

- (1) பக்கங்களின் எண்ணிக்கை - 6 .
 (2) புதுக்கித் திருப்பிய நாள் 16.10.90
 (3) ஆதாரங்குறிப்பவர் சுருக்கொப்பம் 102

தமிழ்நாடு ஆவணக் காப்பகம்.

தமிழ்நாடு அரசு

PWD துறை

13

அரசாணை எண். மு. கோப்புத் தாள் எண்.	<u>2939</u>	அச்சகம் பலவகை
நாள் :	<u>2-11-1891</u>	198

மடிக்கவோ கண்டபடி கையாளவோ கூடாது

3 Sheets

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13TH OCTOBER 1891, No. 1036, FINANCIAL.

2939
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GOVERNMENT OF MADRAS.

FINANCIAL DEPARTMENT.

READ—the following paper :—

From the Revd. S. DOMINIC, Catholic Priest, to the Chief Secretary to Government, dated Place's Garden, Kilacheri, 22nd September 1891.

In accordance with G.O., dated 24th July 1891, No. 639, Financial, I have the honour to forward a detailed report on the artesian well boring at this place, together with a Statement (A) showing progress of work and cost of borings, &c., as also a Statement (B) showing the different strata of earth met with in the borings, for the information of Government.

2. It will be observed that work to the end of December 1890 only is shown in the report. No work has been done all this year owing to want of funds.

3. As Government has been pleased to sanction a further grant of 500 rupees towards this work, I hope to be able to resume operations as soon as the Superintendent comes.

4. I beg to thank Government for this grant of 500 rupees, as also for the loan of a strong winding drum through the Public Works Department, which I hope to receive shortly.

ENCLOSURES.

DETAILED Report on the Artesian Well Boring at Place's Garden, Kilacheri, Chingleput district, drawn up to 17th December 1890.

I have ventured upon trying the experiment of boring an artesian well in this garden,* as a source of water-supply for irrigating the extensive waste lands for the benefit of the monastery and orphanage located here.

* Situate in latitude 13° 2', longitude 79° 54' on the right bank of the Cooum river, in the old valley of the Palár river, immediately below and to the north of the large tank near the Cooum village.

A site in the south-eastern portion of the garden and close to the monastery and orphanage buildings was selected, as it was thought that water tapped could be advantageously conveyed to the several fields adjoining, as also being close at hand for frequent supervision. The preliminary arrangements for the work were made in the early part of the year 1886, and actual boring commenced on the 1st May of the same year. It was arranged that the boring should be tried to a depth of 300 feet, or thereabouts, with tubes of 7½ inches diameter. The services of a Superintendent from Pondicherry, one Alagyanadha Odiar, were secured on a monthly salary of Rs. 100, working days alone being taken into account; the Superintendent has agreed to supply necessary tools required up to a depth of 150 feet, and I have arranged for all materials and labour. The work was started at the surface of the ground, the diameter of the bore being 7½ inches.

A large shed in the shape of a quadrilateral pyramid was erected, the base of this measuring 33 x 29 feet, light and ventilation having been provided on one side at the top; access is had to the top of the scaffolding by means of a ladder fixed to the framework. In the centre of this shed there is a rectangular, wooden framework measuring 14½ x 12½ feet and resting on the ground; from the four angles of this framework rise four inclined legs of red-wood supporting a small rectangular frame 4 x 2 feet at their tops, where a double pulley of iron 18 inches in diameter is suspended. The height of the block is 25 feet above the ground level. The rods are lifted and let down by means of iron chains passed round the pulley and worked by a crab winch, the cylinder of which is a little over 12 inches in diameter. The power of this winch has been

increased by securing it with the cross pieces of the framework resting on the ground; but great difficulty is felt for want of a stronger winch. The boring rods are of bar iron, 1½ inch square, and are of two sets, one set being provided with male and female screws and the other set with sockets and pins; the length of these vary from 13 to 18 feet.

The boring, which was commenced on the 1st May 1886, was continued till the 29th April of the following year with an interval of about two months on account of the want of tools, which had to be brought from Pondicherry, and Christmas vacation intervening. The total cost up to then was Rs 1,090-5-2, which includes cost of constructing shed and fitting framework and superintendence, timber having been procured from the garden. The total depth bored was 152 feet, the depth to which tubes were lowered being 140 feet. Owing to the delay occasioned by the Superintendent on account of his own private affairs at Pondicherry, work was not resumed till the 2nd November 1888, that is, after a delay of over a year-and-a-half, and was continued till the 1st February of the following year, when a total depth of 224 feet 7 inches was reached. After another interval of about 9 months, work was again resumed and continued up to 17th December last with intervals aggregating to about six months; a total depth of 272 feet 5 inches of boring was now reached. The original tubes could not be lowered below the 140 feet already sunk as they had become rooted to the soil, so that tubes of a smaller diameter, viz., 6 inches, were resorted to, and this was started on the 30th November 1889; thus a little delay was occasioned by the getting up of the new tubes, which were obtained from Pondicherry.

