EXECUTIVE SUMMARY
OF
ENVIRONMENTAL IMPACT ASSESSMENT

For

MATTAN MARTAND LIMESTONE MINE

Village – Mattan Martand, Tehsil – Dooru, District – Anantnag, State- Jammu & Kashmir

Area – 4.844 ha.

Proposed capacity: - 157747 TPA

Applicant:

M/s Bawan Minerals

Prop. – Jahangir Ahmad Khan
R/o-Salyaloo Quazigund, Tehsil – Dooru,
District –Anantnag, State- Jammu & Kashmir

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EXECUTIVE SUMMARY

INTRODUCTION

The proposed project is located near village Mattan Martand, Tehsil - Dooru, District – Anantnag, State- Jammu & Kashmir. The proposed project is an mechanized opencast mine of 157747 TPA capacity. There is no proposal of export the mineral. Proposed method of mining is mechanized opencast method.

Name of the lessee- M/S Bawan Minerals (Prop. – Mr. Jahangir Ahmad Khan)

Address of the Lessee- R/o – Salyaloo Quazigund, Tehsil – Dooru, District – Anantnag, State - Jammu & Kashmir.

PROJECT DESCRIPTION

This is Limestone mine located in Village – Mattan Martand, Tehsil - Dooru, District –Anantnag, State- Jammu & Kashmir over an area of 4.844 hectare. The project is proposed by M/S Bawan Minerals (Prop. – Jahangir Ahmad Khan). The proposed project is in cluster situation as 1 other leases lies within 500 m radius of lease. So, as per the EIA notification 2006 and its subsequent amendment, proposed project fall in category B1.

Detail of the lease area in cluster

S. No.	Proponent	Lease Area (ha)
1	M/S Bawan Minerals	4.844
2	M/s Chattan Cements of Mineral Limestone	4.115
Total		**8.959 Ha**

The total area of mining lease held within 500 meter radius of the applied area including this applied area is 8.959 ha.

Location of the Project- The mining lease area is located near Village: Mattan Martand, Tehsil - Dooru, District – Anantnag, State- Jammu & Kashmir.

Detail of the lease area

Proponent	Village	Khasra No/ Compartment No.	Area (Acre & Ha)	Production
M/S Bawan Minerals (Prop. – Mr. Jahangir Ahmad Khan)	Mattan Martand	1925min	4.844 ha	157747 TPA

Area & production: The total ML area is 4.844 ha. Proposed production is 157747 TPA. Estimated cost of the project is Rs. 92.976 Lakhs.

Site coordinate

Pillar No.	Pillar Latitude	Pillar Longitude
A	33° 45' 36.92"	75° 13' 01.06"
B	33° 45' 30.38"	75° 13' 02.13"
C1	33° 45' 25.16"	75° 13' 06.37"
D1	33° 45' 27.22"	75° 13' 10.62"
E	33° 45' 37.97"	75° 13' 04.65"
P1(NW Corner of lower flame)	33° 45' 29.39"	75° 12' 59.35"
P1(NW Corner of lower flame)	33° 45' 30.08"	75° 13' 00.69"
T(Mulberry trce)	33° 45' 34.00"	75° 13' 01.12"

6.044ha area applied for mining lease bounded by pillars A, B, C, D & E & due to overlapping, 1.20ha area deleted along boundary pillar B-C & DE & remaining area 4.844ha along boundary pillar AB-C1-D1 & E recommended for grant of mining lease. The deleted area is not part of granted area of 4.844ha.

Connectivity:

The nearest railway station is Anantnag Railway Station, approx. 10.42 km towards West direction. The nearest airport is Srinagar airport, approx. 50 Km towards NW direction from the mine site. The area is well connected with KP Road, approx. 1.07 km towards NW direction and it further connect with NH-44.

