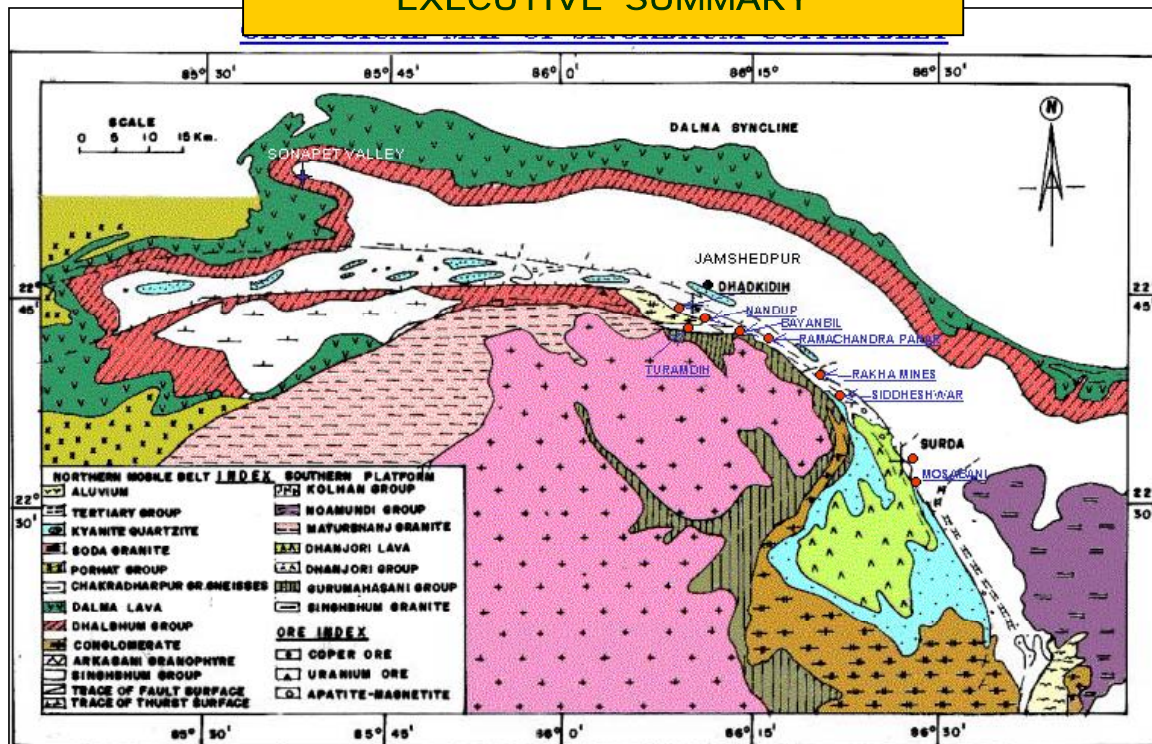


GEOLOGICAL REPORT ON EXPLORATION FOR COPPER RAMCHANDRA PAHAR BLOCK

DISTRICT - EAST SINGHBHUM, JHARKHAND

EXECUTIVE SUMMARY



MINERAL EXPLORATION CORPORATION LIMITED
(A Government of India Enterprise)

EASTERN ZONE
RANCHI

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GEOLOGICAL REPORT ON EXPLORATION FOR COPPER ORE
RAMCHANDRA PAHAR BLOCK
SINGHBHUM COPPER BELT
DISTRICT: EAST SINGHBHUM, JHARKHAND

EXECUTIVE SUMMARY

1.0 LOCATION

Ramchandra Pahar block, one of the prospects of Turamdih cluster 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 latitudes 22° 42' 37" & 22° 43' 21" and longitudes 86°12'33" - 86° 16' 10". The block is located at a distance of about 7 km south of Tatanagar railway station. Ramchandra Pahar copper deposit lies in the heart of mining activity centre. The Maubhandar copper Smelter of ICC/HCL, Jaduguda Uranium mines, Turamdih & Bandhuhuran Uranium mines are located within maximum 35 km. radius of deposit.

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 extending in more or less E-W direction comprising highly metamorphosed rocks of Iron-Ore Series and a Great Shear/Thrust Zone was formed along the over folded southern limb of the anticlinorium, according to them.

