EXECUTIVE SUMMARY

1.1 INTRODUCTION

As per MoEF&CC, New Delhi Gazette dated 14th September 2006 and amended thereof, the proposed mining project is categorized as Category 'B1' project.

The project is being proposed by M/s. West Bengal Mineral Development and Trading Corporation Limited (WBMDTCL). The proponent has applied for mining lease MIN_BIR_15 Sand Mining Project on Mayurakshi River over an area of 18.70 Ha near Mouza: Kultore, J.L. No.:25, Plot No.:1118(p),1114/1141(p) P.S.: Saithia, District: Birbhum, State: West Bengal. It has been proposed to mine around 504600 Cum of minerals. The estimated project cost for the proposed project is Rs. 19,91,81,541.31/-.

1.2 PROJECT DESCRIPTION

1.2.1 Location

The proposed mining lease area falls in Survey of India F45D9. The lease area is located at Mouza: Kultore, J.L. No.:25, Plot No.:1118(p),1114/1141(p) P.S.: Saithia, District: Birbhum, State: West Bengal on Mayurakshi River. The mine lease co-ordinates are listed below:

Table No.1: Mine lease Pillar Co-ordinates

Point ID	Latitude	Longitude
1	23° 56' 29.616" N	87° 37' 49.909" E
2	23° 56' 30.592" N	87° 37' 55.423" E
3	23° 56' 28.493"N	87° 38' 9.938" E
4	23° 56'20.241" N	87° 38' 16.077" E
5	23° 56' 15.757" N	87° 38' 3.510" E
6	23° 56' 17.011" N	87° 38' 2.684" E
7	23° 56' 18.476" N	87° 38' 1.719" E
8	23° 56' 23.274" N	87° 37' 54.559" E

