



Ref. No. – TSG/EC/SBWM-1/2024-25/Nov-24/02
Date - 19/11/2024

To,

Deputy Director General of Forests (C)
Ministry of Environment, Forest and Climate Change
Integrated Regional Office, 2nd Floor, Headquarter- Jharkhand State Housing Board
Harmu Chowk, Ranchi, Jharkhand – 834002

Subject: Half yearly environmental clearance compliance report of Straight Bar & Wire Mill Division-1 of Tata Steel Limited for the period from April 2024 to September 2024

Reference:

Environment clearance vide letter no. EC/SEIAA/2015-16/872/2015/262 dt. 05.11.2018

Sir,

We are herewith submitting half yearly compliance report of Straight Bar & Wire Mill Division-1 of Tata Steel Limited at Adityapur Industrial Area, Village: Bara Gamharia, Tehsil: Gamharia, District: Saraikela-Kharsawan. The compliance report is for the period from April 2024 to September 2024.

This is for your kind information and necessary records please.

Thanking you,

Yours sincerely

For **Tata Steel Limited, Gamharia**
Straight Bar & Wire Mill Division-1

(Ravi Ranjan Prasoon)
Head -Environment TSG

Cc:

1. The Zonal Head, CPCB, Kolkata
2. The Member Secretary, JSPCB
3. The Regional Officer, JSPCB

TATA STEEL LIMITED

Tata Steel Gamharia Seraikela Kharsawan Jamshedpur 832 108 India
Tel 065771 02349

Registered Office Bombay House 24 Homi Mody Street Fort Mumbai 400 001 India
Tel 91 22 6665 8282 Website www.tatasteel.com
Corporate Identity Number L27100MH1907PLC000260

| | |
|--|---|
| Half yearly Environment Clearance Compliance Status (From April 2024 to September 2024) | EC Accord No: F. No: EC/SEIAA/2015-16/872/2015/262 |
| | Issue date: 05.11.2018 |

COMPLIANCE OF STIPULATED CONDITIONS OF ENVIRONMENTAL CLEARANCE

| Sl No | Conditions | Compliance status |
|---------------------------------|--|--|
| A. Specific conditions | | |
| 01 | I. This Environmental Clearance is valid subject to the following condition below- That this project has- A. Obtained all legal rights to operate at concerned place. B. Complied with all existing concerned laws of the land. C. Complied with the decisions of SEIAA on the issue of environmental clearance till date. | Noted and being followed. |
| II. Statutory compliance | | |
| 02 | I. The project proponent shall obtain forest clearance under the provisions of Forest (conservation) Act. 1986, In case of the diversion of forest land for non- forest purpose involved in the project. | Not applicable since it falls under approved industrial area. |
| 03 | II. The project proponent shall obtain clearance from the national board for wildlife, if applicable. | Not applicable since it falls under approved industrial area. |
| 04 | III. The project proponent shall prepare a site-specific conservation plan & wildlife Management plan and approved by the chief wildlife warden. The recommendations of the approved site-specific conservation plan/ wildlife management plan shall be implemented in consultation with the state forest department. The implementation report shall be furnished along with the six-monthly compliance report. (in case of the presence of schedule-I species in the study area) | Not applicable since it falls under approved industrial area. |
| 05 | IV. The project proponent shall obtain Consent to Establish / Operate under the provision of air (prevention & control of pollution) Act. 1981 and the water (prevention & control of pollution) Act. 1974 from the concerned state pollution control Board/committee. | The Consent to Establish and Consent to Operate were obtained from Jharkhand State Pollution Control Board vide letter No. JSPCB/HO/RNC/CTE-13774242/2022/465 dt. 24/10/2022 and JSPCB/HO/RNC/CTO-17527598/2024/624 dt. 05/04/2024 |

Tata Steel Limited

Address: Adityapur Industrial Area, Gamharia, District: Saraikela- Kharsawan, Jharkhand

| | |
|--|---|
| Half yearly Environment Clearance Compliance Status (From April 2024 to September 2024) | EC Accord No: F. No: EC/SEIAA/2015-16/872/2015/262 |
| | Issue date: 05.11.2018 |

| | | |
|---|--|---|
| 06 | V. The project proponent shall obtain the necessary permission from the Central Ground water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project. | Not applicable as because no ground water is drawn. |
| 07 | VI. The project proponent shall obtain authorization under the Hazardous and other waste management rules, 2016 as amended from time to time. | Hazardous waste authorization for the existing facility was obtained vide reference no. JSPCB/HO/RNC/HWM-18666808/2024/47 Dt. 30/05/2024 |
| III. Air quality monitoring and preservation | | |
| 08 | I. The project proponent shall install 24x7 continuous emission monitoring system at process stack to monitor stack emission with respect to standards prescribed in environment (Protection) Rules 1986 vide G.S.R 277(E) dated 31st March 2012 (applicable to IF/EAF) as amended from time to time; S.O. 3305 (E) dated 7th December 2015(Thermal Power Plants) as amended from time to time) and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories. | The unit doesn't have an induction furnace of Electric Arc Furnace and is only a stand-alone mill and doesn't come under the purview of notification G.S.R 277 (E) dt.31.03.2012 (Integrated Iron and Steel Plant Standards) and S.O.3305 (E) dt.07.12.2015 (Thermal Power Plant standards) mentioned in the condition. |
| 09 | II. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories. | Fugitive emission is monitored on monthly basis through NABL / JSPCB accredited laboratory. Work-Zone Air Quality Monitoring Report is attached as Annexure - 5 |
| 10 | III. The project proponent shall install system carryout continuous ambient Air Quality monitoring for common criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 in reference to PM emission, and SO2 and NOX in reference to SO2 and NOX emission) within and outside the plant area (at last at four locations one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions. (case to case basis small plants: Manual; Large plants: Continuous) | Manual ambient air monitoring is undertaken by NABL / JSPCB accredited laboratory. Ambient Air Quality Monitoring Report attached as Annexure - 1 |

| | |
|--|---|
| Half yearly Environment Clearance Compliance Status (From April 2024 to September 2024) | EC Accord No: F. No: EC/SEIAA/2015-16/872/2015/262 |
| | Issue date: 05.11.2018 |

| | | |
|--|---|---|
| 11 | IV. The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality / fugitive emission to Regional Office of MoEFCC, Zonal office of CPCB and regional office of SPCB along with six monthly monitoring report | Monthly monitoring is done regularly through NABL accredited laboratory. Stack Emission Monitoring Report attached as Annexure - 2 |
| 12 | V. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources. | It is a small Reheating Furnace, there is not require any Air Pollution Control Device, however water sprinklers have been installed to control the fugitive emission during vehicle movement |
| 13 | VI. The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags. | Not applicable as it is a finishing mill with no significant pollution potential. |
| 14 | VII. Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly. | Noted and steps will be taken to maintain the area clean and tidy. |
| 15 | VIII. Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting agglomeration. | Not applicable since it is only a small finishing mill. |
| 16 | IX. The project proponent shall use leak proof trucks/ dumpers carrying coal and other raw materials and cover them with tarpaulin. | Not applicable since it is only a small finishing mill. Raw materials such as coal will not be used. |
| 17 | X. The project proponent shall provide covered sheds for raw materials like scrap and sponge iron, lump ore, coke, coal, etc. | Not applicable since it is only a small finishing mill. |
| 18 | XI. The project proponent shall provide primary and secondary fume extraction system at all melting furnaces. | Not applicable since it is only a small finishing mill. |
| 19 | XII. Design the ventilation system for adequate air changes as per ACGIH document for all tunnels houses, Oil Cellars. | Noted and all required safeguard will be incorporated in new construction. |
| IV. Water quality monitoring and preservation | | |

| | |
|--|---|
| Half yearly Environment Clearance Compliance Status (From April 2024 to September 2024) | EC Accord No: F. No: EC/SEIAA/2015-16/872/2015/262 |
| | Issue date: 05.11.2018 |

