

OUR ENVIRONMENT

Geological Information

Ore Type	:	Iron Ore (Hematite and Blue dust)
Bulk Density	:	2.5
Grade (%Fe. Content)	:	+45to 63 % Fe.
Dip of ore body	:	15 ⁰ - 35 ⁰ towards East.

OUR MISSION

ECO FRIENDLY MINING & MINERAL CONSERVATION SAFETY IS OUR MISSION AND ENVIRONMENT IS OUR CONCERN.

- Effective utilization of natural resources for long term economic objective having interest of the Mines as well as the state. Making available various kinds of steel manufactured through its forward integration plan to all customers at the most competitive price.
- In order to achieve customer satisfaction we are looking forward to continually improve upon productivity, product conformity and delivery compliance with involvement of people through training & development.

OUR VISION

Up gradation of sub-grade ore for value addition

OUR ENVIRONMENT POLICY

At Raikela Iron Ore Mines **The Environmental Policy** is endeavor.

- To Establish an Overall Sense Of Environment Concern among Employees and set Principle of Specific, Measurable, Realistic and Achievable with Time Frame”
- To continuous monitoring the impact of Mining on Air, Water and Noise and taking preventive steps to minimize the impact on environment
- To conserve natural resources by effective resource utilization and Biological reclamation of mined our land.
- To comply with environmental laws, statutes and other requirement.
- To Educate and develop environmentally aware workforce
- Pollution frees mining and development of green belt surrounding the Mines and Dump areas. Commission of dust suppression equipments at mines and water sprinkling at mines and nearby roads

CONSERVATION FOR NATION'S PROSPERITY

1. Conserve low grade minerals for future use & up gradation.

2. Conserve energy:-

- By proper utilization
- Switch off light & fan when not required.
- Stop leakage of fuel
- Use proper machine for proper work

3. Conserve Water

- Rain water harvesting
- Stop leakage
- Minimize consumption
- Recycle the waste water.

Mineral wealth is finite and nonrenewable. It is a major resource for development, the management of this precious resources and its optimal & economical use are matter of national importance. The success of mineral conservation & development rules will depend largely on a national consensus to fulfill its underlying principles and objectives.

Producing and Protecting

We have a strong regard for environmental protection, health and safety. We conduct all of our activities in such a manner as to protect the physical environment, our employees, and the general public. We believe a "safe mine is a productive mine." The safety of employees and related personnel is based in part on individual commitment. We manage and work at all our mines under the principle that any harm to employees or property is preventable. We comply with applicable environmental and public safety laws and regulations and develop and implement comprehensive programs to ensure compliance. We are both responsible and responsive in matters relating to environmental protection, health and safety. This policy can be simply stated as: ***"Producing and Protecting."*** Our Environmental, Health and Safety mission is simple:

The Company implements reasonable operational procedures to ensure that we are effective in addressing environmental, health and safety concerns. In particular, we:-

- Conduct environmental, health and safety audits of operations and activities to ensure compliance, reduce liabilities, improve profitability and report these findings;
- Conduct appropriate research to develop more effective methods for environmental, health and safety protection;
- Establish accountability for all employees to exert leadership and commitment to continual improvement in environmental, health and safety awareness; and
- Ensure employee's awareness of the policy and their involvement in its implementation.

SUPPORTING THE COMMUNITY

The company seeks to become an integral part of our operating communities through active involvement by our employees in local civic, charitable, and educational organizations. By becoming part of the solution to community challenges, the company builds trust and sustaining relationships that go beyond our mining operations. In addition, our financial support of local projects and organizations helps to improve the quality of life in these locations. Our community involvement fosters a better understanding of mining benefits and effects, and also encourages a mutual-gain approach to issues affecting employees, the community and the company.

The mutual-gain approach to project development, safe operation, and closure provides a platform for continual dialogue to identify and address community concerns, encourage innovative solutions, accept responsibility, act in a trustworthy fashion, and focus on building long-term relationships. Mining today must continue to earn the social license to successfully operate and our approach has earned the company many acknowledgements.

ENVIRONMENT AND SAFETY

We as a responsible corporate house accords equal importance to ecological and social sectors. The company is concerned about not only the economic bottom-line reflected by the impressive performance on all quarters and higher profitability but

also the benefits and impacts of our operations, processes and products on the environment and the health and safety of our employees and the community.

Extensive a forestation / plantation work is being done in and around our mines, regular monitoring and control of different environmental parameters i.e. air, water, dust, noise and heat etc. is being carried out. Dust suppression systems at crushing and screening plant are installed.

Company has a safety and health policy. Company follows statutory requirements as per Mines Act 1952. Every year Safety week celebrated under the aegis of Director General of Mines Safety (DGMS) and MEMC week under the aegis of Indian Bureau of Mines.

A well equipped vocational training center caters to need of various training regarding safety and occupational health for the employees.

MINING AND ENVIRONMENT

The mining industry may cause severe environmental degradation because of its location (almost all conceivable places, many times with lack of infrastructure), size, timescale, participation in macroeconomic accounts, level of employment, role of international markets, the non - renewable nature of the mineral resources, etc. The frequent negative impacts of mining operations are:

- Energy and water consumption
- Air, water and land pollution
- Landscape alteration
- Soil erosion
- Destruction of river banks
- Health & Safety nuisance.