The total depth of the tubes sunk up to date is 235 feet, and the total cost of boring up to date, including the price of all tubes and of rods required for depths below 150 feet, together with the cost of constructing the shed, fitting up framework and scaffolding, is Rs. 2,942-10-6.

There were in all 465 working days during the period from 1st May 1886—the date of commencement of the work—to 17th December 1890—the date on which work was closed on account of the Christmas vacation. Thus daily average of each description of work was—7 inches of boring and widening the bore for sinking tubes and 6 inches of sinking tubes. The larger tubes already sunk have not been taken into account. The details are given in the accompanying statement marked A.

The present depth of water in the bore is 8 feet 4 inches below the surface of the ground, and is the same as was observed on the 20th February 1889.

The different strata of earth that were met with, and their thickness, are detailed in the statement marked B, as well as in the drawings showing the section of the boring. Specimens of soil obtained from the boring are also fixed in the order of succession of the various strata and maintained as has been suggested by Mr. Bruce Foote (G.O., dated 2nd August 1889, No. 487, Financial Department).

A.

STATEMENT showing progress of work and cost of borings, &c., at the different stages of work.

Date of work.	Description of work.			Depth at which work is progressing.			Cost.	Remarks.
	Deepen- ing.	Widening.	Sinking pipe.	Total depth of boring.	Total depth of widening.	Total depth of pipes sunk.		
	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	RS. A. P.	
1886.								
May 1st to Nov. 26th.								
1887.								
Feb. 1st to Apr. 29th.				152 0	148 0	140 0	1,090 5 2	* This amount includes cost of constructing shed, fitting framework and supervision up to 29th April 1887. Thirty-five tubes, each 4 feet long, were sunk up to date.
1888.								
Nov. 2nd and 3rd.	4 0	1 0	..	156 0	149 0	Do.	20 11 0	
" 5th to 10th.	5 0	10 0	..	161 0	159 0	Do.	70 10 0	
" 12th to 17th.	4 0	4 6	..	165 0	163 6	Do.	69 14 6	
" 27th to 30th and Dec. 1st.	5 7	1 6	..	170 7	165 0	Do.	49 13 8	
Dec. 3rd to 8th.	5 11	6 1	..	176 6	171 1	Do.	63 3 0	
" 10th to 15th.	6 2	11 7	..	182 8	182 8	Do.	63 9 6	
" 17th to 22nd.	9 4	1 0	..	192 0	183 8	Do.	68 9 6	
" 24th and 26th to 29th.	6 3	10 11	..	198 3	194 7	Do.	84 14 6	Night work executed on 27th, 28th and 29th.

Statement showing progress of work and cost of borings, &c.—cont.

Date of work.	Description of work.			Depth at which work is progressing.			Cost.	Remarks.
	Deepen- ing.	Widening.	Sinking pipe.	Total depth of boring.	Total depth of widening.	Total depth of pipes sunk.		
	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	RS. A. P.	
Dec. 31st 1888, and Jan. 2nd to 5th, 1889.	7 6	11 2	..	205 9	205 9	140 0	94 12 5	Night work executed on 31st December 1888, and January 3rd, 4th and 5th, 1889.
1889.								
Jan. 10th to 12th.	6 4	.. 0	..	212 1	Do.	Do.	31 8 6	
" 14th and 16th to 19th.	4 8	.. 0	..	216 9	216 9	Do.	63 7 0	Night work executed on 14th January 1889.
" 21st to 26th.	3 8	0 3	..	220 5	217 0	Do.	62 16 3	
" 28th to Feb. 1st.	4 2	5 10	..	224 7	222 10	Do.	33 10 0	
Nov. 21st to 23rd.	1 3	..	..	225 10	Do.	Do.	16 6 3	Tools were repaired on 21st and 22nd and other sundry works.
" 25th to 30th.	5 8	30 0	..	231 6	*170 0	Do.	33 6 0	* As it was found impracticable to lower the tubes (7½") already sunk to a depth of 140 feet, it was arranged to sink tubes of 6 inches diameter and 30 feet of widening for smaller pipes were executed below the 140 feet on 30th Nov. 1889.
Dec. 2nd to 7th.	..	53 5	..	Do.	223 5	Do.	33 6 6	
" 9th to 14th.	..	4 3	..	Do.	227 8	Do.	32 11 0	
" 16th to 18th.	..	..	..	Do.	Do.	Do.	15 15 0	
1890.								
Mar. 10th to 15th.	.. 5	1 9	108 0	Do.	229 5	108 0	33 11 0	
" 17th to 22nd.	1 5	4 4	121 0	232 11	Do.	229 0	33 7 3	
" 24th to 28th.	1 5	..	..	234 4	233 9	Do.	28 0 6	
Aug. 21st to 23rd.	.. 4	1 11	..	Do.	Do.	Do.	16 12 0	
25th to 30th.	5 2½	5 2½	..	235 8	235 8	Do.	35 2 0	
Sept. 1st to 6th.	4 6½	4 4½	..	240 10½	240 10½	Do.	34 14 6	
" 8th to 13th.	4 6½	4 4½	..	245 5	245 3	Do.	35 4 0	
" 16th to 20th.	3 5	3 7	..	248 10	248 10	Do.	29 5 0	lowered.
" 22nd to 27th.	1 2½	0 8½	..	250 0½	249 6½	Do.	36 1 0	
" 29th to Oct. 4th.	1 2½	1 6½	..	251 3	251 0½	228 0	34 12 6	
" 6th to 11th.	3 8	3 10½	..	254 1	254 11	Do.	34 1 6	
" 13th to 18th.	5 6	5 6	..	260 5	260 5	Do.	34 6 6	
" 20th to 25th.	3 0	1 9	..	263 5	262 2	Do.	34 0 6	
" 27th to Nov. 1st.	..	..	..	Do.	Do.	Do.	28 6 0	
Nov. 3rd to 8th.	0 6	.. 5	..	263 11	Do.	Do.	32 2 6	
" 10th to 15th.	1 2	0 5	2 1	265 1	262 7	230 1	34 9 0	
" 17th to 22nd.	..	1 5	0 5½	Do.	264 0	230 6½	33 11 6	
" 24th to 29th.	1 9	2 10	..	266 10	266 10	Do.	32 12 0	
Dec. 1st to 6th.	0 6½	0 6½	4 5½	267 4½	267 4½	234 11½	34 5 6	
" 8th to 13th.	3 4½	3 4½	..	270 9	270 9	Do.	33 6 0	
" 15th to 17th.	1 8	1 8	..	272 5	272 5	Do.	16 11 0	
Total ..	..	..	..	..	..	..	2,942 10 6	