The Ramchandra Pahar 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, chlorite-quartz-magnetite-sericite schist and quartzites. All rocks grade in to each other and the contact of these rocks are gradational.

The rock formation of the area exhibit well developed foliation (S_2). The primary bedding (S_1) has been obliterated due to intense deformation and the foliation (S_2) appears to have been superimposed on the bedding plane (S_1). The foliation strike varies from N40°-60°W to S40°-S60°E with northerly dips ranging from 30° to 70°. The average dip is 45°.

3.0 MINERALISATION

The surface manifestations of copper mineralisation are in the form of ill represented old workings, bluish and greenish stains of malachite / azurite on some of the outcrops.

The copper mineralisation in the area is mainly confined to the Quartz chlorite /Chlorite - quartz sericite schist and their derivatives with magnetite/apatite and quartz veins.

Mineralisation is mainly in the form of sulphides of which, chalcopyrite is the major mineral. The mineralisation is mainly in the form of disseminations, stringers, veins and clots sympathetic to the foliation.

As the main mineralisation is mainly confined to quartz chlorite / chlorite-quartz sericite schist and derivatives the lithological control of mineralisation is not ruled out.

4.0 QUANTUM OF WORK DONE

MECL has carried out detailed Geological Mapping & topographical survey covering 10Sq.km. area, a total of 3000 m. of drilling in 18 boreholes. 1062 number of primary and check samples for Copper and 50 primary samples for Fire Assay of Au & Ag, 40 Nos of composite samples for 6 radicals and 40 composite for Fire Assay Au & Ag were also analysed. 40Nos. of composite samples for Emission Spectroscopy (15 radicals) and 15 for XRD studies, Petrographic studies on 30 Nos.of samples and Minerographic studies on 30 Nos of samples and 50Nos 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 RESERVE ESTIMATION

The Ore-zones have been mainly delineated with 0.50% Cu cut-off, 2.00 m. minimum stopping width and 3.00 m. parting. Some lodes, important for correlation even though do not follow the strict norm, have been considered however reserve estimation has been restricted to the norms mentioned above. Based on spatial distribution six correlative lodes namely L-1, L-2, L-3, L-4, L-5 and L-6 have been identified in descending order with a few uncorrelated lodes on the hanging-wall as well as roof-wall sides have been occurring.

The lodes are found to occur in discontinuous lensoid pattern. However, Lodes L-1, L-2, L-4, L-5 have some persistence in strike directions.

The total reserves estimated at 0.5% Cu cut-off and with 2.00 m. minimum stopping width (MSW) between cross sections S-II and S-XIII are given in Table below: -

SL.NO.	Category	Reserves	Average Grade
1	Probable	0.821mt	0.857% Cu
2	Possible	1.210mt	0.895%Cu
	Total	2.031 mt	0.8815Cu

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

The Total Cost of Exploration is Rs. 185.85 Lakhs.

