



CONSENT ORDER  
PATABEDA IRON ORE MINE OF M/S. M. G. MOHANTY

BY REGD. POST WITH AD

## STATE POLLUTION CONTROL BOARD, ODISHA

A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012

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### CONSENT ORDER

No. 4507 / IND-I-CON- 2402 Dt. 19.03.2021

#### CONSENT ORDER NO. 881

Sub: Consent for discharge of sewage and trade effluent under section 25/26 of Water (PCP) Act, 1974 and for existing / new operation of the plant under section 21 of Air (PCP) Act, 1981.

Ref: Your online application No. 3360722 Dated 28-01-2021 and Online reply dated 20.2.2021

Consent to operate is hereby granted under section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 and under section 21 of Air (Prevention & Control of Pollution) Act, 1981 and rules framed thereunder to

Name of the Industry: PATABEDA IRON & MANGANESE MINE (19.425 HA) OF M/S. M. G. MOHANTY.

Name of the Occupier & Designation: SRI R. L. MOHANTY, MANAGING PARTNER

Address: AT: PATABEDA, PO – MALDA, DIST: SUNDARGARH

This consent order is valid for the period up to 31.03.2026 from the date of issue of this order.

***This consent order supersedes the earlier consent order issued vide letter No. 10218 dated 30.09.2019.***

#### Details of Products Manufactured

| Sl. No | Product  | Quantity  |
|--------|----------|-----------|
| 01.    | Iron Ore | 0.18 MTPA |

#### Details of Mineral Handling Plants /Units

|    |                                                                            |
|----|----------------------------------------------------------------------------|
| 01 | Operation of stationery crushing & screening plant of capacity 1 x 120 TPH |
| 02 | Operation of mobile Screening plant of capacity 1 x 250 TPH                |

This consent order is valid for the specified outlets, discharge quantity and quality, specified chimney/stack, emission quantity and quality of emissions as specified below. This consent is granted subject to the general and special conditions stipulated therein.



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**A. Discharge permitted through the following outlet subject to the standard**

| Outlet No. | Description of outlet                                 | Point of discharge                | Quantity of discharge KL/hr | Pre-scribed Standard |                    |                     |            |
|------------|-------------------------------------------------------|-----------------------------------|-----------------------------|----------------------|--------------------|---------------------|------------|
|            |                                                       |                                   |                             | pH                   | TSS (mg/l)         | Oil & Grease (mg/l) | BOD (mg/l) |
| 01         | Septic tank (Domestic effluent)                       | Soak pit                          | --                          | 5.5-9.0              | 200                | --                  | 100        |
| 02         | Mine drainage water/ surface runoff/ other wastewater | On land/Inland surface water body | 3913 (Monsoon period)       | 5.5-9.0              | 100 (Rainy day)    | 10                  | --         |
|            |                                                       |                                   |                             |                      | 50 (Non-Rainy day) |                     |            |

**B. Fugitive Emission Standards**

|                                                                                                                                                                               |                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| <b>Particulate Matter</b>                                                                                                                                                     | <b>1200 <math>\mu\text{g}/\text{m}^3</math></b>                                               |
| Note : Fugitive emission shall be monitored in the predominant downwind direction at a distance $25.0 \pm 2.0$ metres from the source of fugitive emission as per following : |                                                                                               |
| <b>Area</b>                                                                                                                                                                   | <b>Monitoring Location</b>                                                                    |
| Mine face / Benches                                                                                                                                                           | Drilling, excavation and loading applicable for operating benches above water table           |
| Haul Roads/ Service Roads                                                                                                                                                     | Haul roads to ore processing plant, waste dumps and loading areas and service road.           |
| Crushing plant                                                                                                                                                                | Run-off mine unloading at hopper, crushing areas, screens and transfer points.                |
| Screening plant                                                                                                                                                               | Screens, conveying and transportation of ore discharge points.                                |
| Ore storage and loading                                                                                                                                                       | Intermediate stock bin / pile areas, ore stock bin / pile areas, wagon / truck loading areas. |
| Waste dump                                                                                                                                                                    | Active waste / reject dumps                                                                   |

**C. Disposal of solid waste permitted in the following manner**

| Sl. No. | Type of Solid waste    | Quantity generated (TPD)    | Quantity to be reused on site(TPD) | Quantity to be reused off site(TPD) | Quantity disposed off (TPD) | Description of disposal site. |
|---------|------------------------|-----------------------------|------------------------------------|-------------------------------------|-----------------------------|-------------------------------|
| 01      | Top soil & over burden | As per approved mining plan | --                                 | --                                  | --                          | As per approved mining plan   |



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**D. GENERAL CONDITIONS FOR ALL UNITS**

1. The consent is given by the Board in consideration of the particulars given in the application. Any change or alternation or deviation made in actual practice from the particulars furnished in the application will also be the ground liable for review/variation/revocation of the consent order under section 27 of the Act of Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1981 and to make such variations as deemed fit for the purpose of the Acts.
2. The industry would immediately submit revised application for consent to operate to this Board in the event of any change in the quantity and quality of raw material / and products / manufacturing process or quantity /quality of the effluent rate of emission / air pollution control equipment / system etc.
3. The applicant shall not change or alter either the quality or quantity or the rate of discharge or temperature or the route of discharge without the previous written permission of the Board.
4. The application shall comply with and carry out the directives/orders issued by the Board in this consent order and at all subsequent times without any negligence on his part. In case of non-compliance of any order/directives issued at any time and/or violation of the terms and conditions of this consent order, the applicant shall be liable for legal action as per the provisions of the Law/Act.
5. The applicant shall make an application for grant of fresh consent at least 90 days before the date of expiry of this consent order.
6. The issuance of this consent does not convey any property right in either real or personal property or any exclusive privileges nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Central, State laws or regulation.
7. This consent does not authorize or approve the construction of any physical structure or facilities or the undertaking of any work in any natural water course.
8. The applicant shall display this consent granted to him in a prominent place for perusal of the public and inspecting officers of this Board.
9. An inspection book shall be opened and made available to Board's Officers during the visit to the factory.
10. The applicant shall furnish to the visiting officer of the Board any information regarding the construction, installation or operation of the plant or of effluent treatment system / air pollution control system / stack monitoring system any other particulars as may be pertinent to preventing and controlling pollution of Water / Air.
11. Meters must be affixed at the entrance of the water supply connection so that such meters are easily accessible for inspection and maintenance and for other purposes of the Act provided that the place where it is affixed shall in no case be at a point before which water has been tapped by the consumer for utilization for any purposes whatsoever.
12. Separate meters with necessary pipe-line for assessing the quantity of water used for each of the purposes mentioned below:
  - a) Industrial cooling, spraying in mine pits or boiler feed,
  - b) Domestic purpose
  - c) Process
13. The applicant shall display suitable caution board at the place where the effluent is entering into any water-body or any other place to be indicated by the Board, indicating therein that the area into which the effluents are being discharged is not fit for the domestic use/bathing.
14. Storm water shall not be allowed to mix with the trade and/or domestic effluent on the upstream of the terminal manholes where the flow measuring devices will be installed.
15. The applicant shall maintain good house-keeping both within the factory and the premises. All pipes, valves, sewers and drains shall be leak-proof. Floor washing shall be admitted into the effluent collection system only and shall not be allowed to find their way in storm drains or open areas.
16. The applicant shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems install or used by him to achieve with the term(s) and conditions of the consent.
17. Care should be taken to keep the anaerobic lagoons, if any, biologically active and not utilized as mere stagnation ponds. The anaerobic lagoons should be fed with the required nutrients for effective digestion. Lagoons should be constructed with sides and bottom made impervious.
18. The utilization of treated effluent on factory's own land, if any, should be completed and there should be no possibility of the effluent gaining access into any drainage channel or other water courses either directly or by overflow.
19. The effluent disposal on land, if any, should be done without creating any nuisance to the surroundings or inundation of the lands at any time.
20. If at any time the disposal of treated effluent on land becomes incomplete or unsatisfactory or create any problem or becomes a matter of dispute, the industry must adopt alternate satisfactory treatment and disposal measures.
21. The sludge from treatment units shall be dried in sludge drying beds and the drained liquid shall be taken to equalization tank.
22. The effluent treatment units and disposal measures shall become operative at the time of commencement of production.
23. The applicant shall provide port holes for sampling the emissions and access platform for carrying out stack sampling and provide electrical outlet points and other arrangements for chimneys/stacks and other sources of emissions so as to collect samples of emission by the Board or the applicant at any time in accordance with the provision of the Act or Rules made therein.
24. The applicant shall provide all facilities and render required assistance to the Board staff for collection of samples / stack monitoring / inspection.
25. The applicant shall not change or alter either the quality or quantity or rate of emission or install, replace or alter the air pollution control equipment or change the raw material or manufacturing process resulting in any change in quality and/or quantity of emissions, without the previous written permission of the Board.
26. No control equipments or chimney shall be altered or replaced or as the case may be erected or re-erected except with the previous approval of the Board.



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27. The liquid effluent arising out of the operation of the air pollution control equipment shall be treated in the manner and to ion of standards prescribed by the Board in accordance with the provisions of Water (Prevention and Control of Pollution) Act, 1974 (as amended).
28. The stack monitoring system employed by the applicant shall be opened for inspection to this Board at any time.
29. There shall not be any fugitive or episodal discharge from the premises.
30. In case of such episodal discharge/emissions the industry shall take immediate action to bring down the emission within the limits prescribed by the Board in conditions/stop the operation of the plant. Report of such accidental discharge /emission shall be brought to the notice of the Board within 24 hours of occurrence.
31. The applicant shall keep the premises of the industrial plant and air pollution control equipments clean and make all hoods, pipes, valves, stacks/chimneys leak proof. The air pollution control equipments, location, inspection chambers, sampling port holes shall be made easily accessible at all times.
32. Any upset condition in any of the plant/plants of the factory which is likely to result in increased effluent discharge/emission of air pollutants and / or result in violation of the standards mentioned above shall be reported to the Headquarters and Regional Office of the Board by fax / speed post within 24 hours of its occurrence.
33. The industry has to ensure that minimum three varieties of trees are planted at the density of not less than 1000 trees per acre. The trees may be planted along boundaries of the industries or industrial premises. This plantation is stipulated over and above the bulk plantation of trees in that area.
34. The solid waste such as sweeping, wastage packages, empty containers residues, sludge including that from air pollution control equipments collected within the premises of the industrial plants shall be disposed off scientifically to the satisfaction of the Board, so as no to cause fugitive emission, dust problems through leaching etc., of any kind.
35. All solid wastes arising in the premises shall be properly classified and disposed off to the satisfaction of the Board by :
  - i) Land fill in case of inert material, care being taken to ensure that the material does not give rise to leachate which may percolate into ground water or carried away with storm run-off.
  - ii) Controlled incineration, wherever possible in case of combustible organic material.
  - iii) Composting, in case of bio-degradable material.
36. Any toxic material shall be detoxicated if possible, otherwise be sealed in steel drums and buried in protected areas after obtaining approval of this Board in writing. The detoxication or sealing and burying shall be carried out in the presence of Board's authorized persons only. Letter of authorization shall be obtained for handling and disposal of hazardous wastes.
37. If due to any technological improvement or otherwise this Board is of opinion that all or any of the conditions referred to above requires variation (including the change of any control equipment either in whole or in part) this Board shall after giving the applicant an opportunity of being heard, vary all or any of such condition and thereupon the applicant shall be bound to comply with the conditions so varied.
38. The applicant, his/heirs/legal representatives or assignees shall have no claim whatsoever to the condition or renewal of this consent after the expiry period of this consent.
39. The Board reserves the right to review, impose additional conditions or condition, revoke change or alter the terms and conditions of this consent.
40. Notwithstanding anything contained in this conditional letter of consent, the Board hereby reserves to it the right and power under section 27(2) of the Water (Prevention & Control of Pollution) Act, 1974 to review any and/or all the conditions imposed herein above and to make such variations as deemed fit for the purpose of the Act by the Board.
41. The conditions imposed as above shall continue to be in force until revoked under section 27(2) of the Water (Prevention & Control of Pollution) Act, 1974 and section 21 A of Air (Prevention & Control of Pollution) Act, 1981.
42. In case the consent fee is revised upward during this period, the industry shall pay the differential fees to the Board (for the remaining years) to keep the consent order in force. If they fail to pay the amount within the period stipulated by the Board the consent order will be revoked without prior notice.
43. The Board reserves the right to revoke/refuse consent to operate at any time during period for which consent is granted in case any violation is observed and to modify/ stipulate additional conditions as deemed appropriate.

**GENERAL CONDITIONS FOR UNITS WITH INVESTMENT OF MORE THAN Rs 50 CRORES, AND 17 CATEGORIES OF HIGHLY POLLUTING INDUSTRIES (RED A).**

1. The applicant shall analyse the emissions every month for the parameters indicated in TABLE B & C as mentioned in this order and shall furnish the report thereof to the Board by the 10<sup>th</sup> of the succeeding month.
2. The applicant shall provide and maintain at his own cost three ambient air quality monitoring stations for monitoring Suspended Particulate Matter, Sulphur Dioxide, Oxides of Nitrogen, Hydro-Carbon, Carbon-Monoxide and monitor the same once in a day/week/fortnight/month. The data collected shall be maintained in a register and a monthly extract be furnished to the Board.
3. The applicant shall provide and maintain at his own cost a meteorological station to collect the data on wind velocity, direction, temperature, humidity, rainfall, etc. and the daily reading shall be recorded and the extract sent to the Board once in a month.
4. The applicant shall forward the following information to the Member Secretary, State Pollution Control Board, Odisha, Bhubaneswar regularly.
  - a. Report of analysis of stack monitoring, ambient air quality monitoring meteorological data as required every month.
  - b. Progress on planting of trees quarterly.
5. The applicant shall install mechanical composite sampling equipment and continuous flow measuring / recording devices on the effluent drains of trade as well as domestic effluent. A record of daily discharge shall be maintained.



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6. The following information shall be forwarded to the Member Secretary on or before 10<sup>th</sup> of every month.
- a. Performance / progress of the treatment plant.
  - b. Monthly statement of daily discharge of domestic and/or trade effluent.
7. **Non-compliance with effluent limitations**
- a) If for any reason the applicant does not comply with or is unable to comply with any effluent limitations specified in this consent, the applicant shall immediately notify the consent issuing authority by telephone and provide the consent issuing authority with the following information in writing within 5 days of such notification.
    - i) Causes of non-compliance
    - ii) A description of the non-compliance discharge including its impact on the receiving waters.
    - iii) Anticipated time of continuance of non-compliance if expected to continue or if such condition has been corrected the duration or period of non-compliance.
    - iv) Steps taken by the applicant to reduce and eliminate the non-complying discharge and
    - v) Steps to be taken by the applicant too prevent the condition of non-compliance.
  - b) The applicant shall take all reasonable steps to minimize any adverse impact to natural waters resulting from non-compliance with any effluent limitation specified in this consent including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.
  - c) Nothing in this consent shall be construed to relieve the applicant from civil or criminal penalties for non-compliance whether or not such non-compliance is due to factors beyond his control, such as break-down, electric failure, accident or natural disaster.
8. The applicant shall at his own cost get the effluent samples collected both before and after treatment and get them analysed at an approval laboratory every month for the parameters indicated in Part-D and shall submit in duplicate the report thereof to the Board.
9. The addition of various treatment chemicals should be done only with mechanical dosers and proper equipment for regulation of correct dosages determined daily and for proper uniform feeding. Crude practices such as dumping of chemicals in drains or sumps or trickling of acids or alkalies arbitrarily and utilizing poles for stirring etc. should not be resorted to.
10. In the disposal of treated effluent on land for irrigation, the industry shall keep in view of the need for;
- Rotation of crops
  - Change of point of application of effluent on land
  - A portion of land kept fallow.
11. The adoption of these would avoid soil becoming sick or slate, the industry may ensure this in consultation with the Agriculture Department.
12. It is the sole responsibility of the industry to ensure that there are no complaints at any time from the royats in the surrounding areas as a result of discharge of sewage or trade effluent if any.
13. Proper housekeeping shall be maintained by a dedicated team.
14. The industry must constitute a team of responsible and technically qualified personnel who will ensure continuous operation of all pollution control devices round the clock (including night hours) and should be in a position to explain the status of operation of the pollution control measures to the inspecting officers of the Board at any point of time. The name of these persons with their contact telephone numbers shall be intimated to the concerned. Regional Officer and Head Office of the Board and in case of any change in the team it shall be intimated to the Board immediately.



**E. SPECIAL CONDITIONS:**

1. This consent order is subject to compliance of orders of the Hon'ble Supreme Court of India in the matter of W. P. (Civil) 114/2014.
2. This consent order is subject to permission from Steel and Mines Department, Government of Odisha for continuing of mining operation.
3. Mining operation is subject to availability of all other statutory clearances.
4. Drills shall either be operated with dust extractors or equipped with water injection system to minimize dust generation in the work environment.
5. Controlled blasting shall be practiced to minimize generation of dust and fly rocks.
6. Regular water sprinkling shall be carried out in critical areas prone to air pollution such as around crushing and screening plant. Water sprinkling shall also be carried out on haul roads at frequent interval so that it should always remain in wet condition. Haulage roads shall be devoid of ruts and potholes and shall be maintained properly to avoid generation of dust during movement of vehicles.
7. Mechanized wheel washing facility for the ore transport vehicles shall be provided at the exit point of the mine. The wheel washing facility shall be integrated with complete recirculation system.
8. Dust suppression measures (preferably dry fog system) shall be provided at all appropriate places of mineral handling plants (crusher & screening plant). Loading and unloading areas including all the transfer points shall also have efficient dust suppression arrangements (dry fog system). These shall be properly maintained and operated.
9. The vehicles carrying ore for transportation from the mine shall be covered with tarpaulin (both bottom & top).
10. Regular water sprinkling on mineral transportation roads passing through the habitation area as well as other strategic point on the National Highway shall be done jointly by the mining lessees in consultation with the Regional Officer.
11. Four Ambient Air Quality Monitoring Stations shall be established in core zone and buffer zone for monitoring of ambient air quality and location of the



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stations shall be decided in consultation with the Regional Officer, State Pollution Control Board based on the metrological data, topographical features and environmentally and ecologically sensitive targets.

12. Fugitive Dust Emission Monitoring shall be carried out at the places as stated in Part-B of this order. The monitoring of ambient air quality and fugitive dust shall be carried out twice in a week (24 hourly) at a particular site and the consolidated data shall be submitted to the State Pollution Control Board, once in a year.
  13. The top soil generated shall be stored at earmarked site (s) only and stabilized with plantation or shall be used for land reclamation and plantation.
  14. The over burden generated during the course of mining shall be stacked at earmarked dump site (s) and stabilized with plantation or used for reclamation of excavated land followed by plantation.
  15. The project proponent shall ensure that no natural watercourse and / or water resources are obstructed due to any mining operations. In case of diversion of natural watercourse, this shall be done with prior permission of the competent authority.
  16. Check dams and check weirs shall be constructed at appropriate places of the mine lease area to prevent direct flow of runoff to nearby water bodies. The surface runoff water from the existing runoff management system shall meet the prescribed standards as stated in Part A of the consent order.
  17. Retention wall shall be constructed at the toe of topsoil dump and OB dump. Garland drain shall be constructed around topsoil dumps, over burden dumps and mineral stack yards terminating at settling pit to prevent direct disposal of runoff to nearby water bodies.
  18. Garland drain and sedimentation pit shall be de-silted after monsoon or as and when required. The runoff discharge quality from runoff management system shall meet the prescribed standards as stated in Part A of the consent order.
  19. Domestic effluents shall be treated in a sewage treatment plant (STP) and or shall be discharged to soak pit via septic tank constructed as BIS
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specification. The treated wastewater quality of STP shall remain within the following standards and shall be used for plantation:

|                |   |                   |
|----------------|---|-------------------|
| pH             | - | 6.5 -9.0          |
| TSS            | - | <100 mg/l         |
| BOD            | - | 30 mg/l           |
| Fecal Coliform | - | <1000 MPN/100 ml. |

20. ETP shall be provided for workshop and wastewater generated during mining operation, if any. The quality of the treated wastewater shall conform to the prescribed standard as stated in Part A of the consent order.
21. Regular monitoring of water quality of upstream and downstream of surface water bodies existed if any within 5 Km shall be carried out once in every month and record shall be maintained and submitted to the State Pollution Control Board once in every year. Monitoring shall be carried out through MoEF& CC accredited laboratory.
22. Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells. The monitoring should be done four times a year in pre-monsoon (April/May), monsoon (August), post-monsoon (November) and winter (January) seasons. Consolidated data thus collected should be submitted to the Board annually.
23. The mine shall take necessary action for compliance with the air and water quality standards as stipulated in Part-A and Part-B of this order.
24. Adequate measures shall be taken for control of noise levels below the following limits.

(6.00 AM - 9.00 PM) - Leq 75 dB(A)  
(9.00PM - 6.00 AM) - Leq 70 dB(A)
25. Ambient air quality monitoring data, noise monitoring data and water / wastewater quality monitoring data shall be electronically displayed at the entry point of the mine or at a suitable location of the mine.
26. Plantation of trees shall be undertaken in the colony/ township, over top soil dumps, OB dumps, along the side of haul road and in other areas of the mines not being utilized for mining activities. The mine shall take up avenue



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plantation and plantation in nearby village areas in consultation with DFO/Horticulture Department. The plantation details shall be submitted to the Board before end of April every year.

27. A copy of the annual return (annual return submitted to IBM, Govt. of India/ Directorate of Mines, Govt. of Odisha) shall be submitted to this Board every year.
28. The environmental statement report for the financial year ending 31st March shall be submitted to the Board in form -V on or before 30th September every year.

*(Signature)*  
19/09/21

**CHIEF ENV. ENGINEER  
STATE POLLUTION CONTROL BOARD, ODISHA**

TO,

**SRI R. L. MOHANTY, MANAGING PARTNER  
PATABEDA IRON AND MANGANESE MINES (19.425 HA) OF  
M/S. M. G. MOHANTY  
2A, FOREST PARK,  
BHUBANESWAR, PIN: 751009**

Memo No. \_\_\_\_\_ /Dt. \_\_\_\_\_ /

Copy forwarded to :

- i) Regional Officer, State Pollution Control Board, **Rourkela**
- ii) District Collector, **Sundargarh**
- iii) Director of Mines, Govt. of Odisha, Bhubaneswar
- iv) Director, Environment-cum-Special Secretary, F & E. Dept. Govt. of Odisha, Bhubaneswar.
- v) D.F.O, **Bonai**
- vi) Deputy Director of Mines, **Koira**
- vii) Chief Env. Engineer (C), (Hazardous waste management cell)
- viii) Chief Env. Scientist, Central Lab. SPCB, Bhubaneswar
- ix) Consent Register

**SR. ENV. ENGINEER (L-I)  
STATE POLLUTION CONTROL BOARD, ODISHA**



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**GENERAL STANDARDS FOR DISCHARGE OF  
ENVIRONMENTAL POLLUTANTS**



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**GENERAL STANDARDS FOR DISCHARGE OF  
ENVIRONMENTAL POLLUTANTS PART –A : EFFLUENTS**

| Sl.No. | Parameters                                              | Standards                                                  |               |                     |                                                                                                             |
|--------|---------------------------------------------------------|------------------------------------------------------------|---------------|---------------------|-------------------------------------------------------------------------------------------------------------|
|        |                                                         | Inland surface                                             | Public sewers | Land for irrigation | Marine Costal Areas                                                                                         |
|        |                                                         | (a)                                                        | (b)           | (c)                 | (d)                                                                                                         |
| 1.     | Colour&odour                                            | Colourless/Odourless as far as practicable                 | -----         | See 6 of Annex-1    | See 6 of Annex-1                                                                                            |
| 2.     | Suspended Solids (mg/l)                                 | 100                                                        | 600           | 200                 | For process wastewater – 100<br>b. For cooling water effluent 10% above total suspended matter of influent. |
| 3.     | Particular size of SS                                   | Shall pass 850                                             | -----         | -----               |                                                                                                             |
| 5.     | pH value                                                | 5.5 to 9.0                                                 | 5.5 to 9.0    | 5.5 to 9.0          | 5.5 to 9.0                                                                                                  |
| 6.     | Temperature                                             | Shall not exceed 5°C above the receiving water temperature | -----         | -----               | Shall not exceed 5°C above the receiving water temperature                                                  |
| 7.     | Oil & Grease mg/l max.                                  | 10                                                         | 20            | 10                  | 20                                                                                                          |
| 8.     | Total residual chlorine                                 | 1.0                                                        | ----          | -----               | 1.0                                                                                                         |
| 9.     | Ammonical nitrogen (as N) mg/l max.                     | 50                                                         | 50            | -----               | 50                                                                                                          |
| 10.    | Total Kjeldahl nitrogen (as NH <sub>3</sub> ) mg/1 max. | 100                                                        | ----          | -----               | 100                                                                                                         |
| 11.    | Free ammonia (as NH <sub>3</sub> ) mg/1 max.            | 5.0                                                        | ----          | -----               | 5.0                                                                                                         |
| 12.    | Biochemical Oxygen Demand (5 days at 20°C) mg/1 max.    | 30                                                         | 350           | 100                 | 100                                                                                                         |
| 13.    | Chemical Oxygen Demand, mg/1 max.                       | 250                                                        | ----          | -----               | 250                                                                                                         |
| 14.    | Arsenic (as As) mg/1 max.                               | 0.2                                                        | 0.2           | 0.2                 | 0.2                                                                                                         |
| 15.    | Mercury (as Hg) mg/1 max.                               | 0.01                                                       | 0.01          | -----               | 0.001                                                                                                       |
| 16.    | Lead (as pb) mg/1 max.                                  | 01.                                                        | 1.0           | -----               | 2.0                                                                                                         |



