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MADRAS RECORD OFFICE.

Government of Madras.

Public works **DEPARTMENT.**

G.O. No. 2574 Press Mis.

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Dated 22 . 8 1867.

Not to be folded or roughly handled

Proceedings of the Madras Government, Public Works Department,
22nd August 1867.

No. 529. Read the following Proceedings of the Madras Government in the Judicial Department :—

Passing orders on the reports of the Chemical Examiner upon the drinking and bathing water in use at the Salem Central Jail. } (Here enter 15th August 1867, No. 1,325.)

No. 530. ORDER THEREON, 22nd August 1867, No. 2,574.

CIVIL WORKS, No. 66.

Communicated to the Superintending Engineer of the 5th Division for information.

(True Extract.)

(Signed) CHARLES A. ORR, Colonel, R. E.,
Secretary to Government.

To the Superintending Engineer, 5th Division.

Exd. S. T. Augustin.

Proceedings of the Madras Government, Judicial Department, 15th August 1867.

No. 169. Read the following letter from the Inspector General of Jails, to the Acting Chief Secretary to Government, Fort Saint George; dated Ootacamund, 9th August 1867, No. 83.

With reference to the 5th paragraph of the Order of Government noted in the margin, I have the honor to forward copies of the reports of the Chemical Examiner upon the drinking and bathing water in use at the Central Jail, Salem, together with a letter from the Superintendent.

Judicial Department, 24th June 1867, No. 1011.

2. The drinking water is reported as being unfit both for that purpose and for cooking, because of the large quantity of organic matter and of Carbonate of Lime which it contains. It is described as being clear and without sediment or odour, and as being palatable, although slightly brackish.

3. The bathing water has been carefully examined under a miscroscope, without the discovery of any thing which would account for the prevalence of Guinea Worm. This disease is reported to have been on the decline since the end of May, and there were only three cases on the date of the Superintendent's letter.

4. The well from which the drinking water was taken for analysis is the only one within the Jail, and it is so situated that it cannot receive any accession of organic or impure matter from any source connected with the Prison. It is about 25 feet deep, and sunk principally through rock and decomposed granite. The water is pronounced good by the Superintendent, so far as taste and appearance are concerned; but, as the analysis is so unfavorable, I requested him, on the 3rd instant, to send six quart bottles of water from the garden well to the Chemical Examiner, and the result shall be duly reported.

5. I enclose a statement showing the sickness and mortality in the Prison for one year, made up to the date of the last report received, viz., that for June. The highest percentage of sick to strength during that period for any one month was 6·34, and the lowest 3·69, the average being 4·64.

From the Superintendent of the Central Jail, Salem, to the Inspector General of Jails; dated Salem,—July 1867, No. 192.

With reference to the Proceedings of Government and Order thereon, No. 1011, of 24th June 1867, I have the honor to forward the accompanying letter received from the Chemical Examiner, together with the result of his analysis of the drinking water used in this Jail.

2. Since the Sanitary Commissioner visited this Jail, the number of cases of Guinea Worm have gradually decreased, and there are now only three patients in Hospital suffering with that disease.

3. The Chemical Examiner does not seem to have discovered the existence of anything in the bathing water (which was obtained from the river), or in the drinking water, that would account for the unusual number of cases of Guinea Worm that were recently admitted into Hospital.

4. The drinking water is reported to be unfit for drinking or cooking purposes, owing to the large quantity of organic matter contained in it, and I have the honor to request your instructions on the subject.

5. The water was taken from the only well inside the Jail, and in appearance and taste is good. I now purpose to send to the Chemical Examiner a sample of the water from the well inside the Jail garden for analysis, with the view of it being generally used by the Convicts, in the event of it being declared fit for that purpose.

From Sub-Assistant Surgeon R. HARVEY, for Chemical Examiner, to the Superintendent of the Central Jail, Salem ; dated Madras, 29th July 1867, No. 161.

In reply to your letter, No. 163, dated 3rd July 1867, to the address of the Chemical Examiner, I have the honor to enclose the result of my analysis of the drinking water forwarded for examination with the above letter.

2. The bathing* was not subject to chemical analysis, but carefully examined miscroscopically, for the purpose of determining the cause of the unusual prevalence of Guniea Worm among the prisoners. The deposit obtained from the water was accordingly carefully examined under the microscope. No trace of the "tank worm," described by Dr. Carter, of Bombay, and which is considered to be the source of Guinea Worm, was discovered, the deposit consisting chiefly of vegetable matter, and the forms of animal life more commonly to be observed in tank waters.

