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MADRAS RECORD OFFICE.**Government of Madras.***Public Works* **DEPARTMENT.**

G.O. No. 1333	Press
265-66	~~Mis.~~
Dated 15-5-	1871.

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
15th May 1871.*

No. 265. Read the following Endorsement of the Public Department, dated 6th May 1871 —

Read the following letter from the Sanitary Commissioner for Madras, to the Chief Secretary to Government, Public Department, dated Madras, 2nd May 1871, No 607.

I HAVE the honour to report, for the information of Government, that I have visited Bangalore with the object principally of making myself acquainted with the present state of the water-supply for the European troops of that station.

2 As Government is already aware, the present supply for ablution and general purposes consists of the Ulsoor tank water partially purified by filtration, which is pumped up to reservoirs on the high ground near the Artillery and Race-course Barracks, and thence distributed, by pipes and hydrants, to the different blocks of buildings.

3 The supply for drinking purposes and for cook-rooms is still brought by puckahs from the "Dhobies' wells," as the works for the distribution of this water are not yet completed.

4 As the supply of two different descriptions of water—the one fit for all kinds of domestic use, and the other only suited for limited use—appears to me to be a very objectionable arrangement (for reasons which I need not stop now to particularize), I have the honour to suggest that before any final plan is determined upon, it would be most prudent to ascertain by actual experiment what the yield of the "Dhobies' wells" may be in the driest season of the year, with the view of determining whether the whole of the supply for European troops may not be obtained from the purest of the two sources.

5. The "Dhobies' wells" are sixteen in number, and they are all connected, so that the water filtering into any well may be lifted from the lower one by the steam pump erected for the purpose

The storage capacity of the sixteen wells is said to be 165,000 gallons. At the present time the depth of water is on y about 13 feet in the wells, and at this depth the quantity of water contained in them would not amount to more than about 104,000 gallons. From a register kept by the officer in charge, it would seem that the level of the water in the wells falls very much in proportion to the fall in the Ulsoor lake above, that is the fall in the lake was about 11 inches, and the fall in the wells about 12 inches during April. As the puckahs had removed during the month about 150,000 gallons from the wells, and the lowering of water level was only equivalent to the loss of 8,000 gallons, I think it must be presumed that the wells are supplied mainly by percolation from the lake above.

6 I am aware that this view has been questioned by the Acting Superintending Engineer, 5th Division, in Proceedings of Government, No. 2,152, dated 8th September 1870, but there are many reasons for inferring that the lake is the main feeder of the "Dhobies' wells"

It is shown, for instance, that a rise of the water level takes place in the wells after the lake receives an accession of rain water, and that the fall in the wells corresponds very closely (irrespective of draught from the wells) with the subsidence in the lake above.

*Proceedings of the Madras Government, Public Works Department,
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Moreover, there is the important fact that the chemical composition of the two waters, as regards their mineral constituents, is identical. The proportions of chlorides, sulphates, etc., in the well water is within a fraction of a grain, the same as those of the lake water. The difference in fact in the two waters is merely such as can be accounted for by filtration through a soil which has cleansing properties. The lake water is muddy and rather too full of some forms of organic matter, while the well water is bright and clear, and contains a smaller proportion of organic matter. The stratum of soil through which the water percolates is a coarse laterite conglomerate containing iron, and forms the best and safest kind of natural filter.

7. I have entered into these particulars to show that there are good grounds for supposing that the "Dhobies' wells" will always yield a sufficient supply of pure water for all ordinary purposes for the use of the British troops. It may be that the present number of wells present too limited an area for filtration, but should this prove to be the case nothing can be easier than to dig more wells in the same locality and connect them with the present wells.

8. Captain Wood, R. E., has ascertained that a total quantity of 35,000 gallons per diem is more than is used by the troops for all purposes. I have suggested to that officer, and he quite concurs with me, that it would be well to test the yielding capacity of the wells during the present month, the driest season of the whole year, for the purpose of determining whether they are capable of yielding a daily supply of say 50,000 gallons without running dry.

9. The pumping engine is quite ready for use, and with the sanction of Government Captain Wood is prepared to test at once the yield of the wells. I beg to recommend that this very important experiment may be undertaken without delay, as upon the results rests the whole question whether the purified water-supply is sufficient or not for all the wants of European troops.

10. If the present number of wells will yield 50,000 gallons or even 30,000 gallons per diem during the dry season, when the lake is at its lowest, I have no fear as to their yielding more than enough at all other seasons of the year.

11. Should the pure water-supply prove to be ample, I believe the Government would have no difficulty in disposing of the existing water works and plant of the Ulsoor lake project to the Bangalore Municipality, should such a procedure appear desirable, but upon this point and other subjects connected with the water-supply, I will defer expressing an opinion, pending the decision of Government to test the yielding capacity of the "Dhobies' wells."

TRANSFERRED to the Public Works Department

(Signed) W. HUDLESTON,
Acting Chief Secy. to Govt

No. 266.

ORDER THEREON, 15th May 1871, No. 1,333.

