

EXECUTIVE SUMMARY

“Mayoo – Moosa Soapstone Mining Project”

At

**Village- Mayoo – Moosa,
Tehsil & District-Bageshwar, State- Uttarakhand
(Area- 9.988 Ha)**

Submitted by

M/s Dev Bhoomi Mines

**R/o – Chandni Chowk, Rampur Road, Haldwani
Uttarakhand**

Prepared by

**COGNIZANCE RESEARCH INDIA PRIVATE
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Certificate No. NABET/EIA/1922/SA0186, Valid Till: September 10, 2023



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1.0 INTRODUCTION OF PROJECT & PROPONENT

Environmental Impact Assessment (EIA) is a decision-making tool, identifies the extent of the environmental, social and economic impacts of a project prior to decision-making. EIA systematically examines both beneficial and adverse impacts of the proposed project over and above the prevailing conditions of environmental parameters and ensure that these impacts are taken into account during the project designing stage itself and the values of the combined impacts are never allowed to exceed and remain within the statutory norms.

The proposed project of Mayoo Moosa Soapstone Mining Project by M/s Dev Bhoomi Mines is for soapstone mineral mining which covers an area of 9.988 Ha at Village- Mayoo-Moosa, Tehsil & District- Bageshwar, and Uttarakhand. LOI has been granted in favour of M/s Dev Bhoomi Mines, vide letter no. 1649/VII-A-1/2021/12 soapstone/17 dated 17.11.2021, for a period of 50 years attached as Annexure II. The EIA-EMP report has been prepared as per the TOR granted under the EIA Notification of September 14th 2006. In order to assess the impact on environment due to proposed mining, it is necessary to ascertain the present status of environment prevailing at the project site and identification and assessment of impacts on the environment of the proposed operations.

As per NGT Order Dated 13-09-2018 and MOEF & CC OM No L-11011/175/2018-IA-II (M) Dated 12-12-2018 the project comes under B1 Category as the area is more than 5 Ha. Environmental Impact Assessment report is prepared to comply with the Terms of Reference (TOR) received from SEIAA, Uttarakhand, under EIA Notification of the MoEF, 243/SEIAA Dated 09 March, 2023.

1.1 LOCATION

Detail of site & surrounding around Lease Area

Nearest Settlements	<ul style="list-style-type: none">• Devli Village, 0.11 km in WSW direction• Mayu village 0.13km in NNW Direction
Nearest Road	<ul style="list-style-type: none">• NH-309, approx* 0.43 km in SSW Direction• MDR (Kanda-Rawatsera-Bans Patan Road), 2.34km in

	SE direction
Nearest Airport	Pithoragarh airport, 45.97 km in ESE direction
Nearest Railway Station	Kathgodam Railway Station, 70.02 km in SSW direction
Nearest Park/wildlife within 10 km	National sanctuary No National Park/sanctuary within 10 km of lease boundary
Water body	<ul style="list-style-type: none"> Saryu river 7.17 km in W direction
Nearest School/ college	<ul style="list-style-type: none"> Govt Primary school Mayu (0.04 km towards N) Govt Primary school Ghinghartola (0.60 km in SW) Primary school Satchaura (0.83 km towards SSE direction)
Reserve/ Protected Forest	<ul style="list-style-type: none"> Gurana Reserve Forest, 3.20 km in SSE direction Paisiya Reserve Forest, 3.40 km in E direction Nayal Reserve Forest, 3.48 km in NE direction Gairar Reserve Forest, 3.52 km in NW direction Bhatgar Reserve Forest, 4.39 km in NE direction Chhatena Reserve Forest, 5.38 km in WSW direction Manjgaon Reserve Forest, 5.26 km in ENE direction Dhungidhar Reserve Forest, 6.63 km in WSW direction Karimpur Reserve Forest, 6.10km in E direction Phalyanti Reserve Forest, 7.20 km in WSW Pungar Reserve Forest, 7.69 km in NNW direction Ratmoli Reserve Forest, 7.54 km in S direction Pandrapali Reserve Forest, 8.61 km in NW direction Khabdoli south Reserve Forest, 8.81km in W direction Bankot Reserve Forest, 9.12 km in S direction Bashukinag Reserve Forest, 9.23 km in SE direction
Nearest Hospital	<ul style="list-style-type: none"> Government Hospital Vijaypur Khantoli, 6.24 km in E Government Hospital Bageshwar 8.28 km in W.
Temple	<ul style="list-style-type: none"> Naulang Devta Temple, 0.40 km in S direction Kund Temple, 0.27 km in W

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PROPONENT: M/S DEV BHOOMI MINES
VILLAGE: MAYOO-MOOSA, TEHSIL & DISTRICT-BAGESHWAR,
STATE- UTTARAKHAND
AREA: 9.988 HA

