



**The Deputy Director General of Forests (C),
Ministry of Environment, Forest and Climate Change,
Integrated Regional Office, (IRO) - Ranchi
2nd floor, Headquarter, Jharkhand State Housing Board Harmu Chowk,
Harmu Housing Colony, Argora, Jharkhand - 834002.**

Ref No. - JMB/ENV/BAC/39/ **290** /2024
May 28th, 2024

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

**SUB: Half Yearly Compliance Status Report of Environment Clearance conditions issued
by MoEFCC, New Delhi to Bhelatand A. Colliery & Bhelatand Coal Washery, Tata
Steel Limited, Dhanbad for the period October-23 to March-24.**

Dear Sir,

We are enclosing herewith compliance report for the period **October-23 to March-24** for the EC granted vide letter no.- J-11015/29/2012-IA.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, 5th Floor
1582, Rajdanga Main Road, Kolkata -700107.

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

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

TATA STEEL LIMITED

Jharia Collieries Jamadoba 828 112 Dhanbad India

Tel 91 326 2320263/2320265/2320267 Fax 91 326 2320268

Regd. Office Bombay House 24 Homi Mody Street Fort Mumbai 400 001

Tel 91 22 66658282 Fax 91 22 66657724

Corporate Identity Number L27100MH1907PLC000260 Website www.tatasteel.com

Your (**Environment Clearance**) application has been **Submitted** with following details

Proposal No	IA/JH/CMIN/8359/2012
Compliance ID	71252364
Compliance Number(For Tracking)	EC/M/COMPLIANCE/71252364/2024
Reporting Year	2024
Reporting Period	01 Jun(01 Oct - 31 Mar)
Submission Date	28-05-2024
IRO Name	ARTATRANA MISHRA
IRO Email	jhk109@ifs.nic.in
State	JHARKHAND
IRO Office Address	Integrated Regional Offices, Ranchi

Note:- SMS and E-Mail has been sent to ARTATRANA MISHRA, JHARKHAND with Notification to Project Proponent.

Half Yearly Compliance Report**2024****01 Jun(01 Oct - 31 Mar)****Acknowledgment**

Proposal Name	Bhelatand Amalgamated Colliery (expansion from 0.38 MTPA to 0.41 MTPA in an ML area of 521.68 ha) & Expansion of Bhelatand Washery (0.96 MTPA to 1.5 MTPA in 8 ha) of M/s Tata Steel Ltd., Dhanbad, Jharkhand		
Name of Entity / Corporate Office	Tata Steel Ltd.		
Village(s)	N/A		
District	DHANBAD		
Proposal No.	IA/JH/CMIN/8359/2012	Category	Coal Mining
Plot / Survey / Khasra No.	N/A	Sub-District	N/A
State	JHARKHAND	Entity's PAN	NA
MoEF File No.	J-11015/29/2012.IA.II(M)	Entity name as per PAN	NA

Compliance Reporting Details

Reporting Year	2024
Remarks (if any)	Half Yearly Compliance Submission for Ocotober 2023 to March 2024 (Bhelatand Amalgamated Colliery (expansion from 0.38 MTPA to 0.41 MTPA in an ML area of 521.68 ha) & Expansion of Bhelatand Washery (0.96 MTPA to 1.5 MTPA in 8 ha) of M/s Tata Steel Ltd., Dhanbad, Jharkhand).
Reporting Period	01 Jun(01 Oct - 31 Mar)

Details of Production and Project Area

Name of Entity / Corporate Office	Tata Steel Ltd.	
	Project Area as per EC Granted	Annual Project Area in Possession
Private	0	0
Revenue Land	0	0
Forest	0	0
Others	0	0
Total	0	0

Production Capacity						
Sr. no	Product Name	units	Valid Upto	Capacity	Production last year	Capacity as per CTO
1	Raw Coal	Million Tons per Annum (MTPA)	N/A	0.41	0.232	
2	Raw Coal Feed	Million Tons per Annum (MTPA)	N/A	1.5	0.672	
Conditions						
Specific Conditions						
Sr.No.	Condition Type	Condition Details				
1	Statutory compliance	The maximum production from the mine at any given time shall not exceed the limit as prescribed in the EC.				
PPs Submission: Complied 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.						Date: 28/05/2024
2	Statutory compliance	The washery shall be as per the project report submitted and presented to EAC.				
PPs Submission: Complied It is being strictly complied with.						Date: 28/05/2024
3	Statutory compliance	The validity of the EC is for the life of mine or as specified in the EIA Notification, 2006, whichever is earlier.				
PPs Submission: Complied 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.						Date: 28/05/2024
4	AIR QUALITY MONITORING AND PRESERVATION	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.				
PPs Submission: Complied • The transportation of coal from underground colliery to coal handling plant (CHP) is through covered conveyor belt networks. • 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. These are operated effectively at all times to check the fugitive emissions. • Fugitive dust emission monitoring is done on half-yearly basis. The values are within the stipulated norms.						Date: 28/05/2024
5	Human Health Environment	Continuous monitoring of occupational safety and other health hazards, and the corrective action need to be ensured.				

PPs Submission: Complied 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.		Date: 28/05/2024
6	MISCELLANEOUS	Modern practices for agriculture to be encouraged with promotion of organic farming through training and demonstration (where ever feasible)
PPs Submission: Complied 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.		Date: 28/05/2024
7	MISCELLANEOUS	Special emphasis should be on training and demonstration on conservation of crops and foods and food processing (Wherever feasible)
PPs Submission: Complied For the conservation of crops and foods, the following training programs are being through our CSR wing, TSRDS (Tata Steel Rural Development Society)- • SRI • Second crops (Rabi crops) • Dry land farming • Fisheries training Pisciculture • Mushroom cultivation • Vegetable cultivation		Date: 28/05/2024
8	MISCELLANEOUS	CCTV cameras to be installed at washery gate to check compliance of covering of trucks.
PPs Submission: Complied 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. Refer attached annexure.		Date: 28/05/2024
9	GREENBELT	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.
PPs Submission: Complied • 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. • Avenue plantation is done in residential colony and along the roadside every year. Green belt development report has been attached as Annexure-1.		Date: 28/05/2024
10	AIR QUALITY MONITORING AND PRESERVATION	There will be no external /internal OB dumps
PPs Submission: Complied Since this is an underground mine, it is not applicable.		Date: 28/05/2024
11	WATER QUALITY MONITORING AND PRESERVATION	Wastewater shall be effectively treated and recycled completely either for washery or maintenance of green belt around the plant.

PPs Submission: Complied 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.		Date: 28/05/2024
12	PUBLIC HEARING	The assurances given during the Public Hearing and as per the Action plan developed by the proponent should be implemented.
PPs Submission: Complied The assurances given during the public hearing with respect to environment and CSR are already being executed		Date: 28/05/2024
13	AIR QUALITY MONITORING AND PRESERVATION	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.
PPs Submission: Complied • Dry-fog system has been 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. • 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. These are operated effectively at all times to check the fugitive emissions.		Date: 28/05/2024
14	AIR QUALITY MONITORING AND PRESERVATION	All approach roads shall be black topped and internal roads shall be concreted. The roads shall be regularly cleaned with mechanical sweepers.
PPs Submission: Complied 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.		Date: 28/05/2024
15	AIR QUALITY MONITORING AND PRESERVATION	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.
PPs Submission: Complied Proper records of quantity and ash content of raw coal being washed, clean/washed coal, and other by-products are being maintained regularly.		Date: 28/05/2024
16	WATER QUALITY MONITORING AND PRESERVATION	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.
PPs Submission: Complied 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 m3) 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.		Date: 28/05/2024
17	Corporate Environmental Responsibility	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 of CSR and expenditure thereon which should be

		annually updated on the company website.
PPs Submission: Complied 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 of Tata Steel every year which is uploaded in company's website.		Date: 28/05/2024
18	MISCELLANEOUS	Heavy metal content in raw coal, and washed coal shall be analysed once in a year and records maintained thereof.
PPs Submission: Complied Heavy metal content analysis in raw coal and washed coal is being done from a NABL approved lab & the data are being maintained.		Date: 28/05/2024
General Conditions		
Sr.No.	Condition Type	Condition Details
1	GREENBELT	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.
PPs Submission: Complied • 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. • 3-Tier plantation along the roads with native species is done on available vacant areas.		Date: 28/05/2024
2	MISCELLANEOUS	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.
PPs Submission: Complied It is being strictly followed and complied with.		Date: 28/05/2024
3	Statutory compliance	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.
PPs Submission: Complied 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.		Date: 28/05/2024
4	LAND RECLAMATION	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.

