

SUMMARY ON ENVIRONMENTAL IMPACT ASSESSMENT REPORT

OF

Mivaan Steels Limited

[Mine Lease Area – 78.90 Ha. (Category –B1 Project)

**Increase in Iron Ore excavation capacity from 0.15 MTPA to 1.2 MTPA along
with crushing & screening plant of capacity 350 TPH**

at

**Forest Compartment Nos. 634(P), 636(P), 639(P) & 640(P) (Old compartment
nos. 357(P),359(P),362(P) & 363(P))**

**Forest range: Durgukondal, Forest Division: East Bhanupratappur,
Village - Hahaladdi, Tehsil - Durgukondal, District - North Bastar Kanker,
Chhattisgarh**

Submitted to

**CHHATTISGARH ENVIRONMENT CONSERVATION BOARD
Chhattisgarh**

1.0 PROJECT DESCRIPTION

M/s. Mivaan Steels Limited (Hahaladdi Iron ore mine) is an existing operating mine in an area of 78.9 Ha. at Forest Compartment Nos. 634 (P), 636(P), 639(P) & 640(P) (Old compartment nos. 357(P), 359(P), 362(P) & 363(P)) Forest range: Durgukondal, Forest Division: East Bhanupratappur, Village - Hahaladdi, Tehsil-Durgukondal, District-North Bastar Kanker, Chhattisgarh. Presently the Iron Ore excavation capacity is 0.15 MTPA. Now it is proposed to enhance the Iron Ore excavation capacity from 0.15 MTPA to 1.2 MTPA along with crushing & screening plant of capacity 350 TPH. The proposed expansion project cost is Rs. 48.00 Crores.

As per the Ministry of Environment, Forest & Climate Change, New Delhi Notification, dated 14th September, 2006 and its subsequent amendments, all Mine Lease areas equal and less than 250 Ha. of Major Minerals are classified under Category 'B1'. The State Environment Impact Assessment Authority (SEIAA) Chhattisgarh has accorded TOR for proposed expansion project vide letter No. OL/TOR/MIN/KANKER/2928 dated 20-08-2024. The EIA Report has been prepared by incorporating the TOR stipulated by the Hon'ble SEIAA, Chhattisgarh.

Pioneer Enviro Laboratories & Consultants Private Limited, Hyderabad, which is accredited by NABET, Quality Council of India, vide certificate No. NABET/EIA/2225/RA 0282, for preparing EIA report for Mining of minerals, have prepared Environmental Impact Assessment (EIA) report for the proposed project by incorporating the TOR approved by Ministry of Environment, Forests & Climate Change, New Delhi. The report contains detailed description of the following:

- Characterization of status of environment with in an area of 10 km radius from the ML area for major environmental components including air, water, noise, soil, flora, fauna and socio-economic environment.
- Assessment of air emissions, liquid waste and solid waste from the proposed expansion project along with the noise level assessment.
- Environmental Management Plan comprising of emission control measures proposed to be adopted in the proposed expansion project, solid waste management, Greenbelt development.
- Post Project Environmental Monitoring & Budget for Environmental Protection Measures.

1.1 ENVIRONMENTAL SETTING WITHIN 10 Km. RADIUS OF THE MINE LEASE AREA

The following is the environmental setting within 10 km radius of the Mine lease area

Environment Setting within 10 Kms. radius of the ML area

S.No.	Salient Features / Environmental features	Distance w.r.t. site / Remarks
1.	Type of Land	Forest land
2.	Type of Land (Study Area)	As per LULC the land use within 10 Km. is as follows: Settlements – 3.9 %; Industrial area - 1.7 %; Tanks / River – 10.4 %; Single crop – 65.8 %; Double crop – 7.6 %; Plantation - 1.4 %; Land with scrub – 5.2 %; Land without scrub - 2.6 %; Mining area – 1.4.
3.	National Park/ Wild life sanctuary / Biosphere reserve / Tiger Reserve / Elephant Corridor / migratory routes for Birds	Nil within 10 Km. radius
4.	Historical places / Places of Tourist importance / Archeological sites	Nil within 10 Km. radius
5.	Critically polluted area as per MoEF&CC Office Memorandum dated 13 th January 2010 & Hon’ble NGT order dated 10 th July 2019	Nil within 10 Km. radius
6.	Defence Installations	Nil within 10 Km. radius
7.	Nearest village	Hahaladdi village – 1.6 kms
8.	No. of villages in the study area	51 no.s
9.	Nearest Hospital	Durgukondal
10.	Nearest school	Hahaladdi
11.	Forests	Mine is within forest land (Michagaon Lohattar RF) PF near Hahaladdi – 1.08 Kms (SSE) PF near Chachar – 3.56 (SSE) PF near Chemal – 4.62 Kms (N) Gudum PF - 5.52 Kms (WNW) Shitalpur PF – 6.56 Kms (N) Pargal PF – 6.74 Kms (NNE) Pichor RF – 7.3 Kms (NNW) PF near Madle – 7.33 Kms (ESE)