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Project Salient features

On-line proposal No.	SIA/UK/MIN/80925/2022		
File No. allotted by SEIAA, UK	EC-01/(23)/2023		
Name of Proponent	Prop: M/s Dev Bhoomi Mines		
Full correspondence address of proponent	R/o-Chandni Chowk, Rampur Road, Haldwani (U.K)		
Name of Project	Mayoo Moosa Soapstone Mining Project		
Name of Village	Mayoo Moosa		
Tehsil	Bageshwar		
District	Bageshwar		
Name of Minor Mineral	Soapstone		
Sanctioned Lease Area (in Ha.)	9.988 ha		
Category of the project	"B1"		
Max & Min mRL within lease area	Max- 1507.20mRL & 1396.10 mRL		
Pillar Coordinates (Verified by DMO)	Pillar No.	Latitude	Longitude
	1	29°50'23.54"N	79°51'29.11"E
	2	29°50'25.88"N	79°51'34.90"E
	3	29°50'24.12"N	79°51'35.43"E
	4	29°50'23.92"N	79°51'36.20"E
	5	29°50'22.92"N	79°51'36.11"E
	6	29°50'22.50"N	79°51'35.22"E
	7	29°50'21.15"N	79°51'36.00"E
	8	29°50'20.01"N	79°51'36.01"E
	9	29°50'17.35"N	79°51'34.30"E
	10	29°50'17.34"N	79°51'32.89"E
	11	29°50'13.38"N	79°51'29.16"E



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	12	29°50'14.36"N	79°51'23.79"E
	13	29°50'17.44"N	79°51'23.63"E
	14	29°50'18.41"N	79°51'22.82"E
	15	29°50'19.27"N	79°51'22.61"E
	16	29°50'19.61"N	79°51'21.30"E
	17	29°50'20.77"N	79°51'20.80"E
	18	29°50'23.92"N	79°51'22.73"E
	19	29°50'23.73"N	79°51'23.60"E
	20	29°50'24.01"N	79°51'24.25"E
	21	29°50'23.86"N	79°51'28.50"E
Maximum Proposed Production	16079 TPA (in Vth year)		
Sanctioned Period of Mine lease	Maximum 50 years		
Method of Mining	Open Cast Mechanized Method		
No. of working days	240days		
Working hours/day	8hrs		
No. of workers	31		
Type of Land	Agriculture land		
Ultimate Depth of Mining	18 m		
Nearest metalled road from site	0.43 km		
Water Requirement	PURPOSE	REQUIREMENT (KLD)	
	Drinking	0.31	
	Suppression of dust	5.0	
	Plantation	5.0	
	Mobile Toilet	0.31	
	Total	10.62	
Any litigation pending against the project or land in any court	No		
Details of 500 m Cluster Map & certificate issued by Mining Officer	Yes, certified		
Proposed Project cost	Rs 45,00,000 /-		



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Proposed EMP budget including the CER Cost as per OM dated 30 Sep 2020	Recurring Cost- 5.4 Lakh Capital Cost (as per CER)- 2.25 Lakh
Length and breadth of Haul Road	Length: 500m, width: 6 m
No. of Trees to be Planted	5000 plants

Proposed productions in mining plan period – 05 years

Year	Quantities of soapstone (tonnes)		Total Quantities of soapstone (tonnes)	Waste (Cum)		Total Waste (Cum)	Stripping ratio (T/Cum)
	Pit-I	Pit-II		Pit-I	Pit-II		
I st	3494	4643	8137	3528	4687	8215	1:0.99
II nd	4126	5920	10046	3216	4221	7437	1:1.35
III rd	5242	6656	11898	5292	6720	12012	1:0.99
IV th	6178	7529	13707	5589	5496	11085	1:1.24
V th	8840	7239	16079	8925	6696	15621	1:1.03
Total			59867			54370	

1.2 BASELINE DATA

This section contains the description of baseline studies of the 10 km radius of the area surrounding Village- Mayoo- Moosa, Tehsil and District- Bageshwar, Uttarakhand. The data collected has been used to understand the existing environment scenario around the proposed mining project against which the potential impacts of the project can be assessed.

