



**The Additional Principal Chief Conservator of Forest,
Regional Office (Eastern Central Zone)
Ministry of Environment, Forests and Climate Change, Govt. of India
Bungalow No. A-2, Shyamali Colony, Ranchi – 834002, Jharkhand.**

Ref No. - JMB/ENV/6&7/36/368/2023
May 29, 2022

Ref.: Environmental Clearance letter no. - J-11015/373/2010-IA .II (M) dated- 3rd March 2014.

Sub: Half Yearly Compliance Status Report of Environment Clearance conditions issued by MoEFCC, New Delhi to 6 & 7 Pits Colliery, Tata Steel Limited, Dhanbad for the period October'22 to March'23.

Dear Sir,

We are enclosing herewith compliance report for the period **October'22 to March'23** for the EC granted vide letter no.- J-11015/373/2010-IA.II (M) dated- 3rd March 2014 issued by Ministry of Environment, Forest and Climate Change, New Delhi.

We trust the information furnished is in line with your requirement.

Thanking you,

Yours faithfully,

**Head (Planning)
Jharia Division, Tata Steel Ltd.**

Encl: As above.

Copy to: Member Secretary, CPCB, Eastern Zonal Office, Southend Conclave, 502, 5th Floor
1582, Rajdanga Main Road, Kolkata -700107.

Copy to: Member Secretary, JSPCB, T.A. Division Building (Ground Floor), H.E.C, Dhurwa,
Ranchi - 834004.

Copy to: Regional Officer, JSPCB, HIG-1 Sardar Patel Nagar, Housing Colony, Hirapur, Dhanbad

HALF YEARLY COMPLIANCE REPORT
(PERIOD: OCT'22 – MAR'23)

6&7 PITS COLLIERY
(CAPACITY: EXPANSION FROM 0.28 TO 0.6 MTPA RAW COAL)
TEHSIL: JHARIA, DIST: DHANBAD, JHARKHAND



TATA STEEL LIMITED, JHARIA DIVISION

**P.O.- JAMADOBA, DIST. - DHANBAD,
STATE- JHARKHAND, PIN CODE – 828112**

**ENVIRONMENTAL CLEARANCE GRANTED VIDE LETTER NO. - J-11015/373/2010-IA.II
(M) DATED- 03.03.2014 ISSUED BY GOVT. OF INDIA, MINISTRY OF ENVIRONMENT,
FOREST AND CLIMATE CHANGE, NEW DELHI.**

Compliance status of Environmental Clearance of Expansion of 6 and 7 Pits Colliery from 0.28 MTPA to 0.6 MTPA in an ML area 168.12 ha) of M/s Tata Steel Ltd., Village Jamadoba, Tehsil Jharia, dist. Dhanbad, Jharkhand vide MoEFCC Letter no J-11015/373/2010-IA.II (M) dated March 3, 2014

S. No.	Condition	Compliance Status
Specific Condition		
(i)	Adequate measures be taken so as to prevent and control of manifestation of health problems due to coal mining activities.	The control measures implemented are as follows- i. Water spraying is carried out in underground workings ii. Water sprinkling arrangements are present at all coal transfer points in underground iii. Plantation within the mine lease area iv. Trucks carrying sand are properly covered as well as optimally loaded. v. Underground workings of the mine are well ventilated and meet the required standards prescribed by DGMS.
(ii)	Adequate green belt shall be provided around coal handling and other areas.	Green belt has been developed around the CHP of washery and mass plantation activities are taking place every year in the leasehold area. Green belt development plan attached as Annexure-1 .
(iii)	Transportation of coal shall be by mechanically covered trucks.	No coal transportation takes place by trucks. All coal is transported to the washery via underground conveyor belt system.
(iv)	No dumping of fly ash in low lying areas and in mine voids are permitted.	It is not applicable as there is no generation of fly-ash due to closure of our power plant since April'2015.
(v)	Utmost care be taken to prevent spillage of sand during transportation of sand.	The trucks that are being used for the transportation of sand are properly covered using tarpaulin sheets. Larger trucks have been engaged for reducing no of cycles. To ensure the compliance, every vehicle is checked as per vehicle checklist on PUC, Tyre/body condition, emission check at every entry point. Quality checks are done on trucks to ensure its health.
(vi)	No use of fly ash with sand will take place for stowing in underground mines.	Office Memorandum F.No. 22-13/2019-IA.III dated 28 th Aug'19 by MOEFCC is being followed.
(vii)	The maximum production from the mine at any given time shall not exceed the limit as prescribed in the EC.	It will be strictly followed. The EC capacity is for 0.6 MTPA raw coal while the raw coal production for 6&7 Pits Colliery is well below the limit.
(viii)	Regular monitoring of subsidence movement on the surface over and around the working area and impact on natural	Regular monitoring of subsidence is done by Central Institute for Mining and Fuel Research, Dhanbad. According to the

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	drainage pattern, water bodies, vegetation, structure, roads, and surroundings shall be continued till movement ceases completely. In case of observation of any high rate of subsidence movement, appropriate effective corrective measures shall be taken to avoid loss of life and material. Cracks shall be effectively plugged with ballast and clayey soil/suitable material.	subsidence reports, the impact of subsidence is negligible since the underground mine workings are now at great depth and proper filling of voids through sand stowing is being done.
(ix)	If subsidence is found exceeding the permitted limits, then the landowners shall be adequately compensated with mutual agreement of the landowners.	It will be strictly followed.
(x)	Mining shall be carried out as per statuette at a safe distance from the river/nallah flowing adjacent to the lease boundary.	The Damodar River flows at an approx. aerial distance of 2.5 kms from the lease boundary. Since this is an underground mine, no impact on the surface water bodies is expected. Though, regular monitoring on upstream and downstream of Damodar river is performed by own as well as NABL accredited laboratory. Monitoring report for the the Oct'22-Mar'23 period has been attached as Annexure-II .
(xi)	High root density tree species shall be selected and planted over areas likely to be affected by subsidence.	Impact on land by subsidence has been found to be negligible as per the subsidence monitoring reports prepared by CIMFR, Dhanbad. Though, high root density trees of native species are covered under annual plantation program.
(xii)	Coal Extraction shall also be optimised in areas where agricultural production is continuing. Some pillars shall be left below the agricultural land. No depillaring & coal extraction should be carried out below habitation, H.T. Lines & beneath road, water bodies.	It is strictly followed.
(xiii)	Subsidence shall be monitored closely and if subsidence is found exceeding the permitted limits, then the landowners shall be adequately compensated with mutual agreement with the landowners.	Regular monitoring of subsidence is being done by CIMFR, Dhanbad and it is well within under statutory limit.
(xiv)	3-tier plantation should be developed 2 km stretch of road from the mine using native species.	Plantation along the stretches of road has been done with native species and it is a continuous process under our green belt development programme
(xv)	Garland drains (size, gradient and length) around the safety areas such as mine shaft	Garland drains of adequate size and gradient already exist around the colliery area to

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	<p>and low lying areas and sump capacity shall be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. Sump capacity shall also provide adequate retention period to allow proper settling of silt material.</p>	<p>channelize the surface runoff. Details of the same are as follows:</p> <table border="1" data-bbox="878 363 1414 764"> <thead> <tr> <th>S. No</th> <th>Location</th> <th>Length</th> <th>Width</th> <th>Height</th> <th>Gradient</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Office Area</td> <td>850 m</td> <td>2.5 m</td> <td>1 m</td> <td>1 in 75</td> </tr> <tr> <td>2.</td> <td>Magazine Area</td> <td>800 m</td> <td>2.5 m</td> <td>1 m</td> <td>1 in 200</td> </tr> <tr> <td>3.</td> <td>PH area</td> <td>550 m</td> <td>2.5 m</td> <td>1 m</td> <td>1 in 97</td> </tr> <tr> <td>4.</td> <td>Jitpur Area</td> <td>550 m</td> <td>3.0 m</td> <td>1 m</td> <td>1 in 60</td> </tr> <tr> <td>5.</td> <td>Brick field area</td> <td>850 m</td> <td>1.5 m</td> <td>1 m</td> <td>1 in 70</td> </tr> </tbody> </table>	S. No	Location	Length	Width	Height	Gradient	1.	Office Area	850 m	2.5 m	1 m	1 in 75	2.	Magazine Area	800 m	2.5 m	1 m	1 in 200	3.	PH area	550 m	2.5 m	1 m	1 in 97	4.	Jitpur Area	550 m	3.0 m	1 m	1 in 60	5.	Brick field area	850 m	1.5 m	1 m	1 in 70
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(xvi)	<p>Water sprinkling system shall be provided to check fugitive emissions from loading operations, conveyor system, haulage roads, transfer points, etc. Major approach roads shall be black topped and properly maintained.</p>	<p>Water spraying arrangement is present in the underground mines at all transfer points. Water spraying via tankers is done on sand transportation routes. Major approach roads have been black-topped and maintained regularly.</p>																																				
(xvii)	<p>Coal transportation to washery shall be through a network of underground belt conveyor system and hence there is no surface transportation of coal. Transportation of men from surface to underground and back shall be via shaft. The material transport shall be through the shaft and by means of haulage in the underground.</p>	<p>It is already being followed and will continue in future too.</p>																																				
(xviii)	<p>A progressive afforestation plan shall be prepared and implemented over the mine lease area acquired and shall include areas under green belt development, areas along roads, infrastructure, along ML boundary and township etc., by planting native species in consultation with the local DFO/Agriculture Department.</p>	<p>Tree plantation activities are carried out every year on the barren/ degraded areas, areas along road-side, infrastructure, etc of the colliery leasehold. Apart from these, fruit plants are distributed to employees and also to villagers, schools, institutions, etc. The environment department is responsible for implementing the afforestation plan which is prepared along with the mine management. High root density trees of native species are planted under annual plantation program every year.</p>																																				
(xix)	<p>Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing wells and construction of new piezometers. The monitoring for quantity shall be done four</p>	<p>The monitoring of groundwater level and quality is done four times a year. The groundwater quality report & groundwater level are provided in Annexure-I.</p>																																				

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	times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected shall be submitted to the Ministry of Environment & Forests and to the Central Pollution Control Board quarterly within one month of monitoring.	
(xx)	Acid Water Treatment Plant, volume of water to be treated and disposal of brine should be provided.	6&7 Pits Colliery is an underground mine. No acid mine drainage occur.
(xxi)	Mine discharge water outside the ML shall be monitored, particularly for TDS and treated to conform to prescribed levels before discharge into the natural environment.	There is one mine-water outlet point in the colliery which is regularly monitored by the Environmental Laboratory.
(xxii)	The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource, in case water table shows a declining trend. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.	<ul style="list-style-type: none"> • The water pumped out during underground mining activity is re-circulated back into the mine for the purpose of stowing. Backfilling of mine voids by stowing is done using sand which is having the porosity to hold the underground water thus helping aquifer to retain the underground water. • Further, there are a number of ponds existing on the surface of the mining lease which act as natural reservoirs for recharging ground water. These ponds/ tanks are regularly cleaned and maintained by our CSR department. As per the hydro-geological report, the variation in the ground water level is only seasonal. • The water requirement of the nearby villages is being met by the company already. Now piped drinking water is being provided.
(xxiii)	Besides carrying out regular periodic health checkup of their workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health checkup for occupational diseases and hearing impairment, if any, through an agency such as NIOH, Ahmadabad within a period of one year and the results reported to this Ministry and to DGMS.	The periodic health check-up of the workers is done regularly by our Occupational Health Department, Tata Central Hospital, Jamadoba. We have a PME (Periodic Medical Examination) centre approved by DGMS where 20 % of the workers identified from workforce engaged in active mining operations are subjected to full medical check up including hearing impairment check up, etc. These results are regularly submitted to DGMS as per mines rules. Some sample

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		reports and as well as past records have been submitted in previous compliance reports.
(xxiv)	The mining in the existing mines should be phased out after expiry of the current mining lease and after reclamation of mined over area. The operating mines may be analysed and monitored for compliance of conditions, bearing with movement of wildlife and until such time they are closed/phased out.	It is not applicable in our case.
(xxv)	Project specific CSR for an amount of Rs5/Tonne of coal production, as adjusted as per the annual inflation, should be provided for the CSR activities undertaken and the progress made thereon shall be uploaded annually on the company website. Monitoring of the impacts of activities under CSR shall be carried out periodically.	The proposed CSR expenditure for the entire company is decided as per the new Company Rules. Once the CSR budget for company is fixed, a share of that amount is dedicated and utilized for implementing the CSR activities at our Jharia Division level. The CSR expenditure for FY22 is Rs. 5.07 crores. CSR data submitted is for Jharia Division which comprises all 5 collieries and 2 washeries. Jamadoba Washery, Digwadih Colliery and 6&7 Pits Colliery are adjacent to each other and fall under same leasehold area i.e. Jamadoba group of collieries. The core zone and buffer zone of all above units overlap to each other and in many cases, the villages are same where CSR work is going on. Therefore, we have a central budget for CSR which is managed by a team of experts who are dedicatedly involved in providing benefits and improving standard of living in over 50+ villages and municipal wards. Hence, separate CSR expenditure for individual unit cannot be estimated. For calculation/ statutory reporting purpose, the consolidated CSR expenditure can be divided into unit-wise based on size of leasehold area of individual units. The progress report is uploaded every year on the company website. Internal social audits are carried out regularly to assess the impact of CSR activities.
(xxvi)	A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.	Mine Closure Plan has been approved by Ministry of Coal, New Delhi. Details on deposition of closure cost in escrow account along with expenditure incurred for progressive closure is regularly submitted to Office of Coal controller. Final mine closure along with details of corpus fund will be submitted to MoEF&CC 5 years in advance.

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(xxvii)	The commitment made by the Proponent to the issue raised during Public Hearing shall be implemented by the Proponent.	The commitment made by project proponent has been taken up and are being addressed gradually. Roads have been maintained in the colliery and along sand transportation routes. Subsidence studies are done every year. All the ash dumps have been reclaimed. Village ponds are cleaned as per requirement. Laying of drinking water pipeline network has been extended to more villages. A network of more than 22000 metres of pipeline connection has been established along with 33 water tanks (capacity of 4500 litres). Health camps are regularly organized by TSRDS. Training to SHEs, women, youth and children are provided in various fields.
(xxviii)	Corporate Environment Responsibility: a) The Company shall have a well laid down Environment Policy approved by the Board of Directors. b) The Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions. c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished. d) To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.	The Company already has an Environment Policy approved by the Managing Director and it addresses all the issues mentioned. Attached as Annexure-IV . The status of adherence to the policy and compliance to Environmental laws and regulations is regularly discussed at higher levels. Any non-compliance noticed is corrected at divisional level. If any issue is beyond our control, it is brought to the notice of higher management. Moreover, 6&7 Pits Colliery is IMS (Integrated Management System: Quality Management System, Environment Management System and OHSAS) certified unit addressing all environment aspects, impacts and needs and expectation of interested parties with respect to environment protection.