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|     |                                                                    |                                                      |                                                      |                                                      |                                                      |
|-----|--------------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|
| 17. | Cadmium (as Cd) mg/l max.                                          | 2.0                                                  | 1.0                                                  | -----                                                | 2.0                                                  |
| 18. | Hexavalent Chromium (as Cr + 6) mg/l max.                          | 0.1                                                  | 2.0                                                  | -----                                                | 1.0                                                  |
| 19. | Total Chromium (as Cr) mg/l max.                                   | 2.0                                                  | 2.0                                                  | -----                                                | 2.0                                                  |
| 20. | Copper (as Cu) mg/l max.                                           | 3.0                                                  | 3.0                                                  | -----                                                | 3.0                                                  |
| 21. | Zinc (as Zn) mg/l max.                                             | 5.0                                                  | 15                                                   | -----                                                | 15                                                   |
| 22. | Selenium (as Se) mg/l max.                                         | 0.05                                                 | 0.05                                                 | -----                                                | 0.05                                                 |
| 23. | Nickel (as Ni) mg/l max.                                           | 3.0                                                  | 3.0                                                  | -----                                                | 5.0                                                  |
| 24. | Cyanide (as CN) mg/l max.                                          | 0.2                                                  | 2.0                                                  | 0.2                                                  | 0.02                                                 |
| 25. | Fluoride ( as F) mg/l max.                                         | 2.0                                                  | 15                                                   | -----                                                | 15                                                   |
| 26. | Dissolved Phosphates (as P) mg/l max.                              | 5.0                                                  | -----                                                | -----                                                | -----                                                |
| 27. | Sulphide (as S) mg/l max.                                          | 2.0                                                  | -----                                                | -----                                                | 5.0                                                  |
| 28. | Phenolic compounds as (C <sub>6</sub> H <sub>5</sub> OH) mg/l max. | 1.0                                                  | 5.0                                                  | -----                                                | 5.0                                                  |
| 29. | Radioactive materials                                              |                                                      |                                                      |                                                      |                                                      |
|     | a. Alpha emitter micro curie/ml.                                   | 10 <sup>7</sup>                                      | 10 <sup>7</sup>                                      | 10 <sup>8</sup>                                      | 10 <sup>7</sup>                                      |
|     | b. Beta emitter micro curie/ml.                                    | 10 <sup>6</sup>                                      | 10 <sup>6</sup>                                      | 10 <sup>7</sup>                                      | 10 <sup>6</sup>                                      |
| 30. | Bio-assay test                                                     | 90% survival of fish after 96 hours in 100% effluent | 90% survival of fish after 96 hours in 100% effluent | 90% survival of fish after 96 hours in 100% effluent | 90% survival of fish after 96 hours in 100% effluent |
| 31. | Manganese (as Mn)                                                  | 2 mg/l                                               | 2 mg/l                                               | -----                                                | 2 mg/l                                               |
| 32. | Iron (Fe)                                                          | 3 mg/l                                               | 3 mg/l                                               | -----                                                | 3 mg/l                                               |
| 33. | Vanadium (as V)                                                    | 0.2 mg/l                                             | 0.2 mg/l                                             | -----                                                | 0.2 mg/l                                             |
| 34. | Nitrate Nitrogen                                                   | 10 mg/l                                              | -----                                                | -----                                                | 20 mg/l                                              |



**CONSENT ORDER**  
PATABEDA IRON ORE MINE OF M/S. M. G. MOHANTY

**NATIONAL AMBIENT AIR QUALITY STANDARDS**

| Sl. No. | Pollutants                                                                                             | Time Weighed Average | Concentrate of Ambient Air                   |                                                              |                                                                        |
|---------|--------------------------------------------------------------------------------------------------------|----------------------|----------------------------------------------|--------------------------------------------------------------|------------------------------------------------------------------------|
|         |                                                                                                        |                      | Industrial Residential, Rural and other Area | Ecologically Sensitive Area (notified by Central Government) | Methods of Measurement                                                 |
| (1)     | (2)                                                                                                    | (3)                  | (4)                                          | (5)                                                          | (6)                                                                    |
| 1.      | Sulphur Dioxide (SO <sub>2</sub> ), $\mu\text{g}/\text{m}^3$                                           | Annual *             | 50                                           | 20                                                           | -Improved west and Gaeke                                               |
|         |                                                                                                        | 24 Hours **          | 80                                           | 80                                                           | - Ultraviolet fluorescence                                             |
| 2.      | Nitrogen Dioxide (NO <sub>2</sub> ), $\mu\text{g}/\text{m}^3$                                          | Annual *             | 40                                           | 30                                                           | - Modified Jacob & Hochheiser (Na-Arsenite)                            |
|         |                                                                                                        | 24 Hours **          | 80                                           | 80                                                           | - Chemiluminescence                                                    |
| 3.      | Particulate Matter (size less than 10 $\mu\text{m}$ ) or PM <sub>10</sub> , $\mu\text{g}/\text{m}^3$   | Annual *             | 60                                           | 60                                                           | -Gravimetric                                                           |
|         |                                                                                                        | 24 Hours **          | 100                                          | 100                                                          | - TOEM                                                                 |
| 4.      | Particulate Matter (size less than 2.5 $\mu\text{m}$ ) or PM <sub>2.5</sub> , $\mu\text{g}/\text{m}^3$ | Annual *             | 40                                           | 40                                                           | - Beta Attenuation                                                     |
|         |                                                                                                        | 24 Hours **          | 60                                           | 60                                                           | -Gravimetric                                                           |
| 5.      | Ozone (O <sub>3</sub> ), $\mu\text{g}/\text{m}^3$                                                      | 8 Hours **           | 100                                          | 100                                                          | - TOEM                                                                 |
|         |                                                                                                        | 1 Hours **           | 180                                          | 180                                                          | - Beta Attenuation                                                     |
| 6.      | Lead (Pb), $\mu\text{g}/\text{m}^3$                                                                    | Annual *             | 0.50                                         | 0.50                                                         | - UV Photometric                                                       |
|         |                                                                                                        | 24 Hours **          | 1.0                                          | 1.0                                                          | - Chemiluminescence                                                    |
| 7.      | Carbon Monoxide (CO), $\text{mg}/\text{m}^3$                                                           | 8 Hours **           | 02                                           | 02                                                           | - Chemical Method                                                      |
|         |                                                                                                        | 1 Hours **           | 04                                           | 04                                                           | -AAS/ICP method after sampling on EMP 2000 or equivalent filter paper. |
| 8.      | Ammonia (NH <sub>3</sub> ), $\mu\text{g}/\text{m}^3$                                                   | Annual*              | 100                                          | 100                                                          | - ED-XRF using Teflon filter                                           |
|         |                                                                                                        | 24 Hours**           | 400                                          | 400                                                          | - Non Dispersive Infra Red (NDIR)                                      |
| 9.      | Benzene (C <sub>6</sub> H <sub>6</sub> ), $\mu\text{g}/\text{m}^3$                                     | Annual *             | 05                                           | 05                                                           | Spectroscopy                                                           |
| 10.     | Benzo (a) Pyrene (BaP)-Particulate phase only, $\text{ng}/\text{m}^3$                                  | Annual*              | 01                                           | 01                                                           | -Chemiluminescence                                                     |
| 11.     | Arsenic (As), $\text{ng}/\text{m}^3$                                                                   | Annual*              | 06                                           | 06                                                           | - Indophenol Blue Method                                               |
| 12.     | Nickel (Ni), $\text{ng}/\text{m}^3$                                                                    | Annual*              | 20                                           | 20                                                           | -Gas Chromatography based continuous analyzer                          |
|         |                                                                                                        |                      |                                              |                                                              | - Adsorption and Desorption followed by GC analysis                    |
|         |                                                                                                        |                      |                                              |                                                              | -Solvent extraction followed by HPLC/GC analysis                       |
|         |                                                                                                        |                      |                                              |                                                              | -AAS/ICP method after sampling on EMP 2000 or equivalent filter paper  |
|         |                                                                                                        |                      |                                              |                                                              | -AAS/ICP method after sampling on EMP 2000 or equivalent filter paper  |

\*\* Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

\*\* 24 hourly or 08 hourly or 01 hourly monitored values, as applicable, shall be complied with 98% of the time in a year, 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

CHANDRABHANU DAS  
Digitally signed by CHANDRABHANU DAS  
Date: 2022.03.06 18:28:00 +05'30'



**Messrs M. G. Mohanty**  
Mine Owners

ole

**Corporate Office:**  
5A, Forest Park  
Bhubaneswar-751009, INDIA  
Ph +91-674-2596400/2596410  
Fax : +91 674-2596390

**Mines Administrative Branch Office:**  
At/Po: Barbil, Dist: Keonjhar  
Odisha-758035, INDIA  
Ph +91-6767-275318, 276319  
E-mail: mgmohantyco@gmail.com

MGM/CO/2022-23/05-221  
Date: 18<sup>th</sup> May, 2022

To

The Member Secretary  
State Pollution Control board  
Paribesh Bhawan,  
A/118, Nilakantha Nagar, Unit-VIII,  
Bhubaneswar-751 012  
Odisha

**Sub: Submission of point wise Compliance of the conditions laid down in the granted Consent order of our Patabeda Iron & Mn. Mines over 19.425 Ha. of area in Sundargarh district of Odisha.**

**Ref.: Consent Order No.881 Dated: 19<sup>th</sup> March, 2021**

Sir,

With Reference to the subject cited above we are submitting herewith the point wise compliance of the granted Consent to Operate of our Patabeda Iron & Mn. Mines over 19.425 Ha. of area in Sundargarh district of Odisha.

This is for your kind information.

Thanking you

Yours faithfully

For, M/s. M G Mohanty

  
R.L. Mohanty  
Managing Partner

Copy to:

1. The Regional Officer, At- Near Panposh Hockey Chowk, Panposh, Po- Panposh, Rourkela - 769 004, Dist - Sundargarh



**CONSENT FOR DISCHARGE OF SEWAGE AND TRADE EFFLUENT UNDER SECTION 25/26 OF WATER (PCP) ACT, 1974 AND FOR EXISTING /NEW OPERATION OF THE PLANT UNDER SECTION 21 OF AIR (PREVENTION & CONTROL OF POLLUTION) ACT, 1981.**

**REFERENCE: NO.4507/IND-1-CON-2402 DATED 19.03.2021 FOR PATABEDA IRON AND MANGANESE MINES OVER 19.425 HA. OF LAND IN PATABEDA VILLAGE OF SUNDERGARH DISTRICT ODISHA.**

**CONSENT ORDER NO.: 881**

**D. GENERAL CONDITIONS FOR ALL UNITS:**

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                     |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| 1. | The consent is given by the Board in consideration of the particulars given in the application. Any change or alteration or deviation made in actual practice from the particulars furnished in the application will also be the ground liable for review/variation/revocation of the consent order under section 27 of the Act of Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1981 and to make such variations deemed fit for the purpose of the Acts. | Mine is operating as per the application and CTO approved facilities.                                               |
| 2  | The industry would immediately submit revised application for consent to operate to this Board in the event of any change in the quantity and quality of raw material/and products/manufacturing process or quantity/quality of the effluent rate of emission/air pollution control equipment/system etc.                                                                                                                                                                                                                      | Application will be made if any changes to be proposed in respect of quantity of raw material/product/ process etc. |
| 3  | The applicant shall not change or alter either the quality or quantity or the rate of discharge or temperature or the route of discharge without the prior written permission of the Board.                                                                                                                                                                                                                                                                                                                                    | No changes will be done without prior permission of the board.                                                      |
| 4  | The applicant shall comply with and carry out the directives/orders issued by the Board in this consent order and at all subsequent times without any negligence on his part. In case of non-compliance of any order/directives issued at any time and/or violation of the terms and conditions of this consent order, the applicant shall be liable for legal action as per the provision of the Law/Act.                                                                                                                     | Accepted.                                                                                                           |
| 5  | The applicant shall make an application for grant of fresh consent at least 90 days before the date of expiry of this consent order.                                                                                                                                                                                                                                                                                                                                                                                           | Agreed.                                                                                                             |
| 6  | The issuance of this consent does not convey any property right in either real or personal property or any exclusive privileges not does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Central, State laws or regulation.                                                                                                                                                                                                                                            | Noted.                                                                                                              |
| 7  | This consent does not authorize or approve the construction of any physical structure or facilities or the undertaking of any work in any natural water course.                                                                                                                                                                                                                                                                                                                                                                | Noted.                                                                                                              |

|    |                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                            |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8  | The applicant shall display this consent granted to him in a prominent place for perusal of the public and inspecting officers of this Board.                                                                                                                                                                                                               | The consent order is being displayed in front of mine entrance.<br>Photo Enclosed as Annexure-A                                                            |
| 9  | An inspection book shall be opened and made available to Board's Officers during the visit to the factory.                                                                                                                                                                                                                                                  | A book is being maintained and is showing to the board officers as and when there is a visit.<br>Photo of the book enclosed as Annexure-B                  |
| 10 | The applicant shall furnish to the visiting officer of the Board any information regarding the construction, installation or operation of the plant or of effluent treatment system/air pollution control system/stack monitoring system any other particulars as may be pertinent to preventing and controlling pollution of Water/Air.                    | Adhere to                                                                                                                                                  |
| 11 | Meters must be affixed at the entrance of the water supply connection so that such meters are easily accessible for inspection and maintenance and for other purposes of the Act provided that the place where it is affixed shall in no case be at a point before which water has been tapped by the consumer for utilization for any purposes whatsoever. | Water flow meter has been installed at the incoming of the main water line.                                                                                |
| 12 | Separate meters with necessary pipe-line for assessing the quantity of water used for each of the purposes mentioned below.<br>a) Industrial cooling, spraying in mine pits or boiler feed,<br>b) Domestic purpose<br>c) Process                                                                                                                            | Separate flow meters have been installed for monitoring of water consumption at all different user points.<br>Photo flow meter enclosed as Annexure-C      |
| 13 | The applicant shall display suitable caution board at the place where the effluent is entering into any water-body or any other place to be indicated by the Board, indicating therein that the area into which the effluents are being discharged is not fit for the domestic use/bathing.                                                                 | No water from the mine premises discharged to natural drainage.                                                                                            |
| 14 | Storm water shall not be allowed to mix with the trade and/or domestic effluent on the upstream of the terminal manholes where the flow measuring devices will be installed.                                                                                                                                                                                | Required check dams and drains are constructed that storm water will not mix with effluent.<br>Photograph of drain and check dam is enclosed as Annexure-D |
| 15 | The applicant shall maintain good house-keeping both within the factory and the premises. All pipes, valves, sewers and drains shall be leak-proof. Floor washing shall be admitted into the effluent collection system only and shall not be allowed to find their way in storm drains or open areas.                                                      | Required garland drains are being constructed.                                                                                                             |

|    |                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                     |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 16 | The applicant shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems install or used by him to achieve with the term(s) and conditions of the consent.                                                                                                                                                | The lease premise is duly maintained.                                                               |
| 17 | Care should be taken to keep the anaerobic lagoons, if any, biologically active and not utilized as mere stagnation ponds. The anaerobic lagoons should be fed with the required nutrients for effective digestion. Lagoons should be constructed with sides and bottom made impervious.                                                                                               | Noted.                                                                                              |
| 18 | The utilization of treated effluent on factory's own land, if any, should be completed and there should be no possibility of the effluent gaining access into any drainage channel or other water courses either directly or by overflow.                                                                                                                                              | Waste water is being settled inside the lease premises and no water being discharged from the mine. |
| 19 | The effluent disposal on land, if any, should be done without creating any nuisance to the surroundings or inundation of the lands at the time.                                                                                                                                                                                                                                        | No discharge from the lease area.                                                                   |
| 20 | If at any time the disposal of treated effluent on land becomes incomplete or unsatisfactory or create any problem or becomes a matter of dispute, the industry must adopt alternate satisfactory treatment and disposal measures.                                                                                                                                                     | If required will be followed.                                                                       |
| 21 | The sludge from treatment units shall be dried in sludge drying beds and the drained liquid shall be taken to equalization tank.                                                                                                                                                                                                                                                       | Is being done.                                                                                      |
| 22 | The effluent treatment units and disposal measures shall become operative at the time of commencement of production.                                                                                                                                                                                                                                                                   | Is being monitored regularly.                                                                       |
| 23 | The applicant shall provide port holes for sampling the emissions and access platform for carrying out stack sampling and provide electrical outlet points and other arrangements for chimneys/stacks and other sources of emissions so as to collect samples of emission by the Board or the applicant at any time in accordance with the provision of the Act or Rules made therein. | Not applicable for the mining project.                                                              |
| 24 | The applicant shall provide all facilities and render required assistance to the Board staff for collection of samples/stack monitoring /inspection.                                                                                                                                                                                                                                   | Not applicable for the mining project.                                                              |
| 25 | The applicant shall not change or alter either the quality or quantity or rate of emission or install, replace or alter the airpollution control equipment or change the raw material or manufacturing process resulting in any change in quality and/or quantity of emissions, without the previous written permission of the Board.                                                  | Necessary permission will be obtained from Board if any changes required.                           |
| 26 | No control equipments or chimney shall be altered or replaced or as the case may be erected or re-erected except with the previous approval of the Board.                                                                                                                                                                                                                              | Necessary permission will be obtained from Board if any changes required.                           |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                  |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 27 | The liquid effluent arising out of the operation of the air control equipment shall be treated in the manner to meet the prescribed standards by the Board in accordance with the provisions of Water (Prevention and Control of Pollution) Act, 1974 (as amended).                                                                                                                                                                                                             | Is being followed.                                                                                                                                               |
| 28 | The stack monitoring system employed by the applicant shall be opened for inspection to this Board at any time.                                                                                                                                                                                                                                                                                                                                                                 | Is being followed.                                                                                                                                               |
| 29 | There shall not be any fugitive or episodic discharge from the premises.                                                                                                                                                                                                                                                                                                                                                                                                        | Presently no fugitive/episodic discharge from the lease area.                                                                                                    |
| 30 | In case of such episodal discharge/emissions the industry shall take immediate action to bring down the emission within the limits prescribed by the Board in conditions/stop the operation of the plant. Report of such accidental discharge/emission shall be brought to the notice of the Board within 24 hours of occurrence.                                                                                                                                               | Will be carried out as and when required.                                                                                                                        |
| 31 | The applicant shall keep the premises of the industrial plant and air pollution control equipments clean and make all hoods, pipes, valves, stack/chimneys leak proof. The air pollution control equipments, locaiton, inspection chambers, sampling port holes shall be made easily accessible at all time.                                                                                                                                                                    | Hose-keeping personal are looking after the cleanliness of the whole lease premises. Photograph of lease area showing its housekeeping is enclosed as Annexure-E |
| 32 | Any upset condition in any of the plant/plants of the factory which is likely to result in increased effluent discharge/emission of air pollutants and/or result in violation of the standards mentioned above shall be reported to the Headquarters and Regional Office of the Board by fax/speed post within 24 hours of its occurrence.                                                                                                                                      | Will be followed as and when observed.                                                                                                                           |
| 33 | The industry has to ensure that minimum three varieties indigenous species of trees are planted at the density of not less than 1000 trees per acre. The trees may be planted along boundaries of the industries or industrial premises. This planttion is stipulated over and above the bulk plantation of trees in that area.                                                                                                                                                 | Plantation is being carried out inside and outside the lease premises.                                                                                           |
| 34 | The solid waste such as sweeping, wastage packages, empty containers residues, sludge including that from air pollution control equipments collected within the premises of the industrial plants shall be disposed off scientifically to the satisfaction of the Board, so as not to cause fugitive emission, dust problems through leaching etc. or any kind.                                                                                                                 | Is being carried out.                                                                                                                                            |
| 35 | All solid wastes arising in the premises shall be properly classified and disposed off to the satisfaction of the Board by:<br>i) Land fill in case of inert material, care being taken to ensure that the material does not give rise to leachate which may percolate into ground water or carried away with storm run-off.<br>ii) Controlled incineration, wherever possible in case of combustible organic material.<br>iii) Composting, in case of bio-degradable material. | Is being followed.                                                                                                                                               |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                       |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| 36 | Any toxic material shall be detoxicated if possible, otherwise be sealed in steel drums and buried in protected areas after obtaining approval of this Board in writing. The detoxication or sealing and burying shall be carried out in the presence of Board's authorized persons only. Letter of authorization shall be obtained for handling and disposal of hazardous wastes.                                               | Is being followed.                                                                                    |
| 37 | If due to any technological improvement or otherwise this Board is of opinion that all or any of the conditions referred to above required variation (including the change or any control equipment either in whole or in part) this Board shall after giving the applicant an opportunity of being heard, vary all or any of such condition and thereupon the applicant shall be bound to comply with the conditions so varied. | Will be followed.                                                                                     |
| 38 | The applicant, his/heirs/legal representatives or assignees shall have no claim whatsoever to the conditions or renewal of this consent after the expiry period of this consent.                                                                                                                                                                                                                                                 | Noted.                                                                                                |
| 39 | The Board reserves the right to review, impose additional conditions or condition, revoke change or alter the terms and conditions of this consent.                                                                                                                                                                                                                                                                              | Noted & Accepted.                                                                                     |
| 40 | Notwithstanding anything contained in this conditional letter of consent, the Board hereby reserves to it the right and power under section 27(2) of the Water (Prevention & Control of Pollution) Act, 1974 to review any and/or all the conditions imposed herein above and to make such variations as deemed fit for the purpose of the Act by the Board.                                                                     | All instruction as and when put by the Board as per the Water Act 1974, will be observed/carried out. |
| 41 | The conditions imposed as above shall continue to be in force until revoked under section 27(2) of the Water (Prevention & Control of Pollution) Act, 1974 and section 21 A of Air (Prevention & Control of Pollution) Act, 1981.                                                                                                                                                                                                | Noted                                                                                                 |
| 42 | In case the consent fee is revised upward or the fees paid to be inadequate for any reason during this period, the industry shall pay the differential fees to the Board (for the remaining years) to keep the consent order in force. If they fail to pay the adequate amount within the period stipulated by the Board the consent order will be revoked without prior notice.                                                 | We will comply the CSR conditions as CREP guideline in a time bound manner.                           |
| 43 | The Board reserves the right to revoke/refuse consent to operate at any time during period for which consent is granted in case any violation is observed and to modify stipulate additional conditions as deemed appropriate.                                                                                                                                                                                                   | Is being complied with.                                                                               |

**GENERAL CONDITIONS FOR UNITS WITH INVESTMENT OF MORE THAN Rs. 50 CRORES, AND 17 CATEGORIES OF HIGHLY POLLUTING INDUSTRIES (RED A)**

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | The applicant shall analyze the effluent/emissions and Ambient Air Quality every month through approved laboratory for the parameters indicated in TABLE - B & C as mentioned in this order and shall furnish the report thereof to be Board by the 10 <sup>th</sup> of succeeding month.                                                                                                                                                                                                                                                                                                  | Monitoring of ambient air, and water are being carried-out on monthly basis. Enclosed as Annexure-F                                                                            |
| 2  | The applicant shall provide and maintain at his own cost three ambient air quality monitoring stations for monitoring Suspended Particulate Matter, Sulphur Dioxide, Oxides of Nitrogen, Hydro-Carbon, Carbon-Monoxide and monitor the same once in day/week/fortnight/month. The data collected shall be maintained in a register and a monthly extract be furnished to the Board.                                                                                                                                                                                                        | Third party monitoring is being carried out the monitoring results are enclosed as Annexure-F                                                                                  |
| 3  | The applicant shall provide and maintain at his own cost a meteorological station to collect the data on wind velocity, direction, temperature, humidity, rainfall etc. and the daily reading shall be recorded and the extract sent to the Board once in a month.                                                                                                                                                                                                                                                                                                                         | The meteorological data of Government source is being used as and when required.                                                                                               |
| 4  | The applicant shall forward the following information to Member Secretary, State Pollution Control Board, Odisha, Bhubaneswar regularly.<br>a) Report of analysis of stack monitoring ambient air quality meteorological data as required every month.<br>b) Progress on planting of trees quarterly.                                                                                                                                                                                                                                                                                      | Monitoring report in respect of air quality to the SPCB is being submitted half yearly on regular basis. The plantation work carried out in the area is also intimated.        |
| 5  | The applicant shall install mechanical composite sampling equipment and continuous flow measuring/recording devices on the effluent drains of trade as well as domestic effluent. A record of daily discharge shall be maintained.                                                                                                                                                                                                                                                                                                                                                         | No effluent generated from the lease area.                                                                                                                                     |
| 6  | The following information shall be forwarded to the Member Secretary on or before 10 <sup>th</sup> of every month.<br>a) Performance/progress of the treatment plant.<br>b) Monthly statement of daily discharge of domestic and/or trade effluent                                                                                                                                                                                                                                                                                                                                         | Treatment plant for the work shop already installed as well as STP for domestic discharge. The domestic discharge is minimal. Photograph of ETP and STP enclosed as Annexure-G |
| 7. | Non-compliance with effluent limitations<br>a) If for any reason the applicant does not comply with or is unable to comply with any effluent limitations specified in this consent, the applicant shall immediately notify the consent issuing authority by telephone and provide the consent issuing authority with the following information in writing within 5 days of each notification.<br>i) Causes of non-compliance.<br>ii) A description of the non-compliance discharge including its impact on the receiving waters.<br>iii) Anticipated time of continuance of non-compliance | As such very minimum quality of effluent generated from workshop. No effluent discharge outside the lease area.                                                                |

|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                      |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|     | <p>if expected to continue or if such condition has been corrected the duration or period of non-compliance.</p> <p>iv) Steps taken by the applicant to reduce and eliminate the non-complying discharge and</p> <p>v) Steps to be taken by the applicant too prevent the condition of non-compliance.</p>                                                                                                                                                                                                                                                                                                      |                                                                                      |
|     | <p>b) The applicant shall take all reasonable steps to minimize any adverse impact to natural waters resulting from non-compliance with any effluent limitation specified in this consent including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.</p> <p>c) Nothing in this consent shall be construed to relieve the applicant from civil or criminal penalties for non-compliance whether or not such non-compliance is due to factors beyond his control, such as breakdown, electric failure, accident or natural disaster.</p> | Accepted                                                                             |
| 8.  | The applicant shall at his own cost get the effluent samples collected both before and after treatment and get them analysed at an approval laboratory every month for the parameters indicated in Part-D and shall submit in duplicate the report thereof to the Board.                                                                                                                                                                                                                                                                                                                                        | Effluent water generated from workshop is being tested.                              |
| 9.  | The addition of various treatment chemicals should be done only with mechanical dosers and proper equipment for regulation of correct dosages determined daily and for proper uniform feeding. Crude practices such as dumping of chemicals in drains or sumps or trickling of adds or alkalies arbitrarily and utilizing poles for stirring etc. should not be resorted to.                                                                                                                                                                                                                                    | Is being followed.                                                                   |
| 10. | <p>In the disposal of treated effluent on land for irrigation the industry shall keep in view of the need for</p> <p>Rotation of crops</p> <p>Change of point of application of effluent on land</p> <p>A portion of land kept fallow</p>                                                                                                                                                                                                                                                                                                                                                                       | In no case effluent from workshop discharge to out side lease.                       |
| 11. | The adoption of these would avoid soil becoming sick or slate, the industry may ensure this in consultation with the Agriculture Department.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Not applicable for this lease area.                                                  |
| 12. | It is the sole responsibility of the industry to ensure that there are no complaints at any time from the locals in the surrounding areas as a result of discharge of sewage of trade effluent if any.                                                                                                                                                                                                                                                                                                                                                                                                          | Noted and there will be no complain from the local villages or inhabitants.          |
| 13  | Proper housekeeping shall be maintained by a dedicated team.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Is being followed. Photograph enclosed as Annexure-E                                 |
| 14  | The industry must constitute a team of responsible and technically qualified personnel who will ensure continuous operation of all pollution control devices round the clock (including night hours) and should be in a position to explain the status of operation of the pollution control measures to the inspecting officers of the Board at any point of time. The name of these persons with their contact telephone numbers shall be intimated to the concerned Regional Officer and Head Office of the Board                                                                                            | Environment cell is being created and the names have been communicated to the Board. |

|                                                                                                                                                                                                               |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| and in case of any change in the team it shall be intimated to the concerned Regional Officer and Head Office of the Board and in case of any change in the team shall be intimated to the Board immediately. |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