PPs Submission: Complied 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.		Date: 28/05/2024
5	LAND RECLAMATION	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.
PPs Submission: Complied It is not applicable as this is an underground mine.		Date: 28/05/2024
6	LAND RECLAMATION	The top soil, if any, shall temporarily be stored at earmarked site (s) only 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.
PPs Submission: Complied There is no generation of top soil due to mining activities as this is an underground mine. Mining is 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.		Date: 28/05/2024
7	Corporate Environmental Responsibility	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.
PPs Submission: Complied 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.		Date: 28/05/2024
8	Corporate Environmental Responsibility	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
PPs Submission: Complied We have a separate Environmental Management Cell with qualified personnel. The reporting of Environmental Cell is directly to General Manager of the Division.		Date: 28/05/2024
9	Corporate Environmental Responsibility	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.
PPs Submission: Complied 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 2022-23 is Rs. 405.72 lakhs		Date: 28/05/2024
10	Statutory compliance	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.
PPs Submission: Complied It shall be strictly followed.		Date: 28/05/2024
11	Statutory compliance	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
PPs Submission: Complied Not applicable.		Date: 28/05/2024
12	Statutory compliance	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.
PPs Submission: Complied 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 CTE and CTO are being complied with and submitted to JSPCB.		Date: 28/05/2024
13	Statutory compliance	Project proponent shall obtain the necessary prior permission from the Central Ground Water Authority (CGWA) for drawl of water (surface and ground water).
PPs Submission: Complied No Objection Certificate for withdrawal of mine water approved by CGWA, New Delhi vide letter No. CGWA/NOC/MIN/ORIG/2021 /13942 and was valid till 02/12/2023. Application for renewal has been filed on 18.10.2023 and the process of grant of NOC from the board is underway.		Date: 28/05/2024
14	Statutory compliance	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.
PPs Submission: Complied The monitoring of groundwater level and quality is done four times a year. The groundwater quality report & groundwater level are provided in Annexure.		Date: 28/05/2024
15	Statutory compliance	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.
PPs Submission: Complied 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.		Date: 28/05/2024

16	Statutory compliance	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.
PPs Submission: Complied It shall be complied with.		Date: 28/05/2024
17	GREENBELT	The activities pertaining to development of green belt/horticulture shall be reported to concern Regional Office of MoEF&CC on six monthly basis from the data of commencement of mining operation.
PPs Submission: Complied 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 plants) and developing green area of the region is also being done. The greenbelt development plan has been submitted to MoEF&CC earlier.		Date: 28/05/2024
18	Statutory compliance	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.
PPs Submission: Complied The cycle of April to September and October to March of every financial year is being followed for submission of compliance and monitoring reports.		Date: 28/05/2024
19	MISCELLANEOUS	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.
PPs Submission: Complied The copy of Clearance letter has been sent to District Commissioner, Municipal Commissioner and other government offices on 11th May, 2017.		Date: 28/05/2024
20	MISCELLANEOUS	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.
PPs Submission: Complied The electronic copy of EC letter has been forwarded to DC office, JSPCB Dhanbad office, JSPCB Ranchi office via mail on 11th May, 2017.		Date: 28/05/2024
21	MISCELLANEOUS	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.
PPs Submission: Complied 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.		Date: 28/05/2024

22	MISCELLANEOUS	The project authorities should advertise at least in two local newspapers widely circulated ,one of which shall be in the vernacular language of the locality concerned , within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the SPCB and also at web site of the Ministry of Environment, Forest and Climate Change at www.environmentclearance.nic.in and a copy of the same should be forwarded to the Regional Office
PPs Submission: Complied The Notice has been advertised in two local newspapers viz. Prabhat Khabar (Hindi) and Hindustan (Hindi) on May 05, 2017. Attached as Annexure-IV.		Date: 28/05/2024
23	MISCELLANEOUS	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.
PPs Submission: Complied The environmental statement for financial year 2022-23 has been submitted to JSPCB vide letter no. JMB/ENV/ESSA/05/736/2023 on 29th September 2023 and it is also uploaded on the company website. The soft copy of Environment Statement is also sent to MOEF by email at ro.ranchi-mef@gov.in . Environment Statement copy attached as Annexure.		Date: 28/05/2024
24	AIR QUALITY MONITORING AND PRESERVATION	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.
PPs Submission: Complied • 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. • 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.		Date: 28/05/2024
25	AIR QUALITY MONITORING AND PRESERVATION	Vehicular emission shall be kept under control and regularly. Project should obtain 'PUC' certificate for all the vehicles from authorized pollution testing centres.
PPs Submission: Complied Raw coal transportation is done through underground belt network. Only the vehicles having valid PUC certificates are being allowed to operate for sand transportation.		Date: 28/05/2024
26	AIR QUALITY MONITORING AND PRESERVATION	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>PPs Submission: Complied 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. The Air quality monitoring stations are: (i) Bhelatand Office Area (Core Zone) (ii) Russi Vihar Colony, Sijua (Buffer Zone) (iii) Malkera Colony (Buffer Zone) (iv) Bhelatand Colony (Buffer Zone) Monitoring of heavy metals in ambient air is being performed by an independent laboratory (recognized by NABL/MoEFCC) once in six months. The results are enclosed as Annexure-II.</p>		Date: 28/05/2024
27	AIR QUALITY MONITORING AND PRESERVATION	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>PPs Submission: Complied The following measures have been implemented: i) Dry-fog system at all transfers points of CHP. ii) Dust extraction system (Bag filters) in CHP ii) Enclosures around crushers. 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. iv) Fixed water sprinklers on the haulage roads. v) In addition, movable water sprinklers are also being deployed on the roads for dust suppression.</p>		Date: 28/05/2024
28	WATER QUALITY MONITORING AND PRESERVATION	The project proponent shall not alter the major channels around the site. Appropriate embankment should be 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.
<p>PPs Submission: Complied During the course of action, there is no proposed diversion or rechanneling of the water course is involved. The prominent stream in the region is Katri Nadi, a tributary of Damodar river. 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.</p>		Date: 28/05/2024
29	WATER QUALITY MONITORING AND PRESERVATION	Rainwater harvesting shall be implemented for conservation and augmentation of ground water resource in the area in consultation with Central Ground Water Board.
<p>PPs Submission: Complied 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.</p>		Date: 28/05/2024
30	WATER QUALITY MONITORING AND PRESERVATION	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.

PPs Submission: Complied • 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. • 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.		Date: 28/05/2024
31	WATER QUALITY MONITORING AND PRESERVATION	Industrial waste water (CHP, workshop and waste water from the 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.
PPs Submission: Complied No waste-water is discharged outside the washery premises. 100% water is re-circulated back for re-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.		Date: 28/05/2024
32	Noise Monitoring & Prevention	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.
PPs Submission: Complied 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 Annexure II.		Date: 28/05/2024
33	Noise Monitoring & Prevention	Controlled blasting techniques should be practiced with use of delay detonators to mitigate ground vibrations and fly rocks.
PPs Submission: Complied 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.		Date: 28/05/2024
34	Human Health Environment	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.
PPs Submission: Complied 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.		Date: 28/05/2024
35	Human Health Environment	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 staff shall be held responsible for ensuring compulsory wearing of dust mask.

PPs Submission: Complied Persons working in dusty area have been provided with dust masks & have been given awareness training on safety & health aspects. Regular PME (Periodic Medical Examinations) are also being done.		Date: 28/05/2024
36	Human Health Environment	In case of outsourcing of work through MDO, the project proponent shall ensure the strict enforcement of above condition.
PPs Submission: Complied Not applicable		Date: 28/05/2024
37	MISCELLANEOUS	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.
PPs Submission: Complied 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.		Date: 28/05/2024
38	PUBLIC HEARING	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.
PPs Submission: Complied The implementation of action plan on the issues raised during public hearing is already in progress. R&R is not applicable in this project.		Date: 28/05/2024
39	PUBLIC HEARING	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.
PPs Submission: Complied 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 24 (H1) was Rs.447.35 Lakhs.		Date: 28/05/2024
40	Corporate Environmental Responsibility	The Company should have a well laid down Environment Policy approved by the Board of Directors.
PPs Submission: Complied The Company already has an Environment Policy approved by the Managing Director. Attached as Annexure.		Date: 28/05/2024

Visit Remarks	
Last Site Visit Report Date:	N/A
Additional Remarks:	

HALF YEARLY COMPLIANCE REPORT

(PERIOD: OCTOBER 2023 – MARCH 2024)

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
Specific Condition		
(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. 20.01.2003 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"> • The transportation of coal from underground colliery to coal handling plant (CHP) is through covered conveyor belt networks. • 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. These are operated effectively at all times to check the fugitive emissions. • Fugitive dust emission monitoring is done on half-yearly basis. The values are within the stipulated norms.
(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"> • SRI • Second crops (Rabi crops) • Dry land farming • Fisheries training Pisciculture • Mushroom cultivation • Vegetable cultivation
(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. Refer 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"> • 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. • Avenue plantation is done in residential colony and along the roadside every year. Green belt development report has been attached as Annexure-1.
(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.

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

	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"> • Dry-fog system has been 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. • 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. <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 ³) 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.
General Conditions:		
A. Mining		
(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. Land Reclamation		
(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"> • 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. • 3-Tier plantation along the roads with native species is done on available vacant areas.
C. Emissions, Effluents, and waste Disposal		
(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"> • 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. • 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.

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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"> (i) Bhelatand Office Area (Core Zone) (ii) Russi Vihar Colony, Sijua (Buffer Zone) (iii) Malkera Colony (Buffer Zone) (iv) Bhelatand Colony (Buffer Zone) <p>Monitoring of heavy metals in ambient air is being performed by an independent laboratory (recognized by NABL/MoEFCC) once in six months. The results are enclosed as Annexure-II.</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"> i) Dry-fog system at all transfers points of CHP. ii) Dust extraction system (Bag filters) in CHP ii) Enclosures around crushers. 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. iv) Fixed water sprinklers on the haulage roads. v) In addition, movable water sprinklers are also being deployed on the roads for dust suppression.
(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 rechanneling 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"> • 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. • 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.
(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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D. Noise & Vibration Control

(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 Annexure II .
(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.

E. Occupational Health & Safety

(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
F. Biodiversity		
(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.
G. Implementation of Action Plan as per public Hearing And CSR Activities		
(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 24 (H1) was Rs.447.35 Lakhs.