LOCATION PLAN OF RAMCHANDRA PAHAD BLOCK

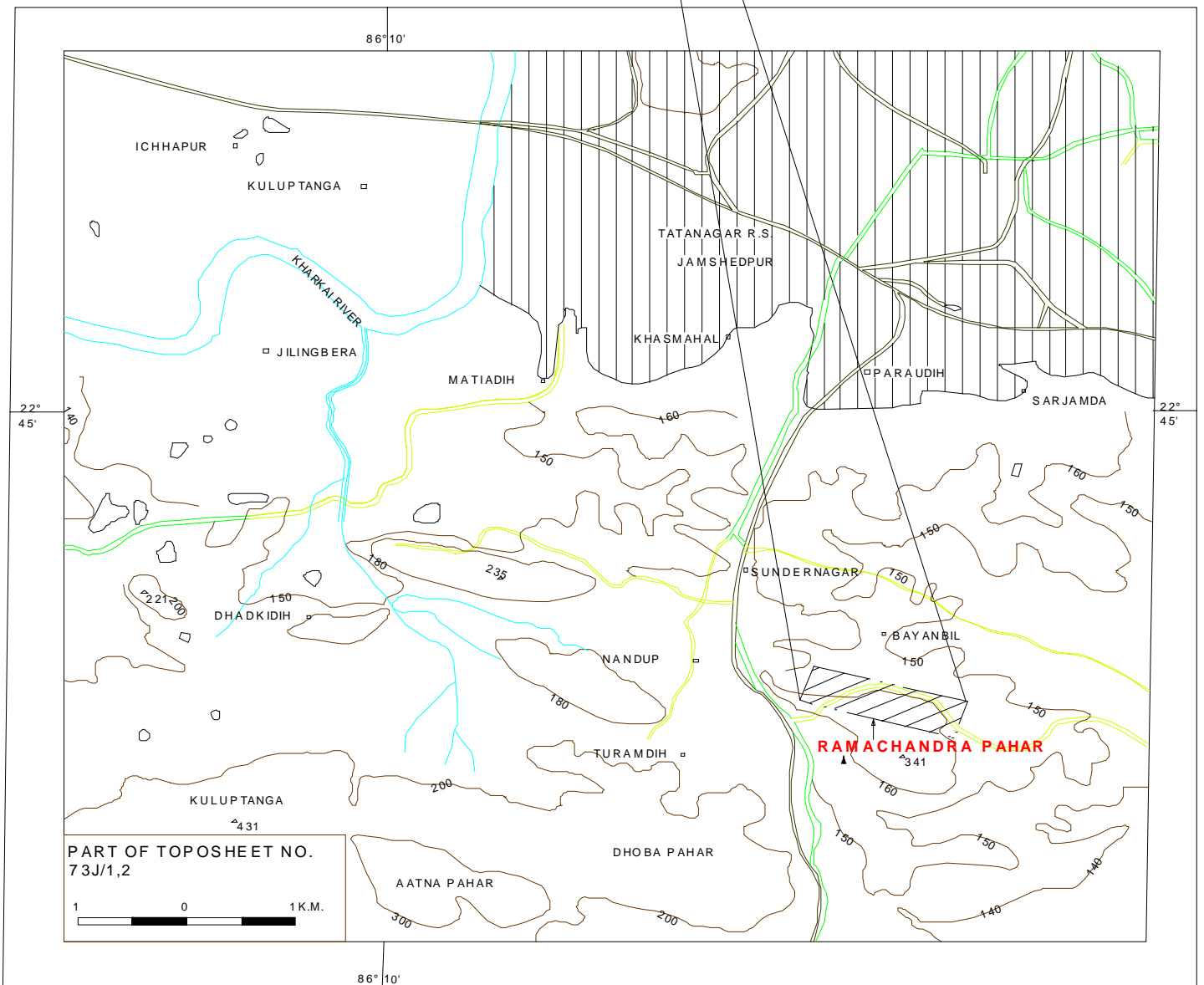