The two main objectives of our mining policy are:

- Ensure that new and ongoing mines are planned, operated and closed in a way that maximized the long - term benefits to society while minimizing the negative effects on the environment.
- Support national strategies on handling of abandoned mine sites, and to prevent that new sites are abandoned.

To instill environmental awareness various programs like celebration of World Environment Day, Environment Month and Mines Environment and Mineral Conservation Week are organized religiously. Besides, other activities like mass tree plantation, eco-quiz, painting and essay competitions on environmental topics are conducted involving employees, students and general public on these occasions for bringing awareness amongst employees and family and public as a whole.

1. Waste Dump Management

We have two active waste dumps in the non-mineralized area. Retaining wall and garland drain around the dump has been constructed which is protecting wash off. A spiral road barns where ever required is provided. Retaining wall and garland drain is provided to protect wash-off at the active dump.

House keeping

Road	:	Roads maintained as per MMR 1961
Sign Board	:	Displayed
Aesthetics	:	Good

Topsoil

Top soil is a valuable natural resource. We took utmost care for collection of topsoil available in our mines before starting excavation in any virgin area and stacked in a separate area. Those top soils are being used at the time of plantation of new saplings in M.L area or outside the M.L. area. A record of the same is being maintained and kept at our mines.

DUST SUPPRESSION

Effective wetting: Effective wetting of haul road & mines are being done round the clock by a 12 KL water tanker fitted with sophisticated sprinkling system. In crusher plant also dust suppression system by means of covering of conveyor belt, product house and creative water fogs is being carried out.

Wet Drilling & Dust Extractor : In the Drill machine arrangements for wet drilling and arrangement for dust collecting at the collar of the drill hole is provided for minimizing emission of dust to atmosphere

2. WATER

The main water pollution in mining area is suspended solid during the monsoon. The prime sources being waste/reject dump erosion or denudation of soil in areas

barren of any vegetation. The Problem of water pollution is prevented in following manner by the company.

- A Cemented high dam and couple of check dams prior to high dam in the upstream have been made across a seasonal Nala, which passes through the Mines.
- Both the bank of seasonal water stream are protected by RR masonry work. Plantations have been taken up along the sides of the stream.
- The Mining activities are located at far-off distance from this stream.
- Time to time the silt age materials have been removed from the stream.
- Garland drain has been constructed along toe of waste dumps to prevent flow of silt downward.
- The bolder walls of height 2 Mtr. have been erected along the periphery of the waste dump/ore fines dump to arrest wash-off of the same during monsoon.
- The domestic sewage water is being drained to the septic tank.

3. Air

Dust is generated from the haul road and stock piles, loading and unloading points, crushing and screening operation, blast hole drilling and blasting. To reduce the dust menaces following mitigating measures have been taken up by the company.

- A water tanker is engaged for regular spraying of water over haul road.
- Spraying of water on hopper screens and over conveyor belt is done through pressure nozzles to suppress dust.
- Wet drilling is practiced to suppress dust during drilling operation.
- Dust masks are provided to persons employed in dust prone areas.
- Seasonal monitoring of air quality within core and buffer zone of the mines for determining respirable dust concentration in the air.
- Green belt developed around administrative building, labour colony, workshop and dump.
- The heavy and lights vehicles are maintained properly to check emission of exhaust gases.

4. NOISE

The factors contributing to noise pollution and mitigating measures taken up by the company are as follows.

- The noise pollution by vehicles and machineries is minimized by proper maintenance in our workshop. Daily and periodical maintenance is done with our competent mechanical engineers with mechanics.
- Green belt is maintained properly around the colony.
- Monitoring of noise level is taken in different location.
- Invulnerable areas with noise level more than permissible limit, the exposure time of workers have been restricted and ear-muffs provided to such workers.
- To minimize noise due to blasting, NONEL system of initiation system with different delay is being used.
- Secondary blasting which is a measure source of noise is fully avoided by the use of Rock Breaker

IMPACT ON SOCIO-ECONOMIC PROFILE

1. EMPLOYMENT.

Total number of persons directly employed in our mines is 163. The percentage of SC/ST employee within the mine is 85%, which are mostly inhabitants of local villages. The percentage of female workers in mine is 10%.

2. EDUCATION.

A Lower Primary School is in function in our mining colony. Two teachers are provided. Time to time we have repaired school building and boundaries of nearby village schools.

3. HEALTH.

We provide free medical facilities to nearby villagers and employees. One Pharmacist is directly appointed through mines. An M.B.B.S doctor is visiting once in a week.

Ambulance facility is provided to our employees and every year more than one-fifth employees are taken for PME.

4. RECREATION FACILITY

- Various socio-cultural programs are organized by the mines.
- We organize various environmental awareness programmes amongst school children of nearby schools every year.

5. Aesthetic beauty.

We have properly planned and constructed our office premises, colony, canteen, and workshop and guest house. One beautiful flower garden is developed in front of our office to enhance aesthetic beauty. The perennial

Nala have been protected by construction of protecting wall both the sides. Plantation of trees is made on both the sides of Nala to enhance the aesthetic beauty.

The trees and natural landscape around the mining lease area have been protected for enhancement of aesthetic beauty.

6. MINERAL CONSERVATION.

The lease area has been explored in detailed to delineate the ore body. The low grade/ marginal grade/ off grade blocks have not been subjected to mining and is conserved for future use.

FUTURE PLANNING

- Increase of production capacity from 0.864 million ton to 2 million ton.
- Installation of minerals beneficiation plant.
- Commissioning of pelletisation plant.