

NOTES

A PRELIMINARY NOTE ON THE GOLD-ANOMALY NEAR GOGALGATTI, GULBARGA DISTRICT, KARNATAKA

Gold-anomaly ranging from 0.52 to 0.65 ppm (number of samples: 8) in a narrow shear zone in pink porphyritic granite, rich in vein-quartz near Gogalgatti in Gulbarga district, Karnataka is reported. Higher concentration of Cu (104 - 7710 ppm; number of samples, 13) has also been recorded from this shear zone.

The mineralised outcrop is seen as a narrow ridge trending N-S for about 800 m with average width of 60 m. Due to shearing and associated brecciation and granulation (mylonitisation) the granite has been rendered almost streaky and brittle. The veins and veinlets of quartz have healed shear fractures. Porphyroclastic texture is observed in some thin sections. The linear shear zone is surrounded by granitoids which are mainly granodioritic in composition. In the outcropping shear zone copper-sulphide mineralisation is indicated by malachite stains all along the ridge. The mineralisation is of disseminated type. Ore minerals are mainly chalcopyrite, bornite and tennantite (under microscope olive-green coloured Cu-As rich fahlore) in decreasing order of abundance. These are intimately associated with quartz veins/veinlets which heal the shear fractures in granite. So far, no gold has been observed under the microscope, although trace element analysis clearly indicated its presence.

Thirteen samples collected systematically along the strike length of the shear zone were analysed for trace elements and the data is presented in Table I. This data reveals that out of 13 samples, 8 samples have analysed 0.52 to 0.65 ppm with an average of 0.5812 ppm gold. Five samples have analysed <0.5 ppm as the detection limit of Atomic Absorption Spectrometer (AAS) has been taken as 0.5 ppm for gold. Noting the fact that the normal abundance of Au in granites is only 0.0023 ppm (Rose *et al.*, 1983), the significantly high

Table I. Trace element analysis (in ppm)

Sample No.	Co	Ni	Cu	Zn	Rb	Sr	Pb	Ba	Mo	V	Zr	Au	Ag
GS-1	25	<25	104	124	<25	<25	<25	80	<25	<25	<25	<0.5	<1
GS-2	<25	<25	710	112	<25	<25	<25	<80	<25	<25	<25	<0.5	<1
GS-3	26	36	855	228	<25	90	<25	342	<25	<25	110	0.58	<1
GS-4	<25	<25	460	114	<25	<25	<25	104	<25	<25	<25	<0.5	<1
GS-5	<25	<25	451	118	<25	<25	<25	64	<25	<25	<25	0.52	<1
GS-6	<25	<25	267	107	<25	<25	<25	40	<25	<25	<25	0.58	<1
GS-7	<25	<25	7710	62	<25	<25	<25	124	<25	<25	<25	<0.5	<1
GS-8	<25	<25	1920	36	<25	<25	<25	50	<25	<25	<25	0.65	<1
GS-9	26	<25	1598	29	<25	<25	<25	70	<25	<25	<25	0.58	<1
GS-10	<25	<25	182	<25	<25	<25	<25	60	<25	<25	<25	<0.5	<1
GS-11	27	<25	429	38	<25	<25	<25	40	<25	<25	<25	0.58	<1
GS-12	<25	<25	201	63	<25	39	<25	244	<25	<25	130	0.58	<1
GS-13	<25	<25	218	<25	<25	<25	<25	36	<25	<25	<25	0.58	<1

Sample location: Collected systematically along the N-S trending ridge near Gogalgatti.

Sample description: Sample Nos. GS-3 and GS-12 are less sheared and less affected (by vein-quartz) granite; all others are intensely sheared, vein-quartz affected granite.

Analytical method: Cu, Zn, Pb, Co, Ni, Au, Ag, Rb and Sr analysed by AAS; Mo, Ba, V, and Zr analysed by ICP-AES method.

values (Clarke of concentration, 252) in the sheared granite near Gogalgatti can be taken as encouraging, warranting detailed exploration for gold and copper.

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Reference

ROSE, A.W., HAWKES, H.E. and WEBB, J.S. (1983) *Geochemistry in Mineral Exploration* (2nd edition), Academic Press, p.557.

EXCLUSIVE ECONOMIC ZONE: MAPPING AND RESEARCH

It is increasingly realised that India cannot afford to minimise its activities connected with at least the study of the Exclusive Economic Zone (EEZ), being one of the major littoral countries in the Indian Ocean. The Geological Survey of India has recently published the first of the series of geological maps of the sea bed lying within the EEZ, with a promise to follow it up with more maps in the near future.

In this connection it would be of great advantage to follow the activities of some of the developed countries and learn from their study and experience so that a more vigorous program can be launched. Proceedings of the 1991 Exclusive Economic Zone Symposium on Mapping and Research (U.S.Geological Survey Circular 1092, 1992, 191p) contains 33 articles and 4 appendices. The main purpose of the meeting was to communicate to the user community results of mapping and research in the EEZ. Since the proclamation by the President of the United States in 1983 (Appendix 4), the USGS by October 1991 had completed reconnaissance mapping of the EEZ surrounding 50 States using digital GLORIO III Sidescan Sonar System, covering about 7.5 million km². Simultaneously gravity, magnetic, high and low resolution seismic and bathymetry data were collected. These data are available with the National Oceanic and Atmospheric Administration (NOAA), Boulder, Colorado.

During the meeting in November 5-7, 1991 at Portland, Oregon, there was display of many maps (bathymetry and Sonar Mapping), results of sea floor research, assessment of mineral resource potential in coastal waters and development of geographical information systems. The challenges and choices of the National Oceanic and Atmospheric Administration, which mainly deals with EEZ mapping program were discussed (pp.9-11). A new