S.No.	Salient Features / Environmental features	Distance w.r.t. site / Remarks
		Chihro PF – 7.53 Kms (NNE) PF near Bangachar – 8.16 Kms (S) Jarekurse PF – 8.27 Kms (NNW) PF near Dandaikheda – 8.85 Kms (NW) PF near Shitalpur – 9.3 Kms (N)
12.	Water body	Khandi Nadi – 4.6 Kms. (N) Palachur reservoir – 2.5 Kms.(SE) Few other Unnamed Ponds/Lakes are present within 10 Km. radius
13.	Nearest Highway	NH # 930- 20.0 Kms. State Highway Pakhanjore – Bhanupratappur – 1.5 Kms
14.	Nearest Railway station	Nil within 10 Km. radius (Keoti :19.3 kms.)
15.	Nearest Port facility	Nil within 10 Km. radius
16.	Nearest Airport	Nil within 10 Km. radius (Swami Vivekananda Airport, Raipur – 136 Kms.)
17.	Nearest Interstate Boundary	Nil within 10 Km. radius
18.	Seismic zone as per IS-1893	Seismic zone – II
19.	R & R	Not applicable as there are no habitations in the proposed project land.
20.	Litigation / court case is pending against the proposed project / proposed site and or any direction passed by the court of law against the project	Nil

1.2 MINE LEASE AREA AND PRODUCTION CAPACITY

The extent of mine lease area is 78.9 Ha. and production capacity of iron ore is 0.15 MTPA. Now it is proposed to enhance the production capacity of Iron ore from 0.15 MTPA to 1.2 MTPA.

1.3 MINING METHODOLOGY

Mining will be done by Open Cast mechanized Mining Method with drilling and blasting. Each cycle of operation consist of removal of over burden followed by extraction of the exposed Iron Ore.

1.4 WATER REQUIREMENT

Total water requirement after proposed expansion will be 60.0 KLD. The water required mainly for dust suppression, plantation and Domestic purpose. The water drawl permission has already been obtained from CGWB . The breakup of the water requirement is shown in below

WATER REQUIREMENT

S.No.	Purpose	Requirement in KLD
1.	Dust Suppression	20.0
2.	Greenbelt	20.0
3.	Domestic	10.0
4.	Other	10.0
Total		60.0

1.5 WASTE WATER GENERATION

There will be not be any waste water generation due to mining activities. The only source of wastewater generation will be sanitary wastewater, which will be sent to septic tank followed by soak pit.

WASTE WATER GENERATION

S.No.	Source	Generation (KLD)
1.	Sanitary wastewater	8.0
Total		8.0

2.0 DESCRIPTION OF ENVIRONMENT

Base line data has been collected on ambient air quality, water quality, noise levels, flora and fauna and socio-economic details of people within 10 Km. radius of the Mine lease area.

2.1 AMBIENT AIR QUALITY

Ambient air quality was monitored for PM_{2.5}, PM₁₀, SO₂, NO_x & CO at 8 stations including project site during **December, 2023 to February, 2024**. The following are the concentrations of various parameters at the monitoring stations:

AAQ Data Summary

S.No.	Parameter	Concentration range ($\mu\text{g}/\text{m}^3$)	Standard as per NAAQS ($\mu\text{g}/\text{m}^3$)
1.	PM _{2.5}	17.2 to 40.2	60
2.	PM ₁₀	31.3 to 74.5	100
3.	SO ₂	9.8 to 17.2	80
4.	NO _x	11.9 to 26.1	80
5.	CO	385 to 1050	2000

2.2 WATER QUALITY

2.2.1 SURFACE WATER QUALITY

2 no. of samples i.e. from Khnadi Nadi River flowing at a distance of 4.6 Kms. from Mine lease area and one sample from Palachur reservoir has been collected and analyzed for various parameters. The analysis of samples shows that all the parameters are in accordance with BIS-2296 specifications.

