EXECUTIVE SUMMARY

OF

ENVIRONMENTAL IMPACT ASSESSMENT REPORT

&

ENVIRONMENTAL MANAGEMENT PLAN

FOR

Proposed Dallirajhara Iron Ore Mining Block (Area - 80 ha) With Iron Ore Production Capacity of 1.0 Million TPA with two nos. of Crushers with mobile screen having capacity of 300 TPH each

At

Villages - Kondekasa and Hidkapur,
Tehsil - Dondi, District - Balod, Chhattisgarh

PROJECT PROPONENT

SPIL

M/s. Satya Power and Ispat Limited

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1.0 PROJECT DESCRIPTION

1.1 INTRODUCTION OF PROJECT PROPONENT

M/s. Satya Power & Ispat Limited (SPIL) is one of the well-established and growing limited company, which has captured a substantial market of Sponge Iron, M.S. Billets and Washed Coal in the central India within a short span of time. Established in 2003 with a single kiln of 30,000 MT per year with current production capacity of 300 TPD. M/s. Satya Power & Ispat Limited (SPIL) was incorporated in Companies Act- 1956/2013 with CIN No. U40101CT2003PLC015521

1.2 TYPE OF PROJECT

M/s. Satya Power & Ispat Limited has proposed Dallirajhara Iron Ore Mining Block (Area - 80 ha) with Iron Ore Production Capacity of 1.0 million TPA with two nos. of Crushers with mobile screen having capacity of 300 TPH each at Villages Kondekasa and Hidkapur, Tehsil - Dondi, District - Balod, Chhattisgarh.

As per EIA Notification dated 14.09.2006, as amended thereof, this project falls in Category 'B' Project or Activity 1(a)-4 for "Mining of Minerals".

1.3 BRIEF DESCRIPTION OF THE PROJECT

Table – 1

Brief Description of the Project

S. No.	Particulars	Details
A.	**Nature of project**	Proposed Opencast Fully Mechanized Mine
B.	**Size of project**	
1.	ML area	80 ha
2.	Proposed Production Capacity	➢ Iron Ore: 1.0 Million TPA ➢ Waste: 0.41 Million TPA ➢ Total Excavation: 1.41 Million TPA
C	**Project Location**	
1.	Villages	Kondekasa and Hidkapur
2.	Tehsil	Dondi
3.	District	Balod
4.	State	Chhattisgarh
5.	Coordinates	**Latitude** - 20° 33' 41.34" N to 20° 34' 59.39" N **Longitude** -81° 0' 40.02" E to 81° 1' 6.67" E
6.	Toposheet No.	F44V2 (64H/2), F44V3 (64H/3), F44U14(64D/14), F44U15 (64D/15)
D	**Environmental Setting Details *(with approx. aerial distance & direction from the mining lease boundary***	
1.	Nearest Habitation	➢ Village Hitkasa (~0.80 km in North direction) ➢ Village Matkasa (~1.60 km in West direction)
2.	Nearest School	Govt. PS Hitkasa (~ 1.0 km in North direction)
3.	Nearest Highway	➢ NH - 930 [earlier SH - 92 (~0.60 km in North direction)]