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

H. Corporate Environment Responsibility		
(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.
(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 2022-23 is Rs. 405.72 lakhs.
I. Statutory Obligations		
(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 approved by CGWA, New Delhi vide letter No. CGWA/NOC/MIN/ORIG/2021 /13942 and was valid till 02/12/2023. Application for renewal has been filed on 18.10.2023 and the process of grant of NOC from the board is underway.
J. Monitoring of Project		
(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 Annexure.
(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	In our leasehold area, every year plantation of sapling is being done and saplings are distributed

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

	shall be reported to concern Regional Office of MoEF&CC on six monthly basis from the data of commencement of mining operation.	every year outside the leasehold area. In addition to above, maintenance of old saplings (converted into 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.
K. Miscellaneous		
(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 th 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 th 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	The Notice has been advertised in two local newspapers viz. Prabhat Khabar (Hindi) and

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

	which shall be in the vernacular language of the locality concerned , within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the SPCB and also at web site of the Ministry of Environment, Forest and Climate Change at www.environmentclearance.nic.in and a copy of the same should be forwarded to the Regional Office	Hindustan (Hindi) on May 05, 2017. Attached as Annexure-IV.
(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 2022-23 has been submitted to JSPCB vide letter no. JMB/ENV/ESSA/05/736/2023 on 29 th September 2023 and it is also uploaded on the company website. The soft copy of Environment Statement is also sent to MOEF by email at ro.ranchi-mef@gov.in . Environment Statement is attached as Annexure-VI.

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
FY20	50235
FY21	3000
FY22	10005
FY23	25117
FY24	12452







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.



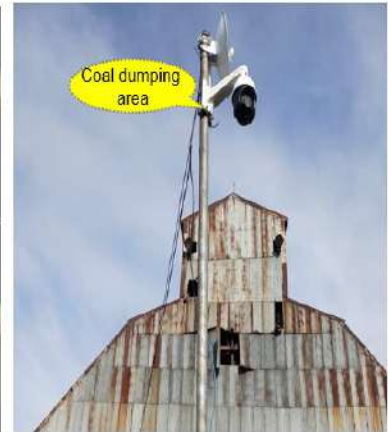
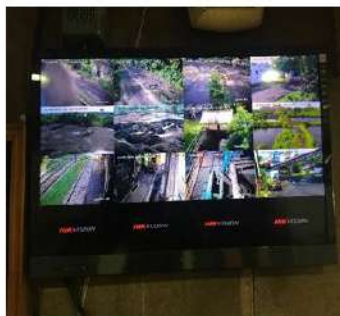
DEVELOPMENT OF MEDICINAL & HIBISCUS GARDEN

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



Ambient Air Quality and Groundwater Quality Report (Period- October’23 to March’24)

AIR QUALITY REPORT

Core zone & Buffer zone

Period- October’23 to December’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/m³	RSPM 24 Hourly Limit- 300 µg/m³	SO₂ 24 Hourly Limit- 120 µg/m³	NOx 24 Hourly Limit-120 µg/m³
Sijua Mine Office Area	23°46'33.2" N/ 86°19'51" E	04.10.23	Clear	248.7	84.6	20.4	22.8
		16.11.23	Clear	252.1	91.2	18.0	22.1
		15.12.23	Clear	248.2	87.9	20.4	23.7
Bhelatand Office Area	23°46' 11" N/ 86°18'51" E	06.10.23	Clear	213.4	76.1	18.9	21.3
		15.11.23	Clear	224.5	72.5	15.8	18.7
		14.12.23	Clear	231.4	89.2	18.6	20.1
Buffer zone (as per NAAQS 2009 for ambient air quality standards)							
Location	Latitude/ Longitude	Date	Weather Condition	PM10 24 Hourly Limit- 100µg/m³	PM2.5 24 Hourly Limit- 60µg/m³	SO₂ 24 Hourly Limit- 80µg/m³	NO₂ 24 Hourly Limit- 80µg/m³
Sijua Russi Vihar Colony	23°46'45.8" N/ 86°20'18.6" E	05.10.23	Clear	70.2	36.1	17.4	20.0
		14.11.23	Clear	86.1	44.3	18.5	21.2
		18.12.23	Clear	94.7	51.4	17.9	19.0
Malkera Colony	23°47'10" N/ 86°17'39" E	03.10.23	Clear	74.0	34.8	16.2	18.7
		13.11.23	Clear	88.6	45.2	17.1	19.0
		20.12.23	Clear	83.4	40.7	16.4	18.2
Bhelatand Colony	23°46'10.7" N/ 86°18'49"E	09.10.23	Clear	92.4	50.4	19.2	21.5
		17.11.23	Clear	77.4	42.0	16.3	19.6
		19.12.23	Clear	92.1	49.6	18.2	22.3



Area Manager (Environment)

Ambient Air Quality and Groundwater Quality Report (Period- October’23 to March’24)


AIR QUALITY REPORT

Core zone & Buffer zone

Period- January’24 to March’24

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/m³	RSPM 24 Hourly Limit- 300 µg/m³	SO ₂ 24 Hourly Limit- 120 µg/m³	NO _x 24 Hourly Limit-120 µg/m³
Sijua Mine Office Area	23°46'33.2" N/ 86°19'51" E	10.01.24	Clear	250.7	90.2	18.4	21.5
		06.02.24	Clear	234.8	86.4	19.2	22.3
		15.03.24	Clear	248.3	94.2	18.5	20.8
Bhelatand Office Area	23°46' 11" N/ 86°18'51" E	12.01.24	Clear	224.6	80.7	17.2	19.8
		07.02.24	Clear	227.1	82.9	16.8	18.6
		13.03.24	Clear	236.5	89.3	17.1	21.5
Buffer zone (as per NAAQS 2009 for ambient air quality standards)							
Location	Latitude/ Longitude	Date	Weather Condition	PM10 24 Hourly Limit- 100µg/m³	PM2.5 24 Hourly Limit- 60µg/m³	SO ₂ 24 Hourly Limit-80µg/m³	NO ₂ 24 Hourly Limit- 80µg/m³
Sijua Russi Vihar Colony	23°46'45.8" N/ 86°20'18.6" E	11.01.24	Clear	84.6	39.7	16.5	18.2
		08.02.24	Clear	70.2	34.1	18.4	20.7
		14.03.24	Clear	87.5	45.8	16.7	19.4
Malkera Colony	23°47'10" N/ 86°17'39" E	17.01.24	Clear	81.5	38.1	18.2	20.4
		05.02.24	Clear	76.1	36.8	17.6	21.3
		18.03.24	Cloudy	70.2	32.1	15.9	17.6
Bhelatand Colony	23°46'10.7" N/ 86°18'49"E	16.01.24	Clear	86.4	40.8	15.7	17.9
		09.02.24	Clear	81.5	38.4	16.5	18.1
		19.03.24	Clear	72.6	34.3	17.8	20.4



Area Manager (Environment)

Ambient Air Quality and Groundwater Quality Report (Period- **October’23 to March’24**)

Ground Water Quality Analysis (Hand Pump & Dung Well)
(Post Monsoon Season- November’2023)

S.No	Date	Location	Time	Sample Parameter		
				Depth in meter (m)	pH	Electrical Conductivity, µS/m
1	01.11.23	Ruddi Basti	01:50 PM	3.27	7.1	1010
2	01.11.23	Rampur Basti	11:20 AM	6.35	7.2	957
3	01.11.23	Malkera Trigunait Basti	12:35 PM	3.46	7.3	684
4	01.11.23	Sijua 6 No	09:55 AM	1.95	7.0	1251
5	01.11.23	Sijua 12 No	10:20 AM	3.66	7.2	1436
6	01.11.23	Rampur Basti, (Road Side)	11:45 AM	6.72	7.1	884
7	01.11.23	Bansh Kapuria	01:25 PM	3.95	7.3	1135
8	01.11.23	Pasitand Basti	12:05 PM	3.15	6.9	1022
9	01.11.23	Bhelatand 500 Qtr. (Back Side)	11:00 AM	0.98	7.0	1128



Area Manager (Environment)

Ambient Air Quality and Groundwater Quality Report (Period- **October’23 to March’24**)

Ground Water Quality Analysis (Hand Pump & Dung Well)
(Winter Season- January’2024)

S.No	Date	Location	Time	Sample Parameter		
				Depth in meter (m)	pH	Electrical Conductivity, µS/m
1	04.01.24	Ruddi Basti	11:25 AM	6.85	7.0	988
2	04.01.24	Rampur Basti	01:15 PM	6.52	7.3	1017
3	04.01.24	Malkera Trigunait Basti	12:45 PM	3.72	7.2	1621
4	04.01.24	Sijua 6 No	01:40 PM	3.48	7.1	1178
5	04.01.24	Sijua 12 No	02:05 PM	3.73	7.0	1423
6	04.01.24	Rampur Basti, (Road Side)	01:00 PM	6.76	7.6	923
7	04.01.24	Bansh Kapuria	02:55 PM	4.44	7.2	1148
8	04.01.24	Pasitand Basti	12:20 PM	3.57	7.0	1438
9	04.01.24	Bhelatand 500 Qtr. (Back Side)	02:40 PM	1.25	7.2	1136

Area Manager (Environment)

Ambient Air Quality and Groundwater Quality Report (Period- **October’23 to March’24**)

