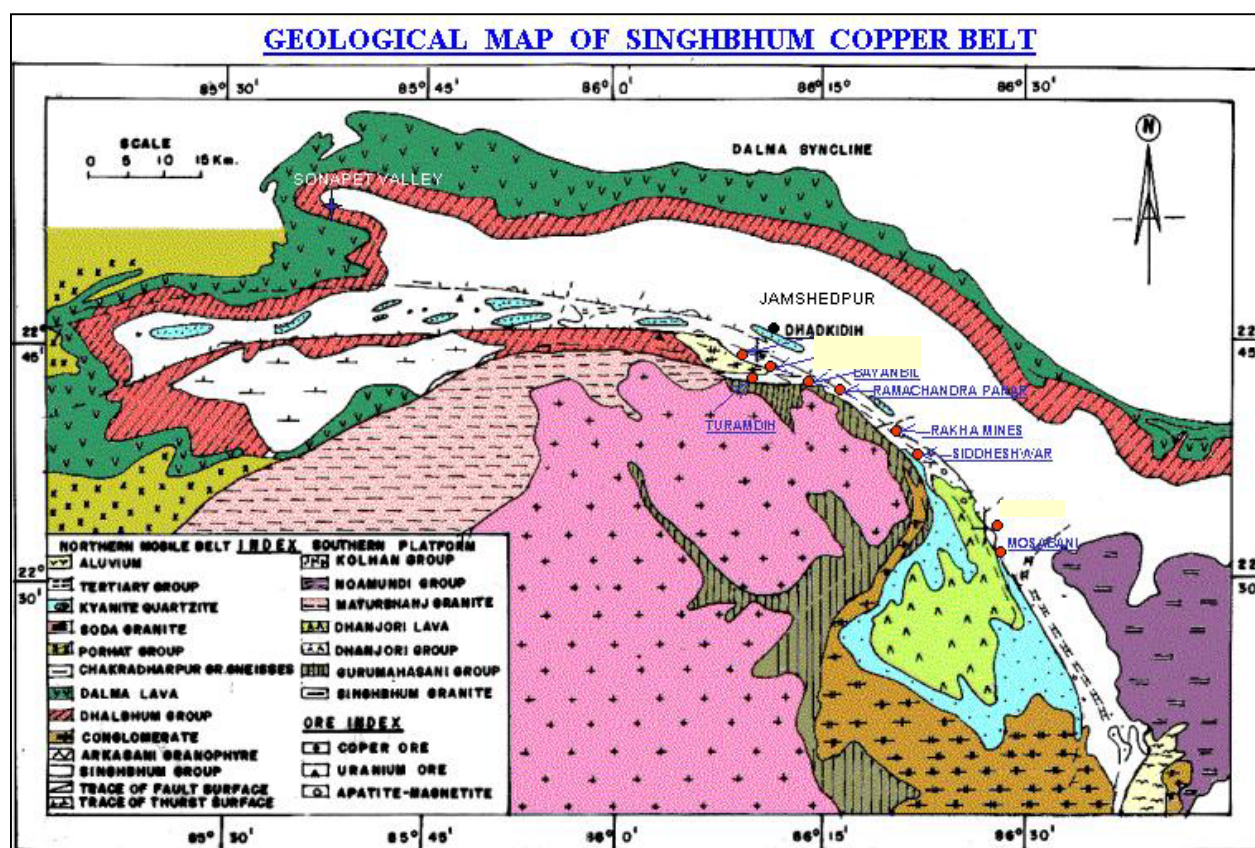


GEOLOGICAL REPORT ON EXPLORATION FOR COPPER NANDUP (EAST) BLOCK

DISTRICT - EAST SINGHBHUM, JHARKHAND

EXECUTIVE SUMMARY



MINERAL EXPLORATION CORPORATION LIMITED
(A Government of India Enterprise)
EASTERN ZONE
RANCHI

