



**GEOLOGICAL REPORT ON COPPER EXPLORATION IN  
SINGHANA BLOCK  
DISTRICT- JHUNJHUNU, RAJASTHAN  
EXECUTIVE SUMMARY**

**1.0 LOCATION**

The Singhana block is located at the northern end of Khetri Copper Belt in Jhunjhunu district in the State of Rajasthan. The block lies adjacent to the Banwas Copper deposit,

**2.0 GEOLOGY & STRUCTURE**

The area is covered mostly by sand and boulders and therefore the geology has been deciphered on the subsurface data. The rock types belong to the Ajabgarh and Alwar Groups of the Delhi super Group. The major rock types observed in the area are Micaceous quartzite, Andalusite-biotite-quartz schist / Phyllites, Biotite quartzite, Amphibole Rich Rock, Amphibole quartzite and Felspathic quartzite. These rock units are intruded by metabasics rock.

The general strike of the rock formations in the area is N52° E – S52° W with dip varying between 50° to nearly vertical due north-west. At deeper levels, reversal of dips are observed.

**3.0 MINERALISATION**

The area is mostly covered with sand and as such there is no surface manifestation of mineralisation. Exploration conducted in the block has established the presence of two copper bearing lodes in the area. These lodes have been designated as Lode-I and Lode-II and are hosted by the Biotite quartzite and Amphibole Rich Rock / Amphibole quartzite respectively.

The main sulphide minerals observed in the decreasing order of abundance are pyrrhotite, Chalcopyrite and pyrite. Mineralisation is mostly in the form of veins, stringers and disseminations.

#### **4.0 QUANTUM OF WORK DONE**

MECL has carried out detailed Geological Mapping & Topographical survey covering 1.0 Sq.km. area, 10660.30Mtrs (Including 660.30M of Kalapahar block) of drilling in 16 boreholes, 1592 Nos of primary and check samples, 24 Nos of composite samples & 98 number of Fire Assay for Au & Ag were also analysed. 71Nos. of composite samples for Emission Spectroscopy (15 radicals) and 24 complete rock analysis, Petrographic studies on 65 Nos.of samples and Minerographic studies on 47 Nos of samples and 174Nos of specific gravity determination test were also carried out by MECL in the Block. Based on the above data and earlier data of GSI, an exploration report was submitted by MECL.

#### **5.0 ORE RESERVES ESTIMATE**

Exploration carried out in Singhana block has established two copper bearing lodes (Lode-I and Lode-II) Lode-I is hosted by biotite-quartzites and Lode-II is hosted by amphibole rich rock / amphibole-quartzites.

A total of 13.79 million tonnes of ore reserves/resources with 1.80% of copper have been established in the block. Out of the total ore reserves 1.71 million tonnes of ore reserves with 2.24% Cu falls in probable category and 5.36 million tones with 1.93% Cu falls under possible category. Resources of the order of 2.77 million tonnes with 1.76% Cu have also been established.

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

The studies on the baseline data of Environmental studies covering land use / land cover pattern studies have been carried out in the block.