NOISE SURVEY REPORT- Bhelatand A. Colliery

Date- 29.01.2024

S.No.	Unit / Place	Equipment / Location	Distance (meter)	Leq (dB 'A')	Exposure Hours
1	U/G	Winder, 2 Pit	3m	65.0	6 hrs./shift
2		Belt Conveyor,1413	5m	70.0	4 hrs./shift
3		Pump Room, 5 th D 12 Seam	5m	65.1	6 hrs./shift
4		Auxiliary Fan ,15 th SOF LL/ 5 th D	4m	85.0	6 hrs./shift
5	Surface	Compressor room	5m	80.0	8 hrs./shift



Area Manager (Environment)

Ambient Air Quality and Groundwater Quality Report (Period- **October’23 to March’24**)

NOISE SURVEY REPORT- Bhelatand Coal Washery (NRD)

Date- 22.02.2024

S.No	Unit / Place	Equipment / Location	Distance (meter)	Leq (dB 'A')	Exposure Hours
1	BCPP- NRD	Analytical Room	-	64.7	8 hrs./shift
2		Furnace Room	-	63.8	8 hrs./shift
3		Washability Room	-	64.9	8 hrs./shift
4		Sample Preparation Room (including Jaw Crusher Area)	-	87.5	8 hrs./shift
5		Roller Crusher Area	1 m	73.3	8 hrs./shift
6		Jaw Crusher Area	1 m	89.5	8 hrs./shift
7		NRD Office	-	58.3	8 hrs./shift



Area Manager (Environment)

Ambient Air Quality and Groundwater Quality Report (Period- October'23 to March'24)



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

Ref. No.: - ARDS/23-24/1405

Date: 13.11.2023

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 : 07/11/2023 to 08/11/2023
- Date of Testing : 09/11/2023 to 11/11/2023
- Test Procedure : As per IS-5182

TEST RESULTS

LOCATION – RUSSI VIHAR COLONY				
	Avg. Ambient Temperature	30 °C	Avg. Humidity	38 %
SI No.	Particulars	Value	CPCB STANDARD	
1.	Particulate Matter (PM ₁₀), µg/m ³	66.35	100 µg/m ³	
2.	Particulate Matter (PM _{2.5}), µg/m ³	38.82	60 µg/m ³	
3.	SO ₂ , µg/m ³	20.55	80 µg/m ³	
4.	NO ₂ , µg/m ³	30.65	80 µg/m ³	
5.	Ozone, µg/m ³	21.48	180 µg/m ³	
6.	NH ₃ , µg/m ³	17.25	400 µg/m ³	
7.	CO, mg/m ³	0.24	4 mg/m ³	
8.	Pb, µg/m ³	BDL	1 µg/m ³	
9.	As, ng/m ³	BDL	6 ng/m ³	
10.	Ni, ng/m ³	BDL	20 ng/m ³	
11.	Benzene, µg/m ³	BDL	5 µg/m ³	
12.	Benzoapyrene ng/m ³	BDL	1 ng/m ³	

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

NOTE: BDL - Below Detection Limit

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



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

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 written permission of Quality Manager of the laboratory.

Ambient Air Quality and Groundwater Quality Report (Period- October'23 to March'24)



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

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

Ref. No.: - ARDS/23-24/1406

Date: 13.11.2023

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 : 07/11/2023 to 08/11/2023
- Date of Testing : 09/11/2023 to 11/11/2023
- Test Procedure : As per IS-5182

TEST RESULTS

LOCATION – SIJUA COLLIERY, 15 PIT				
	Avg. Ambient Temperature	30°C	Avg. Humidity	38%
SI No.	Particulars	Value	CPCB STANDARD	
1.	Particulate Matter (PM ₁₀), µg/m ³	89.20	100 µg/m ³	
2.	Particulate Matter (PM _{2.5}), µg/m ³	54.52	60 µg/m ³	
3.	SO ₂ , µg/m ³	21.60	80 µg/m ³	
4.	NO ₂ , µg/m ³	28.80	80 µg/m ³	
5.	Ozone, µg/m ³	26.65	180 µg/m ³	
6.	NH ₃ , µg/m ³	18.42	400 µg/m ³	
7.	CO, mg/m ³	0.88	4 mg/m ³	
8.	Pb, µg/m ³	BDL	1 µg/m ³	
9.	As, ng/m ³	BDL	6 ng/m ³	
10.	Ni, ng/m ³	BDL	20 ng/m ³	
11.	Benzene, µg/m ³	BDL	5 µg/m ³	
12.	Benzoapyrene ng/m ³	BDL	1 ng/m ³	

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

NOTE: BDL - Below Detection Limit

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




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

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Ambient Air Quality and Groundwater Quality Report (Period- October'23 to March'24)



ADITI R&D SERVICES
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Phone: 0326-2952377 (O),
Fax: 0326-2952377
Mobile: 09471358492, 09431512608

Ref. No.: - ARDS/23-24/1407

Date: 13.11.2023

TEST REPORT OF AMBIENT AIR QUALITY

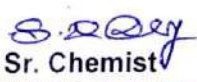
- Name of the industry : TATA STEEL JHARIA DIVISION
TATA STEEL COLLIERY (SIJUA GROUP)
DIST. - DHANBAD (JHARKHAND)
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- Date of Sample Collection : 07/11/2023 to 08/11/2023
- Date of Testing : 09/11/2023 to 11/11/2023
- Test Procedure : As per IS-5182

TEST RESULTS


LOCATION – SIJUA GROUP OFFICE				
	Avg. Ambient Temperature	30 ⁰ C	Avg. Humidity	38%
Sl No.	Particulars	Value	CPCB STANDARD	
1.	Particulate Matter (PM ₁₀), µg/m ³	87.88	100 µg/m ³	
2.	Particulate Matter (PM _{2.5}), µg/m ³	53.70	60 µg/m ³	
3.	SO ₂ , µg/m ³	22.56	80 µg/m ³	
4.	NO ₂ , µg/m ³	32.42	80 µg/m ³	
5.	Ozone, µg/m ³	24.38	180 µg/m ³	
6.	NH ₃ , µg/m ³	18.42	400 µg/m ³	
7.	CO, mg/m ³	1.90	4 mg/m ³	
8.	Pb, µg/m ³	BDL	1 µg/m ³	
9.	As, µg/m ³	BDL	6 µg/m ³	
10.	Ni, µg/m ³	BDL	20 µg/m ³	
11.	Benzene, µg/m ³	BDL	5 µg/m ³	
12.	Benzoapyrene µg/m ³	BDL	1 µg/m ³	

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




Technical Manager
Aditi R&D Services, Sindri

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Ambient Air Quality and Groundwater Quality Report (Period- October'23 to March'24)



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Mobile: 09471358492, 09431512608

Ref. No.: - ARDS/23-24/1408 Date: 13.11.2023

TEST REPORT OF AMBIENT AIR QUALITY

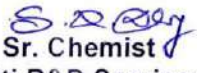
- Name of the industry : TATA STEEL JHARIA DIVISION
TATA STEEL COLLIERY (SIJUA GROUP)
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 07/11/2023 to 08/11/2023
- Date of Testing : 09/11/2023 to 11/11/2023
- Test Procedure : As per IS-5182

TEST RESULTS


LOCATION – W.T.P. MALKERA				
	Avg. Ambient Temperature	36°C	Avg. Humidity	41%
SI No.	Particulars	Value	CPCB STANDARD	
1.	Particulate Matter (PM ₁₀), µg/m ³	77.38	100 µg/m ³	
2.	Particulate Matter (PM _{2.5}), µg/m ³	44.32	60 µg/m ³	
3.	SO ₂ , µg/m ³	18.66	80 µg/m ³	
4.	NO ₂ , µg/m ³	30.67	80 µg/m ³	
5.	Ozone, µg/m ³	18.36	180 µg/m ³	
6.	NH ₃ , µg/m ³	16.35	400 µg/m ³	
7.	CO, mg/m ³	0.24	4 mg/m ³	
8.	Pb, µg/m ³	BDL	1 µg/m ³	
9.	As, µg/m ³	BDL	6 µg/m ³	
10.	Ni, µg/m ³	BDL	20 µg/m ³	
11.	Benzene, µg/m ³	BDL	5 µg/m ³	
12.	Benzoapyrene µg/m ³	BDL	1 µg/m ³	


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






Technical Manager
Aditi R&D Services, Sindri

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Ambient Air Quality and Groundwater Quality Report (Period- October’23 to March’24)



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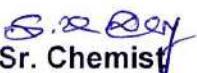
Plot No - I-B-17 (P)
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TEST REPORT OF NOISE (AMBIENT) LEVEL MONITORING


Ref. No. & Date		NAME AND ADDRESS OF THE CLIENT							
ARDS/23-24/1409 Date: 13.11.2023		TATA STEEL JHARIA DIVISION							
Date of Monitoring		TATA STEEL COLLIERY (SIJUA GROUP)							
		DIST. - DHANBAD (JHARKHAND)							
07/11/2023 – 08/11/2023		Avg. Ambient Temperature (°C)		Average Humidity (%)		Weather Condition		Status of the plant	
Work Order 4700092573/932 Dt. 20.07.2021		30		42		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	66.2	52.8	63.38	59.4	42.2	56.47	75	70
2.	Sijua Colliery 15 Pit	68.8	64.2	67.08	55.6	40.8	52.73		
								Residential Area	Residential Area
3.	Russi Vihar Colony	59.4	48.4	56.72	46.2	34.2	43.46	65	55
4.	WTP Malkera	56.8	48.6	47.79	42.8	33.8	40.30		

