



**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/BAC/39/369/2023  
May 29, 2023

Ref.: Environmental Clearance letter no. - J-11015/29/2012-1A.II(M) dated- April 28, 2017.

**Sub: Half Yearly Compliance Status Report of Environment Clearance conditions issued by MoEF&CC, New Delhi to Bhelatand A. Colliery & Bhelatand Coal Washery, Tata Steel Limited, Dhanbad for the period October'22 to March'23.**

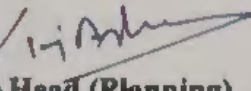
Dear Sir,

We are enclosing herewith compliance report for the period **October'22 to March'23** for the EC granted vide letter no.- J-11015/29/2012-1A.II(M) dated- April 28, 2017 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, 5<sup>th</sup> 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)

**BHELATAND A. COLLIERY**  
(EXPANSION FROM 0.38 MTPA TO 0.41 MTPA OF RAW  
COAL PRODUCTION)  
AND  
**BHELATAND COAL WASHERY**  
(EXPANSION FROM 0.96 MTPA TO 1.5 MTPA RAW COAL  
THROUGHPUT)

**P.O.: BHELATAND, DIST: DHANBAD, JHARKHAND**



**TATA STEEL LIMITED, JHARIA DIVISION**

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

**Compliance status of Environmental Clearance of Expansion of Bhelatand A. Colliery (0.38 MTPA to 0.41 MTPA of raw coal production) and Bhelatand Coal Washery (Expansion from 0.96 MTPA to 1.5 MTPA raw coal throughput) of M/s Tata Steel Ltd., District- Dhanbad, Jharkhand vide MoEFCC Letter no J-11015/29/2012-IA.II (M) dated April 28, 2017**

S. No.	Condition	Compliance Status
<b>Specific Condition</b>		
(i)	The maximum production from the mine at any given time shall not exceed the limit as prescribed in the EC.	It is being strictly followed. The EC capacity of Bhelatand A. Colliery is for 0.41 MTPA raw coal production is well within the limit. The EC capacity of Bhelatand Coal Washery is for 1.5 MTPA raw coal throughput which is also being maintained within the limit.
(ii)	The washery shall be as per the project report submitted and presented to EAC.	It is being strictly complied with.
(iii)	The validity of the EC is for the life of mine or as specified in the EIA Notification, 2006, whichever is earlier.	The mining lease of Bhelatand A. Colliery is valid for 999 years i.e. 20.01.2903 and life of mine as per approved mining plan is 25 years (Base year is FY13-14). However, the validity of EC for mines as per EIA Notification amendment dt. 14.09.2016 is kept as 30 years. Therefore, the EC is valid till 31.03.2038.
(iv)	Transportation of coal should be carried out by covered conveyor belts. Mitigative measures to be undertaken to control dust and other fugitive emission all along the roads by providing sufficient numbers of water sprinklers.	<ul style="list-style-type: none"> <li>•The transportation of coal from underground colliery to coal handling plant (CHP) is through covered conveyor belt networks.</li> <li>•Dry-fog system has been already installed to suppress the dust generated at CHP and transfer points of belt conveyor systems.</li> <li>•Fixed-type water sprinklers are also installed on the internal roads of the washery. These are operated effectively at all times to check the fugitive emissions.</li> <li>•Fugitive dust emission monitoring is done on half-yearly basis. The values are within the stipulated norms.</li> </ul>
(v)	Continuous monitoring of occupational safety and other health hazards, and the corrective action need to be ensured.	The periodic health checkup 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 and washery plant are subjected to full medical checkup every year including hearing impairment checkup, etc. These results are regularly submitted to DGMS as per mines rules.

**Compliance status of Environmental Clearance of Expansion of Bhelatand A. Colliery (0.38 MTPA to 0.41 MTPA of raw coal production) and Bhelatand Coal Washery (Expansion from 0.96 MTPA to 1.5 MTPA raw coal throughput) of M/s Tata Steel Ltd., District- Dhanbad, Jharkhand vide MoEFCC Letter no J-11015/29/2012-IA.II (M) dated April 28, 2017**

(vi)	Modern practices for agriculture to be encouraged with promotion of organic farming through training and demonstration (where ever feasible )	Farmers have been effectively trained in SRI (Systems of root intensification) which helps in more production of quality grains with lesser seed requirements. This helps farmers to produce grains at lesser cost. Matka Khad, etc. promotes organic farming which helps farmers to use less chemicals (pesticides, insecticides etc.). In this programmes farmers received hands on demonstration and training on organic farming.
(vii)	Special emphasis should be on training and demonstration on conservation of crops and foods and food processing (Wherever feasible)	For the conservation of crops and foods, the following training programs are being through our CSR wing, TSRDS (Tata Steel Rural Development Society)- <ul style="list-style-type: none"> <li>• SRI</li> <li>• Second crops (Rabi crops)</li> <li>• Dry land farming</li> <li>• Fisheries training Pisciculture</li> <li>• Mushroom cultivation</li> <li>• Vegetable cultivation</li> </ul>
(viii)	CCTV cameras to be installed at washery gate to check compliance of covering of trucks.	CCTV cameras at washery entrance gate and near weigh bridge gate have been provided. It is to be mentioned here that no truck is allowed into the premises which are not covered by tarpaulin sheets. Attached as green. Attached as Annexure-V.
(ix)	This is an underground mine. Afforestation /green belt development takes place every year on the open surface within leasehold areas. Massive plantation shall be carried out in open spaces in and around the mine and a 3-tier avenue plantation along the main approach road to the mine.	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Avenue plantation is done in residential colony and along the roadside every year. Green belt development report has been attached as <b>Annexure-1.</b></li> </ul>
(x)	There will be no external /internal OB dumps	Since this is an underground mine, it is not applicable.
(xi)	Wastewater shall be effectively treated and recycled completely either for washery or maintenance of green belt around the plant.	Washery is already operating on a zero-discharge principle. No wastewater is discharged into the drains/ natural water systems. The recycled water is again used for plant operations and green-belt development.
(xii)	The assurances given during the Public Hearing and as per the Action	The assurances given during the public hearing with respect to environment and CSR are already being executed.

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	plan developed by the proponent should be implemented.	
(xiii)	Hoppers of the coal crushing unit and washer unit shall be fitted with high efficiency bag filters or mist spray water sprinkling system and operated effectively at all times of operation to check fugitive emissions from crushing operations, transfer points of closed belt conveyor systems and from transportation roads.	<ul style="list-style-type: none"> <li>• Dry-fog system has been installed to suppress the dust generated at CHP and transfer points of belt conveyor systems.</li> <li>• Fixed-type water sprinklers are also installed on the internal roads of the washery.</li> <li>• The Dust Extraction system (Bag filters) is installed at Coal Handling Plant. Extracted dust is mixed in water and then fed into the Tailing Thickener.</li> </ul> <p>These are operated effectively at all times to check the fugitive emissions.</p>
(xiv)	All approach roads shall be black topped and internal roads shall be concreted. The roads shall be regularly cleaned with mechanical sweepers.	All the internal roads have been concreted while the approach roads are black-topped. There is a facility for parking of trucks within the unit. Mechanical sweepers were mobilized for internal roads.
(xv)	Records of quantum and ash content of raw coal being washed and clean coal and coal rejects produced from every batch of washing shall be maintained and details thereof be made available to Ministry whenever directed.	Proper records of quantity and ash content of raw coal being washed, clean/washed coal, and other by-products are being maintained regularly.
(xvi)	No ground water shall be used for the plant operations. Any additional water requirement envisaged shall be obtained by recycle/reuse of treated effluent and from rainwater harvesting measure.	No ground water is used for washery plant operations. Since, washery is operating on Zero Liquid Discharge Principle; all processed water is recycled back and reused for operations. The make-up water requirement is met by mine water from adjoining Bhelatand Colliery and Katri river. There are total 8 ponds (Capacity- 20622 m <sup>3</sup> ) for tailing management which also act as surface runoff and rainwater storage ponds. In addition to that, Rooftop rainwater harvesting structure has been constructed in office premises of Bhelatand washery.
(xvii)	Socio – economic and welfare measures for the local communities for the adjoining villages shall be implemented under CSR. Activities to be undertaken for the adjoining villages shall be identified in consultation with the local authorities, the details of status of implementation	CSR activities are being carried out through our CSR wing, TSRDS, which is managed by a team of experts who are full time involved in providing benefits and improving standard of living in over 30 villages. The list of activities are developed in consultation with the village representatives and implemented in a time-bound manner. The annual expenditure on CSR is updated in Integrated Report

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	of CSR and expenditure thereon which should be annually updated on the company website.	of Tata Steel every year which is uploaded in company's website.
(xviii)	Heavy metal content in raw coal, and washed coal shall be analysed once in a year and records maintained thereof.	Heavy metal content analysis in raw coal and washed coal is being done from a NABL approved lab & the data are being maintained.
<b>General Conditions:</b>		
<b>A. Mining</b>		
(i)	No change in mining technology and scope of work shall be made without prior approval of the Ministry of Environment Forest and climate Change. No change in the calendar plan including excavation, quantum of coal and waste should be made.	It is being strictly followed and complied with.
(ii)	Mining shall be carried out as per the approved mining plan, and also abiding by the relevant laws related to coal mining and the circulars issued by Directorate General Mines Safety (DGMS) An approved progressive Mine Closure Plan shall strictly be complied with and submitted.	It is being strictly followed. Mining is being carried out as per the approved mining plan in accordance with other mining rules, DGMS permissions etc. The mine closure plan was also approved along with mining plan by Ministry of Coal, Govt of India. The provisions of mine closure plan are being complied with. As per progressive closure activities, plantation for green cover in and around leasehold area is being done.
<b>B. Land Reclamation</b>		
(i)	Digital processing of the entire lease area using remote sensing technique shall be carried out regularly once in three years for monitoring land use pattern and report submitted to Ministry of Environment, Forest and Climate Change its Regional Office.	Complied. The land use study has been completed by Indian School of Mines (IIT-ISM) Dhanbad and the report is submitted vide letter no. JMB/ENV/BAC/39/466/2021 dated: 27.06.2021 to Regional Office, MoEFCC at Ranchi
(ii)	Final mine void depth should not be more than 40m. The void area should be converted into water body. The remaining area should be back filled up to ground level and covered with thick top soil. The land after mining should be restored for agriculture or forestry purpose.	It is not applicable as this is an underground mine.
(iii)	The top soil, if any, shall temporarily be stored at earmarked site (s) only	There is no generation of top soil due to mining activities as this is an underground mine. Mining is