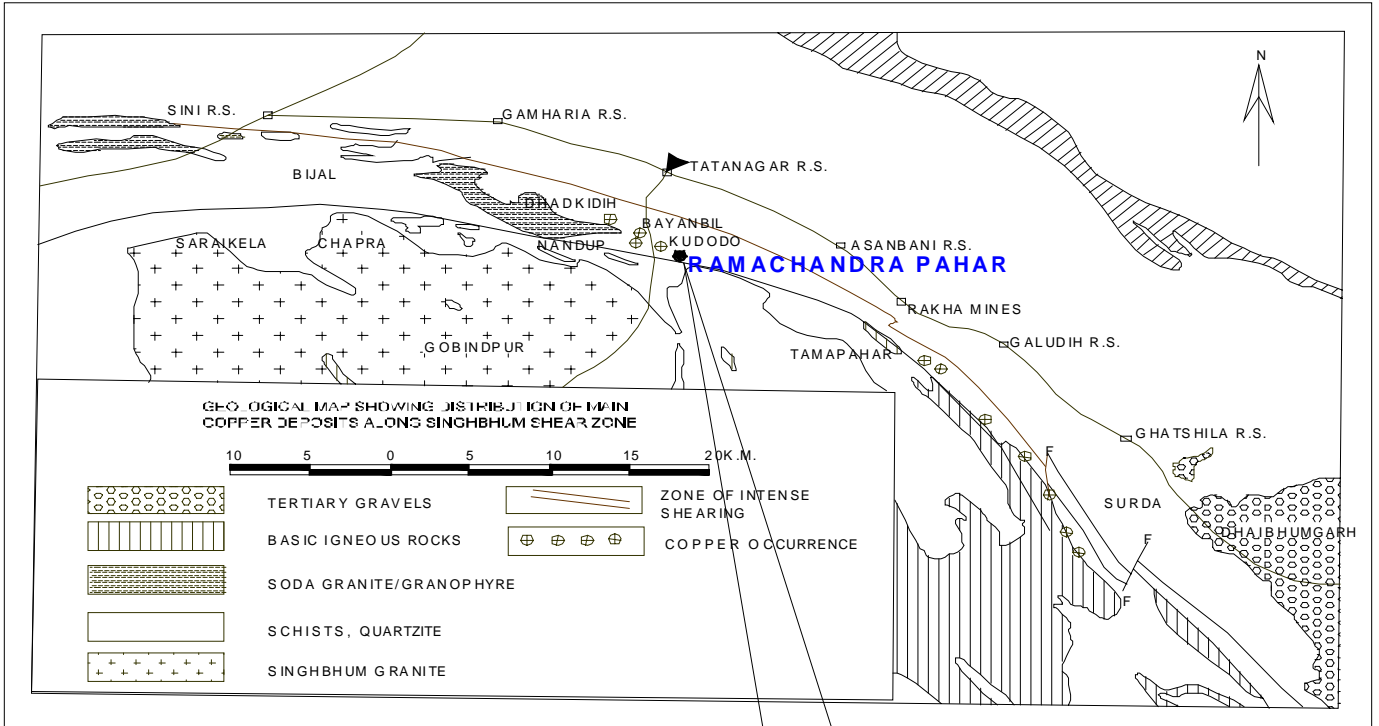