| | | |
|----|--|--|
| 20 | I. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (protection) Rules 1986 vide G.S.R 277(E) dated 31st March 2012 (applicable to IF/EAF) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time) and connected to SPCB and CPCB online service and calibrate these system from time to time according to equipment supplier specification through labs recognized under environment (Protection) Act.1986 or NABL accredited laboratories. (case to case basis Small plants: Manual Large Plants: Continuous) | The wastewater generated will be under close loop water circuit and no effluent will be discharged. |
| 21 | II. The project proponent shall monitor regularly ground water quality at least twice a year (pre and post monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act. 1986 and NABL Accredited laboratories. | Ground Water Quality Monitoring is carried out through NABL / JSPCB accredited laboratory and report submitted. Ground Water Quality Analysis Report attached as annexure - 3 |
| 22 | III. The project proponent shall submit monthly summary report of continuous effluent monitoring and result of manual effluent testing and manual monitoring of ground water quality to Regional Office of MoEF & CC, Zonal office of CPCB and Regional Office along with six- monthly monitoring report. | It is zero effluent discharge plant and all water will be recycled back in process for cooling. Manual monitoring reports of ground water will be submitted at required frequency as specified in environment clearance. |
| 23 | IV. Adhere to Zero liquid Discharge. | Noted and complied. |
| 24 | V. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards. | The quantity of sewage generation is too low for establishing STP. Therefore, domestic wastewater is treated through septic tank - soak pit arrangement. |
| 25 | VI. The project proponent shall provide the ETP the effluents of rolling mills to meet the standards prescribed in G.S.R 277 (E) 31 st March 2012 (applicable to IF/EAF) as amended from time to time. | The wastewater generated is under close loop water circuit and no effluent is discharged. |
| 26 | VII. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off n the event of heavy rains and to check the water pollution due to surface run off | Not applicable since raw materials will not be used in the process. It is only a small finishing mill. |

| | |
|--|---|
| Half yearly Environment Clearance Compliance Status (From April 2024 to September 2024) | EC Accord No: F. No: EC/SEIAA/2015-16/872/2015/262 |
| | Issue date: 05.11.2018 |

| | | |
|---|---|---|
| 27 | VIII. The project proponent shall practice rainwater harvesting to maximum possible extent. | Rainwater harvesting structures are created within the premises to harvest rainwater. |
| 28 | IX. The project proponent shall make efforts to minimize water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water. | Noted and effort shall be made to minimize total water consumption. |
| V. Noise monitoring and prevention | | |
| 29 | I. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six- monthly compliance report. | Ambient noise level is maintained within the norms specified under the Environment Protection Act, 1986. Ambient Noise monitoring report attached as Annexure - 4 |
| 30 | II. The ambient noise levels should conform to the standards prescribed under E(P)A Rules 1986 viz. 75 dB (A) during day time and 70 dB(A) during night time. | Ambient noise level is maintained within the norms specified under the Environment Protection Act, 1986. Ambient Noise monitoring report attached as Annexure - 4 |
| VI. Energy Conservation Measures | | |
| 31 | I. The project proponent shall provide waste heat recovery system (pre-heating of combustion air) at the flue gases of reheating furnaces. | Recuperator is already installed for recovery of heat from waste gases. |
| 32 | II. Practice hot charging of slabs and billets/blooms as far as possible. | It is a stand-alone unit with no upstream facility available for hot charging. |
| 33 | III. Ensure installation of regenerative type burners on all reheating furnaces | High performance dual fuel burners are installed for ideal fuel efficiency. |
| 34 | IV. Provide solar power generation on rooftops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly. | Noted and possibility shall be explored. |
| 35 | V. Provide the project proponent for led lights in their offices and residential areas. | Noted and shall be explored. |
| VII. Waste Management | | |
| 36 | I. Used refractories shall be recycled as far as possible. | Noted and shall be complied. |

| | |
|--|---|
| Half yearly Environment Clearance Compliance Status (From April 2024 to September 2024) | EC Accord No: F. No: EC/SEIAA/2015-16/872/2015/262 |
| | Issue date: 05.11.2018 |

| | | |
|---|---|---|
| 37 | II. Oily scum and metallic sludge recovered from rolling mills ETP shall be mixed, dried, and briquetted and reused melting Furnaces | The quantum of metallic waste (mill scale) is very negligible whereby briquetting will not be feasible. However, the collected mill scale, and other waste are reused in the process or disposed of through authorized recyclers. |
| 38 | III. 100% utilization of fly ash shall be ensured. All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding in this regard shall be submitted to the Ministry Regional Office. | Not applicable. No fly ash will be generated since it is only a small finishing mill. |
| 39 | IV. The waste oil, grease and other hazardous waste shall be disposed of as per the Hazardous & other waste (Management & Transboundary Movement) Rules, 2016. | Hazardous Carbonaceous Wastes viz. Waste oil, used Oil & grease etc. are collected and sold to authorized recyclers approved by the JSPCB as per the Hazardous & other waste (Management & Transboundary Movement) Rules, 2016. |
| 40 | V. Kitchen waste shall be composted or converted to biogas for further use.(to be decided on case to case basis depending on type and size of plant). | There is no kitchen facility in the premises. |
| viii. Green Belt | | |
| 41 | I. Green belt shall be developed in an area equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter area cover the entire periphery of the plant. | The area is planted with over saplings and all open areas are covered with plantation to achieve 33% area. A captive nursery is developed at Tata Steel Limited, Gamharia (Main Plant-1) to grow saplings of various species including forest species. Species grown include Gulmohar, Karanj, Chakundi, Acacia siamia and Peltandra. Mature saplings are shifted to the various locations for plantation. |
| 42 | II. The project proponent shall prepare GHG emissions inventory for the plant and shall submit programme for reduction of the same including carbon sequestration including plantation. | Noted and shall be complied. |
| IX. Public hearing and human health issues | | |
| 43 | I. Emergency Preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented. | Emergency Preparedness plan (ERP) and Hazard identification and Risk Assessment (HIRA) documents are prepared for the unit. |

| | |
|--|---|
| Half yearly Environment Clearance Compliance Status (From April 2024 to September 2024) | EC Accord No: F. No: EC/SEIAA/2015-16/872/2015/262 |
| | Issue date: 05.11.2018 |

| | | |
|--|---|---|
| 44 | II. The project proponent shall carry out heat stress analysis for the workman who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act. | Appropriate PPEs are provided for protection against heat. Heat stress analysis is done as part of Process safety management. |
| 45 | III. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such a fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project. | No construction work is envisaged. |
| X. Corporate Environment Responsibility | | |
| 46 | I. The project proponent shall comply with the provisions contained in this Ministry's OM vied F.No. 22-65/2017-IA.III dated 1st may 2018, as applicable, regarding Corporate Environment Responsibility. | Noted and shall be complied. |
| 47 | II. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy prescribes for standard operating procedures to have proper checks and balances and to bring into focus any infringements/ deviation/ violation of the environmental/forest/ wildlife/ norms/ conditions. The company shall have defined system of reporting infringements/deviation/violation of the environmental/ forest/ wildlife norms/ condition and/ or shareholders/ stake holder. The copy of the board resolution in this regards shall be submitted to the MoEF & CC as a part of six- monthly report. | Noted and shall be complied. |
| 48 | III. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization. | A centralized Environment Cell, staffed with qualified personnel, is established at Tata Steel Long Products Limited's main plant to ensure legal compliance, and maintain monitoring records of SBWM-I |

| | |
|--|---|
| Half yearly Environment Clearance Compliance Status (From April 2024 to September 2024) | EC Accord No: F. No: EC/SEIAA/2015-16/872/2015/262 |
| | Issue date: 05.11.2018 |

| | | |
|--------------------------|---|---|
| 49 | IV. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/ Regional Office along with the Six Monthly Compliance Report. | Noted and shall be complied. |
| 50 | V. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out. | The company shall conduct an annual self-audit of its environmental practices. The self-audit shall cover all relevant areas and activities and shall be carried out by Environment Experts of the company. |
| 51 | VI. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the plants shall be implemented. | Recommendations made in Corporate Responsibility for Environment Conservation (CREP) is regularly reviewed and implemented. |
| 52 | VII. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act. | Health check-up for workers is done at periodic intervals and records maintained as per the Factories Act. |
| XI. Miscellaneous | | |
| 53 | I. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently. | Complied. |
| 54 | II. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies. Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt. | Complied. |
| 55 | III. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including | Status of compliance of the EC conditions along with monitoring data is being uploaded on the website of the company. |