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	and it should not be kept unutilized for long. The topsoil shall be used for land reclamation and plantation. The overburden dumps should be vegetated with suitable native species to prevent erosion and surface run off. The entire excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self – sustaining Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office on six monthly basis.	being done by Board and Pillar method with sand stowing. The rehabilitation is also not applicable in this case as there is no change in land use pattern due to underground mining operation.
(iv)	Greenbelt shall be developed all along the mine lease area in a phased manner. The width of the green belt along forest area should not be less than 7.5 m, and the total area covered by 3 tier green belt shall not be less than 100 ha. A 3-tier green belt comprising of a mix of native species shall be developed all along the major approach roads.	<ul style="list-style-type: none"> <li>• Greenery has been developed in many areas around the colliery and washery premises. There is no forest land in core and buffer zone. However, green belt is being developed in the leasehold area.</li> <li>• 3-Tier plantation along the roads with native species is done on available vacant areas.</li> </ul>
<b>C. Emissions, Effluents, and waste Disposal</b>		
(i)	Transportation of coal by road should be carried out by covered trucks only. Effective measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of PM10 and PM 2.5 such as haul road, loading and unloading point and transfer points. Fugitive dust emission from all the sources shall be controlled regularly it shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board in this regard.	<ul style="list-style-type: none"> <li>• Transportation of raw coal from Bhelatand A. Colliery to washery is done through underground belt conveyors. The washed coal from washery is sent via rail network. The sand used for stowing is transported through Tarpaulin sheet covered trucks only.</li> <li>• Dry-fog system has been already installed to suppress the dust generated at CHP and transfer points of belt conveyor systems. Fixed-type water sprinklers are also installed on the internal roads of the washery. In addition to these, movable water sprinkler ply on regular intervals for dust suppression. The ambient air quality report is submitted to SPCB every quarter.</li> </ul>

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(ii)	Vehicular emission shall be kept under control and regularly. Project should obtain 'PUC' certificate for all the vehicles from authorized pollution testing centres.	Raw coal transportation is done through underground belt network. Only the vehicles having valid PUC certificates are being allowed to operate for sand transportation.
(iii)	Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM10 PM2.5 SO2 and NOX. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive 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.	<p>Based on meteorological data, total four ambient air quality stations are established in core zone and buffer zone. Monitoring and analysis of PM10, PM2.5, SO2, NO2 are done on monthly basis.</p> <p>The Air quality monitoring stations are:</p> <ul style="list-style-type: none"> <li>(i) Bhelatand Office Area (Core Zone)</li> <li>(ii) Russi Vihar Colony, Sijua (Buffer Zone)</li> <li>(iii) Malkera Colony (Buffer Zone)</li> <li>(iv) Bhelatand Colony (Buffer Zone)</li> </ul> <p>Monitoring of heavy metals in ambient air is being performed by an independent laboratory (recognised by NABL/MoEFCC) once in six months. The results are enclosed as <b>Annexure-II</b>.</p>
(iv)	Crusher / feeder and breaker material transfer points should invariably be provided with dust suppression system. Belt – Conveyors should be fully covered to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.	<p>The following measures have been implemented:</p> <ul style="list-style-type: none"> <li>i) Dry-fog system at all transfers points of CHP.</li> <li>ii) Dust extraction system (Bag filters) in CHP</li> <li>ii) Enclosures around crushers.</li> <li>iii) Belts have been covered on top and both sides. These arrangements will protect the coal mass moving on belt from blowing wind. In this way, the dust getting air borne is being minimized.</li> <li>iv) Fixed water sprinklers on the haulage roads.</li> <li>v) In addition, movable water sprinklers are also being deployed on the roads for dust suppression.</li> </ul>
(v)	The project proponent shall not alter the major channels around the site. Appropriate embankment should be	During the course of action, there is no proposed diversion or rechannelling of the water course is involved. The prominent stream in the region is Katri Nadi, a tributary of Damodar river.



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	provided along the side of the river/nallah flowing near or adjacent to the mine. The embankment constructed along the river/nallah boundary should be of suitable dimensions and critical patches should be strengthened by stone pitching on the river front side and stabilised with plantation so as to withstand the peak water flow and prevent mine inundation.	Appropriate embankment along the Katri river is already provided. Stone pitching has been provided on the embankment. The dense vegetation already exists between the river channel and lease which shall be strengthened further to check the peak water flow and prevent mine inundation.
(vi)	Rainwater harvesting shall be implemented for conservation and augmentation of ground water resource in the area in consultation with Central Ground Water Board.	Every year Tata Steel through its CSR wing constructed as well as renovate the old pond by removal of silts in and around Bhelatand lease area for conservation and augmentation of ground water. These ponds act as surface reservoir for rainwater. In addition to that, Rooftop rainwater harvesting structure has been constructed in office premises of Bhelatand washery .
(vii)	Catch drain and siltation ponds of appropriate size shall be constructed around the mine working coal heaps and OB dumps to prevent run off of water and flow of sediments directly into the river and other water bodies. The water so collected should be utilized for watering the mine area. Roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper setting of silt material. Dimension of the retaining wall to be constructed at the toe of the dump and OB benches within the mine to check run – off and siltation should be based on the rainfall.	<ul style="list-style-type: none"> <li>• There are no soil or OB dumps in the colliery and washery premises. Only the by-products are stored in the stockyards located in the washery premises which are sold off within 10-15 days.</li> <li>• Garland drains of adequate size and gradient already exist around the washery area to channelize the surface runoff. The runoff is diverted to the tailing ponds and clear water after settle is re-utilized in the washery.</li> </ul>
(viii)	Industrial waste water (CHP, workshop and waste water from the	No waste-water is discharged outside the washery premises. 100% water is re-circulated back for re-

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	mine) should be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.	use in the washery. There is a central workshop and garage in Jamadoba where Effluent Treatment Plant having oil and grease trap facility has been provided. Some of the mine water is sent back into underground during stowing and remaining water is used for dust suppression, washery make-up water, greenbelt development and drinking water supply to colonies and stakeholders. We have also commissioned an STP for canteen wastewater in Colliery premises. Treated water of STP is used in horticulture and greenbelt development.
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<b>D. Noise &amp; Vibration Control</b>		
(i)	Adequate measure shall be taken for control of noise levels below 85dBA in the work environment Workers engaged in blasting in drilling operation of HEMM, etc shall be provided with plugs/muffs.	Regular noise survey is being conducted in the underground work environment. Workers are provided with ear-plugs/ muffs in high noise areas. Since this is an underground mine where no HEMM is used. Coal preparation is done by drilling & solid blasting. The noise levels report is provided as <b>Annexure- II.</b>
(ii)	Controlled blasting techniques should be practiced with use of delay detonators to mitigate ground vibrations and fly rocks.	Not applicable as it is an underground mine. However, due to implementation of various mitigation measures, and use of delay detonators due to blasting in underground vibration does not cause damage to any structure on the surface.
<b>E. Occupational Health &amp; Safety</b>		
(i)	Besides carrying out regular periodic health check – up of their workers, 20% of the workers identified from workforce engaged in active mining operation shall be subjected to health check – up for occupational diseases and hearing impairment ,if any, through an specialised agency / institution within the District/ State 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 every year including hearing impairment check-up, etc. These results are regularly submitted to DGMS as per mines rules.
(ii)	Personal working in dusty area should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Supervisory	Persons working in dusty area have been provided with dust masks & have been given awareness training on safety & health aspects. Regular PME

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	staff shall be held responsible for ensuring compulsory wearing of dust mask.	(Periodic Medical Examinations) are also being done.
(iii)	In case of outsourcing of work through MDO, the project proponent shall ensure the strict enforcement of above condition.	Not applicable
<b>F. Biodiversity</b>		
(i)	The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna, if any, spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the state Forest and Wildlife Department. A copy of action plan shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office.	Tata Steel has engaged a global organisation viz. IUCN (International Union for Conservation of Nature) which work in the field of faunal and floral conservation. We have prepared a Biodiversity Management Plan (BMP) and thereafter prepared BMP action plan (BAP) in association with IUCN for enhancement of biodiversity. We have already started to implement the BAP in our area for conservation and enhancement of flora and fauna. Some key initiatives for biodiversity enhancement are medicinal garden development, Native species plantation and Butterfly park development, artificial niche nesting etc.
<b>G. Implementation of Action Plan as per public Hearing And CSR Activities</b>		
(i)	Implementation of Action Plan on the issues raised during the Public Hearing shall be ensured. The Project proponent shall complete all the tasks as per Action plan submitted with budgetary provisions during the public Hearing. Land oustees should be compensated as per the norms laid out R&R Policy of the Company or the National R&R Policy of the State Government, whichever is higher.	The implementation of action plan on the issues raised during public hearing is already in progress. R&R is not applicable in this project.
(ii)	The Board of every company, shall ensure that the company spends in every financial year, at least two per cent. of the average net profits of the company made during the three immediately preceding financial year, in pursuance of its corporate Social Responsibility policy under Section 135 of the Companies Act,2013, for the socio economic development of the neighbourhood.	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 of Tata Steel -Jharia Division in FY 23 was Rs.11.84 crores.

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<b>H. Corporate Environment Responsibility</b>		
(i)	The Company should have a well laid down Environment Policy approved by the Board of Directors.	The Company already has an Environment Policy approved by the Managing Director. Attached as Annexure-III.
(ii)	To have proper checks and balances, the Company should 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 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.
(iii)	A separate environment management cell with suitable qualified personnel should be set – up under the control of a Senior Executive, who will report directly to the Head of the Organization	We have a separate Environmental Management Cell with qualified personnel. The reporting of Environmental Cell is directly to General Manager of the Division.
(iv)	The funds earmarked for environment protection measures should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional Office.	The Environment Cell has a separate fund for Environmental protection measures and for complying with legal requirements. The year-wise expenditure is being already submitted to JSPCB as Environment Statement in Form-V. The total annual environmental expenditure for the financial year 2021-22 is Rs. 390.16 lakhs.
<b>I. Statutory Obligations</b>		
(i)	Environment clearance is granted subject to final outcome of Hon'ble Supreme Court of India, High Court, NGT and any other Court of Law, if any, as may be applicable to the project.	It shall be strictly followed.
(ii)	This Environmental Clearance is subject to obtaining requisite NBWL Clearance from the Standing Committee of National Board for Wildlife , if any , applicable to the project	Not applicable.
(iii)	The project proponent shall obtain Consent to Establish and Consent to Operate from the concerned State Pollution Control Board prior to increase in capacity of washery and effectively implement all the conditions stipulated therein.	The consent to establish has been granted by JSPCB (Ref no.- JSPCB/HO/RNC/CTE-342731/2017/686 dt. 20.11.2017). The Consent to Operate has been granted by JSPCB (Ref no.- JSPCB/HO/RNC/CTO-14751653/2023/369 dt. 23.02.2023) valid till 31.03.2028. The conditions of

**Compliance status of Environmental Clearance of Expansion of Bhelatand A. Colliery (0.38 MTPA to 0.41 MTPA of raw coal production) and Bhelatand Coal Washery (Expansion from 0.96 MTPA to 1.5 MTPA raw coal throughput) of M/s Tata Steel Ltd., District- Dhanbad, Jharkhand vide MoEFCC Letter no J-11015/29/2012-IA.II (M) dated April 28, 2017**

