SUMMARY ON

ENVIRONMENTAL IMPACT ASSESSMENT

REPORT

OF

Tirupati Minerals Pvt. Ltd.

[Proposed Upgradation of 0.96 MTPA Coal Sizing & Screening unit to 0.96 MTPA Coal Washery (wet type) along with 1,50,000 TPA capacity of coal storage]

Category – B Project

Category B1, Schedule 2 (a) Coal Washeries as per EIA notification 2006 & its subsequent amend.

at

Hathneora Village, Champa Tehsil,
Janjgir - Champa District, Chhattisgarh

Submitted to

CHHATTISGARH ENVIRONMENT CONSERVATION BOARD

1.0 PROJECT DESCRIPTION

Tirupati Mineral Private Limited is operating 0.96 MTPA Coal Sizing & Screening plant along 1,50,000 TPA capacity of coal storage at Hathneora Village, Champa Tehsil, Janjgir - Champa District, Chhattisgarh. Existing plant has obtained Consent from Chhattisgarh Environment Conservation Board (CECB) vide order no. 3352/RO/TS/CECB/2023 Bilaspur dt. 31.03.2023 and same is renewed vide order no. 3644/RO/TS/CECB/2025 Bilaspur dt. 03.12.2025, valid upto 25.12.2027.

Now it has been proposed for upgradation of existing 0.96 MTPA Coal Sizing & Screening unit to 0.96 MTPA Coal Washery (wet type) along with 1,50,000 TPA capacity of coal storage in the existing plant premises at Hathneora Village, Champa Tehsil, Janjgir - Champa District, Chhattisgarh.

Existing plant is located at Hathneora Village, Champa Tehsil, Janjgir-Champa District, Chhattisgarh. Existing plant is located in 5.191 Ha. of land and same is in possession of management. Proposed upgradation will be taken up in the existing plant premises. Khasra no.s of total land are 497, 498/5, 499/2, 501, 502, 506, 507, 510/5, 510/6, 1461/3, 1461/5, 1461/6, 1461/7, 1462/1, 1462/3, 1462/4, 1462/5, 1462/7, 1462/8,1463, 1464, 1466/1, 1466/2, 1466/3, 1466/4, 1466/5, 1466/6, 1466/7, 1467/1, 1468/3, 1468/4, 1469/2, 1470, 1471/2, 1472, 1473/4, 1473/11, 1473/12, 1475, 1476, 1477/4, 1477/5, 1479/1.

The project cost envisaged for the proposed project is Rs. 22.50 Crores.

As per the Ministry of Environment, Forest & Climate Change (MoEF&CC), New Delhi, EIA notification dated 14th September, 2006 & its subsequent amendments, all Coal Washeries below 2.50 MTPA (throughput capacity) are classified under **Category 'B'** of activity type 2(a) and same are appraised at State Level.

In order to obtain Environmental Clearance for the proposed project, Form-I (Part A, B), proposed TOR along with Pre-Feasibility Report were submitted to the State Expert Appraisal Committee (SEAC), Chhattisgarh. Accordingly, TOR letter was issued by SEAC, C.G. vide No. **952/SEAC-CG/Washery/Jangir Champa/2133 Naya Raipur dt. 13.07.2023**. Later we obtained **Amendment in TOR letter dt. 20.12.2025** w.r.t to change in total extent of land area and change in plant configuration & production capacity.

Draft EIA report has been prepared incorporating the Terms of Reference & is being submitted to CECB for conducting Public hearing/consultation.

Pioneer Enviro Consultants Private Limited, Hyderabad, which is accredited by NABET, Quality Council of India, vide certificate No. NABET/EIA/25-28/RA 0456, for preparing Environmental Impact Assessment (EIA) report for Metallurgical Unit, has prepared EIA report for the proposed expansion project.

