

M/s Ghanashyam Misra & Sons Pvt. Ltd.	Environmental Impact Assessment for Proposed Enhancement of Iron Ore Production from 0.75 Million TPA to 1.1 Million TPA of Gorumahisani Iron Ore Mines of at Villages Kuleisila, Badamouda, Sanamouda, Sundhal, Balitangiri, Nodhabani and Gorumahisani R.F., in Mayurbhanj District, Odisha
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Risk Assessment Study

7.1 Additional Studies

This chapter describes, various risks associated during operational stage of the project, a disaster management plan to minimize the risks, onsite and offsite management plans and occupational health and safety. The Following additional studies have been considered for the project

- i. Risk Assessment & Disaster Management
- ii. Social Impact
- iii. Public Consultation
- iv. Land Resource Management
- v. Rain water harvesting
- vi. Occupation Health And Safety

7.2 Risk Assessment

The complete mining operation will be carried out under the management control and direction of a qualified mine manager holding a First Class Manager's Certificate of competency to manage a metalliferous mine granted by the DGMS, Dhanbad. The DGMS have been regularly issuing standing orders, model standing orders and circulars to be followed by the mine management in case of disaster, if any. Moreover, mining staff will be sent to refresher courses from time to time to keep them alert. However, following natural/industrial hazards may occur during normal operation.

The risk assessment is carried out for all:

- a) Routine or non-routine activities (specially product processing)
- b) The activities, whether carried out by own personnel, suppliers and visitors to Premises.
- c) Processes & facilities provided as required.

The risk assessment includes classification of risks and identifying suitable control measures to reduce / eliminate the impact.



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Accordingly training needs of personnel are identified and operational control measures are developed for their effective and timely implementation. The register for risk assessment is reviewed by the departmental heads once every year or whenever there is a change in the process, equipment's or legislative requirements. They are updated as necessary.

The organization has established, implemented and maintains procedure(s) to:

- a) Identify the potential for emergency situation;
- b) Respond to such emergency situation.

The organization shall respond to actual emergency situations and prevent or mitigate associated adverse Process, Environmental and OH&S consequences. In planning its emergency response the organization has taken account of the needs of relevant interested parties, e.g. emergency services and neighbors.

The organization also periodically tests its procedure(s) to respond to emergency situations, where practicable, involving relevant interested parties/stake holders as appropriate. The organization periodically reviews and, where necessary, revises/amends its emergency preparedness and response procedure(s), in particular, after periodical testing and after the occurrence of emergency situations. Emergency plan is reviewed annually.

Factors of risks involved due to human induced activities in connection with mining & allied activities are:

- Accident due to handling of explosives
- Accident due to fly rocks flying due to faulty heavy blast
- Accident due to heavy mining equipment;
- Accident due to Blasting;
- Heavy Machinery;
- Transport of minerals
- Road accident
- Danger of Overburden
- Dust hazards
- Fire hazardous in stores



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Other risk factors due to natural activities are:

1. Hazardous associated with electricity
2. Natural calamities

7.2.1 Slope Failure

Slope failure are affected by the following factors

- Slope geometry
- Geological Structure
- Lithology
- Mining method & equipments
- Angle of friction/repose

7.2.2 Risk Analysis Causes and Control Measures for Mine

For the Various risk likely to arise, as above, detailed analysis of causes and control measures for the mine is given in below table.

Table No. 7.1: Risk Analysis Causes and Control Measures for Mine

Sr. No.	Factors	Causes of Risks	Control Majors
1	Accidents due to explosives and heavy mining machineries	Improper handling and unsafe working practice	<ul style="list-style-type: none"> • All safety precautions and provisions of Mine Act, 1952, Metalliferous Mines Regulation, 1961 and Mines Rules, 1955 will be strictly followed during all mining operations; • Entry of unauthorized persons will be prohibited; • Firefighting and first-aid provisions in the mine office complex and mining area; • Provisions of all the safety appliances such as safety boot, helmets, goggles etc. will be made available to the employees and regular check for their use; • Training and refresher courses for all the employees working in hazardous premises; Under Mines vocational training rules all employees of mines shall have to undergo the training at a regular interval;