MARCH - 2006

**GEOLOGICAL REPORT ON EXPLORATION FOR COPPER ORE
IN NANDUP (EAST) BLOCK
SINGHBHUM COPPER BELT
DISTRICT: EAST SINGHBHUM, JHARKHAND**

EXECUTIVE SUMMARY

1.0 LOCATION

Nandup (East) block falls in the Survey of India Toposheet No.73 J/2 and lies in the East Singhbhum district of Jharkhand. The area is bounded by the latitude 22° 43' 54" - 22°43'35" and longitude 86°11'38" - 86° 12' 29". The block is located at a distance of about 6 kms South of Tatanagar railway station. Nandup (East) copper deposit lies in the heart of mining activity center. The Maubhandar copper Smelter of ICC/HCL. The steel city, Jamshedpur, has all types of workshop, marketing, health and banking services facilities.

2.0 GEOLOGY AND STRUCTURE

The regional geology of Singhbhum Copper Belt is primarily based on the work of Dunn & Dey (1942). A major structural feature postulated by them was the existence of an anticlinorium comprising highly metamorphosed rocks of Iron Ore Series and a Great Shear/Thrust Zone, which according to them was formed along the over folded southern limb of the anticlinorium.

The foliation strike varies from N70°W – S70°E to N50°W– S50°E with northwesterly dips ranging from 30-55°. The linear structure is seen mainly in form of puffers with plunge 20°-35° both towards East and west.

The Nandup (East) copper deposit forms a part of the Singhbhum shear zone. The rock units as mapped on the surface and as encountered in boreholes include quartz-sericite schist, quartz-sericite-chlorite schist, quartz-magnetite-sericite-chlorite schist, amphibolite and quartzites. The host rock for copper mineralisation is either the quartz- magnetite- chlorite schist or quartz-chlorite – sericite schist.

3.0 MINERALISATION

The indications of copper mineralisation are seen on the surface in the form of ill developed gossan, boxwork, limonite incrustation and malachite stains. There are several old working in the area, an incline and a vertical shaft is also present in the area, indicating that prospecting of copper has been done in past.

Mineralisation is mainly in the form of sulphides, Chalcopyrite and pyrite and is confined to quartz-chlorite-sericite schist & Quartz-magnetite chlorite-sericite schist. The control of mineralisation is litho structural.

4.0 QUANTUM OF WORK DONE

MECL has carried out detailed Geological Mapping & topographical survey covering 1.25 sq.km. area. 2400m of drilling in 20 boreholes, 737 (687+50) number of primary and check samples, 50 Nos. Primary samples for Au & Ag (Fire assay method), 39 Nos of composite samples for (4 radicals) and Au & Ag. 10 Nos. of samples for Emission Spectroscopy and XRD studies, Petrographic and

Minerographic studies on 25 Nos.of samples and 50 Nos of specific gravity determination test along with 1 each Ore beneficiation study and Geotechnical study 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.

6.0 ORE RESERVE ESTIMATION

The ore zones have been delineated at 0.2% and 0.5% Cu cut off. A total of four lodes have been identified in the block, namely lode – L-1, L-2, L-3 & L-4. Out of these favour lodes L-1 & L-2 are more promising and present almost over total strike length. One representative cross Section in given as Fig.-iii.

The total ore reserves estimated at 0.2% or 0.5% cut off over strike length of 660m. between cross section S-I & S-XI is as given below.