Environmental data has been collected in relation to proposed mining for:-

- (a) Air
- (b) Noise
- (c) Water
- (d) Soil
- (e) Ecology and Biodiversity

BASELINE ENVIRONMENTAL STATUS

Attribute	Baseline status
Ambient Air Quality	Ambient Air Quality Monitoring (AAQM) has been carried out at five locations during pre-monsoon season from December 2022 to February 2023. The minimum and maximum level of PM2.5 recorded within the study area was in the range of 24.33µg/m ³ at AQ-6 to 55.5µg/m ³ at AQ-3 with the 98th percentile 55.09µg/m ³ at AQ-3. The minimum and maximum level of PM10 recorded within the study area was in the range of 25.5µg/m ³ at AQ-5 to 79.45µg/m ³ at AQ-3 with the 98th percentile 78.13µg/m ³ at AQ-3. The minimum and maximum concentration of SO ₂ recorded within the study area was in the range of was 2.6 µg/m ³ at AQ-2 to 12.5µg/m ³ at AQ-3 with the 98th percentile 11.69µg/m ³ at AQ-5. The minimum and maximum level of NO ₂ recorded within the study area was in the range of was 4.6µg/m ³ at AQ-3 to 19.7µg/m ³ at AQ-2 with the 98th percentile 18.37µg/m ³ at AQ-1. The results thus obtained indicate that the concentrations of PM10, PM2.5, SO ₂ and NO ₂ in the Ambient Air are well within the National Ambient Air Quality (NAAQ) standards for Industrial, Residential, Rural and other areas.
Noise Levels	Noise monitoring was carried out at 4 locations. The results of the monitoring program indicated that both the daytime and night time levels of noise were well within the prescribed limits of NAAQS, at all the four locations monitored.
Water Quality	3 Groundwater samples and 2 surface water samples were analyzed and concluded that: The ground water from all sources remains suitable for drinking purposes as all the constituents are within the limits prescribed by drinking water standards promulgated by Indian Standards IS: 10500-2012. From the surface water analysis it is evident that most of the parameters of the samples comply with 'Category C' standards of CPCB Drinking water source with conventional treatment followed by disinfection.
Soil Quality	Samples collected from identified locations indicate the soil is sandy type and the pH value ranging from 7.52 to 7.75, which shows that the soil is alkaline in nature.
Ecology and Biodiversity	There are no Ecologically Sensitive Areas present in the study area
Traffic analysis	From the analysis it can be seen that the LOS is not Likely to change near village



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1.3 AIR ENVIRONMENT

Proposed Soapstone mine where emissions of Sulphur dioxide (SO₂), Oxides of Nitrogen (NO_x) contributed by vehicles movement were considered marginal as branded make and vehicles with PUC certificate will be operated only. Fugitive dust and particulates are major pollutants which will occur in the mining activities. The trucks and tippers are well maintained so that exhaust smoke does not contribute abnormal values of noxious gases and un-burnt hydrocarbons.

Control of Fugitive Emissions

- Use of Personal Protection Equipment's (PPE) like dust masks, ear plugs etc. by the mine workers.
- No Blasting will be done.
- Regular water sprinkling on haul roads & loading points will be carried out.
- Development of green belt/plantation around the lease boundary, roads, dumps etc.
- Ambient Air Quality Monitoring will be conducted on regularly basis to assess the quality of ambient air.

Prevention and control of Gaseous Pollution

- In mining activities, the sources of gaseous emissions would be through truck movements
- Proper maintenance of vehicles improves combustion process & makes reduction in the pollution. Good maintenance and monitoring of fuel and oil will not allow significant addition in the gaseous emission.
- All the vehicles used will have PUC certificate.
- Vehicles carrying mineral will be covered with tarpaulin sheet. This will prevent dust emission.

1.4 WATER ENVIRONMENT

Damage in the water body, depends on its assimilative capacity. Mining of soapstone does not have any significant impact on the water quality and parameters as the mining does not intercept with the ground water level. In this project, it is not proposed to divert or truncate any stream. No proposal is envisaged for pumping of water from the river. There will not be any adverse impact on surface hydrology and ground water regime due to this project. The water collected in the mine during monsoon season will be extracted with the help of pump & will be drained in nearby water

body with the help of tankers approach road and area demarcated by gram panchayat. Thus, the project activities shall not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality.

(a) Impact on Water Resources& Surface Water Resources:

The topography of the area will not be largely changed in view of the proposed concurrent reclamation. No surface water body exists and passes through the lease area. During the mining activity period, there is a possibility of mixing of freshly disturbed material with the rain water. To take care of such events, retaining walls have been provided along the backfilled pits and along the soil and inter-burden dumps. Before the commencement of rain all the mining pits shall be backfilled so that rain water does not accumulate in the mining pits. Rain water will be channelized along the slopes it shall not carry suspension to natural streams.

1.5 NOISE ENVIRONMENT

Anticipated impacts and evaluation

Noise generated at the mine is due to semi-mechanized mining operations, mechanized loading and truck transportation activities. The noise generated by the mining activity dissipates within the mine. However, pronounced effect of above noise levels is felt only near the active working area. The impact of noise on the villages is negligible as the villages are far located from the mine workings. Since there is no involvement of machinery, the impact of noise levels will be minimal.