Tata Steel Limited

Address: Adityapur Industrial Area, Gamharia, District: Saraikela- Kharsawan, Jharkhand

| | |
|--|---|
| Half yearly Environment Clearance Compliance Status (From April 2024 to September 2024) | EC Accord No: F. No: EC/SEIAA/2015-16/872/2015/262 |
| | Issue date: 05.11.2018 |

| | | |
|----|--|--|
| | results of monitored data on their website and update the same on half-yearly basis. | |
| 56 | IV. The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company. | Noted and being complied. |
| 57 | V. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of the Environment, Forest and Climate Change at environment clearance portal. | Noted and being complied. |
| 58 | VI. The project proponent shall submit the environment statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company. | Environmental Statement for each financial year is submitted regularly to JSPCB before 30 th of September every year. |
| 59 | VII. The project proponent shall inform the Regional Office as well as the maturity, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project. | Noted and shall be complied. |
| 60 | VIII. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government. | Noted and shall be complied. |
| 61 | IX. The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Experts Appraisal Committee. | Noted and shall be complied. |
| 62 | X. No further expansion or modification in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change (MoEF & CC). | No expansion or modification in the plant shall be carried out without prior approval of MoEFCC. |
| 63 | XI. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract | Noted |

Tata Steel Limited

Address: Adityapur Industrial Area, Gamharia, District: Saraikela- Kharsawan, Jharkhand

| | |
|--|---|
| Half yearly Environment Clearance Compliance Status (From April 2024 to September 2024) | EC Accord No: F. No: EC/SEIAA/2015-16/872/2015/262 |
| | Issue date: 05.11.2018 |

| | | |
|------------------------------|--|-------|
| | action under the provisions of Environment (Protection) Act, 1986. | |
| 64 | XII. The Ministry may revoke or suspend the clearance if implementation of any of the above conditions is not satisfactory. | Noted |
| 65 | XIII. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions. | Noted |
| 66 | XIV. 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. | Noted |
| 67 | XV. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India/High Courts and any other Courts of Law relating to the subject matter. | Noted |
| 68 | XVI. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010. | Noted |
| B. Other conditions : | | |
| 69 | 1. The authority reserves the right to add any new condition or modify the above conditions or to revoke the clearance if conditions stipulated above are not implemented to satisfaction of Authority or for that matter for any other administrative reason. | Noted |
| 70 | 2. In view of MoEF & CC O.M. No. 22-27/2015-IA-III, dated- 12.04.2016. The Environmental Clearance accorded shall be valid for a period of seven (07) years. The PP shall not increase production rate and make | Noted |

| | |
|--|---|
| Half yearly Environment Clearance Compliance Status (From April 2024 to September 2024) | EC Accord No: F. No: EC/SEIAA/2015-16/872/2015/262 |
| | Issue date: 05.11.2018 |

| | | |
|----|---|-------|
| | modifications in process during the validity of Environmental Clearance. | |
| 71 | 3. In case of any deviation or alteration in the project proposed from those submitted to SEIAA, Jharkhand for clearance, a fresh reference should be made to SEIAA assess the adequacy of the conditions imposed and to incorporate any new conditions if required | Noted |

| | Amibent Air Quality Monitoring | | | | | | | | | | | | | | | | |
|-----|--------------------------------|--------|-----------------|-------------|------------|--------------|--------------|---------------|----------------|--------------|----------------|---------------|------------------|------------------|-------------------------|------------------|-----------------|
| SN. | Sampling location | Month | Report No. | Sampling on | | Parameters | | | | | | | | | | | |
| | | | | Start | End | SO2 (ug/ m3) | NO2 (ug/ m3) | PM10 (ug/ m3) | PM2.5 (ug/ m3) | CO (ug/ m3) | Ozone (ug/ m3) | Lead (ug/ m3) | Ammonia (ug/ m3) | Benzene (ug/ m3) | Benzo(a)pyrene (ng/ m3) | Arsenic (ng/ m3) | Nickel (ng/ m3) |
| 1 | SBWM Near QA Building. | Apr-24 | RN-230714001A5 | 02-04-2024 | 03-04-2024 | 23.4 | 48.2 | 84.2 | 42.9 | BDL(MDL 1.8) | 25.9 | 0.2 | 36.4 | BDL (MDL- 0.06) | BDL (MDL0.18) | BDL (MDL-2) | BDL (MDL-4) |
| 2 | | | RN-230714001A11 | 12-04-2024 | 13-04-2024 | 25.5 | 32.4 | 91.5 | 43.6 | BDL(MDL 1.8) | 26.4 | 0.2 | 45.8 | BDL (MDL- 0.06) | BDL (MDL0.18) | BDL (MDL-2) | BDL (MDL-4) |
| 3 | | | RN-230714001A17 | 15-04-2024 | 16-04-2024 | 26.5 | 40.3 | 90.5 | 40.7 | BDL(MDL 1.8) | 23.7 | 0.3 | 41.2 | BDL (MDL- 0.06) | BDL (MDL0.18) | BDL (MDL-2) | BDL (MDL-4) |
| 4 | | | RN-230714001A23 | 25-04-2024 | 26-04-2024 | 23.5 | 34.7 | 92.6 | 48.2 | BDL(MDL 1.8) | 26.7 | 0.3 | 42.6 | BDL (MDL- 0.06) | BDL (MDL0.18) | BDL (MDL-2) | BDL (MDL-4) |
| 5 | SBWM Near QA Building. | May-24 | RN-230714001A5 | 06-05-2024 | 07-05-2024 | 22.7 | 44.1 | 88.1 | 44.6 | BDL(MDL 1.8) | 23.6 | 0.2 | 32.4 | BDL (MDL- 0.06) | BDL (MDL0.18) | BDL (MDL-2) | BDL (MDL-4) |
| 6 | | | RN-230714001A11 | 17-05-2024 | 18-05-2024 | 23.5 | 30.7 | 92.4 | 41.2 | BDL(MDL 1.8) | 25.4 | 0.2 | 42.9 | BDL (MDL- 0.06) | BDL (MDL0.18) | BDL (MDL-2) | BDL (MDL-4) |
| 7 | | | RN-230714001A17 | 21-05-2024 | 22-05-2024 | 25.4 | 38.6 | 86.2 | 42.1 | BDL(MDL 1.8) | 21.6 | 0.3 | 43.2 | BDL (MDL- 0.06) | BDL (MDL0.18) | BDL (MDL-2) | BDL (MDL-4) |
| 8 | | | RN-230714001A23 | 27-05-2024 | 28-05-2024 | 20.4 | 36.9 | 96.4 | 45.7 | BDL(MDL 1.8) | 22.4 | 0.3 | 38.4 | BDL (MDL- 0.06) | BDL (MDL0.18) | BDL (MDL-2) | BDL (MDL-4) |
| 9 | SBWM Near QA Building. | Jun-24 | RN-230714001A2 | 08-06-2024 | 09-06-2024 | 23.6 | 46.3 | 92.7 | 49.3 | BDL(MDL 1.8) | 21.4 | 0.2 | 36.4 | BDL (MDL- 0.06) | BDL (MDL0.18) | BDL (MDL-2) | BDL (MDL-4) |
| 10 | | | RN-230714001A8 | 15-06-2024 | 16-06-2024 | 25.8 | 42.3 | 96.2 | 42.3 | BDL(MDL 1.8) | 23.5 | 0.2 | 44.6 | BDL (MDL- 0.06) | BDL (MDL0.18) | BDL (MDL-2) | BDL (MDL-4) |
| 11 | | | RN-230714001A14 | 21-06-2024 | 22-06-2024 | 24.6 | 40.6 | 92.4 | 45.2 | BDL(MDL 1.8) | 19.3 | 0.3 | 45.6 | BDL (MDL- 0.06) | BDL (MDL0.18) | BDL (MDL-2) | BDL (MDL-4) |
| 12 | | | RN-230714001A20 | 28-06-2024 | 29-06-2024 | 22.5 | 37.5 | 99.1 | 48.2 | BDL(MDL 1.8) | 20.5 | 0.3 | 41.3 | BDL (MDL- 0.06) | BDL (MDL0.18) | BDL (MDL-2) | BDL (MDL-4) |
| 13 | SBWM Near QA Building. | Jul-24 | RN-230714001A5 | 02-07-2024 | 03-07-2024 | 21.2 | 43.7 | 90.1 | 46.7 | BDL(MDL 1.8) | 18.4 | 0.2 | 33.6 | BDL (MDL- 0.06) | BDL (MDL0.18) | BDL (MDL-2) | BDL (MDL-4) |
| 14 | | | RN-230714001A11 | 13-07-2024 | 14-07-2024 | 23.1 | 39.5 | 93.4 | 39.5 | BDL(MDL 1.8) | 20.7 | 0.2 | 41.8 | BDL (MDL- 0.06) | BDL (MDL0.18) | BDL (MDL-2) | BDL (MDL-4) |
| 15 | | | RN-230714001A17 | 20-07-2024 | 21-07-2024 | 21.3 | 37.4 | 88.8 | 41.6 | BDL(MDL 1.8) | 15.7 | 0.3 | 42.5 | BDL (MDL- 0.06) | BDL (MDL0.18) | BDL (MDL-2) | BDL (MDL-4) |
| 16 | | | RN-230714001A23 | 26-07-2024 | 27-07-2024 | 19.4 | 34.2 | 95.6 | 44.7 | BDL(MDL 1.8) | 17.6 | 0.3 | 37.8 | BDL (MDL- 0.06) | BDL (MDL0.18) | BDL (MDL-2) | BDL (MDL-4) |
| 17 | SBWM Near QA Building. | Aug-24 | RN-230714001A4 | 28-08-2024 | 29-08-2025 | 24.50 | 32.20 | 63.70 | 32.40 | BDL(MDL 1.8) | 19.30 | 0.40 | 36.70 | BDL (MDL- 0.06) | BDL (MDL0.18) | BDL (MDL-2) | BDL (MDL-4) |
| 18 | SBWM Near QA Building. | Sep-24 | RN-240715001A5 | 07-09-2024 | 08-09-2024 | 23.1 | 46.4 | 90.1 | 46.7 | BDL(MDL 1.8) | 21.8 | 0.17 | 23.10 | BDL (MDL- 0.06) | BDL (MDL0.18) | BDL (MDL-2) | BDL (MDL-4) |
| 19 | | | RN-240715001A11 | 12-09-2024 | 13-09-2024 | 24.9 | 42.0 | 93.4 | 39.5 | BDL(MDL 1.8) | 24.4 | 0.19 | 24.90 | BDL (MDL- 0.06) | BDL (MDL0.18) | BDL (MDL-2) | BDL (MDL-4) |
| 20 | | | RN-240715001A17 | 20-09-2024 | 21-09-2024 | 23.2 | 40.1 | 88.8 | 41.6 | BDL(MDL 1.8) | 19.1 | 0.30 | 23.20 | BDL (MDL- 0.06) | BDL (MDL0.18) | BDL (MDL-2) | BDL (MDL-4) |
| 21 | | | RN-240715001A23 | 27-09-2024 | 28-09-2024 | 21.2 | 36.7 | 95.6 | 44.7 | BDL(MDL 1.8) | 21.3 | 0.32 | 21.20 | BDL (MDL- 0.06) | BDL (MDL0.18) | BDL (MDL-2) | BDL (MDL-4) |



