be considered as very accurate, if all the precautions for preventing error are carefully employed

The Committee have purified by two washings of cold water, a considerable quantity of Salt-petre, as much as has made one hundred Barrels of Gunpowder. - They put 50 Bombay Maunds or 1400 Pounds of finely powered Salt petre into a Wooden Tank, & on this they pour 40 per Cent of cold water, they stir it very well, and let it stand twenty four hours, when the water is drawn off by a Cock placed at the bottom of the Tank.

The

2059

Fort St George 11th April 1797

The Salt petre is then just into vessels
Back'd to suppported above the Tank and
the water is forced out as much as
possible by mixing the Salt with the
hands. It is then returned to the Tank
and 25 per Cent more of water is added,
after standing another day this is
drained off as before. It is now found
that 72 per Cent of Salt-petre is got
back, of a very considerable degree
of puerity. The remainder is dissolved
in the two waters or is mixed with the
some impurities that fall to the
bottom of the Tank. This purified Salt
Petre has a brownish Colour, from
containing a little vegetable and
mineral matter, amounting together
to probably less than 1½ per Cent. Those
can do little injury to the Gun powder.
The sea Salt, as has been said is now
reduced to less than one per Cent, and
the still more hurtful salts with the

earthy

2060

Fort St. George 11th April 1791

earthy bases are completely taken
away. Care should be taken to pick
out as much dirt, as is possible from
the coarse Salt petre, before it is
powdered, and to remove as much
of it, during the washings as it
conveniently can be done. -

There remain in the water
of the two washings about 23 per Cent
of Salts, which consist of Nitre, Sea
Salts and Salts with earthy basis
in different proportions, according
to the Nature of the Crude Salt petre.
Five per Cent more of pure
salt, which is blackened with
impurities, and which should
be refined again, before it is used.
- of the 23 per Cent of Salts
contained in the Water the Committee
have ascertained that 16 parts are
pure Nitre, and the remaining
7 parts, sea and other Salts - This

is

2061 Fort St George 11th April 1797

is to be understood only of that Nitre
on which the Committee have operated,
for different kinds are of very
different values. —

The Process for getting in
this way 72 per Cent of Salt petre is
very easy and not expensive. Each
in order to recover the remaining 21
parts of Nitre, the usual processes
of boiling and Crystallization must
be gone thro', which require a good
deal of Skill, and are very tedious
and expensive. The two washings
should evidently be kept separate,
for the 1st contains nearly three
whole of the Salts with earthy bases
& the greater part of the vile Salts, the
second Washing on the contrary
being once Crystallized in the
usual Manner, affords Crystals
that may be mixed in the Common
Salt

2062 Fort St George 11th April 1777

Salt Petre of the Market, so large a portion of Nitre as those two washings contain, should certainly not be thrown away. but if the purification is not made conducted by being mixed with the Nitre of the manufacture, they would injure the whole of the Gunpowder that is produced.

The Committee have not made a sufficient number of trials on the Method by Crystallization, to ascertain the loss that arises from it, but they believe it must be greater than by two cold washings. The loss at the Powder works was very considerable, altho' the Water remaining after the Crystallization was constantly returned on fresh salt Petre. -

It has been supposed that there might be danger of explosions by using Salt Petre that has been purified by washing in the way just described

described, for the manufacture of Gunpowder,
In a hundred Barrels made in this mode
by the Committee, there has occurred no
kind of accident. After being washed and
dried the Nitre should be passed thro' a
fine Sieve, so that if any Impurity particles
should remain, their division must
be very minute. —

It would be an easy task to a
Chemist with great precision the a
degree of purity of different Kinds of
Gun powder from different parts. It a
would appear that perhaps few of them
contain a smaller proportion of foreign
salts than what the Committee have a
made by washing in two portions of
Cold water. The solution of Silver in
nitrous acid gives very sensible a
appearances of Marine Salt in all
of the Kinds from England and a
elsewhere, that they have examined,
the fine Battle powder excepted.

for

2064 Fort St George 11th April 1797

for the solution of its nitre is not in the least disturbed by that very sensible test.