General Conditions:		
(i)	No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.	The points mentioned in the EC letter will be strictly followed. Board and Pillar method is being used for mining.

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(ii)	No change in the calendar plan of production for quantum of mineral coal shall be made.	It will be strictly followed.
(iii)	Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for PM10, PM2.5, SO2 and NOx monitoring. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc carried out at least once in six months.	The Air quality monitoring in the core zone as well as buffer zone is done regularly by NABL recognized lab as well as by our inhouse lab. Monitoring of heavy metals in ambient air is being performed by an independent laboratory (recognised by NABL). The results are enclosed as Annexure-I
(iv)	Data on ambient air quality (PM10, PM 2.5, SO2 and NOx) and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly submitted to the Ministry including its concerned Regional Office and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Random verification of samples through analysis from independent laboratories recognized under the EPA rules, 1986 shall be furnished as part of compliance report.	Ambient air quality report (PM10, PM 2.5, SO2 and NOx) for the period from Oct'22 to Mar'23 is attached as Annexure-I . Additionally, third party monitoring is done through a JSPCBC and NABL recognised Laboratory on ambient air quality (PM10, PM 2.5, SO2, NOx, CO, NH3, O3) and heavy metals (As, Ni, Cd and Cr) and results are enclosed as Annexure-I .
(v)	Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with ear plugs/muffs.	Regular noise survey is being conducted in the underground work environment. Workers are provided with ear-plugs/ muffs in high noise areas.
(vi)	Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May 1993 and 31st December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.	No industrial wastewater is generated in 6&7 Pits Colliery premises. There is a central workshop and garage in Jamadoba where Effluent Treatment Plant having oil and grease trap facility has been provided.
(vii)	Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded.	Only the vehicles having valid PUC certificates are being allowed to operate for sand transportation. Coal transportation is done through underground belt network. Only sand transportation is done through trucks which

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		are covered with tarpaulins as well as optimally loaded.
(viii)	Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with SPCB and data got analysed through a laboratory recognised under EP Rules, 1986.	We have a fully equipped Environment Cell Laboratory with qualified personnel. The monitoring and analysis is also done at regular intervals by a JSPCB approved & NABL accredited laboratory. We have also installed a Continuous Ambient Air Quality Monitoring Station at Jamadoba for real time monitoring.
(ix)	Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.	Persons working in dusty area have been provided with dust masks & have been given awareness training on safety & health aspects. Regular PME (Periodic Medical Examinations) are being done.
(x)	Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed and records maintained thereof. The quality of environment due to outsourcing and the health and safety issues of the outsourced manpower should be addressed by the company while outsourcing.	The periodic health check-up of the workers is done regularly by our Occupational Health Department, Tata Central Hospital, Jamadoba. We have a PME (Periodic Medical Examination) centre approved by DGMS where 20 % of the workers identified from workforce engaged in active mining operations are subjected to full medical check-up including hearing impairment check-up, etc. These results are regularly submitted to DGMS as per mines rules. We are doing similar medical examination for our contractor workers in Tata central hospital.
(xi)	A separate environmental management cell with suitable qualified personnel shall be set up under the control of a Senior Executive, who will report directly to the Head of the company.	We have a separate Environmental Management Cell with qualified personnel. The reporting of Environmental Cell is directly to General Manager of the Division.
(xii)	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its Regional Office at Dhanbad.	The Environment Cell has a separate fund for Environmental protection measures and for complying with legal requirements. The annual environmental expenditure for the financial year 2021-22 is Rs. 258.45 Lakhs

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(xiii)	The Project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days 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 may also be seen at the website of the ministry of Environment & Forests at http://envfor.nic.in .	It has been complied with. Attached as Annexure-III .
(xiv)	A copy of the environmental clearance letter shall be marked to concerned Panchayat/Zila Parishad, Municipal Corporation or Urban Local Body and local NGO, if any, from whom any suggestion/representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on the company's website.	It has been complied with. Attached as Annexure-III .
(xv)	A copy of the clearance letter shall be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Centre and Collector's Office/Tehsildar's Office for 30 days.	It has been complied with.
(xvi)	The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated EC conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in the public domain. The monitoring data of environmental quality parameters (air, water, noise and soil) and critical pollutants such as PM10, PM2.5, SO2 and NOx (ambient and stack if any) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mines office and in corporate office and on the company's website.	The clearance letter has been uploaded on the company's website. The compliance status (as Half-yearly compliance report) is being uploaded in company's website once in every six months. The display of information near the mine's office has also been done.

Compliance status of Environmental Clearance of Expansion of 6 and 7 Pits Colliery from 0.28 MTPA to 0.6 MTPA in an ML area 168.12 ha) of M/s Tata Steel Ltd., Village Jamadoba, Tehsil Jharia, dist. Dhanbad, Jharkhand vide MoEFCC Letter no J-11015/373/2010-IA.II (M) dated March 3, 2014

(xvii)	The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the MOEF, the respective Zonal offices of CPCB and the SPCB.	It is being complied.
(xviii)	The Regional Office of this Ministry located at Bhopal shall monitor compliance of the stipulated conditions. The Project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data/ information/monitoring reports.	It will be complied with.
(xix)	The environmental statement for each financial year ending 31st March in Form-V is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MOEF by E-mail.	The environmental statement for financial year 2021-22 has been submitted to JSPCB vide letter no. JMB/ENV/ESSA/05/714/2022 on 28 th September 2022 and it is also uploaded on the company website. The soft copy of Environment Statement is also sent to MOEFCC by email at ro.ranchi-mef@gov.in.

Annexure- Greenbelt Development Report

Green belt developed in the past around 6&7 pits colliery is shown below. The green belt has been developed around the approach road to 6&7 pits colliery, around the office area and around Tata Steel colonies nearby. Plantation activities have been taken up in this monsoon season to enhance the green cover in areas nearby colliery.



Picture: Green belt in and around 6&7 pits colliery premises.



Picture: Already developed green belt in Patia area



Pictures: Plantation of around 4000 forestry plants in Patia area during this monsoon season.



Picture: Plantation done in this monsoon inside the creche area of 6&7 pits colliery.

AIR QUALITY REPORT

Core zone & Buffer zone

Period- October'22 to December'22

No. of sampling points: 4

Core zone (as per Air quality standards for coal mines in EPA Notification, 1988)							
Location	Latitude/ Longitude	Date	Weather Condition	SPM 24 Hourly Limit- 700 µg/m ³	RSPM 24 Hourly Limit- 300 µg/m ³	SO ₂ 24 Hourly Limit- 120 µg/m ³	NO _x 24 Hourly Limit-120 µg/m ³
Jamadoba Group Office	23°42'15.3" N/ 86°24'11" E	20.10.22	Clear	208.9	76.3	14.8	16.2
		10.11.22	Clear	236.7	88.2	15.8	17.3
		12.12.22	Clear	242.3	94.5	14.8	16.9
Buffer zone (as per NAAQS 2009 for ambient air quality standards)							
Location	Latitude/ Longitude	Date	Weather Condition	PM10 24 Hourly Limit- 100µg/m ³	PM2.5 24 Hourly Limit- 60µg/m ³	SO ₂ 24 Hourly Limit- 80µg/m ³	NO ₂ 24 Hourly Limit- 80µg/m ³
Digwadih 12 No. Colony	23°41'42" N/ 86°24'45.3" E	18.10.22	Clear	74.6	38.2	12.4	14.7
		08.11.22	Clear	80.2	46.5	13.7	14.1
		07.12.22	Clear	86.3	44.2	12.7	14.8
New Village Colony, Jamadoba	23°41'51" N/ 86°23'19" E	17.10.22	Clear	77.3	42.6	13.1	15.8
		03.11.22	Clear	89.4	49.2	14.8	16.2
		05.12.22	Clear	82.7	42.6	13.2	15.7
6&7 Pits Kalimandir colony	23°43'15" N/ 86°24'12" E	19.10.22	Clear	86.2	45.7	14.5	16.8
		07.11.22	Clear	78.6	42.6	12.4	14.9
		06.12.22	Clear	89.2	46.5	15.1	17.2



Sr. Manager (Environment)

Ambient Air Quality and Groundwater Quality Report (Period- October'22 to March'23)

AIR QUALITY REPORT

Core zone & Buffer zone

Period- January'23 to March'23

No. of sampling points: 4

Core zone (as per Air quality standards for coal mines in EPA Notification, 1988)							
Location	Latitude/ Longitude	Date	Weather Condition	SPM 24 Hourly Limit- 700 µg/m ³	RSPM 24 Hourly Limit- 300 µg/m ³	SO ₂ 24 Hourly Limit- 120 µg/m ³	NO _x 24 Hourly Limit-120 µg/m ³
Jamadoba Group Office	23°42'15.3" N/ 86°24'11" E	09.01.23	Clear	238.7	92.6	15.6	17.8
		17.02.23	Clear	234.6	90.3	13.7	15.4
		20.03.23	Cloudy	187.6	70.8	12.5	14.8
Buffer zone (as per NAAQS 2009 for ambient air quality standards)							
Location	Latitude/ Longitude	Date	Weather Condition	PM10 24 Hourly Limit- 100µg/m ³	PM2.5 24 Hourly Limit- 60µg/m ³	SO ₂ 24 Hourly Limit- 80µg/m ³	NO ₂ 24 Hourly Limit- 80µg/m ³
Digwadih 12 No. Colony	23°41'42" N/ 86°24'45.3" E	06.01.23	Clear	84.1	42.6	13.9	15.2
		15.02.23	Clear	96.3	52.7	15.8	17.1
		17.03.23	Clear	75.4	36.1	13.2	15.7
New Village Colony, Jamadoba	23°41'51" N/ 86°23'19" E	12.01.23	Clear	90.7	46.0	15.8	16.3
		16.02.23	Clear	94.8	50.3	14.2	16.8
		15.03.23	Clear	92.2	49.7	15.4	18.4
6&7 Pits Kalimandir colony	23°43'15" N/ 86°24'12" E	10.01.23	Clear	87.4	40.5	14.9	15.8
		14.02.23	Clear	85.1	38.2	13.4	16.2
		16.03.23	Clear	87.1	43.5	14.8	15.9



Sr. Manager (Environment)

Ground Water Quality Analysis (Hand Pump & Dung Well)
(Post- Monsoon Season- November'2022)

S.No	Date	Location	Time	Depth in meter	pH	Electrical Conductivity, $\mu\text{S/m}$
1	06.11.22	Purnadih (Jorapokhar)	11:55 AM	2.98	7.2	834
2	06.11.22	Bhowra 13 No	12:25 PM	2.09	7.0	946
3	06.11.22	Mohalbani Basti	12:50 PM	3.94	7.3	834
4	06.11.22	Digwadih 10 No F & J	01:15 PM	2.97	7.2	1087
5	06.11.22	Kalimela Shivmandir	11:20 AM	1.38	7.1	938
6	06.11.22	Kalimela Kalimandir	11:35 AM	3.28	7.2	1024
7	06.11.22	Lower Dungari	11:00 AM	3.49	7.2	736
8	06.11.22	Upper Dungari	10:35 AM	3.12	7.3	824
9	06.11.22	Pattia Basti	10:05 AM	2.52	7.2	798
10	06.11.22	Kenduadih Basti	09:40 AM	2.14	7.1	766
11	06.11.22	Jorapokhar Kushtand	02:25 PM	1.47	7.2	844
12	06.11.22	Jamadoba 3 No	02:05 PM	2.52	7.1	795
13	06.11.22	6&7 Pits (Ayodhya Nagri)	01:45 PM	2.08	7.1	938
14	06.11.22	Jorapokhar Basti Chhattand	02:50 PM	1.74	7.2	732



Sr. Manager (Environment)

Ambient Air Quality and Groundwater Quality Report (Period- October'22 to March'23)

**Ground Water Quality Analysis (Hand Pump & Dung Well)
(Winter Season- January'2023)**

S.No	Date	Location	Time	Depth in meter	pH	Electrical Conductivity μ S/m
1	30.01.2023	Purnadih (Jorapokhar)	12:15 PM	3.21	7.1	936
2	30.01.2023	Bhowra 13 No	12:55 PM	2.45	7.2	998
3	30.01.2023	Mohalbani Basti	01:20 PM	4.21	7.1	842
4	30.01.2023	Digwadih 10 No F & J	01:40 PM	3.48	7.2	1139
5	30.01.2023	Kalimela Shivmandir	11:25 AM	1.85	7.2	924
6	30.01.2023	Kalimela Kalimandir	11:45 AM	3.78	7.3	1086
7	30.01.2023	Lower Dungari	11:05 AM	3.73	7.2	748
8	30.01.2023	Upper Dungari	10:40 AM	3.68	7.1	839
9	30.01.2023	Pattia Basti	10:15 AM	2.87	7.2	834
10	30.01.2023	Kenduadih Basti	09:45 AM	2.26	7.3	773
11	30.01.2023	Jorapokhar Kushtand	11:50 AM	2.64	7.2	831
12	30.01.2023	6&7 Pits (Ayodhya Nagri)	02:05 PM	2.35	7.2	956
13	30.01.2023	Jorapokhar Basti Chhattand	02:25 PM	1.82	7.2	747
14	30.01.2023	Jorapokhar Babu Basa	12:35 PM	2.77	7.2	1038

Sr. Manager (Environment)



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Ref. No.: - ARDS/22-23/2051

Date: 12.11.2022

TEST REPORT OF AMBIENT AIR QUALITY

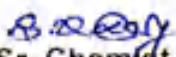
- Name of the industry : M/S TATA STEEL, JAMADOBA, TATA STEEL LIMITED, JAMADOBA GROUP PLANT, DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 07.11.2022 to 08.11.2022
- Date of Testing : 09.11.2022 to 11.11.2022
- Test Procedure : As per IS-5182

