

## Water quality analysis of Lidder Nalah in Kashmir Valley

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### ABSTRACT

Physical, Chemical and Bacterial analysis of water collected from different sites of Lidder Nalah revealed that water moderately contaminated and needs proper treatment before supply to the community.

**Key words:** MPN (Most Probable Number), ppm (Parts Per Million), Lidder Nalah

### INTRODUCTION

Water is essential for sustaining life. It plays central role in the ground environmental health of cities and towns. People depend on water for more than just drinking, cooking and personal hygiene. Vast quantities are often required for industrial and commercial uses. Water resources are also essential for irrigation, power generation and navigation etc.

Pure water is never found in natural streams, lakes, oceans or under the ground as it has always some dissolved or suspended impurities within it. The degree of impurity or contamination depends upon the type and concentration of impurities as well as on the intended use of water. The concentration of dissolved and suspended substances has to be compared with water quality standards set for particular use. Therefore it is quite evident that water withdrawn from any natural source needs some degree of process of purification to render it fit for human consumption.

The treatment of water is required for a number of reasons of which the removal of germs causing diseases is the most important. The potable

water should be free from unpleasant taste, odour and should have a good appearance.

### MATERIAL AND METHODS

Water samples were collected from different sites of Lidder Nalah. Care was taken in collection, carriage and time lapse between collection and testing of samples so that the parameters found out in laboratory were true representative of the water quality of the Lidder Nalah at the time of collection. The water samples were tested for colour odour, turbidity(Nephelometer), hardness, pH value (pH meter), alkalinity, total solids, chloride content and microbial analysis (SKAUST-K)

### RESULTS AND DISCUSSION

Water samples collected from different sites of Lidder Nalah had values of physio-chemical parameters different from normal values (table 1) and form the basis for treatment. Also microbial analysis revealed that water is moderately contaminated and needs proper treatment before supply to the community (table 2).

**Table 1: Physico-chemical parameters of Water samples**

S. No.	Parameters	Codal values	Sample values
1.	Colour	5 to 25 pt-co scale	Colourless
2.	Odour	Unobjectionable	-
3.	Turbidity	Upto 10 ppm	10.3ppm
4.	Hardness	Upto 600mg/L	535mg/L
5.	pH value	6.5-9.2	6.8
6.	Alkalinity	4.5-14ppm	17ppm
7.	Total solids	Upto 1500ppm	6740ppm
8.	Chloride content	Upto 1000ppm	833ppm

**Table 2: Microbial analysis of water samples collected from different sites of Lidder Nalah**

S.No	Tests	Sample values
1.	MPN of <i>Coliforms</i>	79/100ml
2.	MPN of Faecal streptococci	33/100ml
3.	MPN of <i>Clostridium perfringens</i>	0
4.	Types of <i>Coliforms</i> present	<i>E.coli</i>

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