Test Report

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|------------------------------|---|---|-------------|--|---|--------------------|---------------------------|---|---|--------------------|---|---|---|
| ULR No.: | T | C | 1 | 1 | 5 | 1 | 5 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 9 | 5 |
| Discipline: Chemical | | | | | Group: Atmospheric Pollution | | | | | | | Sub-Group: Ambient Air | | | | | | |
| Report Issue Date: 18-09-2024 | | | | | | | | | Test Report No.: RN-240715001A11 | | | | | | | | | |
| Sample ID: 240916AP17005 | | | | | | | | | Sample Description: Ambient Air | | | | | | | | | |
| Challan No./P.O. No.: 3000173714/J02 | | | | | | | | | Challan No./ P.No. Date: 15-07-2024 | | | | | | | | | |
| Issued to: <div>M/s Tata Steel Limited (Formerly Tata Steel Long Products Limited) Gamaharia Phase-V, Adityapur Industrial Area, Seraikela-Kharsawan, Jharkhand-832108</div> | | | | | | | | | | | | | | | | | | |
| Type of Industry: Iron & Steel | | | | | | | | | Customer Representative: Kishor Pramanik | | | | | | | | | |
| Sample Drawn by: IEM Team | | | | | | | | | Sampling Date: 12-09-2024 to 13-09-2024 | | | | | | | | | |
| Protocol: CPCB Guideline(NAAQMS/36/2012-13) & IS Method 5182 Series | | | | | | | | | | | | | | | | | | |
| Sampling Location: SBM NEAR QA BUILDING UNIT - 1 | | | | | | | | | | | | | | | | | | |
| Field Meteorological Information | | | | | A. Temp.(°C): 31 | | | R.H.(%): 65 | | | W.C.: Partly Sunny | | | | W.D.: West to East | | | |
| Sample Receiving Date: 16-09-2024 | | | | | Testing Started: 16-09-2024 | | | | | | | Testing Ended: 18-09-2024 | | | | | | |

---Test Results---

| Sl. No. | Parameters | Test Method | Unit | Result | Norms** |
|---------|---|-------------------------------|-------------------|-------------|---------|
| 1. | Particulate Matter (PM ₁₀) | IS 5182 Part 23:2006 RA 2017 | µg/m ³ | 93.4 | 100 |
| 2. | Particulate Matter (PM _{2.5}) | IS 5182 Part 24: 2019 | µg/m ³ | 39.5 | 60 |
| 3. | Sulphure Dioxide (SO ₂) | IS 5182 Part 02: 2001 RA 2017 | µg/m ³ | 24.9 | 80 |
| 4. | Nitrogen Dioxide (NO ₂) | IS 5182 Part 06: 2006 RA 2017 | µg/m ³ | 42.0 | 80 |
| 5. | Ammonia (NH ₃) | IS 5182 Part 25: 2018 | µg/m ³ | 44.4 | 400 |
| 6. | Ozone (O ₃) | IS 5182 Part 09: 1974 | µg/m ³ | 24.4 | 180 |
| 7. | Arsenic (As) | USEPA IO 3.2: 1999 | ng/m ³ | BDL (MDL-2) | -- |
| 8. | Lead (Pb) | IS 5182 Part 22: 2004 | µg/m ³ | 0.2 | 1.0 |
| 9. | Nickel (Ni) | IS 5182 Part 26: 2020 | ng/m ³ | BDL (MDL-4) | -- |

---End of Report---

| | |
|-----------------------|---|
| Env.Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL:Below Detection Limit |
| Norms** is Specified | National Ambient Air Quality Standards (NAAQS), 2009. |
| Remark | Sample Comply with prescribed specification |

Tested By: Akanksha Sourabh

Sample Drawn By: Rahul Singh & Team

Specific Contractual Notes:-

1. The laboratory accepts responsibility for content of this report.
2. This report shall not be reproduced except in full, without written approval of the MD.
3. This report is intended for only guidance and not for legal purpose or for advertisement.
4. Any complaint about this report should be communicated in writing within 7 days of its issue
5. Total liability of Institute for Environmental Management will be limited to invoiced amount only.
6. In case of feedback/ complaints, please send an email at gm.iemeco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

| | |
|-------------------|----------------------|
| Reviewed by | Authorized Signatory |
| | |
| (Tauqeer Ahmad) | (Dr. S. C. Jain) |
| Technical Manager | Director |



Test Report

| | | | | | |
|---|--|------------------------------|--|---------------------------|--------------------|
| Discipline: Chemical | | Group: Atmospheric Pollution | | Sub-Group: Ambient Air | |
| Report Issue Date: 18-09-2024 | | | Test Report No.: RN-240715001A11 | | |
| Sample ID: 240916AP17005 | | | Sample Description: Ambient Air | | |
| Challan No./P.O. No.: 3000173714/J02 | | | Challan No./ P.No. Date: 15-07-2024 | | |
| Issued to: <div>M/s Tata Steel Limited (Formerly Tata Steel Long Products Limited) Gamaharia Phase-V, Adityapur Industrial Area, Seraikela-Kharsawan, Jharkhand-832108</div> | | | | | |
| Type of Industry: Iron & Steel | | | Customer Representative: Kishor Pramanik | | |
| Sample Drawn by: IEM Team | | | Sampling Date: 12-09-2024 to 13-09-2024 | | |
| Protocol: CPCB Guideline(NAAQMS/36/2012-13) & IS Method 5182 Series | | | | | |
| Sampling Location: SBM NEAR QA BUILDING UNIT - 1 | | | | | |
| Field Meteorological Information | | A. Temp.(°C): 31 | R.H.(%): 65 | W.C.: Partly Sunny | W.D.: West to East |
| Sample Receiving Date: 16-09-2024 | | Testing Started: 16-09-2024 | | Testing Ended: 18-09-2024 | |

----Test Results----

| Sl. No. | Parameters | Test Method | Unit | Result | Limits |
|---------|--|-----------------------|-------------------|----------------|--------|
| 10. | Benzene (C ₆ H ₆) | IS 5182 Part 11: 2006 | µg/m ³ | BDL (MDL-0.06) | -- |
| 11. | Benzo (a) Pyrene (Bap) Particulate Phase Only | IS 5182 Part 12: 2004 | ng/m ³ | BDL (MDL-0.18) | -- |
| 12. | Carbon Monoxide | IEM/SOP/Air-01:2022 | mg/m ³ | BDL(MDL-1.8) | -- |