2.2.2 GROUND WATER QUALITY

8 No. of ground water samples from open wells / bore wells were collected from the nearby villages to assess ground water quality impacts and analyzed for various Physico-Chemical parameters. The analysis of samples shows that all the parameters are in accordance with BIS: 10500 specifications.

2.3 NOISE ENVIRONMENT

Noise levels were measured at 8 locations during daytime & Night time. The equivalent day-night noise levels in the study zone are ranging from **47.7 dBA to 62.7 dBA**.

3.0 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

3.1 Prediction of impacts on air quality

The likely emissions from the proposed expansion of Mining activities are PM_{2.5}, PM₁₀, NO_x & CO. The predictions of Ground level concentrations have been carried out using Industrial Source Complex (ISC-3) model. Meteorological data such as wind direction, wind speed, max. and min. temperatures collected at the site have been used as input data to run the model.

**NET RESULTANT MAXIMUM CONCENTRATIONS DURING THE OPERATION OF THE
 PROPOSED EXPANSION PROJECT**

Item	PM_{2.5} (µg/m³)	PM₁₀ (µg/m³)	NO_x (µg/m³)	CO (µg/m³)
Maximum baseline conc. in the study area	40.2	74.5	26.1	1050
Maximum predicted incremental rise in concentration due to the expansion activity	4.3	7.2	--	--
Maximum predicted incremental rise in concentration due to the Vehicular Movement	0.7	0.8	8.5	5.3
Net Resultant concentrations during operation	45.2	82.5	34.6	1055.3
National Ambient Air Quality Standards	60	100	80	2000

The net resultant Ground level concentrations during operation of the proposed expansion project are within the NAAQS. Hence, there will not be any adverse impact on air environment due to the proposed expansion project.

3.2 Prediction of impacts on Noise quality

The major sources of noise generation in the proposed expansion project will be crushing, screening, drilling, blasting and movement of trucks.

The following measures will be taken up to mitigate noise levels

- The machinery will be maintained properly to reduce the noise
- The protective noise reducing gear like earmuffs will be provided by the company.
- Controlled blasting will be carried out to reduce the noise levels.
- Proper and regular maintenance of vehicles and other equipment.
- Speed of trucks entering or leaving the ML area will be limited to moderate speed of 25 Kmph to prevent undue noise from empty trucks.
- All roads will be maintained in good conditions to reduce vehicle noise.

By following the above control measures the Ambient noise levels will be within the standards stipulated by MoEF i.e. less than 75 dBA during day time and less than 70 dBA during night time.

Hence there will not be any adverse impact due to noise on population in surrounding areas due to the proposed expansion project.

3.3 Prediction of impacts on Water Environment

There will be not be any waste water generation due to mining activities. The only source of wastewater generation will be sanitary wastewater, which will be sent to septic tank followed by soak pit.

Hence there will not be any impact on water environment due to proposed expansion project.

3.4 Prediction of Impacts on Land Environment

All the required Air Emission Control systems will be provided in the proposed expansion of mining activities for mitigating dust emissions. Only source of waste water generation is sanitary waste water which will be sent to septic tank followed by soakpit. Garland drains will be provided around all the ore stacking areas.

The solid waste generated from the project disposed as per the approved Mining plan. Extensive greenbelt development developed in the 7.5 m safety zone in the gap areas will have positive impact on land environment.

Hence there will not be any adverse impact on land environment due to the proposed expansion of mining activities.

3.5 Socio - Economic Environment

There will be certain upliftment in Socio Economic status of the people in the area & development of the area due to the proposed expansion project. Due to this the economic conditions, the educational and medical standards of the people living in the study area will certainly move upwards which will result in overall economic development, improvement in general aesthetic environment and increase in business opportunities.