**The Total Cost of Exploration is Rs. 861.00 Lakhs.**

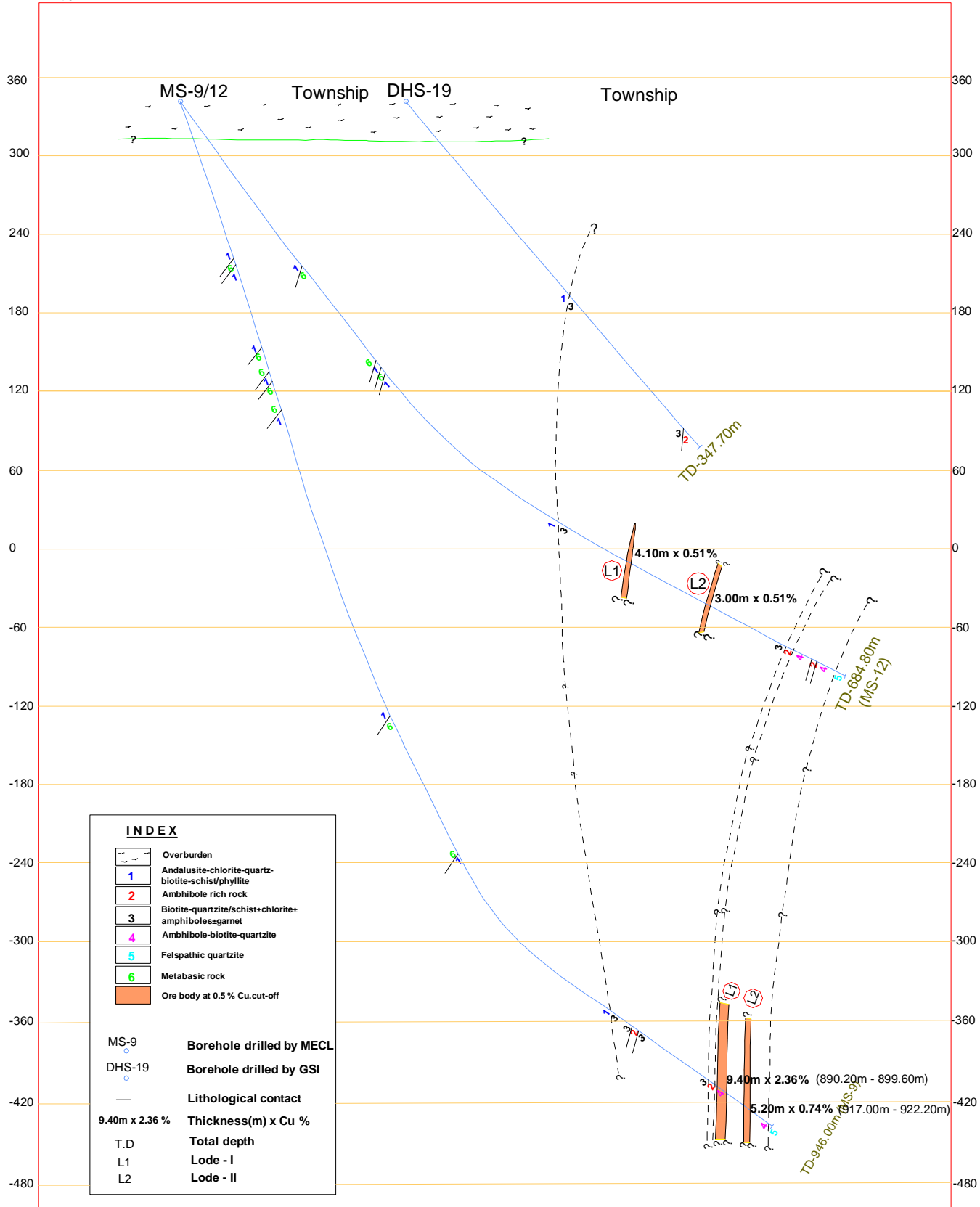




# GEOLOGICAL CROSS SECTION

Section No.-IX

R.L. in mtrs. ← N 38° W S 38° E → R.L. in mtrs.



INDEX	
	Overburden
	1 Andalusite-chlorite-quartz-biotite-schist/phyllite
	2 Amphibole rich rock
	3 Biotite-quartzite/schistschlorite± amphiboles±garnet
	4 Amphibole-biotite-quartzite
	5 Felspathic quartzite
	6 Metabasic rock
	Ore body at 0.5% Cu.cut-off
MS-9	Borehole drilled by MECL
DHS-19	Borehole drilled by GSI
—	Lithological contact
9.40m x 2.36%	Thickness(m) x Cu %
T.D	Total depth
L1	Lode - I
L2	Lode - II