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			<ul style="list-style-type: none"> Working of mine, as per approved plans and regularly updating the mine plans; Cleaning of mine faces shall be regularly done in order to avoid any overhang or undercut; Handling of explosives, charging and firing shall be carried out by competent persons only under the supervision of an Assistant Mine Manager; Provision of magazine at a safe place with fencing and earthen mound and necessary round the clock security arrangement; Regular maintenance and testing of all mining equipment as per manufacturer's guidelines; Suppression of dust on the haulage roads by regular deployment of water sprinklers; Adequate safety equipment will be provided at explosive magazine; Increasing the awareness of safety and disaster through competitions, posters and other similar drives.
2	Removal of O.B, ore& its dump	i. Sliding of benches due to its unconsolidated nature ii. Vibration due to movement of vehicles in the benches. iii. Height and slope of the benches iv. Nature of materials v. Drainage facilities	<p>Mine face and dumps benches are maintained with proper height and slope to prevent slope failure.</p> <p>MINE FACE:</p> <ul style="list-style-type: none"> Height and width of the benches – Height 6 m to 9 m & Width 6m to 10 m respectively in iron ore zone. Individual benches will be kept nearly vertical (85°) while ultimate pit slope angle will be maintained at around 45° in iron ore zone. <p>WASTE DUMP:</p> <ul style="list-style-type: none"> Presently there are 18 waste dumps Slopes of external dump maintained at the angle of repose of the dump material. Dumping in the waste dump in layers and dozing regularly. Providing proper drainage facilities in mine and dump area. Construction of retaining wall around dump area to stop sliding of material. Angle of repose of each dump to be 37° & over all slope to be 28° Garland drain to be made around OB dump area



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			<ul style="list-style-type: none"> • Technical & Biological reclamation
3	Drilling	i. Due to improper and unsafe practices ii. Due to high pressure of compressed air, hoses may burst iii. Rod may break due to improper maintenance of the rod	<ul style="list-style-type: none"> • Safe operating procedure established for drilling (SOP) will be strictly followed. Only trained operators will be deployed. • No drilling shall be commenced in an area where shots have been fired until the blaster/blasting foreman has made a thorough Examination of all places, including remaining butts of old deep holes, for unexploded charges that the drill rod may strike. • Drill operator shall examine the drilling equipment and satisfy himself • Drilling and charging of deep holes shall not be carried out in the same area at the same time. • Drilling operations shall not be carried on simultaneously on the benches at places directly one above the other. • Periodical preventive maintenance and replacement of worn out accessories in the compressor and drill equipment. • As per manufacturers recommendation rod to be replaced and bits will be changed • All drills shall be provided with wet drilling arrangement and it shall be maintained in efficient working in condition. • Operator shall regularly use all the personal protective equipment.
4	Blasting	<ul style="list-style-type: none"> • Fly rock, ground vibration , Noise and dust. • Improper charging, stemming & Blasting/ fining of blast holes 	<ul style="list-style-type: none"> • As recommended by CIMFR study report, by restricting the maximum charge per delay and by optimum blast hole pattern, vibrations will be controlled within the permissible limit and blast can be conducted safely. • SOP for Charging, Stemming & Blasting/Firing of Blast Holes will be followed by blasting crew. • Shots are fired during day time only. All holes charged on any one day shall be fired on the same day. • The danger zone is and will be distinctly demarcated (by means of red flags) at least 30
5	Excavation of waste & Ore	i. Hauling and loading equipment are in such proximity while excavation	<ul style="list-style-type: none"> • Safe Operating Procedure (SOP) for Excavator & Rock Breaker Operation are& will be followed. • Wear well-fitting helmet, safety shoes and