At 0.2% cut off	4.59 million tonnes	0.71 %	Copper
At 0.5% cut off	2.47 million tonnes	1.04 %	Copper

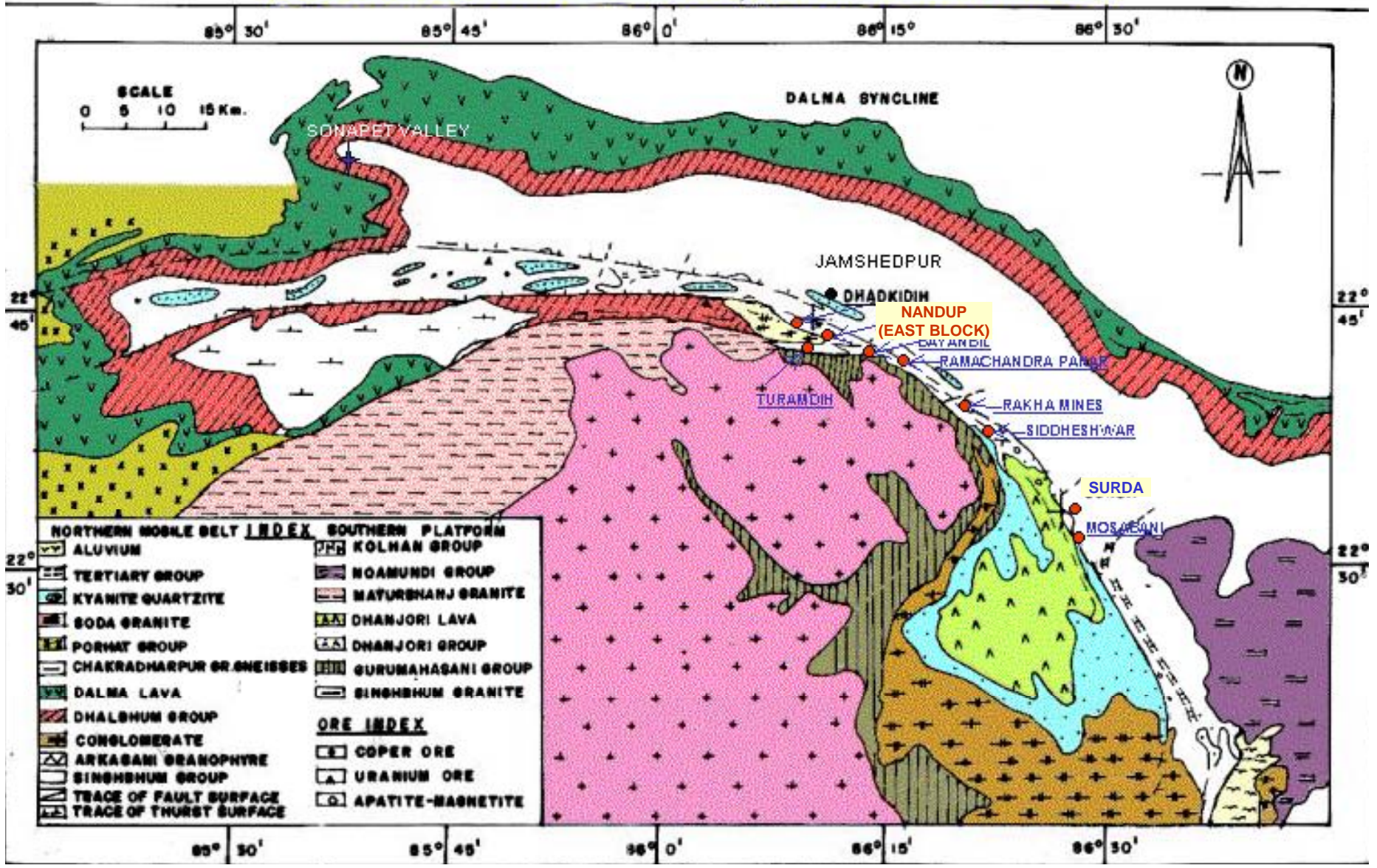
Nickel, Cobalt, Gold, Silver, Magnetite and molybdenum are the byproducts expected from these ores.

The deposit has been classified as 'B' 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.185.85 Lakhs.

GEOLOGICAL MAP OF SINGHBHUM COPPER BELT



COMPOSITE LEVEL PLAN – LODE : L-1 & L-1A

