

**GEOLOGICAL REPORT
ON
EXPLORATION FOR LEAD - ZINC
BAJTA (CENTRAL) BLOCK PHASE-I
DISTT. AJMER, RAJASTHAN**

EXECUTIVE SUMMARY



**MINERAL EXPLORATION CORPORATION LIMITED
(A Government of India Enterprise)
DR. BABASAHEB AMBEDKAR BHAWAN
SEMINARY HILLS, NAGPUR- 440006, INDIA**

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GEOLOGICAL REPORT ON EXPLORATION FOR LEAD-ZINC IN BAJTA (CENTRAL) BLOCK, (PHASE-I) DISTRICT: AJMER, RAJASTHAN

EXECUTIVE SUMMARY

1.0 LOCATION

Bajta (Central) Block (Latitude 25°-49'-29" to 25°-49'-48" and Longitude 75°-15'- 57" to 75°- 16'-12") is located 2.0 Km SW of Bajta village, having its tehsil headquarters at Kekri, in Ajmer district, Rajasthan. The area falls in the Survey of India Toposheet No.45 O/5. The block is about 20 km. from Kekri town and 140 Km SW of Jaipur the State Capital of Rajasthan

2.0 GEOLOGY AND STRUCTURE

Major part of the deposit is almost a plain country with thick soil cover and alluvium and scarce rock exposures. Outcrops of marble, quartzite, quartz vein are observed to the north and south of the block.

Bajta (Central) Block is a part of the Sawar-Bajta zone, which is one of the several enclaves of metasediments represented by Calcaresous and Calc magnesium rocks with subordinate amount of Pelitic Schist, quartzite and iron formations within the Pre Cambrian basement of granulites and gneisses of Central Rajasthan. The rocks belong to Sawar Group, which forms a part of Bhilwara Super Group of Archean Age.

The rocks of Sawar Group reveal a large scale fold geometry with antiformal closure near Sawar Town and semiformal closure near Bajta village. The area exhibits Regional Metamorphism.

The general strike of the formations is NNE-SSW to NE-SW with southeasterly dip varying from 40° - 50°. The rock types met in the block are quartz-Mica Schist, quartz-feldspar-Biotite schist with felspathic bands, marble & marble with calc silicates.

3.0 MINERALISATION

Most of the block area is covered with soil and alluvium. A few old workings seen along 30-40 m wide linear zone along contact of Lower Marble Member(LMM) with Lower Schist Member (LSM) are the main surface indication of mineralisation. Malachite encrustation and other surface manifestation of mineralisation are rare.

The deposit is carbonate hosted 'Alpine-type Lead-Zinc Deposit' (Sangster 1976). Mainly Marble and Quartz Feldspar-Biotite-Schist with Quartzitic bands host the mineralisation.

Sphalerite and Galena are the main ore of zinc and lead in the block. Stringers, thin laminae and bands of monomineralic Sphalerite are mutually parallel as well as with other compositional bands. In certain zones fracture filling veins, gash vein fillings and large patchy segregates of galena and sphalerite indicates remobilization and these rich remobilized enriched zones occur as ore zones. The gangue minerals are quartz, calcite, occasionally chalcopyrite, pyrrhotite and pyrite. The Cadmium and silver associated with Lead-Zinc mineralised zones are partitioned in Sphalerite and galena respectively.

4.0 QUANTUM OF WORKDONE

MECL has carried out detailed Geological Mapping & Topographical survey covering 0.50 Sq.km area, 1070.00Mtrs of drilling in 6 boreholes, 175 Nos of primary and check samples For Pb, Zn & Cu, 175 Nos of primary and check samples for Cadmium and 175 Nos of Primary and check samples for Fire Assay of Silver, 11 Nos of composite samples for Fire Assay of Silver & Gold (Au& Ag) and 11 Nos composite for Pb, Zn & Cu, 11 Nos of composite samples for Emission Spectroscopy (10 radicals) and for 10 samples for XRD studies were analysed. Petrographic studies on 30 Nos.of samples and Minerographic studies on 30 Nos of samples and 50 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.

5.0 ORE RESERVE ESTIMATION

The Lead-Zinc bearing loads are hosted by Quartz-Feldspar-Biotite-Schist, Quartzite and Marble. The loads are strata bound and strike extension is 400 m.