**E. SPECIAL CONDITIONS:**

|    |                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                  |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | This consent order is subject to compliance of orders of the Hon'ble Supreme Court of India in the matter of W.P. (Civil) 114/2014.                                                                                                                                                                                                                                                                              | Noted.                                                                                                                                                                                                                                                                                                           |
| 2. | This consent order is subject to permission from MoEF & CC, Govt. of India and Steel and Mines Department, Govt. of Odisha for continuing of mining operation.                                                                                                                                                                                                                                                   | Mining operation is being carried with proper lease document and Environmental Clearance, Approval of mining Plan.<br>Copy of lease deed Enclosed as Annexure-H, Review of Mining Plan Approval from IBM, as Annexure-I and Environmental Clearance as Annexure-J                                                |
| 3. | Mining operation is subject to availability of all other statutory clearances.                                                                                                                                                                                                                                                                                                                                   | The mining operation is being continuing with due lease deed, Approved mining plan, Environmental Clearance and Forest Clearance.. The copy of statutory clearance enclosed as Annexure -H, I, J and K respectively.                                                                                             |
| 4. | Drills shall either be operated with dust extractors or equipped with water injection system to minimize dust generation in the work environment.                                                                                                                                                                                                                                                                | The drill is being operated with water injection system to minimize dust generation in the work environment. The photograph of drilling operation with water injection system is enclosed as Annexure-L.                                                                                                         |
| 5. | Controlled blasting shall be practiced to minimize generation of dust and fly rocks.                                                                                                                                                                                                                                                                                                                             | Controlled blasting practice being followed in the lease area for mining operation.                                                                                                                                                                                                                              |
| 6. | Regular water sprinkling shall be carried out in critical areas prone to air pollution such as around crushing and screening plant. Water sprinkling shall also be carried out on haul roads at frequent interval so that it should always remain in wet condition. Haulage roads shall be devoid of ruts and potholes and shall be maintained properly to avoid generation of dust during movement of vehicles. | Regular water sprinkling is being carried out in the lease area with a dedicated water tanker. The haul road area is being sprinkled in regular interval with fixed sprinklers are installed in the approach roads.<br>The photograph of fixed sprinklers and sprinkling on haul road are enclosed as Annexure-M |

|     |                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                            |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7.  | Mechanized wheel washing facility for the ore transport vehicles shall be provided at the exit point of the mine. The wheel washing facility shall be integrated with complete recirculation system.                                                                                                                                                                       | The wheel washing facility has been installed at the exit point of the mines.                                                                                                                                                              |
| 8.  | Dust suppression measures (preferably dry fog system) shall be provided at all appropriate places of mineral handling plants (crusher & screening plant). Loading and unloading areas including all the transfer points shall also have efficient dust suppression arrangements (dry fog system). These shall be properly maintained and operated.                         | Dry fog system is being installed in the crusher and screening plant. Dust suppression system has been installed in the loading, unloading and all the transfer points. Photograph of the dry fog system is enclosed as <b>Annexure- N</b> |
| 9.  | The vehicles carrying ore for transportation from the mine shall be covered with tarpaulin (both bottom & top).                                                                                                                                                                                                                                                            | The vehicles carrying ore for transportation from the mine being covered with tarpaulin (both bottom & top). Photograph Enclosed as <b>Annexure-O</b>                                                                                      |
| 10. | Regular water sprinkling on mineral transportation roads passing through the habitation area as well as other strategic point on the National Highway shall be done jointly by the mining lessees in consultation with the Regional Officer.                                                                                                                               | Due process has been initiated to install sprinklers our side lease area with consultation with district administration and Regional Officer of OSPCB.                                                                                     |
| 11. | Four Ambient Air Quality Monitoring Stations shall be established in core zone and buffer zone for monitoring of ambient air quality and location of the stations shall be decided in consultation with the Regional Officer, State Pollution Control Board based on the metrological data, topographical features and environmentally and ecologically sensitive targets. | Four Ambient Air Monitoring station is being monitored by 3 <sup>rd</sup> party in the core & buffer zone on monthly basis. The data enclosed as <b>Annexure-F</b>                                                                         |
| 12. | Fugitive Dust Emission Monitoring shall be carried out at the places as stated in Part-B of this order. The monitoring of ambient air quality and fugitive dust shall be carried out twice in a week (24 hourly) at a particular site and the consolidated data shall be submitted to the State Pollution Control Board, once in a year.                                   | Fugitive Emission monitoring is being carried out by third party in regular interval. Monitoring result enclosed in <b>Annexure-F</b>                                                                                                      |
| 13. | The top soil generated shall be stored at earmarked site (s) only and stabilized with plantation or shall be used for land reclamation and plantation.                                                                                                                                                                                                                     | There is no top soil.                                                                                                                                                                                                                      |
| 14. | The overburden generated during the course of mining shall be stacked at earmarked dump site (s) and stabilized with plantation or used for reclamation of excavated land followed by plantation.                                                                                                                                                                          | The over burden generated is being stacked separately in the lease area and will be stabilized and will be utilized for reclamation and plantation purpose. Photograph of dump site is enclosed as <b>Annexure-P</b> .                     |

|     |                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                       |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15. | The project proponent shall ensure that no natural watercourse and/or any or water resources are obstructed due to any mining operations. In case of diversion of natural watercourse, this shall be done with prior permission of the competent authority.                                                                                                                         | No water course is being diverted or disturbed due to mining operation in the lease area.                                                                                                                                                             |
| 16. | Check dams and check weirs shall be constructed at appropriate places of the mine lease area to prevent direct flow of runoff to nearby water bodies. The surface runoff water from the existing runoff management system shall meet the prescribed standards as stated in Part-A of the consent order.                                                                             | Check dam and garland drains are being constructed in the lease area to prevent direct flow of runoff to nearby water bodies. The surface runoff is being meeting the standard prescribed in Part-A.                                                  |
| 17. | Retention wall shall be constructed at the toe of topsoil dump and OB dump. Garland drain shall be constructed around topsoil dumps, over burden dumps and mineral stack yards terminating at settling pit to prevent direct disposal of runoff to nearby water bodies.                                                                                                             | There is no top soil dump in the area. Garland drain shall be constructed around over burden dumps and mineral stack yards terminating at settling pit to prevent direct disposal of runoff to nearby water bodies. Photograph Enclosed as Annexure-D |
| 18. | Garland drain and sedimentation pit shall be de-silted after monsoon or as and when required. The runoff discharge quality from runoff management system shall meet the prescribed standards as stated in Part A of the consent order.                                                                                                                                              | Garland drain and sedimentation pit is being de-silted before & after monsoon or as and when required. The runoff discharge quality from runoff management system is meeting the prescribed standards as stated in Part A of the consent order.       |
| 19. | Domestic effluents shall be treated in a Sewage Treatment Plant (STP) and or shall be discharged to soak pit via septic tank constructed as BIS specification. The treated waste water quality of STP shall remain within the following standards and shall be used for plantation.<br><br>pH - 6.5 – 9.0<br>TSS - <100 mg/l<br>BOD - 30 mg/l<br>Fecal Coliform - <1000 MPN/100 ml. | Domestic effluents is being treated in a Sewage Treatment Plant (STP) and discharged to soak pit via septic tank constructed as BIS specification.                                                                                                    |
| 20. | ETP shall be provided for workshop and waste water generated during mining operation, if any. The quality of the treated waste water shall confirm to the prescribed standard as stated in Part-A of the consent order.                                                                                                                                                             | ETP has been provided for workshop Annexure- G. The treated water meeting the specification given in Part-A.                                                                                                                                          |
| 21. | Regular monitoring of water quality of upstream and downstream of surface water bodies existed if any within 5 km. shall be carried out once in every month and record shall be maintained and submitted to the State Pollution Control Board once in every year. Monitoring shall be carried out through MoEF&CC accredited laboratory.                                            | The nala water in the upstream and downstream is being monitored on monthly basis and monitoring result is appended in Annexure-F                                                                                                                     |

|     |                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 22. | Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells. The monitoring should be done four times a year in pre-monsoon (April/May), monsoon (August), post-monsoon (November) and winter (January) seasons. Consolidated data thus collected should be submitted to the Board annually.                                                                       | Ground water quality and ground water level is being monitored quarterly basis. The monitoring result are appended in Annexure-F and Q respectively.                                                                                                                                                                                                                                                                                                                                                                                               |
| 23. | The mine shall take necessary action for compliance with the air and water quality standards as stipulated in Part-A and Part-B of this order.                                                                                                                                                                                                                                                                                | The project authority is taking necessary action that the water quality to meet the stipulated standard given in Part-A and Part-B.                                                                                                                                                                                                                                                                                                                                                                                                                |
| 24. | Adequate measures shall be taken for control of noise levels below the following limits.<br><br>(6.00 AM – 9.00 PM) – Leq. 75 dB(A)<br>(9.00 PM – 6.00 AM) – Leq. 70 dB(A)                                                                                                                                                                                                                                                    | Adequate measures like controlled blasting practice and regular maintenance of transport vehicles is being taken to minimize noise level in the lease area.                                                                                                                                                                                                                                                                                                                                                                                        |
| 25. | Ambient air quality monitoring data, noise monitoring data and water/waste water quality monitoring data shall be electronically displayed at the entry point of the mine or at suitable location of the mine.                                                                                                                                                                                                                | Ambient Air Quality, Noise, Water and waste water quality monitoring data is being electronically displayed in the display board at the entry point of the lease area.- Annexure-A                                                                                                                                                                                                                                                                                                                                                                 |
| 26. | Plantation of trees shall be undertaken in the colony/township, over top soil dumps, OB dumps, along the side of haul road and in other areas of the mines not being utilized for mining activities. The mine shall take up avenue plantation and plantation in nearby village areas in consultation with DFO/Horticulture Department. The plantation details shall be submitted to the Board before end of April every year. | Plantation of plant saplings has been undertaken in the colony, OB dumps, along the side of haul road and in other areas of the mines not being utilized for mining activities. The mine also taken up avenue plantation and plantation in nearby village areas in consultation with local authorities. The plantation details shall be submitted to the Board before end of April every year. Photograph of plantation in the colony area, dump area, haul road site, Avenue plantation and nearby village area plantation enclosed as Annexure-R |
| 27. | A copy of the annual return (annual return submitted to IBM, Govt. of India/Directorate of Mines, Govt. of Odisha) shall be submitted to this Board every year.                                                                                                                                                                                                                                                               | Copy of Annual return submitted to IBM for 2020-21 is enclosed as Annexure-S                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 28. | The environmental statement report for the financial year ending 31 <sup>st</sup> March shall be submitted to the Board in Form-V on or before 30 <sup>th</sup> September every year.                                                                                                                                                                                                                                         | Annual Statement for 2020-21 submitted to board before 30 <sup>th</sup> September 2021. Copy of the submission letter is enclosed as Annexure-: T.                                                                                                                                                                                                                                                                                                                                                                                                 |

1. Annexure-A: Photograph of display board
2. Annexure-B: Photograph showing Visitor entry register
3. Annexure-C: Photograph showing digital water flow meter
4. Annexure-D: Photograph showing Check Dams
5. Annexure-E: Photograph showing cleanness of the mine
6. Annexure-F: Environmental Monitoring data for the period October 2021 to March 2022
7. Annexure-G: Photograph showing of STP/ETP
8. Annexure-H: Lease Deed
9. Annexure-I: Copy of Review of mining scheme approval letter
10. Annexure-J: Copy of Environmental Clearance
11. Annexure-K: Copy of Forest Clearance
12. Annexure-L: Photograph showing DFS/DSS
13. Annexure-M: Photograph showing Water Sprinkling on haul roads
14. Annexure-N: Photograph showing DFS at crushing unit
15. Annexure-O: Photograph showing Covered vehicle carrying iron ore
16. Annexure-P: Photograph showing Dump Site
17. Annexure-Q: Ground Water Level Data
18. Annexure-R: Photograph showing Plantation site
19. Annexure S: Copy of Annual Return submitted to IBM
20. Annexure-T: Copy of Environmental Statement for the year 2020-21

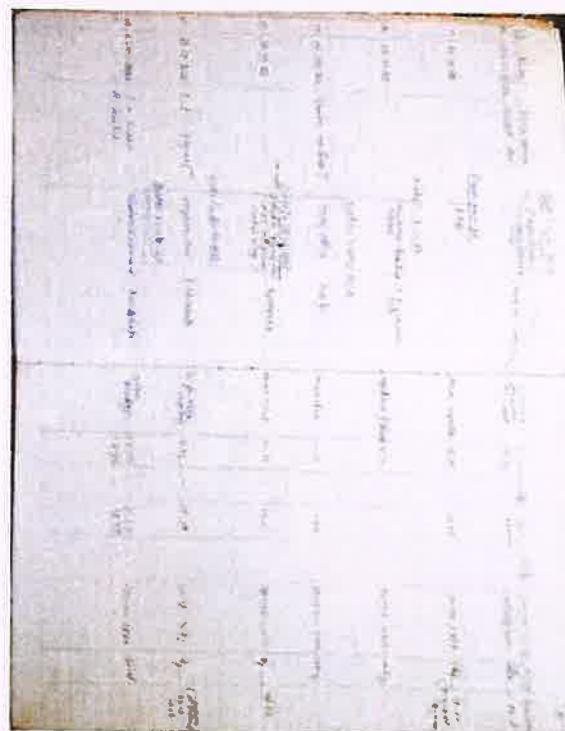
## ANNEXURE-A



**PHOTOGRAPH OF DISPLAY BOARD**

## ANNEXURE-B

### PHOTOGRAPH OF VISITOR ENTRY REGISTER



## ANNEXURE-C



**PHOTOGRAPH OF DIGITAL FLOWMETER**

## ANNEXURE-D



CHECK DAM



SETTLING POND

## **ANNEXURE-E**



**ENVIRONMENTAL FRIENDLY MINING**

**ANNEXURE-F**

**AIR, WATER, NOISE MONITORING REPORT**



**SUPERINTENDENCE CO. OF INDIA (P) LTD.**

**ENVIRONMENTAL BASELINE DATA GENERATION  
AT**

**M/S – M.G.MOHANTY**

**PROJECT: Patabeda Iron & Manganese Mines (19.425 Ha)**

**REPORT  
FOR THE MONTH OF MARCH 2022**

\*\*\*\*\*

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Website: www.superintendence.co



# SUPERINTENDENCE COMPANY OF INDIA PRIVATE LIMITED

## LABORATORY :

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Website : www.superintendencecoindia.com

GSTIN : 19AAECS3740C2ZJ



(An ISO 9001 2015 Certified)



TC-8066

## TEST REPORT

|                               |                                                                                                                     |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------|
| ULR-TC806622000000282F        |                                                                                                                     |
| REPORT NO. : N- 818           | DATE: 18.04.2022                                                                                                    |
| Name and Address of Customer: | M/s. M.G. MOHANTY.<br>Patabeda Iron Mines (19.425Ha)<br>Patabeda, P.O. Malda, P.S. Koira, Dist.: Sundergarh, Odisha |
| Ref. no. and Date:            | MGM/CO/2021/217 Dated: 12/03/2021                                                                                   |
| Sample receiving date:        | 28.03.2022                                                                                                          |
| Sub:                          | Environmental monitoring                                                                                            |
| Material:                     | Ambient Air                                                                                                         |
| Group:                        | Atmospheric Pollution                                                                                               |

### CHEMICAL TEST RESULT

Date of starting of Test: 29.03.2022

Date of completion of Test 18.04.2022

| S.N. | Specific Test Performed                      | Test Method Specification against which tests are performed | Permissible limit as per NAAQS-2009         | Mines Quarry Bench 5 17.03.22 | Haul Road 18.03.22 | Ganua camp 20.03.22 | Guruda camp 21.03.22 |
|------|----------------------------------------------|-------------------------------------------------------------|---------------------------------------------|-------------------------------|--------------------|---------------------|----------------------|
| 1.   | PM 2.5 ( $\mu\text{g}/\text{m}^3$ )          | USEPA CFR-40, PART-50, APPX-L                               | 60 ( $\mu\text{g}/\text{m}^3$ ) (24 Hours)  | 44.97                         | 48.09              | 38.46               | 39.66                |
| 2.   | PM 10 ( $\mu\text{g}/\text{m}^3$ )           | IS: 5182 PART-23 2006 RA-2012                               | 100 ( $\mu\text{g}/\text{m}^3$ ) (24 Hours) | 69.07                         | 72.29              | 59.34               | 60.82                |
| 3    | SPM ( $\mu\text{g}/\text{m}^3$ )             | IS: 5182 PART-4 1999 RA-2010                                | -                                           | 141.53                        | 146.97             | 123.29              | 125.56               |
| 4.   | SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ ) | IS: 5182 PART-2 2001 RA-2012                                | 80 ( $\mu\text{g}/\text{m}^3$ ) (24 Hours)  | 9.41                          | 10.09              | 9.62                | 9.54                 |
| 5.   | NO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ ) | IS: 5182 PART-6 2006 RA-2012                                | 80 ( $\mu\text{g}/\text{m}^3$ ) (24 Hours)  | 18.50                         | 22.08              | 17.60               | 16.45                |
| 6.   | CO ( $\text{mg}/\text{m}^3$ )                | IS: 5182 PART-10 1999 RA-2009                               | 4 $\text{mg}/\text{m}^3$ (1 Hour)           | 0.82                          | 0.91               | 0.66                | 0.67                 |

Tested by:

A. Chatterjee

Authorized Signatory

P. Dutta

(Technical Manager)

- Note : 1) This report refers to the values obtained at the time of testing and results relate to the items tested.  
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Website : www.superintendencecoindia.com

GSTIN : 19AAECS3740C2ZJ



TC-8066

## TEST REPORT

ULR-TC806622000000283F

Report No.: N- 819

Date - 18.04.2022

|                               |                                                                                                                     |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Name and Address of Customer: | M/s. M.G. MOHANTY.<br>Patabeda Iron Mines (19.425Ha)<br>Patabeda, P.O. Malda, P.S. Koira, Dist.: Sundergarh, Odisha |
| Work Order No. and Date       | MGM/CO/2021/217 Dated:12/03/2021                                                                                    |
| Date of Sample Received:      | 28.03.2022                                                                                                          |
| Sub:                          | Environment Monitoring                                                                                              |
| Material:                     | Fugitive Dust Emission Monitoring                                                                                   |
| Group:                        | Atmospheric Pollution                                                                                               |

### FUGITIVE DUST EMISSION MONITORING CHEMICAL TEST

Date of starting of test: 04.04.2022

Date of completion of test: 18.04.2022

| Sl. No. | Name of Tests                                   | Test Method                    | Permissible Limit as per OPCB     | Test Result              |
|---------|-------------------------------------------------|--------------------------------|-----------------------------------|--------------------------|
|         |                                                 |                                |                                   | NAME OF STATIONS         |
|         |                                                 |                                |                                   | FD-1<br>Crusher Plant    |
|         |                                                 |                                |                                   | Sampling Collection Date |
|         |                                                 |                                |                                   | 23.03.22                 |
| 01      | Particulate Matter ( $\mu\text{g}/\text{m}^3$ ) | IS:5182, PART-4, 2006, RA-2012 | 1200 ( $\mu\text{g}/\text{m}^3$ ) | 752.78                   |

Tested by:

A. Chatterjee

Authorized Signatory

P. Dutta (Technical Manager)

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 GSTIN : 19AAECS3740C2ZJ



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TC-8066

## TEST REPORT

| ULR – TC806622000000271F      |                                                                                                                     |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------|
| REPORT NO. : N- 822           | DATE:18.04.2022                                                                                                     |
| Name and Address of Customer: | M/s. M.G. MOHANTY.<br>Patabeda Iron Mines (19.425Ha)<br>Patabeda, P.O. Malda, P.S. Koira, Dist.: Sundergarh, Odisha |
| Ref. no. and Date:            | MGM/CO/2021/217 Dated:12/03/2021                                                                                    |
| Sample receiving date:        | 28.03.2022                                                                                                          |
| Sub:                          | Environmental monitoring                                                                                            |
| Material:                     | Ambient Noise                                                                                                       |
| Group:                        | Atmospheric Pollution                                                                                               |

## TEST REPORT

| S.N. | Name of tests                          | Reference                       | Permissible limit as per:<br>Ambient Noise Level           |                           | Location Details         |                              |                      |                             |
|------|----------------------------------------|---------------------------------|------------------------------------------------------------|---------------------------|--------------------------|------------------------------|----------------------|-----------------------------|
|      |                                        |                                 | Standard as per Noise<br>Pollution Regulation<br>Rule-2000 |                           | Haul<br>Road<br>18.03.22 | Crusher<br>Plant<br>17.03.22 | D.G. Set<br>17.03.22 | Mines<br>Quarry<br>17.03.22 |
| 1    | Equivalent<br>Sound level<br>dB(A) Leq | SUP/SOP/4<br>033SD &<br>IS:9989 | Category of<br>area Zone                                   | Limits in<br>dB(A)<br>Leq | Monthly                  | Monthly                      | Monthly              | Monthly                     |
|      |                                        |                                 | 1. Industrial                                              | 75                        | 63.3                     | 73.4                         | 72.1                 | 64.2                        |
|      |                                        |                                 | 2. Commercial                                              | 65                        |                          |                              |                      |                             |
|      |                                        |                                 | 3. Residential                                             | 55                        |                          |                              |                      |                             |
|      |                                        |                                 | 4. Silent                                                  | 50                        |                          |                              |                      |                             |

Tested by:

*A. Chatterjee*

A. Chatterjee

Authorized Signatory

*P. Dutta*

P. Dutta

(Technical Manager)

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TC-8066

## TEST REPORT

| ULR - TC806622000000271F      |                                                                                                                     |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------|
| REPORT NO. : N- 822           | DATE: 18.04.2022                                                                                                    |
| Name and Address of Customer: | M/s. M.G. MOHANTY.<br>Patabeda Iron Mines (19.425Ha)<br>Patabeda, P.O. Malda, P.S. Koira, Dist.: Sundergarh, Odisha |
| Ref. no. and Date:            | MGM/CO/2021/217 Dated:12/03/2021                                                                                    |
| Sample receiving date:        | 28.03.2022                                                                                                          |
| Sub:                          | Environmental monitoring                                                                                            |
| Material:                     | Ambient Noise Quarterly Report                                                                                      |
| Group:                        | Atmospheric Pollution                                                                                               |

## TEST REPORT

| S.N | Name of tests                    | Reference                       | Permissible limit as per:<br>Ambient Noise Level           | Location Details         |                           |
|-----|----------------------------------|---------------------------------|------------------------------------------------------------|--------------------------|---------------------------|
| 1.  | Equivalent Sound level dB(A) Leq | SUP/SOP/4<br>033SD &<br>IS:9989 | Standard as per Noise<br>Pollution Regulation<br>Rule-2000 | Ganua camp<br>20.03.2022 | Garuda camp<br>21.03.2022 |
|     |                                  |                                 | Category of<br>area Zone                                   | Quarterly Report         |                           |
|     |                                  |                                 | Limits in<br>dB(A)<br>Leq                                  | 49.5                     | 51.2                      |
|     |                                  |                                 | 1. Industrial                                              |                          |                           |
|     |                                  |                                 | 2. Commercial                                              |                          |                           |
|     |                                  |                                 | 3. Residential                                             |                          |                           |
|     |                                  |                                 | 4. Silent                                                  |                          |                           |

Tested by:

A. Chatterjee

Authorized Signatory

P. Dutta

(Technical Manager)

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GSTIN : 19AAECS3740C2ZJ



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TC-8086

## TEST REPORT

|                               |                                                                                                                     |                   |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------|-------------------|
| Report No N-820               | ULR-TC806622000000272F                                                                                              | Date: 18.04.2022  |
| Name and Address of Customer: | M/s. M.G. MOHANTY.<br>Patabeda Iron Mines (19.425Ha)<br>Patabeda, P.O. Malda, P.S. Koira, Dist.: Sundergarh, Odisha |                   |
| Work-order no. and Date:      | MGM/CO/2021/217                                                                                                     | Dated: 12/03/2021 |
| Sample receiving date:        | 28.03.2022                                                                                                          |                   |
| Sub:                          | Water monitoring                                                                                                    |                   |
| Material:                     | Surface Water                                                                                                       |                   |
| Group:                        | Water                                                                                                               |                   |