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		ii. Swinging of bucket over the body of tipper iii. Improper operation of equipment's iv. Improper operation of equipment's v. Inadequate knowledge, training and lack of safety regulation vi. Unauthorized and improper operation	working clothes, protective goggles while on duty. <ul style="list-style-type: none"> Before starting the machine and moving it, the operator shall have clear view of his surroundings. The operator sees that nobody remain within the swing area of the machinery & not allow any unauthorized person to ride on the excavator or to the bucket of the Excavator. He shall swing over the body of the truck/dumper and not over the cab. Operator shall not operate the machine when person & vehicles are in such proximity. Operate Audio-visual alarm at the time of reversing. Ensure no over speeding the machine, nor act in such a way to cause unsafe condition.
6	Transportation of Waste and ore, tipping in waste dump, ore dump	i. Potential hazards and unsafe workings contributing to accident and injuries ii. Overloading of material iii. While reversal & overtaking of vehicle iv. Operator of truck leaving his cabin when it is loaded.	<ul style="list-style-type: none"> Established Safe Operating Procedure (Sop) for Operational Trucks & Dumpers in Mines are and will be followed. Only trained drivers are deployed. Before commencing work, drivers personally check the dumper/truck/tipper for oil(s), fuel and water levels, tyre inflation, general cleanliness and inspect the brakes, steering system, warning devices including automatically operated audio visual reversing alarm, rear view mirrors , side indicator lights etc., are in good condition. Not allow any unauthorized person to ride on the vehicle nor allow any unauthorized person to operate the vehicle. While travelling the haul road, staying two dumper lengths or more behind the dumper ahead. Keep the dumper in such a position near the Excavator, so that the excavator swing is 900 or less. On haul roads and in pits, giving the right of way to loaded dumpers. The vehicle shall not be left unattended, nor left unlocked. Avoiding overloading of dumpers. All the operators shall follow the guidance given by the spotter. They shall dump only in that



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			place which is shown by the spotter. Dump spotter shall use the Red Flag, Whistle & Torch Light (In night hour) during dumping operation. <ul style="list-style-type: none"> On entering a tipping area, the tipper operator shall visually check the dumping area. All care must be taken regarding the positioning of the tipper's rear wheels at the tipping face. A tipper shall not back up to an area, which has not been visually inspected by the operator.
7	Natural calamities	Unexpected happenings	<ul style="list-style-type: none"> The mine management is capable to deal with the situation.

7.3 Disaster Management Plan

7.3.1 Objective of Disaster Management Plan

The Disaster Management Plan is aimed to ensure safety of life, protection of environment, protection of installation, restoration of production and salvage operations in this same order of priorities. For effective implementation of the Disaster Management Plan, it should be widely circulated and personnel training through rehearsals/drills.

The objective of the Disaster Management Plan is to make use of the combined resources of the mine and the outside services to achieve the following:

- Effect the rescue and medical treatment of casualties;
- Safeguard other people;
- Minimize damage to property and the environment;
- Initially contain and ultimately bring the incident under control;
- Provide for the needs of relatives
- Provide authoritative information to the news media;
- Secure the safe rehabilitation of affected area; and
- Preserve relevant records and equipment for the subsequent inquiry into the cause and circumstances of the emergency.

In effect, it is to optimize operational efficiency to rescue rehabilitation and render medical help and to restore normalcy.



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To tackle the consequences of a major emergency inside the mines or immediate vicinity of the mines, a Disaster Management Plan has to be formulated and this planned emergency document is called “**Disaster Management Plan**”.

Gorumahisani iron ore mines, the complete mining operation is carried out under the management, control & direction of a qualified Mine Manager holding a First Class Manager's Certificate of competency to manage a metalliferous mine granted by the Directorate General of Mine Safety (DGMS), Dhanbad. The DGMS have been issuing a number of standing orders, model standing orders and circulars to be followed by the mine management in case of disaster, if any. Moreover, mining staff is being sent to refresher courses from time to time to keep them alert. Although the mine does not come under the purview of earthquake zone, flood zone, etc.

In order to prevent or take care of hazard / disasters if any the following control measures have been adopted.

- All safety precautions and provisions of Metalliferous Mines Regulations (MMR), 1961 is strictly followed during all mining operations.
- Observance of all safety precautions for blasting and storage of explosives as per MMR 1961.
- Entry of unauthorized persons into mine & allied areas is completely prohibited.
- Firefighting and first-aid provisions in the mines office complex and mining area are provided.
- Provisions of all the safety appliances such as safety boot, helmets, goggles, dust masks, ear plugs and ear muffs etc. are made available to the employees and the use of same is strictly adhered to through regular monitoring.
- Training and refresher courses for all the employees working in hazardous premises.
- Working of mine, as per approved plans and regularly updating the mine plans.
- Cleaning of mine faces is regularly done.
- Handling of explosives, charging and blasting are carried out only by qualified persons following SOP.
- Checking and regular maintenance of garland drains and earthen bunds to avoid any inflow of surface water in the mine pit.