The data generated by GSI in the block was synthesized for the purpose of reserve estimation in Bajta (Central) Block. The ore reserves have been estimated in a vertical column of around 200m i.e. between +330 MRL (Below the zone of oxidation) and +130 MRL over a strike length of 400 m.

A total of 0.62 million tonnes of ore reserves with average grade of 1.45% Lead and 3.37% Zinc (TMC 4.82% Pb+Zn) at 2% TMC (Pb+Zn) cut off have been estimated.

At 1% TMC (Pb+Zn) cut off the total reserves are about 0.98 million tonnes with 0.98% Pb & 2.06% Zinc (3.04TMC).

The Deposit has been classified as Category 'D' 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. 70.53 Lakhs.

LOCATION MAP OF BAJTA CENTRAL BLOCK

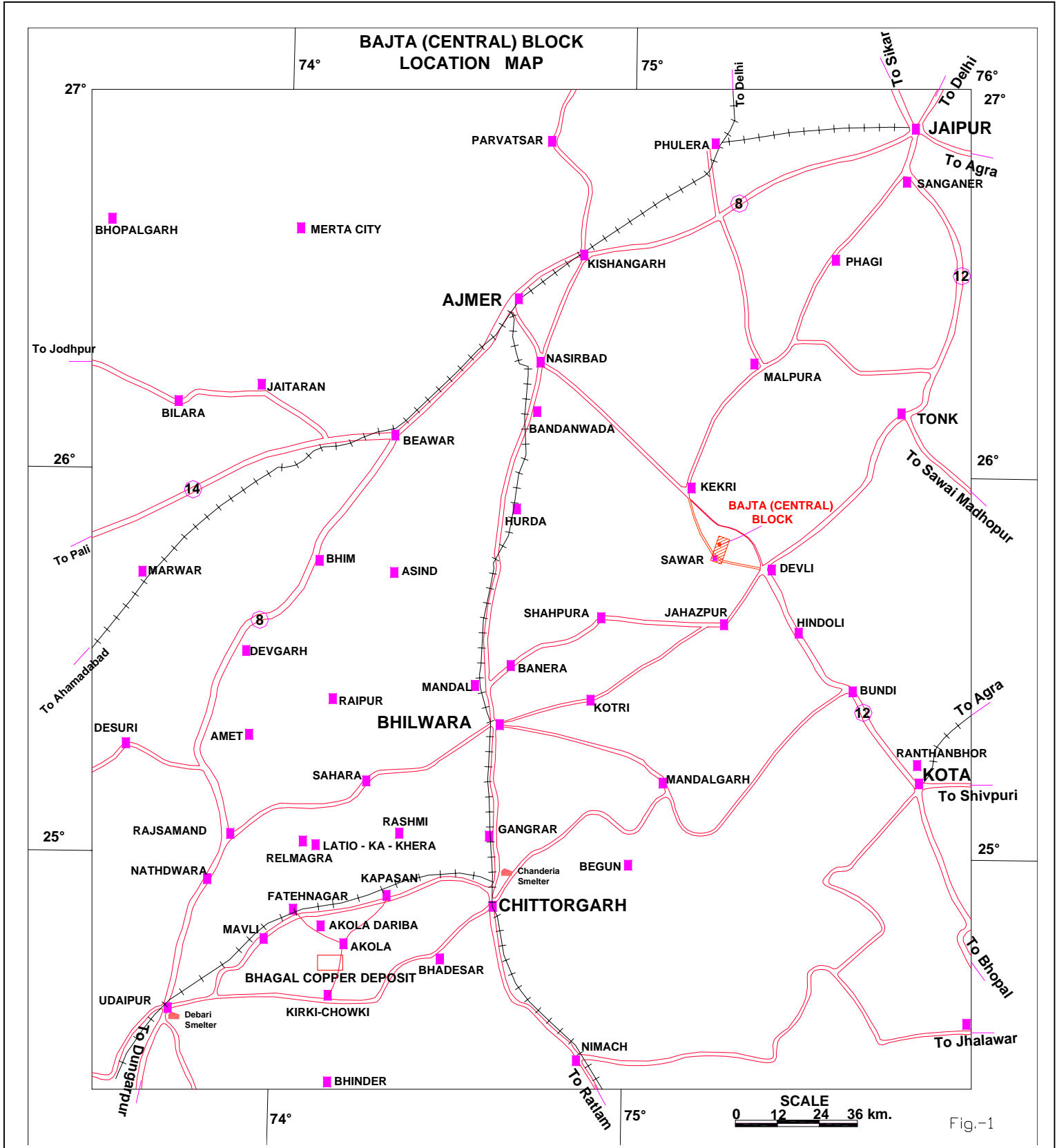
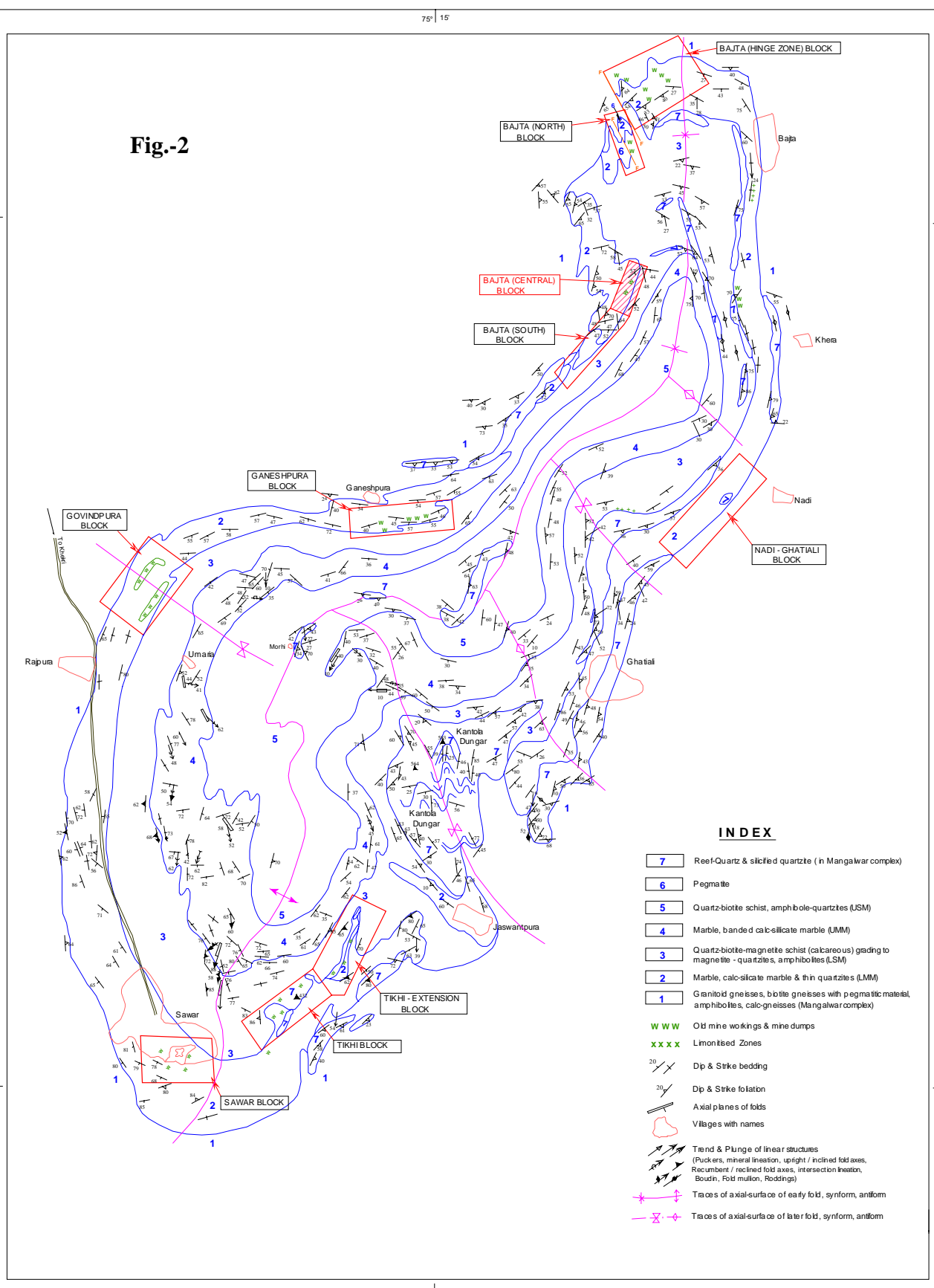