		CTE and CTO are being complied with and submitted to JSPCB.
(iv)	Project proponent shall obtain the necessary prior permission from the Central Ground Water Authority (CGWA) for drawl of water (surface and ground water).	No Objection Certificate for withdrawal of mine water has been approved by CGWA, New Delhi vide letter No. CGWA/NOC/MIN/ORIG/2021 /13942 and is valid till 02/12/2023.
<b>J. Monitoring of Project</b>		
(i)	Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring shall be carried out four times in a year pre – monsoon (April-May) , monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground water Authority and Regional Director , Central Ground Water Board.	The monitoring of groundwater level and quality is done four times a year. The groundwater quality report & groundwater level are provided in <b>Annexure-II.</b>
(ii)	The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment, Forest and Climate Change, its Regional Office, central Pollution Control Board and State Pollution Control Board.	It is being complied with. We are submitting the six-monthly compliance reports to MoEF&CC, its regional office, CPCB and SPCB twice a year. In adherence with the guideline as per notification dt. 26.11.2018, from now onwards, we are sending only soft copy of the compliance status report over mail.
(iii)	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.	It shall be complied with.
(iv)	The activities pertaining to development of green belt/horticulture shall be reported to concern Regional Office of MoEF&CC on six monthly	In our leasehold area, every year plantation of sapling is being done and saplings are distributed every year outside the leasehold area. In addition to above, maintenance of old saplings (converted into

**Compliance status of Environmental Clearance of Expansion of Bhelatand A. Colliery (0.38 MTPA to 0.41 MTPA of raw coal production) and Bhelatand Coal Washery (Expansion from 0.96 MTPA to 1.5 MTPA raw coal throughput) of M/s Tata Steel Ltd., District- Dhanbad, Jharkhand vide MoEFCC Letter no J-11015/29/2012-IA.II (M) dated April 28, 2017**

	basis from the data of commencement of mining operation.	plants) and developing green area of the region is also being done. The greenbelt development plan has been submitted to MoEF&CC earlier.
(v)	For half yearly monitoring reports. The data should be monitored for period of April to September and October to March of the financial years and submitted to the concerned authorities Within 2 months of the completion of periodicity of monitoring.	The cycle of April to September and October to March of every financial year is being followed for submission of compliance and monitoring reports.
<b>K. Miscellaneous</b>		
(i)	A copy of clearance letter will be marked to concerned panchayat/local NGO, if any, from whom suggestion / representation has been received while processing the proposal.	The copy of Clearance letter has been sent to District Commissioner, Municipal Commissioner and other government offices on 11 <sup>th</sup> May, 2017.
(ii)	An electronic copy of the EC letter shall be marked to the concerned State Pollution Control Board, Regional office , District Industry Sector and Collector's Office / Tehsildar Office for information in public domain within 30 days.	The electronic copy of EC letter has been forwarded to DC office, JSPCB Dhanbad office, JSPCB Ranchi office via mail on 11 <sup>th</sup> May, 2017.
(iii)	The EC 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 public domain. The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant such as PM10, PM2.5, SO2 and Nox (ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on company's website.	The EC letter is already uploaded in company's website. The compliance reports shall also be uploaded once in six months in company's website with all monitoring reports. The display board at entrance of mine and washery covers all environment quality parameters and applicable statutory requirements as per the guidelines.
(iv)	The project authorities should advertise at least in two local newspapers widely circulated ,one of which shall be in the vernacular language of the locality concerned , within 7 days of the issue of the	The Notice has been advertised in two local newspapers viz. Prabhat Khabar (Hindi) and Hindustan (Hindi) on May 05, 2017. Attached as Annexure-IV.

**Compliance status of Environmental Clearance of Expansion of Bhelatand A. Colliery (0.38 MTPA to 0.41 MTPA of raw coal production) and Bhelatand Coal Washery (Expansion from 0.96 MTPA to 1.5 MTPA raw coal throughput) of M/s Tata Steel Ltd., District- Dhanbad, Jharkhand vide MoEFCC Letter no J-11015/29/2012-IA.II (M) dated April 28, 2017**

	clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the SPCB and also at web site of the Ministry of Environment, Forest and Climate Change at <a href="http://www.environmentclearance.nic.in">www.environmentclearance.nic.in</a> and a copy of the same should be forwarded to the Regional Office	
(v)	The Environmental Statement for each financial year ending 31 March in Form-V is mandated to be submitted by the PP for 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 Office of the MoEF&CC by e-mail.	The environmental statement for financial year 2020-21 has been submitted to JSPCB vide letter no. JMB/ENV/ESSA/05/723/2022 on 28 <sup>th</sup> September 2022 and it is also uploaded on the company website. The soft copy of Environment Statement is also sent to MOEF by email at <a href="mailto:ro.ranchi-mef@gov.in">ro.ranchi-mef@gov.in</a> .



## ANNEXURE-I

### Statement showing measures taken for increasing tree and forest cover

**AFFORESTATION:** Plantation activities are carried out in the barren land of the colliery leasehold area to increase the green cover as well as in the washery premises. Care is taken to plant only the native species so that native ecosystem is preserved. Following are the details of mass plantation in our leasehold area of Jharia Division for greenery development.

Year	No. of trees planted
FY14	10195
FY15	15800
FY16	10000
FY17	10900
FY18	8500
FY19	10000





**BIODIVERSITY ENHANCEMENT INITIATIVES:**

Three projects are taken up in FY18 to enhance the biodiversity of the region in consultation with IUCN viz. Artificial Niche Nesting, Development of Butterfly park and Herbal park development.

**Herbal Park Development:**

As part of afforestation & tree plantation a herbal garden was developed in June'17 with more than fifteen varieties of medicinal plants viz. Ficus Compecta (Harit Kumari), Ficus black Japan (Golmirch), Phonexfam (Jaiphal), Caladinum Attala (Har singar) etc.



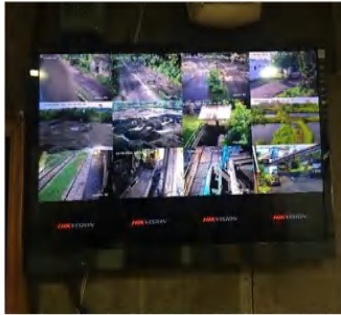
**DEVELOPMENT OF MEDICINAL & HIBISCUS GARDEN**

Around 46 variety of medicinal and 49 variety of Hibiscus species were identified to be planted in the park. Signage board were installed indicating the species name along with its medicinal uses.



## Compliance to Specific Condition no. (viii)

### Installation of high resolution revolving cameras at BCPP



**AIR QUALITY REPORT**

Core zone &amp; 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 $\mu\text{g}/\text{m}^3$	RSPM 24 Hourly Limit- 300 $\mu\text{g}/\text{m}^3$	SO <sub>2</sub> 24 Hourly Limit- 120 $\mu\text{g}/\text{m}^3$	NO <sub>x</sub> 24 Hourly Limit-120 $\mu\text{g}/\text{m}^3$
Sijua Mine Office Area	23°46'33.2" N/ 86°19'51" E	10.10.22	Clear	192.7	76.1	13.9	15.2
		14.11.22	Clear	226.4	78.2	14.6	16.3
		19.12.22	Clear	216.2	72.1	13.9	15.3
Bhelatand Office Area	23°46' 11" N/ 86°18'51" E	14.10.22	Cloudy	187.5	68.4	12.6	14.8
		17.11.22	Clear	238.2	84.1	13.6	15.7
		22.12.22	Clear	235.3	86.4	14.2	16.8
Buffer zone (as per NAAQS 2009 for ambient air quality standards)							
Location	Latitude/ Longitude	Date	Weather Condition	PM10 24 Hourly Limit- 100 $\mu\text{g}/\text{m}^3$	PM2.5 24 Hourly Limit- 60 $\mu\text{g}/\text{m}^3$	SO <sub>2</sub> 24 Hourly Limit- 80 $\mu\text{g}/\text{m}^3$	NO <sub>2</sub> 24 Hourly Limit- 80 $\mu\text{g}/\text{m}^3$
Sijua Russi Vihar Colony	23°46'45.8" N/ 86°20'18.6" E	13.10.22	Cloudy	65.4	33.5	12.6	14.9
		16.11.22	Clear	86.3	44.5	13.9	15.7
		14.12.22	Clear	70.5	36.1	12.4	14.2
Malkera Colony	23°47'10" N/ 86°17'39" E	11.10.22	Cloudy	67.8	34.7	11.9	13.7
		18.11.22	Clear	79.4	41.6	12.7	14.5
		20.12.22	Clear	89.4	47.4	13.9	15.8
Bhelatand Colony	23°46'10.7" N/ 86°18'49" E	12.10.22	Clear	74.8	39.6	14.8	16.1
		15.11.22	Clear	82.7	43.2	12.3	14.8
		13.12.22	Clear	77.6	40.2	14.5	16.3



Sr. Manager (Environment)

**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 <sup>3</sup>	RSPM 24 Hourly Limit- 300 µg/m <sup>3</sup>	SO <sub>2</sub> 24 Hourly Limit- 120 µg/m <sup>3</sup>	NO <sub>x</sub> 24 Hourly Limit-120 µg/m <sup>3</sup>
Sijua Mine Office Area	23°46'33.2" N/ 86°19'51" E	16.01.23	Clear	231.0	84.3	14.8	16.1
		08.02.23	Clear	236.8	89.4	15.2	17.3
		09.03.23	Clear	216.7	80.4	13.7	15.6
Bhelatand Office Area	23°46' 11" N/ 86°18'51" E	18.01.23	Clear	246.8	92.8	16.4	18.2
		10.02.23	Clear	225.6	84.8	14.7	16.9
		06.03.23	Clear	234.1	86.7	12.8	14.2
Buffer zone (as per NAAQS 2009 for ambient air quality standards)							
Location	Latitude/ Longitude	Date	Weather Condition	PM10 24 Hourly Limit- 100µg/m <sup>3</sup>	PM2.5 24 Hourly Limit- 60µg/m <sup>3</sup>	SO <sub>2</sub> 24 Hourly Limit-80µg/m <sup>3</sup>	NO <sub>2</sub> 24 Hourly Limit- 80µg/m <sup>3</sup>
Sijua Russi Vihar Colony	23°46'45.8" N/ 86°20'18.6" E	20.01.23	Clear	90.8	47.5	13.2	15.8
		13.02.23	Clear	82.6	39.2	14.1	16.3
		10.03.23	Cloudy	78.6	37.9	15.3	17.2
Malkera Colony	23°47'10" N/ 86°17'39" E	17.01.23	Clear	89.4	46.2	15.7	17.3
		06.02.23	Clear	85.3	41.7	13.5	15.4
		14.03.23	Clear	87.2	44.3	14.7	16.8
Bhelatand Colony	23°46'10.7" N/ 86°18'49"E	19.01.23	Clear	94.3	50.8	13.2	15.4
		07.02.23	Clear	96.5	52.4	15.7	17.9
		13.03.23	Clear	90.2	48.0	16.8	18.4