This report furnishes the details of location of Site, Description of the project, prevailing baseline status w.r.t Air Environment, Water Environment, Noise Environment, Land Environment, Flora & Fauna and Socio-economic environment. This report also helps in identification of environmental impacts and suggesting mitigation measures to be followed during Construction and Operation of the proposed project as a part of Environmental Management Plan. This report also acts as guidance manual for the proponent for following the Environmental Management Plan (EMP) and for adopting post project Environmental Monitoring Program as per statutory norms.

1.1 ENVIRONMENTAL SETTING WITHIN 10 Km. RADIUS OF THE PLANT SITE

The following is the environmental setting within the 10 Km. radius of the Plant site:

TABLE No.1.1: Environmental Setting Within 10 Km. Radius

S.No.	Description	Distance w.r.t. site / Remarks
1.	Type of Land (Project Site)	Industrial land
2.	Type of Land (Study Area)	As per LULC study, the land use within 10 Km. is as follows: Settlements – 8.9 %, Industrial Area – 3.4 %, Tank / River / Major Canal – 13.7%, Single Crop – 55.6%, Double Crop – 8.7%, Land with scrub – 5.3%, Land without scrub – 2.3%, Mining area – 2.1%
3.	National Park/ Wild life sanctuary / Biosphere reserve / Tiger Reserve / Elephant Corridor	None
4.	Historical places / Places of Tourist importance / Archeological sites	None
5.	Industrial areas / cluster (MoEF&CC office memorandum dated 13thJanuary 2010)	None
6.	Defence Installations	None
7.	Nearest village	Hathneora Village - 0.85 Kms.
8.	No. of Villages in the Study Area	60
9.	Nearest Hospital	Sant Guru Ghasidas Hospital, Hathneora – 0.40

S.No.	Description	Distance w.r.t. site / Remarks
		Kms. (South direction) Mission hospital, Champa – 6.5 Kms. (NNW)
10.	Nearest School	Govt. High School, Hathneora – 1.5 Kms. (NW)
11.	Forests	No forest land within 10 Kms. radius of the project site.
12.	Water body	Un-named canal is passing adjacent to the project site (NE direction), Jarmria Nala (0.50 Kms., NE direction), Hasdeo River (1.9 Kms., SW direction), Kostiya Nala (3.9 Kms., SW direction), Son Nadi (7.8 Kms., NE direction) exists within 10 Kms. radius of the project site. No River / Stream passes through the proposed project site.
13.	Nearest Highway	NH # 49 (0.75 Kms. – North Direction) and NH # 149B (6.0 Kms.) exists within 10 Kms. radius of the project site. Champa – Bhatgaon Road (Major District Road) - Adjacent to the project site.
14.	Nearest Railway station	Champa RS, at a distance of 6.0 Kms. (by road) from the plant site.
15.	Nearest Port facility	None
16.	Nearest Airport	Bilaspur Airport (60 Kms. – Arial)
17.	Nearest Interstate Boundary	No interstate boundary within 10 Km radius of the project site. (Nearest interstate boundary is Odisha at a distance of 82.0 kms. from the Project site)
18.	Seismic zone as per IS-1893	Seismic zone – II
19.	R & R	There is no rehabilitation and resettlement issue, as there are no habitations present in the site area.
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	None

1.2 PLANT CONFIGURATION AND PRODUCTION CAPACITY

TABLE NO. 1.2: PLANT CONFIGURATION AND PRODUCTION CAPACITY

S.No.	Units	Capacity as per ToR issued by SEIAA-CG dt. 13.07.2023	Consent obtained by Regional Office, Bilaspur, CECB dt. 31.03.2023	Amendment w.r.t capacities	Final Plant configuration & production capacities
1.	Coal Washery	0.96 MTPA (Wet type coal washery)	---	Upgradation of 0.96 MTPA Coal Sizing and Screening plant to 0.96 MTPA Wet type coal Washery	0.96 MTPA (Wet type coal washery)
2.	Coal Sizing and Screening	---	0.96 MTPA Coal sizing and screening plant		
3.	Storage of Coal	---	1,50,000 TPA	1,50,000 TPA	1,50,000 TPA