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- Provision of high capacity standby pumps with generator sets with sufficient quantity of diesel for emergency pumping especially during monsoon.
- A blasting SIREN is used at the time of blasting for audio signal.
- Before blasting and after blasting, red and green flags are displayed as visual signals. Checking of blasting area for any un-blasted hole or material.
- Warning notice boards indicating the time of blasting and Not To Trespass are displayed prominently.
- An approved explosive van is also available for transporting explosives to the blasting site.
- Provision of magazine at a safe place with fencing and necessary security arrangement.
- Regular maintenance and testing of all mining equipment were carried out as per manufacturer's guidelines.
- Suppression of dust on the haulage roads with frequent water sprinkling, etc.
- Increasing the awareness of safety and disaster through competitions, posters and annual safety weeks and environmental weeks, encouraged through suitable rewards and other similar drives.
- Making available all the emergency equipments like Ambulances, communication equipment, auxiliary lighting, fire extinguishers, fire tenders etc.
- An internal communication system is provided for the department head and to their line of command with mobile phone facility, Walky-talkie. Telephone nos. and addresses of adjoining mines, rescue station, police station, fire service station, local hospital, electricity supply agency and standing consultative committee members are maintained.
- The management is able to deal with the situations efficiently keeping in view of the likely sources of dangers in the mine.
- All these measures will be suitably augmented to meet the future needs.

Emergency Plan

On realizing anything serious that may happen anywhere in the mine immediate action to inform nearest mining official will be taken. On being informed about the emergency it will be verified for the correctness of information and



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telephone in particular to the Manager and other mining officials of the mine and managers of adjoining mine.

On receiving information of emergency situation intimation will be sent to the consultative committee which is already formed. Shift in-charge will ensure that all the materials and transport system to deal with emergency situation is alerted. First aid facilities will be readily available.

Responsibility has been given to following officers of the mines for Emergency preparedness plan.

Table No. 7.2: Responsibility & Designation for Mines

Sr. No.	Designation	Address	Responsibility
1	Mines Manager	Gorumahisani iron Ore Mines At/ PO- Gorumahisani Dist- Mayurbhanj, Pin Code-757042	Disaster control, sounding the alarm at danger / accident and information to the Lessee regarding the situation.
2	Assistant Manager		Disaster control, sounding the alarm at danger / accident and information to the Lessee regarding the situation.
3	Foreman		Labour Management & mob control. Information to the security personnel to evacuate all the persons from the area in case fire or any disaster except the fire brigade personnel.
4	Mate		Labour Management & mob control. Information to the security personnel to evacuate all the persons from the area in case fire or any disaster except the fire brigade personnel.



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7.3.2 Care and Maintenance during Temporary Discontinuance

An emergency plan for the situation of temporary discontinuance due to court order or due to statutory requirements or any other unforeseen circumstances may indicate measures of care, Maintenance and monitoring of status of discontinued mining operations expected to re-open in near future.

However, during the course of mining, there may be temporary discontinuance due to unforeseen causes such as:

- Court order
- Natural Calamities
- Statutory Requirements
- Any other unforeseen circumstances
- Accidents in the Mine
- Local issues

Therefore, an emergence plan is necessary to re-open the mine which will include:

- Intimation to authorities concerned (IBM, DGMS, Directorate of Mines, Circle Mining Office etc.) in the prescribed form for temporary discontinuance.
- Explanation to the local community regarding the cause of temporary discontinuance and possibility of re-opening of the mine in future.
- Listing and proper storing of machines / equipments / vehicles, assets and documents.
- Tightening of the security for proper watch and ward.
- Monitoring of status of discontinued mining operation in respect of bench height, width, individual bench slope angle, overall quarry slope angle, overhang, undercut, misfire, noise levels or any other parameters whose levels either in form of higher side or lower side is dangerous for further mine working.
- Preparation of plan & sections of discontinued mining operation.
- Projection of benches in plan & sections which is safe for further working.
- Formation of safe benches as per plan & sections.
- Management of misfire, fly rock movement, maintenance of machinery etc., which is risk free and not dangerous for further working.
- Intimation to the concerned authorities for re-opening once the mine is risk free.