FIG. 1

PLAN PROJECTION OF BOREHOLES

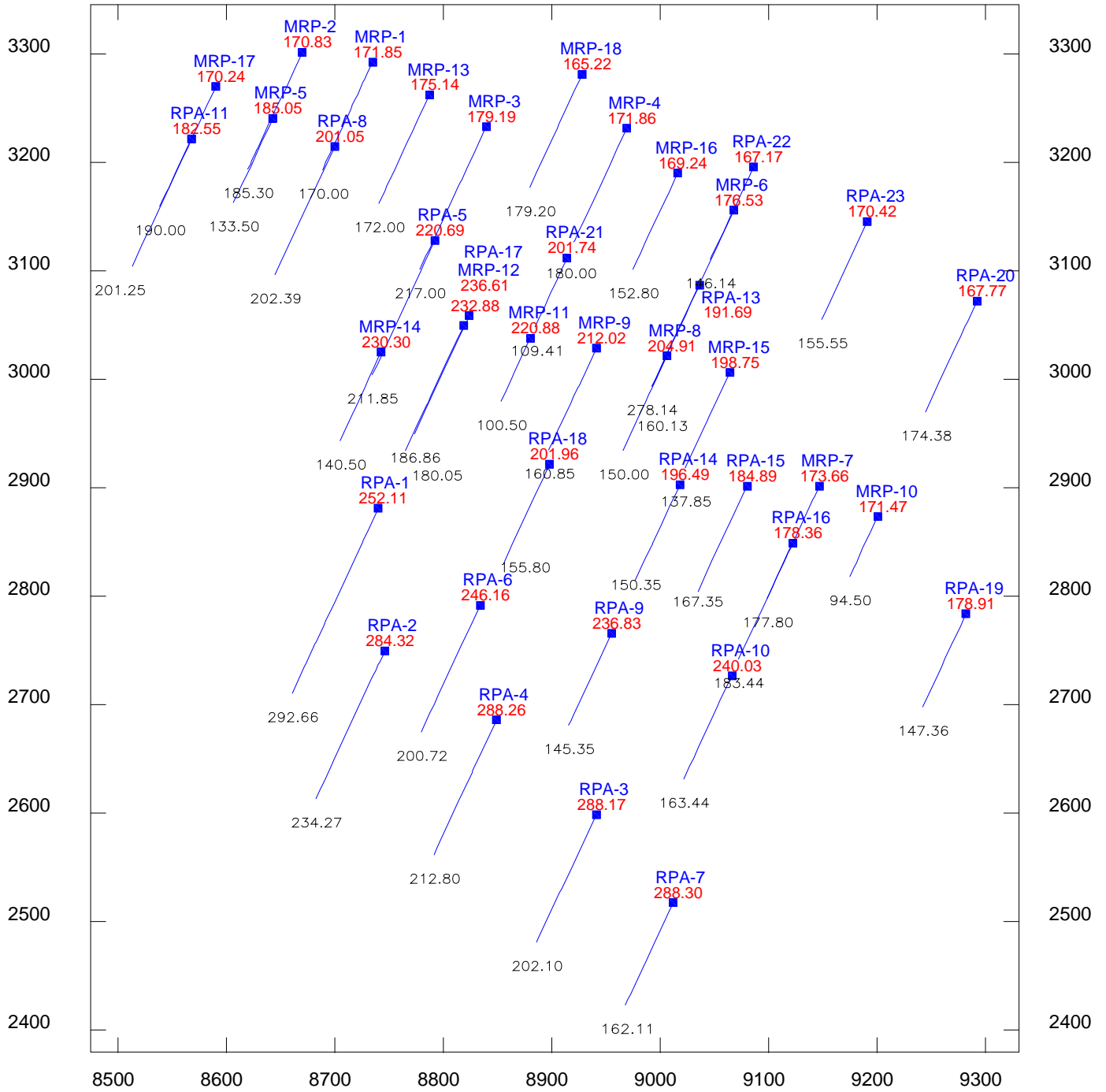


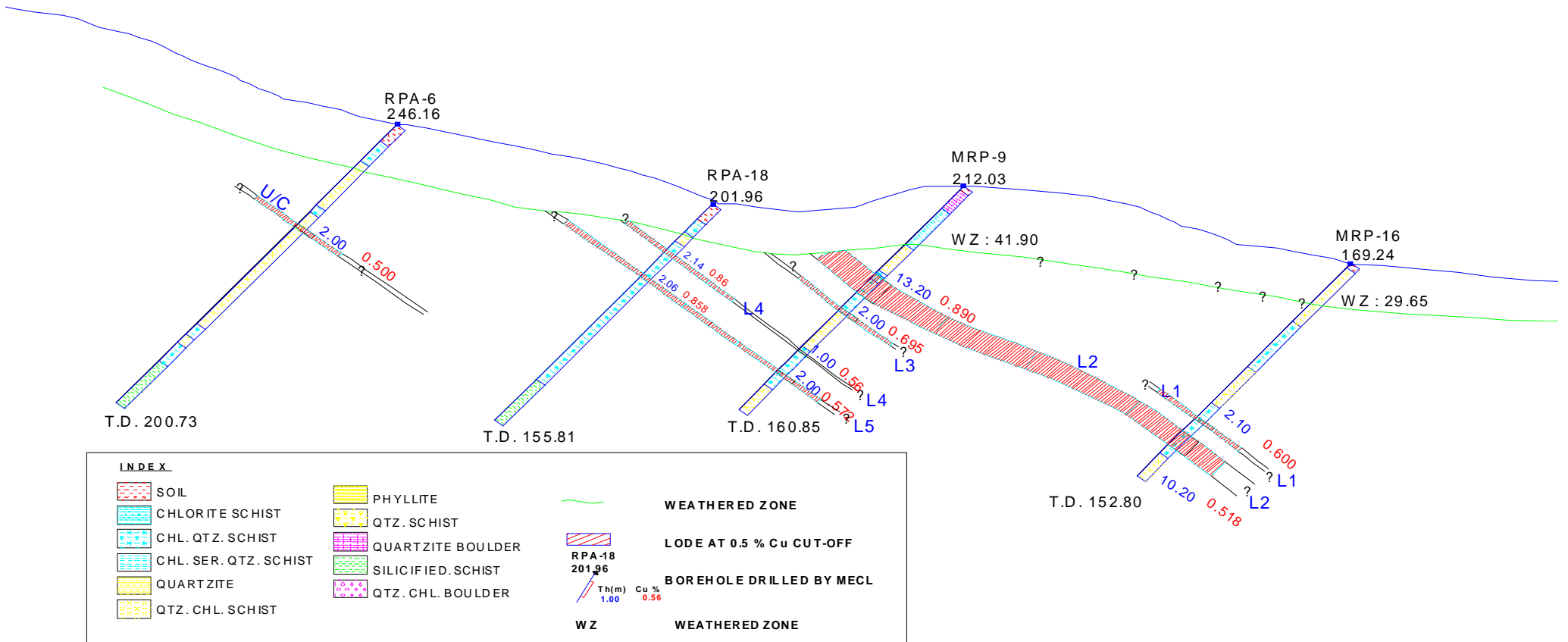
FIG : II

GEOLOGICAL CROSS SECTION