Nitre has no water of crystallization, nor does it attract any thing from the atmosphere, but a little sea salt by attracting moisture injures a great deal of Gunpowder, it renders it less inflammable and less powerful by destroying the due admixture of the mass. It perhaps would be advantageous in the end to go to the expence of separating entirely the Sea Salt from the Nitre as is done in the fine shooting Powder of England. — Two washings in the way that has been mentioned and one crystallization afterwards, would accomplish this purpose, and would not render Gunpowder much more expensive. This expence would be repaid by its greater durability and in all respects

by

2065 Tom St George 11th April 1791

by its better qualities. It appears to be particularly necessary that the mixture of the Powder for small arms should be well refined, for when it is otherwise, the Cartridges where it is exposed to the air under a large surface become wet and unfit for service. –

I was widest to the Committee on inspecting the process employed at the Powder works that the chief defect lay in the mode of purifying the mixture, for they saw little to find fault with in the other two ingredients. In the Manufacture there were some imperfections that were easily set to rights. –

Mr Farquhar has recommended several Plants as affording sediment & coals for Gunpowder. several of those he has named, can be procured at this place, and many more of the Class and order which he has discovered

to

 Fort St George 11th April 1797

to be particularly fit for that purpose.
There is a prickly mimosa common
here and to the northward which
when burnt yields charcoal and
which is probably the individual that
the examiners of that Genus. - The
Committee found that the Euphorbia
Tiracalli was employed at the Powder
Works, one of the Plants mentioned by
Mr. Farquhar, as affording a good
Coal. This is what they have used in
all their experiments. -

In the Bombay Powder works,
four Pans weighing each 25 pounds
[illegible] 17 times in a minute on 80 lbs of
Composition for 4 days, which, allowing
allowing one hour for a change of
Cattle, is about 7 hours a day. or
the composition receives 28,000 strokes,
Mr. Farquhar says that in Bengal
the composition is kept in the
mills for 17 hours, receives 16 strokes

a

2067 Ton St George 16th April 1797

a minute, and in all 16,000 Strokes —
which he observes is little more than
1/5th of what has been accomplished anywhere
in Europe. His Pilons work on larger
quantities of composition than has
been customary here, nor do his mills
appear to be on the same construction,
so that a comparison of their effects
is not easily made. The Committee
have kept a quantity of composition
in the mills for 6 days instead of four,
but without deriving any advantage
from it, after keeping the composition
for four days in the beating mills,
it has been the practice here to keep
it two hours in the Cylender mills
before it is carried to the Press house.
The Committee agree with Mr Farquhar
in giving greatly the preference to the
beating Mills, this the removal of
the Composition for a short time
in this way to the Cylender mills
may not be injudicious. —

The

2068 Fort St George 11th April 1777

The Committee think that
much of the graine of the Gunpowder
that has been made at the Powder
Works is of too large a size. Large
graine are probably not instantaneous
at the same instant on their surface
and in their centre, by which means
the simultaneous effect of the whole
is lost. M. antonio constantly found
the fine wat powder (as he calls the
small graine powder) the most
powerful. The Committee have
made some of the graine of their
trials of rather a small size, which
is particularly necessary for small
arms. –

When Gunpowder of the
largest graine is made at the Powder
Works it is found that at least one
third of it is reduced to dust during
the operations for graining it. when
a

2069 Fort St George 11th April 1797

a small rigid grain is made one half
of the whole is reduced to the form of dust.
It was customary to return the dust after
occationing it into the Extender mills, &
where it was kept for 2 hours, It was then
carried to the Drys house and granulated
as before. The Powder from this dust
was constantly found to be inferior to
the rest, so much, so that if kept by itself,
it never could bear the usual proof; they
therefore mixed it with the other powder
that the whole might prove together. This
the Committee thought an adulteration
of the Gun powder, which it was highly
necessary to correct. It first appeared
to them probable that during the
sifting and other operations for
getting the grain, that the quantities
of Nitre, Sulphur and Charcoal were
altered in their proportions, &c. &
making however an accurate
analysis of a quantity of this dust,

I.B.

2070 Fort St George 11th April 1797

it was found that the whole ingredients remained in their due proportions to a single grain. The defect was now evident. The admixture had been left imperfect, which the Cylinder mills had not been able to remedy in so short a time. The Committee ordered this dust to be kept 2 days in the beating mills, when it was found to possess all the qualities of the best Gun powder. –

A practice prevailed at this place of steeping the tender branches of the + Euphorbia Tiracalli in water, and making use of this water instead of pure water for the composition for Gun powder. These additions to the water are now very + generally believed to be injurious, and accordingly a stop has been put to the practice. –