Fig.-1

TOPOGRAPHICAL & GEOLOGICAL MAP

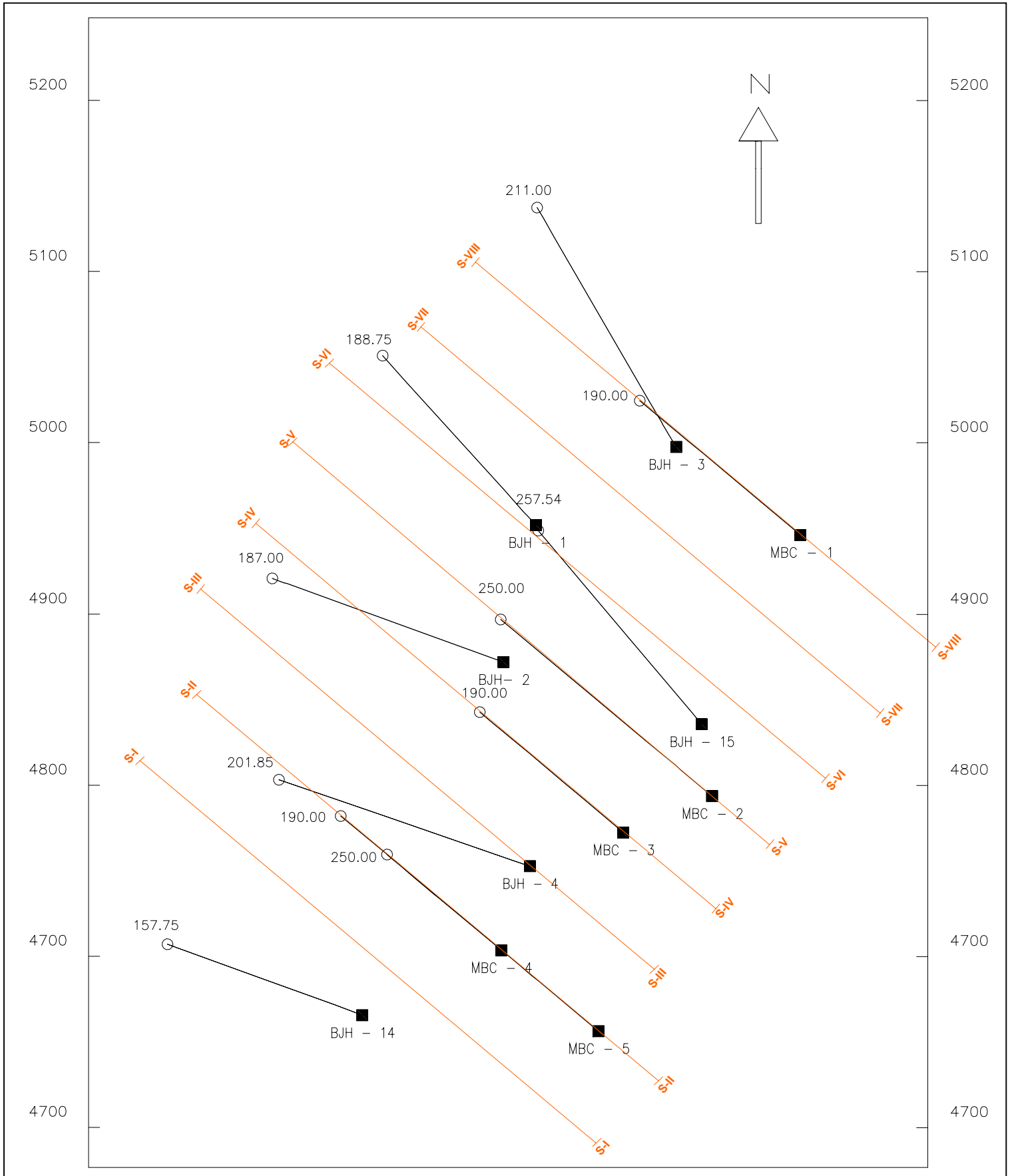
Fig.-2



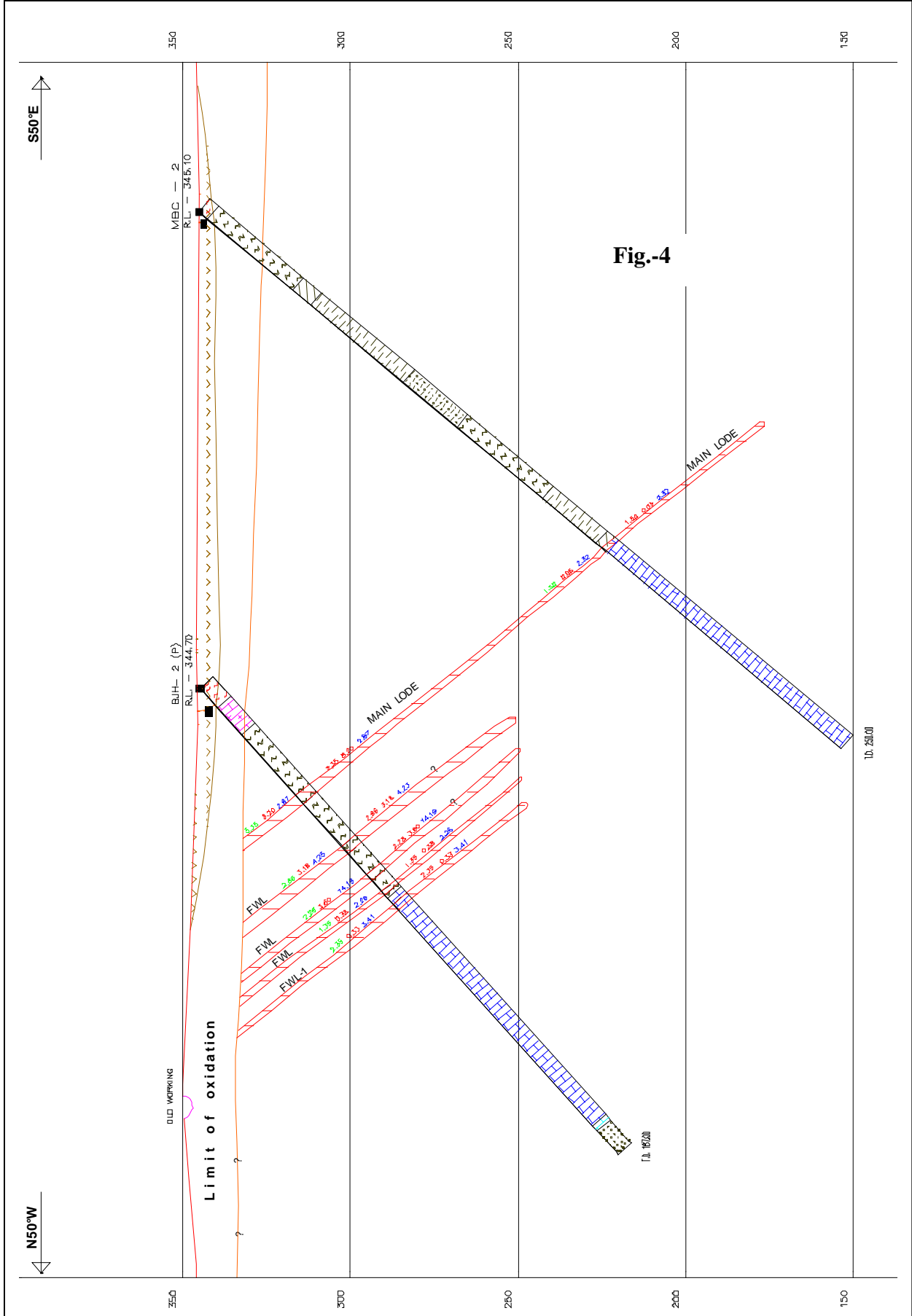
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- 7 Reef-Quartz & silicified quartzite (in Mangalwar complex)
- 6 Pegmatite
- 5 Quartz-biotite schist, amphibole-quartzites (USM)
- 4 Marble, banded calc-silicate marble (LMM)
- 3 Quartz-biotite-magnetite schist (calcareous) grading to magnetite - quartzites, amphibolites (LSM)
- 2 Marble, calc-silicate marble & thin quartzites (LMM)
- 1 Gneissoid gneisses, biotite gneisses with pegmatitic material, amphibolites, calc-gneisses (Mangalwar complex)
- WWW Old mine workings & mine dumps
- xxx Limonitised Zones
- Dip & Strike bedding
- Dip & Strike foliation
- Axial planes of folds
- Villages with names
- Trend & Plunge of linear structures
(Puckers, mineral lineation, upright / inclined fold axes, Recumbent / reclined fold axes, intersection lineation, Boudin, Fold mullion, Roddings)
- Traces of axial-surface of early fold, synform, antiform
- Traces of axial-surface of later fold, synform, antiform

PLAN PROJECTION OF BOREHOLES



GEOLOGICAL CROSS SECTION



LEVEL PLAN AT 250 mRL