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


Sr. Chemist
Aditi R&D Services




Technical Manager
Aditi R&D Services, Sindri


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Ambient Air Quality and Groundwater Quality Report (Period- October'23 to March'24)



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Mobile - 09471358492, 09431512608

Ref. No.: - ARDS/23-24/1410

Date: 13.11.2023

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 : 08/11/2023
- Date of Testing : 09/11/2023 – 11/11/2023
- Test Procedure : As per IS

TEST RESULTS

Sl No.	Particulars	Mineralogical Composition (%)			
		SiO ₂	FeO	Al ₂ O ₃	CaO
1.	SIJUA GROUP OFFICE	1.95	0.06	0.22	2.2
2.	W.T.P. MALKERA	1.5	0.90	1.18	2.9

Sr. Chemist

Aditi R&D Services



Technical Manager

Aditi R&D Services, Sindri




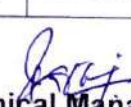
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Ambient Air Quality and Groundwater Quality Report (Period- October'23 to March'24)

	<h2 style="margin: 0;">ADITI R&D SERVICES</h2> <h3 style="margin: 0;">Testing Laboratory</h3> <p style="margin: 0;">NABL ACCREDITED</p> <p style="margin: 0;">(A Constituent Board of Quality Council of India)</p> <p style="margin: 0;">ISO/IEC 17025:2017, ISO 9001:2015, ISO (OHSAS) 45001:2018 Certified</p>	<p>Plot No. - 1-B-17 (P) Sindri, Industrial Area, P.O. - Domgarh, Dist - Dhanbad Jharkhand - 828107 Email ID: sindriaditi@gmail.com Website: aditirndservices.com Phone: 0326-2952377 (O), Fax: 0326-2952377 Mobile: 09471358492, 09431512608</p>			
<p>Ref. No.: - ARDS/23-24/1411 Date: 14.11.2023</p>					
<h3><u>TEST REPORT OF SURFACE WATER</u></h3>					
<ul style="list-style-type: none"> • 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: 07/11/2023 • Date of Testing : 09/11/2023 To 14/11/2023 • Test : pH, TDS, Turbidity, DO, BOD, Cl, F, SO₄ 					
<h4><u>TEST RESULT</u></h4>					
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,	7.3	7.4	6.5 - 8.5	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	630	638	1500(Max.)	IS-3025 (P-16): 1984
3.	Turbidity, NTU	1	1	-	IS-3025 (P-10):1984
4.	Dissolved Oxygen, mg/l	3.5	4.2	4 (Min.)	IS-3025 (P-38):1989
5.	Bio chemical Oxygen Demand, mg/l	1.0	0.8	3	IS-3025 (P-44):1994
6.	Chloride as Cl, mg/l	53.2	51.3	-	IS-3025 (P-32):1988
7.	Fluoride as F, mg/l	0.42	0.48	1.5 (Max.)	IS-3025 (P-60):2008
8.	Sulphate as SO ₄ , mg/l	31.3	34.2	400 (Max.)	IS-3025 (P-24):1986
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  Sr. Chemist Aditi R&D Services </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  Technical Manager Aditi R&D Services, Sindri </div> </div>					
<p>Statements :</p> <ol style="list-style-type: none"> 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 written permission of Quality Manager of the laboratory. 					

Ambient Air Quality and Groundwater Quality Report (Period- October'23 to March'24)

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Ref. No.: - ARDS/23-24/1411

Date: 14.11.2023

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: 07/11/2023
- Date of Testing : 09/11/2023 To 14/11/2023
- Test : pH, TDS, Turbidity, DO, BOD, Cl, F, SO₄

TEST RESULT

Sl. No.	PARAMETERS OF TEST	VALUE		Limit as per IS 2296 Class - C	Test Method
		Katri River (Up Stream)	Katri River (Down Stream)		
1.	pH,	7.3	7.4	6.5 - 8.5	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	630	638	1500(Max.)	IS-3025 (P-16): 1984
3.	Turbidity, NTU	1	1	-	IS-3025 (P-10):1984
4.	Dissolved Oxygen, mg/l	3.5	4.2	4 (Min.)	IS-3025 (P-38):1989
5.	Bio chemical Oxygen Demand, mg/l	1.0	0.8	3	IS-3025 (P-44):1994
6.	Chloride as Cl, mg/l	53.2	51.3	-	IS-3025 (P-32):1988
7.	Fluoride as F, mg/l	0.42	0.48	1.5 (Max.)	IS-3025 (P-60):2008
8.	Sulphate as SO ₄ , mg/l	31.3	34.2	400 (Max.)	IS-3025 (P-24):1986

Anandita
20/11/23
 Sr. Chemist
 Aditi R&D Services




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

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Ambient Air Quality and Groundwater Quality Report (Period- October’23 to March’24)



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Ref. No.: - ARDS/23-24/1413

Date: 14.11.2023

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 Bhelatard Officers Colony
2. S.T.P. Outlet Aadarsh Nagari
3. S.T.P. Outlet Sijua Canteen
4. S.T.P. Outlet Bhelatand Canteen

Date of Sample Collection:

:

07/11/2023 To 08/11/2023

Date of Testing

:

09/11/2023 To 14/11/2023

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 Bhelatard Officers Colony	S.T.P. Outlet Aadarsh Nagari	S.T.P. Outlet Sijua Canteen	S.T.P. Outlet Bhelatand Canteen		
1.	pH,	7.7	7.6	8.0	7.8	5.5 – 9.0	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	618	659	752	605	2100	IS-3025 (P-16): 1984
3.	Total Suspended Solids, mg/l	32	30	36	31	100	IS-3025 (P-17): 1984
4.	Bio chemical Oxygen Demand, mg/l	2.6	3.6	2.4	1.8	30	IS-3025 (P-44):1994
5.	Chemical Oxygen Demand, mg/l	47	63	78	86	250	IS-3025 (P-58):2006
6.	Oil & Grease, mg/l	1.2	BDL	1.6	0.8	10	IS-3025 (P-39):2021

NOTE: BDL - Below Detection Limit

Anandita

Sr. Chemist



Technical Manager

Aditi R&D Services, Sindri

Statement


Aditi R&D Services

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Ambient Air Quality and Groundwater Quality Report (Period- October'23 to March'24)



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Fax: 0326-2952377
Mobile: 09471358492, 09431512606

Ref. No.: - ARDS/23-24/1414

Date: 14.11.2023

TEST REPORT OF DRINKING WATER

Name of the industry

Work Order Ref. NO.:

Sample Code

Date of Sample Collection:

Date of Testing

Test

: TATA STEEL JHARIA DIVISION
TATA STEEL COLLIERY (SIJUA GROUP)
DIST. - DHANBAD (JHARKHAND)
: 4700092573/932 Dt. 20.07.2021
: 1. Canteen - Sijua Colliery
2. Canteen - Bhelatand Colliery
: 07/11/2023
: 09/11/2023 To 14/11/2023
: Olour, 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	NIL	NIL	1.0	5.0	IS 3025 (P-10):1984
5.	pH	7.7	7.9	6.5-8.5	No. Relax.	IS-3025(P-11): 1983
6.	Total Hardness as CaCO ₃ , mg/l	226.8	277	200	600	IS 3025 (P-21):2009
7.	Chloride as Cl, mg/l	62.6	60.8	250	1000	IS 3025 (P-32):1988
8.	Res. Free chlorine as Cl ₂ mg/l	NIL	NIL	0.20	1.0	IS 3025 (P-26):2021
9.	Total Dissolved Solids, mg/l	432	440	500	2000	IS 3025 (P-16):1984
10.	Calcium as Ca, mg/l	36.9	52	75	200	IS 3025 (P-40):1991
11.	Copper as Cu, mg/l	BDL	BDL	0.05	1.5	IS 3025 (P-42):1992


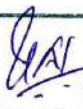
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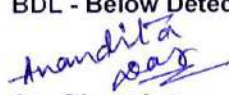
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Ambient Air Quality and Groundwater Quality Report (Period- October'23 to March'24)

Sl. No.	PARAMETERS OF TEST	VALUE		IS as per IS 10500:1991		Test Method
		Canteen Sijua Colliery	Canteen Bhelatand Colliery	Desirable	Permissible	
12.	Manganese as Mn, mg/l	BDL	BDL	0.10	0.30	IS 3025 (P-59):2006
13.	Sulphate as SO ₄ , mg/l	52.2	55.1	200	400	IS 3025 (P-24):1986
14.	Nitrate as NO ₃ , mg/l	1.8	2.3	45	No. Relax	IS 3025 (P-34):1988
15.	Fluoride as F, mg/l	0.25	0.30	1.0	1.5	IS 3025 (P-60):2008
16.	Phenolic Compound as (C ₆ H ₅ 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,	0.5	0.6	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 ₃ , mg/l,	293.3	289.5	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





Technical Manager
 Aditi R&D Services, Sindri

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Ambient Air Quality and Groundwater Quality Report (Period- October'23 to March'24)



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Ref. No.: - ARDS/23-24/1415

Date: 14.11.2023

TEST REPORT OF GROUND WATER

Name of the industry

Work Order Ref. NO.

Sample Code

Date of Sample Collection

Date of Testing

Test

: TATA STEEL JHARIA DIVISION

: 4700092573/932 Dt. 20.07.2021

: 1. Ruddi Basti.

: 2. Rampur Basti.

: 3. Pasitand Basti.

: 4. Sijua 6 No.