### CHEMICAL REPORT

Date of starting of Test 28.03.2022

Date of completion of Test: 06.04.2022

| Sl. No. | Specific Test Performed                  | Test Method                                      | Test Result                          |                                        |
|---------|------------------------------------------|--------------------------------------------------|--------------------------------------|----------------------------------------|
|         |                                          |                                                  | SW1<br>Up-Stream<br>Nalla(Kakarpani) | SW2<br>Down-Stream<br>Nalla(Kakarpani) |
|         |                                          |                                                  | Date of<br>Collection<br>23.03.22    | Date of<br>Collection<br>23.03.22      |
| 1       | pH                                       | IS :3025,P-11, R.A 2009                          | 6.08 at 28.7°C                       | 6.27 at 27.3°C                         |
| 2       | Temperature                              | APHA 22 <sup>nd</sup> EDN 2550 B                 | 28.7°C                               | 27.3°C                                 |
| 3       | Turbidity(NTU)                           | IS 3025 (P-10), RA2006                           | 3.8                                  | 4.4                                    |
| 4       | Residual Free Chlorine mg/l              | IS 3025 (P-26), RA2009                           | <1.0                                 | <1.0                                   |
| 5       | Alkalinity as CaCO <sub>3</sub> mg/l     | IS 3025 (P-23), RA2014                           | 28                                   | 32                                     |
| 6       | Chloride as Cl mg/l                      | IS 3025 (P-32), RA2009                           | 08                                   | 04                                     |
| 7       | Total Hardness as CaCO <sub>3</sub> mg/l | IS 3025 (P-21), RA2006                           | 28                                   | 28                                     |
| 8       | Calcium as Ca mg/l                       | APHA 22 <sup>nd</sup> EDN 3500Ca B               | 11.2                                 | 8                                      |
| 9       | Magnesium as Mg mg/l                     | APHA 22 <sup>nd</sup> EDN 3500 Mg B              | <0.243                               | 1.944                                  |
| 10      | Sulphate as SO <sub>4</sub> mg/l         | APHA 22 <sup>nd</sup> EDN 4500 SO <sub>4</sub> E | <1.0                                 | <1.0                                   |
| 11      | Nitrate as NO <sub>3</sub> mg/l          | APHA 22 <sup>nd</sup> EDN 4500 NO <sub>3</sub> B | 2.8                                  | 3.5                                    |
| 12      | Fluoride as F mg/l                       | APHA 22 <sup>nd</sup> EDN 4500 F D               | <0.1                                 | <0.1                                   |
| 13      | Total dissolve Solids mg/l               | IS 3025 (P-16), RA2012                           | 46                                   | 36                                     |
| 14      | Total Suspended Solids mg/l              | APHA 22 <sup>nd</sup> EDN 2540 D                 | 10                                   | 12                                     |
| 15      | D.O.                                     | APHA 22 <sup>nd</sup> EDN 4500 O-C               | 4.0                                  | 3.8                                    |
| 16      | COD                                      | APHA 22 <sup>nd</sup> EDN 5220 B                 | 6                                    | 7                                      |
| 17      | Oil and Grease mg/l                      | IS 3025 (P-39), RA2009                           | <0.1                                 | <0.1                                   |

Tested by:

A. CHATTERJEE

Authorized Signatory

P. DUTTA  
(Technical Manager)

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# SUPERINTENDENCE COMPANY OF INDIA PRIVATE LIMITED

## LABORATORY :

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Website: www.superintendencecoindia.com

GSTIN : 19AAECS3740C2ZJ



(An ISO 9001 : 2015 Certified)



TC-8066

## TEST REPORT

|                               |                                                                                                                     |                  |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------|------------------|
| Report No N- 820              | ULR-TC806622000000272F                                                                                              | Date: 18.04.2022 |
| Name and Address of Customer: | M/s. M.G. MOHANTY.<br>Patabeda Iron Mines (19.425Ha)<br>Patabeda, P.O. Malda, P.S. Koira, Dist.: Sundergarh, Odisha |                  |
| Work-order no. and Date:      | MGM/CO/2021/217 Dated: 12/03/2021                                                                                   |                  |
| Sample receiving date:        | 28.03.2022                                                                                                          |                  |
| Sub:                          | Water monitoring                                                                                                    |                  |
| Material:                     | Surface Water                                                                                                       |                  |
| Group:                        | Water                                                                                                               |                  |

Date of starting of Test 28.03.2022

Date of completion of Test: 06.04.2022

| Sl. No. | Specific Test Performed     | Test Method                                      | Test Result                          |                                        |
|---------|-----------------------------|--------------------------------------------------|--------------------------------------|----------------------------------------|
|         |                             |                                                  | SW1<br>Up-Stream<br>Nalla(Kakarpani) | SW2<br>Down-Stream<br>Nalla(Kakarpani) |
|         |                             |                                                  | Date of<br>Collection<br>23.03.22    | Date of<br>Collection<br>23.03.22      |
| 18      | Iron as Fe mg/l             | APHA 22 <sup>nd</sup> EDN 3111 B                 | 0.243                                | 1.944                                  |
| 19      | Copper as Cu mg/l           | APHA 22 <sup>nd</sup> EDN 3111 B & C             | <0.04                                | <0.04                                  |
| 20      | Zinc as Zn mg/l             | APHA 22 <sup>nd</sup> EDN 3111 B & C             | <0.01                                | <0.01                                  |
| 21      | Aluminium as Al mg/l        | APHA 22 <sup>nd</sup> EDN 3500 A-B               | <0.2                                 | <0.05                                  |
| 22      | Boron as B mg/l             | APHA 22 <sup>nd</sup> EDN 4500 B-B               | <1.0                                 | <1.0                                   |
| 23      | Manganese as Mn mg/l        | APHA 22 <sup>nd</sup> EDN 3111 B                 | <0.03                                | <0.03                                  |
| 24      | Lead as Pb mg/l             | APHA 22 <sup>nd</sup> EDN 3120 B                 | <0.01                                | <0.01                                  |
| 25      | Cadmium as Cd mg/l          | APHA 22 <sup>nd</sup> EDN 3111 B & C             | <0.01                                | <0.01                                  |
| 26      | Arsenic as As mg/l          | APHA 22 <sup>nd</sup> EDN 3120 B                 | <0.01                                | <0.01                                  |
| 27      | Mercury as Hg mg/l          | IS 3025 (P-48)MURCURY ANALYSER                   | <0.001                               | <0.001                                 |
| 28      | Nickel as Ni mg/l           | APHA 22 <sup>nd</sup> EDN 3111 B & C             | <0.02                                | <0.02                                  |
| 29      | Chromium as Cr +6mg/l       | APHA 22 <sup>nd</sup> EDN 3500 B                 | <0.05                                | <0.05                                  |
| 30      | Phenolic compound mg/l      | APHA 22 <sup>nd</sup> EDN 5530 D                 | <0.001                               | <0.001                                 |
| 31      | Cyanide as CN mg/l          | APHA 22 <sup>nd</sup> EDN 4500 E                 | <0.05                                | <0.05                                  |
| 32      | Sulphide as S mg/l          | APHA 22 <sup>nd</sup> EDN 4500 S <sup>2</sup> -F | N.T                                  | N.T                                    |
| 33      | Free Ammonia as N mg/l      | IS 3025 (P-34)                                   | N.T                                  | N.T                                    |
| 34      | Kjeldahl Nitrogen as N mg/l | IS 3025 (P-34)                                   | 3                                    | 4                                      |
| 35      | Ammonia as N mg/l           | IS 3025 (P-34)                                   | <0.02                                | <0.02                                  |

Tested by:

A. CHATTERJEE

Authorized Signatory

P. DUTTA  
(Technical Manager)

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GSTIN : 19AAECS3740C2ZJ



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TC-8066

## TEST REPORT

| ULR-TC806621000000292F        |                                                                                                                     |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Report No. N- 821             | Date: 19.04.2022                                                                                                    |
| Name and Address of Customer: | M/s. M.G. MOHANTY.<br>Patabeda Iron Mines (19.425Ha)<br>Patabeda, P.O. Malda, P.S. Koira, Dist.: Sundergarh, Odisha |
| Work-order no. and Date:      | MGM/CO/2021/217 Dated: 12/03/2021                                                                                   |
| Sample receiving date:        | 28.03.2022                                                                                                          |
| Sub:                          | Water monitoring                                                                                                    |
| Material:                     | Drinking Water.                                                                                                     |
| Group:                        | Water                                                                                                               |

## CHEMICAL REPORT

Date of starting of Test 28.03.2022

Date of completion of Test: 06.04.2022

| Sl. No. | Specific Test Performed                   | Test Method                                          | Permissible limit IS:10500/2012 ( max) | Test Result                   |                             |
|---------|-------------------------------------------|------------------------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
|         |                                           |                                                      |                                        | GW1 Patabeda vill (Bore Well) | GW2 Mines                   |
|         |                                           |                                                      |                                        | Date of Collection 23.03.22   | Date of Collection 23.03.22 |
| 1       | pH                                        | IS :3025,P-11, R.A 2009                              | 6.5 – 8.5                              | 6.52 at 27.8°C                | 6.87 at 27.6°C              |
| 2       | Colour(Hazen unit)                        | APHA, 22 <sup>nd</sup> Edn, 2120 B                   | 15                                     | <1.0                          | <1.0                        |
| 3       | Turbidity (NTU)                           | IS 3025 (P-10), R.A. 2006                            | 5                                      | 1.3                           | <1.0                        |
| 4       | Temperature °C                            | APHA, 22 <sup>nd</sup> Edn, 2550 B                   | -                                      | 27.8°C                        | 27.6°C                      |
| 5       | Total Hardness as CaCO <sub>3</sub> ,mg/l | IS 3025 (P-21), R.A. 2006                            | 600                                    | 24                            | 52                          |
| 6       | Alkalinity as CaCO <sub>3</sub> ,mg/l     | IS 3025 (P-23), R.A. 2014                            | 600                                    | 32                            | 56                          |
| 7       | Chlorides as Cl <sub>2</sub> , mg/l       | IS 3025, P-32                                        | 1000                                   | 8                             | 8                           |
| 8       | Calcium as Ca, mg/l                       | APHA 22 <sup>nd</sup> EDN 3500 Ca B                  | 200                                    | 9.6                           | 11.2                        |
| 9       | Magnesium as Mg, mg/l                     | APHA 22 <sup>nd</sup> EDN 3500 Mg B                  | 100                                    | <0.243                        | 5.823                       |
| 10      | Residual Free Chlorine, mg/l              | IS 3025, P-34                                        | 1.0                                    | <1.0                          | <1.0                        |
| 11      | Sulphate as SO <sub>4</sub> ,mg/l         | APHA, 22 <sup>nd</sup> Edn, 4500 SO <sub>4</sub> E   | 400                                    | <1.0                          | <1.0                        |
| 12      | Nitrate as NO <sub>3</sub> , mg/l         | APHA, 22 <sup>nd</sup> Edn, 4500 NO <sub>3</sub> - B | 45                                     | 1.23                          | 1.07                        |

Tested by

A. CHATTERJEE

Authorised Signatory

P. DUTTA (Technical Manager)

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 GSTIN : 19AAECS3740C2ZJ



(An ISO 9001 : 2015 Certified)



TC-8066

## TEST REPORT

ULR-TC806622000000292F

|                                      |                                                                                                                     |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Report No. N- 821</b>             | <b>Date: 19.04.2022</b>                                                                                             |
| <b>Name and Address of Customer:</b> | M/s. M.G. MOHANTY,<br>Patabeda Iron Mines (19.425Ha)<br>Patabeda, P.O. Malda, P.S. Koira, Dist.: Sundergarh, Odisha |
| <b>Work-order no. and Date:</b>      | MGM/CO/2021/217 Dated: 12/03/2021                                                                                   |
| <b>Sample receiving date:</b>        | 28.03.2022                                                                                                          |
| <b>Sub:</b>                          | Water monitoring                                                                                                    |
| <b>Material:</b>                     | Drinking Water.                                                                                                     |
| <b>Group:</b>                        | Water                                                                                                               |

Date of starting of Test 28.03.2022 **CHEMICAL REPORT**

Date of completion of Test: 06.04.2022

| Sl. No. | Specific Test Performed                                   | Test Method                            | Permissible limit IS:10500/2012 (max) | Test Result                                                    |                                            |
|---------|-----------------------------------------------------------|----------------------------------------|---------------------------------------|----------------------------------------------------------------|--------------------------------------------|
|         |                                                           |                                        |                                       | GW1 Patabeda vill (Bore Well)<br>Date of Collection 23.03.2022 | GW2 Mines<br>Date of Collection 23.03.2022 |
| 13      | Iron as Fe, mg/l                                          | APHA, 22 <sup>nd</sup> Edn, 3111 B     | 0.3                                   | 0.125                                                          | 0.182                                      |
| 14      | Copper as Cu, mg/l                                        | APHA, 22 <sup>nd</sup> Edn, 3111 B & C | 1.5                                   | <0.04                                                          | <0.04                                      |
| 15      | Manganese as Mn, mg/l                                     | APHA, 22 <sup>nd</sup> Edn, 3111 B     | 0.3                                   | <0.03                                                          | <0.03                                      |
| 16      | Phenolic Compounds C <sub>6</sub> H <sub>5</sub> OH, mg/l | APHA, 22 <sup>nd</sup> Edn, 5530 D     | 0.002                                 | <0.002                                                         | <0.002                                     |
| 17      | Zinc as Zn, mg/l                                          | APHA, 22 <sup>nd</sup> Edn, 3111 B & C | 15.0                                  | <0.01                                                          | <0.01                                      |
| 18      | Cadmium as Cd, mg/l                                       | APHA, 22 <sup>nd</sup> Edn, 3111 B & C | 0.003                                 | <0.003                                                         | <0.003                                     |
| 19      | Arsenic as As, mg/l                                       | APHA, 22 <sup>nd</sup> Edn, 3120 B     | 0.05                                  | <0.01                                                          | <0.01                                      |
| 20      | Cyanide as CN, mg/l                                       | APHA, 22 <sup>nd</sup> Edn, 4500 E     | 0.05                                  | <0.05                                                          | <0.05                                      |
| 21      | Lead as pb                                                | -                                      | -                                     | <0.01                                                          | <0.01                                      |
| 22      | Total Chromium as Cr <sup>+6</sup> , mg/l                 | APHA, 22 <sup>nd</sup> Edn, 3500 B     | 0.05                                  | <0.05                                                          | <0.05                                      |
| 23      | Mineral oil, mg/l                                         | IS :3025, P-39, R.A 2009               | 0.5                                   | <0.5                                                           | <0.5                                       |
| 24      | Fluoride as F, mg/l                                       | APHA, 22 <sup>nd</sup> Edn, 4500 F - D | 1.5                                   | <0.1                                                           | <0.1                                       |
| 25      | Total Dissolved solids (mg/l)                             | IS :3025, P-16, RA-2012                | 2000                                  | 44                                                             | 64                                         |
| 26      | Aluminium as Al mg/l                                      | APHA 22 <sup>nd</sup> Edn 3500 Al-B    | 0.2                                   | <0.2                                                           | <0.2                                       |
| 27      | Boron as B mg/l                                           | APHA 22 <sup>nd</sup> Edn 4500 B-B     | 1.0                                   | <0.05                                                          | <0.05                                      |
| 28      | Mercury as Hg, mg/l                                       | IS 3025, P-48, Mercury Analyser        | 0.001                                 | <0.001                                                         | <0.001                                     |

Tested by:

A. CHATTERJEE

Authorised Signatory

P. Dutta (Technical Manager)

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## TEST REPORT

|                               |                                                                                                                  |
|-------------------------------|------------------------------------------------------------------------------------------------------------------|
| Report No. N- 821             | Date: 19.04.2022                                                                                                 |
| Name and Address of Customer: | M/s. M.G. MOHANTY.<br>Patabeda Iron Mines (19.425Ha) Patabeda, P.O. Malda, P.S. Koira, Dist.: Sundergarh, Odisha |
| Work-order no. and Date:      | MGM/CO/2021/217 Dated:12/03/2021                                                                                 |
| Sample receiving date:        | 28.03.2022                                                                                                       |
| Sub:                          | Water monitoring                                                                                                 |
| Material:                     | Drinking Water.                                                                                                  |
| Group:                        | Water                                                                                                            |

Date of starting of Test 28.03.2022 **CHEMICAL REPORT**

Date of completion of Test: 06.04.2022

| Sl. No. | Specific Test Performed | Test Method               | Permissible limit<br>IS:10500/2<br>012<br>( max)) | Test Result                         |                                     |
|---------|-------------------------|---------------------------|---------------------------------------------------|-------------------------------------|-------------------------------------|
|         |                         |                           |                                                   | GW1<br>Patabeda vill<br>(Bore Well) | GW2<br>Mines                        |
|         |                         |                           |                                                   | Date of<br>Collection<br>23.03.2022 | Date of<br>Collection<br>23.03.2022 |
| 29      | Odour                   | IS 3025 (P-06), R.A. 1983 | Agreeable                                         | Agreeable                           | Agreeable                           |
| 30      | Taste                   | IS 3025 (P-07), R.A. 1984 | Agreeable                                         | Agreeable                           | Agreeable                           |

Tested by:

A. CHATTERJEE

Authorised Signatory

P. Dutta (Technical Manager)

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GSTIN : 19AAECS3740C2ZJ



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## TEST REPORT

|                               |                                                                                                                     |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Report No. N- 821             | Date: 19.04.2022                                                                                                    |
| Name and Address of Customer: | M/s. M.G. MOHANTY.<br>Patabeda Iron Mines (19.425Ha)<br>Patabeda, P.O. Malda, P.S. Koira, Dist.: Sundergarh, Odisha |
| Work order no. and Date:      | MGM/CO/2021/217 Dated:12/03/2021                                                                                    |
| Sample receiving date:        | 28.03.2022                                                                                                          |
| Sub:                          | Water monitoring                                                                                                    |
| Material:                     | Drinking Water.                                                                                                     |

## TEST RESULT OF BACTERIOLOGICAL

Date of starting of Test: 28.03.2022

Date of completion of Test:06.03.2022

| Sl. No. | Specific Test Performed     | Test Method        | Permissible Limits as per 10500:2012 | Test Result                   |                               |
|---------|-----------------------------|--------------------|--------------------------------------|-------------------------------|-------------------------------|
|         |                             |                    |                                      | GW1 Patabeda vill (Bore Well) | GW2 Mines                     |
|         |                             |                    |                                      | Date of Collection 23.03.2022 | Date of Collection 23.03.2022 |
| 1       | Coliform Organism / 100 ml. | As per IS: 1622-81 | Absent/100 ml                        | Absent                        | Absent                        |
| 2       | E. Coli / 100ml.            |                    | Absent/100 ml                        | Absent                        | Absent                        |

Tested by: *H. Roy*  
H. Roy R Dasgupta

Authorised Signatory  
*P. Dutta*  
P. Dutta (Technical Manager)

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**SUPERINTENDENCE CO. OF INDIA (P) LTD.**

**ENVIRONMENTAL BASELINE DATA GENERATION  
AT**

**M/S - M.G. MOHANTY**

**PROJECT: Patabeda Iron & Manganese Mines (19.425 Ha)**

**REPORT  
FOR THE MONTH OF DECEMBER 2021**

\*\*\*\*\*

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Kolkata - 700 071  
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# SUPERINTENDENCE COMPANY OF INDIA PRIVATE LIMITED

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Website : www.superintendencecoindia.com

GSTIN : 19AAECS3740C2ZJ



(An ISO 9001 : 2015 Certified)



TC-8066

## TEST REPORT

| ULR-TC806622000000088F        |                                                                                                                     |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------|
| REPORT NO. : N- 574           | DATE: 31.01.2022                                                                                                    |
| Name and Address of Customer: | M/s. M.G. MOHANTY.<br>Patabeda Iron Mines (19.425Ha)<br>Patabeda, P.O. Malda, P.S. Koira, Dist.: Sundergarh, Odisha |
| Ref. no. and Date:            | MGM/CO/2021/217 Dated: 12/03/2021                                                                                   |
| Sample receiving date:        | 31.12.2021                                                                                                          |
| Sub:                          | Environmental monitoring                                                                                            |
| Material:                     | Ambient Air                                                                                                         |
| Group:                        | Atmospheric Pollution                                                                                               |

### CHEMICAL TEST RESULT

Date of starting of Test: 10.01.2022

Date of completion of Test 17.01.2022.

| S.N. | Specific Test Performed                      | Test Method Specification against which tests are performed | Permissible limit as per NAAQS-2009         | Mines Quarry 15.12.21 | Haul Road 16.12.21 | Ganua camp 17.12.21 | Garuda camp 18.12.21 |
|------|----------------------------------------------|-------------------------------------------------------------|---------------------------------------------|-----------------------|--------------------|---------------------|----------------------|
| 1.   | PM 2.5 ( $\mu\text{g}/\text{m}^3$ )          | USEPA CFR-40, PART-50, APPX-L                               | 60 ( $\mu\text{g}/\text{m}^3$ ) (24 Hours)  | 31.32                 | 33.68              | 29.25               | 28.62                |
| 2.   | PM 10 ( $\mu\text{g}/\text{m}^3$ )           | IS: 5182 PART-23 2006 RA-2012                               | 100 ( $\mu\text{g}/\text{m}^3$ ) (24 Hours) | 56.88                 | 59.34              | 51.36               | 53.15                |
| 3    | SPM ( $\mu\text{g}/\text{m}^3$ )             | IS: 5182 PART-4 1999 RA-2010                                | -                                           | 114.57                | 119.26             | 103.19              | 108.36               |
| 4.   | SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ ) | IS: 5182 PART-2 2001 RA-2012                                | 80 ( $\mu\text{g}/\text{m}^3$ ) (24 Hours)  | 7.82                  | 8.29               | 6.52                | 7.33                 |
| 5.   | NO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ ) | IS: 5182 PART-6 2006 RA-2012                                | 80 ( $\mu\text{g}/\text{m}^3$ ) (24 Hours)  | 12.22                 | 13.59              | 11.09               | 11.68                |
| 6.   | CO (mg/m <sup>3</sup> )                      | IS: 5182 PART-10 1999 RA-2009                               | 4 mg/m <sup>3</sup> (1 Hour)                | 0.321                 | 0.333              | 0.248               | 0.169                |

Tested by:

A. Chatterjee

Authorized Signatory

P. Dutta

(Technical Manager)

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# SUPERINTENDENCE COMPANY OF INDIA PRIVATE LIMITED

## LABORATORY :

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E-mail : supind50@yahoo.co.in / supind2019@gmail.com  
Website : www.superintendencecoindia.com  
GSTIN : 19AAECS3740C2ZJ



TC-8066

## TEST REPORT

|                               |                                                                                                                     |                   |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------|-------------------|
| ULR-TC806622000000089F        |                                                                                                                     | Date - 31.01.2022 |
| Report No.: N- 575            |                                                                                                                     |                   |
| Name and Address of Customer: | M/s. M.G. MOHANTY,<br>Patabeda Iron Mines (19.425Ha)<br>Patabeda, P.O. Malda, P.S. Koira, Dist.: Sundergarh, Odisha |                   |
| Work Order No. and Date       | MGM/CO/2021/217 Dated:12/03/2021                                                                                    |                   |
| Date of Sample Received:      | 31.12.2021                                                                                                          |                   |
| Sub:                          | Environment Monitoring                                                                                              |                   |
| Material:                     | Fugitive Dust Emission Monitoring                                                                                   |                   |
| Group:                        | Atmospheric Pollution                                                                                               |                   |

### FUGITIVE DUST EMISSION MONITORING CHEMICAL TEST

Date of starting of test: 10.01.2022

Date of completion of test: 17.01.2022

| Sl. No. | Name of Tests              | Test Method                    | Permissible Limit as per OPCB | Test Result                             |
|---------|----------------------------|--------------------------------|-------------------------------|-----------------------------------------|
|         |                            |                                |                               | NAME OF STATIONS                        |
|         |                            |                                |                               | FD-1<br>Crusher Plant                   |
|         |                            |                                |                               | Sampling Collection Date<br>15/12./2021 |
| 01      | Particulate Matter (µg/m3) | IS:5182, PART-4, 2006, RA-2012 | 1200 (µg/m3)                  | 576.63                                  |

Note: The result of tested parameter of Fugitive Air are found within Permissible Limits of OSPCB

Tested by:  
A. Chatterjee

Authorized Signatory  
P. Dutta (Technical Manager)

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TC-8086

## TEST REPORT

|                               |                                                                                                                     |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------|
| ULR-TC80662200000090F         |                                                                                                                     |
| REPORT NO. : N- 576           | DATE:31.01.2022                                                                                                     |
| Name and Address of Customer: | M/s. M.G. MOHANTY.<br>Patabeda Iron Mines (19.425Ha)<br>Patabeda, P.O. Malda, P.S. Koira, Dist.: Sundergarh, Odisha |
| Ref. no. and Date:            | MGM/CO/2021/217 Dated:12/03/2021                                                                                    |
| Sample receiving date:        | 31.12.2021                                                                                                          |
| Sub:                          | Environmental monitoring                                                                                            |
| Material:                     | Ambient Noise                                                                                                       |
| Group:                        | Atmospheric Pollution                                                                                               |

## TEST REPORT

| S.N. | Name of tests                          | Reference                          | Permissible limit as per:<br>Ambient Noise Level            |                                                                                       | Location Details                    |                                         |                                 |                                        |
|------|----------------------------------------|------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------|---------------------------------|----------------------------------------|
|      |                                        |                                    | Standard as per Noise<br>Pollution Regulation Rule-<br>2000 | Limits in<br>dB(A)<br>Leq                                                             | Haul<br>Road<br>16.12.21<br>Monthly | Crusher<br>Plant<br>16.12.21<br>Monthly | D.G. Set<br>15.12.21<br>Monthly | Mines<br>Quarry<br>15.12.21<br>Monthly |
| 1.   | Equivalent<br>Sound level<br>dB(A) Leq | SUP/SOP<br>/4033SD<br>&<br>IS:9989 | Category of<br>area Zone                                    | 1. Industrial<br>75<br>2. Commercial<br>65<br>3. Residential<br>55<br>4. Silent<br>50 | 67.84                               | 74.32                                   | 71.64                           | 63.56                                  |

Tested by:

*[Signature]*  
A. Chatterjee

Authorized Signatory

*[Signature]*

P. Dutta

(Technical Manager)

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TC-8066

## TEST REPORT

|                               |                                                                                                                     |                  |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------|------------------|
| ULR-TC806622000000090F        |                                                                                                                     | DATE: 31.01.2022 |
| REPORT NO. : N- 576           |                                                                                                                     |                  |
| Name and Address of Customer: | M/s. M.G. MOHANTY.<br>Patabeda Iron Mines (19.425Ha)<br>Patabeda, P.O. Malda, P.S. Koira, Dist.: Sundergarh, Odisha |                  |
| Ref. no. and Date:            | MGM/CO/2021/217 Dated:12/03/2021                                                                                    |                  |
| Sample receiving date:        | 31.12.2021                                                                                                          |                  |
| Sub:                          | Environmental monitoring                                                                                            |                  |
| Material:                     | Ambient Noise Quarterly Report                                                                                      |                  |
| Group:                        | Atmospheric Pollution                                                                                               |                  |

## TEST REPORT

| S.N. | Name of tests                          | Reference                       | Permissible limit as per:<br>Ambient Noise Level           |                           | Location Details |             |
|------|----------------------------------------|---------------------------------|------------------------------------------------------------|---------------------------|------------------|-------------|
|      |                                        |                                 | Standard as per Noise<br>Pollution Regulation<br>Rule-2000 |                           | Ganua camp       | Garuda camp |
| 1.   | Equivalent<br>Sound level<br>dB(A) Leq | SUP/SOP/<br>4033SD &<br>IS:9989 | Category of<br>area Zone                                   | Limits in<br>dB(A)<br>Leq | 17.12.21         | 18.12.21    |
|      |                                        |                                 |                                                            |                           | Quarterly Report |             |
|      |                                        |                                 | 1. Industrial                                              | 75                        | 47.84            | 51.58       |
|      |                                        |                                 | 2. Commercial                                              | 65                        |                  |             |
|      |                                        |                                 | 3. Residential                                             | 55                        |                  |             |
|      |                                        |                                 | 4. Silent                                                  | 50                        |                  |             |