The Proposed coal washing plant of 0.96 MTPA of Raw Coal throughput will have the following parameters:

Capacity	:	200 TPH
No. of operating hours in a year	:	300 days
No. of operating hours in a day	:	20 hours three shift operation short maintenance
Plant Utilization	:	80%
Annual throughput	:	200 x 20 x 300 x 0.80 = 960000 Say 0.96 MTPA

1.3 RAW MATERIALS

Run of mines [ROM] coal will be the only raw material requirement for proposed washery. Annual requirement of proposed washery is envisages to the tune of 9,60,000 tons/ Year.

The following is the raw material requirement, source & mode of transport:

TABLE NO. 1.3: RAW MATERIAL REQUIREMENT, SOURCE & MODE OF TRANSPORT

S.No.	Raw Material	Quantity (MTPA)	Source
1.	Raw Coal	0.96	Coal will be sourced from SECL mines namely CHAL/Kusmunda/Dipika Gevra and other mines.

1.4 MANUFACTURING PROCESS

1.4.1 Coal Washery

Coal washery comprises of coal crushing & screening and washing of coal to produce clean coal with ash content less than 34%. Wet type of coal washery is proposed as it will have lesser environmental problems compared to the dry type of washery and to suit to client's specific requirement of lower ash content. Closed loop water system is proposed in the process. Zero effluent discharge will be maintained in the proposed project.

The process consists of crushing of the ROM coal in a single toothed roll crusher. The crushed coal is then washed in Zig to produce clean coal and middling with the help of water stream and air pressure.

1.5 Water Requirement

- Water required in the existing plant is 5 KLD. Water requirement for the coal washery will be 210 cum/day (200 M3/day for Process and 10 M3/day for Domestic purpose) and same will be sourced from Ground water source.
- NOC has been obtained from CGWA vide NOC no. CGWA/NOC/IND/ORIG/2022/16138 for 210 KLD of Ground water, same was valid till 13.07.2025. An application has been submitted for renewal of NOC from CGWA.
- Proposed coal washery is envisaged to operate on closed circuit water, therefore only make up water requirement has been considered.
- Details of water consumption break up is shown in Table No.1.4:

TABLE no. 1.4: WATER REQUIREMENT

S.No.	Unit	Quantity (KLD)
1.	Coal washery process (including existing crusher and sizing unit)	200
2.	Domestic purpose	10
	Total	**210**

1.6 Waste Water Generation

- Closed circuit water system will be adopted in the proposed coal washery, hence no wastewater will be discharged outside the plant. Only wastewater generation will be sanitary wastewater and same will be treated in Septic tank following soak pit. Total sanitary wastewater generated from proposed project will be 8 KLD.
- As it is proposed to install Heavy media-based Coal Washery, in which water after washing of coal (waste water) will be recycled back.
- The efficiency of settling pond of the waste water system will be 95 %.
- The wastewater from the plant will lead to the thickener and flocculants will be settlement of suspended solids and helps to give a clearer overflow.
- The settled solids are collected at the bottom cone of the thickener tank.
- The solids which are collected in the bottom of the thickener will be pumped to the multirole belt press for reclamation of water. The solid dried cake will be blended with rejects.
- The overflow of the thickener which is clear water will be recycled.
- Zero effluent discharge will be maintained.
- All the MoEF norms/CREP recommendations for coal washeries will be implemented in the proposed project also.

The following is the breakup of Wastewater generation quantity is shown in Table No. 1.5.

TABLE No. 1.5: WASTE WATER GENERATION

S.No.	Source	Generation (in KLD)
1	Sanitary wastewater	8
	Total	**8**

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 plant.