: 5. Bansh Kapuria

: 07/11/2023 to 08/11/2023

: 09/11/2023 to 14/11/2023

: 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
		Ruddi Basti	Rampur Basti	Pasitand Basti.	Sijua 6 No.	Bansh Kapuria	Desir-able	Perm-issible	
1.	Colour, (Hazen Unit)	1	1	2	1	1	5	15	IS 3025 (P-4):2021
2.	Temperature °C	25°C	24°C	25°C	25°C	25°C	-	-	-
3.	Electrical Conductivity, µmhos/cm	1170	540	2130	1288	910	-	-	-
4.	Total Dissolved Solids, mg/l	762	345	1282	773	595	500	2000	IS 3025(P-6):1984
5.	pH	7.1	7.3	7.4	7.1	8.1	6.5-8.5	No Relax	IS-3025(P-11):1983
6.	Total Hardness as CaCO ₃ , mg/l	588	231	575	526	189	300	600	IS 3025(P-1):2009
7.	Calcium as Ca, mg/l	110.8	42	138	126	35.3	75	200	IS 3025(P-0):1991
8.	Magnesium as Mg, mg/l	74.6	30.2	55	51	24.2	30	100	IS 3025(P-6):1994
9.	Chloride as Cl, mg/l	207	28.5	195.6	77.8	75.9	250	1000	IS 3025(P-2):1988
10	Fluoride as F, mg/l	0.42	0.36	0.62	0.46	0.52	1.0	1.5	IS 3025(P-0):2008


Continued on Page-2


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Ambient Air Quality and Groundwater Quality Report (Period- October'23 to March'24)



ADITI R&D SERVICES

Testing Laboratory

NABL ACCREDITED

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

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- 2 -

Sl. No	PARAMETERS OF TEST	VALUE					IS as per IS 10500:1991		Test Method
		Ruddi Basti	Rampur Basti	Pasitard Basti.	Sijua No.6	Bansh Kapuri	Desirable	Permissible	
11	Sulphate as SO ₄ , mg/l	67.7	53.5	99	68	49	200	400	IS 3025(P-24):1986
12	Nitrate as NO ₃ , mg/l	7.5	5.2	9.5	8.2	5.3	45	No. Relax	IS 3025(P-34):1988
13	Alkalinity as CaCO ₃ , mg/l	266.9	176.7	368.5	455	395	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	0.9	0.3	1	0.6	0.18	5	15	IS 3025(P-42):1992
16	Iron as Fe, mg/l	0.12	0.06	0.56	0.1	0.15	0.3	No. Relax	IS 3025(P-53):2003
17	Copper as Cu, mg/l	BDL	BDL	BDL	BDL	BDL	0.05	1.5	IS 3025 (P-42):1992
18	Mercury as Hg, mg/l	BDL	BDL	BDL	BDL	BDL	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

Anandita
Sr. Chemist
Aditi R&D Services




Aditi
Technical Manager
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/23-24/1953

Date: 18.02.2024

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

: 12/02/2024 to 13/02/2024

Date of Testing

: 14/02/2024 to 17/02/2024

Test Procedure

: As per IS-5182

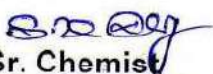
TEST RESULTS

LOCATION – RUSSI VIHAR COLONY

	Avg. Ambient Temperature	23 °C	Avg. Humidity	49 %
SI No.	Particulars	Value	CPCB STANDARD	
1.	Particulate Matter (PM ₁₀), µg/m ³	62.24	100 µg/m ³	
2.	Particulate Matter (PM _{2.5}), µg/m ³	38.35	60 µg/m ³	
3.	SO ₂ , µg/m ³	18.36	80 µg/m ³	
4.	NO ₂ , µg/m ³	28.34	80 µg/m ³	
5.	Ozone, µg/m ³	21.88	180 µg/m ³	
6.	NH ₃ , µg/m ³	15.23	400 µg/m ³	
7.	CO, mg/m ³	0.22	4 mg/m ³	
8.	Pb, µg/m ³	BDL	1 µg/m ³	
9.	As, ng/m ³	BDL	6 ng/m ³	
10.	Ni, ng/m ³	BDL	20 ng/m ³	
11.	Benzene, µg/m ³	BDL	5 µg/m ³	
12.	Benzoapyrene ng/m ³	BDL	1 ng/m ³	


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





Technical Manager

Aditi R&D Services, Sindri

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Ref. No.: - ARDS/23-24/1954

Date: 18.02.2024

TEST REPORT OF AMBIENT AIR QUALITY

- | | | |
|---|-----------------------------|--|
| 0 | Name of the industry | : TATA STEEL JHARIA DIVISION
TATA STEEL COLLIERY (SIJUA GROUP)
DIST. - DHANBAD (JHARKHAND) |
| 0 | Work Order Ref. NO.: | : 4700092573/932 Dt. 20.07.2021 |
| 0 | Date of Sample Collection : | 12/02/2024 to 13/02/2024 |
| 0 | Date of Testing | : 14/02/2024 to 17/02/2024 |
| 0 | Test Procedure | : As per IS-5182 |

TEST RESULTS

LOCATION – SIJUA COLLIERY, 15 PIT				
	Avg. Ambient Temperature	23°C	Avg. Humidity	49%
Sl No.	Particulars	Value	CPCB STANDARD	
1.	Particulate Matter (PM ₁₀), µg/m ³	91.33	100 µg/m ³	
2.	Particulate Matter (PM _{2.5}), µg/m ³	55.18	60 µg/m ³	
3.	SO ₂ , µg/m ³	18.52	80 µg/m ³	
4.	NO ₂ , µg/m ³	30.46	80 µg/m ³	
5.	Ozone, µg/m ³	25.34	180 µg/m ³	
6.	NH ₃ , µg/m ³	16.18	400 µg/m ³	
7.	CO, mg/m ³	0.63	4 mg/m ³	
8.	Pb, µg/m ³	BDL	1 µg/m ³	
9.	As, ng/m ³	BDL	6 ng/m ³	
10.	Ni, ng/m ³	BDL	20 ng/m ³	
11.	Benzene, µg/m ³	BDL	5 µg/m ³	
12.	Benzoapyrene ng/m ³	BDL	1 ng/m ³	

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




Technical Manager
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/23-24/1955

Date: 18.02.2024

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 : 12/02/2024 to 13/02/2024
- Date of Testing : 14/02/2024 to 17/02/2024
- Test Procedure : As per IS-5182

TEST RESULTS

LOCATION – SIJUA GROUP OFFICE				
	Avg. Ambient Temperature	23 ⁰ C	Avg. Humidity	49%
Sl No.	Particulars	Value	CPCB STANDARD	
1.	Particulate Matter (PM ₁₀), µg/m ³	89.29	100 µg/m ³	
2.	Particulate Matter (PM _{2.5}), µg/m ³	52.57	60 µg/m ³	
3.	SO ₂ , µg/m ³	21.44	80 µg/m ³	
4.	NO ₂ , µg/m ³	29.63	80 µg/m ³	
5.	Ozone, µg/m ³	22.60	180 µg/m ³	
6.	NH ₃ , µg/m ³	16.53	400 µg/m ³	
7.	CO, mg/m ³	1.80	4 mg/m ³	
8.	Pb, µg/m ³	BDL	1 µg/m ³	
9.	As, ng/m ³	BDL	6 ng/m ³	
10.	Ni, ng/m ³	BDL	20 ng/m ³	
11.	Benzene, µg/m ³	BDL	5 µg/m ³	
12.	Benzoapyrene ng/m ³	BDL	1 ng/m ³	

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

NOTE: BDL - Below Detection Limit

S. D. Dey
Sr. Chemist

Add'l R&D Services



Technical Manager

Aditi R&D Services, Sindri

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Ref. No.: - ARDS/23-24/1956 Date: 18.02.2024

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 : 12/02/2024 to 13/02/2024
- Date of Testing : 14/02/2024 to 17/02/2024
- Test Procedure : As per IS-5182

TEST RESULTS

LOCATION – W.T.P. MALKERA				
	Avg. Ambient Temperature	23 ⁰ C	Avg. Humidity	49%
Sl No.	Particulars	Value	CPCB STANDARD	
1.	Particulate Matter (PM ₁₀), µg/m ³	72.89	100 µg/m ³	
2.	Particulate Matter (PM _{2.5}), µg/m ³	44.12	60 µg/m ³	
3.	SO ₂ , µg/m ³	17.22	80 µg/m ³	
4.	NO ₂ , µg/m ³	28.46	80 µg/m ³	
5.	Ozone, µg/m ³	18.56	180 µg/m ³	
6.	NH ₃ , µg/m ³	17.83	400 µg/m ³	
7.	CO, mg/m ³	1.38	4 mg/m ³	
8.	Pb, µg/m ³	BDL	1 µg/m ³	
9.	As, ng/m ³	BDL	6 ng/m ³	
10.	Ni, ng/m ³	BDL	20 ng/m ³	
11.	Benzene, µg/m ³	BDL	5 µg/m ³	
12.	Benzoapyrene ng/m ³	BDL	1 ng/m ³	