Tested by:

*FW. A. Chatterjee*  
A. Chatterjee

Authorized Signatory

*P. Dutta*  
P. Dutta

(Technical Manager)

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TC-8066

## TEST REPORT

|                               |                                                                                                                     |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------|
| ULR-TC806622000000086F        |                                                                                                                     |
| Report No N- 555              | Date: 31.01.2022                                                                                                    |
| Name and Address of Customer: | M/s. M.G. MOHANTY,<br>Patabeda Iron Mines (19.425Ha)<br>Patabeda, P.O. Malda, P.S. Koira, Dist.: Sundergarh, Odisha |
| Work-order no. and Date:      | MGM/CO/2021/217 Dated:12/03/2021                                                                                    |
| Sample receiving date:        | 22.12.2021                                                                                                          |
| Sub:                          | Water monitoring                                                                                                    |
| Material:                     | Surface Water                                                                                                       |
| Group:                        | Water                                                                                                               |

## CHEMICAL REPORT

Date of starting of Test 06.01.2022

Date of completion of Test 10. 01.2022

| Sl. No. | Specific Test Performed      | Test Method                          | Test Result                          |                                        |
|---------|------------------------------|--------------------------------------|--------------------------------------|----------------------------------------|
|         |                              |                                      | SW1<br>Up-Stream<br>Nalla(Kakarpani) | SW2<br>Down-Stream<br>Nalla(Kakarpani) |
|         |                              |                                      | Date of Collection<br>15.12.21       | Date of Collection<br>15.12.21         |
| 1       | pH                           | IS :3025,P-11, R.A 2009              | 6.5 at 22°C                          | 6.5 at 22°C                            |
| 2       | Temperature                  | APHA 22 <sup>nd</sup> EDN 2550 B     | 22°C                                 | 22°C                                   |
| 3       | Turbidity(NTU)               | IS 3025 (P-10), RA2006               | 6.2                                  | 8.0                                    |
| 4       | Residual Free Chlorine mg/l  | IS 3025 (P-26), RA2009               | <1.0                                 | <1.0                                   |
| 5       | Alkalinity as CaCo3 mg/l     | IS 3025 (P-23), RA2014               | 22                                   | 22                                     |
| 6       | Chloride as Cl mg/l          | IS 3025 (P-32), RA2009               | 16                                   | 10                                     |
| 7       | Total Hardness as CaCo3 mg/l | IS 3025 (P-21), RA2006               | 18                                   | 20                                     |
| 8       | Calcium as Ca mg/l           | APHA 22 <sup>nd</sup> EDN 3500Ca B   | 4                                    | 6                                      |
| 9       | Magnesium as Mg mg/l         | APHA 22 <sup>nd</sup> EDN 3500 Mg B  | 1.94                                 | 1.21                                   |
| 10      | Sulphate as So4 mg/l         | APHA 22 <sup>nd</sup> EDN 4500 SO4 E | 1.0                                  | 3.8                                    |
| 11      | Nitrate as No3 mg/l          | APHA 22 <sup>nd</sup> EDN 4500 NO3 B | 0.263                                | 1.058                                  |
| 12      | Fluoride as F mg/l           | APHA 22 <sup>nd</sup> EDN 4500 F D   | <0.1                                 | <0.1                                   |
| 13      | Total dissolve Solids mg/l   | IS 3025 (P-16), RA2012               | 38                                   | 42                                     |

Tested by:

A. CHATTERJEE

Authorized Signatory

P. DUTTA  
(Technical Manager)

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TC-8066

## TEST REPORT

|                               |                                                                                                                     |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------|
| ULR-TC806622000000086F        |                                                                                                                     |
| Report No N- 555              | Date: 31.01.2022                                                                                                    |
| Name and Address of Customer: | M/s. M.G. MOHANTY.<br>Patabeda Iron Mines (19.425Ha)<br>Patabeda, P.O. Malda, P.S. Koira, Dist.: Sundergarh, Odisha |
| Work-order no. and Date:      | MGM/CO/2021/217 Dated: 12/03/2021                                                                                   |
| Sample receiving date:        | 22.12.2021                                                                                                          |
| Sub:                          | Water monitoring                                                                                                    |
| Material:                     | Surface Water                                                                                                       |
| Group:                        | Water                                                                                                               |

Date of starting of Test 06.01.2022

Date of completion of Test: 10.01.2022

| Sl. No. | Specific Test Performed     | Test Method                          | Test Result                    |                                  |
|---------|-----------------------------|--------------------------------------|--------------------------------|----------------------------------|
|         |                             |                                      | SW1 Up-Stream Nalla(Kakarpani) | SW2 Down-Stream Nalla(Kakarpani) |
|         |                             |                                      | Date of Collection 15.12.21    | Date of Collection 15.12.21      |
| 14      | Total Suspended Solids mg/l | APHA 22 <sup>nd</sup> EDN 2540 D     | 7.0                            | 10.0                             |
| 15      | D.O.                        | APHA 22 <sup>nd</sup> EDN 4500 O-C   | 4.8                            | 4.5                              |
| 16      | COD                         | APHA 22 <sup>nd</sup> EDN 5220 B     | 5                              | 6                                |
| 17      | Oil and Grease mg/l         | IS 3025 (P-39), RA2009               | <0.1                           | <0.1                             |
| 18      | Iron as Fe mg/l             | APHA 22 <sup>nd</sup> EDN 3111 B     | 0.262                          | 0.492                            |
| 19      | Copper as Cu mg/l           | APHA 22 <sup>nd</sup> EDN 3111 B & C | <0.04                          | <0.04                            |
| 20      | Zinc as Zn mg/l             | APHA 22 <sup>nd</sup> EDN 3111 B & C | <0.01                          | <0.01                            |
| 21      | Aluminium as Al mg/l        | APHA 22 <sup>nd</sup> EDN 3500 Al-B  | <0.2                           | <0.2                             |
| 22      | Boron as B mg/l             | APHA 22 <sup>nd</sup> EDN 4500 B-B   | <1.0                           | <1.0                             |
| 23      | Manganese as Mn mg/l        | APHA 22 <sup>nd</sup> EDN 3111 B     | <0.03                          | <0.03                            |
| 24      | Lead as Pb mg/l             | APHA 22 <sup>nd</sup> EDN 3120 B     | <0.01                          | <0.01                            |

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Authorized Signatory

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TC-8066

## TEST REPORT

| ULR-TC806622000000086F        |                                                                                                                     |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Report No N- 555              | Date: 31.01.2022                                                                                                    |
| Name and Address of Customer: | M/s. M.G. MOHANTY.<br>Patabeda Iron Mines (19.425Ha)<br>Patabeda, P.O. Malda, P.S. Koira, Dist.: Sundergarh, Odisha |
| Work-order no. and Date:      | MGM/CO/2021/217 Dated:12/03/2021                                                                                    |
| Sample receiving date:        | 22.12.2021                                                                                                          |
| Sub:                          | Water monitoring                                                                                                    |
| Material:                     | Surface Water                                                                                                       |
| Group:                        | Water                                                                                                               |

Date of starting of Test 06.01.2022

Date of completion of Test: 13.01.2022

| Sl. No. | Specific Test Performed     | Test Method                                      | Test Result                          |                                        |
|---------|-----------------------------|--------------------------------------------------|--------------------------------------|----------------------------------------|
|         |                             |                                                  | SW1<br>Up-Stream<br>Nalla(Kakarpani) | SW2<br>Down-Stream<br>Nalla(Kakarpani) |
|         |                             |                                                  | Date of<br>Collection<br>15.12.21    | Date of<br>Collection<br>15.12.21      |
| 25      | Cadmium as Cd mg/l          | APHA 22 <sup>nd</sup> EDN 3111 B & C             | <0.003                               | <0.003                                 |
| 26      | Arsenic as As mg/l          | APHA 22 <sup>nd</sup> EDN 3120 B                 | <0.05                                | <0.05                                  |
| 27      | Mercury as Hg mg/l          | IS 3025 (P-48)MURCURY ANALYSER                   | <0.001                               | <0.001                                 |
| 28      | Nickel as Ni mg/l           | APHA 22 <sup>nd</sup> EDN 3111 B & C             | <0.02                                | <0.02                                  |
| 29      | Chromium as Cr +6mg/l       | APHA 22 <sup>nd</sup> EDN 3500 B                 | <0.05                                | <0.05                                  |
| 30      | Phenolic compound mg/l      | APHA 22 <sup>nd</sup> EDN 5530 D                 | <0.002                               | <0.002                                 |
| 31      | Cyanide as CN mg/l          | APHA 22 <sup>nd</sup> EDN 4500 E                 | <0.05                                | <0.05                                  |
| 32      | Sulphide as S mg/l          | APHA 22 <sup>nd</sup> EDN 4500 S <sup>2</sup> -F | N.T                                  | N.T                                    |
| 33      | Free Ammonia as N mg/l      | IS 3025 (P-34)                                   | N.T                                  | N.T                                    |
| 34      | Kjeldahl Nitrogen as N mg/l | IS 3025 (P-34)                                   | 2                                    | 3                                      |
| 35      | Ammonia as N mg/l           | IS 3025 (P-34)                                   | <0.02                                | <0.02                                  |

Tested by:

A. CHATTERJEE

Authorized Signatory

P. DUTTA  
(Technical Manager)

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TC-8066

## TEST REPORT

|                               |                                                                                                                     |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------|
| ULR-TC806622000000085F        |                                                                                                                     |
| Report No. N- 556             | Date: 31.01.2022                                                                                                    |
| Name and Address of Customer: | M/s. M.G. MOHANTY,<br>Patabeda Iron Mines (19.425Ha)<br>Patabeda, P.O. Malda, P.S. Koira, Dist.: Sundergarh, Odisha |
| Work-order no. and Date:      | MGM/CO/2021/217 Dated:12/03/2021                                                                                    |
| Sample receiving date:        | 22.12.2021                                                                                                          |
| Sub:                          | Water monitoring                                                                                                    |
| Material:                     | Drinking Water.                                                                                                     |
| Group:                        | Water                                                                                                               |

## CHEMICAL REPORT

Date of starting of Test 22.12.2021

Date of completion of Test: 28.12.2021

| Sl. No. | Specific Test Performed                   | Test Method                                          | Permissible limit IS:10500/2012 ( max) | Test Result                                                    |                                               |
|---------|-------------------------------------------|------------------------------------------------------|----------------------------------------|----------------------------------------------------------------|-----------------------------------------------|
|         |                                           |                                                      |                                        | GW1 Patabeda vill (Bore Well)<br>Date of Collection 15.12.2021 | GW2 (Mines )<br>Date of Collection 15.12.2021 |
| 1       | pH                                        | IS :3025,P-11, R.A 2009                              | 6.5 – 8.5                              | 6.5 at 18°C                                                    | 6.50 at 18°C                                  |
| 2       | Colour(Hazen unit)                        | APHA, 22 <sup>nd</sup> Edn, 2120 B                   | 15                                     | <1.0                                                           | <1.0                                          |
| 3       | Turbidity (NTU)                           | IS 3025 (P-10), R.A. 2006                            | 5                                      | <1.0                                                           | <1.0                                          |
| 4       | Temperature °C                            | APHA, 22 <sup>nd</sup> Edn, 2550 B                   | -                                      | 18°C                                                           | 18°C                                          |
| 5       | Total Hardness as CaCO <sub>3</sub> ,mg/l | IS 3025 (P-21), R.A. 2006                            | 600                                    | 28                                                             | 30                                            |
| 6       | Alkalinity as CaCO <sub>3</sub> ,mg/l     | IS 3025 (P-23), R.A. 2014                            | 600                                    | 28                                                             | 30                                            |
| 7       | Chlorides as Cl, mg/l                     | IS 3025, P-32                                        | 1000                                   | 6                                                              | 6                                             |
| 8       | Calcium as Ca, mg/l                       | APHA 22 <sup>nd</sup> EDN 3500 Ca B                  | 200                                    | 7.2                                                            | 6.4                                           |
| 9       | Magnesium as Mg, mg/l                     | APHA 22 <sup>nd</sup> EDN 3500 Mg B                  | 100                                    | 2.43                                                           | 3.4                                           |
| 10      | Residual Free Chlorine, mg/l              | IS 3025, P-34                                        | 1.0                                    | <1.0                                                           | <1.0                                          |
| 11      | Sulphate as SO <sub>4</sub> ,mg/l         | APHA, 22 <sup>nd</sup> Edn, 4500 SO <sub>4</sub> E   | 400                                    | 1.0                                                            | <1.0                                          |
| 12      | Nitrate as NO <sub>3</sub> , mg/l         | APHA, 22 <sup>nd</sup> Edn, 4500 NO <sub>3</sub> - B | 45                                     | 0.262                                                          | 0.386                                         |

Tested by

A. CHATTERJEE

Authorised Signatory

P. DUTTA (Technical Manager)

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TC-8086

## TEST REPORT

|                                      |                                                                                                                     |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Report No. N-556</b>              | <b>Date: 31.01.2022</b>                                                                                             |
| <b>Name and Address of Customer:</b> | M/s. M.G. MOHANTY.<br>Patabeda Iron Mines (19.425Ha)<br>Patabeda, P.O. Malda, P.S. Koira, Dist.: Sundergarh, Odisha |
| <b>Work-order no. and Date:</b>      | MGM/CO/2021/217 Dated: 12/03/2021                                                                                   |
| <b>Sample receiving date:</b>        | 22.12.2021                                                                                                          |
| <b>Sub:</b>                          | Water monitoring                                                                                                    |
| <b>Material:</b>                     | Drinking Water.                                                                                                     |
| <b>Group:</b>                        | Water                                                                                                               |

Date of starting of Test 22.12.2021

## CHEMICAL REPORT

Date of completion of Test: 28.12.2021

| Sl. No. | Specific Test Performed                                      | Test Method                            | Permissible limit<br>IS:10500/2<br>012<br>(max)) | Test Result                                                             |                                                    |
|---------|--------------------------------------------------------------|----------------------------------------|--------------------------------------------------|-------------------------------------------------------------------------|----------------------------------------------------|
|         |                                                              |                                        |                                                  | GW1<br>Patabeda vill<br>(Bore Well)<br>Date of Collection<br>15.12.2021 | GW2<br>(Mines)<br>Date of Collection<br>15.12.2021 |
| 13      | Iron as Fe, mg/l                                             | APHA, 22 <sup>nd</sup> Edn, 3111 B     | 0.3                                              | 0.206                                                                   | 0.082                                              |
| 14      | Copper as Cu, mg/l                                           | APHA, 22 <sup>nd</sup> Edn, 3111 B & C | 1.5                                              | <0.04                                                                   | <0.04                                              |
| 15      | Manganese as Mn, mg/l                                        | APHA, 22 <sup>nd</sup> Edn, 3111 B     | 0.3                                              | <0.03                                                                   | <0.03                                              |
| 16      | Phenolic Compounds<br>C <sub>6</sub> H <sub>5</sub> OH, mg/l | APHA, 22 <sup>nd</sup> Edn, 5530 D     | 0.002                                            | <0.002                                                                  | <0.002                                             |
| 17      | Zinc as Zn, mg/l                                             | APHA, 22 <sup>nd</sup> Edn, 3111 B & C | 15.0                                             | <0.01                                                                   | <0.01                                              |
| 18      | Cadmium as Cd, mg/l                                          | APHA, 22 <sup>nd</sup> Edn, 3111 B & C | 0.003                                            | <0.003                                                                  | <0.003                                             |
| 19      | Arsenic as As, mg/l                                          | APHA, 22 <sup>nd</sup> Edn, 3120 B     | 0.05                                             | <0.01                                                                   | <0.01                                              |
| 20      | Cyanide as CN, mg/l                                          | APHA, 22 <sup>nd</sup> Edn, 4500 E     | 0.05                                             | <0.05                                                                   | <0.05                                              |
| 21      | Lead as pb                                                   | --                                     | -                                                | <0.01                                                                   | <0.01                                              |
| 22      | Total Chromium as Cr <sup>++</sup> ,<br>mg/l                 | APHA, 22 <sup>nd</sup> Edn, 3500 B     | 0.05                                             | <0.05                                                                   | <0.05                                              |
| 23      | Mineral oil, mg/l                                            | IS :3025, P-39, R.A 2009               | 0.5                                              | <0.5                                                                    | <0.5                                               |
| 24      | Fluoride as F, mg/l                                          | APHA, 22 <sup>nd</sup> Edn, 4500 F - D | 1.5                                              | <0.1                                                                    | <0.1                                               |
| 25      | Total Dissolved solids<br>(mg/l)                             | IS :3025, P-16, RA-2012                | 2000                                             | 38                                                                      | 30                                                 |
| 26      | Aluminium as Al mg/l                                         | APHA 22 <sup>nd</sup> Edn 3500 Al-B    | 0.2                                              | <0.2                                                                    | <0.2                                               |
| 27      | Boron as B mg/l                                              | APHA 22 <sup>nd</sup> Edn 4500 B-B     | 1.0                                              | <1.0                                                                    | <1.0                                               |
| 28      | Mercury as Hg, mg/l                                          | IS 3025, P-48, Mercury<br>Analyser     | 0.001                                            | <0.001                                                                  | <0.001                                             |

Tested by:

A. CHATTERJEE

Authorised Signatory

P. Dutta (Technical Manager)

- Note : 1) This report refers to the values obtained at the time of testing and results relate to the items tested.  
2) This Report shall not be reproduced in part or full without written permission of the management.  
3) Liability for return of samples ceases after 15 days from the date of test report.



# SUPERINTENDENCE COMPANY OF INDIA PRIVATE LIMITED

## LABORATORY :

PLOT NO. Y-23, BLOCK-EP, SECTOR-V, SALT LAKE CITY, KOLKATA-700 091

☎ : (033) 2357-1492 / 4670 / 71 / 5039 - 44 • Fax : (033) 2357 - 4806

E-mail : supind50@yahoo.co.in / supind2019@gmail.com

Website : www.superintendencecoindia.com

GSTIN : 19AAECS3740C2ZJ



(An ISO 9001 : 2015 Certified)

## TEST REPORT

|                               |                                                                                                                  |
|-------------------------------|------------------------------------------------------------------------------------------------------------------|
| Report No. N-556              | Date: 31.01.2022                                                                                                 |
| Name and Address of Customer: | M/s. M.G. MOHANTY.<br>Patabeda Iron Mines (19.425Ha) Patabeda, P.O. Malda, P.S. Koira, Dist.: Sundergarh, Odisha |
| Work-order no. and Date:      | MGM/CO/2021/217 Dated:12/03/2021                                                                                 |
| Sample receiving date:        | 22.12.2021                                                                                                       |
| Sub:                          | Water monitoring                                                                                                 |
| Material:                     | Drinking Water.                                                                                                  |
| Group:                        | Water                                                                                                            |

Date of starting of Test 22.12.2021 CHEMICAL REPORT

Date of completion of Test: 28.12.2021

| Sl. No. | Specific Test Performed | Test Method               | Permissible limit<br>IS:10500/2<br>012<br>( max)) | Test Result                                                                |                                                       |
|---------|-------------------------|---------------------------|---------------------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------|
|         |                         |                           |                                                   | GW1<br>Patabeda vill<br>(Bore Well)<br>Date of<br>Collection<br>15.12.2021 | GW2<br>(Mines)<br>Date of<br>Collection<br>15.12.2021 |
| 29      | Odour                   | IS 3025 (P-06), R.A. 1983 | Agreeable                                         | Agreeable                                                                  | Agreeable                                             |
| 30      | Taste                   | IS 3025 (P-07), R.A. 1984 | Agreeable                                         | Agreeable                                                                  | Agreeable                                             |

Tested by

A. CHATTERJEE

Authorised Signatory

P. Dutta (Technical Manager)

- Note : 1) This report refers to the values obtained at the time of testing and results relate to the items tested.  
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# SUPERINTENDENCE COMPANY OF INDIA PRIVATE LIMITED

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☎ : (033) 2357-1492 / 4670 / 71 / 5039 - 44 • Fax : (033) 2357 - 4806

E-mail : supind50@yahoo.co.in / supind2019@gmail.com

Website : www.superintendencecoindia.com

GSTIN : 19AAECS3740C2ZJ



(An ISO 9001 : 2015 Certified)

| TEST REPORT                   |                                                                                                                     | Date: 31.01.2022 |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------|------------------|
| Report No. N- 556             |                                                                                                                     |                  |
| Name and Address of Customer: | M/s. M.G. MOHANTY,<br>Patabeda Iron Mines (19.425Ha)<br>Patabeda, P.O. Malda, P.S. Koira, Dist.: Sundergarh, Odisha |                  |
| Work-order no. and Date:      | MGM/CO/2021/217 Dated:12/03/2021                                                                                    |                  |
| Sample receiving date:        | 22.12.2021                                                                                                          |                  |
| Sub:                          | Water monitoring                                                                                                    |                  |
| Material:                     | Drinking Water.                                                                                                     |                  |

## TEST RESULT OF BACTERIOLOGICAL

Date of starting of Test: 22.12.2021

Date of completion of Test: 28.12.2021

| Sl. No. | Specific Test Performed     | Test Method        | Permissible Limits as per 10500:2012 | Test Result                         |                                  |
|---------|-----------------------------|--------------------|--------------------------------------|-------------------------------------|----------------------------------|
|         |                             |                    |                                      | GW1<br>Patabeda vill<br>(Bore Well) | GW2<br>(Mines)                   |
|         |                             |                    |                                      | Date of Collection<br>15.12.2021    | Date of Collection<br>15.12.2021 |
| 1       | Coliform Organism / 100 ml. | As per IS: 1622-81 | Absent/100 ml                        | Absent                              | Absent                           |
| 2       | E. Coli / 100ml.            |                    | Absent/100 ml                        | Absent                              | Absent                           |

Tested by:

R. Dasgupta

H. Roy

Authorised Signatory

P. Dutta (Technical Manager)

- Nota : 1) This report refers to the values obtained at the time of testing and results relate to the items tested.  
2) This Report shall not be reproduced in part or full without written permission of the management.  
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## **ANNEXURE-G**



**PHOTOGRAPH OF ETP**

**ANNEXURE-H**

**LEASE DEED**



उड़ीसा ORISSA

B 585616

Registration

I.D. No.

Document No.

Book No.

Dated

1721100472

11721100472

VAL NO. 10

25th

day of August, 2016

Registering Officer

2016

fee paid

RS. 5205256

100 240

RS. 5365496

2016



For M/s.

Rajib Kumar Mohanty

Managing Partner

### SUPPLEMENTARY LEASE DEED

This Indenture made this 1st day of August, 2016 between the Governor of Odisha (hereinafter referred to as the "State Government" which expression shall where the context so admits be deemed to include the successors and assigns) of the one part

AND

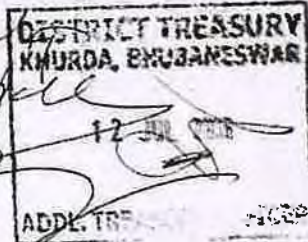
M/s. M. G. Mohanty a Partnership Firm registered under the Indian Partnership Act, 1932 (9 of 1932) and having their Registered Office at 2A, Forest Park,

For M/s. M.G. Mohanty  
Rajib Kumar Mohanty  
Managing Partner

COLLECTOR  
SUNDARGARH

37774  
10.7.16

M/S M.G. Mohapatra  
Faridkot



Ajay K. Panda  
Stamp Vendor  
Bhubaneswar

### Endorsement of the certificate of admissibility

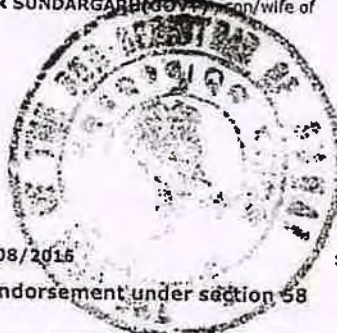
Admissible under rule 25: duly stamped under the Indian stamp (Orissa Amendment act 1 of 2008) Act 1899, Schedule 1-A No. 35(b) Fees Paid : A5(c)-5365256,, User Charges-240 ,Total 5365496

Date: 25/08/2016

Signature of Registering officer

### Endorsement under section 52

Presented for registration in the office of the Sub-Registrar BANEI between the hours of 10:30 AM and 2:30 PM on the 25/08/2016 by COLLECTOR SUNDARGARH (GOVT) son/wife of , of SUNDARGARH , by caste , profession and finger prints affixed.



Signature of Presenter / Date: 25/08/2016

Signature of Registering officer

### Endorsement under section 58

Execution is admitted by :

| Name                        | Photo                                                                                                                             | Thumb Impression                                                                                                                  | Signature                                                                                                                                          | Date of Admission of Execution |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| COLLECTOR SUNDARGARH (GOVT) | Execution By COLLECTOR SUNDARGARH (GOVT) Who is Exempt from personal Appearance in this office U/S 88 Act XVI of 1908 approved by | Execution By COLLECTOR SUNDARGARH (GOVT) Who is Exempt from personal Appearance in this office U/S 88 Act XVI of 1908 approved by | Execution By COLLECTOR SUNDARGARH (GOVT) Who is Exempt from personal Appearance in this office U/S 88 Act XVI of 1908 approved by Signature of the |                                |

Bhubaneswar-751009 being represented through its Managing Partner and Power of Attorney holder, Sri Rajib Lochan Mohanty, S/o Late Managobinda Mohanty aged about 66 years at present residing at Plot No.2A, Forest Park, Bhubaneswar-751009, Odisha (hereinafter referred to as "the lessee" which expression shall where context so admits be deemed to include his/its/their successors and permitted assigns) of the Other Part.

WHEREAS the lessee/lessees has/have executed a mining lease deed on date 03.04.1986 in accordance with the Mineral Concession Rules, 1960 (hereinafter referred to as the said Rules), in respect of the land and described in Part 1 of the schedule of the said lease of Iron & Manganese Ore over an area of 19.425 Hects. or 48.00 Acres in village Patabeda under Bonai Sub-Division of Sundargarh District, which has been registered vide No.460 (O) and 461 (D) of 1986 in the office of the Sub-Registrar, Sundargarh on dated 04.04.1986 (hereinafter referred to as the said lease);

AND, WHEREAS the period of the said lease deed was valid from 03.04.1986 to 02.04.2006.