2.1 Ambient air quality

Ambient air quality was monitored for $PM_{2.5}$, PM_{10}, SO_2, NOx & CO at 8 stations including project site during ***1st October 2025 to 31st December 2025***. The following are the concentrations of various parameters at the monitoring stations:

Table No.2.1: AAQ Data Summary

S.No.	Parameter	Concentration range (µg/m³)	Standard as per NAAQS (µg/m³)
1.	$PM_{2.5}$	28.8 to 42.9	60
2.	PM_{10}	48.4 to 71.9	100
3.	SO_2	8.1 to 19.2	80
4.	NO_X	9.7 to 21.1	80
5.	CO	395 to 774	2000

2.2 Water Quality

2.2.1 Surface Water Quality

2 no. of samples i.e. 60m Upstream & 60 m Downstream from Hasdeo River and one sample from Jarmria Nala have 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 Levels

Noise levels were measured at 8 locations during daytime & Night time. The equivalent day-night noise levels in the study zone are ranging from 46.15 dBA to 60.26 dBA.

3.0 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

3.1 Prediction of impacts on air quality

The likely emissions from the proposed project are PM_{10}, SO_2, NOx & 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.

Table No.3.1: NET RESULTANT MAXIMUM CONCENTRATIONS DURING THE OPERATION OF THE PROPOSEDPROJECT (APCS WORKING SCENARIO)

Item	$PM_{2.5}$ ($\mu g/m^3$)	PM_{10} ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_X ($\mu g/m^3$)	CO ($\mu g/m^3$)
Maximum baseline conc. in the study area	42.90	72.90	19.20	21.10	774.00
Maximum predicted incremental rise in concentration due to proposed project (Point Sources)	0.03	0.05	---	---	---
Maximum predicted incremental rise in concentration due to proposed project (Vehicular emissions)	0.11	0.19	---	1.45	0.93
Net resultant concentrations during operation of the proposed project	**43.04**	**73.14**	**19.20**	**22.55**	**774.93**
National Ambient Air Quality Standards	**60**	**100**	**80**	**80**	**2000**
The net resultant Ground level concentrations during operation of the proposed project are within the NAAQS. Hence, there will not be any adverse impact on air environment due to the proposed project.					

3.2 Prediction of impacts on Noise quality

The major noise generating sources in the plant are DG sets & crusher. Acoustic enclosure will be provided to DG sets. Crusher will be inside the covered shed. The major noise levels will be confined to the working zones of the plant. The Leq of eight hours will be within the prescribed standards. Community noise levels are not likely to be effected due to the proposed additional greenbelt and attenuation due to the physical barriers. The ambient noise levels will be less than 75 dBA during day time & less than 70 dBA during night time. As the nearest habitation is about 0.85 Kms. from the plant, there will not be any adverse impact on habitations due to the proposed project.

2.08 Ha. i.e. 33% of extensive greenbelt will be developed in the plant premises to further attenuate the noise levels.

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

3.3 Prediction of impacts on Water Environment

- Closed circuit water system will be adopted in the proposed coal washery, hence no wastewater will be discharged outside the plant. Only wastewater generation will be

sanitary wastewater and same will be treated in Septic tank following soak pit. Total sanitary wastewater generated from proposed project will be 8 KLD.

- As it is proposed to install Heavy media-based Coal Washery, in which water after washing of coal (waste water) will be recycled back.
- The efficiency of settling pond of the waste water system will be 95 %.
- The wastewater from the plant will lead to the thickener and flocculants will be settlement of suspended solids and helps to give a clearer overflow.
- The settled solids are collected at the bottom cone of the thickener tank.
- The solids which are collected in the bottom of the thickener will be pumped to the multirole belt press for reclamation of water. The solid dried cake will be blended with rejects.
- The overflow of the thickener which is clear water will be recycled.
- Zero effluent discharge will be maintained.
- All the MoEF norms/CREP recommendations for coal washeries will be implemented in the proposed project also.

3.4 Prediction of Impacts on Land Environment

The effluent will be treated to achieve SPCB standards. Zero effluent discharge will be adopted. All the required air pollution control systems will be provided to comply with CPCB / SPCB norms. All solid wastes will be disposed / utilized as per CPCB / SPCB norms.

