

## MADRAS RECORD OFFICE.

Government of Madras.

*Public* DEPARTMENT.

|          |      |               |
|----------|------|---------------|
| G.O. No. | 190  | Press<br>Mis. |
| Dated    | 13-2 | 19 18/1       |

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Department,  
13th February 1871.*

No. 39. Read the following letter from the Commissioner of the Neilgherry Hills, to the Chief Secretary to Government, Fort Saint George, dated Ootacamund, 4th February 1871, No. 10 :—

In reply to G. O., 13th January 1871, No. 57, I have the honour to forward Mr. Broughton's report on the water of the Marlimund Reservoir.

2. The water in its present state is pronounced to be unfit for drinking purposes. Mr. Broughton accounts for this by the decomposition of the grasses and other plants growing on the bed of the reservoir, and is sanguine that the evil will cease in about six months.

3. In accordance with his recommendation, I will let off the water in June and July, so that the reservoir may be refilled by the August and September rains.

From J. BROUGHTON, Esq., Government Quinologist, to the Commissioner of the Neilgherry Hills, dated Ootacamund, 1st February 1871.

I have the honour to state that I have examined the water from the Marlimund Reservoir supplied to me on the 27th ultimo.

2. The water was strongly coloured yellow, and was very turbid from suspended organic matter. It had but little smell.

3. The mineral matter in solution in the water was found to be very small, even less than that stated in my analysis of the water from the source that supplies the reservoir (Proceedings, Madras Government, Public Works Department, No. 587, 5th November 1868). The object of the examination not being concerned with this mineral matter, I did not estimate its amount beyond satisfying myself that it had not increased.

4. The water was very difficult to filter, the suspended matters clogging up the pores of the filter. A microscopic examination of these showed them to consist of vegetable tissues, in a disorganized condition, and evidently in decay. Many living animals were also found, consisting of crustacea and diatomaceæ, but not in large numbers.

5. The amount of solid matter in the water after filtration was found to amount to 4.25 in 100,000 parts. The amount of solid matter in water allowed to stand quietly for three days was found to be 8.68 in 100,000 parts. Hence, there existed 4.43 parts of organic matter in suspension, which refused to subside.

6. The amounts of organic carbon and nitrogen were determined in the filtered water, and were found to be so large as 1.063 of carbon, and 0.213 of nitrogen in 100,000 parts of water. This proportion indicates the source of contamination to be nearly, if not entirely, of a vegetable nature. Nitrates were absent, and ammonia was scarcely discernable by suitable tests.

7. Hence, the above results show that a water, naturally one of the purest on record, has been so far contaminated that it is unfit in its present state for drinking purposes. The cause of this seems to be the decomposition of the grasses and other plants growing on the bed of the reservoir before it was filled with water. These are now diffused through the water in a disintegrated and decaying state, and can be clearly recognized by the microscope. If this be the whole cause, which, as it is amply sufficient to account for the appearances, there is no reason to doubt, in about six months' time, the evil will cease, since the decay of the vegetable matter will then be complete. It would, however, be much better to employ the reservoir, and allow it to refill itself from its feeding streams before the water be supplied to the cantonment. The natural water of these hills being so extremely pure, it would be a pity to supply water from the reservoir of inferior quality, even though this quality be greatly superior to that obtainable in less favoured regions, and otherwise innocuous.

No. 40. ORDER THEREON, 13th February 1871, No. 190.

To be recorded.  
(True Extract.)

R. S. ELLIS,  
Chief Secretary.

Exd. J. H. Burns.

4271

Calcutta  
1<sup>st</sup> February 1871

From, Mr. John Broughton,  
Government Geologist

To, J. W. Brooks Esq.

Conservator, Nalgonda  
District, Madras

Sir, I have the honor to state that  
I have examined the water from the  
Marli-mund reservoir supplied  
to me on the 27<sup>th</sup> ult.

The water was strongly colored  
yellow, and was very turbid from  
suspended organic matter. It had  
but little smell.

The mineral matter in so-  
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stated in my analyses of the water  
from the source that supplies the  
reservoir (Proceedings Madras Govt.  
Public Works Dept. N<sup>o</sup> 587 & N<sup>o</sup> 588).

The object of the examination not  
being concerned with this mineral

Vol. of 1871 Madras.

PUBLIC.

Dated February, 1871.

Recd.

Encl.

G. O. 18th February 1871, No. 190.

FEBRUARY.  
Nos. 33-40.

Reporting letter from the Commissioner of the  
Nellore Hills, forwarding Mr. Broughton's  
report on the water of the Marli-mund Reservoir,  
Oorissam.

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A microscopic examination of these showed them to consist of vegetable life, in a disorganised condition, and evidently in decay. Many living animals were also found, consisting of crustacea and diatomacea, but not in large numbers.

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5  
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Hence the above results show that a water naturally one of the purest on record, has been so contaminated that it is unfit in its present state for drinking purposes. The cause of this seems to be the decomposition of the grapes and other plants growing on the bed of the reservoir, before it was filled with water. These are now diffused

through the water in a disintegrated and decaying state, and can be clearly recognised by the microscope. If this be the whole cause, which as it is amply sufficient to account for the appearances, there is no reason to doubt that in about six months time the evil will cease, since the decay of the vegetable matter will then be complete. It would however be much better to empty the reservoir, and allow it to refill itself from its feeding streams before the water be supplied to the  
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 of these Hills being so extremely  
 pure, it would be a pity to  
 supply water from the reservoir,  
 of inferior quality, even though  
 this quality be greatly superior  
 to that obtainable in any other  
 regions, and otherwise innocuous.

I have the honor to be  
 Sir,  
 Your most obedt Servt  
 Wm. Cunningham

Govt. Zoologist

1. Wm. C. C. Esq.  
 Govt. Zoologist  
 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 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, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

No 10

Commissioner's Office  
 Oct 22nd  
 4th February 1871.

From J. W. Baer, Esq.  
 Commissioner - Antislavery  
 For Honble R. S. Ellis C. S.  
 Chief Secretary to Government

Sir, Fort St. George

In reply to G. O. 13th January  
 1871 No. 57 I have the honor to forward  
 Mr. Wroughton's report on the water of  
 the Marlborough Reservoir.

2. The water in its present state  
 is pronounced to be unfit for drinking  
 purposes. Mr. Wroughton accounts  
 for this by the decomposition  
 of the Grasses and other plants  
 growing on the bed of the Reservoir  
 and is sanguine that the evil will  
 cease in about six months.

J. W. Baer

3. In accordance with his  
recommendation I will let off  
the water in June and July  
so that the Reservoir may  
be re-filled by the August  
and September rains.

I have the honor to be,  
Sir,  
Your most Obedient Servant,

Very truly  
Committed,

J. E. D.

Ans. 12 Jan 11 1880

12.12.04

Publ. 1871 Act.

of

The Commissioners

of

The Chief Secretary

to Government

Fort St George

Dated 4<sup>th</sup> February 1880

No. 10

No. 245.

Encl. 1

Memorandum of Proceedings

forwarding etc. 10<sup>th</sup> 3  
brought to report  
on the matter of the  
13<sup>th</sup> Aug 1879.

Wm. H. B.

1880-24

210/2

39-40