----End of Report----

| | |
|-----------------------|---|
| Env.Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL:Below Detection Limit |
| Norms** is Specified | National Ambient Air Quality Standards (NAAQS), 2009. |
| Remark | N/A. |

Tested By: Akanksha Sourabh

Sample Drawn By: Rahul Singh & Team

Specific Contractual Notes: -

1. The laboratory accepts responsibility for content of this report.
2. This report shall not be reproduced except in full, without written approval of the MD.
3. This report is intended for only guidance and not for legal purpose or for advertisement.
4. Any complaint about this report should be communicated in writing within 7 days of its issue
5. Total liability of Institute for Environmental Management will be limited to invoiced amount only.
6. In case of feedback/ complaints, please send an email at gm.iemeco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

Reviewed by: Authorized Signatory

T. Ahmed
(Tauqeer Ahmed)
Technical Manager

(Dr. S. C. Jain)
Director

Stack Emission Monitoring

| S.No | Unit | Stack Attached to | Month | Report No. | Sampling on | Sampling Time | Flue Gas Temp. (Deg.C) | Stack Gas Velocity (m/s) | Gas Flow (Nm3/hr) | PM (mg/Nm3) | SO2 (mg/Nm3) | NOX (mg/Nm3) |
|------|----------|-------------------|--------|-----------------|-------------|----------------------|------------------------|--------------------------|-------------------|-------------|--------------|--------------|
| 1 | SBWM - 1 | Reheating Furnace | Apr-24 | RN-230714001S01 | 03.04.2024 | 2:00 pm to 02:47 pm | 335 | 11.2 | 33895 | 19.8 | 63.4 | 82.1 |
| 2 | | Reheating Furnace | May-24 | RN-230714001S20 | 29.05.2024 | 11:03 am to 11:35 am | 339 | 11.5 | 34574 | 21.7 | 66.7 | 72.6 |
| 3 | | Reheating Furnace | Jun-24 | RN-230714001S18 | 28.06.2024 | 01:30 pm to 02:15 pm | 341 | 11.8 | 35359 | 20.6 | 69.7 | 75.8 |
| 4 | | Reheating Furnace | Jul-24 | RN-230714001S20 | 31.07.2024 | 12:20 pm to 1:12 pm | 345 | 10.6 | 31507 | 21.5 | 69.4 | 76.9 |
| 5 | | Reheating Furnace | Aug-24 | RN-230714001S05 | 29.08.2024 | 12:35 pm to 01:15 pm | 315 | 13 | 32565 | 21.4 | 38.4 | 72.1 |
| 6 | | Reheating Furnace | Sep-24 | RN-240715001S16 | 27.09.2024 | 11:50 AM to 12:40 PM | 340 | 11.2 | 33616 | 23.2 | 41.9 | 76.9 |



Test Report

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|------------------------------|---|---|--------------|---|---|---------------------------|---|---|----------------|---|---|---|
| ULR No.: | T | C | 1 | 1 | 5 | 1 | 5 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 2 | 8 |
| Discipline: Chemical | | | | | | Group: Atmospheric Pollution | | | | | | Sub-Group: Stack Emission | | | | | | |
| Report Issue Date: 02-10-2024 | | | | | | | | | | Test Report No.: RN-240715001S16 | | | | | | | | |
| Sample ID: 240930AP19001 | | | | | | | | | | Sample Description: Stack Emission | | | | | | | | |
| Challan No./P.O. No.: 3000173714/J02 | | | | | | | | | | Challan No./P.No. Date: 15-07-2024 | | | | | | | | |
| Issued to: M/s Tata Steel Limited (Formerly Tata Steel Long Products Limited) Gamaharia Phase-V, Adityapur Industrial Area, Seraikela-Kharsawan, Jharkhand-832108 | | | | | | | | | | | | | | | | | | |
| Type of Industry: Iron & Steel | | | | | | | | | | Customer Representative: Kishor Pramanik | | | | | | | | |
| Sample Drawn by: IEM Team | | | | | | | | | | Sampling Date: 27-09-2024 (12:20 pm to 1:12 pm) | | | | | | | | |
| Protocol: CPCB Guideline (LATS/80/2013-14) & IS Method 11255 Series | | | | | | | | | | | | | | | | | | |
| Field Meteorological Information | | | | | | A. Temp.(°C): 30 | | | R.H. (%): 68 | | | W.C.: Semi-Cloudy | | | W.D.: SE to NW | | | |
| Sample Receiving Date: 30-09-2024 | | | | | | Testing Started: 30-09-2024 | | | | | | Testing Ended: 02-10-2024 | | | | | | |

General Physical Information

| | | | |
|-----------------------|-------------------|--|-------|
| Stack Identification | Single | Stack Height from Ground Level (m) | 34 |
| Emission Due to | Reheating Furnace | Port Hole Height from Ground Level (m) | 8.9 |
| Plat Form | Available | Inner Dimension of Stack (m) | 1.5 |
| Stack Description | SBWM (Unit-1) | Type of Fuel Used | LDO |
| Shape of Stack | Circular | Quantity of Fuel | ----- |
| Construction Material | Metal | Production Capacity | ----- |
| Sampling Port | Available | Pollution Control Device (if any) | None |

| | | |
|--------------------------------|-------------------------------|--|
| Flue Gas Temperature (°C): 340 | Flue Gas Velocity (m/s): 11.2 | Flue Gas Volumetric Flow Rate (Nm ³ /hr): 33615.9 |
|--------------------------------|-------------------------------|--|

Test Result

| Sl. NO. | Parameters | Test Methods | Unit | Result | Norms** |
|---------|---------------------------------------|-------------------|--------------------|--------|---------|
| 1. | Particulates Matter (PM) | IS 11255 (Part-1) | mg/Nm ³ | 23.2 | --- |
| 2. | Sulphur Dioxide (SO ₂) | IS 11255 (Part-2) | mg/Nm ³ | 41.9 | --- |
| 3. | Oxides of Nitrogen (NO ₂) | IS 11255 (Part-7) | mg/Nm ³ | 76.9 | --- |
| 4. | Carbon Dioxide (CO ₂) | IS 13270:1992 | % v/v | 12.6 | --- |
| 5. | Carbon Monoxide (CO) | IS 13270:1992 | ppm | 264 | --- |
| 6. | Oxygen (O ₂) | IS 13270:1992 | % v/v | 11.6 | --- |

---End of Report---

| | |
|------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Norms** is specified | --- |
| Remark | --- |

Tested By: Akanksha Sourabh

Sample Drawn By: Rahul Singh & team

Specific Contractual Notes: -

1. The laboratory accepts responsibility for content of this report.
2. This report shall not be reproduced except in full, without written approval of the MD.
3. This report is intended for only guidance and not for legal purpose or for advertisement.
4. Any complaint about this report should be communicated in writing within 7 days of its issue
5. Total liability of Institute for Environmental Management will be limited to invoiced amount only.
6. In case of feedback/ complaints, please send an email at gm.iemeco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

Reviewed by _____ Authorized Signatory

(Tauqueer Ahmud)

(Dr. S. C. Jain)

Technical Manager Director



Institute for Environmental Management



TC - 11515

Test Report

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|-----------------------------|---|---|--|---|---|---------------------------|---|---|---|---|---|---|
| ULR No.: | T | C | 1 | 1 | 5 | 1 | 5 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 7 | 7 | 2 |
| Discipline: Chemical | | | | | | Group: Water | | | | | | Sub-Group: Ground Water | | | | | | |
| Report Issue Date: 04-07-2024 | | | | | | | | | Test Report No.: RN-230714001GW1 | | | | | | | | | |
| Sample ID: 240701WA02001 & 240701RC01001 | | | | | | | | | Sample Description: Ground Water - Bore well | | | | | | | | | |
| Challan No./P.O. No.: 4511012880 | | | | | | | | | Challan No./P.No. Date: 13-07-2023 | | | | | | | | | |
| Issued to: M/s Tata Steel Limited (Formerly Tata Steel Long Products Limited) Gamaharia Phase-V, Adityapur Industrial Area, Seraikela-Kharsawan, Jharkhand-832108 | | | | | | | | | | | | | | | | | | |
| Type of Industry: Iron & Steel | | | | | | | | | Customer Representative: Shweta Kumari | | | | | | | | | |
| Sample Drawn by: IEM Team | | | | | | | | | Sampling Date: 28-06-2024 | | | | | | | | | |
| Protocol: CPCB Guideline& IS Method 3025 Part-01 | | | | | | | | | | | | | | | | | | |
| Sampling Location: BAGANPDDA | | | | | | | | | | | | | | | | | | |
| Sample Receiving date: 01-07-2024 | | | | | | Testing Started: 01-07-2024 | | | | | | Testing Ended: 04-07-2024 | | | | | | |

