

Gold, silver and platinum mineralisation in radioactive quartz-pebble conglomerate of Phuljhari Formation of Dhanjori basin along Chatanipani–Bhadalodih–Jajagora tract, East Singhbhum district, Jharkhand, India

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Significant gold, silver and platinum mineralisation is reported from the Archean quartz-pebble conglomerate (QPC) horizon of the Phuljhari Formation of Dhanjori basin of Singhbhum-Orissa Craton at Chatanipani, Bhadalodih, Haludbani and Jajagora areas, East Singhbhum district, Jharkhand. The gold content of QPC samples ($n = 25$) ranges from <10 to 10,000 ppb, silver content ($n = 11$) ranges from 30 to 1,820 ppb and platinum content ($n = 11$) ranges from <25 to 414 ppb. The QPC samples are physically assayed up to 0.012% U_3O_8 and 83 ppm ThO_2 ($n = 32$) in these areas. Electron-probe microanalysis reveals the presence of discrete gold in QPC. The petrographic study also shows the presence of native gold and silver in the QPC. This communication presents a brief account of the association of gold, silver and platinum with uranium and the characteristics of the radioactive QPC.

Keywords: Dhanjori, gold, quartz-pebble conglomerate, Phuljhari, radioactive.