**Sr. Manager (Environment)**

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

S.No	Date	Location	Time	Sample Parameter		
				Depth in meter (m)	pH	Electrical Conductivity, $\mu$ S/m
1	16.11.2022	Ruddi Basti	11:15 AM	3.61	7.3	836
2	16.11.2022	Rampur Basti	01:20 PM	5.62	7.1	968
3	16.11.2022	Malkera Trigunait Basti	12:30 PM	3.05	7.2	795
4	16.11.2022	Sijua 6 No	01:25 PM	3.24	7.2	852
5	16.11.2022	Sijua 12 No	01:45 PM	2.48	7.2	967
6	16.11.2022	Rampur Basti, (Road Side)	01:05 PM	6.95	7.1	836
7	16.11.2022	Bansh Kapuria	02:50 PM	3.58	7.0	712
8	16.11.2022	Pasitand Basti	12:50 PM	3.84	7.2	668
9	16.11.2022	Bhelatand 500 Qtr. (Back Side)	02:30 PM	1.42	7.2	828



**Sr. Manager (Environment)**



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

S.No	Date	Location	Time	Sample Parameter		
				Depth in meter (m)	pH	Electrical Conductivity, $\mu\text{S/m}$
1	16.01.2023	Ruddi Basti	11:35 AM	6.91	7.3	948
2	16.01.2023	Rampur Basti	01:25 PM	5.87	7.0	1042
3	16.01.2023	Malkera Trigunait Basti	12:35 PM	3.44	7.2	786
4	16.01.2023	Sijua 6 No	01:20 PM	3.98	7.1	862
5	16.01.2023	Sijua 12 No	01:40 PM	3.72	7.2	976
6	16.01.2023	Rampur Basti, (Road Side)	01:05 PM	7.21	7.2	845
7	16.01.2023	Bansh Kapuria	02:45 PM	4.68	7.1	728
8	16.01.2023	Pasitand Basti	12:50 PM	4.32	7.3	837
9	16.01.2023	Bhelatand 500 Qtr. (Back Side)	02:25 PM	1.68	7.2	832

**Sr. Manager (Environment)**

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

**NOISE SURVEY REPORT- Bhelatand A. Colliery**

Date- 27.01.2023

S.No.	Unit / Place	Equipment / Location	Distance (meter)	Leq(dB 'A')	Exposure Hours
1	U/G	Belt Drivet, 1 <sup>st</sup> L/3 <sup>rd</sup> R	6m	65.0	4 hrs./shift
2		Belt Drivet, 1 <sup>st</sup> L/14 <sup>th</sup> R	8m	65.0	4 hrs./shift
3		Belt Drivet, 1 <sup>st</sup> L/19 <sup>th</sup> R	6m	65.0	4 hrs./shift
4		Skat, 1 <sup>st</sup> L/29 <sup>th</sup> R	4m	70.0	4 hrs./shift
5		Auxiliary Fan, 2 <sup>nd</sup> L/28 <sup>th</sup> R	10m	85.0	8 hrs./shift
6		Auxiliary Fan, 25 <sup>th</sup> R/2 <sup>nd</sup> L	8m	85.0	8 hrs./shift
7	Surface	MMV Fan	8m	85.0	8 hrs./shift
8		Compressor room	8m	85.0	8 hrs./shift
9		Workshop	4m	65.0	6 hrs./shift
10		1 Pit Winder	2m	75.0	8 hrs./shift



**Sr. Manager (Environment)**

**NOISE SURVEY REPORT- Bhelatand Coal Washery**

Date- 19.01.2023

S.No.	Unit / Place	Equipment / Location	Distance (meter)	Leq (dB 'A')	Exposure Hours
1	BCPP	Feeder Room No.1 Area	-	85.2	8 hrs./shift
2		Feeder Room No. 2 Area	-	84.8	8 hrs./shift
3		Feeder Room No. 3 Area	-	85.3	8 hrs./shift
4		Conveyor Belt No.- 102	-	78.6	8 hrs./shift
5		Stone Bunker Area	-	85.9	8 hrs./shift
6		Rotary Breaker Floor	-	89.5	8 hrs./shift
7		E 11 Screen	-	87.6	8 hrs./shift
8		Crusher House Area	-	93.2	8 hrs./shift
9		Radial Blender Area	-	82.7	8 hrs./shift
10		PTS Compressor	-	83.4	8 hrs./shift
11		PTS Control Room	-	78.4	8 hrs./shift
12		Conveyor Belt No.- 110	-	80.2	8 hrs./shift



**Sr. Manager (Environment)**





# 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

Ref. No.: - ARDS/22-23/2032

Date: 10.11.2022

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

## TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY (SIJUA GROUP)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 03.11.2022 to 04.11.2022
- Date of Testing : 07.11.2022 to 09.11.2022
- Test Procedure : As per IS-5182


### TEST RESULTS

#### LOCATION - RUSSI VIHAR COLONY

Sl No.	Particulars	Value	CPCB STANDARD
	Avg. Ambient Temperature	30°C	Avg. Humidity 59%
1.	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	74.9	100 µg/m <sup>3</sup>
2.	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	39.4	60 µg/m <sup>3</sup>
3.	SO <sub>2</sub> , µg/m <sup>3</sup>	17.61	80 µg/m <sup>3</sup>
4.	NO <sub>2</sub> , µg/m <sup>3</sup>	29.31	80 µg/m <sup>3</sup>
5.	Ozone, µg/m <sup>3</sup>	21.73	180 µg/m <sup>3</sup>
6.	NH <sub>3</sub> , µg/m <sup>3</sup>	19.61	400 µg/m <sup>3</sup>
7.	CO, mg/m <sup>3</sup>	0.8	4 mg/m <sup>3</sup>
8.	Pb, µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>
9.	As, ng/m <sup>3</sup>	BDL	6 ng/m <sup>3</sup>
10.	Ni, ng/m <sup>3</sup>	BDL	20 ng/m <sup>3</sup>
11.	Benzene, µg/m <sup>3</sup>	BDL	5 µg/m <sup>3</sup>
12.	Benzoapyrene ng/m <sup>3</sup>	BDL	1 ng/m <sup>3</sup>

Remarks: The ambient air quality is within the prescribed National Ambient Air Quality Standard.

NOTE: BDL - Below Detection Limit

  
Sr. Chemist  
Aditi R&D Services



  
10.11.2022  
Quality Manager  
Aditi R&D Services

#### Statements:

- The test report refers only to the particular item(s) submitted for testing.
- The test results reported in this report are valid at the time of and under the stated condition of measurement.
- This particular test report cannot be reproduced except in full without prior permission of Quality Manager of the laboratory.



# 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)  
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Email ID: sindriaditi@gmail.com  
Website: aditirndservices.com  
Phone: 0326-2952377 (O) -  
Mobile: 09471358492, 09431512808

Ref. No.: - ARDS/22-23/2033

Date: 10.11.2022

## TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY (SIJUA GROUP)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 03.11.2022 to 04.11.2022
- Date of Testing : 07.11.2022 to 09.11.2022
- Test Procedure : As per IS-5182

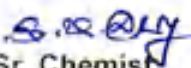
### TEST RESULTS

LOCATION - SIJUA COLLIERY, 15 PIT

Sl No.	Particulars	Value	CPCB STANDARD
1.	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	96.74	100 µg/m <sup>3</sup>
2.	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	52.53	60 µg/m <sup>3</sup>
3.	SO <sub>2</sub> , µg/m <sup>3</sup>	16.35	80 µg/m <sup>3</sup>
4.	NO <sub>2</sub> , µg/m <sup>3</sup>	28.61	80 µg/m <sup>3</sup>
5.	Ozone, µg/m <sup>3</sup>	21.73	180 µg/m <sup>3</sup>
6.	NH <sub>3</sub> , µg/m <sup>3</sup>	18.26	400 µg/m <sup>3</sup>
7.	CO, mg/m <sup>3</sup>	1.23	4 mg/m <sup>3</sup>
8.	Pb, µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>
9.	As, ng/m <sup>3</sup>	BDL	6 ng/m <sup>3</sup>
10.	Ni, ng/m <sup>3</sup>	BDL	20 ng/m <sup>3</sup>
11.	Benzene, µg/m <sup>3</sup>	BDL	5 µg/m <sup>3</sup>
12.	Benzoapyrene ng/m <sup>3</sup>	BDL	1 ng/m <sup>3</sup>

Remarks: The ambient air quality is within the prescribed National Ambient Air Quality Standard.

NOTE: BDL - Below Detection Limit

  
Sr. Chemist  
Aditi R&D Services



  
Quality Manager  
Aditi R&D Services

### Statements:

- The test report refers only to the particular item(s) submitted for testing.
- The test results reported in this report are valid at the time of and under the stated condition of measurement.
- This particular test report cannot be reproduced except in full without prior permission of Quality Manager of the laboratory.





# 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. - J-B-17 (P)  
Sindr, Industrial Area,  
P.O - Domgarh, Dist - Dhanbad  
Jharkhand - 828107  
Email ID: sindraditi@gmail.com  
Website: aditirndservices.com  
Phone: 0326-2952377 (O)  
Mobile: 09471356492, 09431512608

Ref. No.: - ARDS/22-23/2034

Date: 10.11.2022

### TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY (SIJUA GROUP)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 03.11.2022 to 04.11.2022
- Date of Testing : 07.11.2022 to 09.11.2022
- Test Procedure : As per IS-5182

#### TEST RESULTS

#### LOCATION – SIJUA GROUP OFFICE

SI No.	Particulars	Value	CPCB STANDARD
	Avg. Ambient Temperature	30 <sup>o</sup> C	Avg. Humidity 59%
1.	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	90.86	100 µg/m <sup>3</sup>
2.	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	48.32	60 µg/m <sup>3</sup>
3.	SO <sub>2</sub> µg/m <sup>3</sup>	17.79	80 µg/m <sup>3</sup>
4.	NO <sub>2</sub> µg/m <sup>3</sup>	26.60	80 µg/m <sup>3</sup>
5.	Ozone, µg/m <sup>3</sup>	18.42	180 µg/m <sup>3</sup>
6.	NH <sub>3</sub> , µg/m <sup>3</sup>	16.53	400 µg/m <sup>3</sup>
7.	CO, mg/m <sup>3</sup>	1.34	4 mg/m <sup>3</sup>
8.	Pb, µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>
9.	As, µg/m <sup>3</sup>	BDL	6 µg/m <sup>3</sup>
10.	Ni, µg/m <sup>3</sup>	BDL	20 µg/m <sup>3</sup>
11.	Benzene, µg/m <sup>3</sup>	BDL	5 µg/m <sup>3</sup>
12.	Benzoapyrene µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>

Remarks: The ambient air quality is within the prescribed National Ambient Air Quality Standard.

