NOTES

THE ODDANCHATTRAM ANORTHOSITE

The Oddanchatram anorthosite (Figs.1 and 2)occurs as a NE-SW trending body within the Charnockite-Khondalite suite of rocks at the northern margin of the Kodaikanal massif (GSI, 1995). The emplacement of anorthosite is related to the Karur-Oddanchatram Shear Zone passing through the northern margin of the Kodaikanal massif. The anorthosite

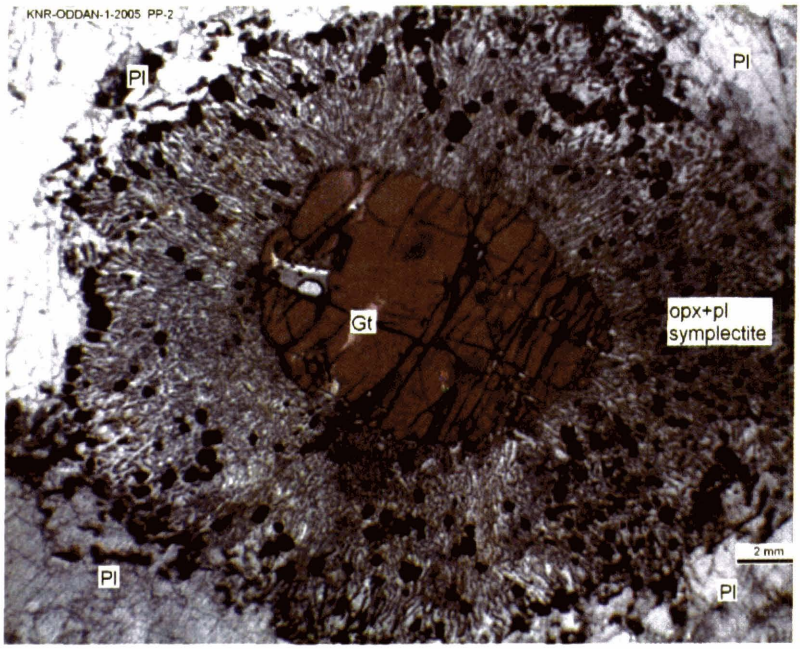

Fig.1. Photomicrograph of Oddanchattram anorthosite exhibiting textural features indicative of isothermal decompression (ITD). Spectacular symplectic intergrowth of orthopyroxene and plagioclase is seen around sub-idioblastic garnet (plane polarised light).

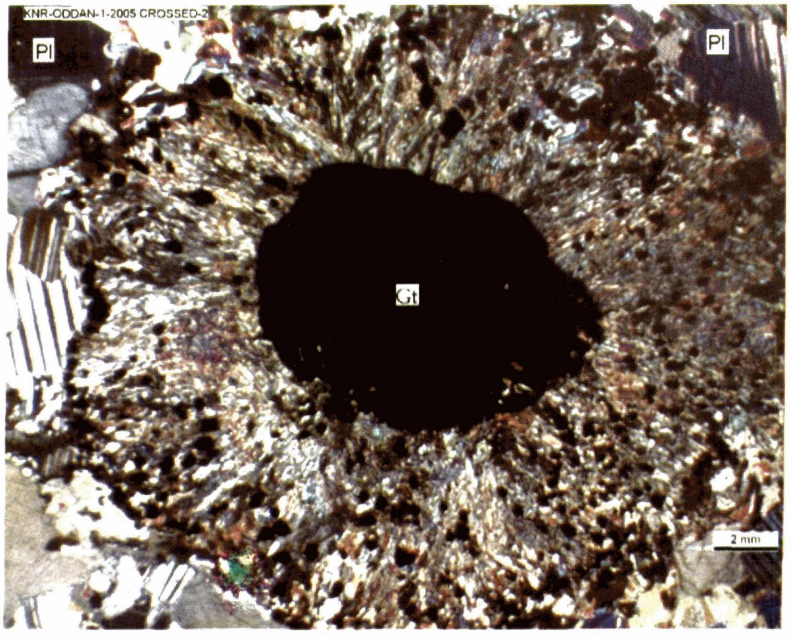

Fig.2. Photomicrograph of the same as above under crossed nicols.

is coarse grained and characterised by the presence of iridescent labradorite The mafics noticed are amphibole, clinopyroxene and orthopyroxene in widely varying proportions Garnet is sparse and irregular in its distribution and is often surrounded by well developed symplectite coronas of orthopyroxene and plagioclase The anorthosite body is generally massive except in the eastern and western marginal zones where faint foliation imparted by the mafic schlierens is observed (Narasimha Rao, 1964) However, recent studies have shown that the anorthosite body also shows the effects of three phases of folding deformations as observed in the host granulites (Singaram and Bhaskaran, 1996) Several bands and lenses of mafic granulites occur within the anorthosite and these bands show stretching and boudinaging

The anothosite is made up of plagioclase (95%) with minor hornblende, ortho/clinopyroxenes and accessory garnet, apatite and biotite The composition of the plagioclase ranges from andesine to labradorite The plagioclase grains show distinct play of colours in shades of blue, green and copper yellow Development of garnet with coronas is noticed within the anorthosite in several places In the garnetiferous anorthosite, symplectitic intergrowth of orthopyroxene and plagioclase is observed indicating isothermal decompression (ITD) path The An-content of the plagioclase in these symplectites is highly calcic (An_{85} to An_{94}) The mineral assemblages indicate that the anorthosite has undergone upper amphibolite to granulite facies metamorphism Based on the mineralogical and chemical characters, Janardhran and Wiebe (1985) opined that the Oddanchatram anorthosite belongs to Proterozic massive type U-Pb (Zircon) dating of the anorthosite has yielded an age of 560 ± 12 Ma (Ghosh, 1995) The lower age of 350±16 Ma obtained by Sm-Nd (Gt -WR) method (Jayananda et al 1995) might indicate the time of uplift of the Kodaikanal massif

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ROLE OF BACTERIA IN THE FORMATION OF NUGGETS OF GOLD

While engaged in prospecting for the occurrence of alluvial gold, I was very much intrigued to find nuggets of gold in odd shapes and sizes A large nugget had weighed as much as 140 gms A recent note by R A Kerr appearing in *Science* (14th July 2006, p 159) describes the role of special bacteria *Ralstonia metallidurans* known for its ability to precipitate some heavy metals from solutions Narayanaswamy of CESS, Trivandrum had collected small nuggets of gold in the Cheliyar river and also in laterite profiles The role played by bacteria in the precipitation of gold and its concentration in the form of nuggets is a subject of great economic interest worthy of further study by both geologists and biologists A detailed paper on *'Biomineralization of Gold Biofilms on Bacterioform Gold'* by Frank Reith and others appears in the same issue of *Science* at pp 233-236 Such studies should be pursued by our research groups in India

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