

of gold obtained for different samples ranged between 73 and 100. These results suggest that the microwave digestion of rock and ore samples followed by the estimation of gold by ICP-MS can be extremely useful in gold exploration studies.

In an attempt to compare the high efficiency of microwave digestion method with conventional open digestion method for the extraction of gold, a few iron formation samples from Karnataka were dissolved using both the procedures and gold concentrations were estimated by ICP-MS. The comparative results (Table 5) suggest that microwave digestion procedure is more rapid and efficient.

In general, the detection limits obtained for different elements in this study were less than 0.05 ng/ml (ppb) for all the elements, and the average value obtained on replicate analyses of different samples in these investigations are within 5% RSD for all the trace elements including REE, and within 10% RSD for PGE and gold.

The digestion of geological samples using microwave decomposition methods is simple and can be completed within minutes. On the other hand, conventional methods of open acid digestions and fusion methods require few hours or days to completion. As an added advantage, exposure to hazardous chemicals and poisonous fumes is considerably reduced. The other advantages of microwave dissolution include yielding very low blank levels, use of relatively small amounts of acids and other reagents apart from allowing very fast dissolutions. Extremely low levels of detection limits (in the range of ppb and ppt) are obtained for several elements because of low blank levels obtained in these studies. So the combination of microwave oven for sample dissolution and ICP-MS for element detection and estimation would enable us to generate geoanalytical data of several trace elements including specialized groups such as rare earths, platinum group elements and gold with greater precision

and accuracy at natural abundance levels than were previously achievable.

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ACKNOWLEDGEMENTS. I am grateful to Dr H. K. Gupta, Director, National Geophysical Research Institute, Hyderabad, for his kind permission to publish this paper. I also thank Dr S. M. Naqvi, for his valuable advice and constant encouragement. Dr S. Nirmal Charan is thanked for helpful suggestions and critical reading of the manuscript. I am grateful to M/s Shiva Chem Technology Pvt Ltd, Hyderabad for making their Microwave Digestion System available for these studies.

Received 25 August 1997; revised accepted 15 October 1997

Erratum

Surjit Singh – An obituary

[*Curr. Sci.*, 1997, **73**, 892]

Read '12 June 1940' instead of '12 June 1994' in 3rd column, 2 paragraph, 13th line.