NOTE: BDL - Below Detection Limit

*S. R. Singh*  
Sr. Chemist  
Aditi R&D Services



*P. Prasad*  
10/11/2022  
Quality Manager  
Aditi R&D Services

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Mobile: 09471358492, 09431512608

Ref. No.: - ARDS/22-23/2035

Date: 10.11.2022

## TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY (SIJUA GROUP)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 03.11.2022 to 04.11.2022
- Date of Testing : 07.11.2022 to 09.11.2022
- Test Procedure : As per IS-5182

### TEST RESULTS

LOCATION - W.T.P. MALKERA

SI No.	Particulars	Value	CPCB STANDARD
	Avg. Ambient Temperature	30°C	Avg. Humidity 59%
1.	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	82.46	100 µg/m <sup>3</sup>
2.	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	45.61	60 µg/m <sup>3</sup>
3.	SO <sub>2</sub> , µg/m <sup>3</sup>	21.64	80 µg/m <sup>3</sup>
4.	NO <sub>2</sub> , µg/m <sup>3</sup>	28.95	80 µg/m <sup>3</sup>
5.	Ozone, µg/m <sup>3</sup>	18.56	180 µg/m <sup>3</sup>
6.	NH <sub>3</sub> , µg/m <sup>3</sup>	19.35	400 µg/m <sup>3</sup>
7.	CO, mg/m <sup>3</sup>	0.74	4 mg/m <sup>3</sup>
8.	Pb, µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>
9.	As, µg/m <sup>3</sup>	BDL	6 µg/m <sup>3</sup>
10.	Ni, µg/m <sup>3</sup>	BDL	20 µg/m <sup>3</sup>
11.	Benzene, µg/m <sup>3</sup>	BDL	5 µg/m <sup>3</sup>
12.	Benzoapyrene µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>

Remarks: The ambient air quality is within the prescribed National Ambient Air Quality Standard.

NOTE: BDL - Below Detection Limit

*S. R. Singh*  
Sr. Chemist  
Aditi R&D Services



*P. K. Singh*  
10.11.2022  
Quality Manager  
Aditi R&D Services

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## TEST REPORT OF NOISE (AMBIENT) LEVEL MONITORING

Ref. No. & Date	NAME AND ADDRESS OF THE CLIENT			
ARDS/22-23/2007 Date: 07.11.2022	TATA STEEL JHARIA DIVISION			
Date of Monitoring	TATA STEEL COLLIERY (SIJUA GROUP)			
	DIST. - DHANBAD (JHARKHAND)			
03.11.2022 - 04.11.2022	Avg. Ambient Temperature (°C)	Average Humidity (%)	Weather Condition	Status of the plant
Work Order 4700092573/932 Dt. 20.07.2021	30	59	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
	SIJUA GROUP								
1	Sijua Group Office	56.9	46.4	54.26	50.3	40.6	47.73	75	70
2	Sijua Colliery 15 Pit	70.1	60.0	67.49	53.2	43.5	50.63		
								Residential Area	Residential Area
3	Russi Vihar Colony	55.4	45.2	52.79	41.2	31.9	38.67	65	55
4	WTP Malkera	53.9	43.5	51.27	40.8	30.7	38.19		

Remarks: Noise level is well within the standard specified limit for Industrial Area.

  
Sr. Chemist  
Aditi R&D Services



  
Quality Manager  
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/2027

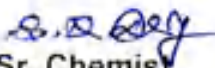
Date: 09.11.2022

## TEST REPORT OF MINERALOGICAL COMPOSITION OF PARTICULATE MATTER


- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY (SIJUA GROUP)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 04.11.2022
- Date of Testing : 07.11.2022 – 08.11.2022
- Test Procedure : As per IS

### TEST RESULTS

Sl No.	Particulars	Mineralogical Composition (%)			
		SiO <sub>2</sub>	FeO	Al <sub>2</sub> O <sub>3</sub>	CaO
1.	Sijua Group Office	1.98	0.66	1.93	2.3
2.	WTP, Malkera	0.96	0.16	1.04	2.0

  
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09/11/2022  
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Ref. No.: - ARDS/22-23/2062


Date: 14.11.2022

## TEST REPORT OF SURFACE WATER

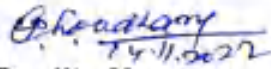
- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY (SIJUA GROUP)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. Katri River (Up Stream)  
2. Katri River (Down Stream)
- Date of Sample Collection: 03.11.2022 To 04.11.2022
- Date of Testing : 05.11.2022 To 12.11.2022
- Test : pH, TDS, Turbidity, DO, BOD, Cl, F, SO<sub>4</sub>

### TEST RESULT

Sl. No.	PARAMETERS OF TEST	VALUE		Limit as per IS 2296 Class - C	Test Method
		Katri River (Up Stream)	Katri River (Down Stream)		
1.	pH,	7.2	7.1	6.5 - 8.5	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	608	580	1500(Max.)	IS-3025 (P-16): 1984
3.	Turbidity, NTU	6.8	11.2	-	IS-3025 (P-10):1984
4.	Dissolved Oxygen, mg/l	6.8	5.7	4 (Min.)	IS-3025 (P-38):1989
5.	Bio chemical Oxygen Demand, mg/l	1.3	1.8	3	IS-3025 (P-44):1994
6.	Chloride as Cl, mg/l	54	68	-	IS-3025 (P-32):1988
7.	Fluoride as F, mg/l	0.56	0.60	1.5 (Max.)	IS-3025 (P-60):2008
8.	Sulphate as SO <sub>4</sub> , mg/l	42	48	400 (Max.)	IS-3025 (P-24):1986

  
Sr. Chemist  
Aditi R&D Services



  
Quality Manager  
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/2063

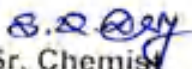
Date: 14.11.2022

## TEST REPORT OF MINE WATER DISCHARGE

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY (SIJUA GROUP)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO. : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. Bhelatand A Colliery  
2. 15 Pit Sijua Colliery  
3. 8 Pit Sijua Colliery  
4. 2 Pit Sijua Colliery  
5. B.C.P.P. Final Setting Pond
- Date of Sample Collection: 03.11.2022 To 04.11.2022
- Date of Testing : 05.11.2022 To 12.11.2022
- 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) 6.5-8.5	Test Method
		Bhelatand A Colliery	15 Pit Sijua Colliery	8 Pit Sijua Colliery	2 Pit Sijua Colliery	B.C.P.P. Final Setting Pond		
1.	pH,	7.3	7.2	7.3	7.8	7.7	IS-3025 (P-11): 1983	
2.	Total Dissolved Solids, mg/l	765	845	846	585	565	IS-3025 (P-16): 1984	
3.	Total Suspended Solids, mg/l	29	24	32	28	30	IS-3025 (P-17): 1984	
4.	Bio chemical Oxygen Demand, mg/l	1.4	1.5	1.8	1.8	1.6	IS-3025 (P-44): 1994	
5.	Chemical Oxygen Demand, mg/l	42	38	64	44	36	IS-3025 (P-58): 2006	
6.	Oil & Grease, mg/l	B.D.L.	B.D.L.	1.2	B.D.L.	B.D.L.	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/22-23/2064

Date: 14.11.2022

## TEST REPORT OF SEWAGE

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY (SIJUA GROUP)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO. : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. S.T.P. Outlet Sijua Canteen  
2. S.T.P. Outlet Bhelatand Canteen  
3. S.T.P. Outlet Aadarsh Nagar
- Date of Sample Collection: 03.11.2022 To 04.11.2022
- Date of Testing : 05.11.2022 To 12.11.2022
- Test : pH, TDS, TSS, BOD, COD, OIL & GREASE.

### TEST RESULT

Sl. No.	PARAMETERS OF TEST	VALUE			MoEF&C Notification 1 <sup>st</sup> Jan.2016 Permissible Max. Desirable Limit	Test Method
		S.T.P. Outlet Sijua Canteen	S.T.P. Outlet Bhelatand Canteen	S.T.P. Outlet Aadarsh Nagar		
1.	pH,	7.7	7.6	7.2	6.0 - 9.0	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	785	797	565	2100	IS-3025 (P-16): 1984
3.	Total Suspended Solids, mg/l	38	32	34	100	IS-3025 (P-17): 1984
4.	Bio chemical Oxygen Demand, mg/l	12	13	10	30	IS-3025 (P-44): 1994
5.	Chemical Oxygen Demand, mg/l	49	52	48	250	IS-3025 (P-58): 2006
6.	Oil & Grease, mg/l	0.8	0.4	1.6	10	IS-3025 (P-39): 2021

*S. S. Singh*  
Sr. Chemist  
Aditi R&D Services



*P. K. Singh*  
14/11/2022  
Quality Manager  
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/2065

Date: 14.11.2022

## TEST REPORT OF DRINKING WATER

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY (SIJUA GROUP)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. Canteen Bhelatand Colliery  
2. Canteen Sijua Colliery
- Date of Sample Collection: 03.11.2022 to 04.11.2022
- Date of Testing : 05.11.2022 To 12.11.2022
- Test : Odour, 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 & Boran.

### TEST RESULT

Sl. No.	PARAMETERS OF TEST	VALUE		IS as per IS 10500:1991		Test Method
		Canteen Bhelatand Colliery	Canteen Sijua Colliery	Desirable	Permissible	
1.	Colour, (Hazen Unit)	1	1	5.00	15.0	IS 3025 (P-4):2021
2.	Odour	Agreeable	Agreeable	Agreeable	Agreeable	IS 3025 (P-5):2018
3.	Taste,	Agreeable	Agreeable	Agreeable	Agreeable	IS 3025 (P-7):2017
4.	Turbidity, NTU	01	01	1.0	5.0	IS 3025 (P-10):1984
5.	pH	7.8	7.9	6.5-8.5	No. Relax.	IS-3025(P-11): 1983
6.	Total Hardness as CaCO <sub>3</sub> , mg/l	256	224	200	600	IS 3025 (P-21):2009
7.	Chloride as Cl, mg/l	68	62	250	1000	IS 3025 (P-32):1988
8.	Res. Free chlorine as Cl <sub>2</sub> mg/l	NIL	NIL	0.20	1.0	IS 3025 (P-26):2021
9.	Total Dissolved Solids, mg/l	584	568	500	2000	IS 3025 (P-16):1984
10.	Calcium as Ca, mg/l	36	35.2	75	200	IS 3025 (P-40):1991
11.	Copper as Cu, mg/l	BDL	BDL	0.05	1.5	IS 3025 (P-42):1992

*Signature*



Continued on Page 2

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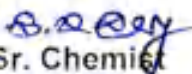
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- 2 -

