

GEOLOGICAL REPORT ON EXPLORATION FOR GOLD

DONA TEMPLE BLOCK

Jonnagiri Schist Belt, District-Kurnool, Andhra Pradesh

EXECUTIVE SUMMARY

1.0 LOCATION

The prospect lies about 3km NE of Jonnagiri Village in Tuggali Mandal, Kurnool District of Andhra Pradesh. The Dona Temple Block falls between latitude 15° 14' 15" to 15°15'13" N and longitudes 77° 35', 4" to 77° 35' 56" E and is covered in the Survey of India Toposheet No. 57 E/12. The block can be approached from Jonnagiri village by a fair weather road. The near railhead is Tuggli, which is 12km from Jonnagiri on Dhronachalam – Guntakal Broad Gauge section of South Central Railway and Pagadrayi railhead is about 2km. Gooty station is about 15km from Jonnagiri Village on Chennai – Guntakal Broad Gauge section of Southern Railway. NH-7 connecting Hyderabad – Bangalore passes through Gooty town. Hyderabad is the nearest airport, which is about 250km from Gooty.

2.0 GEOLOGY AND STRUCTURE

The study area has scarcely exposed outcrops of meta-basalt, Amphibolite acid volcanics/meta-acid volcanic of Jonnagiri group. The Dona Temple Block belongs to the Dharwar Green – stone belt of Archean age under Jonnagiri Group of formations, which can further be divided as follows:

- i) The lower Dona formation representing meta basic and meta acidic volcanics
- ii) The upper Govanikonda formations representing meta tuff. The concordant bodies are meta gabbro along with meta ultra mafics and cuts the lower formations.

The lower Pagadryi Granodiorite and upper Chennampalli granite intrudes the Jonnagiri formations.

The rock formations of Jonnagiri Schist Belt were folded into NW-SE trending over turned, tight isoclinal syncline with NW plunge. The Jonnagiri Schist Belt strikes WNW-ESE with varying dips of 50° - 80° towards NNE. At Gavanikonda ridge, due to 'S' type of Folding, it exhibits WNW-ESE trend which give rise to the 'Sigmoid' shape to Jonnagiri Schist Belt.

The schistosity in quartz-chlorite-schists & phyllites, gneissosity in quartz-muscovite-chlorite gneisses, the deformation, brecciation and recrystallisation seen in the specimen of meta-acid volcanics, granodiorite and quartzo-felspathic & granitic rocks from the borehole core shows the intensity of metamorphism.

The wall rock alteration manifested in the form of silification, Chloritisation, Carbonatisation, Biotitisation, epidotisation, Mylonitisation have added to the further meta-morphism of the litho-units.

Three phases of deformations are discernible in the block. The first phase F1 produced tight overturned iso-clinal folds with penetrative NW-SE foliation parallel to fold axis. The second phase F2 nearly co-axial with F1 is associated with syntectonic batholithic granite intrusions and NW-SE/NE-SW shears. The interference of F2 and F1 produced the present sigmoid shape of the northern part and the shear patterns in the schist belt. In the Dona Temple block the earliest (F1) foliation and related ductile and ductile-brittle shears controlling gold mineralisation are most prominent, trending WNW-ESE with 50-70 NNE dips. F1 deformation gave rise to broad warps on E-W axis and related intrusive activity.

3.0 MINERALISATION

Gold mineralisation is observed in the Jonagiri Schist belt in three different geological milieu viz.

- (i) Syngenetic strata bound type associated with sulphide rich zones in meta tuffs.
- (ii) Structurally controlled epigenetic in remobilized quartz vein.
- (iii) Along the granite schist belt contact.

The main loci for the gold mineralisation in the Dona Temple block is the structurally controlled epigenetic in remobilized quartz veins and near the contact of the granodiorite with meta-basalt within well defined shear zones. The Host Rock, of auriferous mineralisation is metabasalt in the Northern part and Granodiorite in the Southern most part of the block which are sheared, emplaced with grey to bluish grey quartz. At many places the mineralisation is also associated with Acid Volcanics.

The gold mineralisation is confined to quartz-carbonate veins / stringers emplaced along shears within altered meta-basalt and associated metavolcanics as well as within adjoining granodiorite-Tonalite suite.

4.0 QUANTUM OF WORK DONE

MECL has carried out detailed Geological Mapping & Topographical survey covering 1.0 Sq.km. area, 2381 m Mtrs of drilling in 15 boreholes, 1264 Nos of primary and check samples for Au, 33 Nos of composite samples for (3 radicals i.e. Cu, Pb & Zn), 33Nos for Fire Assay of Au & Ag and 33 Nos composite samples for Mo, Ni & W were also analysed. 60 Nos. of composite samples for Emission Spectroscopy (10 radicals) and 27 for XRD studies, Petrographic studies on 40 Nos. of samples and Minerographic

studies on 40 Nos of samples and 40 Nos of specific gravity determination test were also carried out by MECL and one sample was subjected to beneficiation studies at IBM. Based on the above data and earlier data of GSI, an exploration report was submitted by MECL.