With respect to the + methods in general use of assay = ining the qualities of Gunpowder,

it

2071 Fort St George 11th April 1797

It must be confessed that they are all
defective in a great degree, without
combining them together, and even
adding some new modes of trial, it is
impossible to arrive at any kind of
certainty. Gunpowder that contains a
large proportion of sea Salt, when perfectly
dry will throw a Ball to a sufficient
distance, and answer in perfection
the usual proofs, but on being exposed
in Magazines or more especially in
Cartridges to the air, it becomes damp
and good for nothing. Besides the ordinary
Methods of proof an analysis should
occasionally be made of a quantity taken
from a certain number of barrels
and mixed together. It would be seen
whether this contains the proper
proportions of Salt Petre, Charcoal and
Sulphur, and last of all whether the
Salt Petre has been brought to a proper
degree of purity, Such an examination

2072 Fort St George - 11th April 1797

it is imagined, would greatly tend to put
a stop to any endeavour at fraud.

The method of proof that has
been in constant use at this place, is
the same that has been recommended
by the Trinity, altho' it is subject to a
considerable alterations from a variety
of causes besides the qualities of the Gun =
powder, it may still be considered as
useful; It is a brass mortar at the elevation
of 45 — into the Chamber of which, three
ounces of Gun powder are poured. It is
charged with a brass Ball weighing
6lbs which in order that proof, the
powder must throw to the distance
of 525 feet, on this the Committee
have made all their trials not a
from believing it unaccurate a
method, but from its being the a
customary one.

In the several compositions a
that the Committee have made for a
Gun powder

2073 Fort St George 11th April 1797

Gunpowder Mags have always kept the
salt petre at 75 per Cent, for it seems
to be well established, that such a
proportion of that ingredient is absolutely
necessary. The proportions of the other
two still not to be so accurately exter-
mined. Good Gunpowder may certainly
be made, while the Sulphur or Charcoal
is considerably increased or diminished,
provided they make together the
remaining 25 parts of the hundred —
The Composition in use at the Bombay
Powder works was as follows. —

65 Salt Petre
15 Charcoal
11/4 Brimstone
91/4

This brings the proportion of Salt petre
to something more than 7 per Cent
for the Mags. and is too small a proportion
of that ingredient even supposing it to
have

2074

Fort St George 11th April 1797

have been in a state of sterility which were far
from being the case.

The Committee hope it will appear by
their report that they have recommended several
beneficial and very necessary alterations in
the manufacture of Gunpowder at this
Presidency

They are sensible that other im-
provements might be made and that they
have not considered the subject in all its
parts. Those who are used to such experiments
will know the long time they occupy, if
precision is their object, as the
pressure whatever is made to discovery,
it must be allowed that some labours is
required to put in practice the
knowledge of others, and to rectify more
that have long prevailed.

Comparative trials of Powder
made according to the French method
with common Bombay, English and
fine

2075 Fort d'Guarge 11.th April 1797

Fine Battal Powder. From 8.th march to the 9.th April 1796.

Composition answering to the Fourth —

March 8.th 12 oblock noon
Trial 1.st —

1 Range	596.
2	574.
3	607.
	1777.

Medium range of each Shot 592 1/3 feet.

Fourth Composition

Trial 2.d — 10 oblock a: m:

1 Range —	534
2	563 —
3	550
	1647

Mid: range of each Shot 549 fs

Trial 3.d —

Fourth Composition

1 Range	565
2 — —	567
3 — —	565
4 — —	552
	2249

Medium Range of each Shot - 562 1/2 feet

Bombay Powder

1 Range —	510
2 —	497 —
	1007.

Medium Range of each shot 503 1/2 feet —

Trial 4.th — 7 oblock a: m: This powder was exposed all night on an open table. —

Fourth Composition

1 Range ..	495
2	525
3	525
4	536
5	540
6	561
7	545
	3727

Medium range of each Shot 532 3/7 - feet

Bombay Powder

1 Range ..	503
2	515
3	495 —
4	493
5	521
6	539
7	540
	3606 —

N: B The last Shots begin to get better from the drying of the powder by the heat of the day

Trial

2076 Fort St George 11th April 1797

Trial 5th april 3 o'clock in the morning.