S. No.	Particulars	Details
		➢ SH - 9 (~5.0 km in East direction)
4.	Railway Station for connectivity	Dallirajhara Railway Station (~5.5 km in ENE Direction)
5.	Airport for connectivity	Swami Vivekananda Airport, Raipur (~100 km in NE direction)
6.	Nearest Town/ City	Dallirajhara (~5.0 km in ENE direction)
7.	National Park, Wild Life Sanctuaries, Biosphere Reserves, Tiger Reserves, Wildlife Corridors etc.	None within 10km radius study area.
8.	Reserved / Protected Forest within 10 km radius study area	➢ Dondi PF (Inside Proposed Mine Site Area) ➢ Piparkhar PF (~ 4.2 km in NW direction) ➢ Tekamtola PF (~ 4.2 km in West direction) ➢ Putarwahi PF (~ 5.6 km in East direction) ➢ PF (~ 5.9 km in SW direction) ➢ Gubiyagarh PF (~ 7.5 km in SW direction) ➢ PF (~ 7.5 km in WNW direction) ➢ Junwani PF (~ 8.0 km in NNE direction) ➢ Kosmi PF (~ 8.2 km in SW direction) ➢ Chipra PF (~ 9.0 km in NNE direction) ➢ Armagondi PF (~ 9.0 km in NNW direction) ➢ Kesla PF (~ 9.6 km in NW direction) ➢ Matewa PF (~ 9.8 km in West direction)
9.	Water Bodies within 10 km radius study area	➢ Hitsaka Dam (~ 1.0 km in NE direction) ➢ Boirdih Reservoir (~ 2.0 km in South direction) ➢ Rajhara Dam (~ 5.3 km in East direction) ➢ Chikhali Dam (~ 6.2 km in ESE direction) ➢ Dhutal Nala (~ 7.0 km in North direction) ➢ Kiriyakasa Nala (~ 7.7 km in East direction) ➢ Jamaruwa Dam (~ 9.4 km in East direction) In addition to above, seasonal ponds are also exist within the study area
10.	Seismic Zone	Zone – II as per IS: 1893 (Part-I) : 2002
D	**Cost Details**	
1.	Project Cost	Rs. 90.0 Crore
2.	Cost of EMP	Capital Cost: Rs. 4.13 Crore Recurring Cost: Rs. 0.33 Crore/annum

