

(1) Number of pages _____

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MADRAS RECORD OFFICE

Government of Madras

Public Works

DEPARTMENT

G.O. No.	1058 A.	Press
B.P. No.		Mis.
Dated	24 - 4 - 1954	

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
24th April 1874.*

Read the following letters:—

No. 308A. From Surgeon E. NICHOLSON, to Colonel G. W. WALKER, R.E.,
Secretary to Government, Public Works Department, dated Bangalore,
4th February 1874, No. 67.

With reference to the last paragraph of Government Order, 20th January 1874, No. 205, I have the honour to state that the present stage of the experiments, viz., that of ascertaining the additions necessary to render limestones hydraulic, can be concluded about 30th April. The second stage, the examination of each of the many hundreds of specimens sent me from all parts of the Presidency, would take about twelve months more, as it requires a trial of the lime after burning, as well as chemical examination. This part, though important, is, however, less so than the first stage; I shall probably be able to give an account of the more typical limestones by the date I have mentioned for the termination of the present stage of inquiry.

2. There are other investigations connected with this inquiry, such as experiments on the thickness and rise to be given to concrete roofs made entirely without timber, on the resistance of various concretes to sea-water, on the most economical composition for the concrete blocks used in harbour works; but all these would be best conducted in connection with cement works at Madras.

No. 308B. From the same Officer, dated Bangalore, 14th April 1874, No. 76.

I HAVE the honour to state that since my letter, No. 67, of February 4th, I have received the Order of Government on my report dated 20th November 1873, and, in accordance with the instructions conveyed in it (and in the note by the Chief Engineer for Irrigation) I wound up the experiments on typical materials, and have entered on the systematic examination of the large number of limestones, etc., sent to me from the different districts.

2. Regarding the time required for concluding this work, I venture to give the end of 1874 as about the time when I should be able to present a final report on the subject and close the office. My work is much facilitated by the use of the calcimeter, an instrument which I have devised, and which permits the Engineer to ascertain in a few minutes the percentage of carbonate of lime contained in a limestone, and of unburnt or recarbonated lime in a specimen of lime. The apparatus is always in working order, and requires no chemical skill for its use. If desired, I will have one or two made up in London and sent out. The cost would not exceed Rupees 30 each.

3. I am now preparing the report on the concluded experiments with typical materials.

No. 308C. ORDER THEREON, 24th April 1874, No. 1,058A.

ESTABLISHMENT, No. 18A.

In the later of these letters, Surgeon Nicholson reports that the experiments on limestones on which he is engaged will probably occupy him up to the end of 1874. It will not however be necessary to

*Proceedings of the Madras Government, Public Works Department,
24th April 1874.*

examine in detail the many hundreds of specimens of limestones which have been received from different districts. It will suffice if these be classified, and if the most appropriate treatment of a few of the specimens in each class be stated, care being taken that the qualities of a few of the limestones of each district be ascertained, and the method of rendering them hydraulic or otherwise more serviceable for constructive purposes detailed.

2. Considering that Surgeon Nicholson commenced operations on or about 1st January 1873; that he has concluded his experiments upon typical materials; and that only a comparatively few specimens of the limestones of different districts have to be examined, his services in the Public Works Department will be dispensed with from the expiration of four months from the 1st April, making a total of nineteen months since his first employment on the experiments.

3. Under the rules in force regarding obtaining articles of any kind from England, it will be necessary to indent upon the Secretary of State for the apparatus or instrument called by Doctor Nicholson a calcimeter, and on the receipt of a drawing and specification it will be decided how many shall in the first instance be ordered.

(True Extract.)

Colonel, R.E.,
Secretary to Government.

To the Chief Engineer for Irrigation.
To Surgeon Nicholson.

.. all District Engineers.

.. Lieutenant-Colonel R. B. Kennedy.

.. Surgeon-General S. M. Deptt.
.. Military Deptt.

Exd. E. C. Shunker.

Spare Copies

N^o 76 Bangalore 14th April 1874 38

From Surgeon E. Nicholson B. M. S.
on special duty D. P. W.

To The Chief Engineer & Secretary to Govt. P. W. D.

Sir

1 I have the honour to state that since my letter N^o 67 of July 4th I have received the Order of Government on my report dated 20th Novr 1873 and in accordance with the instructions conveyed in it (and in the note by the Chief Engineer for Irrigation) I wound up the experiments on typical materials and have entered on the systematic examination of the large number of limestones &c sent to me from the different Districts.

2 Regarding the time required for concluding this work, I venture to give the end of 1874 as about the time when I should be able to present a final report on the subject and close the office.

My work is much facilitated by the use of the calcimeter an instrument which I have devised and which permits the Engineer to ascertain in a few minutes the percentage of carbonate of lime contained in a limestone and of unburnt or recarbonated lime in a specimen of lime. The apparatus is always in working order and requires no chemical skill for its use.

If desired, I will have one or two made up in London and sent out. The cost would not exceed Rs 30 each.

3. I am now preparing the report on the concluded experiments with typical materials.

I have the honour to be
Sir

Your most Obedt. Servant

Edward Nicholson

Surgeon B.L.S.
on special Duty D. P. M.