1 Range	566	5 Range	538
2	517	6	555
3	540	7	542
4	545	8	566
		9	538
			4907

2168

medium range of each shot 545 1/9 feet

Trial 6th — The powder kept all night in an open tube 4 april

Tomaka Champion Gun

1 Range	560
2	549
3	565
4	553
5	525
6	554
7	543
8	538
	4387

Boudoul Quarter

1 Range	520
2	530
3	499
4	545
5	541
6	536
	3171

Medium range of each shot 548 3/8 feet

Medium range - 528 - 3/6 feet

Trial 7th april 7 - 6 o'Clock A.M. -

Tomaka

1 Range	530
2	520
3	523
4	558
5	540
6	558
	3229

Medium range 538 3/6 ft

Europka

1 Range	531
2	518
3	529
4	547
5	545
6	555
	3225

Medium range 537 1/2 feet

Boudoul

1 Range	503
2	483
3	521
4	542
5	532
6	521
	3102

Medium range 517 - feet

Trial 8th - april 9th 6 o'Clock A.M. —

Tomaka

1 range	541
2	536
3	526
4	519
	2122

Medium - 530 1/2 ft

Europka

1 range	532
2	552
3	522
4	526
	2132

Medium 533 ft

Boudoul

range 516	range 528
2 — 520	2 — 544
3 — 523	1072
4 — 523	

Medium 513 ft

Europka Quarter

Medium 536 ft

Trial

2077 Fort St George 11th April 1797

Trial 9th —

1 Range	525		1 Range	535		1 Range	537
2	555		2	525		2	500
3	553		3	520		3	527
4	523		4	531		4	480
5	511		5	512		5	517
6	547		6	521		6	499
	3220			3144			3060

Fine Grained Gunpowder from Bombay Arsenal

Fine Grained Gunpowder from Bombay Arsenal

Fine Grained Gunpowder from Bombay Arsenal

Medium range of each shot 536 2/3 feet

Medium range 524 ft

Medium range 510 feet

In the above Tables, it is to be observed that what is marked French composition is the powder made by the Committee. The Europe powder is the best they could find from England, and the Bombay powder is such as is commonly made at the Powder Works here.

The Powder made by the committee appears to be as good as the best Europe Powder, and as far as two trials go, not inferior to the fine Battle Powder, it has even at times made larger ranges than either of them. The powder should always be exposed to the air for one night,

or

2078 Fort St George 11th April 1797

on an open paper, before it is tried, for no conclusion can be drawn from Powder wet pried in the Sun, and afterwards for a few days kept in the air. —

N.B. Many of the rivings of this mortar are probably as long as they ought to have been, for the Ball has been much injured, and has lost much of its Globular figure. Besides this, there is a communication of several lines in diameter between the Chamber of the Mortar and its Bore —

Estimate of the expence of making Gunpowder at the Bombay Works. —

As the works at present are fit to make only 8 Barrels a day, or 240 Barrels per month, the Calculation is founded on that quantity. —

A Bag of Salt. Petre weighs a gross to Bombay measure — Two half a maund. the nett weight is 4

Therefore

2079

Fort St George 11th April 1797

Therefore 52 Maunds or 1924 lbs each Bags -
supposing this salt Petre to be pure, it
would require for 240 Barrels. - 119⅓ Bags
of it, which at the rate of Rupees 10-1-, as
paid by the last Contractor to the Company,
goes in all for 240 Barrels. - Rupees 1178.3

Also is sustained of 20 per Cent
on refining; for altho' the real quantity of
foreign Salts may not amount to 10 per
Cent, there is a great loss of Salt, in
recovering the Salt Petre from the
20 per Cent, of salt Petre and common
Salt dissolved in the two washings - vizt,
Therefore the loss to the Powder maker
is 20 per Cent. This give an additional
expence for Salt Petre of Rupees 2375 - 2. -

It appears that by the operations
of milling, granulating, sifting and
drying, that the quantity of Composition
which should produce 8 Barrels of
Powder, only makes 7 Barrels, which
is a waste by the operation of more th
than

2080 Fort St George 11th April 1791

than 12 per Cent but 12 per Cent on
Rupees 2375. 2 - is Rupees 197. 3. The
Total Expence then of Salt Petre for 240
Barrels is Rupees 2573 - 1

A Candy of Sulphuer Costs
Rupees 100. It weighs gross 33 Bombay
Maunds. The Tare and Stone are
equal to 12 Maunds or 336 lbs This
reduces the Candy to 588 lbs - a loss
is sustained by refining of 1/4th - which
now reduces it to 441. lbs - Sulphuer
is one tenth of the Composition of
Gunpowder, There is therefore required
for 240 Barrels 2400 lbs - 441 lbs of Sulphuer
cost 100 Rupees 2400 lbs will cost 544 Rupees

But there is a loss of 12 per
Cent in passing thro' the operations
for making Gun powder - that is 44
Rupees 45. -