Source: *Site Visit & Pre-feasibility Report*

1.4 LOCATION MAP

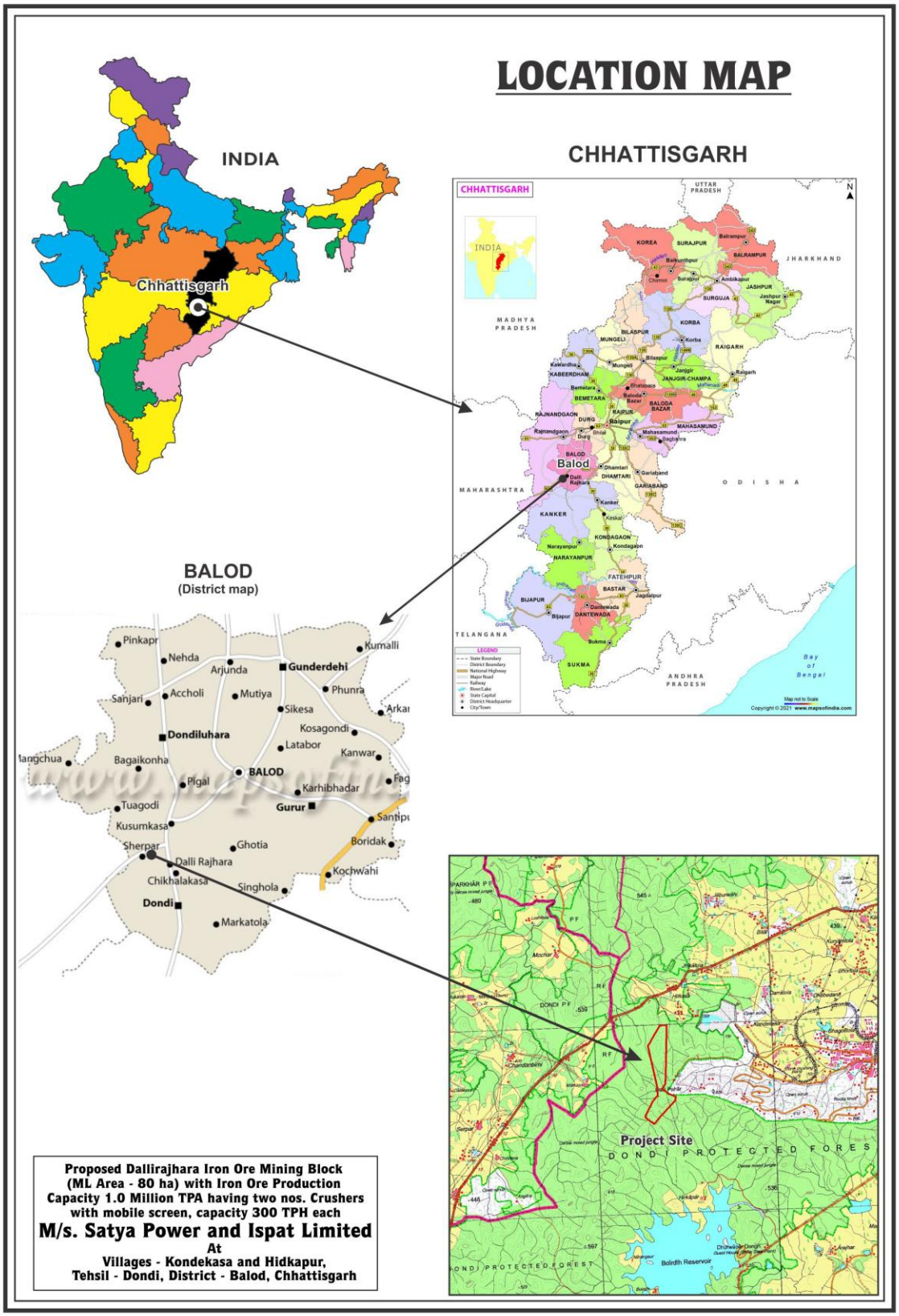

Figure-1: Location Map (Showing general as well as specific location of the ML area)

1.5 MINE DESCRIPTION

1.5.1 MINING LEASE STATUS

- M/s. Satya Power & Ispat Limited has been awarded Dallirajhara Iron Ore Mining Block through e auction over an area of 80 ha at Village Hitkasa, Tehsil Dondi, District Balod, Chhattisgrah for which Letter of Intent (LOI) has been issued by State Government vide letter No F 3-10/2022/12 dated 08.09.2022
- Mining Lease is yet to be executed and registered.

1.5.2 MINING DETAILS

Table – 2

Mining Details

S. No.	Particulars	Details
1.	Method of mining	Fully Mechanized Opencast Mining
2.	Total Geological Reserves	5.08 Million Tonnes
3.	Mineable reserves	4.27 Million Tonnes
4.	Proposed Life of the Mine	6 years
5.	Bench Height	6 m (Maximum)
6.	Bench Width	6 m (Minimum)
7.	Ultimate Pit Slope	22°
8.	Elevation Range	415 m AMSL to 650 m AMSL
9.	Water Level	Pre Monsoon: 17.8 m bgl to 24.4 m bgl Post Monsoon: 15.3 m bgl to 20.4 m bgl
10.	Ultimate Working Depth	Pit - 1: 569 m AMSL (72 m bgl) Pit - 2: 428 m AMSL (36 m bgl)
11.	Stripping Ratio Mineral: Waste (tonnes: tonnes)	1: 0.41
12.	Number of working days	300
13.	Waste generation and management during entire life of mine	Approx 2.08 million tonnes of over burden will be generated during conceptual stage which will be backfilled in 8.77 ha and dump in waste dump over an area of 4.3 ha.

Source: *Approved Mining Plan & Progressive Mine Closure Plan*

1.5.3 METHOD OF MINING

- Mining will be done by fully mechanized opencast method adopting a system of benches. Hydraulic excavators will be deployed for progressing benches and for handling ore/waste material. Drilling and controlled blasting will be adopted. Dumpers will be used for loading and dumping of over burden/ore. It is envisaged that two crushers of 300 TPH capacity each with mobile screen is proposed to be installed in the mining lease area for crushing of Iron ore
- Transportation of iron ore from working face to crusher hopper will be carried out by Dumpers and crushed material will be transported to end users via Road/railway.