---Test Result---

| Sl. No. | Tested Parameters | Unit | Method No. | Norms** | | Results |
|---------|--|-------|----------------------|------------|---------------|--------------------|
| | | | | Acceptable | Permissible | |
| 1. | PH Value | --- | IS 3025 (Part - 11) | 6.5 to 8.5 | No Relaxation | 6.9 |
| 2. | Conductivity | µs/cm | IS 3025 (Part - 14) | -- | -- | 625 |
| 3. | Turbidity | NTU | IS 3025 (Part - 10) | 1 | 5 | <1 |
| 4. | Colour | Hazen | IS 3025 (Part - 04) | 5 | 15 | <5 |
| 5. | Odour | --- | IS 3025 (Part - 05) | Agreeable | Agreeable | Agreeable |
| 6. | Total Dissolved Solids | mg/l | IS 3025 (Part - 16) | 500 | 2000 | 448 |
| 7. | Calcium (as Ca) | mg/l | IS 3025 (Part - 40) | 75 | 200 | 51 |
| 8. | Total Alkalinity (as CaCO ₃) | mg/l | IS 3025 (Part - 23) | 200 | 600 | 184 |
| 9. | Total Hardness (as CaCO ₃) | mg/l | IS 3025 (Part - 21) | 200 | 600 | 178 |
| 10. | Chloride (as Cl) | mg/l | IS 3025 (Part - 32) | 250 | 1000 | 38 |
| 11. | Sulphate (as SO ₄) | mg/l | IS 3025 (Part - 24) | 200 | 400 | 52 |
| 12. | Magnesium (as Mg) | mg/l | APHA 3500 Mg B. 2017 | 30 | 100 | 13 |
| 13. | Copper | mg/l | APHA 3111 B.2017 | 0.05 | 1.5 | BDL (MDL - 0.02) |
| 14. | Chromium | mg/l | APHA 3111 B.2017 | 0.05 | No Relaxation | BDL (MDL - 0.005) |
| 15. | Lead | mg/l | APHA 3111 B.2017 | 0.01 | No Relaxation | BDL (MDL - 0.07) |
| 16. | Zinc | mg/l | APHA 3111 B.2017 | 5 | 15 | 1.8 |
| 17. | Nickel | mg/l | APHA 3111 B.2017 | 0.3 | No Relaxation | BDL (MDL - 0.03) |
| 18. | Mercury | mg/l | APHA 3112 C.2017 | 0.001 | No Relaxation | BDL (MDL - 0.0008) |
| 19. | Arsenic | mg/l | APHA 3114 C.2017 | 0.01 | No Relaxation | BDL (MDL - 0.002) |
| 20. | Manganese | mg/l | APHA 3111 B.2017 | 0.1 | No Relaxation | BDL (MDL - 0.04) |

---End Report---

| | |
|------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Norms** is Specified | IS 10500 :2012 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Neema Kumari
Sample Drawn By: Rahul Singh & Team

Specific Contractual Notes: -

- The laboratory accepts responsibility for content of this report.
- This report shall not be reproduced except in full, without written approval of the MD.
- This report is intended for only guidance and not for legal purpose or for advertisement.
- Any complaint about this report should be communicated in writing within 7 days of its issue.
- Total liability of Institute for Environmental Management will be limited to invoiced amount only.
- In case of feedback/ complaints, please send an email at gm.iemeco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

| Checked by | Authorized Signatory |
|---|---|
|  (Tauqeer Ahmad) |  (Dr. S. C. Jain) |
| Technical Manager | Director |

Corporate office - A-8, Modi Heights, Opp.- All India Radio Station, Ratu Road, Ranchi, Jharkhand-834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony,
Ranchi-834002, Jharkhand, India

Ph - 8407804253, 8407804251, Email - iem2012@rediffmail.com



Test Report

Test Report

| | | |
|---|--|---------------------------|
| Discipline: Chemical | Group: Water | Sub-Group: Ground Water |
| Report Issue Date: 04-07-2024 | Test Report No.: RN-230714001GW1 | |
| Sample ID: 240701WA02001 & 240701RC01001 | Sample Description: Ground Water - Bore well | |
| Challan No./P.O. No.: 4511012880 | Challan No./P.No. Date: 13-07-2023 | |
| Issued to: M/s Tata Steel Limited (Formerly Tata Steel Long Products Limited) Gamaharia Phase-V, Adityapur Industrial Area, Seraikela-Kharsawan, Jharkhand-832108 | | |
| Type of Industry: Iron & Steel | Customer Representative: Shweta Kumari | |
| Sample Drawn by: IEM Team | Sampling Date: 28-06-2024 | |
| Protocol: CPCB Guideline& IS Method 3025 Part-01 | | |
| Sampling Location: BAGANPDDA | | |
| Sample Receiving date: 01-07-2024 | Testing Started: 01-07-2024 | Testing Ended: 04-07-2024 |

----Test Result----

| Sl. No. | Tested Parameter | Unit | Method No. | Norms** | | Results |
|---------|-------------------------------|------|----------------------------------|------------|---------------|---------------|
| | | | | Acceptable | Permissible | |
| 1. | Taste | --- | IS 3025 (Part - 07) | Agreeable | Agreeable | Agreeable |
| 2. | Nitrite Nitrogen | mg/l | IS 3025 (Part - 34) | -- | -- | BDL (MDL 0.1) |
| 3. | Fluoride (as F ⁻) | mg/l | APHA 4500 F ⁻ D. 2017 | 1.0 | 1.5 | 0.43 |
| 4. | Iron | mg/l | APHA 3111 B.2017 | 1.0 | No Relaxation | 0.34 |

----END Report----

| | |
|------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Norms** is Specified | IS 10500 :2012 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Neema Kumari

Sample Drawn By: Rahul Singh & Team

Specific Contractual Notes :-

- The laboratory accepts responsibility for content of this report.
- This report shall not be reproduced except in full, without written approval of the MD.
- This report is intended for only guidance and not for legal purpose or for advertisement.
- Any complaint about this report should be communicated in writing within 7 days of its issue.
- Total liability of Institute for Environmental Management will be limited to invoiced amount only.
- In case of feedback/ complaints, please send an email at gm.iemeco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

Checked by

Tauqeer Ahmad

(Tauqeer Ahmad)

Technical Manager

Authorized Signatory



(Dr. S. C. Jain)

Director



Test Report

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|-----------------------------|---|---|---|--|---|---------------------------|---|---|---|---|---|---|
| ULR No.: | T | C | 1 | 1 | 5 | 1 | 5 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 7 | 3 |
| Discipline: Chemical | | | | | | Group: Water | | | | | | Sub-Group: Ground Water | | | | | | |
| Report Issue Date: 04-07-2024 | | | | | | | | | | Test Report No.: RN-230714001GW2 | | | | | | | | |
| Sample ID: 240701WA02002 & 240701RC01002 | | | | | | | | | | Sample Description: Ground Water - Bore well | | | | | | | | |
| Challan No./P.O. No.: 4511012880 | | | | | | | | | | Challan No./P.No. Date: 13-07-2023 | | | | | | | | |
| Issued to: | | | | | | | | | | | | | | | | | | |
| M/s Tata Steel Limited (Formerly Tata Steel Long Products Limited) Gamaharia Phase-V, Adityapur Industrial Area, Seraikela-Kharsawan, Jharkhand-832108 | | | | | | | | | | | | | | | | | | |
| Type of Industry: Iron & Steel | | | | | | | | | | Customer Representative: Shweta Kumari | | | | | | | | |
| Sample Drawn by: IEM Team | | | | | | | | | | Sampling Date: 28-06-2024 | | | | | | | | |
| Protocol: CPCB Guideline & IS Method 3025 Part-01 | | | | | | | | | | | | | | | | | | |
| Sampling Location: JHARGOVINDPUR | | | | | | | | | | | | | | | | | | |
| Sample Receiving date: 01-07-2024 | | | | | | Testing Started: 01-07-2024 | | | | | | Testing Ended: 04-07-2024 | | | | | | |

