GEOLOGICAL REPORT ON EXPLORATION FOR COPPER

DARIBA (AKOLA) COPPER DEPOSIT

DISTRICT - CHITTORGARH, RAJASTHAN

EXECUTIVE SUMMARY

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1.0 LOCATION

Dariba (Akola) Copper Prospect is located near village Dariba (Latitudes: 24°–43'-23" to 24°–44'-20" and Longitudes: 74°–09'-33" to 74°–09'-50") in Chittorgarh District of Rajasthan state. The area falls in the Survey of India Toposheet No.45 L/2. The block is 20 km. from Fatehnagar and Bhupalsagar railway stations on Udaipur – Chittorgarh broadgauge railway line and the prospect lies between two state highways viz. SH.No.-15 (Udaipur-Chittorgarh via. Badesar) and SH.No: 9 (Udaipur-Chittaurgarh via. Mavli and Kapasan).

2.0 GEOLOGY AND STRUCTURE

The Dariba (Akola) project is located in the central part of 70 km long N-S trending proterozoic metasediments of Panchmata-Bhinder Belt, extending from Panchmata in the North to Bhinder in the South. Ray et.al. (1994) of GSI, carried detailed mapping in the area.

Dariba (Akola) block is located within Mangalwar complex, just West of Pur-Banera group of rocks. The various litho-units exposed in the block comprise Pelitic metasediments (Garnet-mica Schist and Graphite Schist) with several bands of Quartzite and a thick sequence of dolomite-calc-gneiss-Para-amphibolite with occasional bands of metabasite. The other litho-unit is feldspathised quartzite, which is very prominent at Dariba village, is migmatised and sheared. Granite-gneiss is the most dominant rock.

The North-South linear Dariba shear/fault zone is affected by silicification, chloritisation, migmatisation, local brecciation, sericitisatoin and ferruginisation besides hydrothermal activity resulting in mineralisation in the area. The most prominent structural feature between basement rock and overlying sequence is the high order of irregularity in the strike pattern of rocks of overlying sequence. Three phases of folding is observed in the area. The first phase (F_1) fold is isoclinal, overturned in nature with N-S axial plane plunging moderately due NE to ENE. These originated the regional schistosity S_1. Second phase (F_2) fold is nearly co-axial to F_1 right to isoclinal upright folds with axial plane trending N-S to either NNE or SSW. Resultant axial plane schistosity S_2 is as N-S trending fracture cleavage.

3.0 MINERALISATION

Sulphide mineralisation in Dariba (Akola) block comprises namely Chalcopyrite & Pyrite with traces of Pyrrhotite. The mineralisation occurs in quartz-chlorite-amphibole-calc-silicate-biotite schist and in Pelites and also in amphibolites. The shear fractures traverse both along the mineralisation zones and in their

close vicinity, the sulphides is very largely mobilized/re-emplaced along these zones of shearing with or without pronounced migmatisation. The copper lodes in the area occur as lensoid bodies dipping 45º to 75º northeasterly.

4.0 QUANTUM OF WORK DONE

MECL has carried out detailed Geological Mapping & Topographical survey covering 1.0 Sq.km. area, 2375 Mtrs of drilling in 15 boreholes, 360 Nos of primary and check samples, 7 Nos of composite samples for (4 radicals i.e. Cu, Pb, Zn, & Mn) & Fire Assay for Au & Ag and 07 Nos composite samples for Ni, Co & V were also analysed. 7 Nos. of composite samples for Emission Spectroscopy (15 radicals) and for XRD studies, Petrographic studies on 19 Nos.of samples and Minerographic studies on 02 Nos of samples and 19 Nos 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.