Table 1: Salient Features of Project

Name of the applicant	M/S Bawan Minerals (Prop. – Jahangir Ahmad Khan)
Address of Lessee	R/o – Salyaloo Quazigund, Tehsil – Dooru, District – Anantnag, State - Jammu & Kashmir.
Name of Mine	Mattan Martand Limestone Mine
Village	Mattan Martand

Tehsil	Dooru
District & State	Anantnag, Jammu & Kashmir
Latitude	$33^0$45’25.16” to $33^0$45’37.97” N
Longitude	$75^0$13’01.06” to $75^0$13’10.62”E
Toposheet Number	43O/5
Mineral	Limestone
Area (ha)	4.844

Table 2: Basic Requirements for the project

S. No.	Requirements	Quantity
1	Land	4.884 ha
2	Water	4.61 ~ 4.70 KLD
3	Manpower	39

QUALITY OF RESERVE

Based on the above said geology and its geo morphological characters, the Mattan Martand limestone deposit is classified as under UNFC deposit classification as 1 (Stratiform, Strata bound and in regular habits). 150m horizontal extension both sides of exposed mining pit has been considered under G-1/G-2 axis & beyond its limit & up to lease boundary has been taken under G3 axis. In G1 & G2 area. All quantities of limestone up to depth of 1830mRL has been considered under 111 category & further 6m below from 111 has been taken as 122. In G-3 axis, 6m depth from surface has been considered under inferred mineral resources (333).

Mineral Reserve as Per UNFC Classification

	UNFC Code	Quantity (in Millions Tonnes)		
		Forest	Non-Forest	Total
A. Mineral Reserve				
1.Proved Mineral Reserve (A)	111	0	1.042282	1.042282
2.Probable Mineral Reserve (A)	121	0	0.222835	0.222835
3. Probable Minera Reserve (A)	122	0	0	0

B. Remaining Resources				
1.Feasibility Mineral Resource (B)	211	0	0.913177	0.913177
2.Prefeasibility Mineral Resource (B)	221	0	0.233867	0.233867
3. Prefeasibility Mineral Resource (B)	222	0	0	0
4. Measured Mineral Resource (B)	331	0	0	0
5.Indicated Mineral Resource (B)	332	0	0	0
6.Inferred Mineral Resource (B)	333	0	0.045885	0.045885
7.Reconnaissance Mineral Resource (B)	334	0	0	0
Total Reserves Resources (A+B)			**2.458046**	**2.458046**

MINING

Mining shall be done by mechanized opencast mining method. All operation of mining such as road breaker and transport will be carried out by utilizing HEMM. Drilling and blasting is not applicable. Therefore mining operations shall be carried out with mechanized method.

DRILLING AND BLASTING:

Drilling and blasting is not applicable.

Use of Mineral

The Limestone will be used as SMS and BF grade in steel plants and in lime kilns for manufacture of industrial lime. The low grade Limestone above threshold value and fines generated during mining will be used in cement plants.

Land Use Pattern

S. No.	Activity	Area Occupied during SOM period (ha)	Area Occupied during conceptual period (ha)
1	Mining	0.198	1.394
2	Soil stack	0.0064	Nil

3	Interburden dump	0.1	Nil
4	Approach road	0.4	Nil
5	Plantation	0.10	1.0
6	Retaining wall	0.009	0.50
7	Infrastructure	Nil	Nil
8	Drainage	Nil	Nil
9	Channels	Nil	Nil
10	Balance undisturbed area	4.0306	1.95
	Total	**4.844**	**4.844**

DESCRIPTION OF THE ENVIRONMENT

The baseline environment quality was carried out over a radial distance of 10 km around the mining lease area during post monsoon season of 2023 covering the months of Oct., to Dec., 2023.

Meteorology

The data collected from IMD includes wind speed, wind direction, temperature, relative humidity and rainfall for the year 2023. The monthly maximum, minimum and average values are collected for all the parameters except wind speed and direction. The collected data is tabulated below:

Summarized project site meteorological data for post monsoon season

Month	Wind Speed (km/h)		Temperature (°C)			Rainfall (mm)	
	Max	Ave.	Max	Min	Avg.	Avg.	No. of rainy Days
Oct., 2023	6.4	3.1	22	6	13	35.69	7
Nov., 2023	5.3	3	16	3	9	35.69	7
Dec., 2023	4.6	2.6	11	-1	4	35.69	7

Ambient Air Quality

To assess the ambient air quality level, 8 monitoring stations were set up. Ambient air quality monitoring was carried out twice a week with a frequency of 24 hours for 12 weeks. The results when compared with National Ambient Air Quality Standards (NAAQS) of Central Pollution

Control Board (CPCB) for "Industrial, Residential, Rural and Other Areas" show that the average values of ambient air quality parameters are well within the stipulated limit.