TEST RESULTS

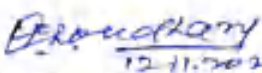
LOCATION – OFFICERS COLONY, 12 NO. DIGWADIH

SI No.	Particulars	Value	NAAQ - CPCB STANDARD
	Avg. Ambient Temperature	29°C	Avg. Humidity 49%
1.	Particulate Matter (PM ₁₀), µg/m ³	74.81	100 µg/m ³
2.	Particulate Matter (PM _{2.5}), µg/m ³	37.84	60 µg/m ³
3.	SO ₂ , µg/m ³	14.60	80 µg/m ³
4.	NO ₂ , µg/m ³	26.61	80 µg/m ³
5.	Ozone, µg/m ³	20.12	180 µg/m ³
6.	NH ₃ , µg/m ³	16.53	400 µg/m ³
7.	CO, mg/m ³	0.96	4 mg/m ³
8.	Pb, µg/m ³	BDL	1 µg/m ³
9.	As, ng/m ³	BDL	6 ng/m ³
10.	Ni, ng/m ³	BDL	20 ng/m ³
11.	Benzene, µg/m ³	BDL	5 µg/m ³
12.	Benzoapyrene ng/m ³	BDL	1 ng/m ³

NOTE: BDL - Below Detection Limit


Sr. Chemist
Aditi R&D Services




Quality Manager
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/2052

Date: 12.11.2022

TEST REPORT OF AMBIENT AIR QUALITY


- Name of the industry : M/S TATA STEEL, JAMADOBA,
TATA STEEL LIMITED
JAMADOBA GROUP PLANT,
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO. : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 07.11.2022 to 08.11.2022
- Date of Testing : 09.11.2022 to 11.11.2022
- Test Procedure : As per IS-5182

TEST RESULTS

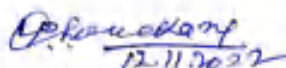
LOCATION – CENTRAL WORKSHOP AREA , JAMADOBA

SI No.	Particulars	Value	NAAQ - CPCB STANDARD
	Avg. Ambient Temperature	29°C	Avg. Humidity 49%
1.	Particulate Matter (PM ₁₀), µg/m ³	86.9	100 µg/m ³
2.	Particulate Matter (PM _{2.5}), µg/m ³	46.8	60 µg/m ³
3.	SO ₂ , µg/m ³	17.52	80 µg/m ³
4.	NO ₂ , µg/m ³	26.61	80 µg/m ³
5.	Ozone, µg/m ³	17.84	180 µg/m ³
6.	NH ₃ , µg/m ³	17.26	400 µg/m ³
7.	CO, mg/m ³	0.99	4 mg/m ³
8.	Pb, µg/m ³	BDL	1 µg/m ³
9.	As, ng/m ³	BDL	6 ng/m ³
10.	Ni, ng/m ³	BDL	20 ng/m ³
11.	Benzene, µg/m ³	BDL	5 µg/m ³
12.	Benzoapyrene ng/m ³	BDL	1 ng/m ³

NOTE: BDL - Below Detection Limit


Sr. Chemist
Aditi R&D Services




12.11.2022
Quality Manager
Aditi R&D Services, Sindri

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Mobile: 09471358492, 09431512608

Ref. No.: - ARDS/22-23/2055

Date: 12.11.2022

TEST REPORT OF AMBIENT AIR QUALITY

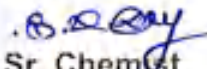
- Name of the industry : M/S TATA STEEL, JAMADOBA,
TATA STEEL LIMITED
JAMADOBA GROUP PLANT,
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 07.11.2022 to 08.11.2022
- Date of Testing : 09.11.2022 to 11.11.2022
- Test Procedure : As per IS-5182

TEST RESULTS


LOCATION - TATA CENTRAL HOSPITAL

Sl No.	Particulars	Value	NAAQ - CPCB STANDARD
	Avg. Ambient Temperature	29°C	Avg. Humidity 49%
1.	Particulate Matter (PM ₁₀), µg/m ³	73.24	100 µg/m ³
2.	Particulate Matter (PM _{2.5}), µg/m ³	36.49	60 µg/m ³
3.	SO ₂ , µg/m ³	14.52	80 µg/m ³
4.	NO ₂ , µg/m ³	23.19	80 µg/m ³
5.	Ozone, µg/m ³	16.57	180 µg/m ³
6.	NH ₃ , µg/m ³	14.62	400 µg/m ³
7.	CO, mg/m ³	0.83	4 mg/m ³
8.	Pb, µg/m ³	BDL	1 µg/m ³
9.	As, ng/m ³	BDL	6 ng/m ³
10.	Ni, ng/m ³	BDL	20 ng/m ³
11.	Benzene, µg/m ³	BDL	5 µg/m ³
12.	Benzo(a)pyrene, ng/m ³	BDL	1 ng/m ³

NOTE: BDL - Below Detection Limit


Sr. Chemist
Aditi R&D Services




12.11.2022
Quality Manager
Aditi R&D Services, Sindri

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TEST REPORT OF NOISE (AMBIENT) LEVEL MONITORING

Ref. No. & Date		NAME AND ADDRESS OF THE CLIENT			
ARDS/22-23/2028 Date: 09.11.2022		M/S TATA STEEL, JAMADOBA,			
Date of Monitoring		TATA STEEL LIMITED, JAMADOBA GROUP PLANT,			
		DIST. - DHANBAD (JHARKHAND)			
07.11.2022 TO 08.11.2022		Avg. Ambient Temperature (°C)	Average Humidity (%)	Weather Condition	Status of the plant
Work Order 4700092573/932 Dt. 20.07.2021		28	50	Clear	Running

MONITORING RESULTS

Sl. No	Place of Monitoring	Day Time (6 AM to 10 PM) Avg. dB(A)			Night Time (10 PM to 6 AM) Avg. dB(A)			Noise level (Ambient standard) for Industrial Area as per CPCB Noise Pollution (Regulation and Control) (Amendment) Rules, 2000 notified vide S.O. 1046(E) Dt. 22.11.2020 Limit in dB(A) Leq	
		MAX	MIN	AVG. dB(A) Leq	MAX	MIN	AVERAGE dB(A) Leq	Day Time	Night Time
	LOCATION							Industrial Area	Industrial Area
	JAMADOBA GROUP								
1.	Central Workshop	67.3	59.8	65.0	53.7	44.6	51.19		
2.	6 & 7 Pits Colliery Office	64.9	59.6	63.01	51.4	42.5	48.92	75	70
								Residential Area	Residential Area
3.	Officer Colony 12 No. Digwadih	50.7	47.8	49.49	43.5	39.8	42.03	65	55
								Silence Zone	Silence Zone
4.	Tata Central Hospital	46.9	42.4	45.21	40.1	37.9	39.14	50	40

S. S. Roy
Sr. Chemist
Aditi R&D Services



Ch. Prasad
29/11/2022
Quality Manager
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/2048

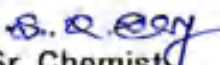
Date: 11.11.2022

TEST REPORT OF MINERALOGICAL COMPOSITION OF PARTICULATE MATTER

- Name of the industry : M/S TATA STEEL, JAMADOBA,
TATA STEEL LIMITED
JAMADOBA GROUP PLANT,
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO. : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 08.11.2022
- Date of Testing : 09.11.2022 – 10.11.2022

TEST RESULTS

Sl No.	Particulars	Mineralogical Composition (%)			
		SiO ₂	FeO	Al ₂ O ₃	CaO
1.	Central Workshop Area Jamadoba	1.13	0.04	0.97	2.6
2.	Officer's Colony, 12 No. Digwadih	1.42	0.09	0.92	2.1


Sr. Chemist
Aditi R&D Services




11.11.2022
Quality Manager
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/2101

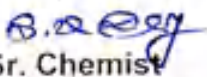
Date: 17.11.2022

TEST REPORT OF SURFACE WATER

- Name of the industry : M/S TATA STEEL, JAMADOBA,
TATA STEEL LIMITED
JAMADOBA GROUP PLANT,
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. Damodar River Up Stream
2. Damodar River Down Stream
- Date of Sample Collection: 07.11.2022 To 08.11.2022
- Date of Testing : 09.11.2022 To 16.11.2022
- Test : pH, TDS, Turbidity, DO, BOD, Cl, F, SO₄

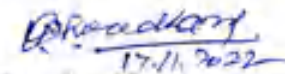
TEST RESULT

Sl. No.	PARAMETERS OF TEST	VALUE		Limit as per IS 2296 Class - C	Test Method
		Damodar River Up Stream	Damodar River Dn Stream		
1.	pH	7.5	7.6	6.5 -8.5	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	595	625	1500	IS-3025 (P-16): 1984
3.	Turbidity, NTU	9.5	11.2	-	IS-3025 (P-10):1984
4.	Dissolved Oxygen, mg/l	6.8	6.4	4.0	IS-3025 (P-38):1989
5.	Bio chemical Oxygen Demand, mg/l	2.0	2.2	3.0	IS-3025 (P-44):1994
6.	Chloride as Cl, mg/l	44	52	-	IS-3025 (P-32):1988
7.	Fluoride as F, mg/l	0.52	0.54	1.5	IS-3025 (P-60):2008
8.	Sulphate as SO ₄ , mg/l	36	48	400	IS-3025 (P-24):1986


Sr. Chemist

Aditi R&D Services




17.11.2022

Quality Manager
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/2102

Date: 17.11.2022

TEST REPORT OF MINE WATER DISCHARGE

- Name of the industry : M/S TATA STEEL, JAMADOBA, TATA STEEL LIMITED
JAMADOBA GROUP PLANT,
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. 2 Pit Jamadoba Colliery
2. 3 Pit Jamadoba Colliery
3. 2 Incline Jamadoba Colliery
4. 6 & 7 Pits Colliery
5. Digwadih Colliery
- Date of Sample Collection: 07.11.2022 To 08.11.2022
- Date of Testing : 09.11.2022 to 16.11.2022
- Test : pH, TDS, TSS, BOD, COD, OIL & GREASE.

TEST RESULT

Sl. No.	PARAMETERS OF TEST	VALUE					Limit as per IS-2296 Class B (For Bathing)	Test Method
		2 Pit Jamadoba Colliery	3 Pit Jamadoba Colliery	2 Incline Jamadoba Colliery	6 & 7 Pits Colliery	Digwadih Colliery		
1.	pH,	7.9	7.3	7.3	7.6	7.8	6.5-8.5	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	896	680	610	660	742	-	IS-3025 (P-16): 1984
3.	Total Suspended Solids, mg/l	38	26	32	18	28	-	IS-3025(P-17): 1984
4.	Bio chemical Oxygen Demand, mg/l	2.4	2.7	2.2	1.6	2.4	3	IS-3025 (P-44):1994
5.	Chemical Oxygen Demand, mg/l	48	54	44	32	48	-	IS-3025 (P-58):2006
6.	Oil & Grease, mg/l	BDL	BDL	BDL	BDL	BDL	-	IS-3025 (P-39):2021

S. S. Ray
Sr. Chemist
Aditi R&D Services



Pradeep Kumar
17.11.2022
Quality Manager
Aditi R&D Services, Sindri

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ISO/IEC 17025:2017, ISO 9001:2015, ISO (OHSAS) 45001:2018 Certified

Plot No. - I-B-17 (P)
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Email ID: sindriaditi@gmail.com
Website: aditirdservices.com
Phone: 0326-2952377 (O) -
Mobile: 09471356492, 09431512606

Ref. No.: - ARDS/22-23/2104

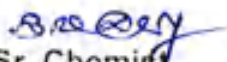
Date: 17.11.2022

TEST REPORT OF SEWAGE

- Name of the industry : M/S TATA STEEL, JAMADOBA, TATA STEEL LIMITED, JAMADOBA GROUP PLANT, DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. S.T.P. Outlet Jamadoba Canteen
2. S.T.P. Outlet J.C.P.P. Canteen
3. S.T.P. Outlet Railway Colony
- Date of Sample Collection: 07.11.2022 to 08.11.2022
- Date of Testing : 09.11.2022 to 16.11.2022
- Test : pH, TDS, TSS, BOD, COD, OIL & GREASE.

TEST RESULT

Sl. No.	PARAMETERS OF TEST	VALUE			MoEF&C Notification 1 st Jan.2016 Permissible Max. Desirable Limit	Test Method
		S.T.P. Outlet Jamadoba Canteen	S.T.P. Outlet J.C.P.P. Canteen	S.T.P. Outlet Railway Colony		
1.	pH,	7.3	7.6	7.3	6.0-9.0	IS-3025 (P-11):1983
2.	Total Dissolved Solids, mg/l	648	725	760	2100	IS-3025 (P-16):1984
3.	Total Suspended Solids, mg/l	28	22	32	100	IS-3025(P-17):1984
4.	Bio chemical Oxygen Demand, mg/l	11.5	10.0	12.0	30	IS-3025 (P-44):1994
5.	Chemical Oxygen Demand, mg/l	58	52	60	250	IS-3025 (P-58):2006
6.	Oil & Grease, mg/l	0.4	B.D.L	1.2	10	IS-3025 (P-39):2021


Sr. Chemist
Aditi R&D Services




Quality Manager
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/2110

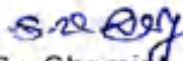
Date: 18.11.2022

TEST REPORT OF EFFLUENT

- Name of the industry : M/S TATA STEEL, JAMADOBA, TATA STEEL LIMITED JAMADOBA GROUP PLANT, DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. E.T.P. Outlet T.C.H.
2. E.T.P. Outlet Garage
- Date of Sample Collection: 07.11.2022 to 08.11.2022
- Date of Testing : 09.11.2022 to 16.11.2022
- Test : pH, TDS, TSS, BOD, COD, OIL & GREASE.

TEST RESULT

Sl. No.	PARAMETERS OF TEST	VALUE		MoEF&C Notification 1 st Jan.2016 Permissible Max. Desirable Limit	Test Method
		E.T.P. Outlet T.C.H	E.T.P. Outlet Garage		
1.	pH,	7.5	7.6	6.0-9.0	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	635	660	2100	IS-3025 (P-16): 1984
3.	Total Suspended Solids, mg/l	23	25	100	IS-3025(P-17) : 1984
4.	Bio chemical Oxygen Demand, mg/l	08	10	30	IS-3025 (P-44):1994
5.	Chemical Oxygen Demand, mg/l	48	53	250	IS-3025 (P-58):2006
6.	Oil & Grease, mg/l	B.D.L	B.D.L	10	IS-3025 (P-39):2021


Sr. Chemist

Aditi R&D Services




18.11.2022

Quality Manager
Aditi R&D Services, Sindri

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Mobile: 09471358492, 09431512608

Ref. No.: - ARDS/22-23/2111

Date: 18.11.2022

TEST REPORT OF DRINKING WATER

- Name of the industry : M/S TATA STEEL, JAMADOBA, TATA STEEL LIMITED
JAMADOBA GROUP PLANT,
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Sample Code :
 1. Canteen Jamadoba Colliery
 2. Canteen Jamadoba Washery
 3. Canteen Digwadih Colliery
 4. Canteen 6&7 Pit Colliery
- Date of Sample Collection: 07.11.2022 to 08.11.2022
- Date of Testing : 09.11.2022 to 16.11.2022
- Test :
Colour, Odour, Taste, Turbidity, pH, Total Hardness, Iron, Chloride, Res. Free chlorine, Total Dissolved Solids, Calcium, Copper, Manganese, Sulphate, Nitrate, Fluoride, Phenolic Compound, Mercury, Cadmium, Arsenic, Cyanide, Lead, Zinc, Total Coliform, Hexavalent Chromium, Mineral Oil, Alkalinity, Aluminium & Boron.