2.0 DESCRIPTION OF THE ENVIRONMENT

The Primary baseline data for specific micro - meteorology data, ambient air quality, waste quality, noise level, soil and flora & fauna has been collected during Summer Season (March to May, 2023). The monitoring results of ambient air, surface water, soil, ambient noise and ground water have been reported.

2.1 PRESENTATION OF RESULTS (AIR, NOISE, SURFACE WATER, GROUND WATER & SOIL)

Ambient Air Quality Monitoring reveals that the concentrations of PM10 and PM2.5 for all the 10 AAQM stations were found between 35.2 to 70.8 µg/m^3 and 20.8 to 37.4 µg/m^3 respectively.

As far as the gaseous pollutants SO2 and NO2 are concerned, the prescribed CPCB limit of 80 µg/m^3 has not been surpassed at any station. The concentrations of SO_2 and NO_2 were found in range of 5.1 to 9.1 µg/m^3 and 7.0 to 18.3 µg/m^3 respectively.

Ambient noise levels were measured at 10 locations in and around the proposed mine site. Noise level varied from 48.5 to 52.4 Leq dB (A) during day time and from 38.4 to 42.8 Leq dB (A) during night time.

Surface water analysis has been done from 6 water bodies. The pH of the water bodies ranges from 6.95 to 7.55 indicating slightly alkaline in nature. The colour and turbidity were of permissible range and odour was found agreeable at all the locations. Less turbidity in the above-mentioned water bodies indicates that it is good for the growth of aquatic life.

The observed value of the surface water quality indicators are: Total hardness varied from 50.04 to 105.08 mg/l, Alkalinity varied from 35 to 95 mg/l, Total Dissolved Solids varied from 78 to 210 mg/l, BOD varied from 2.5 to 5.6 mg/l, COD varied from 10 to 20 mg/l. The level of DO is varied from 5.9 to 7.5 mg/l.

The **ground water/drinking water** samples were collected from 5 locations. The physico-chemical quality of groundwater was compared with drinking water standard (IS: 10500 - 2012). The pH of the water samples ranged from 6.87 to 7.79 indicating slightly alkaline nature. The colour was BDL, and odour were agreeable at all sampling locations. The values of Total Hardness was varied from 230.18 to 425.45 mg/l and it was within the permissible limits at all the sampling locations, Alkalinity varied from 155 to 290 mg/l was within the permissible limits at all locations. Chlorides 98.91 to 185.94 mg/l and Total Dissolved Solids 368 to 656 mg/l were within the permissible limit.

Soil Samples collected from identified 6 soil locations indicate pH value ranging from 6.12 to 7.15. The soil samples were dull reddish to yellowish in colour and Silty loam in texture. Organic Matter ranges from 1.07 % to 1.50 % in the soil samples. All the essential nutrients were observed to be present in a higher amount than the other micro nutrient and macro nutrient such as Nitrogen ranges between 355 to 480.96 kg/ha, Phosphorous ranges between 22.55 to 88.08 kg/ha, Potassium 427.69 to 1011.16 kg/ha, Magnesium 293.27 to 926.04 mg/kg, Calcium 1369.4 to 4047 mg/kg and Zinc 19.52 to 55.31 mg/kg. The above discussion indicates that the soils in study area, in general, physical and chemical quality is good and fertile.

2.2 BIOLOGICAL ENVIRONMENT

There is no National Park, Wild Life Sanctuaries, Biosphere Reserves, Tiger Reserves, Wildlife Corridors etc. within 10 km radius study area

The main objective of the present study is to observe, document and evaluate, during primary field survey carried out within 10 km radius impact zone in and around the said ML for Proposed Project and to understand the presence and behavior of the floral and faunal diversity of the study area with respect to terrestrial and aquatic flora and fauna with special emphasis on Rare, Endangered and Threatened species, as defined in Wildlife Protection Act, 2022, occurring in the study area

After surveying the core and the buffer areas, a detailed floral inventory has been compiled. List of all plants from the study area was prepared and their habitats were recorded. List of Flora & Fauna has been submitted to State Forest Department for authentication.

