

RADHASOAMI DAYAL KI DAYA RADHASOAMI SAHAI

WATER QUALITY MONITORING REPORT

Most Probable Number (MPN) of Bacteria in Dayalbagh Wells

Date of Reporting : 05-Sep-2022

Date of Sampling : 03-Sep-2022

WHO Prescribed Permissible limit for MPN is <10 and for pH is 6.5 to 8.5

| S.No. | Name of Well | MPN Of Bacteria in Sample (Per ml) | | Is MPN Below Permissible Limit of 10? | KMnO ₄ Colour | | pH | |
|-------|---------------|------------------------------------|----------------|---------------------------------------|--------------------------|------------|---------------|----------------|
| | | Current Value | Previous Value | | Current | Previous | Current Value | Previous Value |
| 1 | Gangavas | 3.6 | 3.6 | Yes | Light Pink | Light Pink | 7.2 | 7.2 |
| 2 | Dayal Nagar | 3.6 | 3.6 | " | " | " | 7.3 | 7.2 |
| 3 | Prem Nagar | 3.6 | 3.0 | " | " | " | 7.2 | 7.3 |
| 4 | Dunn Tubewell | 3.6 | 3.6 | " | " | " | 7.4 | 7.3 |
| 5 | Punjabi Farm | 3.0 | 3.6 | " | " | " | 7.4 | 7.3 |
| 6 | Dairy West | 3.0 | 3.0 | " | " | " | 7.1 | 7.2 |
| 7 | Pavan Kuan | 3.6 | 3.6 | " | " | " | 7.2 | 7.3 |
| 8 | DEI Dairy | 3.6 | 3.0 | " | " | " | 7.3 | 7.4 |
| 9 | Ganga Jal | 3.6 | 3.6 | " | " | " | 7.5 | 7.5 |
| 10 | Gaushala | 3.6 | 3.6 | " | " | " | 7.5 | 7.4 |

Remarks of Water Quality Research Group: The MPN and pH values are within WHO prescribed Permissible Limits. Standard treatment schedule may be followed for all the wells except for the Dairy West well which may be treated with Ca(OH)₂.

In all cases where the current value of MPN is 3.6, due advance precautions should be taken. Similarly, where pH value ≥ 7.3, due advance precautions should be taken.

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- 1) The study aims at continuous monitoring of potable well water to detect the presence of coliforms using the "multiple fermentation tube" or "most probable number" technique.
- 2) In this method measured portions of a water sample are placed in test-tubes containing a culture medium. The tubes are then incubated for a standard time at a standard temperature. It is customary to report the results of the multiple fermentation tube test for coliforms as a most probable number (MPN) index. This is an index of the number of coliform bacteria that, more probably than any other number, would give the results shown by the test.
- 3) As a standard remedy, Potassium Permanganate is added in the ratio of 0.1 gm per litre to well water if MPN exceeds permissible limit. If the pH is less than permissible limits i.e., it is acidic, Hydrated Lime Powder i.e., Ca(OH)₂ is added in the ratio of 0.037 gms per litre of water. The two remedial processes mentioned above are periodically repeated till the desired water quality is achieved.