TEST RESULT

Sl. No	PARAMETERS OF TEST	VALUE				IS as per IS 10500:2012		Test Method
		Canteen Jamadoba Colliery	Canteen Jamadoba Washery	Canteen Digwadih Colliery	Canteen 6&7 Pit Colliery	Desirable	Permissible	
1.	Colour, (Hazen Unit)	1	1	1	1	5.00	15.0	IS 3025 (P-4):2021
2.	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	IS 3025 (P-5):2018
3.	Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	IS 3025 (P-7):2017
4.	Turbidity, NTU	1	1	NIL	NIL	1.0	5.0	IS 3025 (P-10):1984
5.	pH	7.6	7.3	7.5	7.6	6.5-8.5	No. Relax.	IS-3025 (P-11):1983
6.	Total Hardness as CaCO ₃ , mg/l	320	368	340	310	200	600	IS 3025 (P-21):2009
7.	Chloride as Cl ₁ , mg/l	58	54	56	44	250	1000	IS 3025 (P-32):1988
8.	Res. Free chlorine as Cl ₂ , mg/l	NIL	NIL	NIL	NIL	0.20	1.0	IS 3025 (P-26):2021
9.	Total Dissolved Solids, mg/l	795	760	735	715	500	2000	IS 3025 (P-16):1984
10.	Calcium as CaCO ₃ , mg/l	41.5	46	38	32	75	200	IS 3025 (P-40):1991
11.	Copper as Cu, mg/l	BDL	BDL	BDL	BDL	0.05	1.5	IS 3025 (P-42):1992

Continued on Page 2

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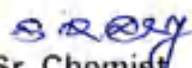
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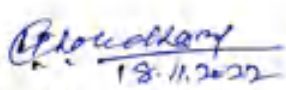
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Jharkhand - 828107
Email ID: sindriaditi@gmail.com
Website: aditirdservices.com
Phone: 0326-2952377 (O)
Mobile: 09471358492, 09431512608

Sl. No.	PARAMETERS OF TEST	VALUE				IS as per IS 10500:1991		Test Method
		Jamadoba Canteen Colliery	Jamadoba Canteen Washery	Canteen Digwadih Colliery	Canteen 6&7 Pit Colliery	Desirable	Permissible	
12.	Manganese as Mn, mg/l	BDL	BDL	BDL	BDL	0.10	0.30	IS 3025 (P-59):2006
13.	Sulphate as SO ₄ , mg/l	48	52	62	46	200	400	IS 3025 (P-24):1986
14.	Nitrate as NO ₃ , mg/l	2.6	2.8	2.9	3.2	45	No. Relax	IS 3025 (P-34):1988
15.	Fluoride as F, mg/l	0.32	0.28	0.34	0.33	1.0	1.5	IS 3025 (P-60):2008
16.	Phenolic Compound as (C ₆ H ₅ OH) mg/l	BDL	BDL	BDL	BDL	0.001	0.002	IS 3025 (P-43):1992
17.	Mercury as Hg, mg/l	BDL	BDL	BDL	BDL	0.001	No. Relax	IS 3025 (P-48):1994
18.	Cadmium as Cd, mg/l	BDL	BDL	BDL	BDL	0.003	No. Relax	IS 3025 (P-41):1992
19.	Arsenic as As, mg/l	BDL	BDL	BDL	BDL	0.01	No. Relax	IS 3025 (P-37):1988
20.	Cyanide as CN, mg/l	BDL	BDL	BDL	BDL	0.05	No. Relax	IS 3025 (P-27):1986
21.	Lead as Pb, mg/l	BDL	BDL	BDL	BDL	0.01	No. Relax	IS 3025 (P-47):1994
22.	Zinc as Zn, mg/l,	0.16	0.18	0.12	0.12	5	15	IS 3025 (P-42):1992
23.	Total Coliform, No./100ml	Absent	Absent	Absent	Absent	Absent	Absent	IS 3025 (P-49):1994
24.	Hexavalent Chromium as Cr, mg/l	BDL	BDL	BDL	BDL	0.05	No. Relax	IS 3025 (P-52):2003
25.	Mineral Oil, mg/l	BDL	BDL	BDL	BDL	0.5	No. Relax	IS 3025 (P-39):1989
26.	Alkalinity as CaCO ₃ , mg/l,	370	330	365	345	200	600	IS 3025 (P-23):1983
27.	Aluminium as Al, mg/l	BDL	BDL	BDL	BDL	0.03	0.2	IS 3025 (P-55):2003
28.	Boran as B, mg/l	BDL	BDL	BDL	BDL	0.5	1.0	IS 3025 (P-57):2005

NOTE: BDL - Below Detection Limit


Sr. Chemist
Aditi R&D Services




18.11.2022
Quality Manager
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/ 2112

Date: 18.11.2022

TEST REPORT OF GROUND WATER

- Name of the industry : M/S TATA STEEL, JAMADOBA, TATA STEEL LIMITED, JAMADOBA GROUP PLANT, DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO. : 4700092573/932 Dt. 20.07.2021
- Sample Code :
 1. Purnadi Joraphokhar
 2. Digwadih 10 No. F&J
 3. Kalinala Kali Mandir
 4. Upper Dungri
 5. Kenduadih Basti
 6. 6 & 7 Pit Ayodha Nagari
- Date of Sample Collection : 07.11.2022 to 08.11.2022
- Date of Testing : 09.11.2022 to 16.11.2022
- Test : Colour, Odour, Taste, Turbidity, pH, Total Hardness, Iron, Chloride, Res. Free chlorine, Total Dissolved Solids, Calcium, Copper, Manganese, Sulphate, Nitrate, Fluoride, Phenolic Compound, Mercury, Cadmium, Arsenic, Cyanide, Lead, Zinc, Total Coliform, Hexavalent Chromium, Mineral Oil, Alkalinity, Aluminium & Boron.

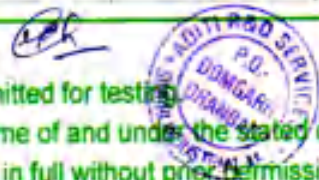
TEST RESULT

PARAMETERS OF TEST	VALUE						IS as per IS 10500:1991		Test Method
	Purandi Joraphokhar	Digwadih 1 No. F&J	Kalinala Kali Mandir	Upper Dungri	Kenduadih Basti	6 & 7 Ayodha Nagari	Desirable	Permissible	
Colour, (Hazen Unit)	1	2	1	2	1	2	5	15	IS 3025 (P-4):2021
Temperature °C	22	24	23	24	22	23	-	-	-
Electrical Conductivity, µmhos/cm	1020	1045	1065	1080	940	1070	-	-	-
Total Dissolved Solids, mg/l	653	680	693	702	611	696	-	-	IS 3025(P-16):1984
pH	7.7	7.6	7.3	7.5	7.6	7.8	6.5-8.5	No Relax	IS-3025(P-11):1983
Total Hardness as CaCO ₃ , mg/l	328	280	365	258	385	260	200	600	IS 3025(P-21):2009
Calcium as Ca, mg/l	67.2	59.2	73.6	51.6	77.2	52	75	200	IS 3025(P-40):1991
Magnesium as Mg, mg/l	37.2	95	42.1	30	44	30.2	30	100	IS 3025(P-46):1994
Chloride as Cl, mg/l	38	32	48	28	52	28	250	1000	IS 3025(P-32):1988
Fluoride as F ₂ , mg/l	0.28	0.26	0.44	0.46	0.36	0.32	1.0	1.5	IS 3025(P-60):2008

Continued on Page 2

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- 2 -

Sl. No	PARAMETERS OF TEST	VALUE						IS as per IS 10500:1991		Test Method
		Purandi Joraphokhar	Digwadih 1 No. F&J	Kalinala Kali Mandir	Upper Dungri	Kendui adih Basti	6 & 7 Ayodha Nagar	Desirable	Permissible	
10	Sulphate as SO ₄ , mg/l	42	66	70	62	58	54	200	400	IS 3025(P-24):1986
12	Nitrate as NO ₃ , mg/l	11.8	12.4	8.2	10.4	9.8	9.4	45	No. Relax	IS 3025(P-34):1988
13	Alkalinity as CaCO ₃ , mg/l	285	260	310	325	345	340	200	600	IS 3025(P-23):1983
14	Lead as Pb, mg/l	BDL	BDL	BDL	BDL	BDL	BDL	0.01	No. Relax	IS 3025(P-47):1994
15	Zinc as Zn, mg/l	0.18	0.14	0.18	0.16	0.14	0.16	5	15	IS 3025(P-42):1992
16	Iron as Fe, mg/l	0.2	0.1	0.1	0.2	0.2	0.2	0.3	No. Relax	IS 3025(P-53):2003
17	Copper as Cu, mg/l	BDL	BDL	BDL	BDL	BDL	BDL	0.05	1.5	IS 3025 (P-42):1992
18	Mercury as Hg, mg/l	BDL	BDL	BDL	BDL	BDL	BDL	0.001	No. Relax	IS 3025(P-48):1994
19	Cadmium as Cd, mg/l	BDL	BDL	BDL	BDL	BDL	BDL	0.003	No. Relax	IS 3025(P-41):1992
20	Nickel as Ni, mg/l	BDL	BDL	BDL	BDL	BDL	BDL	0.02	No. Relax	IS 3025(P-37):1992
21	Arsenic as As, mg/l	BDL	BDL	BDL	BDL	BDL	BDL	0.01	No. Relax	IS 3025(P-37):1988
22	Cyanide as CN, mg/l	BDL	BDL	BDL	BDL	BDL	BDL	0.05	No. Relax	IS 3025(P-27):1986
23	Total Chromium as Cr, mg/l	BDL	BDL	BDL	BDL	BDL	BDL	0.05	No. Relax	IS 3025(P-52):2003

NOTE: BDL - Below Detection Limit


Sr. Chemist
Aditi R&D Services




Quality Manager
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/2050

Date: 12.11.2022

TEST REPORT OF AMBIENT AIR QUALITY

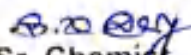
- Name of the industry : M/S TATA STEEL, JAMADOBA,
TATA STEEL LIMITED
JAMADOBA GROUP PLANT,
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 07.11.2022 to 08.11.2022
- Date of Testing : 09.11.2022 to 11.11.2022
- Test Procedure : As per IS-5182

TEST RESULTS

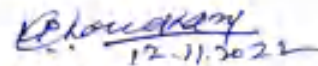
LOCATION - 6 & 7 PITS COLLOIERY OFFICE

SI No.	Particulars	Value	NAAQ - CPCB STANDARD
	Avg. Ambient Temperature	29°C	Avg. Humidity 49%
1.	Particulate Matter (PM ₁₀), µg/m ³	93.80	100 µg/m ³
2.	Particulate Matter (PM _{2.5}), µg/m ³	47.92	60 µg/m ³
3.	SO ₂ , µg/m ³	20.75	80 µg/m ³
4.	NO ₂ , µg/m ³	28.60	80 µg/m ³
5.	Ozone, µg/m ³	24.19	180 µg/m ³
6.	NH ₃ , µg/m ³	18.82	400 µg/m ³
7.	CO, mg/m ³	1.98	4 mg/m ³
8.	Pb, µg/m ³	BDL	1 µg/m ³
9.	As, ng/m ³	BDL	6 ng/m ³
10.	Ni, ng/m ³	BDL	20 ng/m ³
11.	Benzene, µg/m ³	BDL	5 µg/m ³
12.	Benzoapyrene ng/m ³	BDL	1 ng/m ³

NOTE: BDL - Below Detection Limit


Sr. Chemist
Aditi R&D Services




12.11.2022
Quality Manager
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/2908

Date: 18.02.2023

TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : M/S TATA STEEL, JAMADOBA,
TATA STEEL LIMITED
JAMADOBA GROUP PLANT,
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 10.02.2023 to 11.02.2023
- Date of Testing : 15.02.2023 to 17.02.2023
- Test Procedure : As per IS-5182

TEST RESULTS

LOCATION – 6 & 7 PITS COLLIERY OFFICE

Sl No.	Particulars	Value	NAAQ - CPCB STANDARD
1.	Particulate Matter (PM ₁₀), µg/m ³	81.37	100 µg/m ³
2.	Particulate Matter (PM _{2.5}), µg/m ³	48.62	60 µg/m ³
3.	SO ₂ , µg/m ³	20.19	80 µg/m ³
4.	NO ₂ , µg/m ³	25.58	80 µg/m ³
5.	Ozone, µg/m ³	17.29	180 µg/m ³
6.	NH ₃ , µg/m ³	14.49	400 µg/m ³
7.	CO, mg/m ³	0.83	4 mg/m ³
8.	Pb, µg/m ³	BDL	1 µg/m ³
9.	As, ng/m ³	BDL	6 ng/m ³
10.	Ni, ng/m ³	BDL	20 ng/m ³
11.	Benzene, µg/m ³	BDL	5 µg/m ³
12.	Benzoapyrene ng/m ³	BDL	1 ng/m ³

NOTE: BDL - Below Detection Limit

A. Das,

Sr. Chemist

Aditi R&D Services



Technical Manager

Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/2909

Date: 18.02.2023

TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : M/S TATA STEEL, JAMADOBA, TATA STEEL LIMITED JAMADOBA GROUP PLANT, DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 10.02.2023 to 11.02.2023
- Date of Testing : 15.02.2023 to 17.02.2023
- Test Procedure : As per IS-5182