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7.4 Public Consultation

Public hearing for the project was conducted on 02.11.2018 near the mines area. Notices inviting comments, views, objection and suggestions from the public, in respect of the above project was published in newspapers namely "The Times of India" and "Dhartri" on 02-10-2018. Out of about 450 nos. of persons present in the meeting, 35 persons presented their views on the project. Further 30 (Thirty) nos. of representations were received during public hearing which are enclosed for kind reference – the issues and representations for proposed enhancement of production mainly relate to complaints of the locals for non fulfillment of peripheral development activities, spread of pollution, flow of murum to paddy fields, water problems, health problems and no provision for medical facilities etc. Detailed minutes of the public hearing and representations are enclosed as **Annexure No. 14** statement of the issues raised by the public and comments of the representative of the project proponent along with their action plan and budget is presented below:

Table No. 7.3: Public Consultation with Action Proposed

Sr. No.	Issues	Comments	Action proposed / taken with time frame	Budgetary provision
1	Road dust pollution and no water sprinkling	Water sprinkling is being done regularly at mine haul road and colony road to minimize dust pollution. Two numbers of more water tanker having capacity 12,000 liters will be provided, in addition to earlier two water tanker and fog machine, which help to conduct better water sprinkling purpose as and when required.	Two more tankers will be provided. Frequency of water sprinkling will be increased to thrice a day on the roads and other activity areas. Two more water tanker having 18,000 liters capacity each has been in use addition to existing water tanker for water sprinkling work on the road and other activity area.	20 lakhs for 2 tankers (12 KL each)



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2	Paddy fields in the downhill get covered with red murrom soil in the runoff water.	Check dams and garland drains will be constructed followed with two times of massive plantations for flow control or murrom soil over paddy fields during rains.	<p>Additional retaining wall along with Garland drains will be constructed around dumps. Check dams in surface run-off channels/nalas will be provided.</p> <p>Soil erosion control measures will be adopted by coir matting, plantation and check dams.</p> <p>As per commitment made during the public hearing we have cleaned the soil mix sand covered in the paddy fields of the local people. We have already constructed new boulder walls at seasonal nala to check further erosion. We are committed to take care regarding the same issue in future also.</p>	<p>Rs. 16.35 lakhs and Rs.17.00 lakhs have been kept for construction of check dams, garland drain, retaining wall etc & their maintenance during 2018-19 & 2019-20 respectively.</p> <p>Rs. 26.65 Lakhs have been envisaged for plantation and its maintenance.</p>
3	Constitution of local environmental committee	Local environmental committee will be constituted to look after issues of mining on air and water pollution , biodiversity etc.	Environmental Committee has been formed on 19.12.18 in respect of Gorumahisani Iron Ore Mines. Government officials are the members of the said Committee and Sub-Collector; Bamanghaty is the Chairperson of the Committee. The said committee will look after the environmental issues of the local area and also suggested to resolve the issues accordingly discuss with the local villagers.	Rs.60.00 Lakhs have been envisaged to be spent for environment management and control through the committee.
4	Peripheral development	Peripheral development matters will be taken with consultation of P.S. members and CSR Committee.	CSR committee has been formed under Chairmanship of Sub-Collector, Bamanghaty Sub-Division on 19.12.18. The said committee will suggest the company to undertake different type of peripheral works in consultation with local villagers and administration. Accordingly CSR/peripheral works will be	Rs. 60.00 Lakhs have been kept as CER/ESC budget for the area



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			done under supervision of the CSR Committee.	
5	Health check up	Health camp for local villagers will be regularly organized and free medicines provided to local villagers.	Under provisions of Mines Act PME is regularly being done for the workers engaged in the mining and allied activities. Further, we had organized a health camp for local villagers on 15.12.2018 by engaging qualified medical team. Total 738 numbers of people from nearby villages were benefited with free medical check up and free medicines.	Budget of Rs.36.00 Lakhs have been envisaged for Occupational health check-up and Annual budget of Rs.18.00 Lakhs have been envisaged for regular health check-up of local villagers

Action Plan

Action taken & to be taken against the comments given by Project Proponent

- In CER Rs 60.00 lakh will be spent during 2018-19 and 2019-20 as per letter no. F-22-65/2017-IA.III dated 01.05.2018 & these amounts will be spent best on issues raised during Public Hearing. An amount Rs. 9.00 lakh has been kept for peripheral development during 2018-19 & 2019-20.
- Rs 20.00 lakh have been kept for (i) The existing and new tanker maintenance (ii) For dry Fog System maintenance.

