

Occurrence of vein barite and its significance, Mangampeta, Cuddapah district, Andhra Pradesh

Two types of barite deposits are seen occurring in Mangampeta area. The first one is bedded barite of gray colour which occurs in the Pullampet shales of Cheyyair group of Lower Cuddapah Super Group. The second one is crystalline barite of pure white, sub-off and off coloured varieties of vein type which occurs in the form of pockets. Petrographical studies of the barite and the host rock, Vempalle dolomitic limestone have indicated silicification and recrystallisation in the host rock, indicating the mineralisation of hydrothermal origin.

Introduction

Recently, large deposits of barite at Mangampeta (latt. 14°01' and long. 79°19'), Cuddapah district, Andhra Pradesh, were reported by Karunakaran (1971). They are interbedded with Pullampet shales of Cheyyair group of Lower Cuddapah Super Group. Apart from the occurrence of bedded barite deposits in the area, vein barite also occurs in the Vempalle dolomitic limestone of Papagani group of Lower Cuddapah Super Group.

Geology

Mangampeta village, on the eastern side is bordered by 1198 hill and 794 hill on the northern side. The area consists of dolomitic limestones of Papagani group, Pullampet shales of Cheyyair group of Lower Cuddapah Super Group and Bairenkonda quartzites of Nallamalai group of Upper Cuddapah Super Group. Vempalle dolomitic limestones are overlain unconformably by Pullampet shales and in turn by Bairenkonda quartzites unconformably. The sequence is very well exposed on the northern side of 1198 hill (Fig. 1).

The Vempalle dolomitic limestones are fine grained,

dense and compact. They are frequently interbedded with chert beds and occasionally with carbonaceous shales. On the eastern side of 1198 hill, the dolomitic limestones are frequently traversed by numerous quartz, quartz-calcite, calcite-barite, and quartz-calcite-barite veins forming intricate net-work system. The thickness of the veins often vary from microscopic dimensions to a few centimetres.

Nature of occurrence

Barite occurs in the form of pockets and veins on the eastern side of 1198 hill. Here the barite is coarse, tabular and crystalline. Angular fragments of the dolomitic limestones are found enclosed in barite deposits. The crystalline barite occurring in these pockets is pure white, white, sub-off and off-coloured varieties. Pure white and white coloured varieties are translucent and are free from iron oxides, stains and impurities. Whereas the sub-off and off-coloured varieties range in colour from brown to reddish brown.

The barite is coarse to fine grained, with random orientation of tabular grains. Most of the grains exhibit bent cleavage and wavy type of extinction. The margins are crushed and as a result cryptocrystalline barite is seen occurring in the intergranular spaces. The coarse and medium grained barite show the presence of sericite, iron oxides, gas and fluid inclusions. Minor amounts of calcite are noticed associated with the tabular grains, which mostly occur in the intergranular spaces. The dolomitic limestones are medium to fine grained and often exhibit the saccharoidal texture. Silicification and recrystallisation of calcite is noticed near the deposit. Fibrous calcite is noticed along the quartz, quartz-calcite, calcite-barite, and quartz-calcite-barite veins. The silicification and recrystallisation in the Vempalle dolomitic limestones around the barite pockets suggest the mineralisation is due to hydrothermal activity.

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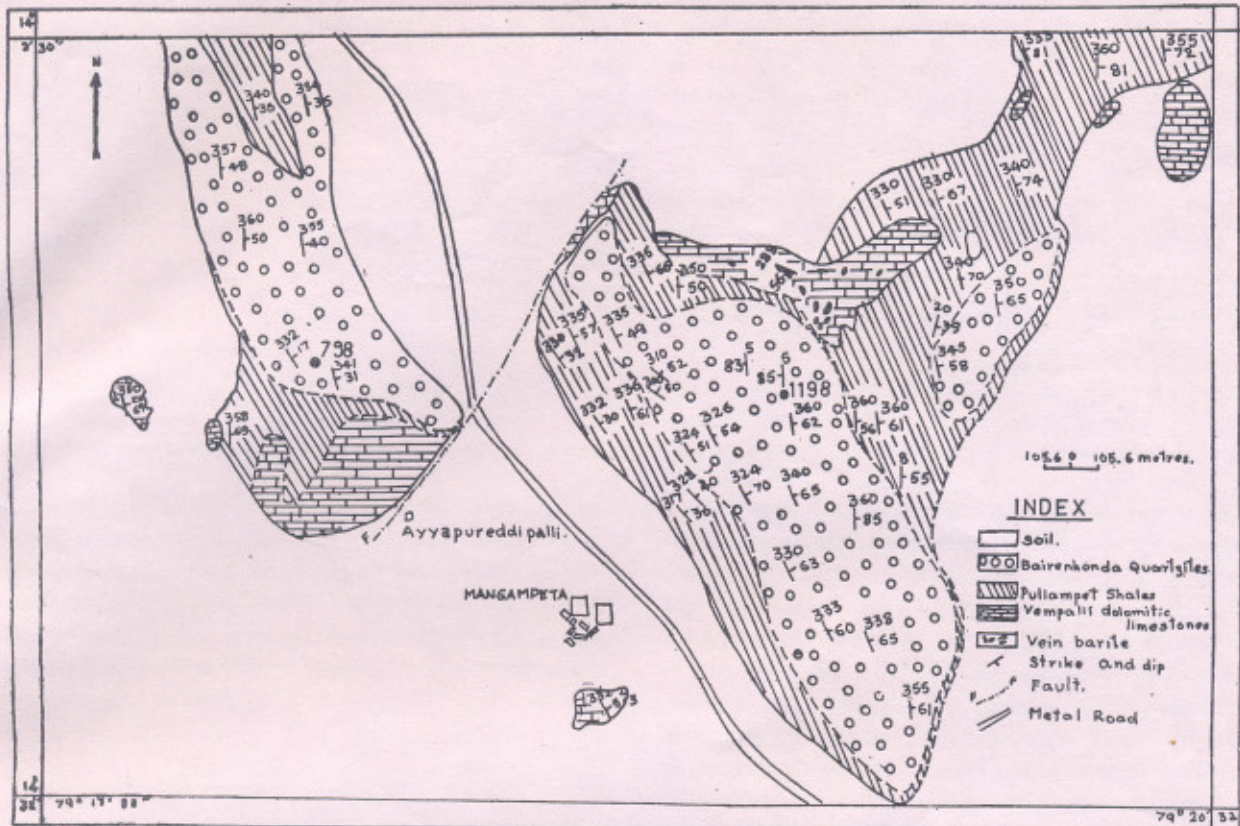


Fig. 1. Geological map of Mangampeta, Cuddapah Dist., A.P.

Conclusions

The emplacement of vein barite in the dolomitic limestones is marked by the presence of cross-cutting quartz, quartz-calcite, calcite-barite, quartz-barite and quartz-calcite-barite veins. These veins are mostly confined to the Vempalle dolomitic limestones. The mineralisation of barite in the Vempalle dolomitic limestones has taken place prior to the commencement of deposition of Cheyyair group of formation, whereas the deposition of bedded barite in Pullampet shales has

taken place during the revival of igneous activity in the Cheyyair times.

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Reference

Karunakaran, C., (1971): Occurrence of Sedimentary Barite: *G.S.I. News.*, Vol. 2, No. 1.