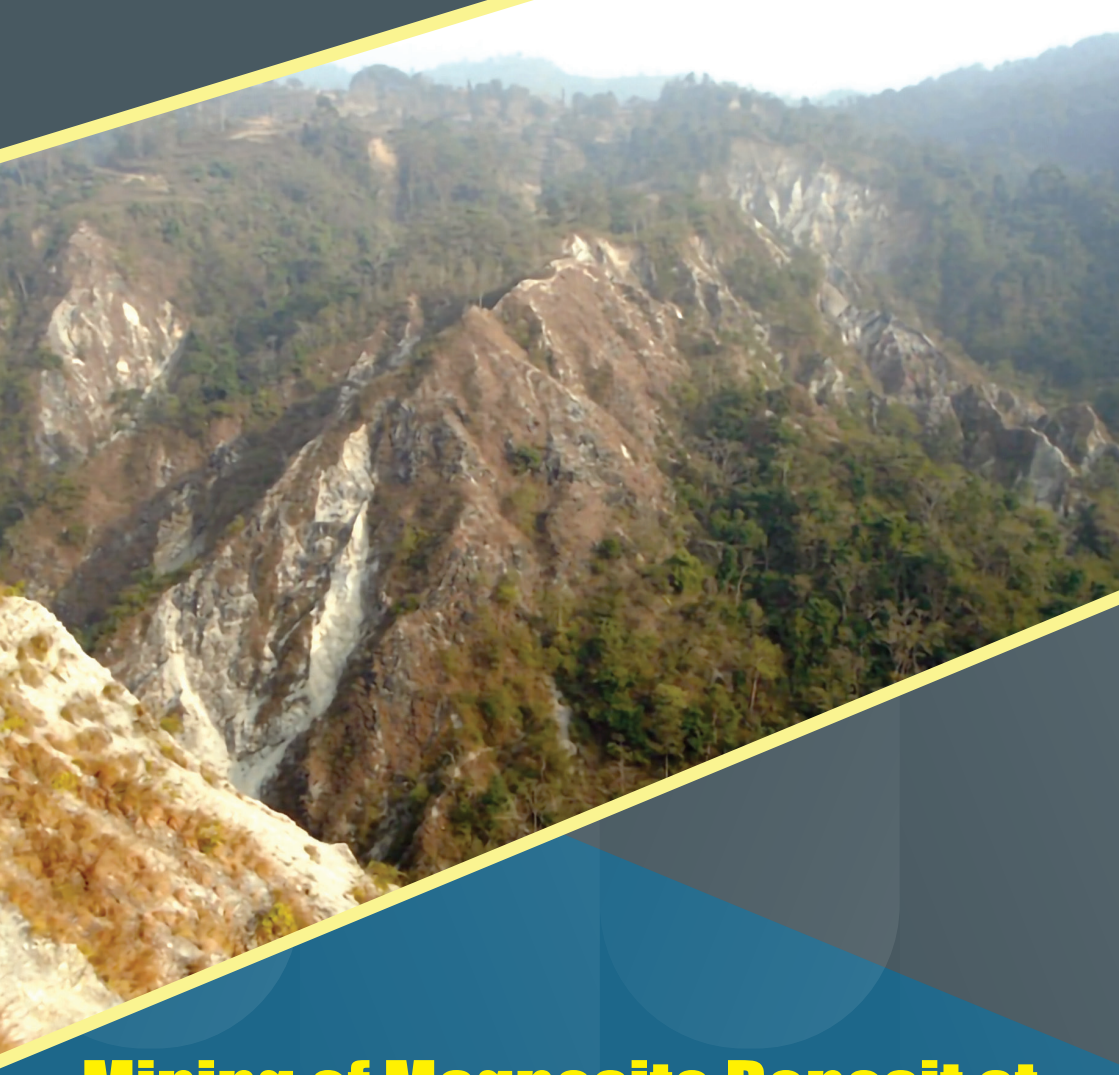


Mining of Magnesite Deposit at Kampughat

Triyuga Municipality and Chaudandigadhi Municipality, Udaypur District

Government of Nepal
Ministry of Industry, Commerce and Supplies
Department of Mines and Geology

EMERGING NEPAL INVESTMENT SUMMIT 2024
26-29 APRIL, KATHMANDU

Background

This project focuses on extracting magnesite, a valuable magnesium carbonate mineral characterized by its chemical composition of $MgCO_3$. This mineral typically forms through the alteration of magnesium-rich or carbonate rocks under the influences of metamorphism or chemical weathering. Found predominantly in both contact and regional metamorphic terrains, the magnesite in these areas is mainly cryptocrystalline, often accompanied by opal or chert as silica impurities. Additionally, magnesite manifests as a secondary carbonate in the regolith above ultramafic rocks and within soil and subsoil layers, created by the dissolution of magnesium-bearing minerals through carbon dioxide-enriched groundwaters. The extracted magnesite is primarily processed into magnesium oxide, also known as dead burned magnesite (DBM), which serves crucial roles as a refractory material in industrial settings and as a foundational chemical industry input.