Year	Amount for Maintenance (Rs.)
2018-19	10,00,000
2019-20	10,00,000

Plantation will be carried out for soil erosion. Total 84604 saplings will be planted to check soil erosion.

Massive plantation will be done. An amount Rs.12.65 lakh & Rs.14.00 lakh have been kept for plantation programme & its maintenance during these 2 years.



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- CRS committee and Environment committee has been formed by Sub-Collector, Rairangpur for peripheral development on 19/12/2018 vide letter no. 6763/19.12.2018. Manager Gorumahisani Iron Ore will be member convenor, who will call meeting from time to time.
- All paddy fields have been cleared which were covered by murrom soil & proper care will be taken in future.
- Two more water tanker fitted with water sprinkler has already provided and in used for water sprinkling work.
- Medical check-up for 738 persons have been done & medicines have been provided.



Two Water Tankers Having 18000 Liters Capacity



46 Meters Length Retaining Wall has been Constructed





**26 Meters New Stone Wall has been constructed Along the Haul Raod Side to
Prevent Soil Erosion**



Murom Cleared From Paddy Field of SMT. SHANTI MUNDA



Photographs of Drain Cleaning at Vesorakocha Nala





**Photographs of Health Check Up Center With Free Medicines
Provided to 738 Numbers of Local Peoples**

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7.5 Final Mines Closure Plan (FMCP)

The **Final Mine Closure Plan** prepared under rule 24 of MCDR 2017 in terms of section 8A (3) & (6) of MMDR Amendment Act with the proposal for the period 2018-19 to 2019-20 over an area of 349.50 Ha. In villages Kuleisila, Badamouda, Sanamouda, Sundhal, Balitangiri, Nodhabani and Gorumahisani R.F. It is approved vide letter no: FMCP/OTFM/27-ORI/BHU/2018-19 on dated 27.09.2018.

7.6 Financial Assurance Details

This being a category a (OTFM) mine, financial assurance for 146.966 Ha is calculated at the rate of **Rs.3,00,000.00** per Ha. This amounts to **Rs.4,40,89,800.00** (RUPEES FOUR CRORE FORTY LAKH EIGHT NINE THOUSAND EIGHT HUNDRED ONLY). The lessee has already submitted a financial assurance in shape of bank guarantee during approval of the last document to the Regional Controller of Mines, Indian Bureau of Mines, Bhubaneswar Region and the same is valid till 31.3.2020. The details of the BG is as below:

Table No. 7.4: Financial Assurance Details

Amount	Bank	Validity	BG. No and dated
Rs. 20,44,800/-	AXIS BANK LTD, RAIRANGPUR	25.04.2018 TO 24.04.2020	13220100000018 Date of Issue: 25.04.2018
Rs. 4,20,45,000/-	AXIS BANK LTD, RAIRANGPUR	24.03.2017 TO 31.03.2020	13220100000016 Date of Issue: 04.03.2017

7.7 Rain Water Harvesting

Industrial water is being used from rain water harvesting pond as and when required for dust suppression & plantation. There are 4 numbers rain water harvesting pond developed by the lessee in the lease area having capacities of **17808m³**.



M/s Ghanashyam Misra & Sons Pvt. Ltd.	Environmental Impact Assessment for Proposed Enhancement of Iron Ore Production from 0.75 Million TPA to 1.1 Million TPA of Gorumahisani Iron Ore Mines of at Villages Kuleisila, Badamouda, Sanamouda, Sundhal, Balitangiri, Nodhabani and Gorumahisani R.F., in Mayurbhanj District, Odisha
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Photographs of Rain Water Harvesting

7.8 Occupational Health & Service

Provision of occupational health services means carrying out activities in the workplace with the aim of protecting and promoting workers' safety, health and well-being, as well as improving working conditions and the working environment. These services are provided by occupational health professionals functioning individually or as part of special service units of the enterprise or of external services.