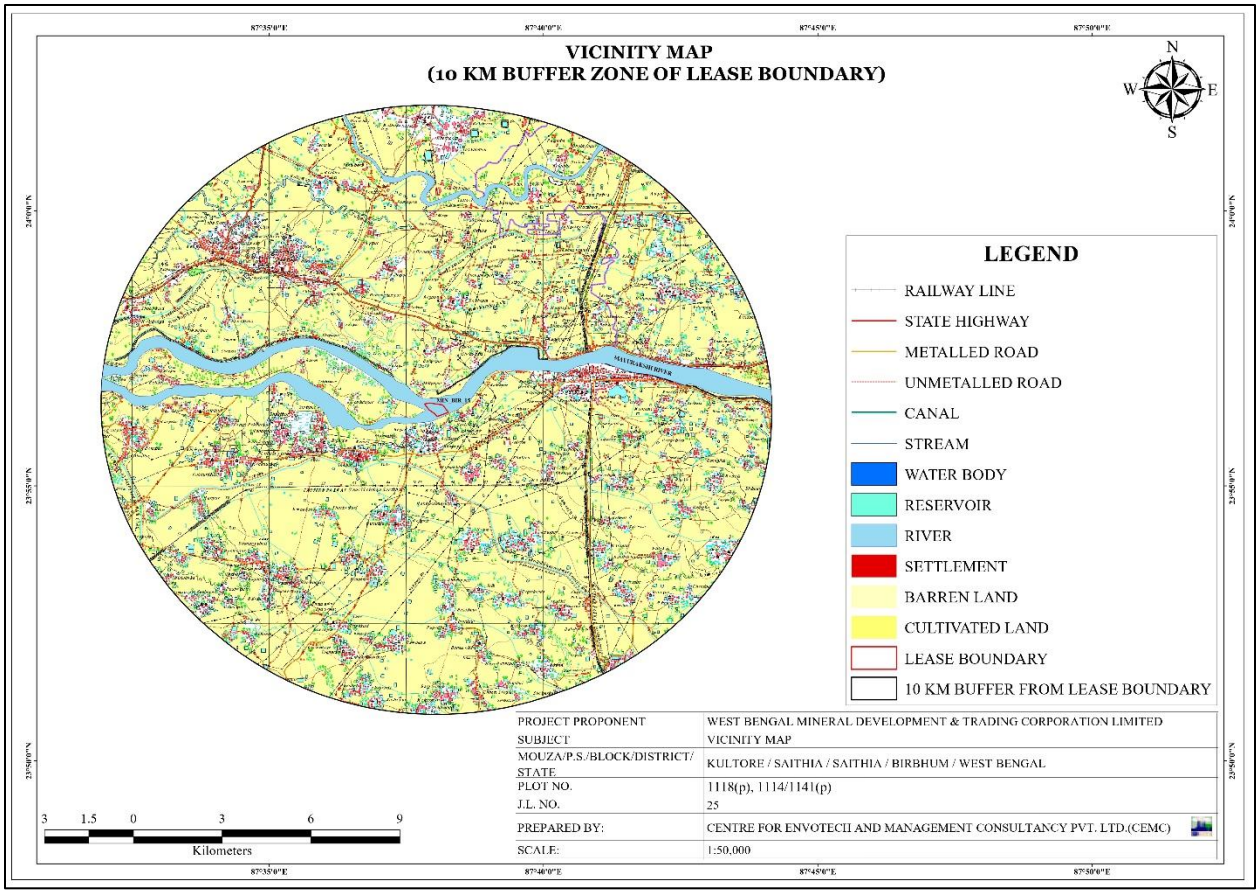

Figure No. 1: Vicinity Map of the Study Area

1.2.2 Area & production: The total ML area is 18.70 Ha Proposed rate of production will be 504600 Cum.

1.2.3 Connectivity:

The proposed site is well connected with district head quarter. Saithia Rail Bridge is situated in north eastern direction at a distance of 4.94 km from the project area. National Highway, NH114 is situated at a distance of 4.67 km in north eastern direction, State Highway, SH11 is situated at a distance of 2.65 km in northern direction. Nearest railway station is Saithia Railway Station situated at a distance of 4.86 km in north eastern direction.

Table No. 2 Salient Features of the Project

Name of the applicant	M/s. West Bengal Mineral Development and Trading Corporation Limited
Address of Lessee	WBIIDC Building, 3rd Floor, DJ-10, Sector-II, Salt Lake, Kolkata – 700091.
Name of Mine	MIN_BIR_15 Sand Mine
Village	------
Tehsil	Sainthia
District & State	Birbhum, West Bengal
Mineral	Sand
Area (ha)	18.70 Hectare
Water demand	36 KLD

1.2.4 Mining

The mining process is opencast semi-mechanized method without drilling & blasting. Light weight excavators will be used for loading of mineral in tippers. No drilling/ blasting are required as the material is loose in nature.

The sand shall be exploited up to depth of 3 m. The sand shall be exploited with the deployment of an excavator & filled into tippers & transported to various buyers.

1.2.5 Reserve & Production

Safety zone of 7.5 meter will be left all around the lease area. Working depth will be 3 meter from the surface. The annual exploitation of sand of the proposed project site will be 504600 Cum. It is a riverbed deposit and mined out area shall be replenished each year during monsoon period and depth of quarry shall be filled back by river sand each year and area will restore its original topography.

1.2.6 SITE FACILITIES AND UTILITIES

Water Supply

Water requirement for the proposed project will be provided for the workers for drinking & domestic purpose. Water will also be provided for dust suppression. Fresh water will be only used for drinking purpose. The water will be supplied from available sources from nearby village.

Temporary Rest Shelter

A temporary rest shelter will be provided for the workers near to the site for rest. In addition, First aid box will be made available at the site. Sanitation facility i.e., septic tank or community toilet facility will be provided for the workers.

1.3 BASELINE ENVIRONMENTAL STATUS

Environmental data has been collected in relation to proposed mining for Air, Noise, Water, Soil, Flora & Fauna. The baseline environment study was carried out over an area with radial distance of 10 km around the mining lease area during winter season from December 2022 to February 2023.