AND WHEREAS after expiry of the validity period of the said lease deed, the lessee had continued to conduct mining operations in the said lease under the deemed extension provisions of section 8 of the Mines and Minerals (Development and Regulations) Act, 1957 (hereinafter referred as the MMDR Act) with the permission of the party of the First Part till date.

AND, WHEREAS the MMDR Act has been amended with effect from 12.01.2015 and section 8A has been inserted in the said Act, providing for extension of validity period of lease granted in the past under the provisions of the said Act, subject to fulfillment of conditions provided therein;

For M/s. M.G. Mohanty

*Rajib Lochan Mohanty*  
Managing Partner

*[Signature]*  
COLLECTOR  
SUNDARGARH



*Am 23/8/16*  
sub Registra.  
BUNAI

AND, WHEREAS the Government of Odisha has decided to extend the validity period of the lease upto 2<sup>nd</sup> April, 2036, subject to all the conditions in the said lease deed and subject to the following additional conditions, as described herein below at paragraphs 1 to 9 AND, it is hereby mutually agreed between the parties that :

AND, WHEREAS this supplementary lease deed is a part and parcel of the said deed and the terms and conditions are in furtherance to the terms and conditions in addition to the terms and conditions agreed to in the said lease deed.

1. The lessee will furnish an undertaking that he will make the payment of the demand raised or to be raised under section 21(5) of the MMDR Act in accordance with the directions of the Hon'ble Supreme Court/ Competent forum within 60 days of such disposal or such other time as may be decided by the competent forum, before executing the supplementary lease deed. This undertaking also forms part of the supplementary mining lease deed as a Special Condition.
2. The extension of validity is without prejudice to ongoing proceedings, if any, for lapsing or determination of lease which have been initiated or may be initiated in accordance to the provisions of MMDR Act, 1957 or rules framed there under.
3. The extension of validity is without prejudice to any action to be initiated/already initiated under the provisions of the Environment (Protection) Act, Odisha Forest Act or any other law for the time being in force in the relevant time in respect of any violations committed by the lessee during the original period of lease or during the period of deemed extension.
4. The extension of validity period of lease is subject to the result/ outcome of the case Writ Petition (Civil) 114/2014 (Common Cause-Vrs.-Union of India and Others) pending in Hon'ble Supreme Court of India, where the Shah Commission Report and CEC Report are under active consideration.

For M/s. M.D. Mohanty  
*Rajib Lochan Mohanty*  
 Managing Partner

  
 COLLECTOR  
 SUNDARGARH



*Handwritten signature and date: 25/8/16*

Sub Registrar  
BUNAI

5. The extension is subject to condition that any terms and conditions of the original lease, if not complied so far, shall be complied by the lessee within such period as may be specified by the competent authority and the lessee shall furnish an undertaking to such effect.
6. The lease is subject to condition that the lessee shall not enter upon any Forest of any category to which the provisions of the Forest (Conservation) Act, 1980 are applicable without previous sanction of the Competent Authority nor fell, cut and use any timber or trees without obtaining the sanction of that authority nor otherwise than in accordance with such conditions as the State Government may prescribe.
7. The lessee company shall not undertake mining operation except under and in accordance to the approvals under the Forest (Conservation) Act, 1980 and the Environment (Protection) Act, 1986 and rules framed thereunder.
8. Additional condition as per Letter No: 9179,/DM Dt.21.10.2014 of Director of Mines , Bhubaneswar.

The Lessee shall abide by the outcome of final orders of Hon'ble High Court of Odisha in the writ petitions relating to Indian Stamp (Odisha) Amendment Act, 2013 and Indian Stamp (Odisha) Amendment Rules, 2013 pending before Hon'ble High Court of Odisha and accordingly shall pay the differential stamp duty , if any.

In case of production level is enhanced through the modification of mining plan in future, the stamp duty may be re-assessed on the differential production level and the lessee shall deposit the differential stamp duty before such enhancement is actually carried out by him.

For M/s. M.G. Mohanty  
*Rajib Lochan Mohanty*  
 Managing Partner

  
 COLLECTOR  
 SUNDARGARH



*Am 25/10/16*  
Sub Registra  
BUNAI

9. Special Condition as per Notification F NO.10/75/2008-MV, New Delhi, dt. 23.12.2010 of Ministry of Mines, Govt. of India.

The lessee shall

- (a) Ensure that prospecting work is carried out in his lease area at his own cost in such mining lease where:

- i) Prospecting has not been done and a Prospecting Report has not been filed with the Indian Bureau of Mines.
- ii) The Prospecting Report for the mining lease has been prepared in terms of standards that are materially different or incompatible with UNFC standards.
- iii) Fresh prospecting work has become necessary for such minerals for which the threshold values have been revised by the Indian Bureau of Mines and
- iv) Fresh prospecting is required to prove the depth persistency of the ore or mineral deposit.

- (b) Ensure that prospecting work, if required under clause (a) above, shall be completed as per the time-schedule given below

| Sl. No. | Item                                                                           | Time Limit                                                                                                                                                                                                     |
|---------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.      | All mining lease with an area of less than 10 hectares.                        | Within one year of the imposition of the condition in the mining lease.                                                                                                                                        |
| 2.      | All mining leases with an area more than 10 hectrs. and less than 50 hectares. | One half of the area within one year of the imposition of the condition in the mining lease and remaining half of the mining lease area within three years of imposition of condition in the mining lease.     |
| 3.      | All mining leases with an area of more than 50 hectares.                       | The mining lease area to be equally demarcated for prospecting work such that all the prospecting work is completed in a period of five years from the date of imposition of the condition in the mining lease |

For M/s. M.G. Mohanty  
*Rajit Lochan Mohanty*  
 Managing Partner

  
 COLLECTOR  
 SUNDARGARH



*[Handwritten signature]*  
Sub Registrar,  
BUNAI

(c) Submit:

- (i) Yearly report on the progress in the prospecting work along with the expenditure details and a copy of the interim Prospecting Report, where the prospecting report is for a part area as at serial number (2) and (3) of the sub-clause (b) above; and
- (ii) Complete Prospecting Report with a feasibility report of end of the Prospecting Report.

to the Chief Controller of Mines, Indian Bureau of Mines, and concerned State Government.

AND WHEREAS, the party of the Second Part has agreed to all these terms and conditions and has agreed to execute a supplementary lease deed accepting the extension of the validity period of lease.

NOW, THEREFORE the period of validity of the said lease deed is hereby extended and deemed to have been extended upto 2<sup>nd</sup> April, 2036 subject to all terms and conditions of the said lease, and the further terms and conditions described in this supplementary lease deed.

For M/s. M.G. Mohanty

*Rajib Lochan Mohanty*  
Managing Partner

  
COLLECTOR  
SUNDARGARH



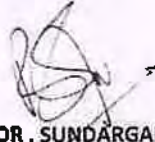
*Am. S. S. S.*  
Sub Registrar  
SONAI

For the purpose of stamp duty the anticipated royalty from the demised land is **Rs.8,93,55,382/- (Rupees Eight Crores Ninety Three Lakhs Fifty Five Thousands Three Hundred Eighty Two) only per year for Iron Ore.** There will be no production of Manganese Ore as per the approved mining scheme. {Security deposit Rs.10,000/-, Surface Rent -Rs.3,000/- per Hect.}.

IN WITNESS

WHEREOF these presents have been executed in the manner hereunder appearing the day and year first above written.

Signed by

  
COLLECTOR, SUNDARGARH

For and on behalf of the Governor of Odisha

COLLECTOR  
SUNDARGARH

In the presence of witnesses

1. Sudany Chandra Patel,  
S.C., Mining Section,  
Collectorate, Sundargarh.

2. Parashram Mishra,  
S.E. G.M. Section,  
Collectorate, Sundargarh.

For M/s. M.G. Mohanty

Rajib Lochan Mohanty  
Managing Partner

Sri Rajib Lochan Mohanty,  
Managing Partner & PA Holder,  
M/s. M. G. Mohanty (Lessee)

In the presence of witnesses

1. Nalini Rajaa Pattanai  
227 Manaswini Tower  
Bomêkhaj Bhubaneswar-751016

2. Ambuja Kumar Nanda  
At. Lokanathpur, P.O. Badagunda  
Dist - Dhenkanal

*Compound Case No. 24 / 2016*

*Certified that deficit amount  
Rs 134,2137 /- and penalty Rs 5/- total  
Rs 134,2141/- Chupar one crore thirty four  
lakh twelve thousand one hundred forty four  
But as per D. D. No 572301 dt 20.7.2016  
Rs 134,12,599 /- Chupar one crore thirty four lakh  
twelve thousand five hundred ninety nine of have been  
collected from the party.*

*Sub Registrar*  
BUNAI

|                      |                                                                                   |                                                                                                |                             |             |
|----------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-----------------------------|-------------|
|                      |                                                                                   | Registering officer                                                                            |                             |             |
| RAJIB LOCHAN MOHANTY |  | <br>240681537 | <i>Rajib Lochan Mohanty</i> | 25-Aug-2016 |

Identified by NALINI RANJAN PATTANAIAK Son/Wife of UGRESEN PATTANAIAK of 227 MANORAMA TOWAR BOMIKHAL BHUBANESWAR-751010 SUNDARGARH by profession Service

| Name                     | Photo                                                                               | Thumb Impression                                                                                | Signature                      | Date of Admission of Execution |
|--------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------|
| NALINI RANJAN PATTANAIAK |  | <br>40241896 | <i>Nalini Ranjan Pattanaik</i> | 25-Aug-2016                    |

Date: 25/08/2016

*Sub Registrar*  
BUNAI

Endorsement of certificate of registration under section 60

Registered and true copy filed in : Office of the Sub-Registrar, BANEI

Book Number : 1 | Volume Number : 10

Document Number : 11721600472

For the year : 2016

Seal :

Date: 25/08/2016

*Sub Registrar*  
BUNAI



  
**Miscellaneous Receipt**

Date : 25/08/2016  
Name : MS MG  
Registration No. : MOHANTY  
Head of Item : 1721600472  
Amount(Rs.) : Deficit Stamp Duty  
13412144

Date : 25-08-2016 Signature and Stamp of Registering Officer

*470-518/16*

BOND



Miscellaneous Receipt

Date : 25/08/2016  
Name : MS MG  
MOHANTY  
Registration No. : 1721600472  
Head of item : Deficit Stamp Duty  
Amount(Rs.) : 13412144

*470 25/8/16*

Date :25-08-2016

Signature and Stamp of Registrar  
Registering Officer  
BUN

**ANNEXURE: I**

**COPY OF APPROVAL OF  
MODIFICATION OF REVIEW OF MINIG PLAN**



भारत सरकार GOVERNMENT OF INDIA  
खान मंत्रालय MINISTRY OF MINES  
भारतीय खान ब्यूरो INDIAN BUREAU OF MINES  
क्षेत्रीय खान नियंत्रक के कार्यालय  
OFFICE OF THE REGIONAL CONTROLLER OF MINES



By Regd. Parcel / E-Mail  
Phone: 0674-2352463;  
Tele Fax: 0674-2352490;  
eMail:

ro.bhubaneswar@ibm.gov.in  
Plot No.149, Pokhariput  
BHUBANESWAR-751020

No. RMP/A/41-ORI/BHU/2020-21

Date: 15.01.2021

To

Shri Rajib Lochan Mohanty,  
Nominated Owner, M/s M. G.  
Mohanty, 5A, Forest Park,  
Bhubaneswar, Odisha-751009

Sub: Approval of Review of Mining Plan of Patabeda Iron & Manganese Mine along with Progressive Mine Closure Plan (PMCP) over an area of 19.425 ha in Sundargarh district of Odisha of M/s M. G. Mohanty submitted under Rule-17 of MCR, 2016.

Ref: -i) Your letter no. MGM/CO/2020-21/11 dated nil received on 14.12.2020.  
ii) This office letter of even no. dated 14.12.2020.  
iii) This office letter of even no. dated 14.12.2020 addressed to the Director of Mines, Govt. of Odisha, copy endorsed to you.  
iv) This office letter of even no. dated 23.12.2020.  
v) Your letter no. MGM/CO/2020-21/01-179 dated 07.01.2021 received on 12.01.2021.

Sir,

In exercise of the power delegated to me vide Gazette Notification No. S.O. 1857 (E) dated 18.05.2016, I hereby Approve the Review of Mining Plan including Progressive Mine Closure Plan of Patabeda Iron & Manganese Mine over an area of 19.425 ha of M/s M. G. Mohanty in Sundargarh district of Odisha State submitted under Rule 17 of Mineral Concession Rules, 2016. This approval is subject to the following conditions:

- I. The Review of Mining Plan is approved without prejudice to any other law applicable to the mine area from time to time whether made by the Central Government, State Government or any other authority and without prejudice to any order or direction from any court of competent jurisdiction.
- II. The proposals shown on the plates and/or given in the document is based on the lease map /sketch submitted by the applicant / lessee and is applicable from the date of approval.
- III. It is clarified that the approval of aforesaid Review of Mining Plan does not in any way imply the approval of the Government in terms of any other provision of Mines & Minerals (Development & Regulation) Act, 1957, or the Mineral Concession Rules, 2016 and any other laws including Forest (Conservation) Act, 1980, Environment (Protection) Act, 1986 or the rules made there under, Mines Act, 1952 and Rule & Regulations made there under.
- IV. Indian Bureau of Mines has not undertaken verification of the mining lease boundary on the ground and does not undertake any responsibility regarding correctness of the boundaries of the leasehold shown on the ground with reference to lease map & other plans furnished by the applicant / lessee.

- V. At any stage, if it is observed that the information furnished, data incorporated in the document are incorrect or misrepresent facts, the approval of the document shall be revoked with immediate effect.
- VI. If this approval conflicts with any other law or court order / direction under any statute, it shall be revoked immediately.
- VII. Validity of this document shall expire on 31.03.2026.
- VIII. Next financial assurance shall be due for submission on 31.03.2026.

Encl: - One copy of approved  
Review of Mining Plan

भवदीय / yours faithfully,

  
(HARKESH MEENA)

क्षेत्रीय खान नियंत्रक / Regional Controller of Mines

Copy for kind information to:-

1. The Director of Mines, Directorate of Mines, Government of Odisha, Heads of the Department Building, New Capital, Bhubaneswar- 751001, Odisha along with one copy of approved Review of Mining Plan by REGISTERED PARCEL.
2. Shri S. C. Nayak, Qualified Person, M/s Minesketch Consultants (P) Limited, Flat No-205, Bhagwan Tower, Cuttack Road, Bhubaneswar-751006.

(HARKESH MEENA)

क्षेत्रीय खान नियंत्रक / Regional Controller of Mines

**ANNEXURE: J**

**COPY OF ENVIRONMENTAL CLEARANCE**

No.J-11015/41/2006-IA.II (M)  
Government of India  
Ministry of Environment & Forests

Paryavaran Bhawan,  
C.G.O. Complex, Lodi Road,  
New Delhi - 110 003

Dated the 9<sup>th</sup> January, 2007

To

M/s M.G. Mohanty  
2 A, Forest Park,  
Bhubheswar-751 009,  
Orissa

Subject: Expansion of Patabeda Iron Ore Mining Project of M/s M.G. Mohanty located in Village Patabeda, Tehsil Bonai, District Sundergarh, Orissa -environmental clearance reg.

Sir,

This has reference to your letter No. MGM/HO/05-06/01-330 dated 08.02.2006 and subsequent letter dated 24.10.2006 on the subject mentioned above. It has been noted that the proposal is for grant of environmental clearance under the provisions of EIA Notification, 1994, for enhancement of production of iron ore from 1,44,000 tonnes per annum (TPA) to 1,80,000 TPA as well as renewal of mining lease. The total mine lease area of the project is 19.425 ha, out of which 16.507 ha is forestland and 2.918 ha is wasteland. Area proposed for mining is 14.182 ha, an area 3.049 ha is kept for OB dumps, 0.169 ha for mineral storage, 0.205 ha for infrastructure, 0.48 ha for roads, 1.29 ha for green belt and 0.05 ha is others (magazine). No ecologically sensitive area such as national park/sanctuary/BP etc. is reported to be located within core and buffer zone. Sidhamath Reserve Forest is in the North side. It has been envisaged that the applied area does not form part of national park, wildlife sanctuary, elephant corridor etc. There is one village having no population in the core zone, displacement of population and R&R is not involved. The targeted production capacity of the mine is 1,80,000 tonnes per annum and life of mine is 22 years. Working is opencast by semi-mechanized method involving blasting. Topography of the area is undulated and hilly. Elevation above mean sea level ranges from 650 -725 m. Mining will be carried out from surface of the hill top. Average depth of mining from top of hill will be 25-m. Water table in the area is at 580 mRL. Working will not intersect groundwater. Peak water requirement of the project is 20 m<sup>3</sup>/day, which will be met from Jurudi Nala and rain water harvested in a pond. Approximately 1802 m<sup>3</sup>/month of solid waste comprising 2 m<sup>3</sup>/month of topsoil and 1800 m<sup>3</sup>/month of OB will be generated. A total of 0.3 Million m<sup>3</sup> of OB has already been accumulated and stabilized in the form of external dump. It is estimated that about 0.466 million m<sup>3</sup> of OB will be generated during the mine life which will temporarily be stored as external OB dump and will be finally backfilled. The existing OB dump in an area of 0.5 ha in the south east

2/2/-

corner will remain as it is and is stabilized and balance area of 2.549 ha earmarked for OB dumps will be reclaimed after rehandling the waste. There will be no new external OB dump remained at the end of the mine life. The entire lease area of 18.945 ha will be afforested and there will be no void left at the post mining stage. The State Pollution Control Board, Orissa granted consent to establish to the project on 28.01.2006 for production enhancement of iron ore to 15000 MT/Month involving lease area of 19.425 ha. Public hearing is not applicable as per the old notification as the lease area is less than 25.0 ha. The Indian Bureau of Mines has approved mining plan including progressive mine closure plan on 05.07.2005 for lease area of 19.425 ha. The Capital cost of the project is Rs.200.0 lakhs.

2. The Ministry of Environment and Forests has examined the application in accordance with Section 12 of the EIA Notification, 2006 read with para 1.1 of the circular No.J-11013/41/2006-IA.II(I) dated 13.10.2006 and hereby accords environmental clearance under the provisions thereof to the above mentioned Patabeda Iron Ore Mining Project of M/s M.G Mohanty for annual production capacity of 1,80,000 tonnes (0.18million tonnes) of iron ore by opencast semi-mechanised method involving mining lease area of 19.425 ha subject to implementation of the following conditions and environmental safeguards.

✓ **A. Specific conditions**

- (i) All the conditions stipulated by the State Pollution Control Board in their Consent to establish should be effectively implemented.
- (ii) The environmental clearance is subject to grant of forestry clearance. The project proponent shall obtain necessary forestry clearance under the Forest (Conservation) Act, 1980 for an area of 16.507 ha forestland before starting mining operation in that area.
- (iii) The mining operations shall not intersect groundwater table. Prior approval of the Ministry of Environment & Forests and Central Ground Water Authority shall be obtained for mining below water table.
- (iv) The project proponent shall ensure that no natural watercourse shall be obstructed due to any mining operations.
- (v) Top soil shall be stacked properly with proper slope with adequate measures and should be used for reclamation and rehabilitation of mined out areas.
- (vi) The overburden likely to be generated during the mine life shall be temporarily stored as external OB dump and will be finally backfilled. The existing OB dump in an area of 0.5 ha in the south east corner should be scientifically vegetated with suitable native species to prevent erosion and surface run off. The over all slope of the dump shall not

exceed 28°. The balance area of 2.549 ha earmarked for OB dumps shall be reclaimed after rehandling the waste. There will be no new external OB dump created and remained at the end of the mine life. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forests on six monthly basis.

- (vii) Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from mine working, soil, OB and mineral dumps. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted particularly after monsoon and maintained properly.

Garland drain (size, gradient and length) shall be constructed for mine pit, soil, OB and mineral dumps and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and desilted at regular intervals.

- (viii) Dimension of the retaining wall at the toe of dumps and OB benches within the mine to check run-off and siltation should be based on the rain fall data.
- (ix) Plantation shall be raised in an area of 18.945 ha including a green belt of adequate width by planting the native species around ML area, OB dumps, roads etc. in consultation with the local DFO / Agriculture Department. The density of the trees should be around 2000 plants per ha.
- (x) The project authority should implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.
- (xi) Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring should be carried out four times in a year - pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to Ministry of Environment and Forests and its regional office, Central Ground Water Authority and Regional Director Central Ground Water Board.
- (xii) Permission from the competent authority should be obtained for drawal of water from Jurudi Nala and also ground water, if any.

2.4/-

- (xiii) Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with Regional Director, CGWB.
- (xiv) Vehicular emissions should be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The vehicles should be covered with a tarpaulin and shall not be overloaded.
- (xv) Blasting operation should be carried out only during the daytime. Controlled blasting should be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.
- (xvi) Drills shall either be operated with dust extractors or equipped with water injection system.
- (xvii) Consent to operate should be obtained from SPCB prior to start of enhanced production from the mine.
- (xviii) Sewage treatment plant should be installed for the colony. ETP should also be provided for workshop and wastewater generated during mining operation.
- (xix) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna if any spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Department. Necessary allocation of funds for implementation of the conservation plan shall be made and the funds so allocated shall be included in the project cost. Copy of action plan may be submitted to the Ministry and its Regional Office within 3 months.
- (xx) A Final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.

#### **B. General conditions**

- (i) No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.
- (ii) No change in the calendar plan including excavation, quantum of mineral iron ore and waste should be made.
- (iii) Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RPM, SPM, SO<sub>2</sub>, NO<sub>x</sub> monitoring. Location of the stations should be decided based on the

meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.

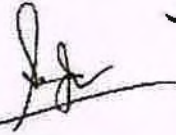
- (iv) Data on ambient air quality (RPM, SPM, SO<sub>2</sub>, NO<sub>x</sub>) should be regularly submitted to the Ministry including its Regional office located at Bhubneshwar and the State Pollution Control Board / Central Pollution Control Board once in six months.
- (v) Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.
- (vi) Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc should be provided with ear plugs / muffs.
- (vii) Industrial waste water (workshop and waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19<sup>th</sup> May, 1993 and 31<sup>st</sup> December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.
- (viii) Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.

Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.

- (ix) A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.
- (x) The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional Office located at Bhubneshwar.
- (xi) The project authorities should inform to the Regional Office located at Bhubneshwar regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

...6/-

- (xii) The Regional Office of this Ministry located at Bhubneshwar shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.
  - (xiii) A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom suggestion / representation has been received while processing the proposal.
  - (xiv) State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and Collector's office/ Tehsildar's Office for 30 days.
  - (xv) The project authorities should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment and Forests at <http://envfor.nic.in> and a copy of the same should be forwarded to the Regional Office of this Ministry located Bhubneshwar.
3. The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
  4. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
  5. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made thereunder.

  
 (SATISH C. GARKOTI)  
 Additional Director (S)

**Copy to:**

1. Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
2. Secretary, Department of Environment, Government of Orissa, Secretariat, Bhubneshwar.

3. Secretary, Department of Mines and Geology, Government of Orissa, Secretariat, Bhubneshwar.
4. Secretary, Department of Forests, Government of Orissa, Secretariat, Bhubneshwar.
5. Chief Wildlife Warden, Government of Orissa, Bhubneshwar.
6. Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
7. Chief Conservator of Forests, Regional Office (EZ), Ministry of Environment and Forests, A-3 Chandrashekharpur, Bhubaneshwar-751023.
8. Chairman, Orissa State Pollution Control Board, Parivesh Bhawan, A/118 Nilakantha Nagar, Unit-VIII, Bhubaneshwar-751012.
9. Member Secretary, Central Ground Water Authority, A2, W3 Curzon Road Barracks, K.G. Marg, New Delhi-110001.
10. District Collector, Sudnergarh District, Government of Orissa.
11. EI Division, Ministry of Environment & Forests, EI Division, New Delhi.
12. Monitoring File.
13. Guard File.
14. Record File.

**ANNEXURE: K**

**COPY OF FOREST CLEARANCE**

**ANNEXURE: L**



**DRY FOG SYSTEM IN WORK**



**PHOTOGRAPH OF SCREENPLANT FITTED WITH DSS**

GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT & FORESTS  
EASTERN REGIONAL OFFICE  
A/3, CHANDRASEKHARPUR, BHUBANESWAR - 751 023  
TEL. : (Off.) 2301213, 2302432, 2302443, 2302452, 2302453  
FAX : 0674-2302432. GRAM : PARYAVARAN, BHUBANESWAR  
Email : mef@ori.nic.in

5-ORC039/2007-BHU

भारत सरकार  
पर्यावरण एवं वन मंत्रालय,  
पूर्वी क्षेत्रीय कार्यालय  
ए/3, चन्द्रसेखरपुर, भुवनेश्वर - 751 023  
तार - पर्यावरण, भुवनेश्वर

August 17, 2009

To

The Principal Secretary,  
Forest & Environment Department,  
Govt. of Orissa,  
Bhubaneswar.

Sub:-

Diversion of 15.622 ha of forest land for Patabeda Iron and Manganese Mines of M/s M.G. Mohanty in Sundergarh district of Orissa - 1st renewal of mining lease.

Sir,

I am directed to refer to your letter No. 10F-(Con.)-84/2009.3223/F&E dated 29.07.2009 on the above mentioned subject seeking prior approval of the Central Govt. in accordance with Section-2 of the Forest(Conservation) Act, 1980.

After careful consideration of the proposal of the State Government, the Central Government hereby conveys its approval under Section-2 of the Forest(Conservation) Act, 1980 for diversion of 15.622 ha of forest land for Patabeda Iron and Manganese Mines of M/s M.G. Mohanty in Sundergarh district of Orissa - 1st renewal of mining lease, subject to the compliance of the following conditions:-

1. Legal status of the forest land diverted shall remain unchanged.
2. Compensatory afforestation shall be raised over 15.622 ha of non-forest land identified in Plot No. 270(part) of Khata No. 178 in village - Tamda of Bonai Tahasil of Sundergarh District at the project cost and shall be subsequently declared as PF/RF and submit the report within a period of six months, failing which the approval stands deemed withdrawn.
3. Penal Compensatory Afforestation shall be raised over 33.738 ha of degraded forest land (three times of 11.246 ha of degraded) identified by the State Government at Talita RF in Bonai Range at the project cost.
4. The State Forest Department/UA shall submit the surveyed sketch of 15.622 ha of non-forest land identified in Plot No. 270(part) of Khata No. 178 in village - Tamda of Bonai Tahasil of Sundergarh District for CA, giving the forward and backward bearing of each demarcation pillar and distance between them. The State Forest Department/User Agency shall submit the GPS reading of each demarcated pillar giving the latitude and the longitude.
5. The State Forest Department/UA shall submit the surveyed sketch of 33.738 ha of degraded forest land (three times of 11.246 ha of degraded) identified by the State Government at Talita RF for Penal CA, giving the forward and backward bearing of each demarcation pillar and distance between them. The State Forest Department/User Agency shall submit the GPS reading of each demarcated pillar giving the latitude and the longitude.