Greenbelt is considered essential for maintaining the stability of the environment of the area **2.08 Ha.** i.e. 33% of extensive greenbelt is developed in the plant premises.

Hence, there will not be any adverse impact on land environment due to the proposed project.

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 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 PROGRAMME

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

TABLE NO.4.1: MONITORING SCHEDULE FOR ENVIRONMENTAL PARAMETERS

S.No.	Particulars	Frequency of Monitoring	Duration of sampling	Parameters required to be monitored
1. Water & Wastewater quality				
A.	Water quality in the area	Once in a month except for heavy metals which will be monitored on quarterly basis	Grab sampling (24 hourly)	As per IS: 10500
B.	Effluent at the outlet of the ETP	Twice in a month	Composite sampling (24 hourly)	As per EPA Rules, 1996
C.	STP Inlet & Outlet	Twice in a month	Composite sampling (24 hourly)	As per EPA Rules1996
2. Air Quality				
A.	Stack Monitoring	Online monitors (all stacks) Once in a month	---- ----	PM PM, SO_2 & NOx
B.	Ambient Air quality (CAAQMS)	Continuous Quarterly Once	Continuous 24 hours	PM_{10}, SO_2& NOx $PM_{2.5}$, PM_{10}, SO_2, NOx & CO
C.	Fugitive emissions	Quarterly Once	8 hours	PM
3. Meteorological Data				
	Meteorological data to be monitored at the plant.	Daily	Continuous monitoring	Temperature, Relative Humidity, rainfall, wind direction & wind speed.
4. Noise level monitoring				
A.	Ambient Noise levels	Quarterly Once	Continuous for 24 hours with 1 hour interval	Noise levels
5. Soil Quality monitoring				
A.	Soil quality	Half Yearly	Core drilling samples	pH, SAR, texture, N,K, P etc.
Note: $PM_{2.5}$, PM_{10}, SO_2, NO_x and CO are monitored as per Ministry notification vide G.S.R. No. 826(E) dated 16th November, 2009				

5.0 ADDITIONAL STUDIES

No Rehabilitation and Resettlement is involved in the proposed project as there are no habitations in the project site. Hence no R & R study has been carried out.

6.0 PROJECT BENEFITS

With the establishment of the proposed project employment potential will increase. Land prices in the area will increase. The economic status of the people in the area will improve due to the proposed project. Periodic medical checkups will be carried out. Top priority will be given to locals in employment.

The proposed project has direct employment of 50 nos. including official staff, skilled & semi - skilled labour & 150 nos. indirect employees in contract works & transport.

7.0 ENVIRONMENT MANAGEMENT PLAN

7.1 Air Environment

The following are air emission control systems proposed in the proposed project:

Table No.7.1: Air Emission Control Systems Proposed

S. No.	Stack attached to	Control Equipment	Particulate emission at the outlet
a.	Coal crusher	Dust Extraction systems with Bag filters	< 30 mg/Nm^3

Apart from the above the following air emission control systems/ measures are proposed in the Plant:

- ✓ Water will be sprayed at all strategic coal transfer points such as conveyors, loading unloading point's etc. Conveyors, transfer points etc. will be provided with enclosures.
- ✓ Crusher will be provided with enclosures, fitted with bag filters and finally emitted through a stack of minimum height of 30 m, conforming particulate emission standard of 50 mg/Nm^3.
- ✓ Water sprinkling by using fine atomizer nozzles arrangement will be provided on the coal heaps and on land around the crusher.
- ✓ Area, in and around the coal washery will be asphalted. Water consumption in the coal washery will be below 1.5 cubic meter per tonne of coal.

- ✓ The efficiency of the settling ponds of the waste water treatment system of the coal washery will not be less than 90%.
- ✓ Green belt will be developed along the road side, coal handling plants, residential complex, and office building and all round the boundary line of the coal washery.