Ambient Air Quality Monitoring (AAQM) has been carried out at eight locations for post monsoon season. The minimum and maximum level of PM2.5 recorded within the study area was in the range of 16.64 µg/m^3 to 45.12 µg/m^3.The minimum and maximum level of PM_{10} recorded within the study area was in the range of 28.70 to 74.65µg/m^3.

The minimum and maximum concentration of SO_2 recorded within the study area was 3.94 to 18.56 µg/m^3. The minimum and maximum level of NO_2 recorded within the study area was in the range of was 6.31 µg/m^3 to 20.55 µg/m^3.

Noise Levels

The values of noise observed in some of the areas are primarily owing to vehicular traffic. Assessment of hourly night time Leq (Ln) varies from 36.6 to 43.1 dB (A) and the hourly daytime Leq (Ld) varies from 50.6 to 58.1 dB (A) within the study area.

Water Quality

To assess the physical and chemical properties of water in the region, ground water samples from 5 locations & surface water from two locations were collected from various water sources around the mine lease area. The pH of the ground water samples in the region varied from 7.27 to 7.68.

The results indicate groundwater is generally in conformity with the drinking water standards (IS: 10500) and surface water is in conformity with IS-2296 standards.

Soil Characteristics

Five soil samples were collected in and around the mine lease area to assess the present soil quality of the region. The pH of the soil indicates that the soil is slightly alkaline in nature. Based on the results, it is evident that the soils are not contaminated by any polluting sources.

Socio economic Scenario

The implementation of the Mattan Martand Limestone Mine project will generate both direct and indirect employment. At present agriculture is the main occupation of the people as more than half of the population depends on it. With the implementation of the proposed mining project the occupational pattern of the people in the area will change making more people engaged in industrial and business activities rather in agriculture. Thus there will be a gradual shifting of population from agriculture to mining and industry.

Biological Environment Flora:

Mining which leads to the removal of channel substrate, re-suspension of streambed sediment and stockpiling on the streambed, will have ecological impacts. These impacts may have an effect on the direct loss of stream reserve habitat, disturbances of species attached to streambed deposits, reduced light penetration, reduced primary production, and reduced feeding opportunities. Sand mining generates additional traffic, which negatively impairs the environment.

ANTICIPATED ENVIRONMENTAL IMPACTS

Impact on air

Various mining activities i.e. loading, removal of overburden and movement of other transport vehicles used in mining will generate dust (SPM / RSPM). Proper water sprinkling shall be carried out at the mine site. The mineral will be transported by road through covered trucks/tippers to reduce the fugitive emission caused by the wind.

Impact on surface water bodies

There is no perennial source of surface water such as river or nalla in the lease area. There are Jhehlum River and seasonal nalla in the buffer zone. There is no toxic element in and around the applied area or in OB or ore. Hence contamination of any nature is not expected for surface or any ground water source.

Impact on ground water table-

The only source of water is Sump and Ground water from dug wells in nearby villages. There is no adverse effect on water quality since the over burden or ore has no toxic contamination. The water table will not be lowered as mining acidity will be carried out much the above water table. Water available in the village is potable.

Noise Impact

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 major machinery, the impact of noise levels will be very low.

Impact on Land Environment

Opencast mining activities may alter the landscape of the lease area and also cause some disturbance to the surface features of the surrounding areas.

4.6 Socio economic environment

The impact of mining activity in the area is positive on the socio-economic environment of the region. Mine will be providing employment to local population employing only local people whenever there is requirement of man power.