GEOLOGICAL CROSS-SECTION :S- VIII RAMCHANDRA PAHAR BLOCK

S 25°W

N 25°E



LONGITUDINAL VERTICAL SECTION

RAMCHANDRA PAHAR BLOCK

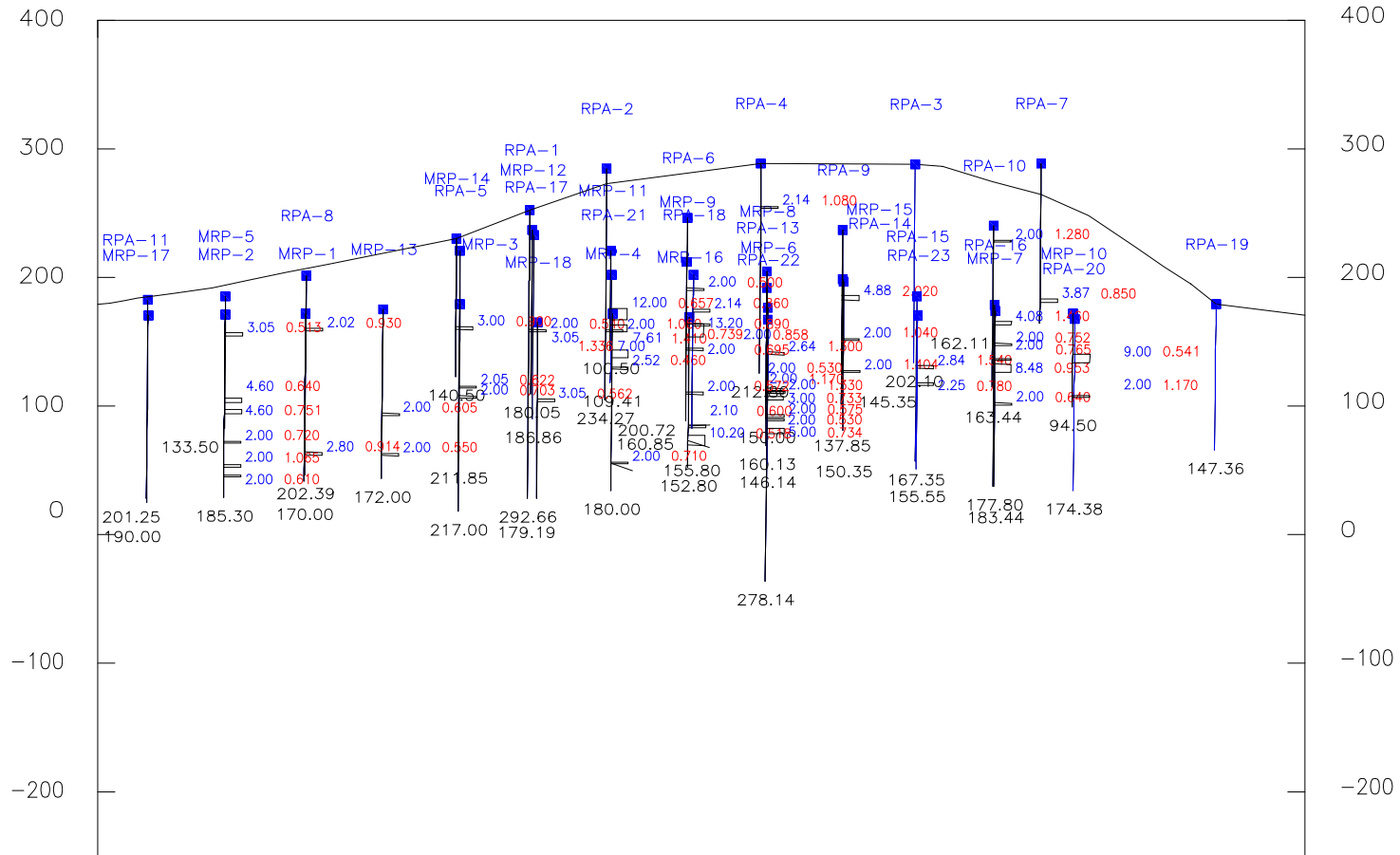


FIG : IV