TEST RESULTS

LOCATION – OFFICERS COLONY, 12 NO. DIGWADIH

Avg. Ambient Temperature		24 ^o C	Avg. Humidity	42%
Sl No.	Particulars	Value	NAAQ - CPCB STANDARD	
1.	Particulate Matter (PM ₁₀), µg/m ³	87.76	100 µg/m ³	
2.	Particulate Matter (PM _{2.5}), µg/m ³	52.66	60 µg/m ³	
3.	SO ₂ , µg/m ³	19.41	80 µg/m ³	
4.	NO ₂ , µg/m ³	26.35	80 µg/m ³	
5.	Ozone, µg/m ³	17.63	180 µg/m ³	
6.	NH ₃ , µg/m ³	14.82	400 µg/m ³	
7.	CO, mg/m ³	0.79	4 mg/m ³	
8.	Pb, µg/m ³	BDL	1 µg/m ³	
9.	As, ng/m ³	BDL	6 ng/m ³	
10.	Ni, ng/m ³	BDL	20 ng/m ³	
11.	Benzene, µg/m ³	BDL	5 µg/m ³	
12.	Benzoapyrene ng/m ³	BDL	1 ng/m ³	

NOTE: BDL - Below Detection Limit

A. Das,

Sr. Chemist

Aditi R&D Services



Technical Manager

Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/2910

Date: 18.02.2023

TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : M/S TATA STEEL, JAMADOBA,
TATA STEEL LIMITED
JAMADOBA GROUP PLANT,
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO. : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 10.02.2023 to 11.02.2023
- Date of Testing : 15.02.2023 to 17.02.2023
- Test Procedure : As per IS-5182

TEST RESULTS

LOCATION – CENTRAL WORKSHOP AREA, JAMADOBA

SI No.	Particulars	Value	NAAQ - CPCB STANDARD
	Avg. Ambient Temperature	26°C	Avg. Humidity 39%
1.	Particulate Matter (PM ₁₀), µg/m ³	86.77	100 µg/m ³
2.	Particulate Matter (PM _{2.5}), µg/m ³	52.12	60 µg/m ³
3.	SO ₂ , µg/m ³	19.64	80 µg/m ³
4.	NO ₂ , µg/m ³	28.23	80 µg/m ³
5.	Ozone, µg/m ³	16.60	180 µg/m ³
6.	NH ₃ , µg/m ³	17.65	400 µg/m ³
7.	CO, mg/m ³	1.06	4 mg/m ³
8.	Pb, µg/m ³	BDL	1 µg/m ³
9.	As, ng/m ³	BDL	6 ng/m ³
10.	Ni, ng/m ³	BDL	20 ng/m ³
11.	Benzene, µg/m ³	BDL	5 µg/m ³
12.	Benzoapyrene ng/m ³	BDL	1 ng/m ³

NOTE: BDL - Below Detection Limit

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Technical Manager

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Ref. No.: - ARDS/22-23/2911

Date: 18.02.2023

TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : M/S TATA STEEL, JAMADOBA,
TATA STEEL LIMITED
JAMADOBA GROUP PLANT,
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 10.02.2023 to 11.02.2023
- Date of Testing : 15.02.2023 to 17.02.2023
- Test Procedure : As per IS-5182

TEST RESULTS

LOCATION – TATA CENTRAL HOSPITAL

LOCATION – TATA CENTRAL HOSPITAL				
	Avg. Ambient Temperature	24 ⁰ C	Avg. Humidity	40%
Sl No.	Particulars	Value	NAAQ - CPCB STANDARD	
1.	Particulate Matter (PM ₁₀), µg/m ³	78.07	100 µg/m ³	
2.	Particulate Matter (PM _{2.5}), µg/m ³	45.84	60 µg/m ³	
3.	SO ₂ , µg/m ³	17.68	80 µg/m ³	
4.	NO ₂ , µg/m ³	26.61	80 µg/m ³	
5.	Ozone, µg/m ³	16.44	180 µg/m ³	
6.	NH ₃ , µg/m ³	17.38	400 µg/m ³	
7.	CO, mg/m ³	0.89	4 mg/m ³	
8.	Pb, µg/m ³	BDL	1 µg/m ³	
9.	As, ng/m ³	BDL	6 ng/m ³	
10.	Ni, ng/m ³	BDL	20 ng/m ³	
11.	Benzene, µg/m ³	BDL	5 µg/m ³	
12.	Benzoapyrene ng/m ³	BDL	1 ng/m ³	

NOTE: BDL - Below Detection Limit

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TEST REPORT OF NOISE (AMBIENT) LEVEL MONITORING

Ref. No. & Date		NAME AND ADDRESS OF THE CLIENT			
ARDS/22-23/2862 Date: 13.02.2023		M/S TATA STEEL, JAMADOBA,			
Date of Monitoring		TATA STEEL LIMITED, JAMADOBA GROUP PLANT,			
10.02.2023 TO 11.02.2023		Avg. Ambient Temperature (°C)		Average Humidity (%)	Weather Condition
Work Order 4700092573/932 Dt. 20.07.2021		24		40	Clear
					Status of the plant
					Running

MONITORING RESULTS

Sl. No	Place of Monitoring	Day Time (6 AM to 10 PM) Avg. dB(A)			Night Time (10 PM to 6 AM) Avg. dB(A)			Noise level (Ambient standard) for Industrial Area as per CPCB Noise Pollution (Regulation and Control) (Amendment) Rules, 2000 notified vide S.O. 1046(E) Dt. 22.11.2020 Limit in dB(A) Leg	
		MAX	MIN	AVG. dB(A) Leq	MAX	MIN	AVERAGE dB(A) Leq	Day Time	Night Time
LOCATION								Industrial Area	Industrial Area
JAMADOBA GROUP									
1.	Central Workshop	67.4	53.2	64.55	54.4	47.5	52.2	75	70
2.	6 & 7 Pits Colliery Office	69.2	61.8	66.92	56.8	50.3	54.67		
								Residential Area	Residential Area
3.	Officer Colony 12 No. Digwadih	52.4	48.6	50.9	47.8	42.8	45.98	65	55
								Silence Zone	Silence Zone
4.	Tata Central Hospital	48.2	44.6	46.76	46.2	38.2	43.83	50	40

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Ref. No.: - ARDS/22-23/2912

Date: 18.02.2023

TEST REPORT OF MINERALOGICAL COMPOSITION OF PARTICULATE MATTER

- Name of the industry : M/S TATA STEEL, JAMADOBA,
TATA STEEL LIMITED
JAMADOBA GROUP PLANT,
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO. : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 11.02.2023
- Date of Testing : 15.02.2023 - 17.02.2023

TEST RESULTS

Sl No.	Particulars	Mineralogical Composition (%)			
		SiO ₂	FeO	Al ₂ O ₃	CaO
1.	6 & 7 Pits Colliery Office	1.70	0.06	1.18	2.3
2.	Tata Central Hospital	2.08	0.12	1.26	2.78

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Ref. No.: - ARDS/22-23/2931

Date: 20.02.2023

TEST REPORT OF SURFACE WATER

- Name of the industry : M/S TATA STEEL, JAMADOBA,
TATA STEEL LIMITED
JAMADOBA GROUP PLANT,
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. Damodar River Up Stream
2. Damodar River Down Stream
- Date of Sample Collection: 11.02.2023
- Date of Testing : 13.02.2023 To 18.02.2023
- Test : pH, TDS, Turbidity, DO, BOD, Cl, F, SO₄

TEST RESULT

Sl. No.	PARAMETERS OF TEST	VALUE		Limit as per IS 2296 Class - C	Test Method
		Damodar River Up Stream	Damodar River Dn Stream		
1.	pH	8.2	8.2	6.5 -8.5	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	328	328	1500	IS-3025 (P-16): 1984
3.	Turbidity, NTU	01	01	-	IS-3025 (P-10):1984
4.	Dissolved Oxygen, mg/l	5.6	5.8	4.0	IS-3025 (P-38):1989
5.	Bio chemical Oxygen Demand, mg/l	2.2	2.4	3.0	IS-3025 (P-44):1994
6.	Chloride as Cl, mg/l	32	34	-	IS-3025 (P-32):1988
7.	Fluoride as F, mg/l	0.49	0.52	1.5	IS-3025 (P-60):2008
8.	Sulphate as SO ₄ , mg/l	53	54	400	IS-3025 (P-24):1986

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Ref. No.: - ARDS/22-23/2916

Date: 18.02.2023

TEST REPORT OF MINE WATER DISCHARGE

- Name of the industry : M/S TATA STEEL, JAMADOBA, TATA STEEL LIMITED, JAMADOBA GROUP PLANT, DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. 2 Pit Jamadoba Colliery
2. 3 Pit Jamadoba Colliery
3. 2 Incline Jamadoba Colliery
4. 6 & 7 Pits Colliery
5. Digwadih Colliery
- Date of Sample Collection: 10.02.2023 to 11.02.2023
- Date of Testing : 13.02.2023 To 18.02.2023
- Test : pH, TDS, TSS, BOD, COD, OIL & GREASE.

TEST RESULT

Sl. No.	PARAMETERS OF TEST	VALUE					Limit as per IS-2296 Class B (For Bathing)	Test Method
		2 Pit Jamadoba Colliery	3 Pit Jamadoba Colliery	2 Incline Jamadoba Colliery	6 & 7 Pits Colliery	Digwadih Colliery		
1.	pH,	7.3	8.0	7.8	6.5	7.9	6.5-8.5	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	658	699	788	683	892	-	IS-3025 (P-16): 1984
3.	Total Suspended Solids, mg/l	36	32	36	23	34	-	IS-3025(P-17): 1984
4.	Bio chemical Oxygen Demand, mg/l	2.4	1.8	2.4	1.2	2.4	3	IS-3025 (P-44):1994
5.	Chemical Oxygen Demand, mg/l	40.2	48	59.5	52	54	-	IS-3025 (P-58):2006
6.	Oil & Grease, mg/l	0.4	0.4	BDL	BDL	BDL	-	IS-3025 (P-39):2021

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Ref. No.: - ARDS/22-23/2917

Date: 18.02.2023

TEST REPORT OF SEWAGE

- Name of the industry : M/S TATA STEEL, JAMADOBA,
TATA STEEL LIMITED
JAMADOBA GROUP PLANT,
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. S.T.P. Outlet J.C.P.P. Canteen
2. S.T.P. Outlet Jamadoba Canteen
3. S.T.P. Outlet Railway Colony
- Date of Sample Collection: 10.02.2023 to 11.02.2023
- Date of Testing : 13.02.2023 to 18.02.2023
- Test : pH, TDS, TSS, BOD, COD, OIL & GREASE.

TEST RESULT

Sl. No.	PARAMETERS OF TEST	VALUE			General Standards For Discharge Of Environmental Pollutants, Inland Surface Water By The MOEF&C	Test Method
		S.T.P. Outlet J.C.P.P. Canteen	S.T.P. Outlet Jamadoba Canteen	S.T.P. Outlet Railway Colony		
1.	pH,	7.7	7.9	7.5	5.5-9.0	IS-3025 (P-11):1983
2.	Total Dissolved Solids, mg/l	638	678	693	2100	IS-3025 (P-16):1984
3.	Total Suspended Solids, mg/l	28	30	38	100	IS-3025(P-17):1984
4.	Bio chemical Oxygen Demand, mg/l	13.6	12.4	14.8	30	IS-3025 (P-44):1994
5.	Chemical Oxygen Demand, mg/l	80	73	86.8	250	IS-3025 (P-58):2006
6.	Oil & Grease, mg/l	BDL	BDL	1.6	10	IS-3025 (P-39):2021

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Ref. No.: - ARDS/22-23/2918

Date: 18.02.2023

TEST REPORT OF EFFLUENT

- Name of the industry : M/S TATA STEEL, JAMADOBA,
TATA STEEL LIMITED
JAMADOBA GROUP PLANT,
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. E.T.P. Outlet T.C.H.
2. E.T.P. Outlet Garage
- Date of Sample Collection: 10.02.2023
- Date of Testing : 13.02.2023 to 18.02.2023
- Test : pH, TDS, TSS, BOD, COD, OIL & GREASE.

TEST RESULT

Sl. No.	PARAMETERS OF TEST	VALUE		General Standards For Discharge Of Environmental Pollutants, Inland Surface Water By The MOEF&C	Test Method
		E.T.P. Outlet T.C.H	E.T.P. Outlet Garage		
1.	pH,	7.3	7.2	5.5-9.0	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	890	752	2100	IS-3025 (P-16): 1984
3.	Total Suspended Solids, mg/l	28	27	100	IS-3025(P-17) : 1984
4.	Bio chemical Oxygen Demand, mg/l	8.6	9.5	30	IS-3025 (P-44):1994
5.	Chemical Oxygen Demand, mg/l	54	59	250	IS-3025 (P-58):2006
6.	Oil & Grease, mg/l	0.8	BDL	10	IS-3025 (P-39):2021

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Ref. No.: - ARDS/22-23/2932

Date: 20.02.2023

TEST REPORT OF DRINKING WATER

- Name of the industry : M/S TATA STEEL, JAMADOBA, TATA STEEL LIMITED
JAMADOBA GROUP PLANT,
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. Canteen - Jamadoba Colliery
2. Canteen - Digwadih Colliery
3. Canteen - 6 & 7 Pit Colliery
4. Canteen - Jamadoba Washery
- Date of Sample Collection: 10.02.2023
- Date of Testing : 13.02.2023 to 18.02.2023
- Test :

Colour, Odour, Taste, Turbidity, pH, Total Hardness, Iron, Chloride, Res. Free chlorine, Total Dissolved Solids, Calcium, Copper, Manganese, Sulphate, Nitrate, Fluoride, Phenolic Compound, Mercury, Cadmium, Arsenic, Cyanide, Lead, Zinc, Total Coliform, Hexavalent Chromium, Mineral Oil, Alkalinity, Aluminium & Boron.