2.3 SOCIO-ECONOMIC ENVIRONMENT

Chhattisgarh is a state in Central India. It is the 10th largest state in India, with an area of 135,192 km2. With a population of 25.5 million (census 2011), Chhattisgarh is the 17th most populated state of the nation. Chhattisgarh is a major source of electricity and steel for India. Chhattisgarh accounts for 15% of the total steel produced in the country. All these factors combined with growing infrastructure and investment within the state, as well as initiatives taken by the government Chhattisgarh is one of the fastest developing states in India.

The population as per 2011 Census records is 98310 (for 10 km radius buffer zone). Table - 3.24 shows demographic profile of study area that total no. of household is 219, 16555 and 5693 respectively, in primary, secondary and outer zone. sex ratio is 995, 1016 and 1056 females per 1000 males observed in primary, secondary and outer zone respectively. SC population distribution is 11, 8432 and 1314 in primary, secondary and outer zone respectively. ST population distribution is 968, 22352 and 20225 in primary, secondary and outer zone respectively.

It can undoubtedly be said that this proposed mine work will provide direct and indirect employment and improve the infrastructural facilities and standards of living of the area. In the nearby areas, gross economic production will increase substantially due to the proposed mining projects in the area.

3.0 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

A. AIR QUALITY MANAGEMENT

- Drilling machines will be equipped with wet/dry drilling with de-dusting arrangements to prevent dust.
- Controlled blasting will be adopted and optimum use of explosive energy will help in reducing the air pollution.
- Blasting will be done by latest blasting technique (NONEL) using stock tube detonator (Downline detonator in combination with noise less trunk line detonators).
- Use of Rock breaker in place of secondary blasting to reduce generation of fly rocks and ground vibration.
- Water Spray arrangement will be provided at crusher hopper and haul roads, loading & unloading areas to control the fugitive emission.
- Haul roads will be kept wide to support smooth traffic movement. The roads will be properly maintained by road compactor and regular water spraying will be done during work hours to prevent generation of dust from vehicular movement.

- PPE's including dust masks will be provided to workers & operators working in dusty zones.
- Vehicular emissions will be kept under norms by regular maintenance of vehicles & machineries.
- Greenbelt & plantation will be developed around mine boundary, mine office, crusher area, approach roads and backfilled areas.
- Periodic air quality monitoring will be carried and the records will be maintained properly.

B. NOISE LEVEL MANAGEMENT

Following measures will be taken for noise pollution control: -

- Drilling will be done with sharp drill bits to achieve optimum drilling performance and to reduce noise generation at source.
- Ground vibrations will not affect the structures in the vicinity of block area as blasting will be done in accordance with standards prescribed by DGMS for controlled blasting.
- Explosives charge per hole and per delay will be maintained as per DGMS guidelines.
- NONEL will be used to control ground vibrations, noise & fly rocks.
- Blasting will be carried out during day time only.
- Crusher will be installed in closed building to control the noise pollution.
- Development of green belt & plantation in the vicinity of the crusher.
- Air-conditioned closed cabin will be provided in HEMM to reduce generation of noise.
- Proper maintenance, oiling and greasing of machines at regular intervals will be done to reduce generation of noise.
- The workers employed will be provided with personal protective equipment, earmuffs and earplugs as a protective measure from the high noise level generated at the mine site and wherever required.
- Planting of trees will be done along the mining lease boundary for controlling noise apart from acting as barrier for propagation of noise outside the mine lease boundary.
- Regular monitoring of noise will be carried out regularly.