Sl. No.	PARAMETERS OF TEST	VALUE		IS as per IS 10500:1991		Test Method
		Canteen Bhelatand Colliery	Canteen Sijua Colliery	Desirable	Permissible	
12.	Manganese as Mn, mg/l	BDL	BDL	0.10	0.30	IS 3025 (P-59):2006
13.	Sulphate as SO <sub>4</sub> , mg/l	56	54	200	400	IS 3025 (P-24):1986
14.	Nitrate as NO <sub>3</sub> , mg/l	3.2	3.6	45	No. Relax	IS 3025 (P-34):1988
15.	Fluoride as F, mg/l	0.28	0.26	1.0	1.5	IS 3025 (P-60):2008
16.	Phenolic Compound as (C <sub>6</sub> H <sub>5</sub> OH) mg/l	BDL	BDL	0.001	0.002	IS 3025 (P-43):1992
17.	Mercury as Hg, mg/l	BDL	BDL	0.001	No. Relax	IS 3025 (P-48):1994
18.	Cadmium as Cd, mg/l	BDL	BDL	0.003	No. Relax	IS 3025 (P-41):1992
19.	Arsenic as As, mg/l	BDL	BDL	0.01	No. Relax	IS 3025 (P-37):1988
20.	Cyanide as CN, mg/l	BDL	BDL	0.05	No. Relax	IS 3025 (P-27):1986
21.	Lead as Pb, mg/l	BDL	BDL	0.01	No. Relax	IS 3025 (P-47):1994
22.	Zinc as Zn, mg/l,	0.14	0.12	5	15	IS 3025 (P-42):1992
23.	Total Coliform, No./100ml	Absent	Absent	Absent	Absent	IS 3025 (P-49):1994
24.	Hexavalent Chromium as Cr, mg/l	BDL	BDL	0.05	No. Relax	IS 3025 (P-52):2003
25.	Mineral Oil, mg/l	BDL	BDL	0.5	No. Relax	IS 3025 (P-39):1989
26.	Alkalinity as CaCO <sub>3</sub> , mg/l,	288	310	200	600	IS 3025 (P-23):1983
27.	Aluminium as Al, mg/l	BDL	BDL	0.03	0.2	IS 3025 (P-55):2003
28.	Boran as B, mg/l	BDL	BDL	0.5	1.0	IS 3025 (P-57):2005

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/22-23/2066

Date: 14.11.2022

### TEST REPORT OF GROUND WATER

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY (SIJUA GROUP)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO. : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. Pasitarad Basti  
2. Sijua 6 No  
3. Rampur Basti (Road Side)  
4. Ruddi Basti  
5. Bansh Kapuria
- Date of Sample Collection : 03.11.2022 to 04.11.2022
- Date of Testing : 05.11.2022 To 12.11.2022
- 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 10500:1991		Test Method
		Pasitarad Basti	Sijua 6 No	Rampur Basti (Road Side)	Ruddi Basti	Bansh Kapuria	Desir-able	Perm-issible	
1.	Colour, (Hazen Unit)	01	01	01	02	01	5	15	IS 3025 (P-4):2021
2.	Temperature °C	24	25	23	24	25	-	-	-
3.	Electrical Conductivity, µmhos/cm	1030	1080	725	970	950	-	-	-
4.	Total Dissolved Solids, mg/l	670	702	472	630	618	500	2000	IS 3025(P-6):1984
5.	pH	7.3	7.5	7.6	7.2	7.5	6.5-8.5	No Relax	IS-3025(P-11):1983
6.	Total Hardness as CaCO <sub>3</sub> , mg/l	265	282	248	312	240	300	600	IS 3025(P-1):2009
7.	Calcium as Ca, mg/l	53.6	56	51	92.8	54.4	75	200	IS 3025(P-0):1991
8.	Magnesium as Mg, mg/l	30.5	32.8	27.9	18.6	24.2	30	100	IS 3025(P-6):1994
9.	Chloride as Cl, mg/l	60	66	58	42	46	250	1000	IS 3025(P-2):1988
10.	Fluoride as F, mg/l	0.38	0.42	0.44	0.32	0.46	1.0	1.5	IS 3025(P-0):2008

Continued on Page -2

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2

Sl. No	PARAMETERS OF TEST	VALUE					IS as per IS 10500:1991		Test Method
		Pasitarad Basti	Sijua 6 No	Rampur Basti (Road Side)	Ruddi Basti	Bansh Kapuria	Desirable	Permissible	
11	Sulphate as SO <sub>4</sub> , mg/l	62	56	42	52	63	200	400	IS 3025(P-24):1986
12	Nitrate as NO <sub>3</sub> , mg/l	11.2	10.6	10.8	11.4	11.4	45	No. Relax	IS 3025(P-34):1988
13	Alkalinity as CaCO <sub>3</sub> , mg/l,	280	265	244	252	324	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,	0.18	0.14	0.16	0.12	0.14	5	15	IS 3025(P-42):1992
16	Iron a Fe, mg/l	0.1	0.1	0.2	0.1	0.2	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

  
Sr. Chemist  
Aditi R&D Services



  
Quality Manager  
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/2863

Date: 13.02.2023

## TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY (SIJUA GROUP)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 08.02.2023 to 09.02.2023
- Date of Testing : 10.02.2023 to 11.02.2023
- Test Procedure : As per IS-5182

### TEST RESULTS

LOCATION - RUSSI VIHAR COLONY			
	Avg. Ambient Temperature	27 <sup>o</sup> C	Avg. Humidity
			36%
Sl No.	Particulars	Value	CPCB STANDARD
1.	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	88.25	100 µg/m <sup>3</sup>
2.	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	52.95	60 µg/m <sup>3</sup>
3.	SO <sub>2</sub> , µg/m <sup>3</sup>	19.18	80 µg/m <sup>3</sup>
4.	NO <sub>2</sub> , µg/m <sup>3</sup>	28.57	80 µg/m <sup>3</sup>
5.	Ozone, µg/m <sup>3</sup>	22.18	180 µg/m <sup>3</sup>
6.	NH <sub>3</sub> , µg/m <sup>3</sup>	15.40	400 µg/m <sup>3</sup>
7.	CO, mg/m <sup>3</sup>	0.16	4 mg/m <sup>3</sup>
8.	Pb, µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>
9.	As, ng/m <sup>3</sup>	BDL	6 ng/m <sup>3</sup>
10.	Ni, ng/m <sup>3</sup>	BDL	20 ng/m <sup>3</sup>
11.	Benzene, µg/m <sup>3</sup>	BDL	5 µg/m <sup>3</sup>
12.	Benzoapyrene ng/m <sup>3</sup>	BDL	1 ng/m <sup>3</sup>


Remarks: The ambient air quality is within the prescribed National Ambient Air quality Standard.

NOTE: BDL - Below Detection Limit

A. Das,

Sr. Chemist  
Aditi R&D Services



  
Technical Manager  
Aditi R&D Services, Sindri

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Mobile: 09471358492, 09431512608

Ref. No.: - ARDS/22-23/2864

Date: 13.02.2023

## TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY (SIJUA GROUP)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 08.02.2023 to 09.02.2023
- Date of Testing : 10.02.2023 to 11.02.2023
- Test Procedure : As per IS-5182

### TEST RESULTS

LOCATION - SIJUA COLLIERY, 15 PIT				
	Avg. Ambient Temperature	27°C	Avg. Humidity	36%
Sl No.	Particulars	Value	CPCB STANDARD	
1.	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	92.07	100 µg/m <sup>3</sup>	
2.	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	55.25	60 µg/m <sup>3</sup>	
3.	SO <sub>2</sub> , µg/m <sup>3</sup>	16.60	80 µg/m <sup>3</sup>	
4.	NO <sub>2</sub> , µg/m <sup>3</sup>	28.32	80 µg/m <sup>3</sup>	
5.	Ozone, µg/m <sup>3</sup>	25.57	180 µg/m <sup>3</sup>	
6.	NH <sub>3</sub> , µg/m <sup>3</sup>	16.38	400 µg/m <sup>3</sup>	
7.	CO, mg/m <sup>3</sup>	0.18	4 mg/m <sup>3</sup>	
8.	Pb, µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>	
9.	As, ng/m <sup>3</sup>	BDL	6 ng/m <sup>3</sup>	
10.	Ni, ng/m <sup>3</sup>	BDL	20 ng/m <sup>3</sup>	
11.	Benzene, µg/m <sup>3</sup>	BDL	5 µg/m <sup>3</sup>	
12.	Benzoapyrene ng/m <sup>3</sup>	BDL	1 ng/m <sup>3</sup>	

Remarks: The ambient air quality is within the prescribed National Ambient Air quality Standard.

NOTE: BDL - Below Detection Limit

*A. Dasg.*  
Sr. Chemist  
Aditi R&D Services



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

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Mobile: 09471358492, 09431512608

Ref. No.: - ARDS/22-23/2865

Date: 13.02.2023

## TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY (SIJUA GROUP)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 08.02.2023 to 09.02.2023
- Date of Testing : 10.02.2023 to 11.02.2023
- Test Procedure : As per IS-5182

### TEST RESULTS

LOCATION – SIJUA GROUP OFFICE			
	Avg. Ambient Temperature	27 <sup>0</sup> C	Avg. Humidity
SI No.	Particulars	Value	CPCB STANDARD
1.	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	93.42	100 µg/m <sup>3</sup>
2.	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	56.07	60 µg/m <sup>3</sup>
3.	SO <sub>2</sub> , µg/m <sup>3</sup>	19.53	80 µg/m <sup>3</sup>
4.	NO <sub>2</sub> , µg/m <sup>3</sup>	26.34	80 µg/m <sup>3</sup>
5.	Ozone, µg/m <sup>3</sup>	22.62	180 µg/m <sup>3</sup>
6.	NH <sub>3</sub> , µg/m <sup>3</sup>	16.48	400 µg/m <sup>3</sup>
7.	CO, mg/m <sup>3</sup>	1.82	4 mg/m <sup>3</sup>
8.	Pb, µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>
9.	As, µg/m <sup>3</sup>	BDL	6 µg/m <sup>3</sup>
10.	Ni, µg/m <sup>3</sup>	BDL	20 µg/m <sup>3</sup>
11.	Benzene, µg/m <sup>3</sup>	BDL	5 µg/m <sup>3</sup>
12.	Benzoapyrene µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>

Remarks: The ambient air quality is within the prescribed National Ambient Air quality Standard.

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/22-23/2866

Date: 13.02.2023

## TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY (SIJUA GROUP)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 08.02.2023 to 09.02.2023
- Date of Testing : 10.02.2023 to 11.02.2023
- Test Procedure : As per IS-5182

### TEST RESULTS

LOCATION – W.T.P. MALKERA			
	Avg. Ambient Temperature	27 <sup>0</sup> C	Avg. Humidity
SI No.	Particulars	Value	CPCB STANDARD
1.	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	90.24	100 µg/m <sup>3</sup>
2.	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	54.15	60 µg/m <sup>3</sup>
3.	SO <sub>2</sub> , µg/m <sup>3</sup>	14.01	80 µg/m <sup>3</sup>
4.	NO <sub>2</sub> , µg/m <sup>3</sup>	25.12	80 µg/m <sup>3</sup>
5.	Ozone, µg/m <sup>3</sup>	17.90	180 µg/m <sup>3</sup>
6.	NH <sub>3</sub> , µg/m <sup>3</sup>	16.80	400 µg/m <sup>3</sup>
7.	CO, mg/m <sup>3</sup>	1.52	4 mg/m <sup>3</sup>
8.	Pb, µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>
9.	As, µg/m <sup>3</sup>	BDL	6 µg/m <sup>3</sup>
10.	Ni, µg/m <sup>3</sup>	BDL	20 µg/m <sup>3</sup>
11.	Benzene, µg/m <sup>3</sup>	BDL	5 µg/m <sup>3</sup>
12.	Benzoapyrene µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>

Remarks: The ambient air quality is within the prescribed National Ambient Air quality Standard.