* Sic in original. W. J. W.

RESULT of analysis of drinking water received from the Central Jail, Salem.

Sensible Properties.

Appearance...	...Clear, transparent—no sediment.
Taste...	...Slightly brackish, palatable.
Odour...	...None.

Chemical Properties.

To test paper reaction		Alkaline.
Solid matter in one Imperial Gallon.	Organic and other volatile matters. ...	6 Grains.
	Inorganic, Salts, &c....	21 Do.
	Total...	27 Grains.
Oxydizable matter by permanganate solution relation of oxygen to organic matter 1 to 8		·0320 Grains.
Hardness to Soap test 1°=·727 grains of Carbonate of Lime and ·989 of Sulphate of Lime.	Temporary	10°
	Permanent	15°
	Total...	25°
Chlorides determined volumetically as Chloride of Sodium in one Gallon.		7·015 20 grains.
Carbonate of Lime		very large.
Do. of Magnesia		Traces.
Iron...		Small.
In solution after boiling lime		Above average.
Magnesia...		Traces.
Chlorides		Above average a little.
Sulphates...		Above average.
Nitrates		Traces.
Ammonia...		None.

CHEMICAL EXAMINER'S OFFICE,
MADRAS, 29*th July* 1867.

(Signed) R. HARVEY,
for *Chemical Examiner.*

Remarks.

Water unfit for drinking from the large quantity of organic matter, and a very hard water. The amount of Carbonate of Lime very large, rendering it unfit for cooking purposes.

(Signed) R. HARVEY,
for *Chemical Examiner.*

(True Copy).

(Signed) W. J. WILSON,
Inspr. Genl. of Jails.

STATEMENT showing sickness and mortality in the Central Jail, Salem, between 1st July 1866 and 30th June 1867.

Months.	Average daily number of Prisoners in Jail.	Average daily number of sick.	Percentage of sick to strength.	Deaths.									Percentage of deaths to strength.
				Cholera.	Fevers.	Dysentery.	Diarrhœa.	Diseases of Lungs	Anasarca.	Atrophy.	Other cases.	Total deaths.	
1866.													
July...	734·35	39·25	5·34	...	...	1	1	1	...	...	...	3	·408
August.	774·12	36·	4·65	1	...	3	...	...	..	2	...	6	·714
September	836·60	41·	4·90	7	...	...	2	...	...	...	...	9	1·07
October.	929·21	42·	4·51	...	1	2	1	1	1	...	1	7	·754
November.	935·73	41·75	4·46	...	1	2	...	...	...	...	...	3	·3·0
December	904·22	38·45	4·25	1	1	1	...	...	1	1	...	5	·552
1867.													
January	890·67	37·25	4·18	1	1	1	...	...	...	...	...	3	·336
February.	897·75	33·50	3·73	...	2	1	...	...	...	...	...	3	·334
March	846·12	31·25	3·69	...	...	...	...	...	1	...	...	1	·118
April	726·16	34·75	4·78	...	...	1	...	...	...	1	...	2	·275
May...	618·22	39·25	6·34	...	...	...	...	...	...	...	1	1	·161
June.	562·23	27·50	4·89	...	...	1	...	...	...	...	...	1	·190

(Signed) W. J. WILSON,
Inspr. Genl. of Jails.

No. 170. ORDER THEREON, 15th August 1867, No. 1325.

The Government will await the report of the Inspector General of Jails on the analysis of water in the well in the garden attached to the Salem Jail. Careful inquiry should, in the meantime, be made as to the prospects of finding good drinking water in the neighbourhood of the Jail; and the prisoners might be usefully employed in boring for water.

(True Extract).

Acting Chief Secretary.

To the Inspector General of Jails.
,, Public Works Department.

Exd. J. H. Burns.

Lid

Civil Wars.

No 2574

Cannot be the
Subj Enquiries of the
5 Dn for information

M.

Fort St George
22nd August 1675

Recd 25 Dr

3

Dept. 28 August

16
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Recd 29 Dr
Ent. & Letters for Surgeon
No 3729.
Pr. Hollandia Gal.
Judicial Depts.

Dr 15 Sh
Acct 2nd

No 13225

Paying orders on
the Reports of the Chc.
miad Examiner upon
the drinking and bathing
water in use at the
Salem Chuttal Sailors
ency 2574 - 22nd July 67
Rcd 29th Aug

No 5529 - 5530