6. The State Forest Department/ UA shall also submit the surveyed sketch of 15.622 ha of forest land for Patabeda Iron and Manganese Mines of M/s M.G. Mohanty in Sundergarh district, giving the forward and backward bearing and distance between them. The GPS reading of latitude and longitude of those pillars shall also be given for records.
7. Mining shall be done strictly as per the mining plan approved by the IBM and copy of revised Mining Plan(s) for subsequent five year periods shall be furnished to the Regional Office without fail.
8. The period of permission granted Under the Forest(Conservation) Act, 1980 shall be co-terminus with the period of current mining lease granted under MMRD Act or 20 years whichever is earlier.
9. Reclamation of mined out area as well as Over Burden dumps will be done as per the reclamation plan prepared in this regard. Progress of reclamation will be periodically monitored by the State Forest Department. Serious lapse in achieving reclamation targets shall invite severe action leading to even closure of mine.
10. Fencing, protection, regeneration and maintenance of safety zone area (7.5 meters strip all along the outer boundary of the mining lease area as recommended the State Government) shall be done at the project cost as envisaged. Besides, this, afforestation on degraded forest land, to be selected elsewhere, measuring one and half times the area under safety zone, shall also be done at the project cost as envisaged.
11. The State Government shall implement the Regional Wild Life Management Plan prepared by the State Government for the said Region.
12. The State Government shall implement the Conservation Plan for forest diversion area as per guidelines of Chief Wildlife Warden, Orissa at the project cost.
13. The User Agency shall deposit the estimated royalty of 108 numbers enumerated trees, before commencement of felling on final approval of forest diversion.
14. Trees standing in the diverted area shall be felled strictly as per requirement to break fresh land. Prior permission of the Divisional Forest Officer shall be obtained for felling trees.
15. No labour camps shall be established on the adjoining forest land
16. The demand of fuel for the labourers, if camping outside the forest land in the vicinity of forest shall be met by the user agency at project after purchase of fuel from the approved source and a distribution register shall be maintained for regular monitoring of the local supervisors/forest officers to ensure no damage to the surrounding forest.
17. The user agency shall ensure that no damage to the available wildlife or to the forest flora in the adjoining forest is caused by labourers/workmen engaged by the project authorities or contractor working under them.
18. The forest land shall not be used for any purpose other than that specified in the proposal.
19. Adequate soil and water conservation measures, as and when required, shall be taken by the User Agency in consultation with Forest Officials to check any soil erosion in the lease hold area.
20. The User Agency shall obtain environmental clearance under provision of EIA Notification issued under Environmental(Protection) Act, as applicable.
21. Any other conditions that the Central Government or CCF(Central) of Eastern Regional Office, Bhubaneswar may impose from time to time in the interest of afforestation, conservation and management of flora and fauna in the area, which shall be complied by the user agency.

22. In case of non-compliance of any of the above conditions, the concerned Divisional Forest officer shall report through the State Govt. to this office as per procedure laid down in the clause 1.9 of guidelines issued under Forest(Conservation) Act, 1980 on 25.10.1992.

The State Government shall ensure compliance of all the above conditions.

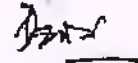
Yours faithfully,

(A.K. BISWAL)

DY. CONSERVATOR OF FORESTS(CENTRAL)

Copy to:-

1. The Inspector General of Forest(FC), Ministry of Environment & Forests, Paryavaran Bhawan, CGO Complex, Lodi Road, New Delhi - 110 003.
2. The Principal Chief Conservator of Forests, Govt. of Orissa, Aranya Bhawan, C.S. Pur, Bhubaneswar - 16.
3. The Nodal Officer, O/o the Principal Chief Conservator of Forests, Govt. of Orissa, Aranya Bhawan, C.S. Pur, Bhubaneswar - 16.
4. The Divisional Forest Officer, Bonai Forest Division, Sundergarh.
5. M/s M.G. Mohanty, Mine Owners, 5A, Forest Park, Bhubaneswar - 751 009
6. Guard File.



DY. CONSERVATOR OF FORESTS(CENTRAL)

## **ANNEXURE-M**



**WATER SPRINKLING ON HAUL ROADS**

## **ANNEXURE-N**



**DRY FOG SYSTEM IN CRUSHING UNIT**

## **ANNEXURE-O**



**PHOTOGRAPH SHOWING COVERED TRUCK USED FOR TRANSPORTATION**

**ANNEXURE-p**



**PHOTOGRAPH OF DUMP SITE**

## **ANNEXURE-Q**

### **GROUND WATER LEVEL MONITORING DATA**

**WATER TABLE VARIATION DATA OF THE BUFFER ZONE OF PATABEDA IRON AND  
MANGANESE MINES OVER 19.425 HA. IN PATABEDA VILLAGE OF KOIRA TAHASIL/BLOCK  
OF SUNDERGARH DISTRICT OF ODISHA**

| Location/village            | Location |           | Dug/Bore Well water level in bgl (m) |        |           |        |
|-----------------------------|----------|-----------|--------------------------------------|--------|-----------|--------|
|                             | Latitude | Longitude | Jan 2021                             | May 21 | August 21 | Nov 21 |
| Ganua<br>(Open Well)        | 21°55.64 | 85°22.02  | 4.18                                 | 3.50   | 1.55      | 3.40   |
| Patabeda<br>(Open Well)     | 21°55.76 | 85°21.98  | 2.96                                 | 3.15   | 1.30      | 2.65   |
| Ganua<br>(Open Well)        | 21°55.31 | 85°23.17  | 5.88                                 | 1.75   | 1.70      | 2.80   |
| Khandabandha<br>(Open well) | 21°55.64 | 85°23.97  | 3.36                                 | 2.58   | 1.25      | 1.65   |

  
**Mines Manager**  
**Patabeda Iron & Manganese**  
**Mines (19.425 Ha)**  
**of M/s. M. G. Mohanty**

**ANNEXURE-R**



**PHOTOGRAPH OF PLANTATION SITE**

**ANNEXURE-S**

**COPY OF IBM RETURN**

**Messrs M. G. Mohanty**  
Mine Owners,

**Corporate Office :**  
5A Forest Park  
Bhubaneswar – 751 009, INDIA  
Ph: +91-674-2596400 / 2596410  
FAX : +91-674-2596390

**Mines Administrative Branch Office :**  
A/Po.: Barbil, Orissa – 758 035, INDIA  
Phone : +91-6767-275318, 276319  
Fax : +91-6767-275770

E-mail : mgmbbsr@gmail.com  
mgmohantybo@gmail.com

MGM/BO/2021-22/06- 58  
Date: 30<sup>th</sup> June 2021.

To,

The Regional Controller of Mines,  
Indian Bureau of Mines,  
Plot No. 149, In front of CPWD Office,  
Pokhariput,  
Bhubaneswar.-751020.

**Sub : Submission of hardcopy of online Annual Return implemented by Indian Bureau of Mines for the year ending 31<sup>st</sup> March 2021 in respect of our Patabeda Iron & Mn. Mines (19.425 Ha.)**

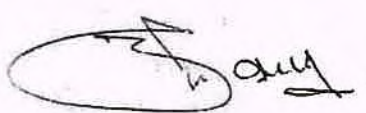
Sir,

Please find enclosed herewith a hardcopy of online Annual Return in Form H-1 implemented by Indian Bureau of Mines for the year ending 31<sup>st</sup> March 2021 in respect of our Patabeda Iron & Mn. Mines (19.425 Ha).

Thanking You.

Yours faithfully,

For M/s. M. G. Mohanty.

  
**Mines Manager**  
**Patabeda Iron & Manganese**  
**Mines (19.425 Ha)**  
**of M/s. M. G. Mohanty**

Encl : As above.

This text is replaced by the Flash movie.

**"FORM H-1"**

For the financial Year 1st April 2020 to 31st March 2021

**ANNUAL RETURN**

[ See rule 45(5) (b) (i) ]

(Read the instructions carefully before filling the particulars)

To,

I. The Regional Controller Of Mines  
Indian Bureau Of Mines  
Bhubaneswar Region,

PIN:

( Please address to Regional Controller of Mines in whose territorial jurisdiction the mines falls as notified from time to time by the Controller General, Indian Bureau of Mines under Rule 62 of the Mineral Conservation and Development Rules, 1988 )

II. The State Government of Orissa

**Part - I  
(General and Labour)**

**1. Details of the Mine**

|                                                                     |              |
|---------------------------------------------------------------------|--------------|
| (a) Registration Number                                             | IBM/247/2011 |
| (b) Mine Code                                                       | 30ORI13017   |
| (c) Name of the Mineral                                             | IRON ORE     |
| (d) Name of Mine                                                    | PATABEDA     |
| (e) Name(s) of other Mineral(s), if any produced from the same mine |              |

**2. Location of the Mine**

|              |                       |
|--------------|-----------------------|
| Village      | PATABEDA              |
| Post Office  | PATAMUNDA             |
| Tahsil/Taluk | BONAI                 |
| District     | SUNDARGARH            |
| State        | ORISSA                |
| PIN Code     | -                     |
| Fax No.      | 06767275770           |
| Phone No.    | 06767275318           |
| Mobile No.   | 7440015202            |
| E-mail       | mgmohantybo@gmail.com |

**3. Name and Address of Lessee/Owner (along with fax no. and e-mail)**

|                |                                          |
|----------------|------------------------------------------|
| Name of Owner  | M G MOHANTY                              |
| Street/Village | 2A, FOREST PARK BHUBANESWAR, BHUBANESWAR |
| Post Office    |                                          |
| Tahsil/Taluk   |                                          |
| District       | KHURDA                                   |
| State          | ORISSA                                   |

|                                     |                                     |
|-------------------------------------|-------------------------------------|
| Phone No                            | 06742596400                         |
| Mobile No                           | 9437022802                          |
| E-mail                              | mgmohantybo@gmail.com               |
| 4. Registered Office of the Lessee  | 2A, Forest Park, Bhubaneswar-751009 |
| 5. Director in charge               | R L Mohanty                         |
| 6. Agent                            | Tanuj Mohanty                       |
| 7. Manager                          | Mahendra Kumar Mohanty              |
| 8. Mining Engineer in charge        | xxx                                 |
| 9. Geologist in charge              | Dillip Kumar Pattanayak             |
| 10. (i) Transferer (previous owner) | Nil                                 |
| (ii) Date of Transfer               | 01-01-1970                          |

11. Particulars of area operated/Lease  
(Furnish information on items (i) to (v) lease-wise in case mine workings cover more than one lease)

| <b>Lease - 1</b>                                                                                            |                                                                                                                                                                            |              |           |           |              |  |  |  |
|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------|-----------|--------------|--|--|--|
| Lease No. allotted by State Govt.                                                                           | 093056013302                                                                                                                                                               |              |           |           |              |  |  |  |
| (i) Area under lease                                                                                        |                                                                                                                                                                            |              |           |           |              |  |  |  |
| Under Forest                                                                                                | 16.507 hectares                                                                                                                                                            |              |           |           |              |  |  |  |
| Outside Forest                                                                                              | 2.918 hectares                                                                                                                                                             |              |           |           |              |  |  |  |
| Total                                                                                                       | 19.425 hectares                                                                                                                                                            |              |           |           |              |  |  |  |
| (ii) Date of execution of mining lease deed                                                                 | 03/04/1986                                                                                                                                                                 |              |           |           |              |  |  |  |
| (iii) Period of lease                                                                                       | 50                                                                                                                                                                         |              |           |           |              |  |  |  |
| (iv) Area for which surface rights are held (hectares)                                                      | 19.425 hectares                                                                                                                                                            |              |           |           |              |  |  |  |
| (v) (a) Date of renewal (if applicable)                                                                     | 00/00/0000                                                                                                                                                                 |              |           |           |              |  |  |  |
| (b) Period of renewal (if applicable)                                                                       | 0                                                                                                                                                                          |              |           |           |              |  |  |  |
| (vi) In case there is more than one mine in the same lease area, indicate name of mine and mineral produced | <table border="1"> <thead> <tr> <th>Mine Name</th><th>Mine Code</th><th>Mineral Name</th></tr> </thead> <tbody> <tr> <td> </td><td> </td><td> </td></tr> </tbody> </table> |              | Mine Name | Mine Code | Mineral Name |  |  |  |
| Mine Name                                                                                                   | Mine Code                                                                                                                                                                  | Mineral Name |           |           |              |  |  |  |
|                                                                                                             |                                                                                                                                                                            |              |           |           |              |  |  |  |

12. Lease area (surface area) utilisation as at the end of year (hectares)

|                                                                                          | Under forest   | Outside forest | Total |
|------------------------------------------------------------------------------------------|----------------|----------------|-------|
| (i) Already exploited & abandoned by opencast (O/C) mining                               | 0.000          | 0.000          | 0.000 |
| (ii) Covered under current (O/C) Workings                                                | 6.300          | 0.000          | 6.300 |
| (iii) Reclaimed/Rehabilitated                                                            | 0.000          | 0.000          | 0.000 |
| (iv) Used for waste disposal                                                             | 1.138          | 0.000          | 1.138 |
| (v) Occupied by plant, buildings, residential, welfare buildings & roads                 | 7.219          | 2.513          | 9.732 |
| (vi) Other Purpose (Safety Zone)                                                         | 0.885          | 0.405          | 1.290 |
| (vii) Work done under progressive mine closure plan during the year                      | 0.000          | 0.000          | 0.000 |
| 13. Ownership/exploiting Agency of the mine: (Public Sector/Private sector/Joint Sector) | Private Sector |                |       |

Part - II

Employment & Wages - I

| Description                                              | Wholly employed | Partly employed |
|----------------------------------------------------------|-----------------|-----------------|
| (i) Graduate Mining Engineer                             | 0               | 0               |
| (ii) Diploma Mining Engineer                             | 2               | 0               |
| (iii) Geologist                                          | 0               | 1               |
| (iv) Surveyor                                            | 1               | 0               |
| (v) Other administrative and technical supervisory staff | 6               | 0               |
| Total                                                    | 9               | 1               |

2. (i) Number of days the mine worked

304

(ii) No. of shifts per day

1

(iii) Indicate reasons for work stoppage in the mine during the year (due to strike, lockout, heavy rain, non-availability of labour, transport bottleneck, lack of demand, uneconomic operations, etc.) and the number of days of work stoppage for each of the factors separately.

Reason No of Days

0  
0  
0  
0  
0

Employment & Wages - II

3.(i) Employment of Labour and wages paid :-

Maximum number of persons employed on any one day during the year

(i) In workings below ground 00-00-0000 0 Persons

(ii) In all in the mine on 25-02-2021 97 Persons

| Classification                                                              | Total number of man days worked during the year |          |       | No. of days worked during the year | Average daily number of persons employed |        |       | Total Wages /Salary bills for the year(in ) |
|-----------------------------------------------------------------------------|-------------------------------------------------|----------|-------|------------------------------------|------------------------------------------|--------|-------|---------------------------------------------|
|                                                                             | Direct                                          | Contract | Total |                                    | Male                                     | Female | Total |                                             |
| (1)                                                                         | 2(A)                                            | 2(B)     | 2(C)  | (3)                                | 4(A)                                     | 4(B)   | 4(C)  | (5)                                         |
| <b>A. Below Ground</b>                                                      |                                                 |          |       |                                    |                                          |        |       |                                             |
| (i) Foreman and mining mates                                                | 0                                               | 0        | 0     | 0                                  | 0                                        | 0      | 0     | 0.00                                        |
| (ii) Face workers and Loaders                                               | 0                                               | 0        | 0     | 0                                  | 0                                        | 0      | 0     | 0.00                                        |
| (iii) Others                                                                | 0                                               | 0        | 0     | 0                                  | 0                                        | 0      | 0     | 0.00                                        |
| <b>B. Opencast workings</b>                                                 |                                                 |          |       |                                    |                                          |        |       |                                             |
| (i) Foreman and mining mates                                                | 921                                             | 0        | 921   | 304                                | 3                                        | 0      | 3     | 927433.00                                   |
| (ii) Face workers and Loaders                                               | 0                                               | 0        | 0     | 304                                | 0                                        | 0      | 0     | 0.00                                        |
| (iii) Others                                                                | 6796                                            | 4623     | 11419 | 304                                | 37.6                                     | 0      | 37.6  | 12507216.00                                 |
| <b>C. Above ground</b>                                                      |                                                 |          |       |                                    |                                          |        |       |                                             |
| (i) Clerical & Supervisory Staff (Excluding the superior supervisory staff) | 2435                                            | 598      | 3033  | 304                                | 10                                       | 0      | 10    | 4146753.00                                  |
| (ii) Workers in any Attached                                                | 8752                                            | 0        | 8752  | 304                                | 28.8                                     | 0      | 28.8  | 8844907.00                                  |

Indian Bureau of Mines

|                                                                                                          |       |      |       |     |      |     |      |            |
|----------------------------------------------------------------------------------------------------------|-------|------|-------|-----|------|-----|------|------------|
| dressing plant                                                                                           |       |      |       |     |      |     |      |            |
| (iii) Others                                                                                             | 2193  | 0    | 2193  | 304 | 0.9  | 8.3 | 7.2  | 1218271.   |
| Total                                                                                                    | 21097 | 5221 | 26318 | 304 | 80.3 | 6.3 | 86.8 | 2764458    |
| 3.(ii) Total salaries paid to technical and supervisory staff employed in the mine during the year (in ) |       |      |       |     |      |     |      | 6750641.00 |

PART- II A Capital Structure

1. Value of Fixed Assets (in ) 0

(in respect of the mine, beneficiation plant, mine work-shop, power and water installation)

In case this information is furnished as combined information in another mine's return please specify mine Code/mine Name

| Mine Name                                                                                                                                                      | Mine Code                       | Mineral Name              |                                   |                              |                                 |                              | (in ) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------------------------|-----------------------------------|------------------------------|---------------------------------|------------------------------|-------|
|                                                                                                                                                                |                                 |                           |                                   |                              |                                 |                              |       |
| Description                                                                                                                                                    | As at the beginning of the year | Additions during the Year | Sold or discarded during the year | Depreciation during the year | Net closing Balance (2+3)-(4+5) | Estimated market value(Tips) |       |
| (i) Land (Tips)                                                                                                                                                | 4926640                         | 0                         | 0                                 | 0                            | 4926640                         | 0                            |       |
| (ii) Building                                                                                                                                                  |                                 |                           |                                   |                              |                                 |                              |       |
| Industrial                                                                                                                                                     | 1973828                         | 1348592                   | 0                                 | 332242                       | 2990178                         | 0                            |       |
| Residential                                                                                                                                                    | 13329173                        | 0                         | 0                                 | 1332917                      | 11996256                        |                              |       |
| (iii) Plant and Machinery including transport equipment                                                                                                        | 46449402                        | 14822815                  | 4451118                           | 7861665                      | 48959434                        | 0                            |       |
| (iv) Capitalised Expenditure such as pre-production exploration, development, major overhaul and repair to machinery etc. (As prescribed under Income Tax Act) | 0                               | 0                         | 0                                 | 0                            | 0                               | 0                            |       |
| Total                                                                                                                                                          | 66679043                        | 16171407                  | 4451118                           | 9526824                      | 68872508                        | 0                            |       |

2. Source of Finance (as at the end of the year) (in ):

(i) Paid up Share Capital

(ii) Own Capital

(iii) Reserve & Surplus (All Types)

(iv) Long Term loans outstanding

| Name of the Institution/Source | Amount of Loan | Rate of Interest |
|--------------------------------|----------------|------------------|
| xxx                            | 0              | 0                |

3. Interest and Rent (in ~)

(i) Interest paid during the year

(ii) Rents (excluding surface rent) paid during the year

30310596

729324

Part - III

CONSUMPTION OF MATERIALS

1. Quantity and cost of material consumed during the year

Description

|                                                   |        |        |          |
|---------------------------------------------------|--------|--------|----------|
| (a) Coal                                          | Tonnes | 0      | 0        |
| (b) Diesel Oil                                    | Ltrs   | 232919 | 18582278 |
| (c) Petrol                                        | Ltrs   | 0      | 0        |
| (d) Kerosene                                      | Ltrs   | 0      | 0        |
| (e) Gas                                           | Cu.M.  | 0      | 0        |
| (ii) Lubricant                                    |        |        |          |
| (a) Lubricant oil                                 | Ltrs   | 4738   | 836766   |
| (b) Grease                                        | kgs.   | 570    | 110078   |
| (iii) Electricity                                 |        |        |          |
| (a) Consumed                                      | Kwh    | 108824 | 1536107  |
| (b) Generated                                     | Kwh    | 0      | 0        |
| (c) Sold                                          | Kwh    | 0      | 0        |
| (iv) Explosives (furnish full details in Part IV) |        |        | 1652487  |
| (v) Tyres                                         | Nos.   | 26     | 603600   |
| (vi) Timber & Supports                            |        |        | 0        |
| (vii) Drill rods & kits                           | Nos.   | 16     | 457090   |
| (viii) Other spares & stores                      |        |        | 2464198  |

## 2. Royalty and Rents (In )

| Item                                                         | Paid for current year | Paid towards past arrears |
|--------------------------------------------------------------|-----------------------|---------------------------|
| (a) Royalty                                                  | 90511893              | 0                         |
| (b) Dead rent                                                | 19266                 | 0                         |
| (c) Surface rent                                             | 58196                 | 0                         |
| 3. Compensation paid for felling trees during the year (in ) |                       | 0                         |
| 4. Depreciation on fixed assets (in )                        |                       | 5716094                   |

## 5. Taxes and cesses

| Item                                                   | Amount in paid during the year to |             |
|--------------------------------------------------------|-----------------------------------|-------------|
|                                                        | Central Govt.                     | State Govt. |
| (i) Sales Tax                                          | 23661250                          | 8150888     |
| (ii) Welfare cess                                      | 0                                 | 0           |
| (iii) Other taxes & cesses:-                           |                                   |             |
| (a) Mineral cess                                       | 0                                 | 0           |
| (b) Cess on dead rent                                  | 0                                 | 0           |
| (c) Others (please specify):<br>Road Tax and Water Tax | 0                                 | 609250      |

## 6. Other expenses (in )

|                                                     |           |
|-----------------------------------------------------|-----------|
| (i) Overheads                                       | 115255473 |
| (ii) Maintenance                                    | 4331070   |
| (iii) Morty value of other benefits paid to workmen | 17913605  |
| (iv) Payment made to professional agencies          | 14694751  |

kg/tonne, numbers, metres )

|            |        |       |
|------------|--------|-------|
| Explosives | Kg     | 500   |
| Detonators | Nos.   | 10000 |
| Fuses      | Meters | 11500 |

2. Total production during the year (in Tonne)

3. Overburden removed (in Tonne)

178600.000

7415

| Classification of Explosives                                     | Unit | Quantity consumed during the year |                          | Estimated requirement during the next year |                          |
|------------------------------------------------------------------|------|-----------------------------------|--------------------------|--------------------------------------------|--------------------------|
|                                                                  |      | Small dia. (upto 32 mm)           | Large dia. (above 32 mm) | Small dia. (upto 32 mm)                    | Large dia. (above 32 mm) |
| 1. Gun Powder                                                    | Kg   | 0                                 |                          | 0                                          |                          |
| 2. Nitrate Mixture                                               |      |                                   |                          |                                            |                          |
| (a) Loose ammonium nitrate                                       | Kg   | 0                                 | 0                        | 0                                          | 0                        |
| (b) Ammonium nitrate in cartridge form                           | Kg   | 0                                 | 0                        | 0                                          | 0                        |
| 3. Nitro Compound                                                | Kg   | 0                                 | 0                        | 0                                          | 0                        |
| 4. Liquid Oxygen soaked cartridges                               | Kg   | 0                                 | 0                        | 0                                          | 0                        |
| 5. Slurry explosives (Mention different trade names): PG-1, PG-C | Kg   | 0                                 | 19825                    | 0                                          | 25000                    |
| 6. Detonators                                                    |      |                                   |                          |                                            |                          |
| (i) Ordinary                                                     | Nos. | 0                                 |                          | 0                                          |                          |
| (ii) Electrical                                                  |      |                                   |                          |                                            |                          |
| (a) Ordinary                                                     | Nos. | 1869                              |                          | 2500                                       |                          |
| (b) Delay                                                        | Nos. | 74                                |                          | 200                                        |                          |
| 7. Fuse                                                          |      |                                   |                          |                                            |                          |
| (a) Safety Fuse                                                  | Mts  | 0                                 |                          | 0                                          |                          |
| (b) Detonating Fuse                                              | Mts  | 0                                 |                          | 200                                        |                          |
| 8. Plastic ignition cord                                         | Mts  | 0                                 |                          | 0                                          |                          |
| 9. Others (specify):                                             |      | 0                                 |                          | 0                                          |                          |

## Part - V

General Geology & Mining (Sec 1/2 for Iron Ore)

1. Mineral(s) worked and their characteristics : (In case more than one mineral is worked, the information asked for under (a) to (c) in respect of the remaining mineral(s) may be furnished in a separate sheet and attached with the return)

(a) Name of Mineral

Iron Ore

(b) Type of Ore (Tick mark whichever is applicable)