The medical examination is mandatory prior to joining. Periodical Medical Examination is being adopted for each & every workers & will be continued. IME/PME is conducted.

The corporate health survey (Initial & Periodical Medical examination) has been conducted by mobile occupational health unit of center for Environmental and Occupational Health (CEOH) a unit of **Utkal Polyclinic Bhubaneswar**, Odisha. Occupational health team consists of health physician, Pathologist, cardiologist, Radiologist, Physician, Lady Doctor, Eye specialist & Medical Technician. Different tests like Pathology, X-ray, Audiometric, Pulmonary function test etc were done by the team.

The workers presented themselves with all data. All the reports along with occupational health physician gave the reports & advices to the workers.

Pre-employment Initial Medical Checkup (IME) conducted to every employee comprising tests like Chest X rays, Vision testing (Far & Near vision, color vision and any other ocular defect), ECG, examination of blood, Blood Sugar Fasting, Serum



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Cholesterol, Serum Creatinine, SGOT and SGPT, Urine (Routine and Microscopic), Complete physical examination.

Periodic medical examination (PME) occupational health check upon staff/workers conducted once in 5 years which include spirometry, audiometry, vision test, X-ray, ECG, Musculo Skeletal Evaluation etc., by doctors and also by a qualified occupational health physician who is trained under OSHA. Further, LFT and Sputum tests are & will also be conducted to test the respiratory Health related problems.

**Amount Spent against Occupational Health Issues and proposed to be spent
for the year 2018-19 & 2019-20**

Year	Number of person	Amount spent
2010-11	231	288750
2011-12	082	102500
2012-13	391	488750
2013-14	459	573750
2014-15	207	258750
2015-16	632	790000
2016-17	340	810000
2017-18	688	860000
2018-19	1200	1800000 (Proposed)
2019-20	1200	1800000 (Proposed)









Photographs of Occupational Health Issues

M/s
Ghanashyam
Misra & Sons
Pvt. Ltd.

Environmental Impact Assessment for Proposed Enhancement of Iron Ore Production from 0.75 Million TPA to 1.1 Million TPA of Gorumahisani Iron Ore Mines of at Villages Kuleisila, Badamouda, Sanamouda, Sundhal, Balitangiri, Nodhabani and Gorumahisani R.F., in Mayurbhanj District, Odisha

UTKAL POLYCLINIC
CENTRE FOR ENVIRONMENT & OCCUPATIONAL HEALTH
Registered under the Orissa Clinical Establishment Control and Regulation Act, 1990 & Rules 1994 (Regd.No.: 35/1998)
C-19, PALASPALLI, AERODROME AREA, BHUBANESWAR, ODISHA, PIN-751020, PHONE: 0674-2593456
(AN ISO 9001 : 2008 CERTIFIED ORGANISATION)

SUMMARIZED STATEMENT

GORUMAHISANI IRON ORE MINES
GHANASHYAM MISRA & SONS PVT. LTD.

MEDICAL EXAMINATION HELD DURING NOVEMBER 2017

A.	TOTAL NO. OF EMPLOYEES UNDERGONE MEDICAL EXAMINATION	: 257
	TOTAL NO. OF EMPLOYEES UNDERGONE IME	: 72
	TOTAL NO. OF EMPLOYEES UNDERGONE PME	: 185
	TOTAL NO. OF EMPLOYEES DECLARED TEMPORARILY UNFIT AND REFERRED TO HIGHER CENTRE FOR FURTHER EVALUATION & TREATMENT AND REVIEW AFTER THREE MONTHS FOR FIT/UNFIT	: 04
	TOTAL NO. OF EMPLOYEES DECLARED FIT	: 253
B.	SPECIAL EYE REFRACTION TEST FOR DRIVERS & OPERATORS	: 83

IME - 72
PME - 185
Total - 257

8-12-17

DR. B. N. MOHAPATRA MBBS, ARIH (MUMBAI)
Occupational Health Consultant, EZMA
Trained in ILO Classification of Pneumoconiosis
Trained in Cardiology
Regd.No-7338(Orissa), 219 (DGFASLI)

