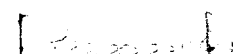


EXECUTIVE SUMMARY OF PUBLIC CONSULTATION (HEARING) OF KALAMANG WEST (NORTHERN PART) BLOCK IRON ORE MINE OF M/S TATA BSL LTD., HELD ON DTD.10-11-2021 (10.30 AM) AT FOOTBALL PLAY GROUND OF KALMANG VILLAGE UNDER KOIRA BLOCK OF SUNDARGARH DIST. (ODISHA)

The public hearing meeting for Kalamang West (Northern Part) block Iron Ore Mines (over an area of 92.875 H.a) of M/s Tata BSL Ltd. was conducted on dtd. 10.11.2021 at- 10.30 A.M. at Football Play Ground of Kalamang Village Under Koira Block in the District of Sundargarh. Sri Biswajit Mohapatra, Additional District Magistrate, of Sundargarh District had presided over the meeting. At the outset, Dr. Binod Bihari Dash, Regional Officer, State Pollution Control Board, Odisha, Rourkela organised and conducted the public hearing meeting.

The Public hearing in respect of the above mining was held as per the scheduled and at the venue in accordance with EIA Notification S.O.1533(E) dtd.14.09.2006 and subsequent amendment therein. The Public Hearing meeting with regards to date, place and time was announced in public address system apart from its publication in local dailies. The process followed for the public hearing was adequate. The attendance sheet of the public present in the sheet of the public present in the meeting is annexed herewith in **ANNEXURE-I**. Around 150 nos. of persons attend the public hearing meeting and signed the attendance sheet. 125 Nos. of persons have signed in attendance sheet. Fourty Seven (47) nos. of persons had delivered their views whose list and their signature is given on **ANNEXURE-II**. 4 nos. of written representation was received.

Sri Biswajit Mohapatra, Additional District Magistrate, Sundargarh had welcomed the Public & explained about the importance of such hearing and also invited views, comments, objections & opinions of the public which are necessary while considering the environmental clearance of the project and also those who wants may give their written statement about the proposed projects. He had also reminded / requested the public to follow the COVID-19 guidelines on wearing the mask and on maintaining the social distance issued that has been by the Govt. during Public hearing.



DETAILS OF THE PROJECT PROFILE:-

The brief outline of the EIA (Environment Impact Assessment) and Environment Management Plan (EMP) has been carried out for Kalamang West (Northern Part) Iron Ore Mine for Mining of Iron Ore with Production Capacity of 2.95 MTPA (ROM) by TATA STEEL BSL over an Area of 92.875 Ha. at Village - Kalamang & Ghodabudani of District Sundergarh & Village Gandalpada of District Keonjhar, Odisha.

To obtain Environmental Clearance of Kalamang West (Northern Part) Iron Ore Mine **Visiontek Consultancy Services Pvt. Ltd.**, a NABET & NABL Accredited Environmental Consultancy, Bhubaneswar was engaged for preparation of EIA/EMP of the project. Accordingly **Visiontek Consultancy Services Pvt. Ltd.**, Bhubaneswar has prepared the EIA/EMP report with following baseline data.

DETAIL SALIENT FEATURE OF THE PROPOSED MINING PROJECT (AS PER REPORT SUBMITTED IN EXECUTIVE SUMMARY)

1. **Name of the Mines**-Kalamang West (Northern Part) Iron Ore Block
2. **Name of the Product**-Mining of Iron Ore with Production Capacity of 2.95 MTPA (ROM)
3. **Location/Name of the Village is present**-Kalamang & Ghodabudani of District Sundergarh & Village Gandalpada of District Keonjhar,
4. **Tehsil**- Koira of Sundergarh district & Barbil of Keonjhar district.
5. **Total proposed lease hold**-92.875 ha. [42.608 ha. of forest land (16.658 ha in Keonjhar Forest Division, District Keonjhar and 25.950 ha in Bonai Forest Division, District Sundargarh) and 50.267 ha of non-forest land.)
6. **Nearest Town**-Koira at a distance of approx.. 5.5 km
7. **Nearest Road**-NH-215 is about 1.80 km in the NW direction
8. **Nearest River**- Seasonal stream & Pond (within ML), Suna Nadi (1.9 km E), Karo Nadi (3.1 km NW)

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9. **Nearest Railway Station**-Barbil Railway Station is about 18 km in the NE direction.
10. **Production Quantity**-2.95 MTPA Iron Ore (ROM) corresponding to the production of 2.84 MTPA Saleable Iron Ore with a total Max excavation of 4.54 MTPA

PROJECT OUTLINE:-

Kalamang West (Northern Part) Iron Ore Mines located at Village - Kalamang & Ghodabudani of District Sundergarh & Village Gandalpada of District Keonjhar, Odisha (Mining Lease Area: 92.875 Ha.) belong to TATA STEEL BSL Ltd.