POST PROJECT MONITORING PROGRAM

S. No.	Description	Frequency of Monitoring
1	Ambient Air Quality	Quarterly/Half yearly
2	Meteorological data	Daily
3	Noise Level Monitoring	Half yearly
4	Water Level & Quality	Quarterly/Half yearly
5	Soil Quality	Yearly
6	Monitoring of Agricultural crops	Yearly

6.0 ADDITIONAL STUDIES

The Additional Studies conducted are Risk Assessment & Disaster Management / Hazard Management & Occupational Health & Safety.

7.0 PROJECT BENEFITS

The project will prove beneficial to the people as the company has already agreed to provide infrastructural facilities to the villagers like Educational facilities, Medical facilities, Transportation facilities, water supply etc. which will improve the socio-economic environment of the area.

ENVIRONMENT MANAGEMENT PLAN

Air Management

Following measures will be taken to control air pollution during mining operations:

- Adequate water spraying on the haul roads.
- Construction of proper haul roads in the lease area.
- Development of Green belt/plantation within mining lease along haul roads, mine office to arrest dust.
- Water spraying shall be done before the mineral is loaded in dumpers/trucks.

Water Management

No wastewater generation is envisaged during the mining process. The sanitary waste generated from the mine office will be treated in the septic tanks via soak pits. The probable cause of surface water pollution in the proposed mining area will be soil erosion and wash off from the stacked mineral in monsoon period. During monsoon season the run-off water flows into natural water courses. The surface water entering into the mines during the rainy season would be diverted through a suitable garland drain to reduce wash off of soil. No toxic material is encountered in the deposit, the mine drainage, if any, will not be harmful to the biotic life. Adequate control measures will be adopted to check not only the wash-off from soil erosion but also uncontrolled flow of mine water.

Noise Management

- All precaution will be taken to reduce generation of noise and noise level survey will be done at regular intervals.
- Ear protectors or earplugs will be given to persons working in higher noise level area or on machines.
- Regular measurement of noise level is proposed & steps will be taken to improve the maintenance of all equipments so that the noise level will remain within permissible limits.
- Plantation of trees on internal roads and barriers.

Land Reclamation

This period could exhaust a limited part of the lease area not up to ultimate pit bottom. Ultimate pit limit for mining of entire mineable mineral limit & one other line is also depicted indicating ultimate pit limit till for production envisaged till lease period.

Budget for Environmental Protection

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Pollution Monitoring i) Air pollution ii) Water pollution iii) Soil Pollution iv) Noise Pollution	--	 14,000 (4 samples) 8,000 (2 GW & 2 SW) 8,000 (2 samples) 7,000 (2 samples)
3	Plantation	2,00,000	50,000

4	Construction and maintenance of haul road	92,500	72,000
TOTAL		**2,92,500**	**3,59,000**

Note: *1000 plants * 200 Rs (for each plants including hedges and fences) = 2.00 lakhs

Salary of Labour for haul road maintenance 1 labor*300 =300 per day

300* 240 = 72000/-

* 2.5 lakh per kilometer (250000 * 0.37 km haul road = 92,500/-)

CONCLUSION

Based on the EIA study it is observed that there will be an increase in the dust pollution, which will be controlled by sprinkling of water and plantation. There will be an insignificant impact on ambient environment and ecology due to the mining activities moreover the mining operation will lead to direct and indirect employment generation in the area. Green belt development around the area will also be taken up as an effective pollution mitigative technique, as well as to control the pollutants released from the premises of the Limestone Mine. Monitoring program will be followed till the mining operations continue. Hence, it can be summarized that the development of the mine will have a positive impact on the socio-economic of the area and lead to sustainable development of the region.

Our country requires high production of limestone for manufacturing of Steel and cement. Limestone is an essential mineral commodity of National importance. The region is economically backward mostly dependent on seasonal farming. The per capita income of villages is much below the national average. It will increase the profitability of the company and will have positive impact in the socio-economic status of the people in the region & will increase opportunities for employment

The study area is still lacking in education, health, housing, water, electricity etc. It is expected that same will improve to a great extent due to proposed mining project and associated industrial and business activities. Proposed activities and expenses on Corporate Social Responsibility will be as per CSR Mandate of the Government.

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