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B.

STATEMENT showing the different strata of earth met with and their thickness.

Stratum number.	Strata of earth passed through.	Thickness of stratum.	Total depth from surface of ground.
1	Vegetable mould		
2	Brown clay	FT. IN.	FT. IN.
3	Yellow clay and sand	8 0	8 0
4	Sand with much water	2 0	10 0
5	Sand mixed with pebbles	4 0	14 0
6	Yellow clay and fine sand	26 0	40 0
7	Yellow clay and coarse sand	42 0	82 0
8	Stiff clay mixed with yellow ochre	2 0	84 0
9	Yellow clay and fine sand	2 6	86 6
10	Blue clay	21 8	108 0
11	Dark clay	2 0	110 0
12	Hard black clay	4 0	114 0
13	Clay and sand	1 0	115 0
14	Hard black clay	2 0	117 0
15	Black clay mixed with lime	1 0	118 0
16	Black clay	30 0	148 0
17	Black clay mixed with lime	4 0	152 0
18	Clay mixed with white sand	3 0	155 0
19	Black clay	4 0	159 0
20	Clay mixed with lime	2 0	161 0
21	Clay mixed with white sand	2 6	163 6
22	Black clay mixed with lime	1 6	165 0
23	Lighter coloured clay mixed with lime	2 0	167 0
24	Clay and lime	8 0	175 0
25	Black clay	4 0	179 0
26	Lighter coloured clay	5 0	184 0
27	Clay and lime	10 6	194 6
28	Black clay	2 6	197 6
29	Clay mixed with lime	1 0	198 6
30	Black clay	3 0	201 6
31	Lime stone	4 9	205 9
32	Black clay	16 3	222 0
33	Black clay mixed with white clay	1 0	223 0
34	Clay of cement colour	3 6	226 6
35	Black clay	1 0	227 6
36	Clay of cement colour	2 0	229 6
37	Black clay (tending to cement colour)	2 6	232 0
38	Clay of cement colour (little darker)	4 0	236 0
39	Clay of cement colour not so dark	6 0	242 0
40	Black mixed with cement colored clay	2 0	244 0
41	Black clay	3 6	247 6
42	Black clay with white scales	2 6	250 0
43	Hard black clay of darker colour	7 0	257 0
		9 5	263 0
			272 5

ORDER—dated 13th October 1891, No. 1036, Financial.

The Reverend Father S. Dominic will be thanked for his report, which will be communicated to Mr. Bruce Foote and the Public Works Department.

2. The Government regrets that it has been found impossible to supply the winding drum.

(True Extract.)

J. F. PRICE,
Chief Secretary.

To the Revd. S. Dominic.
" Superintendent, Geological Survey.
" Public Works Department.
" Collector of Chingleput.

Exd. A. Raitt.

2939/3

Govt. of {1891} Madras.
FINANCIAL.

Order No 2939 W d/2nd Nov/91
Com^d to the Supg Engr.,
File for information
of O.V.B.

Issued

Recd.

Encl.

G.O., 13th October 1891, No. 1036.

OCTOBER.

S. E. V. Jule

(3)

Artesian Boring Operations.

Thanking the Revd. Father S. Dominic for his report on the — at Place's Gardens, Kilacheri, Chingleput district, and communicating it to Mr. Bruce Foote and the Public Works Department.

EJ
3-11-91