7.2 Water Environment

- Closed circuit water system will be adopted in the proposed coal washery, hence no wastewater will be discharged outside the plant. Only wastewater generation will be sanitary wastewater and same will be treated in Septic tank following soak pit. Total sanitary wastewater generated from proposed project will be 8 KLD.
- As it is proposed to install Heavy media-based Coal Washery, in which water after washing of coal (waste water) will be recycled back.
- The efficiency of settling pond of the waste water system will be 95 %.
- The wastewater from the plant will lead to the thickener and flocculants will be settlement of suspended solids and helps to give a clearer overflow.
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- All the MoEF norms/CREP recommendations for coal washeries will be implemented in the proposed project also.

7.3 Noise Environment

The major noise generating sources in the plant are DG sets & crusher. Acoustic enclosure will be provided to DG sets. Crusher will be inside the covered shed. The major noise levels will be confined to the working zones of the plant. The Leq of eight hours will be within the prescribed standards. Community noise levels are not likely to be effected due to the proposed additional greenbelt and attenuation due to the physical barriers. The ambient noise levels will be less than 75 dBA during day time & less than 70 dBA during night time. As

the nearest habitation is about 0.85 Kms. from the plant, there will not be any adverse impact on habitations due to the proposed project.

7.4 Land Environment

All the required air pollution control systems will be provided to comply with CPCB / CECB norms. All solid wastes will be disposed / utilized as per CPCB / CECB norms. Greenbelt will be developed as per guidelines. Hence there will not be any adverse impact on land environment due to the proposed project.

Table No.7.2: Solid Waste Generation and Disposal

S.NO.	TYPE OF SOLID WASTE	QUANTITY (IN MTPA)	DISPOSAL PROPOSED
1	Washery rejects	0.24	Will be given to reject based power plant of M/s. Shree Rupanadham Steel Pvt. Ltd., M/s. NRVS Steel Ltd. & M/s. Ind Synergy Ltd.

Hazardous waste generation, storage & disposal:

1. **Waste oil:** 0.5 KL / Annum

   This will be stored in covered HDPE drums in a designated area and will be given to SPCB approved vendors.

2. **Used Batteries**

   Used batteries will be given back to the supplier under buy back agreement with supplier.

3. **E-waste**

   E-waste generated from the plant will be given to authorized recycler having authorization from competent authority. Disposal of Electronic waste generated from the industry will be done as the E - waste management 2022 Gazette notification dt. 02.11.2022.

4. **Plastic waste**

   Plastic waste generated from the plant will be given to authorized recycler having authorization from competent authority.

7.5 Greenbelt Development

- Out of total 5.19 Ha. of land, 2.08 Ha. (1/3rd of total) of land will be developed with greenbelt.
- Local DFO will be consulted in developing the green belt
- 12 m to 30 m wide green belt will be developed all around the plant premises.
- The tree species to be selected for the plantation are pollutant tolerant, fast growing, wind firm, deep rooted. A three-tier plantation is proposed comprising of an outer most belt of taller trees which will act as barrier, middle core acting as air cleaner and the innermost core which may be termed as absorptive layer consisting of trees which are known to be particularly tolerant to pollutants.
- 3- tier plantation will be taken up all around the periphery of the plant premises.
- Total number of plants will be maintained after expansion @2500 nos. per Ha. will be 5200 nos.

7.6 Cost for Environment Protection

Capital Cost for Environment Protection for proposed plant : Rs. 160 Lakhs

Recurring Cost per annum for Environmental protection : Rs. 18 lakhs/Annum

7.7 Implementation of CREP Recommendations

All the CREP recommendations will be strictly followed.

- All the CREP recommendations will be strictly followed in the proposed coal washery plant.
- Continuous stack monitoring system is proposed for stack attached to all the Stacks.
- Online Ambient Air Quality Monitoring Stations will be established in consultation with SPCB during operation of the plant.
- Fugitive emission monitoring will be carried out as per CPCB norms.
- Energy meters will be installed for all the pollution control systems.
- Rain water harvesting pits are being constructed in consultation with CGWB.