---Test Result---

| Sl. No. | Tested Parameters | Unit | Method No. | Norms** | | Results |
|---------|--|-------|----------------------|------------|---------------|--------------------|
| | | | | Acceptable | Permissible | |
| 1. | PH Value | --- | IS 3025 (Part - 11) | 6.5 to 8.5 | No Relaxation | 6.6 |
| 2. | Conductivity | µs/cm | IS 3025 (Part - 14) | -- | -- | 232 |
| 3. | Turbidity | NTU | IS 3025 (Part - 10) | 1 | 5 | <1 |
| 4. | Colour | Hazen | IS 3025 (Part - 04) | 5 | 15 | <5 |
| 5. | Odour | --- | IS 3025 (Part - 05) | Agreeable | Agreeable | Agreeable |
| 6. | Total Dissolved Solids | mg/l | IS 3025 (Part - 16) | 500 | 2000 | 162 |
| 7. | Calcium (as Ca) | mg/l | IS 3025 (Part - 40) | 75 | 200 | 14 |
| 8. | Total Alkalinity (as CaCO ₃) | mg/l | IS 3025 (Part - 23) | 200 | 600 | 72 |
| 9. | Total Hardness (as CaCO ₃) | mg/l | IS 3025 (Part - 21) | 200 | 600 | 52 |
| 10. | Chloride (as Cl) | mg/l | IS 3025 (Part - 32) | 250 | 1000 | 22 |
| 11. | Sulphate (as SO ₄) | mg/l | IS 3025 (Part - 24) | 200 | 400 | 18 |
| 12. | Magnesium (as Mg) | mg/l | APHA 3500 Mg B. 2017 | 30 | 100 | 4 |
| 13. | Copper | mg/l | APHA 3111 B.2017 | 0.05 | 1.5 | BDL (MDL - 0.02) |
| 14. | Chromium | mg/l | APHA 3111 B.2017 | 0.05 | No Relaxation | BDL (MDL - 0.005) |
| 15. | Lead | mg/l | APHA 3111 B.2017 | 0.01 | No Relaxation | BDL (MDL - 0.07) |
| 16. | Zinc | mg/l | APHA 3111 B.2017 | 5 | 15 | 1.4 |
| 17. | Nickel | mg/l | APHA 3111 B.2017 | 0.3 | No Relaxation | BDL (MDL - 0.03) |
| 18. | Mercury | mg/l | APHA 3112 C.2017 | 0.001 | No Relaxation | BDL (MDL - 0.0008) |
| 19. | Arsenic | mg/l | APHA 3114 C.2017 | 0.01 | No Relaxation | BDL (MDL - 0.002) |
| 20. | Manganese | mg/l | APHA 3111 B.2017 | 0.1 | No Relaxation | BDL (MDL - 0.04) |

---End Report---

| | |
|------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Norms** is Specified | IS 10500 :2012 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Neema Kumari

Sample Drawn By: Rahul Singh & Team

Specific Contractual Notes: -

1. The laboratory accepts responsibility for content of this report.
2. This report shall not be reproduced except in full, without written approval of the MD.
3. This report is intended for only guidance and not for legal purpose or for advertisement.
4. Any complaint about this report should be communicated in writing within 7 days of its issue.
5. Total liability of Institute for Environmental Management will be limited to invoiced amount only.
6. In case of feedback/ complaints, please send an email at gm.iemeco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

Checked by

Authorized Signatory

T. Ahmad

(Tauqeer Ahmad)

Technical Manager



C. Jain

(Dr. S. C. Jain)

Director

Corporate office - A-8, Modi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony,
Ranchi-834002, Jharkhand, India

Ph - 8407804253, 8407804251, Email - iem2012@rediffmail.com



Test Report

| | | |
|---|--|---------------------------|
| Discipline: Chemical | Group: Water | Sub-Group: Ground Water |
| Report Issue Date: 04-07-2024 | Test Report No.: RN-230714001GW2 | |
| Sample ID: 240701WA02002 & 240701RC01002 | Sample Description: Ground Water - Bore well | |
| Challan No./P.O. No.: 4511012880 | Challan No./P.No. Date: 13-07-2023 | |
| Issued to: M/s Tata Steel Limited (Formerly Tata Steel Long Products Limited) Gamaharia Phase-V, Adityapur Industrial Area, Seraikela-Kharsawan, Jharkhand-832108 | | |
| Type of Industry: Iron & Steel | Customer Representative: Shweta Kumari | |
| Sample Drawn by: IEM Team | Sampling Date: 28-06-2024 | |
| Protocol: CPCB Guideline& IS Method 3025 Part-01 | | |
| Sampling Location: JHARGOVINDPUR | | |
| Sample Receiving date: 01-07-2024 | Testing Started: 01-07-2024 | Testing Ended: 04-07-2024 |

---Test Result---

| Sl. No. | Tested Parameter | Unit | Method No. | Norms** | | Results |
|---------|-------------------------------|------|----------------------------------|------------|---------------|---------------|
| | | | | Acceptable | Permissible | |
| 1. | Taste | --- | IS 3025 (Part - 07) | Agreeable | Agreeable | Agreeable |
| 2. | Nitrite Nitrogen | mg/l | IS 3025 (Part - 34) | -- | -- | BDL (MDL 0.1) |
| 3. | Fluoride (as F ⁻) | mg/l | APHA 4500 F ⁻ D. 2017 | 1.0 | 1.5 | 0.42 |
| 4. | Iron | mg/l | APHA 3111 B.2017 | 1.0 | No Relaxation | 0.29 |

---END Report---

| | |
|------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Norms** is Specified | IS 10500 :2012 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Neema Kumari

Sample Drawn By: Rahul Singh & Team

Specific Contractual Notes: -

1. The laboratory accepts responsibility for content of this report.
2. This report shall not be reproduced except in full, without written approval of the MD.
3. This report is intended for only guidance and not for legal purpose or for advertisement.
4. Any complaint about this report should be communicated in writing within 7 days of its issue
5. Total liability of Institute for Environmental Management will be limited to invoiced amount only.
6. In case of feedback/ complaints, please send an email at gm.iemeco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

Checked by

T. Ahmad
(Tauqeer Ahmad)
Technical Manager

Authorized Signatory

Dr. S. C. Jain
(Dr. S. C. Jain)
Director

Page 2 of 2 Corporate office - A-8, Modi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony,
Ranchi-834002, Jharkhand, India

Ph - 8407804253, 8407804251, Email - iem2012@rediffmail.com



Institute for Environmental Management



TC - 11515

Test Report

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|-----------------------------|---|--------------|--|---|---|---------------------------|---|---|---|---|---|---|
| ULR No.: | T | C | 1 | 1 | 5 | 1 | 5 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 7 | 4 |
| Discipline: Chemical | | | | | | | | Group: Water | | | | Sub-Group: Ground Water | | | | | | |
| Report Issue Date: 04-07-2024 | | | | | | | | | Test Report No.: RN-230714001GW3 | | | | | | | | | |
| Sample ID: 240701WA02003 & 240701RC01003 | | | | | | | | | Sample Description: Ground Water - Bore well | | | | | | | | | |
| Challan No./P.O. No.: 4511012880 | | | | | | | | | Challan No./P.No. Date: 13-07-2023 | | | | | | | | | |
| Issued to: M/s Tata Steel Limited (Formerly Tata Steel Long Products Limited) Gamaharia Phase-V, Adityapur Industrial Area, Seraikela-Kharsawan, Jharkhand-832108 | | | | | | | | | | | | | | | | | | |
| Type of Industry: Iron & Steel | | | | | | | | | Customer Representative: Shweta Kumari | | | | | | | | | |
| Sample Drawn by: IEM Team | | | | | | | | | Sampling Date: 28-06-2024 | | | | | | | | | |
| Protocol: CPCB Guideline& IS Method 3025 Part-01 | | | | | | | | | | | | | | | | | | |
| Sampling Location: NEEMDIH | | | | | | | | | | | | | | | | | | |
| Sample Receiving date: 01-07-2024 | | | | | | Testing Started: 01-07-2024 | | | | | | Testing Ended: 04-07-2024 | | | | | | |

