3. In the study it was stated that "in the groundwater, (Ca + Mg) and (Na + K) exhibit no considerable change during both the seasons (Tables 3a and b)". On the contrary (Ca + Mg) show significant variation from summer to winter (Tables 3a and b) i.e. 89 to 140 at BW-2; 71 to 12 at BW-3; 109 to 169 at BW-6; and maximum 61 to 154 at BW-9. Similarly, (Na + K) also show maximum variation from 159 to 3360 at BW-9. The level of K is alarming with very high values during winter at BW-5 (20); BW-8 (48) and BW-9 (30).

4. While showing the relationship between HCO₃, vs. TDS in summer and winter season, only summer data was shown in both the plots of Fig.5b. Thus, the only significant change that occurred during the winter was not properly shown, particularly TDS at BW-8 from 1716 mg/l (summer) to 2826 mg/l (winter)? The best fit between TDS and HCO₃ for summer data: HCO₃ = 0.0653 TDS + 316.59 with R² = 0.0254 whereas for the winter data it is: HCO₃ = -0.0676 TDS + 550.38 with R² = 0.0027 just reflects reverse nature to that of the summer one?

5. In spite of recharge after the rainfall i.e., in winter TDS has shown an increasing tendency from summer to winter from 440 to 649 mg/l at BW-3 and from 1716 to 2826 mg/l at BW-8? The corresponding change in EC is 651 to 977 mg/l at BW-3 and 2615 to 4324 mg/l at BW-8? Considering the maximum permissible limit of TDS as 1500 mg/l, during summer, the water sample from BW-8 (1716 mg/l) and during winter BW-6 (1494 mg/l); BW-8 (2826 mg/l) and BW-9 (1647 mg/l) show alarming limits? Similarly the NaCl content is significant and varies from 636 to 1312 mg/l at BW-8 and 312 and 3747 mg/l at BW-9 from summer to winter respectively? The total hardness at BW-8 during winter show more than the maximum permissible limit i.e. 746 mg/l? In all the samples, the EC and TDS show increasing tendency from summer to winter?
DISCUSSION

The increase in EC and TDS from summer (S) to Winter (W) is: EC (W) = 1.5002 EC (S) - 180.37 with $R^2 = 0.7281$ and TDS (W) = 1.5053 TDS (S) - 133.14 with $R^2 = 0.7288$ i.e. 1.5 times increase from summer to winter? Though weathering was identified as the main reason, still this alarming situation needs to be explained, so that necessary preventive measures can be recommended?

6. In spite of the availability of sufficient data, authors tried only to understand the distribution and relationship among various elements. Study of any water sample needs to aim for its potentiality, quality, its fluctuation from time to time (summer to winter), nature of pollution/contamination if any, use and potability etc. so that precautions/awareness steps can be suggested for evaluation, monitoring and controlling the situation for better utility of the groundwater resources?

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The comments of Dr. N. Lakshmi Narayana have greatly improved the course of the ongoing studies being carried out in this area. We thank him for the views and suggestions.

1. The main objective of the paper was mainly to bring out the geochemical properties of the groundwater of Salem Magnesite Mine area. The authors appreciate the suggestions given in the form of comments.

2. The structural map of the study area shows NE-SW trending lineaments/fractures that have been subjected to repeated deformation. It has been inferred from the drainage map, general pattern of the structural features, elevation contours and groundwater levels that the general groundwater flow direction is NE-SW and the same has been shown in Fig. 1 of the paper.

3. The average contribution of $(Ca+Mg)$ in equivalent units of the total cations was taken into consideration while calculating the percentage contribution. However, it is true that the $(Ca+Mg)$ show significant variation from summer to winter.

4. The error in graphical representation is regretted. We are grateful for pointing out the mistake.

5&6. The views and suggestions expressed in the form of comments are taken into consideration in the ongoing work in this area. We thank the reader for his constructive suggestions.

(Comment received on 7 August 2003 and the Reply on 29 August 2003)

Reference


CORRIGENDUM

In the Correspondence column of the Jour. Geol. Soc. India, v.62(2), 2003, p.253 (The Tragedy of Kudremukh), the names of the AMD scientists who helped D.B. Sikka in the preparation of the magnetite concentrates were R. N. Sankaran and K.M.V. Jayaram and not Krishnan as published. Sikka regrets this inadvertant mistake owing to the passage of nearly four decades of time.

JOUR. GEOL. SOC. INDIA, VOL. 62, NOV. 2003