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





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/23-24/1914 Date: 14.02.2024		TATA STEEL JHARIA DIVISION							
Date of Monitoring		TATA STEEL COLLIERY (SIJUA GROUP)							
12/02/2024 – 13/02/2024		Avg. Ambient Temperature (°C)		Average Humidity (%)		Weather Condition		Status of the plant	
Work Order 4700092573/932 Dt. 20.07.2021		23		49		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	64.6	50.6	61.76	58.2	44.8	55.38	75	70
2.	Sijua Colliery 15 Pit	67.8	64.6	66.49	57.6	42.6	54.72		
								Residential Area	Residential Area
3.	Russi Vihar Colony	59.4	45.2	56.55	47.8	34.6	44.99	65	55
4.	WTP Malkera	58.6	49.8	56.13	43.2	36.8	41.09		

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


Sr. Chemist
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Technical Manager
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/23-24/1942

Date: 17-02-2024

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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 : 13/02/2024
 Date of Testing : 14/02/2024 – 16/02/2024
 Test Procedure : As per IS

TEST RESULTS

Sl No.	Particulars	Mineralogical Composition (%)			
		SiO ₂	FeO	Al ₂ O ₃	CaO
1.	SIJUA Colliery, 15 Pit	1.63	0.06	0.18	1.6
2.	Russi Vihar Colony	0.8	0.58	1.10	2.3

Sr. Chemist
Aditi R&D Services



Technical Manager
Aditi R&D Services, Sindri



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Ref. No.: ARDS/23-24/1965

Date: 19.02.2024

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:

:

13/02/2024

• Date of Testing

:

14/02/2024 To 17/02/2024


• Test

:

pH, TDS, Turbidity, DO, BOD, Cl, F, SO₄


TEST RESULT


Sl. No.	PARAMETERS OF TEST	VALUE		Limit as per IS 2296 Class - C	Test Method
		Katri River (Up Stream)	Katri River (Down Stream)		
1.	pH,	7.7	7.8	6.5 - 8.5	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	928	932	1500(Max.)	IS-3025 (P-16): 1984
3.	Turbidity, NTU	1.0	1.4	-	IS-3025 (P-10):1984
4.	Dissolved Oxygen, mg/l	4.5	3.9	4 (Min.)	IS-3025 (P-38):1989
5.	Bio chemical Oxygen Demand, mg/l	1.4	1.7	3	IS-3025 (P-44):1994
6.	Chloride as Cl, mg/l	59.8	55.1	600(Max)	IS-3025 (P-32):1988
7.	Fluoride as F, mg/l	0.60	0.65	1.5 (Max.)	IS-3025 (P-60):2008
8.	Sulphate as SO ₄ , mg/l	49.2	55.7	400 (Max.)	IS-3025 (P-24):1986



Sr. Chemist

Aditi R&D Services





Technical Manager

Aditi R&D Services, Sindri


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Ref. No.: - ARDS/23-24/1984

Date: 21.02.2024

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 Sijua Colliery
2. 8 Pit Sijua Colliery
3. 15 Pit Sijua Colliery
4 B.C.P.P. Final Setting Pond
5. Bhelatand A Colliery

• Date of Sample Collection:

:

13/02/2024 & 16/02/2024

• Date of Testing

:

14/02/2024 To 20/02/2024


• 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	Bhelatnd A Colliery		
1.	pH,	8.1	8.1	8.0	7.6	7.9	6.5-8.5	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	630	799	972	920	740	-	IS-3025 (P-16): 1984
3.	Total Suspended Solids, mg/l	27	29	42	36	32	-	IS-3025 (P-17): 1984
4.	Bio chemical Oxygen Demand, mg/l	2.1	2.4	2.7	2.1	2.8	3	IS-3025 (P-44):1994
5.	Chemical Oxygen Demand, mg/l	76	106	99	68	38	-	IS-3025 (P-58):2006
6.	Oil & Grease, mg/l	BDL	BDL	2.0	BDL	BDL	-	IS-3025 (P-39):2021



Sr. Chemist

Aditi R&D Services





Technical Manager

Aditi R&D Services, Sindri


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Ambient Air Quality and Groundwater Quality Report (Period- October’23 to March’24)



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Website: aditirnds-services.com

Phone: 0326-2952377 (O)

Mobile: 09471358492, 09431512608

Ref. No.: - ARDS/23-24/1976

Date: 20.02.2024

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

4. S.T.P. Outlet Bhelatand Officer Colony

• Date of Sample Collection:

: 13/02/2024

• Date of Testing

: 14/02/2024 To 19/02/2024

• 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	S.T.P. Outlet Bhelatand Officers Colony		
1.	pH,	7.7	8.2	7.8	8.2	5.5 – 9.0	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	741	944	780	734	-	IS-3025 (P-16): 1984
3.	Total Suspended Solids, mg/l	39	43	35	38	100	IS-3025 (P-17): 1984
4.	Bio chemical Oxygen Demand, mg/l	9.3	4.5	5.7	7.8	30	IS-3025 (P-44):1994
5.	Chemical Oxygen Demand, mg/l	114	53	61	91	250	IS-3025 (P-58):2006
6.	Oil & Grease, mg/l	2.4	1.2	BDL	1.6	10	IS-3025 (P-39):2021

NOTE: BDL - Below Detection Limit

Aditi R&D Services

Sr. Chemist

Aditi R&D Services


Technical Manager

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

Ref. No.: - ARDS/23-24/1966

Date: 19.02.2024

TEST REPORT OF DRINKING WATER

Name of the industry

Work Order Ref. NO.:

Sample Code

Date of Sample Collection:

Date of Testing

Test

: TATA STEEL JHARIA DIVISION
TATA STEEL COLLIERY (SIJUA GROUP)
DIST. - DHANBAD (JHARKHAND)
: 4700092573/932 Dt. 20.07.2021
: 1. Canteen - Sijua Colliery
2. Canteen - Bhelatand Colliery
: 13/02/2024
: 14/02/2024 To 17/02/2024
: Olour, 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	1.0	1.0	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 ₃ , mg/l	193.6	198	200	600	IS 3025 (P-21):2009
7.	Chloride as Cl, mg/l	70.3	74.07	250	1000	IS 3025 (P-32):1988
8.	Res. Free chlorine as Cl ₂ mg/l	NIL	NIL	0.20	1.0	IS 3025 (P-26):2021
9.	Total Dissolved Solids, mg/l	410	499	500	2000	IS 3025 (P-16):1984
10.	Calcium as Ca, mg/l	40.5	42.2	75	200	IS 3025 (P-40):1991
11.	Copper as Cu, mg/l	BDL	BDL	0.05	1.5	IS 3025 (P-42):1992


Continued on Page 2

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Mobile: 09471358492, 09431512608

- 2 -

Sl. No.	PARAMETERS OF TEST	VALUE		IS as per IS 10500:1991		Test Method
		Canteen Sijua Colliery	Canteen Bhelatand Colliery	Desirable	Permissible	
12.	Manganese as Mn, mg/l	BDL	BDL	0.10	0.30	IS 3025 (P-59):2006
13.	Sulphate as SO ₄ , mg/l	27.9	42.4	200	400	IS 3025 (P-24):1986
14.	Nitrate as NO ₃ , mg/l	2.3	3.2	45	No. Relax	IS 3025 (P-34):1988
15.	Fluoride as F, mg/l	0.30	0.34	1.0	1.5	IS 3025 (P-60):2008
16.	Phenolic Compound as (C ₆ H ₅ 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	0.18	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 ₃ , mg/l,	340.8	345.6	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

[Signature]
Sr. Chemist
Aditi R&D Services




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

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Phone: 0326-2952377 (O)

Mobile: 09471358492, 09431512608

Ref. No.: - ARDS/23-24/1967

Date: 19.02.2024

TEST REPORT OF GROUND WATER

Name of the industry

Work Order Ref. NO.

Sample Code

Date of Sample Collection:

Date of Testing

Test

: TATA STEEL JHARIA DIVISION

: 4700092573/932 Dt. 20.07.2021

: 1. Bhelatand Basti (Near 500 Quarters)

: 2. Sijua 12 No.

: 3. Malkera Trigunait Basti

: 4. Rampur Basti road side

: 13/02/2024

: 14/02/2024 To 17/02/2024

: 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	Desir-able	Perm-issible	
1.	Colour, (Hazen Unit)	1	2	2	1	5	15	IS 3025 (P-4):2021
2.	Temperature °C	20°C	21°C	22°C	22°C	-	-	-
3.	Electrical Conductivity, µmhos/cm	1470	1650	1910	710	-	-	-
4.	Total Dissolved Solids, mg/l	808	907	1050	460	500	2000	IS 3025(P-6):1984
5.	pH	7.1	7.9	7.4	7.6	6.5-8.5	No Relax	IS-3025(P-11):1983
6.	Total Hardness as CaCO ₃ , mg/l	558.8	563.2	580.8	392	300	600	IS 3025(P-1):2009
7.	Calcium as Ca, mg/l	121.4	116.2	124.9	61.6	75	200	IS 3025(P-0):1991
8.	Magnesium as Mg, mg/l	61.3	65.5	64.4	33.12	30	100	IS 3025(P-6):1994
9.	Chloride as Cl, mg/l	129.2	74.1	250.7	43.7	250	1000	IS 3025(P-2):1988
10.	Fluoride as F, State mg/lts :	0.36	0.42	0.50	0.28	1.0	1.5	IS 3025(P-0):2008

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Continued on Page-2

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- 2 -

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	
11	Sulphate as SO ₄ , mg/l	74.7	54.4	35.4	23.2	200	400	IS 3025(P-24):1986
12	Nitrate as NO ₃ , mg/l	4.6	9.5	5.3	4.8	45	No. Relax	IS 3025(P-34):1988
13	Alkalinity as CaCO ₃ , mg/l	494.4	369.6	508.8	254.4	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	0.24	0.36	0.28	0.24	5	15	IS 3025(P-42):1992
16	Iron & Fe, mg/l	0.2	0.1	0.19	0.07	1.0	No. Relax	IS 3025(P-53):2003
17	Copper as Cu, mg/l	BDL	BDL	BDL	BDL	0.05	1.5	IS 3025(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