TEST RESULT

Sl. No	PARAMETERS OF TEST	VALUE				IS as per IS 10500:2012		Test Method
		Canteen Jamadoba Colliery	Canteen Digwadih Colliery	Canteen 6 & 7 Pit Colliery	Canteen Jamadoba Washery	Desirable	Permissible	
1.	Colour, (Hazen Unit)	1	1	1	1	5.00	15.0	IS 3025 (P-4):2021
2.	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	IS 3025 (P-5):2018
3.	Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	IS 3025 (P-7):2017
4.	Turbidity, NTU	NIL	NIL	NIL	NIL	1.0	5.0	IS 3025 (P-10):1984
5.	pH	7.5	8.2	7.8	8.0	6.5-8.5	No. Relax.	IS-3025 (P-11):1983
6.	Total Hardness as CaCO ₃ , mg/l	376	380	224	416	200	600	IS 3025 (P-21):2009
7.	Chloride as Cl ₁ , mg/l	58	60	36	60	250	1000	IS 3025 (P-32):1988
8.	Res. Free chlorine as Cl ₂ mg/l	NIL	NIL	NIL	NIL	0.20	1.0	IS 3025 (P-26):2021
9.	Total Dissolved Solids, mg/l	828	750	406	738	500	2000	IS 3025 (P-16):1984
10.	Calcium as CaCO ₃ , mg/l	43.2	43.2	36.8	52.8	75	200	IS 3025 (P-40):1991
11.	Copper as Cu, mg/l	BDL	BDL	BDL	BDL	0.05	1.5	IS 3025 (P-42):1992

Statements :

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Continued on Page 2





ADITI R&D SERVICES

Testing Laboratory

NABL ACCREDITED

(A Constituent Board of Quality Council of India)

ISO/IEC 17025:2017, ISO 9001:2015, ISO (OHSAS) 45001:2018 Certified

Plot No. - I-B-17 (P)
Sindri, Industrial Area,
P.O.- Domgarh, Dist.- Dhanbad
Jharkhand - 828107
Email ID: sindriaditi@gmail.com
Website: aditirndservices.com
Phone: 0326-2952377 (O).
Fax: 0326-2952377
Mobile: 09471358492, 09431512608

- 2 -

Sl. No.	PARAMETERS OF TEST	VALUE				IS as per IS 10500:1991		Test Method
		Canteen Jamadoba Colliery	Canteen Digwadih Colliery	6 & 7 Pit Colliery	Jamadoba Washery Canteen	Desirable	Permissible	
12.	Manganese as Mn, mg/l	BDL	BDL	BDL	BDL	0.10	0.30	IS 3025 (P-59):2006
13.	Sulphate as SO ₄ , mg/l	72.7	36.6	31.3	62	200	400	IS 3025 (P-24):1986
14.	Nitrate as NO ₃ , mg/l	3.3	3.1	2.8	2.9	45	No. Relax	IS 3025 (P-34):1988
15.	Fluoride as F, mg/l	0.38	0.32	0.34	0.28	1.0	1.5	IS 3025 (P-60):2008
16.	Phenolic Compound as (C ₆ H ₅ OH) mg/l	BDL	BDL	BDL	BDL	0.001	0.002	IS 3025 (P-43):1992
17.	Mercury as Hg, mg/l	BDL	BDL	BDL	BDL	0.001	No. Relax	IS 3025 (P-48):1994
18.	Cadmium as Cd, mg/l	BDL	BDL	BDL	BDL	0.003	No. Relax	IS 3025 (P-41):1992
19.	Arsenic as As, mg/l	BDL	BDL	BDL	BDL	0.01	No. Relax	IS 3025 (P-37):1988
20.	Cyanide as CN, mg/l	BDL	BDL	BDL	BDL	0.05	No. Relax*	IS 3025 (P-27):1986
21.	Lead as Pb, mg/l	BDL	BDL	BDL	BDL	0.01	No. Relax	IS 3025 (P-47):1994
22.	Zinc as Zn, mg/l	0.14	0.12	0.12	0.18	5	15	IS 3025 (P-42):1992
23.	Total Coliform, No./100ml	Absent	Absent	Absent	Absent	Absent	Absent	IS 3025 (P-49):1994
24.	Hexavalent Chromium as Cr, mg/l	BDL	BDL	BDL	BDL	0.05	No. Relax	IS 3025 (P-52):2003
25.	Mineral Oil, mg/l	BDL	BDL	BDL	BDL	0.5	No. Relax	IS 3025 (P-39):1989
26.	Alkalinity as CaCO ₃ , mg/l	492	500	220	492	200	600	IS 3025 (P-23):1983
27.	Aluminium as Al, mg/l	BDL	BDL	BDL	BDL	0.03	0.2	IS 3025 (P-55):2003
28.	Boron as B, mg/l	BDL	BDL	BDL	BDL	0.5	1.0	IS 3025 (P-57):2005

NOTE: BDL - Below Detection Limit

A. Das,

Sr. Chemist
Aditi R&D Services



[Signature]

Technical Manager
Aditi R&D Services, Sindri

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Phone: 0326-2952377 (O)
Fax: 0326-2952377
Mobile: 09471358492, 09431512608

Ref. No.: - ARDS/22-23/2937

Date: 21.02.2023

TEST REPORT OF GROUND WATER

- Name of the industry : M/S TATA STEEL, JAMADOBA, TATA STEEL LIMITED, JAMADOBA GROUP PLANT, DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO. : 4700092573/932 Dt. 20.07.2021
- Sample Code :
 1. Moholbani Basti
 2. Jorapukhar Kushtand
 3. Bhowra 13 No
 4. Jamadoba 3 No
 5. Lower Dungri
- Date of Sample Collection : 10.02.2023
- Date of Testing : 13.02.2023 to 18.02.2023
- Test : Colour, Odour, Taste, Turbidity, pH, Total Hardness, Iron, Chloride, Res. Free chlorine, Total Dissolved Solids, Calcium, Copper, Manganese, Sulphate, Nitrate, Fluoride, Phenolic Compound, Mercury, Cadmium, Arsenic, Cyanide, Lead, Zinc, Total Coliform, Hexavalent Chromium, Mineral Oil, Alkalinity, Aluminium & Boron.

TEST RESULT

Sl. No	PARAMETERS OF TEST	VALUE					IS as per IS 10500:1991		Test Method
		Moholbani Basti	Jorapukhar Kushtand	Bhowra 13 No	Jamadoba 3 No	Lower Dungri	Desirable	Permissible	
1.	Colour, (Hazen Unit)	1	1	1	1	1	5	15	IS 3025 (P-4):2021
2.	Temperature °C	22	23	23	22	23	-	-	-
3.	Electrical Conductivity, µmhos/cm	930	1280	750	350	630	-	-	-
4.	Total Dissolved Solids, mg/l	609	835	489	232	414	-	-	IS 3025(P-16):1984
5.	pH	7.0	8.1	7.5	7.9	7.7	6.5-8.5	No Relax	IS-3025(P-11):1983
6.	Total Hardness as CaCO ₃ , mg/l	436	544	356	140	264	200	600	IS 3025(P-21):2009
7.	Calcium as Ca, mg/l	144	81.6	72	33.6	70.4	75	200	IS 3025(P-40):1991
8.	Magnesium as Mg, mg/l	18.2	81.6	42.2	13.4	21.1	30	100	IS 3025(P-46):1994
9.	Chloride as Cl, mg/l	99.9	70	52	22	62	250	1000	IS 3025(P-32):1988
10.	Fluoride as F, mg/l	0.36	0.26	0.28	0.32	0.36	1.0	1.5	IS 3025(P-60):2008

Continued on Page -2

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Sl. No	PARAMETERS OF TEST	VALUE					IS as per IS 10500:1991		Test Method
		Moholbani Basti	Jorapukhar Kushtand	Bhowra 13 No	Jamadoba 3 No	Lower Dungri	Desirable	Permissible	
11	Sulphate as SO ₄ , mg/l	75	44	58.4	45.3	21.8	200	400	IS 3025(P-24):1986
12	Nitrate as NO ₃ , mg/l	9.8	12.4	11.3	9.4	9.8	45	No. Relax	IS 3025(P-34):1988
13	Alkalinity as CaCO ₃ , mg/l,	328	504	312	104	184	200	600	IS 3025(P-23):1983
14	Lead as Pb, mg/l	BDL	BDL	BDL	BDL	BDL	0.01	No. Relax	IS 3025(P-47):1994
15	Zinc as Zn, mg/l,	0.14	0.16	0.12	0.10	0.16	5	15	IS 3025(P-42):1992
16	Iron a Fe, mg/l	0.1	0.1	0.08	0.08	0.1	0.3	No. Relax	IS 3025(P-53):2003
17	Copper as Cu, mg/l	BDL	BDL	BDL	BDL	BDL	0.05	1.5	IS3025 (P-42):1992
18	Mercury as Hg, mg/l	BDL	BDL	BDL	BDL	BDL	0.001	No. Relax	IS 3025(P-48):1994
19	Cadmium as Cd, mg/l	BDL	BDL	BDL	BDL	BDL	0.003	No. Relax	IS 3025(P-41):1992
20	Nickel as Ni, mg/l	BDL	BDL	BDL	BDL	BDL	0.02	No. Relax	IS 3025(P-37):1992
21	Arsenic as As, mg/l	BDL	BDL	BDL	BDL	BDL	0.01	No. Relax	IS 3025(P-37):1988
22	Cyanide as CN, mg/l	BDL	BDL	BDL	BDL	BDL	0.05	No. Relax	IS 3025(P-27):1986
23	Total Chromium as Cr, mg/l	BDL	BDL	BDL	BDL	BDL	0.05	No. Relax	IS 3025(P-52):2003

NOTE: BDL - Below Detection Limit

A. Das.

Sr. Chemist
Aditi R&D Services



[Signature]
Technical Manager
Aditi R&D Services, Sindri

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Publication **PRABHAT KHABAR, DHANBAD** Date 11-3-14**TATA
TATA STEEL****सूचना**

जन साधारण को सूचित किया जाता है कि भारत सरकार, वन एवं पर्यावरण मंत्रालय के पत्रांक संख्या - J-11015/203/2011-IA.II(M) के जरिए जामाडोबा कोल वाशरी (1.0 मिलियन टन प्रतिवर्ष से 2.0 मिलियन टन प्रतिवर्ष विस्तारीकरण परियोजना) मेसर्स टाटा स्टील लिमिटेड, जामाडोबा, जिला-धनबाद को पर्यावरण स्वीकृति प्रदान की गयी है, जिसकी प्रतिलिपि क्षेत्रीय कार्यालय, झारखण्ड राज्य प्रदूषण नियंत्रण परिषद, धनबाद में उपलब्ध है तथा भारत सरकार, वन एवं पर्यावरण मंत्रालय के इंटरनेट साइट <http://envfor.nic.in> पर भी देखी जा सकती है।

महाप्रबंधक (झरिया)

टाटा स्टील, जामाडोबा (धनबाद)

FROM THE PRESS

Publication **HINDUSTANI, DHANBAD** Date **11-3-14**



**TATA
TATA STEEL**

सूचना

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महाप्रबंधक (झरिया)

टाटा स्टील, जामाडोबा (धनबाद)

CORPORATE COMMUNICATIONS
JHARIA DIVISION

FROM THE PRESS

Publication

DAINIK BHASKAR, DHANBAD Date 11-3-14



TATA
TATA STEEL

सूचना

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महाप्रबंधक (झरिया)

टाटा स्टील, जामाडोबा (धनबाद)

CORPORATE COMMUNICATIONS
JHARIA DIVISION

FROM THE PRESS

Publication **DAINIK JAGRANI, DHANBAD** Date 11-3-14



TATA
TATA STEEL

सूचना

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महाप्रबंधक (झारिया)

टाटा स्टील, जामाडोबा (धनबाद)

CORPORATE COMMUNICATIONS
JHARIA DIVISION

Municipal Commissioner,
Dhanbad.

Ref No.: JMB/ENV/DIG/37/ 805 /2018

September 17 , 2018

Sub: Submission of copy of Environmental Clearance granted to units of M/s Tata Steel Limited

Dear Sir,

Please find enclosed the letter of Environmental Clearance (EC) granted by MoEFCC to various units of Tata Steel Limited, Jharia Division, Dhanbad as per the following details-

1. Digwadih Colliery (for expansion from 0.38 MTPA to 0.6 MTPA in ML area 314.57 ha), dist. Dhanbad, Jharkhand.
2. 6 & 7 Pits Colliery (for expansion from 0.28 MTPA to 0.6 MTPA in ML area 168.12 ha), dist. Dhanbad, Jharkhand.
3. Jamadoba Coal Washery (for expansion from 1 MTPA to 2 MTPA in 7 Ha area), dist. Dhanbad, Jharkhand.

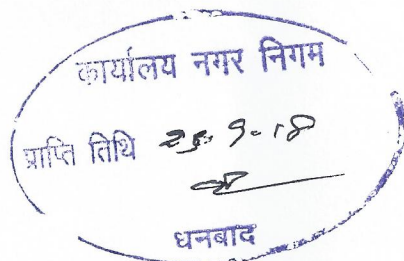
The copy of EC letter and its compliance is also uploaded in website (<http://www.tatasteel.com/sustainability/environment-compliance-reports/>) for your kind perusal.

Thanking You,

Yours faithfully,



Head, Planning
Jharia Division



ENVIRONMENTAL POLICY

Tata Steel's environmental responsibilities are driven by our commitment to preserve the environment and are integral to the way we do business.

1. We are committed to deal proactively with Climate Change issue by efficient use of natural resources & energy; reducing and preventing pollution; promoting waste avoidance and recycling measures; and product stewardship.
 - We shall identify, assess and manage our environment impact.
 - We shall regularly monitor, review and report publicly our environmental performance.
 - We shall develop & rehabilitate abandoned sites through afforestation and landscaping and shall protect and preserve the biodiversity in the areas of our operations.
 - We shall enhance awareness, skill and competence of our employees and contractors so as to enable them to demonstrate their involvement, responsibility and accountability for sound environmental performance.
2. We are committed to continual improvement in our environmental performance.
 - We shall set objective-targets, develop, implement and maintain management standards and systems, and go beyond compliance of the relevant industry standards, legal and other requirements.
3. We will truly succeed when we sustain our environmental achievement and are valued by the communities in which we work.

Date : November 1, 2017



T V Narendran
CEO & Managing Director



Executive Summery

Tata Steel Foundation is focused upon co-creating solutions, with tribal and excluded communities, to address their development challenges. Working for the overall development of community through its interventions in Health, livelihood, Education and Skill development.