Total expence therefore of Sulpher
for 480 Barrels is Rupees 589 -

It will require 3,600 lbs of Charcoal

at

2081

Fort St George 11th April 1797

at the rate of 15 per Cent of the Composition
for 240 Barrels of Gun powder, That is
128 Bombay maunds of Charcoal which cost
1.1 Rupees per mauna - That is rupees - 160 -
But there is a loss of 12 per Cent as before
on the manufacture - equal Rupees 19 -
Total expence then of Charcoal for 240 Barrels
in Rupees 173. -

Expence of Buffaloes

For the 4 mill houses there are wanted 128 Buffaloes
For 12 Cylenders . . . . . 48 - 00
176

Each Buffalow per month was furnished with grass
by Contract for Rupees 3-2 each 616
Grain at 2 Seer each daily is per month 1056
Seer that is about 20 Candy's
at 17 Rupees a Candy is 340
Straw per Candy per month at 12 R.s a Candy is 96
Oil and Maund 3
Total Expence of feeding Buffaloes Rupees . 1055

The prime Cost of 176 Buffaloes at 32 Rupees
each is Rs. 5632 - The Interest on this sum
at

2082 Fort St George 11th April 1797

at 9 per Cent per annum is Rupees 506.
But a Buffalow lasts at this hard Labour
only 7 years – That is a loss of more than
14 per Cent is annually incurred on it
their prime Cost but 14 per Cent on their
prime cost is Rs. 788 per annum +
Besides this, there is the risque of
accidental Death, and a Buffalow +
however will sell for something, which
we shall suppose will diminish the
loss by waste and the risque of sudden
Death to 7 per Cent on the prime
Cost, or one half of what it would +
otherwise have been, the expence +
therefore on Buffaloes will stand +
as follows. –

Interest per annum on their prime Cost 506

Interest per annum on waste & risque 394

900

That is per month for Interest on Buffaloes nearly 75 –

Forward +

2083

Fort St George 11th April 1797

Servants

For 4 boating houses on ye	36	attending Buffaloes &		Men
Sifting	30	their houses		10
Cylinder mills	24	Peons	4	
Press	10	Watermen	4	
Drying Powder	3	attending saltpetre house	4	
Sifting Salt Petre	4	Carpenter	1	
Do Sulphur	2	Cooper	1	
Drying Salt Petre	2			
Grinding and Sifting Charcoal	2	Servants	137	

At per Madrass 5 Rupees each 685

Tyndall 60

Total Expence of Servants 745 Rupees

Petley

2084 Fort St George 11th April 1797

Petty expences monthly. -

to wat gaurge	80 Rupees.
Goat Skins	10
Ghee one Maund	2
Leather Buckets 60	5
Leather for Buffalow eyes	15
Copper sieves	6
Iron Work for Sieves	10
Ropes for Press house 4"	5
Twine	5
Black wood wanted for breakage	" 2
Bamboo Baskets	10
Wax	5
Nails	1
Copper Nails	1
Brooms	1
Rattans	2
4 Pices Dungaree	" 2
Wooden Mallets	2
	1 . 1
amount Petty expences	162 . 1 Rupees

The

2085

Fort St George 11th April 1797

The above mentioned articles of Expence being collected, give the following Expenditure for 240 Barrels of Gunpowder each Barrel being 100 lbs—

		Rs
	Total expence of last Page	2573-1
do	Sulphur	589-
do	Charcoal	173-
	Expence of feeding Buffaloes	1055
	monthly Interest on the prime cost & Diminution of value of Buffaloes	75
	Servants wages	745
	Duty Expences	162. 1
		5372. 2

Rupees 5372-2- divided by 240, gives for the expence of each Barrel Rupees 22-1-60-

There can be little doubt but that this Calculation is rather below what the Barrel of Gunpowder would really cost— If every thing went on with perfect regularity this would be nearly the truth: but the expence

2086 Fort St George 11th April 1797

Upwards of 300 Works are known at all
times to afford such sums of estimates — It
must also be considered that the
Contractor loses part of the year while
the rains continue, when he is
obliged to feed his Buffaloes and to
keep up part of his Establishment —
The last Contract was made at the
rate of 20 Rupees per Barrel, a Sum
that Gunpowder could not be made
for — He accordingly on 2000 Barrels
lost about 9000 Rupees —

(Signed) Robert Nicholson
Lt Col. Engineers

Richard Jones
Lt Col. artillery

Holmes Coote.

a True Copy
John de Ponthieu
Sec. — Mil. Board

Bombay
20th April 1796 (Signed)
— Town