6.0 ORE RESERVE ESTIMATION

a) The mineralized zones have been identified on 0.50% and 0.20% Cu cut-off at 3.0 m parting and 1.50 m minimum stopping width.

b) The reserve estimation has been done by the cross section method and LV section method also.

c) Total 4 lodes Eastern lode (E), Central lode (C), Western lode (W) and Local lode (L) has been identified. Mainly 2 lodes (Central & Western lode) are persistent in the block with splits at places, which have been taken as part of main lodes. Local lode (L) is intersected only in 2 boreholes MDA-3 (S-VA) and RAD-2 (S-VIII).

d) The thickness and assay values of GSI boreholes have been taken as it is for lode demarcation.

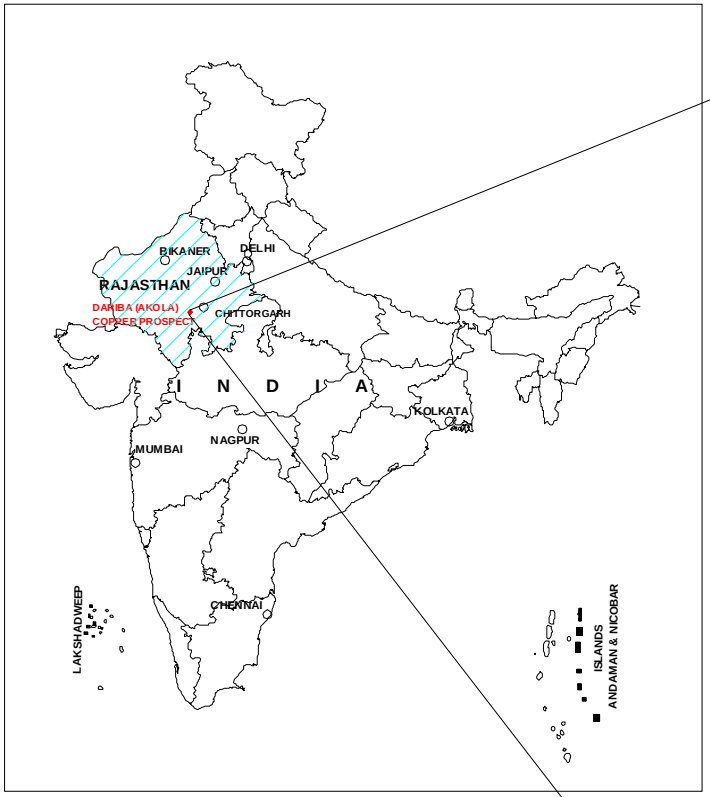
e) The reserves estimated by Cross Section method at 0.50% Cu cut-off is 2.714 million tonnes (1.332 m.t. Probable & 1.382 m.t. Possible) with 0.80% Cu. The reserves estimated by LV Section method at 0.50% Cu cut-off is 2.788 million tonnes with 0.81% Cu, which is 2.73% higher than the reserves estimated by cross section method.

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.