Lump

Fines

(c) Quality: Chemical Analysis of Typical Grades Produced for Lump

| Constituent                  | Grade                          |
|------------------------------|--------------------------------|
| (i) Size Range               | Lumps 5 to 18 mm               |
| (ii) Principal Constituent   | Fe                             |
| (iii) Subsidiary Constituent | SiO <sub>2</sub>               |
|                              | Al <sub>2</sub> O <sub>3</sub> |
|                              | P                              |
| Constituent                  | Grade                          |
| (i) Size Range               | Lumps 10 to 40 mm              |
| (ii) Principal Constituent   | Fe                             |
| (iii) Subsidiary Constituent | SiO <sub>2</sub>               |

|                                                                     |                                                                        |               |      |
|---------------------------------------------------------------------|------------------------------------------------------------------------|---------------|------|
|                                                                     |                                                                        | P             | 0.01 |
| (c) Quality: Chemical Analysis of Typical Grades Produced for Fines |                                                                        |               |      |
| Constituent                                                         |                                                                        | Grade         |      |
| (i) Size Range                                                      | Fines &lt;10 mm                                                        |               |      |
| (ii) Principal Constituent                                          | Fe                                                                     | 61.68         |      |
| (iii) Subsidiary Constituent                                        | SiO2                                                                   | 3.67          |      |
|                                                                     | Al2O3                                                                  | 1.38          |      |
|                                                                     | P                                                                      | 0.01          |      |
| (a)                                                                 | Name of rock/mineral excavated and disposed as waste                   | BHJ,BHQ,Shale |      |
| (b)                                                                 | Name(s) of the ore/mineral excavated but not sold i.e., mineral reject | xxx           |      |
| (c)                                                                 | Typical analysis of mineral reject(s)                                  |               |      |
| Constituent                                                         |                                                                        | Grade %       |      |
| Fe                                                                  |                                                                        | 0             |      |

### Sec 3 for Iron Ore

#### 3. Reserves and Resources estimated at the end of the year

| Classification                        | Code | Quantity          | Grade<br>(as per NMI grades<br>as indicated in the<br>mining plan) |
|---------------------------------------|------|-------------------|--------------------------------------------------------------------|
| (1)                                   | (2)  | (3)               | (4)                                                                |
| Total Mineral Resources<br>(A + B)    |      |                   |                                                                    |
| A. Mineral Reserve                    |      |                   |                                                                    |
| 1. Proved Mineral Reserve             | 111  | 3555396<br>380973 | Lump Medium Grade<br>Lump Low Grade                                |
| 2. Probable Mineral Reserve           | 121  | 0                 |                                                                    |
|                                       | 122  | 0                 |                                                                    |
| B. Remaining Resources                |      |                   |                                                                    |
| 1. Feasibility Mineral Resource       | 211  | 972270<br>84108   | Lump Medium Grade<br>Lump Low Grade                                |
|                                       | 221  | 0                 |                                                                    |
| 2. Prefeasibility Mineral Resource    | 222  | 0                 |                                                                    |
| 3. Measured Mineral Resource          | 331  | 0                 |                                                                    |
| 4. Indicated Mineral Resource         | 332  | 0                 |                                                                    |
| 5. Inferred Mineral Resource          | 333  | 0                 |                                                                    |
| 6. Reconnaissance Mineral<br>Resource | 334  | 0                 |                                                                    |

#### 4. Mining Operations during the year

##### 4.1 Exploration

| Item      | Grid in Meters | Meterage | Number |
|-----------|----------------|----------|--------|
| Drilling  | 50x50          | 0        | 0      |
| Trenching |                | 0        | 0      |
| Pitting   |                | 0        | 0      |

##### 4.2 Operation

##### (A) Details of Benches (Separately for mechanised and manual sections)

|                                                                         |                       |                        |   |
|-------------------------------------------------------------------------|-----------------------|------------------------|---|
| (ii) Average height (meters)                                            | Mechanised            | 8                      | 0 |
| (iii) Depth of the deepest working from adjacent ground (Meters)        | Mechanised            | 0                      | 0 |
| (B) (i) Total ROM Ore production (tonnes)                               |                       | 178600                 |   |
| (C) Total quantity of Overburden/Waste removed during the year (tonnes) |                       | 0                      |   |
| Overburden/Waste                                                        | During the year       | Cumulative             |   |
| (i) Quantity back filled                                                | 0                     | 0                      |   |
| (ii) Quantity disposed of in external dumps                             | 7415                  | 74670                  |   |
| 4.3 Underground                                                         |                       |                        |   |
| (a) Driving (metres) in ore                                             |                       | 0                      |   |
| (b) Cross Cutting/Footwall Drives (in barren) (Metres)                  |                       | 0                      |   |
| (c) Winzing (meters)                                                    |                       | 0                      |   |
| (d) Raising (meters)                                                    |                       | 0                      |   |
| (e) Shaft sinking (meters)                                              |                       | 0                      |   |
| (f) Slope preparation (meters)                                          |                       | 0                      |   |
| (g) Tonnage of ore blocked for stopping (tonnes)                        |                       | 0                      |   |
| (h) Quantity of waste removed (tonnes)                                  |                       | 0                      |   |
| 4.4 (i) Number of trees planted during the year                         |                       |                        |   |
|                                                                         | (a) Within lease area | (b) Outside lease area |   |
| (i) Number of trees planted during the year                             | 95                    | 432                    |   |
| (ii) Survival rate in percentage                                        | 82.10                 | 77.78                  |   |

#### Sec 4. Mineral Rejects for Iron Ore

|                                                           |  |   |
|-----------------------------------------------------------|--|---|
| 4.2 Opencast                                              |  |   |
| 4.2(B) (i) Mineral Rejects generated with grades (tonnes) |  |   |
| a. Quantity                                               |  | 0 |
| b. Grade                                                  |  | 0 |
| 4.3 Underground                                           |  |   |
| 4.3(i) Mineral Rejects generated with grades (tonnes)     |  |   |
| a. Quantity                                               |  | 0 |
| b. Grade                                                  |  | 0 |

#### Sec 5/6/8/9

5. Type and aggregate Horse Power of Machinery: Give the following information for the types of machinery in use such as hoist, fans, drills, loaders, excavators, dumpers, haulages, conveyors, pumps, etc. Details of any new machinery added during the year may be furnished with cost.

| Type of machinery | Capacity of each unit | No. of units | Electrical/ Non-Electrical (specify) | Used in opencast/ underground (specify) |
|-------------------|-----------------------|--------------|--------------------------------------|-----------------------------------------|
| BACK HOE          | 1.420 CUM             | 1            | Non Electrical                       | Opencast                                |
| BACK HOE          | 1.500 CUM             | 1            | Non Electrical                       | Opencast                                |
| BACK HOE          | 0.710 CUM             | 1            | Non Electrical                       | Opencast                                |
| WHEEL LOADER      | 1.800 CUM             | 1            | Non Electrical                       | Opencast                                |
| WHEEL LOADER      | 2.500 CUM             | 1            | Non Electrical                       | Opencast                                |
| BLAST HOST DRILL  | 110.000 MM            | 1            | Non Electrical                       | Opencast                                |
| CRANE             | 12.000 TONNE          | 1            | Non Electrical                       | Opencast                                |
| CRUSHER           | 120.000 T/H           | 1            | Electrical                           | Opencast                                |
| WATER TANKER      | 9000.000 LITRE        | 1            | Non Electrical                       | Opencast                                |
| TIPPER            | 6.000 CUM             | 3            | Non Electrical                       | Opencast                                |
| DUMPER            | 25.000 TONNE          | 3            | Non Electrical                       | Opencast                                |

6. (i) Give details of future plans, if any, of exploration and development, production schedule, replacements and expansion of machinery and equipment etc.

4 nos of core drill will be done during the year 2021-22

- (ii) If you have laboratory facilities for R & D then give a brief description:

We have no laboratory facilities for R & D

8. Furnish surface and/or underground plans and sections as prepared and brought up-to-date (as required under rule 28 of MCDR)

Surface plan attached with the hard copy.

9. Please indicate the salient features which affected mining operations during the year.

Mining operation affected during rainy season due to high moisture content in the ROM Ore.

#### Sec 7 for Iron Ore

7. (i) Details of mineral Treatment Plant, if any. Give a brief description of the process capacity of the machinery deployed and its availability. (Enclose Flow Sheet and Material Balance of the Plant)

Nil

- (ii) Furnish following information every year:

| Item                    | Tonnage | Average Grade |
|-------------------------|---------|---------------|
| Feed                    | 0       | 0             |
| Concentrates            | 0       | 0             |
| By-products/Co-products | 0       | 0             |
| Tailings                | 0       | 0             |

#### Part - VI (PRODUCTION, DISPATCHES & STOCKS)

##### 1. Type of Ore Produced

Type of ore produced: (a) Hematite

##### 2. Production and Stocks of ROM ore at Mine-head (IRON ORE (Hematite))

| Category               | Opening stock (in tonne) | Production (in tonne) | Closing stock (in tonne) |
|------------------------|--------------------------|-----------------------|--------------------------|
| (a) Open Cast Workings | 28326.000                | 178800.000            | 4656.000                 |
| (b) Dump Workings      | 0.000                    | 0.000                 | 0.000                    |

##### 3. Grade-wise production, Despatches, Stocks and Ex-mine prices of Processed ore (IRON ORE (Hematite))

| Grades (% of Fe content) | Opening stock at mine head (in tonne) | Production (in tonne) | Despatches from mine head (in tonne) | Closing stock at mine head (in tonne) | Ex-mine price (in Per Tonne) |
|--------------------------|---------------------------------------|-----------------------|--------------------------------------|---------------------------------------|------------------------------|
| <b>(I) Lumps</b>         |                                       |                       |                                      |                                       |                              |
| (a) Below 55%            | 0.000                                 | 0.000                 | 0.000                                | 0.000                                 | 0.00                         |
| (b) 55% to below 58%     | 0.000                                 | 0.000                 | 0.000                                | 0.000                                 | 0.00                         |
| (c) 58% to below 60%     | 0.000                                 | 0.000                 | 0.000                                | 0.000                                 | 0.00                         |
| (d) 60% to below 62%     | 15.400                                | 0.000                 | 0.000                                | 15.400                                | 0.00                         |
| (e) 62% to below 65%     | 2325.510                              | 45712.000             | 42025.980                            | 6011.530                              | 5987.04                      |
| (f) 65% and above        | 1943.020                              | 19321.000             | 17799.170                            | 3464.850                              | 5947.65                      |
| <b>(II) Fines</b>        |                                       |                       |                                      |                                       |                              |
| (a) Below 55%            | 13.960                                | 0.000                 | 0.000                                | 13.960                                | 0.00                         |
| (b) 55% to below 58%     | 1000.400                              | 8460.000              | 0.000                                | 9460.400                              | 3751.00                      |
| (c) 58% to below 60%     | 0.000                                 | 0.000                 | 0.000                                | 0.000                                 | 0.00                         |
| (d) 60% to below 62%     | 7066.370                              | 90095.000             | 64546.660                            | 32614.710                             | 1975.67                      |
| (e) 62% to below 65%     | 13394.490                             | 38682.000             | 40422.220                            | 11654.270                             | 3689.68                      |
| (f) 65% and above        | 5.522                                 | 0.000                 | 0.000                                | 5.522                                 | 0.00                         |

4. Details of Deductions used for computation of Ex-mine price (in /Tonne)( IRON ORE (Hematite) )

| Deduction claimed                                                                       | Amount (in /Tonne) | Remarks |
|-----------------------------------------------------------------------------------------|--------------------|---------|
| (a) Cost of transportation (indicate Loading station and Distance from mine in remarks) | 0.00               | 0       |
| (b) Loading and Unloading charges                                                       | 0.00               | 0       |
| (c) Railway freight ,if applicable (indicate destination and distance in remarks)       | 0.00               | 0       |
| (d) Port Handling charges/export duty (indicate name of port in remarks)                | 0.00               | 0       |
| (e) Charges for Sampling and Analysis                                                   | 0.00               | 0       |
| (f) Rent for the plot at Stocking yard                                                  | 0.00               | 0       |
| (g) Other charges (specify clearly in remarks):                                         | 0.00               | 0       |
| Total (a) to (g)                                                                        | 0.00               |         |

5. Sales/Dispatches effected for Domestic Consumption and for exports ( IRON ORE (Hematite) )

| Grade                   | Nature of Dispatch<br>(indicate whether Domestic Sale or Domestic Transfer or Captive consumption or Export) | Registration number as allotted by the Indian Bureau of Mines to the buyer | For Domestic Consumption       |                     |                  | For export |                     |                   |
|-------------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|--------------------------------|---------------------|------------------|------------|---------------------|-------------------|
|                         |                                                                                                              |                                                                            | Consignee name                 | Quantity (In Tonne) | Sale value (in ) | Country    | Quantity (in Tonne) | F.O.B Value (in ) |
| 62% to below 65%, Lumps | DOMESTIC SALE                                                                                                | 474                                                                        | UTKAL METALLICS LIMITED        | 2995.520            | 17896232.00      | -          | -                   | -                 |
| 62% to below 65%, Lumps | DOMESTIC SALE                                                                                                | 20652                                                                      | RAMA UDYOG PVT. LTD.           | 4915.400            | 16466590.00      | -          | -                   | -                 |
| 62% to below 65%, Lumps | DOMESTIC SALE                                                                                                | 10127                                                                      | DEVI IRON && POWER PVT.        | 2993.400            | 10027890.00      | -          | -                   | -                 |
| 62% to below 65%, Lumps | DOMESTIC SALE                                                                                                | 322                                                                        | Gopal Sponge && Power P        | 8879.630            | 49166787.00      | -          | -                   | -                 |
| 62% to below 65%, Lumps | DOMESTIC SALE                                                                                                | 554                                                                        | HITECH POWER AND STEEL LIMITED | 2999.970            | 10049899.50      | -          | -                   | -                 |
| 62% to below 65%, Lumps | DOMESTIC SALE                                                                                                | 5294                                                                       | MAA MAHAMAYA INDUSTRIES LIMITE | 2956.830            | 14585896.00      | -          | -                   | -                 |
| 62% to below 65%, Lumps | DOMESTIC SALE                                                                                                | 5519                                                                       | NRVS STEELS LIMITED            | 4987.130            | 41594957.50      | -          | -                   | -                 |
| 62% to                  | DOMESTIC SALE                                                                                                | 5668                                                                       | SHANTI GOPAL                   | 5773.590            | 47424745.00      | -          | -                   | -                 |

|                                  |               |       |                                      |           |              |   |   |   |  |
|----------------------------------|---------------|-------|--------------------------------------|-----------|--------------|---|---|---|--|
| 65%,<br>Lumps                    |               |       |                                      |           |              |   |   |   |  |
| 62% to<br>below<br>65%,<br>Lumps | DOMESTIC SALE | 5312  | CHINTPURNI<br>STEEL PVT. LTD.        | 995.810   | 7966480.00   | - | - | - |  |
| 62% to<br>below<br>65%,<br>Lumps | DOMESTIC SALE | 20056 | NARSIMHA<br>IRON AND<br>STEEL PVT LT | 996.820   | 7974560.00   | - | - | - |  |
| 62% to<br>below<br>65%,<br>Lumps | DOMESTIC SALE | 4497  | SHRI<br>JAGANNATH<br>STEELS<br>& &   | 1999.990  | 16999915.00  | - | - | - |  |
| 62% to<br>below<br>65%,<br>Lumps | DOMESTIC SALE | 12894 | SUNDARAM<br>STEELS PVT.<br>LTD.      | 1431.890  | 11455120.00  | - | - | - |  |
| 65%<br>and<br>above,<br>Lumps    | DOMESTIC SALE | 4329  | NARBHERAM<br>POWER &<br>STEEL PV     | 2208.720  | 12368832.00  | - | - | - |  |
| 65%<br>and<br>above,<br>Lumps    | DOMESTIC SALE | 322   | Gopal Sponge<br>& Power<br>Pvt.      | 4980.400  | 29889600.00  | - | - | - |  |
| 65%<br>and<br>above,<br>Lumps    | DOMESTIC SALE | 4170  | Bhagwati Power<br>& Steel Ltd        | 1128.960  | 5136768.00   | - | - | - |  |
| 65%<br>and<br>above,<br>Lumps    | DOMESTIC SALE | 4131  | S.A.IRON &<br>ALLOYS<br>PVT.LTD.     | 492.130   | 4379957.00   | - | - | - |  |
| 65%<br>and<br>above,<br>Lumps    | DOMESTIC SALE | 4921  | TRIMULA<br>SPONGE IRON<br>PVT. LTD.  | 8988.960  | 54087990.00  | - | - | - |  |
| 60% to<br>below<br>62%,<br>Fines | DOMESTIC SALE | 19313 | JRS VENTURES<br>P LTD                | 30477.240 | 64933762.00  | - | - | - |  |
| 60% to<br>below<br>62%,<br>Fines | DOMESTIC SALE | 1165  | K A I<br>INTERNATIONAL<br>PRIVATE. L | 25373.420 | 47500690.50  | - | - | - |  |
| 60% to<br>below<br>62%,<br>Fines | DOMESTIC SALE | 330   | AUROGLOBAL<br>COMTRADE<br>PVT. LTD.  | 7700.120  | 12897701.00  | - | - | - |  |
| 60% to<br>below<br>62%,<br>Fines | DOMESTIC SALE | 909   | S.M.NIRYAT<br>PRIVATE<br>LIMITED     | 995.880   | 2190936.00   | - | - | - |  |
| 62% to<br>below<br>65%,<br>Fines | DOMESTIC SALE | 4553  | San & Co                             | 36459.000 | 141119553.75 | - | - | - |  |
| 62% to<br>below<br>65%,<br>Fines | DOMESTIC SALE | 1165  | K A I<br>INTERNATIONAL<br>PRIVATE. L | 3963.220  | 8025520.50   | - | - | - |  |

Note : Mine owners are required to substantiate domestic sale value/ FOB value for each grade of ore quoted above with copy of invoices.

6. Give Reason for increase/decrease in production

Give reasons for increase/decrease in production compared to the previous year or nil production, if any, during the year :

Production almost equal in comparison to previous year.

Ex-mine price increased as per prevailing market price.

Part - VII

COST OF PRODUCTION

| (I)    | Item                               | Cost Per Tonne (in ) |
|--------|------------------------------------|----------------------|
|        | Direct Cost                        |                      |
|        | (a) Exploration                    | 675.85               |
|        | (b) Mining                         | 0.00                 |
|        | (c) Beneficiation(Mechanical Only) | 675.85               |
| (ii)   | Over-head cost                     | 0.00                 |
| (iii)  | Depreciation                       | 519.91               |
| (iv)   | Interest                           | 32.01                |
| (v)    | Royalty                            | 169.71               |
| (vi)   | Taxes                              | 507.22               |
| (vii)  | Dead Rent                          | 3.41                 |
| (viii) | Others (specify) 0                 | 0.00                 |
|        | Total                              | 0.00                 |
|        |                                    | 1908.11              |

| Mineral Name        | Production proposal for financial year<br>2020 - 2021 | Production reported during the financial year<br>2020 - 2021 | Difference |
|---------------------|-------------------------------------------------------|--------------------------------------------------------------|------------|
| IRON ORE - HEMATITE | 195526                                                | 178600                                                       | 16926      |

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Back

I Certify that the information furnished above is correct and complete in all respects.

Place :

Dist: SUNDARGARH, ORISSA

Pin:-

Date : 30-06-2021

Signature

Name : M. K. MOHANTY

Designation:

Owner / Agent / Mining Engineer / Manager

From: 117.218.9.206 at 2021-06-30 12:21:16

Mines Manager  
Patabeda Iron & Manganese  
Mines (19.425 Ha)  
of M/s. M. G. Mohanty

**ANNEXURE-T**

**COPY OF ENVIRONMENTAL STATEMENT**

**Messrs M. G. Mohanty**  
Mine Owners

**Corporate Office:**  
5A, Forest Park  
Bhubaneswar-751009, INDIA  
Ph +91-674-2596400/2596410  
Fax : +91 674-2596390

MGM/BO/202-22/05-40  
Date. 28.05.2021

**Mines Administrative Branch Office:**  
At/Po: Barbil, Dist: Keonjhar  
Odisha-758035, INDIA  
Ph +91-6767-275318, 276319  
E-mail: mgmohantyco@gmail.com

To

The Member Secretary  
State pollution Control Board  
Paribesh Bhawan, a/118, Nilakanthanagar  
Unit-VIII, Bhubaneswar-751012, Odisha

**Sub.:- Submission of Environmental Statement –Form V with respect to our Patabeda Iron&Mn Mines  
over an area of 19.425 ha in Sundargarh district of Odisha.**

Sir,

We are hereby enclosing the Environmental Statement –Form V for the year 2020-21 with respect to our  
Patabeda Iron Mines over an area of 19.425 ha in Sundargarh district of Odisha.

This is for your kind information.

Thanking you,

Yours Faithfully,

For, M/s. MG Mohanty

  
**Mines Manager**  
**Patabeda Iron & Manganese**  
**Mines (19.425 Ha)**  
**of M/s. M. G. Mohanty**  
Encl. As above

# ANNEXURE

## ENVIRONMENTAL STATEMENT FORM-V

(See rule 14)

Environmental Statement for the financial year ending with 31<sup>st</sup> March 2021

### PART-A

i. Name and address of the owner/

occupier of the industry operation or process : R L Mohanty, Managing Partner

M/s M. G. Mohanty, 5A, Forest Park,

Bhubaneswar, Dist- Khurda

Odisha-751009

Operation or process.

i. Industry category

Primary-(STC Code) Secondary- (STC Code): : Opencast Mining

ii. Production category

: 0.18 MTPA

Year of establishment

: 1986

iii. Date of the last environmental statement submitted.

### PART- B

Water and Raw Material Consumption :

i. Water consumption in m<sup>3</sup>/d

Process

: 50 (Water Sprinkling within the mines&  
surrounding village road)

Cooling

:

Domestic

:

| Name of Products                                                                                                                                                                                                                                 | Process water consumption per unit of products |                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|---------------------------------------------|
|                                                                                                                                                                                                                                                  | During the previous financial year (2019-20)   | During the current financial year (2020-21) |
| <i>This is an opencast iron ore mines producing calibrated ore &amp; fines. Water is required for dust suppression at crushing &amp; screening plant in dry fog system, water sprinkling within the mines &amp; watering in plantation area.</i> |                                                |                                             |

ii. Raw material consumption

| Name of raw materials*                                                                                                                       | Name of Products | Consumption of raw material per unit of output |                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------------------------------|---------------------------------------------|
|                                                                                                                                              |                  | During the previous financial year (2019-20)   | During the current financial year (2020-21) |
| This is an opencast iron ore mines, after blasting the RoM ore is fed in to the Crushing & Screening unit to produce calibrated ore & fines. |                  |                                                |                                             |

\*Industry may use codes if disclosing details of raw material would violate contractual obligations, otherwise all industries have to name the raw materials used.

#### PART-C

##### Pollution discharged to environment/unit of output

(Parameter as specified in the consent issued)

| Pollutants | Quantity of Pollutants discharged (mass/day)                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Concentration of Pollutants discharged (mass/volume) | Percentage of variation from prescribed standards with reasons. |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-----------------------------------------------------------------|
| (a) Water  | <p>As the industry is being operated on dry process technology, no liquid effluent is generated from the screening &amp; crushing process. Domestic wastewater generated from residential colony and office toilet is channelized in soak-pit.</p> <p>The concentration of the pollutants are within permissible standard as per the quarterly water quality data monitoring by SUPCO Govt. approved Analyst, (Copy attached)</p>                                                                                          |                                                      |                                                                 |
| (b) Air    | <p>Since this is an open cast mine, the dust generation is mainly due to the movement of vehicles in the haul roads, drilling activities etc., which is fugitive in nature and cannot be quantified. The fugitive dust is minimised by sprinkling of water by mobile tanker and development of green barrier by plantation around the leasehold area.</p> <p>The ambient air quality are within permissible standard as per the quarterly air quality data monitoring by SUPCO Govt. approved Analyst, (Copy attached)</p> |                                                      |                                                                 |

#### PART-D

##### HAZARDOUS WASTES

(as specified under Hazardous Wastes (Management & Handling Rules, 1989).

| Solid Wastes                         | Total Quantity (Kg)                          |                                             |
|--------------------------------------|----------------------------------------------|---------------------------------------------|
|                                      | During the previous financial year (2019-20) | During the current financial year (2020-21) |
| a. From process<br>– used oil        | 0.707 KL                                     | 0.593KL                                     |
| –Waste containing oil                | 0.111T                                       | 0.064T                                      |
| b. From pollution control facilities |                                              |                                             |

## PART-E

### SOLID WASTES:

| Solid Wastes                                        | Total Quantity (Kg)                          |                                             |
|-----------------------------------------------------|----------------------------------------------|---------------------------------------------|
|                                                     | During the previous financial year (2019-20) | During the current financial year (2020-21) |
| c. From process                                     | 668 tonne                                    | 7415 tonne                                  |
| d. From Pollution Control Facility                  | NIL                                          | NIL                                         |
| e. Quantity recycled or re-utilised within the unit | NIL                                          | NIL                                         |

## PART - F

Please specify the characteristics (in terms of concentration and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

- **Characterisation of Hazardous waste-** *The composition of hazardous wastes like Waste oil & used oil are Hydrocarbons, lead and used acids.*
- **Characterisation of Solid waste-** *The composition of the solid waste (overburden & waste) contains laterite, BHJ, Shale etc.*
- **Disposal Practice-** The waste oil generated at various sources is collected in leak proof barrels. The used cotton wastes generated at various locations are kept in designated barrels.

## PART-G

Impact of the pollution control measures taken on conservation of natural resources and consequently on the cost of production.

- Water spraying on haul roads and mine pits is done regularly to suppress the dust.
- All the haul roads in the mining area are made up of laterite & compacted. Regular maintenance is being done.
- Wet drilling has been implemented in all drills.
- Controlled blasting technique is adopted.
- Year-wise plantation has been carried out in & outside lease area.
- CSR & Peripheral development has been done on regular basis.

#### **PART-H**

Additional measures/investment proposal for environmental protection including batement of pollution.

Garland drains and Retaining wall around the OB dumping and settling tank are constructed to check and channelize surface run-off as per necessity.

Plantation of natural species has been carried out over the inactive waste dump terraces to arrest the airborne dust & nearby villages.

#### **PART-I**

##### **MISCELLANEOUS:**

Any other particulars in respect of environmental protection and abatement of pollution.

1. *Measures taken to control Air Pollution:-*

- *Water sprinkling on the haul road.*
- *Provision of dust masks to the workmen.*

2. *Adoption of wet drilling arrangement in the drill machine.*

3. *Measures taken to control water pollution.*

*Construction of retaining wall and garland drain along the dump slope to prevent surface run-off during monsoon.*

4. *Measures taken to control Noise & Ground water Vibration;*

*Thick plantation has been developed around the mines to provide a canopy cover.*

*Implementation of advance blasting technique to reduce the blast induced ground vibration.*

*Workmen are provided with ear-muff while working near heavy earth moving machineries.*

5. *Measures taken to control Land Degradation*

*Afforestation around the non-active dump and settling tank for slope stabilization*



**Mines Manager**  
**Patabeda Iron & Manganese**  
**Mines (19.425 Ha)**  
**of M/s. M. G. Mohanty**