

General Information about the Mine:

Mohuldih Mine is located in Singhbhum thrust belt of Jharkhand with latitude $22^{\circ} 44'$ N and longitude $86^{\circ} 08'$ E. It is situated about 28 Km west of Jaduguda and about 7 Km south of Tatanagar Railway Station. The area forms a part of Pre-Cambrian, regionally metamorphosed tract of the Singhbhum shear zone (Dhalbhum formation of PC age), in this zone shear passes through the Iron ore stage of rock and runs nearly East to West.

The predominant rock types exposed in and around Mohuldih hillock from north to south are:

- Chlorite schist
- Chlorite sericite schist
- Sericite schist with quartz and tourmaline lenticels
- Banded magnetite quartzite
- Soda granite
- Amphibolite schist intercepted in almost all boreholes is not exposed on the surface.

The general surface strike of the rock is N 60° W - S 60° E with north-easterly dips of 30° to 60° . Both the uranium lodes along with the associated lithological units change their strike gradually from N 60° W - S 60° E to N 40° W - S 40° W. The strike swing of 70° in the sub surface is illustrated by the structural contours. Due to this nature there may be change in ore body strike length beyond 3rd series of holes (30 RL) and hence mining parameters may require change.

The host rocks for uranium mineralization are tourmaline bearing quartz sericite schist and magnetite bearing quartzite / quartz schist. The tourmaline bearing quartz sericite schist is characterized by high abundance of blue-green iron bearing tourmaline with granoblastic and occasionally lepidoblastic texture. Tourmaline is at times replaced by chlorite. Major accessory minerals are: apatite, ilmanite, magnetite, epidote, rutile, chalcopyrite, pyrite and uranium-titanium complex in varying amounts.

Quartzite also contains the same accessory minerals with fine disseminations of tourmaline. Apatite and magnetite form the prominent accessory. Two generations of chlorites are also present.

The mine can be accessed, at present through one 8^{th} Decline (1 in 7) acting as an Intake airway and two ventilation shafts (one in western and one in eastern) acting as return airways. The western ventilation shaft also acts as a second outlet. One vertical shaft is being sunk up to 283 m and presently it has reached -103.5 mRL (7^{th} level) and is to be sunk upto -128 mRL (8^{th} level). Currently the ore is being produced from three stopes namely Block - 03 stope (50 mRL to 95 mRL) in the eastern side, Block - 04 (50 mRL to 95 mRL) in the western side and Block - 05 (5 mRL to 50 mRL) in the eastern side while ore body both Hangwall Lode and Footwall Lode of Block - 06 (5 mRL to 50 mRL) in the western side have been developed and end as well as stope raises are being driven to establish ventilation network. Further production of waste is mainly from decline development from 5^{th} level and below and a shaft X-cuts at 5^{th} level is being driven to be made through at 5^{th} level and also to establish the ore body at 5^{th} level subsequently. The Vertical shaft has also been made through at 4^{th} level with the decline via a North X-Cut, which is also serving as an Intake of fresh air to the mine at 4^{th} level and is therefore useful in reducing radon concentration.

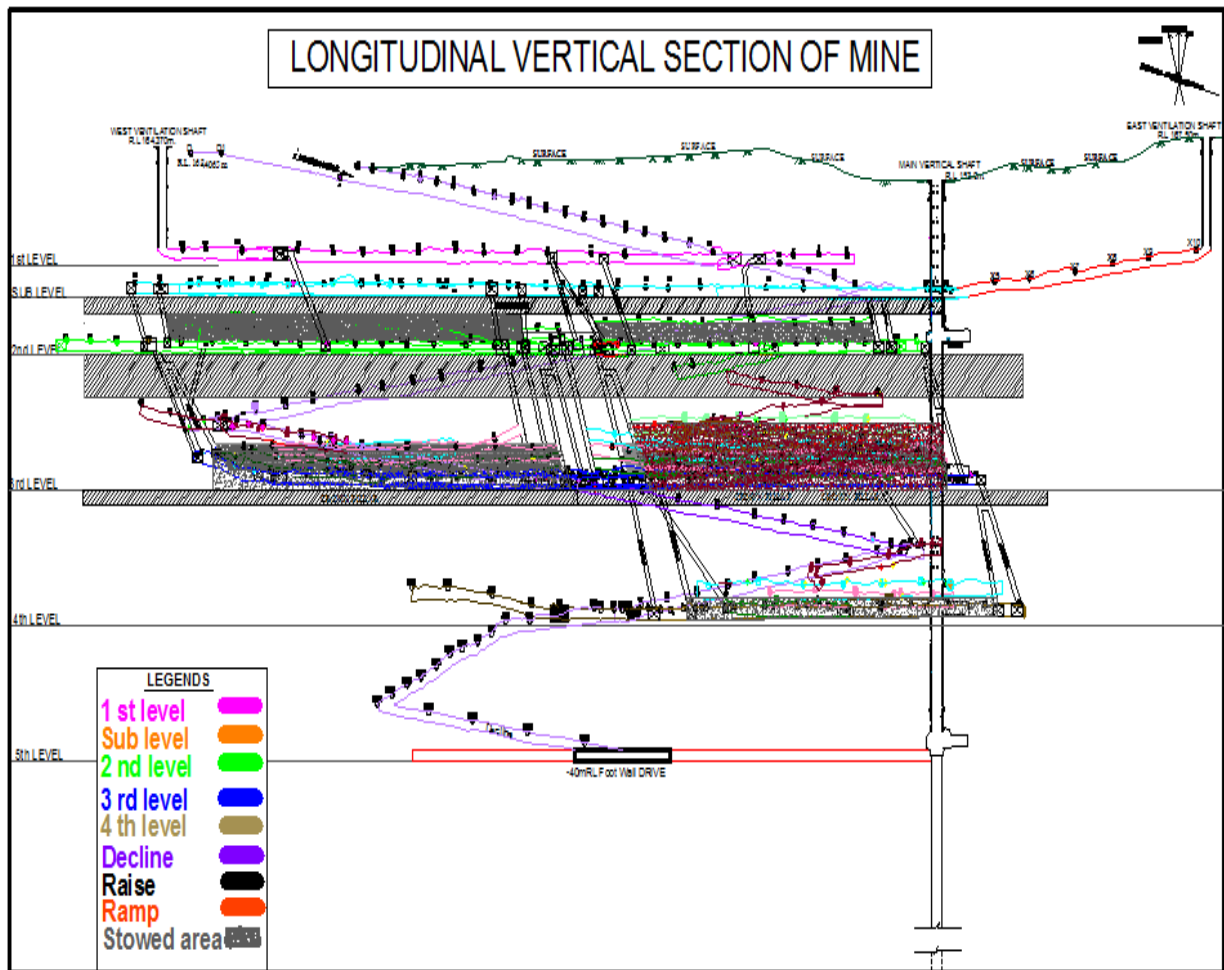


Figure 1: Longitudinal Vertical Section of the mine