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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## TEST REPORT OF NOISE (AMBIENT) LEVEL MONITORING

Ref. No. & Date	NAME AND ADDRESS OF THE CLIENT			
ARDS/22-23/2850 Date: 11.02.2023	TATA STEEL JHARIA DIVISION			
Date of Monitoring	TATA STEEL COLLIERY (SIJUA GROUP)			
	DIST. - DHANBAD (JHARKHAND)			
08.02.2023 – 09.02.2023	Avg. Ambient Temperature (°C)	Average Humidity (%)	Weather Condition	Status of the plant
Work Order 4700092573/932 Dt. 20.07.2021	27	36	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
	SIJUA GROUP								
1.	Sijua Group Office	58.7	55.4	57.36	51.8	44.6	49.55	75	70
2.	Sijua Colliery 15 Pit	69.8	67.5	68.80	53.8	46.4	51.52		
								Residential Area	Residential Area
3.	Russi Vihar Colony	55.8	48.4	53.52	40.8	36.4	39.13	65	55
4.	WTP Malkera	57.6	44.8	54.81	40.5	33.8	38.33		

Remarks: Noise level is well within the standard specified limit for Industrial Area.

A. Das

Sr. Chemist  
Aditi R&D Services



Technical Manager  
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/2913

Date: 18.02.2023

## TEST REPORT OF MINERALOGICAL COMPOSITION OF PARTICULATE MATTER

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY (SIJUA GROUP)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 09.02.2023
- Date of Testing : 15.02.2023 – 17.02.2023
- Test Procedure : As per IS

### TEST RESULTS

Sl No.	Particulars	Mineralogical Composition (%)			
		SiO <sub>2</sub>	FeO	Al <sub>2</sub> O <sub>3</sub>	CaO
1.	Sijua Colliery , 15 Pit	1.52	0.04	0.13	1.8
2.	Russi Vihar Colony	1.1	0.78	1.14	2.5

*A. Das,*  
Sr. Chemist  
Aditi R&D Services



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

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Ref. No.: - ARDS/22-23/2897

Date: 16.02.2023

## TEST REPORT OF SURFACE WATER

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY (SIJUA GROUP)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. Katri River (Up Stream)  
2. Katri River (Down Stream)
- Date of Sample Collection: 09.02.2023
- Date of Testing : 10.02.2023 To 15.02.2023
- Test : pH, TDS, Turbidity, DO, BOD, Cl, F, SO<sub>4</sub>

### TEST RESULT

Sl. No.	PARAMETERS OF TEST	VALUE		Limit as per IS 2296 Class - C	Test Method
		Katri River (Up Stream)	Katri River (Down Stream)		
1.	pH,	7.7	7.9	6.5 - 8.5	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	880	892	1500(Max.)	IS-3025 (P-16): 1984
3.	Turbidity, NTU	6.2	10.2	-	IS-3025 (P-10):1984
4.	Dissolved Oxygen, mg/l	6.8	6.3	4 (Min.)	IS-3025 (P-38):1989
5.	Bio chemical Oxygen Demand, mg/l	1.2	1.6	3	IS-3025 (P-44):1994
6.	Chloride as Cl, mg/l	61.9	66	-	IS-3025 (P-32):1988
7.	Fluoride as F, mg/l	0.59	0.52	1.5 (Max.)	IS-3025 (P-60):2008
8.	Sulphate as SO <sub>4</sub> , mg/l	55	54	400 (Max.)	IS-3025 (P-24):1986

A. Das,

Sr. Chemist  
Aditi R&D Services



Technical Manager  
Aditi R&D Services, Sindri

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

Ref. No.: - ARDS/22-23/2887

Date: 16.02.2023

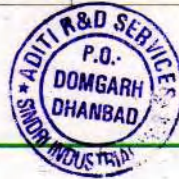
## TEST REPORT OF MINE WATER DISCHARGE

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY (SIJUA GROUP)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO. : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. 2 Pit Colliery  
2. 8 Pit Sijua Colliery  
3. 15 Pit Sijua Colliery  
4. B.C.P.P. Final Setting Pond  
5. Bhelatard A Colliery
- Date of Sample Collection: 08.02.2023 To 09.02.2023
- Date of Testing : 10.02.2023 To 15.02.2023
- 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 Sijua Colliery	8 Pit Sijua Colliery	15 Pit Sijua Colliery	B.C.P.P. Final Setting Pond	Bhelatard A Colliery		
1.	pH,	7.8	8.0	8.3	7.4	7.8	6.5-8.5	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	578	920	892	798	752	-	IS-3025 (P-16): 1984
3.	Total Suspended Solids, mg/l	32	30	40	26	29	-	IS-3025 (P-17): 1984
4.	Bio chemical Oxygen Demand, mg/l	1.2	1.2	1.8	1.2	2.4	3	IS-3025 (P-44):1994
5.	Chemical Oxygen Demand, mg/l	59	37.2	59.5	81.8	69	-	IS-3025 (P-58):2006
6.	Oil & Grease, mg/l	0.4	1.6	B.D.L	B.D.L	0.4	-	IS-3025 (P-39):2021

A. Das.  
Sr. Chemist  
Aditi R&D Services



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

#### Statements :

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# ADITI R&D SERVICES

Testing Laboratory

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Ref. No.: - ARDS/22-23/2886

Date: 16.02.2023

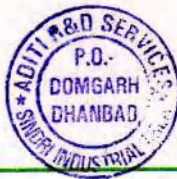
## TEST REPORT OF SEWAGE

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY (SIJUA GROUP)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO. : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. S.T.P. Outlet Sijua Canteen  
2. S.T.P. Outlet Bhelatand Canteen  
3. S.T.P. Outlet Aadarsh Nagar
- Date of Sample Collection: 08.02.2023 To 09.02.2023
- Date of Testing : 10.02.2023 To 15.02.2023
- 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 Sijua Canteen	S.T.P. Outlet Bhelatand Canteen	S.T.P. Outlet Aadarsh Nagar		
1.	pH,	7.2	7.5	7.7	5.5 - 9.0	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	738	672	685	2100	IS-3025 (P-16): 1984
3.	Total Suspended Solids, mg/l	34	36	31	100	IS-3025 (P-17): 1984
4.	Bio chemical Oxygen Demand, mg/l	12.4	12	10.2	30	IS-3025 (P-44):1994
5.	Chemical Oxygen Demand, mg/l	52.5	55	67	250	IS-3025 (P-58):2006
6.	Oil & Grease, mg/l	1.2	1.2	0.4	10	IS-3025 (P-39):2021

A. Das,  
Sr. Chemist  
Aditi R&D Services



  
Technical Manager  
Aditi R&D Services, Sindri

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Fax: 0326-2952377  
Mobile: 09471358492, 09431512608

Ref. No.: - ARDS/22-23/2906

Date: 17.02.2023

## TEST REPORT OF DRINKING WATER

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY (SIJUA GROUP)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. Canteen - Sijua Colliery  
2. Canteen - Bhelatand Colliery
- Date of Sample Collection: 08.02.2023
- Date of Testing : 10.02.2023 To 15.02.2023
- 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
		Canteen Sijua Colliery	Canteen Bhelatand Colliery	Desirable	Permissible	
1.	Colour, (Hazen Unit)	1	1	5.00	15.0	IS 3025 (P-4):2021
2.	Odour	Agreeable	Agreeable	Agreeable	Agreeable	IS 3025 (P-5):2018
3.	Taste,	Agreeable	Agreeable	Agreeable	Agreeable	IS 3025 (P-7):2017
4.	Turbidity, NTU	01	01	1.0	5.0	IS 3025 (P-10):1984
5.	pH	7.5	7.9	6.5-8.5	No. Relax.	IS-3025(P-11): 1983
6.	Total Hardness as CaCO <sub>3</sub> , mg/l	200	188	200	600	IS 3025 (P-21):2009
7.	Chloride as Cl, mg/l	63.9	58	250	1000	IS 3025 (P-32):1988
8.	Res. Free chlorine as Cl <sub>2</sub> mg/l	NIL	NIL	0.20	1.0	IS 3025 (P-26):2021
9.	Total Dissolved Solids, mg/l	491	468	500	2000	IS 3025 (P-16):1984
10.	Calcium as Ca, mg/l	40	28.8	75	200	IS 3025 (P-40):1991
11.	Copper as Cu, mg/l	BDL	BDL	0.05	1.5	IS 3025 (P-42):1992

Continued on Page 2

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- 2 -

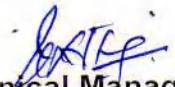
Sl. No.	PARAMETERS OF TEST	VALUE		IS as per IS 10500:1991		Test Method
		Canteen Bhelatand Colliery	Canteen Sijua Colliery	Desirable	Permissible	
12.	Manganese as Mn, mg/l	BDL	BDL	0.10	0.30	IS 3025 (P-59):2006
13.	Sulphate as SO <sub>4</sub> , mg/l	67.5	59.35	200	400	IS 3025 (P-24):1986
14.	Nitrate as NO <sub>3</sub> , mg/l	3.4	3.6	45	No. Relax	IS 3025 (P-34):1988
15.	Fluoride as F, mg/l	0.34	0.29	1.0	1.5	IS 3025 (P-60):2008
16.	Phenolic Compound as (C <sub>6</sub> H <sub>5</sub> OH) mg/l	BDL	BDL	0.001	0.002	IS 3025 (P-43):1992
17.	Mercury as Hg, mg/l	BDL	BDL	0.001	No. Relax	IS 3025 (P-48):1994
18.	Cadmium as Cd, mg/l	BDL	BDL	0.003	No. Relax	IS 3025 (P-41):1992
19.	Arsenic as As, mg/l	BDL	BDL	0.01	No. Relax	IS 3025 (P-37):1988
20.	Cyanide as CN, mg/l	BDL	BDL	0.05	No. Relax	IS 3025 (P-27):1986
21.	Lead as Pb, mg/l	BDL	BDL	0.01	No. Relax	IS 3025 (P-47):1994
22.	Zinc as Zn, mg/l,	0.12	0.10	5	15	IS 3025 (P-42):1992
23.	Total Coliform, No./100ml	Absent	Absent	Absent	Absent	IS 3025 (P-49):1994
24.	Hexavalent Chromium as Cr, mg/l	BDL	BDL	0.05	No. Relax	IS 3025 (P-52):2003
25.	Mineral Oil, mg/l	BDL	BDL	0.5	No. Relax	IS 3025 (P-39):1989
26.	Alkalinity as CaCO <sub>3</sub> , mg/l,	288	310	200	600	IS 3025 (P-23):1983
27.	Aluminium as Al, mg/l	BDL	BDL	0.03	0.2	IS 3025 (P-55):2003
28.	Boran as B, mg/l	BDL	BDL	0.5	1.0	IS 3025 (P-57):2005