4.0 ENVIRONMENTAL MONITORING PROGRAM

Post project monitoring will be conducted as per the guidelines of SPCB and MoEF&CC are tabulated below:

MONITORING SCHEDULE FOR ENVIRONMENTAL PARAMETERS

S.No.	Particulars	Frequency of Monitoring	Duration of sampling	Parameters required to be monitored
1. Air Quality				
A.	Ambient Air quality	CAAQMS Quarterly Once	continuously 24 Hourly	PM _{2.5} , PM ₁₀ , SO ₂ , NO _x PM _{2.5} , PM ₁₀ , SO ₂ , NO _x & CO
B.	Fugitive emissions	Once in a Month	8 hours	PM
2. Meteorological Data				
A.	Meteorological data to be monitored at the ML area.	Daily	Continuous monitoring	Temperature, Relative Humidity, rainfall, wind direction & wind speed.
3. Noise level monitoring				
A.	Ambient Noise levels	Once in a month (Hourly)	Continuous for 24 hours with 1-hour interval	Noise levels
4. Soil Quality monitoring				
A.	Soil Quality	Half yearly once	Core drilling sample	pH, SAR, texture, N,P,K, etc
Note: PM _{2.5} , PM ₁₀ , SO ₂ , NO _x and CO will be monitored as per Ministry notification vide G.S.R. No. 826(E) dated 16 th November, 2009				

5.0 ADDITIONAL STUDIES

No Rehabilitation and Resettlement is involved in the proposed expansion project as no habitation exists in the ML area. Hence no R & R study has been carried out.

6.0 PROJECT BENEFITS

With the commencement of expansion of mining activity operations employment potential will increase. The economic status of the people in the area will improve due to the proposed expansion activity. Periodic medical checkups will be carried out. Top priority will be given to locals in employment.

7.0 ENVIRONMENT MANAGEMENT PLAN

7.1 Air Environment

The air emission of concern from this mining activity will be mainly dust generation. The following measures will be undertaken to control dust.

- Applying water for dust suppression on mine haul roads.
- Regular Compaction & grading of haul roads and service roads to clear accumulation of loose material.
- Compaction & gradation on both sides of Haul Roads.
- Controlling speed of dumpers / trucks.
- Avoid overloading of dumpers and consequent spillage on the roads.
- Good maintenance of vehicles & machinery.
- Good housekeeping at the mining, loading will be practiced.
- Water injection systems will be used at the drill bit to suppress dust at the source.
- Areas will be pre-wetted before blasting, and water misting systems will be implemented to reduce dust generated by explosions.
- Water spray systems will be installed at crushers, screens, and conveyor transfer points to minimize dust.
- Crushing units and conveyor systems will be enclosed to contain dust. Negative pressure systems with dust extraction units will be used to capture airborne dust within enclosures.
- Covered chutes and enclosed transfer points will be implemented to limit dust escape during material handling.
- Wet drilling techniques will be used where water is continuously injected at the drill head, reducing dust emissions during drilling operations.

7.2 Water Environment

- Total wastewater generation after proposed expansion of mining activities will be 8 KLD.
- There will be no effluent discharge due to any mining activities
- Only source of waste water generation is sanitary waste water which will be sent to septic tank followed by soakpit.

- Garland drains will be provided around all the ore stacking areas.

7.3 Noise Environment

Source of noise generation will be due to crushing, screening, drilling, blasting and movement of trucks.

The following measures will be taken up for mitigating noise levels

- The machinery will be maintained properly to reduce the noise
- The protective noise reducing gear like earmuffs, will be provided by the company.
- Controlled blasting will be carried out to reduce the noise levels.
- Proper maintenance of equipment

By implementing above measures the Ambient noise levels will be within the standards stipulated by MoEF i.e. less than 75 dBA during day time and less than 70 dBA during night time.

The following measures will help in further reducing the noise levels.

- Proper and regular maintenance of vehicles and other equipment.
- Speed of trucks entering or leaving the ML area will be limited to moderate speed of 25 Kmph to prevent undue noise from empty trucks.
- All roads will be maintained in good conditions to reduce vehicle noise.

7.4 Land Environment

- All the required Air Emission Control systems will be provided in the proposed expansion of mining activities for mitigating dust emissions.
- Only source of waste water generation is sanitary waste water which will be sent to septic tank followed by soakpit.
- Garland drains will be provided around all the ore stacking areas.
- The solid waste generated from the project shall be disposed as per the approved Mining plan.
- Extensive greenbelt development developed in the 7.5 m safety zone in the gap areas will have positive impact on land environment.

7.5 Greenbelt Development

- The total lease area is forest land.
- Greenbelt has already been developed within the safety zone in the gap areas and planted 2600 saplings during the last three financial years and will continue the same in future years as per the requirement.
- We will also develop greenbelt in the adjoining areas in consultation with forest department.

7.6 Cost for Environment Protection

- Capital Cost for Environment Protection for proposed expansion project: Rs. 203.5 Lakhs
- Recurring Cost per annum for Environmental protection : Rs. 36 Lakhs