The Salient features of Environmental Clearance of Kalamang West (Northern Part) Iron Ore Mines for Mining of Iron Ore with Production Capacity of 2.95 MTPA (ROM) Iron Ore with a total maximum excavation of 4.54 MTPA is as follows: -(As per the Executive Summary Report stated by Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar.)

- a) This project falls under 'Category B1' of Project Type 1(a) - Mining of Minerals which requires Environmental Clearance (EC) from SEAC, Odisha before the commencement of any activity.
- b) The existing area comprises 20.580 Ha private lands. Few habitations of Ghodabudhani village are located in the lease area. Rehabilitation & resettlement of all the PAFs will be carried out as per the Odisha State R&R Policy, 2006.
- c) Method of mining will be Fully Mechanized Open Cast Mining with crushing and screening
- d) The annual production is targeted at 2.95 Million tonnes per annum of Iron ore of ROM, corresponding to production of 2.84 Million tonnes per annum of saleable iron ore. Crushing/Screening Plant. The lump ore (10-40 mm) and fines (-10mm) will be segregated in the Crushing / Screening Plant.

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- e) The mineable reserve of iron ore in the lease area is 71,886,002 MT or 71.89 million tons. In the ensuing plan period about 12,802,567 MT or 12.80 million ton will be exploited. After this plan period balance mineable reserves of 59,083,435 MT or 59.09 million ton of iron ore will be available. Keeping in view the production of iron ore @ 2,950,000 ton per annum, life of the mine will be 20.03 years or say 20 years after the current plan period. So, total life of the mine will be 25 years including this plan period. However, the life of mine is likely to increase with further exploration of lease to G1 level of exploration.
- f) The Soil to be extracted will be stacked in the earmarked area, which will be used for plantation purpose around hillock/ patch and adjacent to the haul roads.
- g) It is a part of Survey of India Toposheet No. 73G/5 on 1:50,000 scale and is bounded by the Latitudes from 21° 56' 47.757" to 21° 57' 32.347" N and Longitudes from 85° 17' 06.658" to 85° 17' 57.531" E as per DGPS surveyed Geo-Referenced Map authenticated by officials of the Revenue, Forest and Mining Department as well as Odisha Space Application Centre (ORSAC), Department of Science & Technology, Govt. of Odisha.
- h) The major drainage of the area is contributed by Suna Nadi and Karo Nadi. There is no seasonal nala flowing within the lease area.
- i) Average water requirement at mine for domestic and mine use are to the tune of 65 m³/day and 170 m³/day respectively. Water for drinking and domestic purpose will be made from borewells and that for mining use will be from sources like Water harvesting pond (WHP) / perennial stream/river. Peak water requirement at mine for domestic and industrial use are to the tune of 65 m³/day and 200 m³/day respectively.
- j) The mining operation including maintenance will be done in all shifts. Power requirement is 1800 – 2000 KW. It will be obtained from Odisha State Electricity Board (OSEB). 3 DG sets of 850 KVA will be used for emergency backup.

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k) The proposed area does not contain any features any archeological / historical and cultural importance.

PRESENT CLIMATIC CONDITION AND ENVIRONMENT FEATURES OF THE PROPOSED MINING AREA:-

Following are the base line study reports of **Visiontek Consultancy Services Pvt. Ltd.**, Bhubaneswar w.r.t. present Environment Scenario.

Climate and Metrology-The study area lies in tropical region where climate is characterized by very hot in summers, less humidity and well-distributed rainfall during monsoon season. The climate condition of the districts is generally hot with humidity during March to May and Cold during Dec. to January Monsoon berks during Month of July. Moderate temperature prevails over the area throughout the year barring Summer Season.

A. Ambient Air Quality-The observed sources of air pollution in the study area are industrial, traffic and domestic activities. The monitoring has been carried out at 8 locations from December, 2019 to February, 2020. As per Monitoring data average PM_{10} is ranges from $28.2 \mu\text{g}/\text{m}_3$ to $88.4 \mu\text{g}/\text{m}_3$ and average $PM_{2.5}$ data ranges from $10.6 \mu\text{g}/\text{m}_3$ to $53.0 \mu\text{g}/\text{m}_3$. SO_2 ranges from $<4 \mu\text{g}/\text{m}_3$ to $17.8 \mu\text{g}/\text{m}_3$ and average NO_x data is ranges from $<9 \mu\text{g}/\text{m}_3$ to $20.3 \mu\text{g}/\text{m}_3$, CO data ranges from $<0.1 \text{mg}/\text{m}_3$ to $0.28 \text{mg}/\text{m}_3$ are within the standard as per CPCB guideline.