(a) Noise Abatement and Control

In this mine the noise level will be up to tolerable limit (70 dB (A)) and the noise level can be reduced by:

- Proper maintenance, oiling and greasing of transport vehicles at regular intervals
- Adequate silencers will be provided in all the diesel engines.
- Plantation along the sides of approach roads, around office building and mine area will be done to minimize the propagation of noise.
- Personal Protective Equipment's (PPE) like earmuffs/earplugs will be provided to all

operators and employees working near mining machineries or at higher noise zone.

- Periodical noise level monitoring will be done

1.6 ENVIRONMENTAL MANAGEMENT PLAN (EMP)

Budget allotted for the Environmental Management Plan

S. No	Description	Capital Cost	Recurring Cost (Rs.)
Expenditure on Environment Protection & Environment Management			
1.	Haulage Path Repair & Maintenance Filling, Levelling and widening of the road up to width of 6m. Setting & Fixing of Cut Stone on the leveled road.	Annual 500 m (L) x 5 m (W)=2500m ²	70,000
2.	Water Sprinkling on Haulage Path for Dust Suppression	Assuming Rs.500/day for 240 days of working Tanker Cost: Rs. 500/Tanker Tanker Capacity: 5000 liter, No. of Tankers required: 1	1,20,000
3.	Plantation & post plantation care	10,00,000 Plantation @300/sapling (sapling annually for 3 years) and post plantation @100/sapling for 5 years	2,00,000
4.	Environmental Monitoring & Compliances.	Half Yearly Monitoring of Environmental Parameters viz. Air, water, Noise & Soil. Half Yearly Submission of Compliances.	1,00,000
5.	Corporate Social Responsibility	2,25,000	
6.	Biogas Plant (Construction and maintenance)	2,00,000/- (Construction cost)	50,000 (waste collection, transportation, fodder for mules)
	Total Environment Protection & Management Cost	Rs. 14,25,000	Rs.5,40,000 (5.40 Lakhs)

1.7 BENEFIT OF MINING

➤ PHYSICAL BENEFITS

The impact on the civic amenities will be substantial after the commencement of mining activities. The basic requirement of the community needs will be strengthened by extending health care, educational facilities developed in the township to the community, providing drinking water to the villages, building/strengthening of existing roads in the area. The proponent will initiate the above amenities either by providing or by improving the facilities in the area, which will help in uplifting the living standards of local communities. Medical facilities will be provided in the form of first-aid facility at the mine. These medical facilities will also be available to local people in the surrounding in case of emergencies.

➤ SOCIAL BENEFITS

- Generation of employment and improved standard of living;
- Increased revenue to the State by way of royalty, taxes and duties; and
- Superior communication and transport facilities etc.
- There will be significant change in the socio-economic scenario of the area.
- The proposed project will enhance the prospects of employment. Recruitment for the unskilled and semiskilled workers for the proposed project will be from the nearby villages.
- The development of the basic amenities viz. roads, transportation, electricity, drinking water, proper sanitation, educational institutions, medical facilities, entertainment, etc. will be developed as far as possible.
- Overall, the proposed project will change living standards of the people and improve the socio-economic conditions of the area.

ENVIRONMENTAL BENEFITS

➤ Enhancement Of Green Cover

Plantation/afforestation will be done as per program 5000 plants will be planted along the approach road and area demarcated by Gram Panchayat/Local Administrative body with consultation & permission of concerned authority within 5km from lease boundary along with



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provision for maintenance for 5 years. Post plantation, the area will be regularly monitored in every season for evaluation of success rate. For selection of plant species local people will also be involved. The management will provide free saplings of fruit and other trees, etc. to local during rain for plantation. This will increase the consciousness in workers and near-by villagers for greenery. Fruit trees can contribute towards their financial gains.

1.8 CORPORATE SOCIAL RESPONSIBILITY

Budget allotted for Corporate Environmental Responsibility

S no.	Activity	Quantification	Capital cost
1	Maintenance of Religious Places	1	50,000
2	Distribution of solar lamps	20	25,000
3	Installation of Solar Street lights	1	50,000
4	Distribution of stationary items and maintenance of school	-	1,00,000
Total			2,25,000

1.9 CONCLUSIONS

- The mining operations will meet the compliance requirements of MoEF & CC;
- Community impacts will be beneficial, as the project will generate significant economic benefits for the region;
- Adoption of Best Available Technology and Best Management Practices with more environmental friendly process
- With the effective implementation of the Environment Management Plan (EMP) during the mining activities, the proposed project can proceed without any significant negative impact on environment.