Meteorology

The Summarized Meteorological Data for the Monitoring Period (December 2022 to February 2023) is given below:

Table No. 3: Baseline Environmental Status

Month	**Wind Speed (km/h)**	**Temperature (°C)**			**Rainfall (mm)**
	Avg	Max	Min	Avg.	No. of rainy Days
December, 2022	14.9	25.1°C	14.1°C	19.6°C	-
January, 2023	14.5	24.3°C	12.3°C	18.3°C	-
February, 2023	14.7	28.3°C	15.6°C	22°C	-

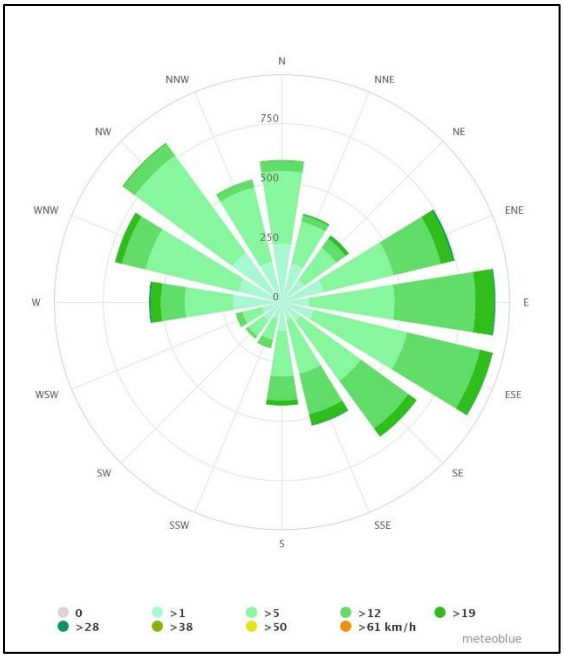

Figure No. 2: Wind Rose Pattern

Table No. 4: Baseline status

Attribute	**Baseline status**
Ambient Air Quality	The ambient air quality study for the 6 AAQ monitoring stations shows that the maximum and minimum ground level concentration for PM2.5 is respectively 54.78 µg/m3 at AQ1 and 22.83 µg/m3 at AQ2. Whereas the maximum and minimum ground level concentration for PM10 ranges between 93.67 µg/m3 at AQ4 and 51.85 µg/m3 at AQ5 respectively. Similarly for SO2, the maximum and minimum ground level concentration varies between 23.37 µg/m3 and 5.42 µg/m3 for respectively AQ4 and AQ2 stations. For NO2 the maximum and minimum ground level concentration varies between 26.47 µg/m3 & 9.27 µg/m3 for respectively AQ4 and AQ5 stations.
Noise Levels	Noise monitoring study reveals that the minimum & maximum noise levels at day time were recorded as 47.6 dB (A) at NQ4 & 40.9 dB (A) at NQ5. The minimum & maximum noise levels at night time were found to be 36.8 dB (A) at NQ4 & 30.4 dB (A) at NQ6.
Water Quality	The river water quality parameters are compared with BDU Criteria of CPCB. No metal contamination has been found in surface water samples. Overall the surface water quality of river is according to Criteria of CPCB for its suitability for wild life and fisheries.

Soil Quality	Samples collected from identified locations indicate pH value of 6.5, 6.57 & 6.41, which shows that the soil is slightly acidic in nature. Organic carbon ranges from 0.45 %, 0.67 % & 0.46 % in the soil samples and, whereas the Potassium is found to be ranging from 0.32 mg/kg, 0.38 mg/kg & 0.29 mg/kg.
Ecology and Bio-diversity	There are no Ecologically Sensitive Areas present in the study area.

1.4 ANTICIPATED ENVIRONMENTAL IMPACTS

1.4.1 Impact on Air Environment

The collection and lifting of minerals will be done semi-mechanically. Therefore, the dust generated is likely to be insignificant as there will be no drilling & blasting. The only air pollution sources are the road transport network of the trucks.

Water sprinkling will be done on the haul roads twice in a day. This will reduce dust emission further by 74%. Monitoring to ensure compliance with emission limits would be carried out during operation

1.4.2 Impact on Water Environment

Mining of sand from within or near river has an indirect impact on the physico-chemical habitat characteristics during monsoon season. These characteristics include in stream roughness elements, depth, velocity, turbidity, sediment transport and stream discharge.

The detrimental effects, if any, to biota resulting from bed material mining are caused by following:

- Alteration of flow patterns resulting from modification of the river.
- An excess of suspended sediment during monsoon season.

Project activity will be carried out only in the dry part of the Mayurakshi River. Hence, none of the project activities affect the water environment directly. In the project, it is not proposed to divert or truncate any stream in monsoon season only. No proposal is envisaged for pumping of water either from the *River* (in monsoon) or tapping the ground water.