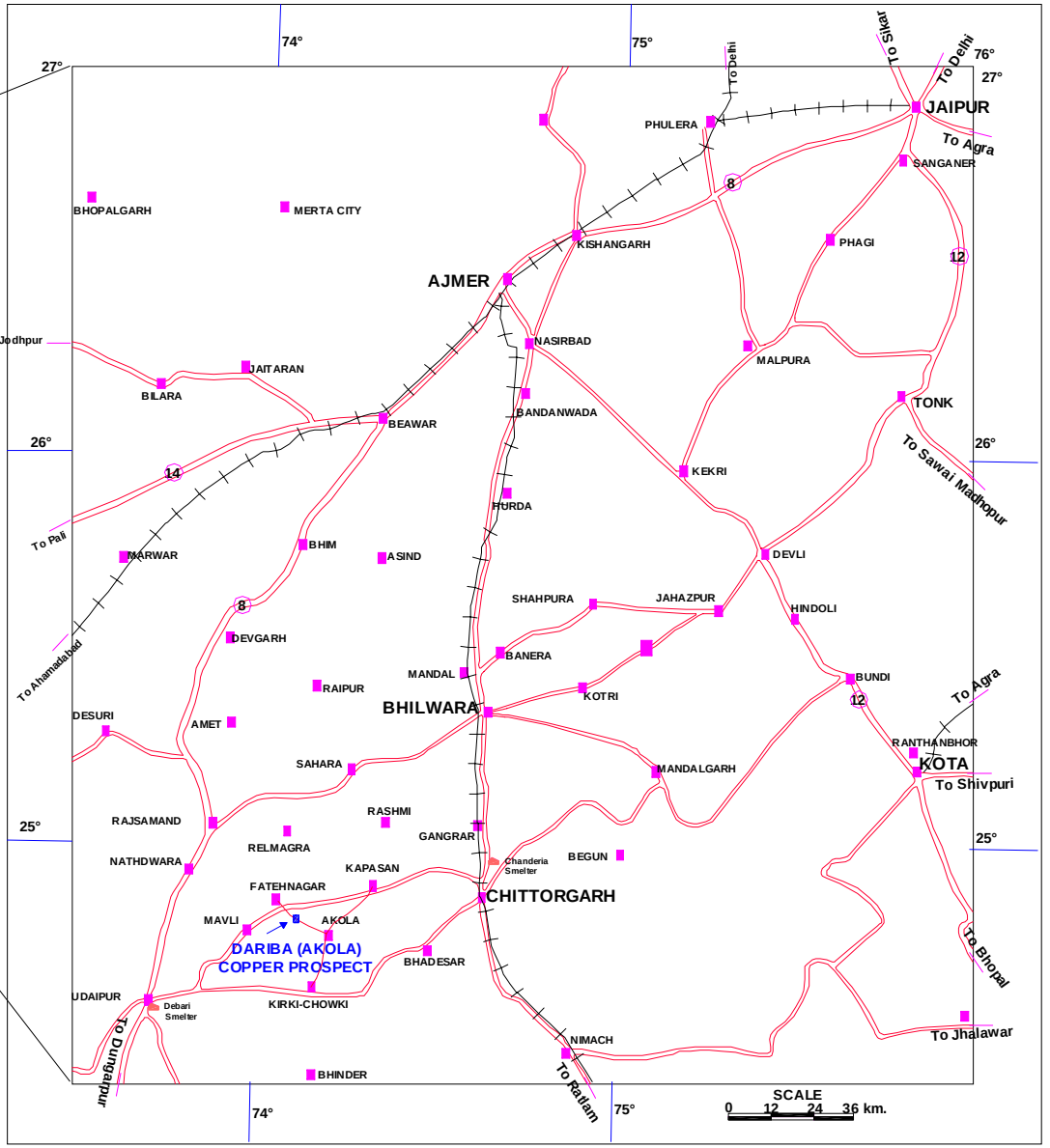
The Total Cost of Exploration is Rs. 183.24 Lakhs.