MILITARY WORKS, No. 7

As it is very desirable that the capability of the Dhobies' wells to furnish a sufficient supply of water for all

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15th May 1871.*

ordinary purposes for the use of the European troops at Bangalore should be ascertained as early as possible, His Excellency the Governor in Council approves of the proposal of the Sanitary Commissioner that advantage should be taken of the present dry season for making the necessary experiments which should accordingly be at once undertaken by the Executive Engineer.

(True Extract.)

(Signed) J. CARPENDALE, Colonel, R. E.,
Secretary to Government.

To the Superintending Engineer, 5th Division
.. Sanitary Commissioner
.. Military Department
.. Controller of Public Works Accounts

No 607

OFFICE OF SANITARY COMMISSIONER,
Madras, 2nd May

1871.

From

To
The Sanitary Commissioner for Madras,
The Chief Secretary to Government
Public Department
Fort St. George.

Sir,
I have the honor to report for the information of Government that I have visited Bangalore with the object, principally, of making myself acquainted with the present state of the water supply for the European troops of that station.

2. As Government is already aware, the present supply for ablation and general purposes, consists of the Ulsoor tank water partially purified by filtration, which is pumped up to reservoirs on the high ground near the Artillery and Race Course barracks and thence distributed by pipes and hydrants to the different blocks of buildings.

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4. As the supply of two different descriptions of water - the one fit for all kinds of domestic use, and the other only suited for limited use - appears to me a very objectionable arrangement (for reasons which I need not stop now to particularise), I have the honor to suggest, that before any final plan is determined upon, it would be most prudent to ascertain by actual experiment, what the yield of the "dhobies wells" may be in the driest season of the year; with the view of determining whether the whole of the supply for European troops may not be obtained from the purest of the two sources.

5. The "Dhobies wells" are 16 in number, and they are all connected, so that the water filtering into any well, may be lifted from the lower one by the steam pump erected for the purpose.

The storage capacity of the 16 wells is said to be 165,000 gallons. At the present time the depth of water is only about 13 feet in the wells, and at this depth the quantity of water contained in them would not amount to more than about 104,000 gallons. From a register kept by the officer in charge it

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b. I am aware that this view has been questioned by the Ag. Superintending Engineer 5th Division in Proceedings of Government No. 2152 dated 8th September 1870, but there are many reasons for inferring that the lake is the main feeder of the "dhobies wells."

It is shown for instance that a rise of the water level takes place in the wells after the lake receives an accession of rain water, and that the fall in the wells corresponds very closely (irrespective of draught from the wells) with the subsidence in the lake above.

Moreover, there is the important fact

fact that the chemical composition of the two waters, as regards their mineral constituents, is identical. The proportions of Chlorides, sulphates &c. in the well water is within a fraction of a grain the same as those of the lake water. The difference in fact in the two waters is merely such as can be accounted for by filtration, through a soil which has cleansing properties. The lake water is muddy and rather too full of some forms of organic matter, while the well water is bright and clear, and contains a smaller proportion of organic matter. The stratum of soil through which the water percolates, is a coarse laterite conglomerate, containing iron, and forms the best and safest kind of natural filter.

7. I have entered into these particulars to show that there are good grounds for supposing that the "dhobies wells" will always yield a sufficient supply of pure water for all ordinary purposes for the use of the British troops. It may be that the present number of wells present too limited an area for filtration, but should this prove to be the case nothing can be easier than to dig more wells in the same locality, and connect them with the present

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at all other seasons of the year.

11. Should the pure water supply
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existing water works and plants of the Ulsoor
lake project to the Bangalore Municipality,
should such a procedure appear desirable;
But upon this point and other subjects con-
nected with the water supply, I will defer
expressing an opinion, pending the decision
of Government to test the yielding capacity
of the "Dholeis wells".

I have the honor to be

Sir,
Your most obedient servant.

Wm. C. G.

Sanitary Commissioner

for Madras.

Public Works Department

1/12/1907
1/12/1907
1/12/1907

Recd. 8th Sept. 70 No. 607
From Public (1871) Dept.
No. 2057
The Sanitary Commissioner
for Madras

To The Chief Secretary
to Government
Public Department
Fort St. George.

Dated 2nd }
Despd. 4th } May 1871
Recd. 11th }

No. 607 No. 826

Submits observations on
the water supply of

Bangalore
No. 1333-15 May 71
Transmitted to
the S.P.W.

L. Anderson
4/5/71 asst. Sec.

May 15
Public Works Department
No. 1333.
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13
Proceedings of the Madras Government
Under date the 15th May 1871
Read the following

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for Madras. - P.H.E. No. 607 of 2nd May 1871

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in

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in Council approved of
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nitary Commissioner
that advantage should
be taken of the present
dry season for making
the necessary experiments
which should accordingly
be at once undertaken
by the Executive En-
gineer.

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112 Def 216/5/21

To The Sup^d Engr^s
of the S^t Comm^r
3rd Sanitary Comm^r
15th Mily Dept^t
5th Engr^s Bungalow