C. WATER AND WASTE WATER MANAGEMENT

- Due to hilly terrain, some seasonal rivulets originating and passing through the mining lease area during rainy season.
- No wastewater will be generated from the mining activities. However, wastewater generated from the mine workshop will be reuse in dust suppression in crusher after separation of oil & grease.
- Wastewater generated from mine office toilets will be treated in mobile STP and treated wastewater will be used for greenbelt & plantation development.
- The average depth to water level during pre-monsoon is recorded from 17.8 (375 m AMSL) to 24.4 m bgl (402 m AMSL) and during post monsoon season, it is recorded from 15.3 (370.6 m AMSL) to 20.4 m bgl (399.2 m AMSL). Ultimate working depth of the mining operation will be from 36 m bgl (428 m AMSL) to 72 m bgl (569 m AMSL). Hence, groundwater will not be intersected due to mining activity

- To prevent the surface runoff from mine, Garland Drain around waste dump (L*W*D = 845 m x 1m x 1m) and Retaining Wall around waste dump (L*W*D = 1484 m x 1 m x 1 m) will be created.
- At the conceptual stage, 14.77 ha will be converted into water reservoir.
- Rain water will be accumulated in bottom most bench of pit and same will be utilized in dust suppression and plantation etc.
- Periodical monitoring of ground water quality & water level will be carried out

D. GREENBELT/ PLANTATION

- At conceptual stage, out of the total mine lease area i.e., 80 ha. Total greenbelt & plantation will be done in 19.88 ha (8.77 ha area on backfilling, 4.30 ha on waste dump, 2.54 ha area under infrastructure area and 4.27 ha on 7.5 m lease periphery). In addition to this an area of 45.35 ha area will be undisturbed (already covered with dense plantation).
- Native Plant species such as Teak, Palash, Saja, Bija, Khair, Amla, Arjun, Pipal, Safed Siris, Dhok, Dhaura, Shisham, Neem, Mango, Mahua, Amaltas, Karanj, Yellow Kasood, Bargad, Ashok, Jamun, Imli, Guava, Chiku etc. will be planted by company as per CPCB guidelines.
- Trees will be planted @ 1500 Trees per hectare with 90% survival rate.

E. SOLID WASTE MANAGEMENT

- Topsoil will be generated which will be used for greenbelt development and plantation.
- Approx 2.08 million tonnes of over burden will be generated during conceptual stage which will be backfilled in 8.77 ha and dump in waste dump over an area of 4.3 ha.

4.0 ADDITIONAL STUDIES

Additional Studies i.e., Hydro –Geological Study, Risk Assessment & Disaster Management Plan, Land use and land cover study, Ecology and Biodiversity are covered in Draft EIA/EMP Report as per the Terms of references granted by SEIAA, Chhattisgarh vide letter no. OL/TOR/STONE/BALOD/3252 dated 03.09.2025 in favor of M/s. Satya Power & Ispat Limited.

5.0 PROJECT BENEFITS

The project activity will help in meeting the growing demand of steel & hence help in the economic growth of the country. M/s. Satya Power & Ispat Limited will actively involve in the implementation of CSR activities. It will be helpful in the development of basic needs of the local area like education, Health & family welfare, women empowerment, Natural resource management, water conservation, roads etc. It will result in growth of the surrounding areas by increasing direct and indirect employment opportunities in the region including ancillary development, overall improvement in Human Development Index and supporting infrastructure.

6.0 CONCLUSION

The Iron ore Mining project will prove beneficial to the local people as direct and indirect employment opportunity will be generated improving their living. There will be increase in revenue generation to the government by way of royalty, NMET, DMF, TCS and government taxes etc. Further improvement in infrastructure will take place like education, roads, availability of drinking water, medical facilities and growth of allied in adjacent villages.

There will be no significant pollution of air, water, soil and noise. Regular monitoring of all the components of environment will be done. Increased social welfare measures taken by the company will bring development in the near-by villages.

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