

Occurrence of Gold in Guntipalli-Atkur Area, Gadwal Schist Belt, Mahbubnagar District, A.P.

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Examination of soil and bed rock samples of pegmatites and metabasalts has helped in identifying an auriferous zone in Guntipalli-Atkur area. The samples analysed anomalous gold values ranging from 0.025 to 4.25 ppm.

The Gadwal Schist Belt is a linear, hook-shaped belt extending in a NNW-SSE direction from Narayanpet in Mahbubnagar district in the north to Veldurti in Kurnool district in the south over a length of 85 km. It comprises basic, intermediate and acid volcanics with thin bands of banded iron formation and is intruded by basic dykes and veins of quartz and pegmatites. The schist belt rocks show imprints of three phases of deformation and metamorphism from greenschist to amphibolite facies.

Guntipalli-Atkur area to the north-north west of Gadwal town exposes metabasalts bounded by granite. Discontinuous veins of pegmatite are emplaced in an *en echelon* pattern along a shear zone in metabasalt over a strike length of about 4 km (Fig.1).

Regional geochemical surveys carried out by GSI during 1991-92 (Ramamurthy and Anandamurthy 1992) indicated gold values ranging from 0.04 to 0.07 ppm and tungsten from 30 to 105 ppm. Reddy (1992) based on IRS imagery data and limited field checks also reported presence of gold grains in soil samples *in situ* over quartz vein near Gadwal town.

Geochemical studies: In view of the favourable geological and structural set up, this area has been reexamined recently. Soil, termite mound and bed rock samples were collected at selected localities from the shear zone. As the results of the conventional geochemical sampling were not encouraging, very limited bulk samples of soil and termite mound of 2 to 3 kg each were collected and panned concentrates were examined for gold. The panned concentrate of one termite mound sample (No. 17) and one soil sample (No.7) revealed the presence of two to four native gold grains of about 500 μ size. Selected geochemical samples of soil, termite mound and bed rock (pegmatite and metabasalt) from the shear zone were also analysed for its gold content by AAS in the Southern Region Chemical Laboratory, Geological Survey of India, Hyderabad.

Out of 10 soil samples, four samples assayed anomalous gold values ranging 0.035 to 4.25 ppm; out of 11 termite mound samples, four assayed gold values from 0.025 to 0.07 ppm and all the nine pegmatite samples assayed gold values from 0.035 to 0.25 ppm and the sole metabasalt sample assayed 0.045 ppm of gold. The analytical results are given in Table I.

In view of the encouraging results, systematic and intensive geochemical studies are envisaged in the area.

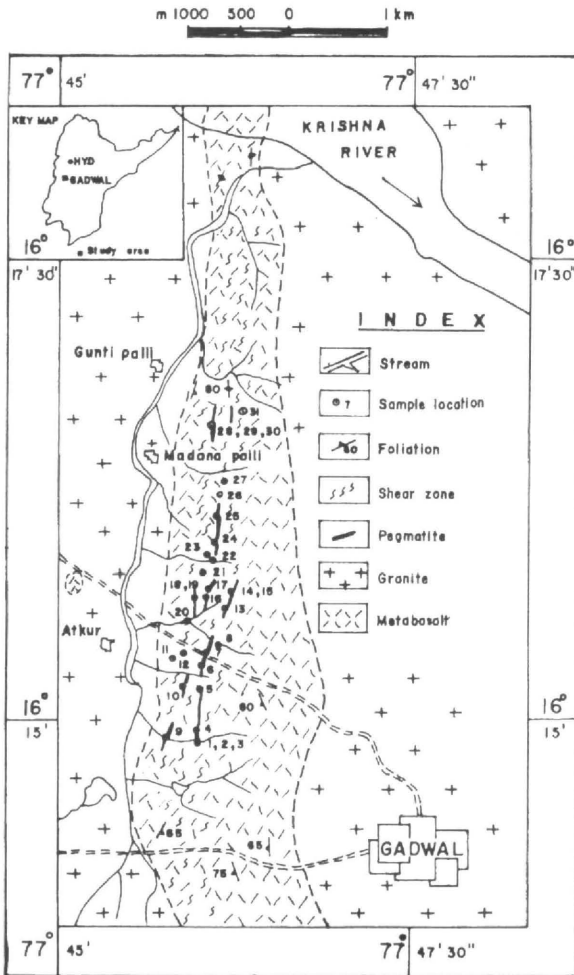


Fig.1. Geological map of Guntipalli-Atkur areas, Gadwal schist belt.

Table I.

Sample No.	Nature of sample	Au Values (ppm)
1	Bed rock-Pegmatite	0.205
2	Soil	<0.025
3	Termite mound	<0.025
4	Bed rock-Pegmatite	0.07
5	Soil	<0.025
6	Bed rock-Pegmatite	0.11
7	Soil	4.25
8	Termite mound	0.07
9	Soil	<0.025
10	Bed rock-Pegmatite	0.05
11	Termite mound	0.025
12	Soil	<0.025
13	Soil	0.12
14	Bed rock-Pegmatite	0.05
15	Termite mound	<0.025
16	Bed rock-Pegmatite	0.23
17	Termite mound	0.045
18	Bed rock-Pegmatite	0.12
19	Termite mound	<0.025
20	Soil	<0.025
21	Termite mound	0.04
22	Bed rock-Pegmatite	0.035
23	Bed rock-metabasalt	0.045
24	Termite mound	<0.025
25	Soil	0.03
26	Termite mound	<0.025
27	Termite mound	<0.025
28	Termite mound	<0.025
29	Bed rock-Pegmatite	<0.025
30	Soil	<0.025
31	Soil	0.065

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