

## Lead mineralization in Pegmatites- Evidence of Late stage sulphide hydrothermal activity at Chintakuntla, Nalgonda district, Telangana

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**Abstract:** Old workings for lead and copper (Pb and Cu) at Chintakuntla, 11 km east of Devarakonda of Nalgonda district in Telangana, are known for a long time. With the revived demand and stress on base metal exploration across the globe, this occurrence hitherto reported by the Geological Survey of India, invokes interest to pay a revisit. The old workings for Pb and Cu occur at about 2 km northeast of Chintakuntla village (16°40'41.50"N 79°1'8.07"E, Survey of India degree toposheet 56P). Lithologically, the area is bestowed with coarse-grained pink granites intensely intruded by quartz and felsic pegmatite veins along a NS trending shear zone with a steep easterly dip. A major dolerite dyke sprawling for a length of 18 km from the edge of Srisailem sub-basin in the south right up to Chinna Adiserlapalli in the north runs on the western side of the study area. The pink granite outcrop of Archaean age occurs as an isolated residual hill where sulphide mineralisation extends for a short length of ~400 meters. In the walls of old pits, sheared and mylonitised quartzo-feldspathic rock is observed. A NS trending quartz reef extends approximately for 50 m also exposed. The visibly identifiable streaks of Pb (galena) mineralisation are confined to vein quartz, which is found to be the carrier of galena. The old working pits are 5 to 16 meter diameter. The quartz vein samples were analysed for Pb, Cu and Zn. Samples collected in the close proximity of these old pits revealed substantial concentration of Pb (1110-1159 ppm) and Cu (212-723 ppm). The Zn concentration ranges 24- 41 ppm which is not prominent. The high values of Pb obtained from a linear shear zone calls for further probing to assess and ascertain the nature and continuity of mineralisation in the area with the aid of modern exploration technology. Irrespective whether it can emerge as an economically viable deposit, this occurrence demonstrates late stage sulphide bearing hydrothermal activity in the study area similar to several other shield areas of Precambrian age in the world.

**Keywords:** hydrothermal activity, late stage, lead, copper, sulphide, pegmatite, Chintakuntla