N^o 67

Bangalore 4th Feb

69

Q. No. 1374. Department
of Public Works
No. 2293 B.

From
Surgeon E. Nicholson
B. M. S.
on Special Duty D. P. W.

To
The Chief Engineer
& Secy. to Govt. P. W. D.

Bangalore 14th April 1874
Received 17th - P.
No. 76

No 35813

Regarding the time spent
in comparison of cement
inquiry.
G. O. No. 1058 A. 26-6-74

No. 67 Bangalore 4th February 1874.

From
Surgeon E. Nicholson B. M. S.
on Special Duty D. P. W.

To
The Chief Engineer and Secy. to Govt.

Sir
With reference to the last paragraph
of Government order 20th January 1874. No. 205
I have the honour to state that the present
stage of the experiments, viz. that of ascertaining
the additions necessary to render limestones
hydraulic - can be concluded about 30th April.
The second stage, the examination of ^{each of} the
many hundreds of specimens sent me from
all parts of the Presidency, would take
about 12 months more, as it requires a
trial of the lime after burning, as well as
chemical examination. This part though
important is however less so than the first
stage; I shall be probably be able to give an
account of the more typical limestones by
the date I have mentioned for the termination
of the present stage of inquiry.
There are other investigations connected with
this inquiry such as experiments on the thickness
and rise to be given to concrete roofs made entirely
without timber, on the resistance of various
concretes to sea-water, on the most economical composition
for the concrete blocks used in harbour works;
but all these would be best conducted in

1058d. Rev^d 98

P. W. D.

Proceedings of the Madras Government,

Under date the

187

Read the following:—

From

Surgeon Nicholson (N.R. No 74 of 14 Febry 1874)
Do (N.R. No 76 of 14 April 1874)

In the later of these letters Surgeon Nicholson reports that the experiments on lime stones on which he is engaged will probably occupy him up to the end of 1874. It will not however be necessary to examine in detail the many hundreds of specimens of lime stones which have been received from different districts.

M. L. 22/11

1058d. Rev^d 98

1058d. Rev^d 98

G.O. No. 1058d. 24-4-74
Regarding enclosure 19/10/74

1058d. Rev^d 98

1058d. Rev^d 98

1058d. Rev^d 98

1058d. Rev^d 98

1058d. Rev^d 98

1058d. Rev^d 98

1058d. Rev^d 98

1058d. Rev^d 98

It will suffice if these
be classified, and if the
most appropriate treat-
ment of a few of the
specimens in each class
be stated, care being
taken that the qualities
of a few of the stones
of each District be as-
certained, and the me-
thod of rendering them
hydraulic, or otherwise
more serviceable for con-
structive purposes detailed.

Considering that
Surgeon Nicholson com-
menced operations on
or about 7th January
1873, that he has con-
cluded his experiments
upon

118
upon typical materi-
als, and that only a
comparatively few
specimens of the kind
stones of different Dis-
tricts have to be examined,
his services as the P.W.
Dept. will be dispensed
with from the expiration
of 4 months from the
1st April making a
total of 19 months since
his first employment
on the experiments.

Under the rules in
force regarding obtaining
articles of any kind from
England, it will be ne-
cessary to indent upon
the

The Secretary of State
for the apparatus or
instrument called
by Mr. Nicholson a
calcinator, and on the
receipt of a drawing
and specification it
will be decided how
many shall in the
first instance be ordered.

C.M.W.

Surgeon General
J. A. Nicholson
J. A. Nicholson
J. A. Nicholson

his desps only to Surgeon Nicholson
24/4/74

160
25

308 CL- 308 C

To the Chief Secy for Brig
Surgeon Nicholson

All Mr. Nicholson's
"Surgeon General's Office"
"Surgeon General's Office"

2.2.74
C. 22/4/74

134

Mr. Nicholson's letter
Surgeon General's Office
J. A. Nicholson
J. A. Nicholson
J. A. Nicholson

17/4

Recorded with reference
to G.O. of the 21st February
1874, from which Surgeon
Nicholson will have
learnt the direction which
his further investigations
into the characters and
property of lime stones
should take. It will not
be necessary to examine in
detail the many hundreds
of specimens of lime stones
which have been received
from different Districts.
It will suffice if these
be classified, and if the
most appropriate treatment

W. 23/3/24

Q. The same is true of the
reformers, and they are
materially more than
compensated for the
loss of the other side of the
house by the fact that
they are more numerous,
and more powerful.

The Chief Engineer for Irrigation
" Surgeon. Nicholson
" All Districts -

Erwin

by 8/3

[Signature]

6771
2293-B4

Gobt. of 1874 Madras.

PUBLIC WORKS.

To

The C. Supr. for
Irrigation

Dated

Recd.

Encl.

G. O., 24th April, No. 1058 &

Nos. 308A-308B.

Surgeon Nicholson

Passing orders on the
subject of the ~~arrangement~~
experiments on lime
stones by Surgeon Nicholson
& dispensing with his
services in the P.W. Dept.
from the expiration of four
months from the 1st

April 1874

17th April 1874
to the Secy to Govt - Civil Works