Followings are the key highlights of the work carried out by Tata Steel Foundation in FY'23:

- In Public Health camp, 24968 villagers from 35 villages got free health check-up and medicines.
- A total of 79 camps were organized for Non communicable diseases (hypertension, diabetes, breast, and oral cancers) in which 2,296 beneficiaries got screened and were provided health services.
- Under the Ni-kshya Mitra program, 673 food packets were provided in Baghmara block.
- Under Cataract, 85 Nukar natak were organised to create awareness among villagers on blindness and a total of Eight camps organized in which 1,021 surgeries were successfully done.
- In Nutritional Garden, TSF Jamadoba distributed seed, plants and Agri materials to 1500 Households and wall paintings around nutrition were done at 180 places in different villages.
- Tata Steel started SPARSH centre with technical collaboration with LEPRASociety in which 1570 patients got benefitted.
- Under RISHTA project, TSF Jamadoba is working with 1465 beneficiaries through Pre and post-test.
- Total number of students enrolled in Pre-Matriculation Coaching in FY'23 is 2378 in 18 centres.
- TSF Jamadoba has recently organized the placement-drives for the job-openings at Tata Electronics Private Limited (TEPL) in which 24 candidates joined Tata Electronics.
- The total enrolment of the candidates in Community Youth coaching program for Uniform services is 64.
- Tata Steel Foundation (TSF), in collaboration with NIIT Foundation (NF), has been offering IT and English Courses in which total enrolment is 755.
- To promote paddy cultivation a total of 92 farmers (36 from Jamadoba and 56 from Sijua) of the leasehold area were supported with paddy seeds having acreage of 92 acres.
- 20 acre of horticulture plantation has been done through providing plants of Banana, papaya, Mango, coconut, guava, and lemon.
- TSF Jamadoba is supporting 140 landless families with critical inputs around various types of micro enterprises.
- Gender and Leadership for Disha, in which 240 women leaders are being developed. Out of 240, 60 women have completed training till module 4.
- Tata feeder centre, training of budding sports talent in three sporting segments i.e., Football, Archery and Athletics. As of now the total intake of the players under these sporting segments is 188.

Index Page

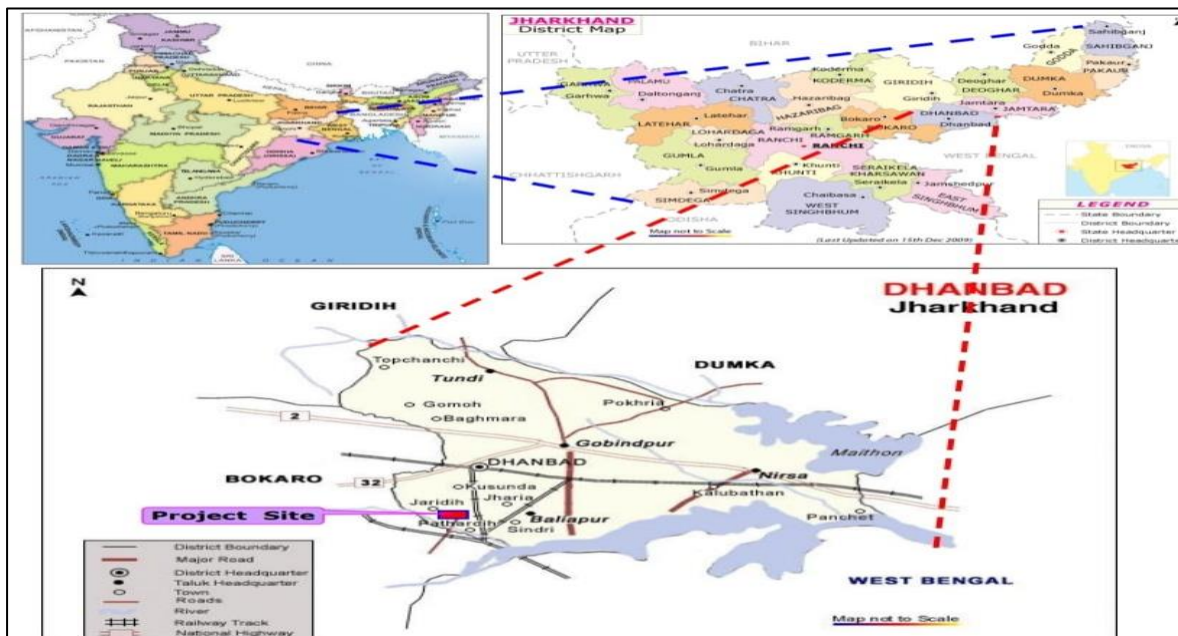
S. No.	Particulars	Page No.	No. of Beneficiary
1.	Introduction	3	
2.	Public Health	4-9	
2.1	Major Achievement	4	
2.2	Nutritional Garden	4-5	1500
2.3	Cataract	5-6	1021
2.4	RISHTA	6-7	1465
2.5	SPARSH	7-10	1570
3	Education	10-11	
3.1	Pre-Matriculation Coaching	10	2378
3.2	Jyoti Fellowship Scholarship	10	346
3.3	Tribal Language	11	71
4.	Employability	11-12	
4.1	Placement Drive	11	24
4.2	Uniform Services	11-12	64
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5.	Livelihood Enhancement	12-15	
5.1	Support to farmers during kharif season	12	92
5.2	Horticulture Development	13	142
5.3	Leveraging Government Resources	13	946
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6.	Livelihood Empowerment	15	240
7.	Sports	15-16	188
8.	Infrastructure	17-18	29,149

INTRODUCTION

Tata Steel Foundation (the Foundation), a wholly owned subsidiary of Tata Steel Limited, was incorporated on August 16, 2016, under Section 8 of the Companies Act 2013. The Foundation is focused upon co-creating solutions, with tribal and excluded communities, to address their development challenges. During this process of co-creation, the Foundation endeavours to develop and implement change models that are replicable at a national scale, enable significant and lasting betterment in the well-being of communities proximate to the Company’s operating locations and embed a societal perspective in key business decisions. The Foundation strives for excellence by ensuring that all programmes are aligned with community needs and focus on national priority areas enabling communities to access and control resources to improve the quality of their lives with dignity.



TSF, Jamadoba is working in 44 villages of three blocks (Jharia, Dhanbad and Baghmara). Working in different areas like Health, Livelihood, Education, and Infrastructural development for livelihood enhancement and make community self-sufficient.



PUBLIC HEALTH

Tata Steel provides both curative and preventive healthcare services to improve levels of health amongst the community. Tata Steel Foundation is committed to provide best health care facility to people in Tata Steel leasehold area. TSF Jamadoba, acts as strengthening agency for awareness generation, promotion of good health and hygiene, and bridge gap between community and government health facilities.

Major Achievement:

- In Public Health camp, 24968 villagers from 35 villages got free health check-up and medicines.
- Focussing the preventive aspects of public health, a total of 79 camps were organized for Non communicable diseases (hypertension, diabetes, breast, and oral cancers) in which 2296 beneficiaries got screened and were provided health services.
- Under the Ni-kshya Mitra program, 673 food packets were provided in Baghmara block.

Nutritional Garden:

The kitchen/home gardens have been found to play an important role in improving food security for the poor rural household. Keeping in view the importance of vegetables in daily diets and its low availability, TSF Jamadoba has started Nutritional Garden program for villagers of Tata Steel lease hold area. TSF Jamadoba, provides seed, plants and Agri materials to villagers for Kitchen Garden and have the benefits of good quality of food without using external fertilizer or chemicals.

TSF Jamadoba, distributed seed, plants and Agri materials to 1500 Households and wall paintings around nutrition were done at 180 places in different villages.

Case Study of Mrs. Dhani Devi

“Connecting with nature is connecting with God” is the story of Dhani Devi (Age -29) wife of Mr. Devan Kalindi, and resident of Harijan Tola of Patia Panchayat. TSF Jamadoba reached her during seed distribution campaign in her village. During the home visit TSF Jamadoba team came to know that they have to rely on daily wages for their livelihood as they are landless. After monitoring the troublesome and pathetic condition of the family during home visit. Mrs. Dhani Devi was suggested to do kitchen gardening and explained about the benefits of kitchen garden. Which will not only increase her family nutritional intake but also save money which they spend on buying vegetable or for medical purpose which arises due to malnourishment. Kitchen garden will also help her generate additional income if the produce is high through selling of vegetable.

She decided to own an uncultivated and useless land in her village with the consent of community and SHG members. The issue was discussed in front of village community, and she got a small piece of land. TSF Jamadoba has supported her with seed, plants and Agri materials and provided one day training session.

Now after three months, she has done one of the best kitchen gardens and promised to continue it in near future. Mrs. Dhani Devi thanked TSF Jamadoba team for their effort and handholding support.



CATARACT

Tata steel has collaborated with Shankar Netralaya during the year 2017-18 to do cataract camps through Mobile Eye surgical unit (MESU) which carries out operations for the cataract infected patients. Under the program for preventable blindness a total of 85 Nukar natak were organised to create awareness among villagers on blindness because of cataract in Tata Steel lease hold area villages and a total of Eight camp organised (2 at Baghmara CHC, Rajganj, 2 at Bhelatand and 3 at Digwadih) in which 1441 patient were screened, and total surgery done is 1,021.

Case Study of Mr. Niranjana Mahato:

It has been correctly said “I have a very poor eyesight, and I can’t imagine a world without my glasses or contacts”. Mr. Niranjana Mahato of Nunidih Basti, was working as a helper at Tata Steel canteen, he uses to put coal in the cooking stove. During his mid-forties he notice that his vision is getting blur. He started wearing spectacles for clear vision. His right eye vision deteriorated dramatically.

He gets to know about Tata Steel Foundation, Eye check-up camp from one of the beneficiaries residing near his house. So, he visited the camp and diagnosed with cataract. After all the screening done by doctors, operation date was given. But on the date of operation, he was diagnosed with Hypertension and was referred to TSF Medical department. He visited TSF, Jamadoba and the medical team provided all the necessary support and medicines. The next day he visited again as per the advice of TSF medical team, and he was found normal and sent for cataract surgery.

On 20.09.2022, Cataract surgery was done. And now he can see the world clearly and does all his work without any support from others. He expresses his happiness and gratitude to Tata Steel Foundation.



RISHTA

Regional Initiative for Safe Sexual Health by Today's Adolescents, formally known as "Project RISHTA" is a consortium project on Adolescents' Reproductive and Sexual Health, which aims "to improve the sexual and reproductive health and wellbeing of adolescents in Jharia Division.

RISHTA project aims at empowering adolescents to know and exercise their adolescent rights and be sensitive to issues of adolescent health (preventive and curative). Furthermore, pregnancy during adolescence is associated with higher risk of health problems like anaemia, sexually transmitted infections, unsafe abortion, and mental disorders (like depression). Pregnant adolescents also bear negative social consequences and often have to leave school reducing their employability leading to long-term economic implications. Unmet needs for family planning especially for spacing are high among adolescents.

Key objectives of RISHTA project

- Enable adolescents to take right decision with right information for their future.
- Inculcating the importance of adolescents' health, which otherwise remains ignored.
- Reduce Early Age of Marriage across the block
- Inducing the importance of life skills in adolescents as catalysts to cater to their life approach in a more progressive manner.
- Orienting the adolescents with adolescent rights which are powerful tools for them to exercise.



- Number of adolescents reached through ARSH sessions -1465.
- 4 number of National/International Day observed in which 567 number of participants participated.
- 4 Kishor Navdampatti samaroh was organized with 56 adolescent couple participation.



- Total 123 meeting with AWW, Asha and PRI member with 1470 participants.
- Total 3 Child marriage delayed.
- 135 Sathiya were trained around various aspects of sexual and reproductive health
- Total 13 no. of pregnancy delayed.

Case Study of Mohini Kumari Khetrpal

Mohini Kumari Khetrpal is 20 years (DOB – 11/11/2002) old girl who believes that education and hard work never goes in vain. Her father Mr. Deepak Kumar Khetrpal is a daily wage labor, and her mother Mrs. Anjana Devi is a house manager. She has one younger sibling, who works as a daily wage laborer with his father. The monthly income of the family was Rs. 8000 /-. And the financial condition was not good.

She is associated with RISHTA team for last 4 years. She has completed her intermediate and wanted to help her family financially. One day Mohini came to attend RISHTA meeting in which one of the TSF staff was discussing on F&B training which is given by PACE Centre Jamshedpur. She found this training fruitful for her career growth and to make her family financial stable.



She contacted RISHTA team after few days of training to know the procedure of selection in F&B course and wanted RISHTA team to convince her parents. The team visited her house and counselled her parents and convinced them.

The team lined up with PACE training Centre for F&B training and Mohini got admission in 2 months training program. After successful completion of her training, she got placed at Ramada Hotel Jamshedpur. Now she is earning Rs. 14,500/- per month with free accommodation, which enabled her to take care of both her and her family financial need.

With regular guidance of TSF RISHTA team, she completed her graduation and now enrolled herself in Hotel Management course for departmental promotion. She and her family are very thankful to TSF Jamadoba and RISHTA team for all the support and guidance.

SPARSH

In 2005, India was declared with leprosy eliminated. Vertical system comprising Non-Medical Assistants and Supervisors were abolished. Health personals dedicated for NLEP2 have been deployed in other health vertical. Rigorous screening and monitoring system became poor post 2005. Considering the fact of high endemicity in Dhanbad (adjacent to

Purulia), a joint venture namely “SPARSH centre- A healing Touch” had been started in 2009.

Above all, new cases have been found in special pockets of India through Leprosy Case Detection Campaign by NLEP, GoI (14th September to 4th October 2016). According to WHO report, India accounts for 60% of total new cases of Leprosy across the world. Many new cases have been found in Bihar, Jharkhand, and Chhattisgarh.

Tata Steel started SPARSH centre with technical collaboration with LEPRO Society, for the benefit of the Leprosy affected persons in the year 2009 (26th October) and the reconstructive surgery unit started during the year 2017. This reconstructive surgery unit which is one-of-its-kind in Eastern India will play a major role in the leprosy eradication programmes, benefitting the patients from the States of Jharkhand and Bihar.



Coverage Area

The SPARSH centre caters to the patients from Jharkhand and Bihar. Till today patients from 13 blocks have been able to access health services.

Objective of SPARSH Centre

- Provide healthcare facilities to leprosy affected people and helping them to cope up with the societal stigma attached to the disease.
- To correct the deformities of people suffering from Leprosy, so that they come in the mainstream society.
- Restoring livelihood opportunities for those who have undergone reconstructive surgery.

Services offered

- OPD services for patients suffering from leprosy
- Providing specially designed footwear to the patients
- Raising awareness regarding leprosy through a Mobile IEC Van in 200 villages in Dhanbad district
- Capacity building of health officials in leprosy

Key achievements during this period

- A total of 1570 persons suffering from leprosy and related illness were provided health facilities.

- 1,53,500 persons were covered under the IEC campaign which creates awareness around the early identification and treatment of leprosy in 200 villages of the Dhanbad district.
- 454 MCR footwear manufactured for person affected of Leprosy.
- Reconstructive surgery to correct deformity was organised in which total 23 RCS was done.