1.4.3 Impact on Land Environment

The proposed extraction of stream bed materials, mining below the existing streambed, and alteration of channel-bed form and shape may lead to several impacts such as erosion of channel bed and banks, increase in channel slope, and change in channel morphology if, the operations are not carried out systematically.

The systematic and scientific removal of sand will not cause bed degradation. The silt and clay generated as waste will be used for plantation or filling up low lying area elsewhere. The mining is planned in non- monsoon seasons only, so that the excavated area gets replenished gradually during the monsoons each year.

1.4.4 Impact on Noise Environment

The proposed mining activity is semi-mechanized in nature. No drilling & blasting is envisaged for the mining activity. Hence, the only impact is anticipated is due to movement of vehicles deployed for transportation of minerals. The vehicles will be maintained in good running condition so that noise will be reduced to minimum possible level.

1.4.5 Impact on Biological Environment

As the proposed mining will be carried out in a scientific manner, not much significant impact is anticipated. No mining will be carried out during the monsoon season to minimize impact on aquatic life which is mainly breeding season for many of the species. The mining site has no vegetation, no clearance of vegetation will be done. Haul roads will be sprinkled with water which would reduce the dust emission, thus avoiding damage to the crops.

1.4.6 Impact on Socio Economic Environment

The impact of mining activity in the area is positive on the socio-economic environment of the region. Sand mining will be providing employment to local people whenever there is requirement of manpower.

Table No. 6 POST PROJECT ENVIRONMENTAL MONITORING

SL. No.	Description of Parameters	Schedule of Monitoring
1	Air Quality	24 hourly samples twice a week in each season except monsoon.
2	Water Quality (Surface water)	Once a season for 4 seasons in a year.

3	Soil Quality	Once in a year in project area.
4	Noise Level	Twice a year for first two years & then once a year.

1.5 ADDITIONAL STUDIES

1.5.1 Public Hearing

The public hearing will be conducted after the draft EIA submission to the concerned authorities. The issues and items identified by the public and other stake holders will be granted in the form of public hearing minutes, accordingly it will be included in Final EIA report.

1.5.2 Risk Assessment

The complete mining operation will be carried out under the management control and direction of a qualified mine manager holding. The DGMS have been regularly issuing standing orders, model standing orders and circulars to be followed by the mine management in case of disaster, if any. Moreover, mining staff will be sent to refresher courses from time to time to keep them alert.

1.5.3 Disaster Management Plan

Emergency preparedness is an important aspect in the planning of Disaster Management. Personnel would be trained suitably and prepared mentally and physically in emergency response through carefully planned, simulated procedures. Similarly, the key personnel and essential personnel shall be trained in the operations.

1.6 PROJECT BENEFITS

1.6.1 Physical Benefits: Road Transport, Market, Enhancement of green cover & Creation of community assets.

1.6.2 Social Benefits: Increase in Employment Potential, Contribution to the Exchequer, Increased Health related activities, Educational attainments & Strengthening of existing community facilities.

1.6.3 Environmental Benefits:

- Controlling river channel and protection of banks.
- Reducing submergence of adjoining agricultural lands due to flooding.
- Reducing aggradation of river level.

- A check on illegal mining activity.

1.7 CORPORATE ENVIRONMENTAL RESPONSIBILITY

2% of the capital cost of the project cost will be allotted for the Corporate Environmental Responsibility for activities related to education, social causes, healthcare & environmental.

1.8 ENVIRONMENTAL MANAGEMENT PLAN (EMP)

- Extraction will be done from the bed leaving safety zone from bank.
- The maximum working depth will remain above ground water table of the area.
- Provide health facilities to the workers & surrounding people in the impact area to reduce the health impacts.
- Ensuring wildlife protection & arranging awareness campaigns for the same.
- Minimize activities that release fine sediment to the river.
- Effective mitigation measures will be adopted to minimize disturbance during transportation & handling of minerals
- Establishment of reclamation program with plantation of local/native & fast growing species
- Establishment of restoration plan during the closure of mine at the onset of monsoon season.
- Establishment of effective Disaster Management Plan to take timely precautionary measures to avoid effects of impending disasters.
- Establishment of effective Monitoring Program monitored by Environment Management Cell.

1.9 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 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 environment of the area and lead to sustainable development of the region.