Anandita
Sr. Chemist
Aditi R&D Services




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

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TEST REPORT OF STACK EMISSION


Ref. No & Dt.		NAME AND ADDRESS OF THE CLIENT			
ARDS/23-24/1985 Date: 21.02.2024		TATA STEEL JHARIA DIVISION TATA STEEL COLLIERY (SIJUA GROUP) DIST. - DHANBAD (JHARKHAND)			
Date of Sample Collection					
16.02.2024					
Date of Testing		Nature of Sampling Collection: ISO – KINETIC SAMPLING			
19.02.2024 to 20.02.2024		Weather condition	Status of the Plant	Ambient Temperature (°C)	R.Humidity (%)
		Clear	Running	25	46


GENERAL INFORMATION		
1.	Nature of the Plant	COAL WASHERY
2.	Capacity of DG Set	4.5 MVA
3.	Location	B.C.P.P.
4.	No. of Stack	1
5.	Stack Height from G.L. in Meter	10
6.	Inner Shape & Size of Stack (in meter)φ	1
7.	Ht. of porthole from G.L. (Meter)	7
8.	Type of Fuel used	HSD

GASEOUS EMISSION ANALYSIS RESULTS

Sl. No	Particulars	Method	Value	As per CPCB Emission Standard for Diesel Engine (>0.8 MW) mg/Nm ³
1.	Flue gas temperature (°C)	IS : 11255 (Part-3)	82	-
2.	Velocity of flue gas (m/sec)	IS : 11255 (Part-3)	7.52	-
3.	Flow Rate of Flue gas (Nm ³ /Hr)	IS : 11255 (Part-3)	17855.54	-
4.	Concentration of Particulate Matter (mg/ Nm ³)	IS : 11255 (Part-1)	44.22	75


Sr. Chemist
Aditi R&D Services




Technical Manager
Aditi R&D Services, Sindri

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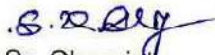
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Mobile: 09471358492, 09431512608

TEST REPORT OF NOISE (AMBIENT) LEVEL MONITORING

Ref. No. & Date	NAME AND ADDRESS OF THE CLIENT			
ARDS/23-24/1986 Date: 17.02.2024	TATA STEEL JHARIA DIVISION TATA STEEL COLLIERY (SIJUA GROUP) DIST. - DHANBAD (JHARKHAND)			
Date of Monitoring				
16.02.2024	Avg. Ambient Temperature (°C)	Average Humidity (%)	Weather Condition	Status of the plant
Work Order 4700092573/932 Dt. 20.07.2021	25	46	Clear	Running
MONITORING RESULTS				

Sl. No	Place of Monitoring	Day Time (6 AM to 10 PM) 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	
				Day Time	Night Time
LOCATION		MAX	MIN	Industrial Area	Industrial Area
SIJUA GROUP					
Bhelatand Coal Washery Near DG Set		70.6	69.4	75	70

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


Sr. Chemist
Aditi R&D Services




Technical Manager
Aditi R&D Services, Sindri

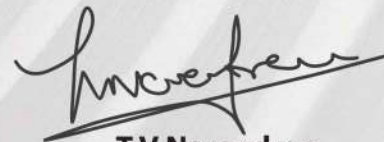
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ENVIRONMENTAL POLICY

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



ANNEXURE-IV

Coverage of Environment Clearance in newspapers

Environment Clearance coverage in Prabhat Khabar- Hindi Dainik, Dhanbad on 5th May'2017

प्रभात खबर

सूचना 18.14 सुबह 05.08

सिटी फर्स्ट

39°C 26°C

सूचना 18.14 सुबह 05.08

सूचना 18.14 सुबह 05.08

सिटी फर्स्ट

पृष्ठ संख्या, पृष्ठ संख्या

5.05.2017 03

सीएमडी के लिए साक्षात्कार 18 को

कोल इंडिया की अंश में सीएमडी के लिए साक्षात्कार 18 को

कोल इंडिया की अंश में सीएमडी के लिए साक्षात्कार 18 को

रेलवे लाइन शिफ्टिंग पर आज हो सकता है फैसला

रेलवे लाइन शिफ्टिंग पर आज हो सकता है फैसला

रेलवे लाइन शिफ्टिंग पर आज हो सकता है फैसला

रणधीर वर्मा स्मृति भवन में रेस्तरां खोलने का विरोध

रणधीर वर्मा स्मृति भवन में रेस्तरां खोलने का विरोध

रणधीर वर्मा स्मृति भवन में रेस्तरां खोलने का विरोध

हवाई सेवा के लिए अभियान चलायेगा वेंबर

हवाई सेवा के लिए अभियान चलायेगा वेंबर

हवाई सेवा के लिए अभियान चलायेगा वेंबर

महिला को सॉप में डाला, अस्पताल में भरती

महिला को सॉप में डाला, अस्पताल में भरती

महिला को सॉप में डाला, अस्पताल में भरती

टीएल स्टील सूचना

टीएल स्टील सूचना

टीएल स्टील सूचना

TATA STEEL

सूचना

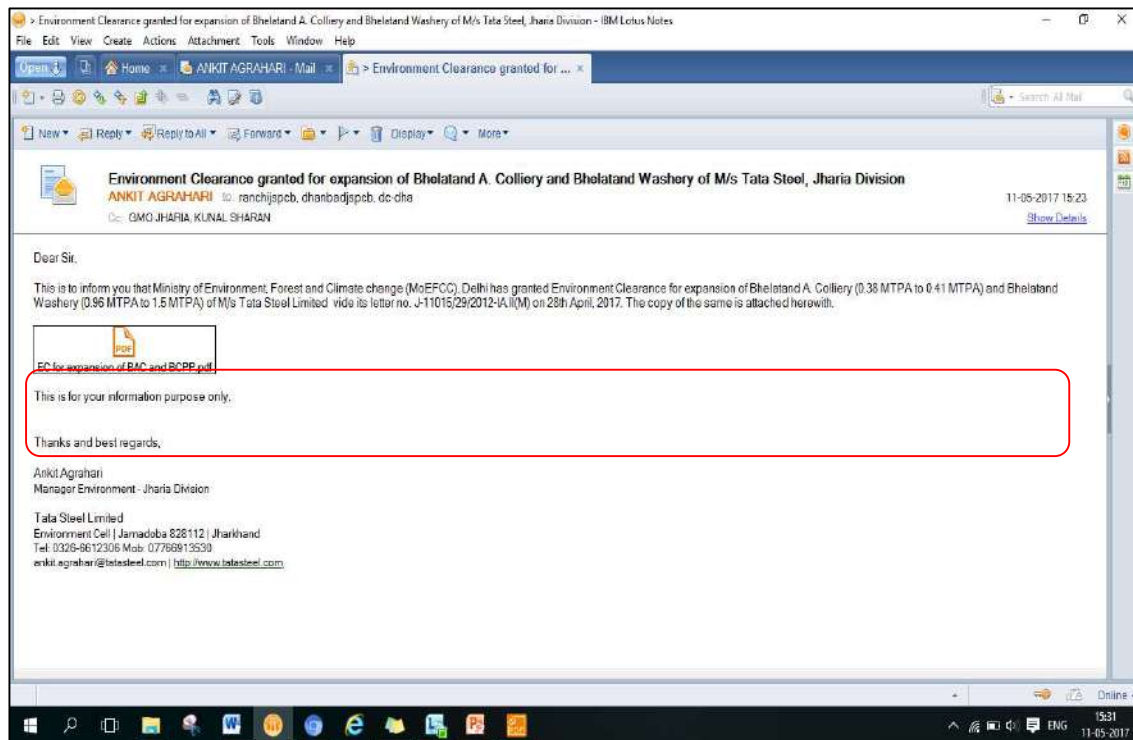
सर्वसाधारण को एतद् द्वारा सूचित किया जाता है कि मे 0 टाटा स्टील लिमिटेड, झारिया डीवीजन के मेलाटांड अमलगमेटेड कोलियरी को 0.38 MTPA से 0.41 MTPA के विस्तारीकरण (521.68 Ha क्षेत्र में) तथा मेलाटांड वाशरी को 0.96 MTPA से 1.5 MTPA के विस्तारीकरण (8 Ha क्षेत्र में) हेतु पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, नई दिल्ली से दिनांक 28.04.2017 के पत्रांक J-11015/29/2012-IA.II(M) के द्वारा पर्यावरण स्वीकृति प्रदान की गई है। जिसकी प्रतिलिपि राज्य प्रदूषण नियंत्रण बोर्ड तथा पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय के वेबसाइट : www.environmentclearance.nic.in पर भी उपलब्ध है।

महाप्रबंधक (झारिया), टाटा स्टील जामाडोबा (धनबाद)

[illegible]

A graphic for a notice from TATA STEEL. At the top, the words "TATA STEEL" are written in a bold, black, sans-serif font. Below this, the word "सूचना" (Notice) is written in a stylized, bold, black font. A large, blue, downward-pointing arrow is positioned to the right of the word "सूचना".

Communication to government offices regarding grant of EC



Annexure-V ----Installation of high resolution revolving cameras at BCPP