Case Study of Mr. Prahalad Mahato:

Mr. Prahalad Mahato (Age – 26 years) son of Ramlochan Mahto, Resident of Nischitpur village, Baghmara. He lives in his sister's house in Baghara village due to leprosy. His wife and son left him and his father lives alone at Nischitpur village, where he works as a daily wage worker.

He was referred by PHC Baghmara for reconstructive surgery at SPARSH centre to correct left claw hand after one year treatment from MDT. During examination, SPARSH Doctors found that he is suffering with Type II(ENL) reaction with right Ulnar, bilateral lateral popliteal and posterior tibial neuritis.

Prahalad Mahato was suffering from Leprosy for last 4 year and started his treatment at Nirmal Leprosy Hospital, Gobindpur for one year. During his treatment he get Lepra reaction. Then he started his treatment at MDT, PHC Baghmara.



After examination and diagnose at SPARSH centre, the treatment started with Storied therapy for a period of one month. The reaction was subsided, and muscle power improved. Again, he gets recurrent reaction. The centre started second line drug for Lepra rection with clofazimine therapy with proper counselling for a period of 4 month. He was declared cured of ENL reaction.

The reason of reaction was psychological problem caused due to disease, family, and future. The centre counsels Prahalad and his family time to time for proper case holding and management. Finally, he copped and accepted mental health treatment and case management of SPARSH centre.



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Now he is doing good and works as a daily wage worker with his father at his hometown. He believes that his deformity will correct, and his family will live together after surgery. He is very thankful to TSF Jamadoba and SPARSH team.

EDUCATION

Pre-Matriculation coaching:

PMC (Pre-Matriculation Coaching) classes have been running since 2012 in government and private (J.A.C. Board) schools for class VI to X in the leasehold areas of Jamadoba and Sijua. PMC was started in 2011-12 with 1,025 students at 11 centres, especially for the poor students, who cannot afford private tuition classes for bringing improvement in their studies. Pre- Matriculation coaching classes have been operated in two parts from Class VIII - X and Preparatory classes for classes VI to VII.

Total number of students enrolled last year (FY22) was 1548 in 09 centres. The Pre-Matriculation Coaching class is a boon for the students as it has been observed that the students have gained a lot from this program. Due to this program, they have been able to score good marks in their academic exams. According to the survey done before starting of PMC class, the passing % of the class 10th was 70%. In FY 22, TSF Jamadoba has achieved 100% result in the matriculation exam.

The purpose of running this Pre-Matriculation Coaching class is to provide quality tuitions to the poor students in English, Math, and Science. The total number of teachers in one centre is 5 - two teachers for Classes VI-VII and three teachers for classes VIII-X. The teachers are being paid through the school committees or the SHGs (Self Help Group).

In FY 23, TSF Jamadoba have conducted PMC classes at 18 centres covering 2378 students.



Jyoti Fellowship Programme:

As part of affirmative action policy and effort towards inclusive growth and development of Scheduled Caste and Scheduled Tribe community. Tata Steel Foundation awarded Jyoti Fellowship to 346 meritorious students of Jamadoba region. Total scholarship amount is Rs. 17,98,750/-.

The objective of Tata Steel Jyoti Fellowship is to ensure that meritorious student from economically- challenged SC/ ST families have an opportunity to continue and pursue their

educational goals and fulfil career aspirations. Tata Steel's Tribal Cultural Society (TCS) identifies deserving candidates from operational areas of the company on the merit-based test.

Language Classes:

Language classes on `Ol-chiki` script was started for the Santali communities residing in and around Tata Steel leasehold areas that is Bhowra-parsiabad village (Jamadoba) and Bhelatand Majhi tola (Sijua location). The classes are held during the weekend. The total enrolment is 71 (JMB- 33 students and Sijua-38 students).



Employability Programme

Placement Drives

With an objective to provide employment opportunity for youths. TSF Jamadoba has recently organized the `placement-drives (for the job-openings at Tata Electronics Private Limited (TEPL) in collaboration with the Model Career Centre, Jamshedpur.

The placement –drive was specially meant for the local female candidates who are aged between 18-20 years (21 for the SC/ST category) and have passed out their intermediate exam during the year 2021 and 2022.

This placement drive was attended by total 128 candidates out of which 64 were shortlisted and finally 24 female candidates from Tata Steel leasehold areas have joined Tata Electronics.



Community Youth coaching program for Uniform services:

With an objective to support the youth prepare for entry into uniformed services, TSF Jamadoba is running ``Community Youth Coaching Program`` for the local youths. The coaching is provided to prepare for written as well as physical tests for clearing various competitive exam(s) of the Uniformed Services like State Police, CMPF like BSF, CRPF, ITBP, Coast Guards, Army, Navy, and Air Force etc.

As of now, the total enrolment of the candidates is 64 (31 at Jamadoba and 33 at Sijua). While this coaching program, the enrolled candidates have started appearing at the competitive exam related to the Uniformed Services.

Total 29 candidates (11 from Jamadoba, 18 from Sijua) have appeared at the SSC GD EXAM-2022 which was held in January`23. The SSC has declared the results of SSC GD Exam on 08th April,2023. Total 9 candidates (6 from Sijua and 3 from Jamadoba) have cleared the

written exam of SSC GD. The physical exam is likely to be held soon for the candidates who have cleared the written exam of SSC GD-2022.



Skill development centre:

Tata Steel Foundation (TSF), in collaboration with NIIT Foundation (NF), has been offering IT and English Courses in small towns and interior villages of the Company's operational areas since FY15. This program was initiated in response to the high demand for these skills among youth. The goal is to empower communities within Tata Steel operational areas by developing IT (Information Technology) and English capabilities among them. This would include youths, women (SHG, ANM, Asha, etc), adolescents and migrant laborers.

Progress made during the period

- A total of 755 enrolment has been done for FY'23.
- Out of 755 – 375 enrolled in Jamadoba and 380 in Sijua centre.
- A total of 677 students completed their course – 330 at Jamadoba and 347 at Sijua.



LIVELIHOOD ENHANCEMENT

Support to farmers during kharif season:

To promote paddy cultivation a total of 92 farmers (36 from Jamadoba and 56 from Sijua) of the leasehold area were supported with paddy seeds having acreage of 92 acres. The improved varieties of seeds promoted were KV21 and Purnima Gold. The farmers contributed 50% of the cost of seeds and each farmer was supported with a maximum of 1 acre. A total of 200 kg of seeds were promoted (164 kg of Purnima Gold seeds and 36 kg of KV2 seeds).

Horticulture Development:

Horticulture development is a very useful method of income augmentation for the farmers. During the year 20 acre of horticulture plantation has been done through providing plants of Banana, papaya, Mango, coconut, guava, and lemon. Out of which the district horticulture department has also supported in this initiative by providing plants for 10 acres. In which total of 142 farmers got benefited.



Leveraging Government Resources:

Community mobilization has been done by raising awareness levels of the farmers so that they can access the agriculture related schemes. During the year following progress has been made:

- 13 farmers have received 5350 banana and papaya plant from District Horticulture Department Dhanbad having an acreage of 6 acre of land.
- 4 animal health camps have been organized with support of district animal husbandry department in which a total of 1414 animal received medical check-up.
- TSF Jamadoba in collaboration with MSME Dhanbad has organised 30 days stitching training program in Petia Panchyat Bhawan, Petiya.
- FLD project of District Horticulture Department is being implemented in Tundi.
- 15 Diesel pump sets and 2 tractors was lesioned with govt. on 90% subsidiary under which 15 farmers got benefitted.
- 331 farmers got free elephant yam seed from District Horticulture Department.
- 160 women attended 3 days training on mushroom farming and received free Mushroom spawn.



Distribution of Micro-Enterprise Toolkit:

Micro-Enterprise businesses not only help in promoting quality of life for business runners but also add value to the local economy. They produce numerous jobs at small-scale, improve income, and boost purchasing power.

TSF Jamadoba is supporting 140 landless families with critical inputs around various types of micro enterprises which will help them in self-employment and entrepreneurship.



Promoting Fish Farming:

“Promoting fish farming” is one of the key initiatives towards improving the livelihood of the people living in Tata Steel leasehold area. During the FY’23, total 52 ponds were supported with fingerlings having 208 beneficiaries. Total 312 kg of fingerlings were distributed. The fingerlings were provided at 50% contribution from the pond-beneficiaries.

Besides providing fingerlings to the pond beneficiaries and build their capacities, much emphasis is given on improving the feeding practice. In this respect, TSF Jamadoba is facilitating farmers in getting proper-feed packets from the District Fishery Department at 50% subsidy.

Case Study of Mr. Abhimanyu Mahato:

A young farmer Mr. Abhimanyu Mahato (Age 35), his father’s name Mr. Shankar Mahato resident of Patia Panchayat of Dhanbad district. Just a matric pass is growing rapidly with increase interest in the field of fish production. It is correctly said “The capacity to learn is a gift; the ability to learn is a skill; the willingness to learn is a choice.” With his willingness and support from TSF Jamadoba, made him earn his livelihood with dignity.

He used to support his family by doing agriculture which was not sufficient for overall development and give a dignified life to his family. Then he comes to know about Tata Steel Foundation and about its programmes from his friend. With keen interest in fish farming, he reached TSF Jamadoba office. And after knowing that TSF Jamadoba is supporting with fingerlings and capacity building on fish farming.

On the next day he meets TSF field staff and gives the application for fish farming. After that he received 5 days training on fish farming from Government Fishery Department at Ranchi.

When he returned from training, decided to start his own business of fish production. Mr. Abhimanyu Mahato improved his pond by expanding the area of pond to 1.5 acer and cleaned grass under water that can harm fishes. Then the TSF provided 100 kg fingerlings at 50% subsidy. Currently his annual income is one Lakh from Fish farming.

Mr. Abhimanyu Mahato is very happy with the support provided by TSF and said that now he can send his children for higher education and live his life with dignity. The help from TSF Jamadoba made him economically as well as socially strong.

LIVELIHOOD EMPOWERMENT

Disha Training:

The primary objective of Disha project is to enable women leaders through social-political empowerment by making systematic investments in community-based organizations to enhance their participation and productivity, and to create and sustain model of rural women. The project has an objective to increase knowledge, awareness, and income of women through capacity building.

Training of active SHG members on Gender and Leadership for Disha, in which 240 women leaders are being developed. Out of 240, 60 women have completed training till module 4.



SPORTS

Organising sporting events/activities etc. has been a key strategy for ensuring the community engagement and to nurture the local young talents across Tata Steel leasehold areas. The children from the leasehold-villages will be given opportunities to take part in various sporting events/ activities towards shaping their future career in the Sports field.



During this year in the feeder centre training of budding sports talent is being done in three sporting segments i.e., Football, Archery and Athletics. As of now the total intake of the players under these sporting segments is 188.

Major achievement in Sports:

Achievement in Archery

S. No.	Name	Village	Medal	Event
1	Ms. Nazia Parween	Digwadih No.10	Selected	Centre for excellence (Govt. of Jharkhand), U-16
2	Ms. Madhu Kumari	Patherdih	Selected	Centre for excellence (Govt. of Jharkhand), U-16
3	Ms. Riya Kumari	Digwadih No.10	Selected	Centre for excellence (Govt. of Jharkhand), U-16
4	Ms. Pinky Kumari	Jealgora	Selected	Centre for excellence (Govt. of Jharkhand), U-16
5	Ms. Simran Kumari	Jealgora	Selected	Centre for excellence (Govt. of Jharkhand), U-16
6	Ms. Versha Chakroborty	Noonidih	Selected	Centre for excellence (Govt. of Jharkhand), U-16
7	Khusi Kumari	Digwadih	Gold	NTPC Mini National Archery Competition
8	Md. Adil	Digwadih	Selected	Tata Archery Academy

Achievement in Football

S. No.	Name	Village	Selection	Event
9	Mr. Pankaj Basti	Bhowra -36 No. PO Bhowra	Selected	National Camp at Bhubneshwar
10	Mr. Mrinal	Jealgora Basti	Selected	National Camp at Bhubneshwar
11	Mr. Prashant Diger	Nagina Bazar, Mohalbani	Selected	Residential sports training centre, Kumaitha Stadium Deoghar
12	Ms. Anju Sharma	Domgarh	Selected	Jharkhand state team camp u-17 at Chaibasa
13	Master Narayan Mahato	Digwadih No.10	Selected	SAIL Football Academy, Bokaro
14	Raj Kr. Mahato	Upper Dungri	Selected	CISF Delhi
15	Md. Irfan	Bhaga	Selected	Kuljeet Football Academy, Punjab
16	Mr. Vishnu Hajari	Noonidih Basti	Selected	Kuljeet Football Academy, Punjab
17	Mr. Vikky Kr. Mahato	Dumariatand	Selected	Kuljeet Football Academy, Punjab

INFRASTRUCTURE

- 7600 people got benefitted through construction of 6,193 mts. long roads in 10 villages (Sijua 12 no., Dukhitdih, Rampur 2, Chetudih, Kanchanpur Bauritola, Upper dungri, Petiya, Banskapuria, Suyakanali, Malkera) and drain of length 1,552 mts were constructed in (Belubakhar, Lahargora, Purnadih, Sundarpur, Petiya, Kalimela, Lower Dungri, Upper Dungri, Digwadih Mahato basti, Kasiatand, Fatehpur, Rampur, Barughutu, Malkera illages) of Tata Steel intervention area.



- 1000 people got benefitted through repair of 4 deep bore well in 4 villages ((Lower Dungri, Rampur Md tola, Kapuria, Kanchanpur)



- In 11 villages (Debogram harijan tola, Debogram bangali tola, Banskapuria, Azadnagar, Belubakhar, Suyakanali, Upper dungri, Dungri no.3, Dungri no.7, Digwadih Majhi basti, Sunderpur) of Tata Steel leasehold area, 11,435 people got benefitted through installation of 8,878 mts. long piped drinking water supply.



- Renovation and construction of 282 mts long irrigation drain which is benefitting 34 farmers in 5 villages (Chattand, Petiya, Chaitudih, Kasiatand, Lower Dungri).



- In 4 villages of Sijua (Banskapuria, Rampur, Debogram, Sawaldih) deepening of 4 ponds is done to solve water crises at village level.



- 9080 people got benefitted through construction of 39 Rural infrastructure like pond steps (17), sitting platform (15), community center (3), culvert (1), community shed (2), Biswanath club.