Sector
Mines and Minerals

Location
Kampughat area, Triyuga Municipality and Chaudandigadhi Municipality, Udaypur District, Koshi Province

Land Lease Area
Approx. 5.54 Sq. Km.

Toposheet No: 2686 04C (around Ratmate and Kampughat Area)
Main point co-ordinates: Easting 482035.00 and Northing 2971575 m

Extension from the Main point:

East	west	North
2235.00 m	535.00 m	1925.00 m

Objectives

- To utilize resources sustainably for mining of magnesite in the area
- To tap the probable potential of extracting magnesite

Project Rationale

Estimated Magnesite Deposit in the area is 14.28 million tons

Applications of Magnesite

Chemical Industry

- Pharma chemicals
- Mosaic Application
- Animal Feeds
- Fertilizers

Manufacturing Industry

Production of caustic calcined magnesite

Manufacturing of dead burnt magnesite

- Refractory materials
- Refractory bricks

Project Outcomes

- Revenue Generation through mining activities
- Enhanced local land value
- Create employment opportunities
- Stimulate growth in axillary industries and trade
- Diverse Industrial application of extracted Magnesite
- Utilization of domestic resources efficiently

Geology

- Proterozoic carbonate unit of the Lesser Himalaya (Lakharpata Formation)
- Major Rock Units: Coarsely crystalline, massive bedded, and cherty to dolomitic magnesite.
- Rock thickness of about 300 meters, covering a strike length of 350 meters on the left bank of Dhungre Khola and 300 meters on the right bank.

Sampling Data

- No of Channel Sampling:319
- No of Chip Sampling: 15
- No of Grab Sampling: 22
- No. of Core Sampling: 39
- Geological mapping (1:25000) done in 15 sq.km.
- Geological mapping (1:25000) in 100 hectares
- Topographical survey (1:1000) in 100 hectares

(All these samplings done in FY 2077/78)

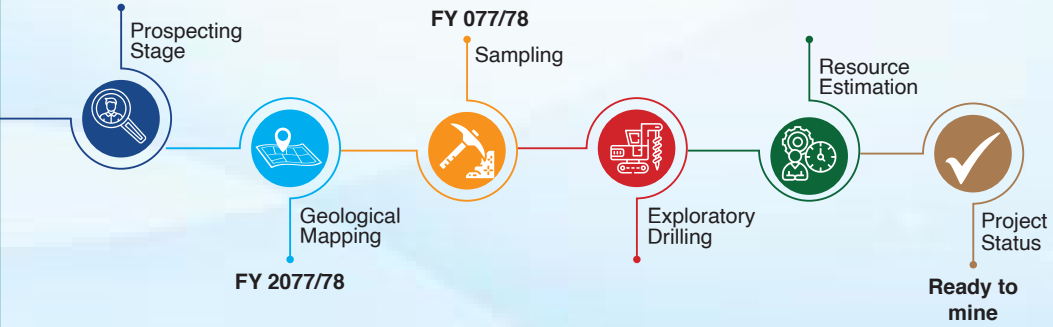
Exploration Drilling Data

- No of drill holes:4
- Total drill length:141.15 m

Chemical Components

- Calcium oxide (CaO): 0.65% to 24.24%
- Magnesium oxide (MgO) : 17.76% to 43.63%

Project Implementation Timeline



Project Implementation Modality

Private Investment

Royalty Structure for Magnesite: Rs. 75 per ton

*(*Revenue Model will be followed as per the guidelines provided by Department of Mines and Geology)*

Additional Information

"The individual who has received the excavation work permit must initiate the excavation work within 2 years from the date the permit is obtained. The duration of the excavation (generally > 10 years) is determined based on the level of the industry (very small scale, small scale, medium scale, and large scale) as per the arrangements made in the Mines and Minerals Rules, 2056 (with the fourth amendment)"

As per the Mines and Minerals Rules, 2056 (1999) – (including 4th Amendment), Magnesite has been categorized as the Precious and Valuable Mineral

Relevant Agencies

- Ministry of Industry, Commerce and Supplies
- Department of Mines and Geology

About the Agency

The Department of Mines and Geology (DMG) established under the Ministry of Industry, Commerce and Supplies (MoICS), is the sole government organization that is responsible for all types of geological surveys, mineral exploration, and administration of Mining Rules and Regulations in Nepal. Its important mandate includes the exploration and evaluation of mineral resources, the promotion of minerals through the formulation of robust policies and laws, and the regulation and monitoring of mineral exploration, mining, and related industries. Furthermore, the DMG provides technology transfer and expertise services to organizations involved in mineral sector development, infrastructure development, natural hazard mitigation, and environment protection.

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