NOTE: BDL - Below Detection Limit

A. Das.

Sr. Chemist  
Aditi R&D Services



  
Technical Manager  
Aditi R&D Services, Sindri

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Fax: 0326-2952377  
Mobile: 09471358492, 09431512608

Ref. No.: - ARDS/22-23/2915

Date: 18.02.2023

### TEST REPORT OF GROUND WATER

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY (SIJUA GROUP)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO. : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. Bhelatand Basti (Near 500 Quarters)  
2. Sijua 12 No.  
3. Malkera Trigunait Basti  
4. Rampur Basti Road Side
- Date of Sample Collection : 08.02.2023 to 09.02.2023
- Date of Testing : 10.02.2023 To 15.02.2023
- 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
		Bhelatand Basti (Near 500 Quarters)	Sijua 12 No.	Malkera Trigunait Basti)	Rampur Basti Road Side	Desirable	Permissible	
1.	Colour, (Hazen Unit)	01	02	01	01	5	15	IS 3025 (P-4):2021
2.	Temperature °C	23°C	23°C	22°C	22°C	-	-	-
3.	Electrical Conductivity, µmhos/cm	980	930	870	710	-	-	-
4.	Total Dissolved Solids, mg/l	640	854	890	471	500	2000	IS 3025(P-6):1984
5.	pH	7.7	7.8	6.7	7.2	6.5-8.5	No Relax	IS-3025(P-11):1983
6.	Total Hardness as CaCO <sub>3</sub> , mg/l	480	456	496	364	300	600	IS 3025(P-1):2009
7.	Calcium as Ca, mg/l	72.0	68.8	73.6	60.5	75	200	IS 3025(P-0):1991
8.	Magnesium as Mg, mg/l	69.9	66.2	72.6	49.4	30	100	IS 3025(P-6):1994
9.	Chloride as Cl, mg/l	65.9	62	68	42	250	1000	IS 3025(P-2):1988
10.	Fluoride as F, mg/l	0.42	0.38	0.44	0.32	1.0	1.5	IS 3025(P-0):2008

Continued on Page 2

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- 2 -

Sl. No	PARAMETERS OF TEST	VALUE				IS as per IS 10500:1991		Test Method
		Near 500 Quatards	Sijua 12 No.	Malkera Trigunait Bast)	Rampur Basti Road Side	Desir-able	Permi ssible	
11	Sulphate as SO <sub>4</sub> , mg/l	37.3	36	26	24	200	400	IS 3025(P-24):1986
12	Nitrate as NO <sub>3</sub> , mg/l	11.2	11.2	10.6	11.4	45	No. Relax	IS 3025(P-34):1988
13	Alkalinity as CaCO <sub>3</sub> , mg/l,	468	420	472	308	200	600	IS 3025(P-23):1983
14	Lead as Pb, mg/l	BDL	BDL	BDL	BDL	0.01	No. Relax	IS 3025(P-47):1994
15	Zinc as Zn, mg/l,	0.14	0.18	0.16	0.12	5	15	IS 3025(P-42):1992
16	Iron a Fe, mg/l	0.06	0.08	0.08	0.06	0.3	No. Relax	IS 3025(P-53):2003
17	Copper as Cu, mg/l	BDL	BDL	BDL	BDL	0.05	1.5	IS3025 (P-42):1992
18	Mercury as Hg, mg/l	BDL	BDL	BDL	BDL	0.001	No. Relax	IS 3025(P-48):1994
19	Cadmium as Cd, mg/l	BDL	BDL	BDL	BDL	0.003	No. Relax	IS 3025(P-41):1992
20	Nickel as Ni, mg/l	BDL	BDL	BDL	BDL	0.02	No. Relax	IS 3025(P-37):1992
21	Arsenic as As, mg/l	BDL	BDL	BDL	BDL	0.01	No. Relax	IS 3025(P-37):1988
22	Cyanide as CN, mg/l	BDL	BDL	BDL	BDL	0.05	No. Relax	IS 3025(P-27):1986
23	Total Chromium as Cr, mg/l	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



Technical Manager  
Aditi R&D Services, Sindri

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## 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



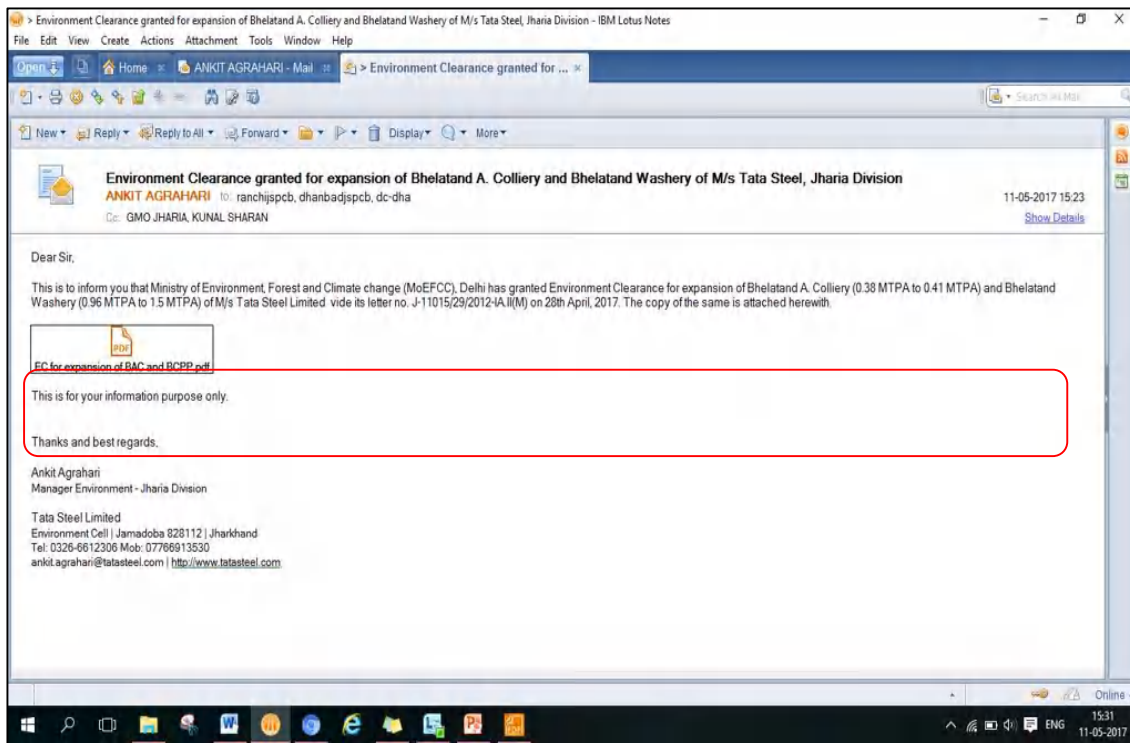








### Communication to government offices regarding grant of EC



-Installation of high resolution revolving cameras at BCPP



## **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 Couching 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.



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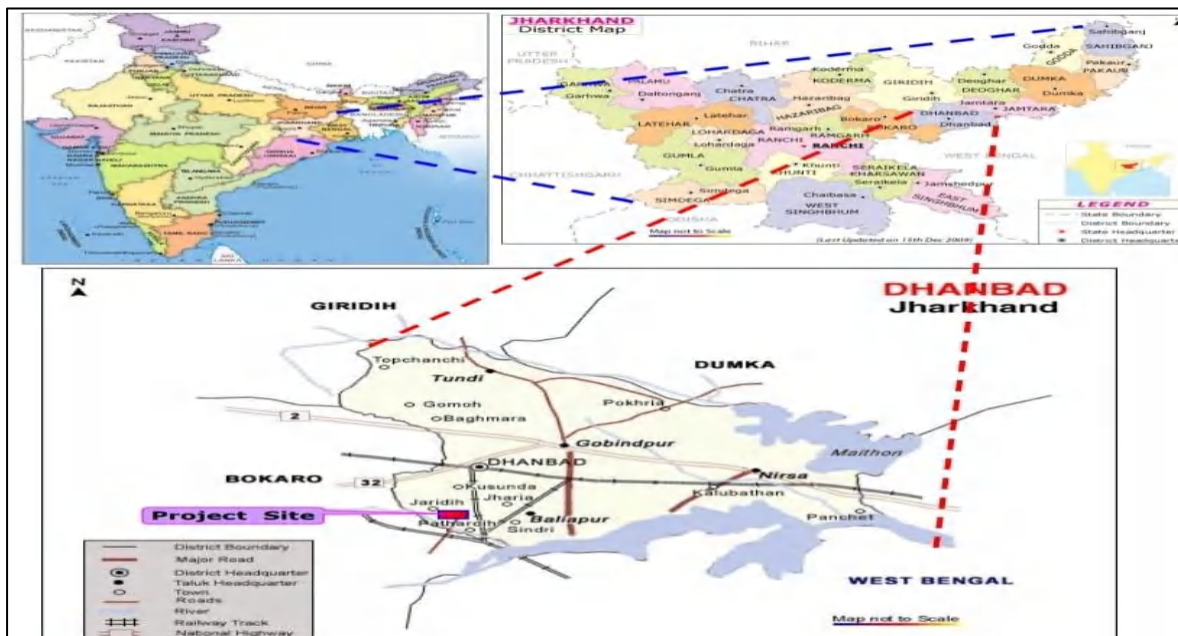
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# INTRODUCTION

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. Niranjan 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. Niranjan 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.



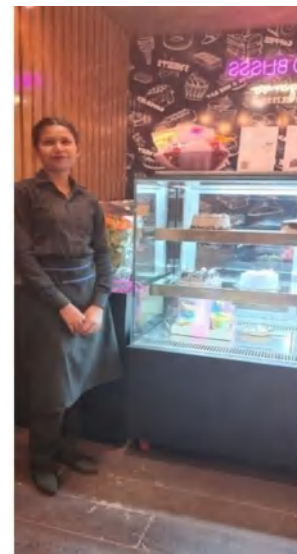


- Total 123 meeting with AWW, Asha and PRI member with 1470 participants.
- Total 3 Child marriage delayed.
- 135 Sathiya were trained around various aspects of sexual and reproductive health
- Total 13 no. of pregnancy delayed.

### **Case Study of Mohini Kumari Khetrapal**

Mohini Kumari Khetrapal 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 Khetrapal 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 Steroid 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 reaction 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.