5.0 ORE RESERVE ESTIMATION

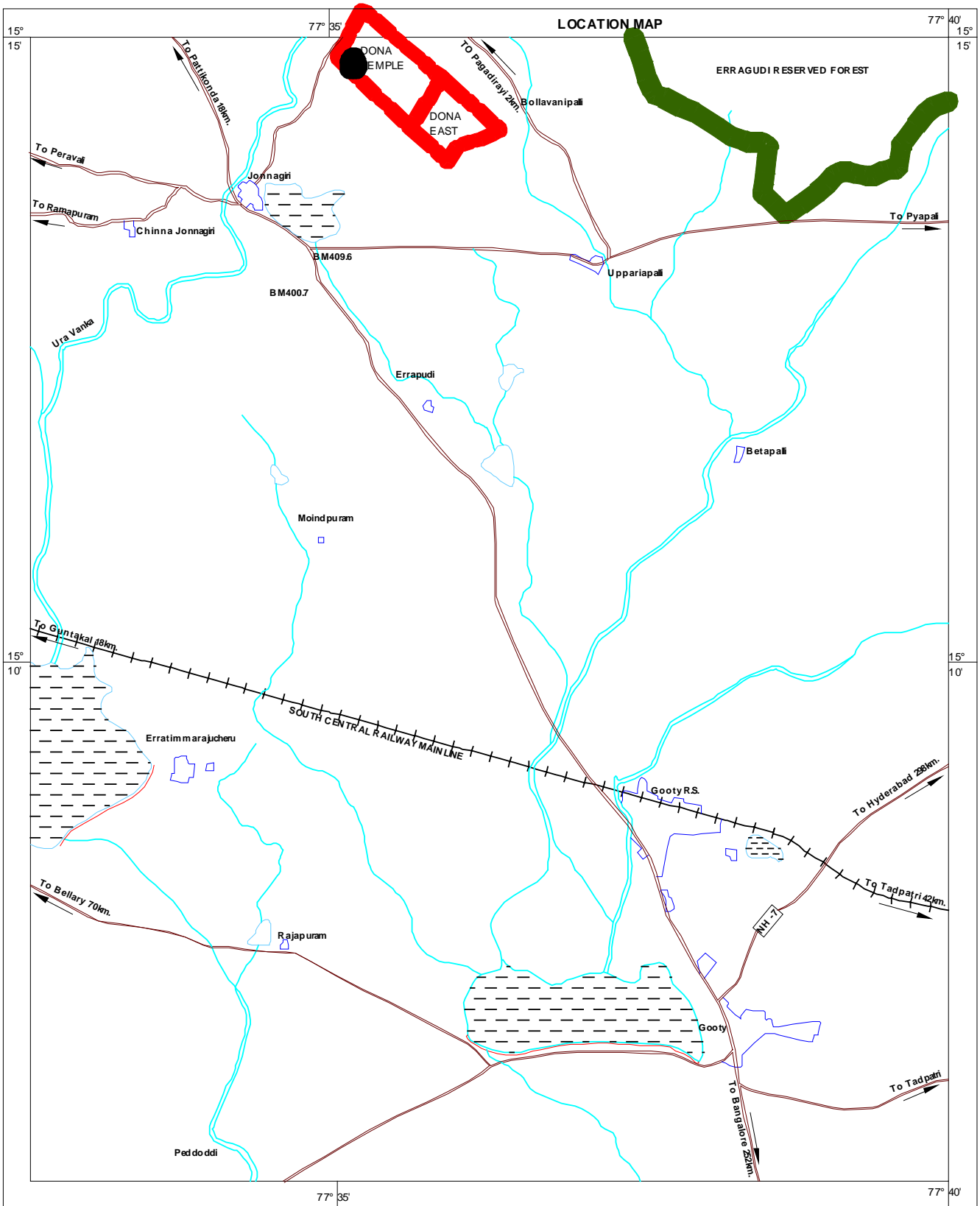
A minimum stopping width of 1.20m, parting of 3.0m between the lodes and 1g/t cut off grade are the deciphering tools for delineating the ore shoots along with the toning factor of 25g/t.

The total Geological in situ reserves of the ore shoots are 1.242 million tonnes of 2.599 g/t Au over 690m strike length estimation at 1g/t cut off in four major lodes.

The Deposit has been classified as Category 'C' of UNFC 332.

The Total Cost of Exploration is Rs. 157.64 Lakhs.

LOCATION MAP OF DONA TEMPLE BLOCK



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- | | | | |
|---|----------------|---|-----------------|
|  | Village / Town |  | Block boundary |
|  | Temple |  | Road |
|  | River / Nala |  | Railway Line |
|  | Ponds |  | Forest boundary |

LEVEL PLAN AT 300 mRL

DONA TEMPLE BLOCK LEVEL PLAN AT 350 mRL