B. Noise Quality-Noise levels were measured using integrated sound level meter manufactured by Quest Technologies, USA which is an integrating/ logging type with Octave filter attachment (model OB-100) and has frequency range from 31.5 to 16000 Hz. At 8 each noise monitoring station, noise level as Leq was recorded on an hourly basis for 24 hours continuously. Minimum and maximum noise levels recorded during the month of Dec-19 the day time were from 36.6dB(A) Leq in

Mine Lease Boundary and 67.8 dB(A) Leq in Alaghat respectively and minimum and maximum level of noise during night time were 35.0 dB(A) Leq in Mine Lease Boundary and 61.7 Leq dB in Alaghat respectively. In the month of Jan-20 Minimum and maximum noise levels recorded in day time as 32.4 dB(A) Leq in Mine Lease Area and 61.8 dB(A) Leq in Alaghat and minimum & maximum level noise levels in night time is 31.0 dB(A) Leq in Mine Lease Area and 58.1 dB (A) Leq in Ataghat for the month of Feb-20 Minimum and maximum noise levels recorded during day time as 33.7 dB(A) Leq in Mine Lease Area and 61.3 dB(A) Leq in Alaghat and minimum and maximum level noise levels in night time as 30.6 dB(A) Leq in Mine Lease Area and 52.8 dB(A)Leq in Ataghat.

C. Water Quality-Grab water samples from 9 groundwater and 13 surface water sources were collected once during the December, 2019 to February, 2020. Surface and ground water samples were analyzed as per parameter mentioned in Standards as per IS-2296 Class – 'C' and IS: 10500 respectively. In Surface water pH varied from 7.42 to 8.2 while turbidity varied from 3.1 to 6.2 NTU. Total Dissolved Solids varied from 78 to 426 mg/l, Dissolved oxygen varied from 6.4 to 7.6 mg/l, BOD is <1.8 mg/l and Chloride varied between 6.91 to 30.2 mg/l. Nitrates varied from 0.16 to 6.48 mg/l, while sulphates varied from 0.19 to 9.2 mg/l. In Ground water pH value varied from 6.64 to 7.51 while Cl was within 7.8 to 42 mg/l. Iron varied between 0.058 mg/l & 0.82 mg/l.

D. Soil Quality-Soil Sampling is based on agriculture field available in the study area. Composite sampling is done following BIS method of 8 locations. Mostly the soils collected from different location in the study area are clay except Tamaklasahi & near Karo River where the soil is sandy loamy in texture. The soil is low in productivity with the organic carbon content low or average sufficient in most locations except in the Near Karo River and more than sufficient in potassium content. Available Nitrogen in location Near Karo River is sufficient and in

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Gopisahi it is better but in rest of the locations it is good; the phosphorous content is less and very less in locations Tamaklasahi and Mines Lease Area respectively and in the rest of the locations it is medium. It is concluded from the analysis that in general the soil is not suitable for plantation and agricultural crops. However, through extensive application of nitrogenous and phosphate fertilizers as well as compost, the same can be made suitable for plantation and agricultural crops.

E. **Biological Environment-** The buffer zone of the project site have only two protected forest area i.e. Ghodabudhani Forest & Kalamanga Forest. The area is covered with mostly shrubs and open forest along with scattered vegetation near the villages. The most commonly growing and economically important plant species of the forest are Sal, Semul, Kendu, Jamun, Dhaman, Asan etc..

Due to mining and its allied activities forest land in the core area will be deforested. Due to deforestation, flora will be reduced in the broken up forest land and avifauna will be migrated. Reclamation and green belt development will be carried out in the mine lease area. Due to plantation avi fauna will be again migrated.

ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

A. Land environment and Land use:

Impact:

Due to open cast mining and mining with dumping of waste, the land of the area usually degraded. Mining activity has a profound impact on land environment due to formation of quarries and dumps.

- The mining activity will not have any significant impact on the agriculture within the lease area.
- The topsoil in the active mining area will be adversely affected. However during the mining operation the top soil will scrap out and separately kept for plantation purpose.

- The mine runoff in this mine is not contaminated except carrying high suspended particle.
- The mine runoff will only contain silt and soil and will be settled before discharge outside to the lease area.
- There is also positive impact of mining on agriculture, as sufficient water is being discharged from the mine, which can be utilized for irrigation purpose, increasing the productivity.

Mitigation Measures

Adopting suitable, site-specific mitigation measures can reduce the degree of impact of mining on land environment. The proposed mitigation measures are as follows:

- A nursery will be developed in the lease area or outside depending upon the availability of fertile land suitable for growth of seedlings. Otherwise, saplings will be purchased from the forest department. Final mine closure plan will be implemented properly to develop the aesthetics of the M.L area.
- Runoff from the mine and waste dumps should be regulated by constructing retaining wall and garland drains around the dump.
- Mine drainage water will settled in the settling tank and stored in the abandoned quarries
- Garland drains and retaining wall will be provided to prevent run off affecting the surrounding agricultural land.

B. Air Quality:

Impact:

Activity: Blasting & Transportation of Vehicles

Mitigation Measures:

- Overburden/ waste will be dumped. R.O.M iron ore will be transported to the crushing & screening site for sizing. Average distance / lead between the quarry and disposal/unloading sites are assumed to be 1 km. saleable ore obtained from the crusher/screen will be dispatched to the destination through trucks contractually. All the transportation trucks will be covered by tarpaulin.

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