LOCATION MAP OF DARIBA AKOLA

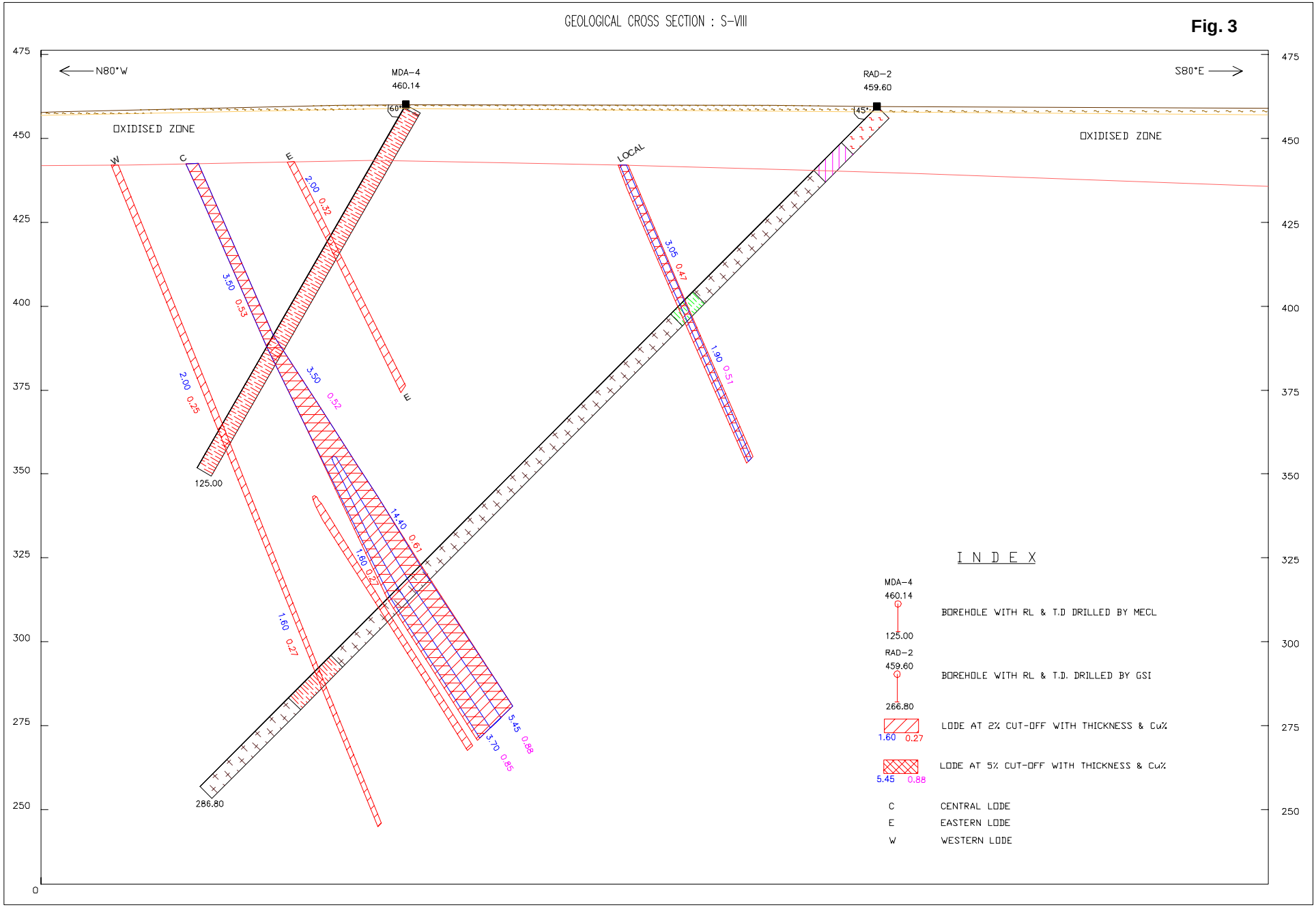


I N D E X:

- VILLAGE /TOWN
- ROAD, NATIONAL HIGHWAY
- RAILWAY LINE
- RIVER / DRAINAGE
- EXPLORATION BLOCK



GEOLOGICAL CROSS SECTION



LEVEL PLAN

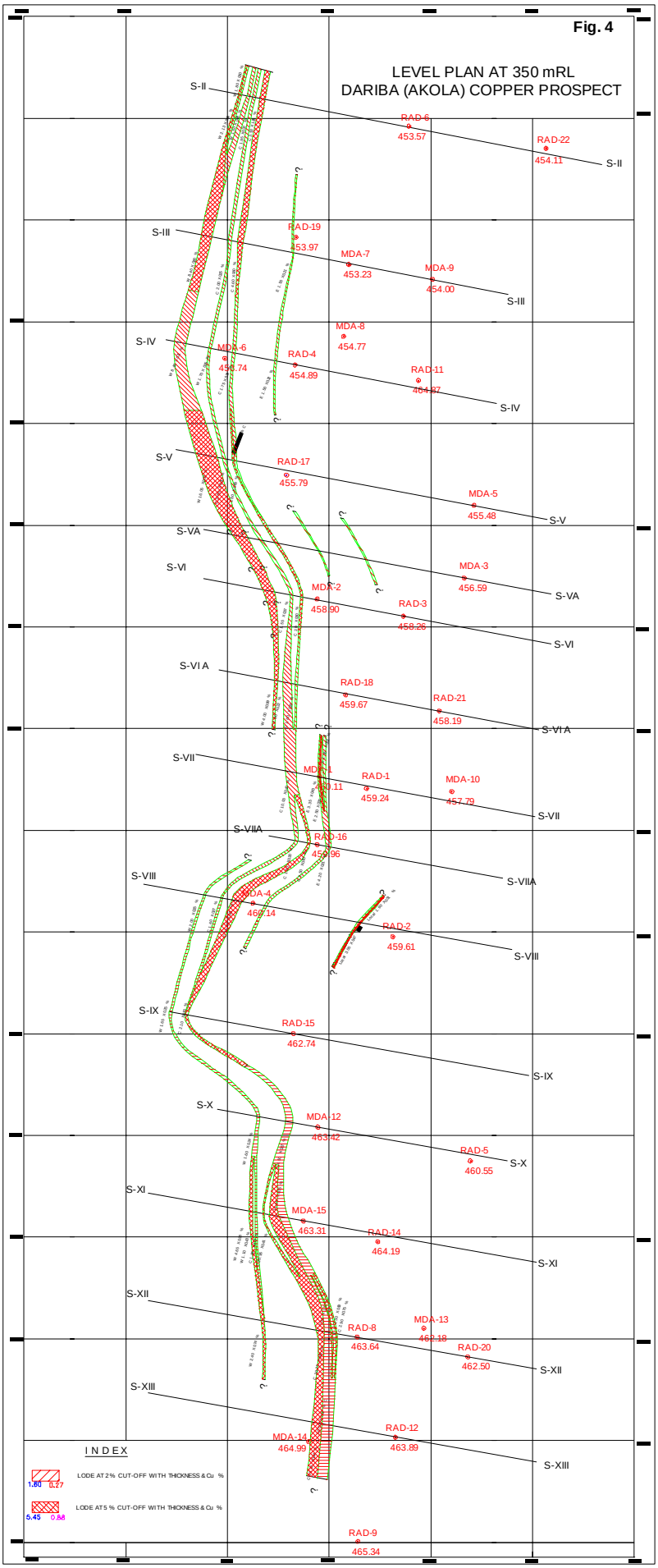


Fig. 4
LEVEL PLAN AT 350 mRL
DARIBA (AKOLA) COPPER PROSPECT
S-II
RAD-6
453.57
RAD-22
454.11
S-III
RAD-19
453.97
MDA-7
453.23
MDA-9
454.00
S-IV
MDA-8
454.77
MDA-6
454.74
RAD-4
454.89
RAD-11
454.87
S-V
RAD-17
455.79
MDA-5
455.48
S-VA
MDA-3
456.59
S-VI
MDA-2
458.90
RAD-3
458.26
S-VI A
RAD-18
459.67
RAD-21
458.19
S-VII
MDA-1
459.11
RAD-1
459.24
MDA-10
457.79
S-VIIA
RAD-16
459.96
S-VIII
MDA-4
460.14
RAD-2
459.61
S-IX
RAD-15
462.74
S-X
MDA-12
463.42
RAD-5
460.55
S-XI
MDA-15
463.31
RAD-14
464.19
S-XII
RAD-8
463.64
MDA-13
462.18
RAD-20
462.50
S-XIII
MDA-14
464.99
RAD-12
463.89
RAD-9
465.34
INDEX
LODE AT 2 % CUT-OFF WITH THICKNESS & Cu %
1.80 0.27
LODE AT 5 % CUT-OFF WITH THICKNESS & Cu %
5.45 0.68