---Test Result---

| Sl. No. | Tested Parameters | Unit | Method No. | Norms** | | Results |
|---------|--|-------|----------------------|------------|---------------|--------------------|
| | | | | Acceptable | Permissible | |
| 1. | PH Value | --- | IS 3025 (Part - 11) | 6.5 to 8.5 | No Relaxation | 7.5 |
| 2. | Conductivity | µs/cm | IS 3025 (Part - 14) | -- | -- | 590 |
| 3. | Turbidity | NTU | IS 3025 (Part - 10) | 1 | 5 | <1 |
| 4. | Colour | Hazen | IS 3025 (Part - 04) | 5 | 15 | <5 |
| 5. | Odour | --- | IS 3025 (Part - 05) | Agreeable | Agreeable | Agreeable |
| 6. | Total Dissolved Solids | mg/l | IS 3025 (Part - 16) | 500 | 2000 | 425 |
| 7. | Calcium (as Ca) | mg/l | IS 3025 (Part - 40) | 75 | 200 | 60 |
| 8. | Total Alkalinity (as CaCO ₃) | mg/l | IS 3025 (Part - 23) | 200 | 600 | 192 |
| 9. | Total Hardness (as CaCO ₃) | mg/l | IS 3025 (Part - 21) | 200 | 600 | 188 |
| 10. | Chloride (as Cl) | mg/l | IS 3025 (Part - 32) | 250 | 1000 | 32 |
| 11. | Sulphate (as SO ₄) | mg/l | IS 3025 (Part - 24) | 200 | 400 | 45 |
| 12. | Magnesium (as Mg) | mg/l | APHA 3500 Mg B. 2017 | 30 | 100 | 9 |
| 13. | Copper | mg/l | APHA 3111 B.2017 | 0.05 | 1.5 | BDL (MDL - 0.02) |
| 14. | Chromium | mg/l | APHA 3111 B.2017 | 0.05 | No Relaxation | BDL (MDL - 0.005) |
| 15. | Lead | mg/l | APHA 3111 B.2017 | 0.01 | No Relaxation | BDL (MDL - 0.07) |
| 16. | Zinc | mg/l | APHA 3111 B.2017 | 5 | 15 | 1.5 |
| 17. | Nickel | mg/l | APHA 3111 B.2017 | 0.3 | No Relaxation | BDL (MDL - 0.03) |
| 18. | Mercury | mg/l | APHA 3112 C.2017 | 0.001 | No Relaxation | BDL (MDL - 0.0008) |
| 19. | Arsenic | mg/l | APHA 3114 C.2017 | 0.01 | No Relaxation | BDL (MDL - 0.002) |
| 20. | Manganese | mg/l | APHA 3111 B.2017 | 0.1 | No Relaxation | BDL (MDL - 0.04) |

---End Report---

| | |
|------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Norms** is Specified | IS 10500 :2012 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Neema Kumari
Sample Drawn By: Rahul Singh & Team

Specific Contractual Notes: -

- The laboratory accepts responsibility for content of this report.
- This report shall not be reproduced except in full, without written approval of the MD.
- This report is intended for only guidance and not for legal purpose or for advertisement.
- Any complaint about this report should be communicated in writing within 7 days of its issue.
- Total liability of Institute for Environmental Management will be limited to invoiced amount only.
- In case of feedback/ complaints, please send an email at gm.iemeco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

| | | | |
|--|--|---|--|
| Checked by | | Authorized Signatory | |
|  | |  | |
| (Tauqeer Ahmad) | | (Dr. S. C. Jain) | |
| Technical Manager | | Director | |

Corporate office - A-8, Modi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony,
Ranchi-834002, Jharkhand, India

Ph - 8407804253, 8407804251, Email - iem2012@rediffmail.com



Test Report

| | | |
|---|--|---------------------------|
| Discipline: Chemical | Group: Water | Sub-Group: Ground Water |
| Report Issue Date: 04-07-2024 | Test Report No.: RN-230714001GW3 | |
| Sample ID: 240701WA02003 & 240701RC01003 | Sample Description: Ground Water - Bore well | |
| Challan No./P.O. No.: 4511012880 | Challan No./P.No. Date: 13-07-2023 | |
| Issued to: M/s Tata Steel Limited (Formerly Tata Steel Long Products Limited) Gamaharia Phase-V, Adityapur Industrial Area, Seraikela-Kharsawan, Jharkhand-832108 | | |
| Type of Industry: Iron & Steel | Customer Representative: Shweta Kumari | |
| Sample Drawn by: IEM Team | Sampling Date: 28-06-2024 | |
| Protocol: CPCB Guideline& IS Method 3025 Part-01 | | |
| Sampling Location: NEEMDIH | | |
| Sample Receiving date: 01-07-2024 | Testing Started: 01-07-2024 | Testing Ended: 04-07-2024 |

----Test Result----

| Sl. No. | Tested Parameter | Unit | Method No. | Norms** | | Results |
|---------|------------------|------|---------------------|------------|---------------|---------------|
| | | | | Acceptable | Permissible | |
| 1. | Taste | --- | IS 3025 (Part - 07) | Agreeable | Agreeable | Agreeable |
| 2. | Nitrite Nitrogen | mg/l | IS 3025 (Part - 34) | -- | -- | BDL (MDL 0.1) |
| 3. | Fluoride (as F) | mg/l | APHA 4500 F D. 2017 | 1.0 | 1.5 | 0.51 |
| 4. | Iron | mg/l | APHA 3111 B.2017 | 1.0 | No Relaxation | 0.32 |

----END Report----

| | |
|------------------------|--|
| Env. Condition of Lab. | Laboratory is maintaining Temperature $27 \pm 2^{\circ}\text{C}$ and Relative Humidity $65 \pm 5\%$ in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Norms** is Specified | IS 10500 :2012 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Neema Kumari

Sample Drawn By: Rahul Singh & Team

Specific Contractual Notes: -

1. The laboratory accepts responsibility for content of this report.
2. This report shall not be reproduced except in full, without written approval of the MD.
3. This report is intended for only guidance and not for legal purpose or for advertisement.
4. Any complaint about this report should be communicated in writing within 7 days of its issue.
5. Total liability of Institute for Environmental Management will be limited to invoiced amount only.
6. In case of feedback/ complaints, please send an email at gm.iemeco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

Checked by

Authorized Signatory


(Tauqeer Ahmad)
Technical Manager


(Dr. S. C. Jain)
Director

Page 2 of 2 Corporate office - A-8, Modi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony,
Ranchi-834002, Jharkhand, India

Ph - 8407804253, 8407804251, Email - iem2012@rediffmail.com



Institute for Environmental Management



Test Report

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|-----------------------------|---|---|---|--|---|---------------------------|---|---|---|---|---|---|
| ULR No.: | T | C | 1 | 1 | 5 | 1 | 5 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 7 | 5 |
| Discipline: Chemical | | | | | | Group: Water | | | | | | Sub-Group: Ground Water | | | | | | |
| Report Issue Date: 04-07-2024 | | | | | | | | | | Test Report No.: RN-230714001GW4 | | | | | | | | |
| Sample ID: 240701WA02004 & 240701RC01004 | | | | | | | | | | Sample Description: Ground Water - Bore well | | | | | | | | |
| Challan No./P.O. No.: 4511010303 | | | | | | | | | | Challan No./ P.No. Date: 04-07-2022 | | | | | | | | |
| Issued to: M/s Tata Steel Limited (Formerly Tata Steel Long Products Limited) Gamaharia Phase-V, Adityapur Industrial Area, Seraikela-Kharsawan, Jharkhand-832108 | | | | | | | | | | | | | | | | | | |
| Type of Industry: Iron & Steel | | | | | | | | | | Customer Representative: Shweta Kumari | | | | | | | | |
| Sample Drawn by: IEM Team | | | | | | | | | | Sampling Date: 28-06-2024 | | | | | | | | |
| Protocol: CPCB Guideline & IS Method 3025 Part-01 | | | | | | | | | | | | | | | | | | |
| Sampling Location: JHARKHULI | | | | | | | | | | | | | | | | | | |
| Sample Receiving date: 01-07-2024 | | | | | | Testing Started: 01-07-2024 | | | | | | Testing Ended: 04-07-2024 | | | | | | |

---Test Result---

| Sl. No. | Tested Parameters | Unit | Method No. | Norms** | | Results |
|---------|--|-------|----------------------|------------|---------------|--------------------|
| | | | | Acceptable | Permissible | |
| 1. | PH Value | --- | IS 3025 (Part - 11) | 6.5 to 8.5 | No Relaxation | 7.3 |
| 2. | Conductivity | µs/cm | IS 3025 (Part - 14) | -- | -- | 270 |
| 3. | Turbidity | NTU | IS 3025 (Part - 10) | 1 | 5 | <1 |
| 4. | Colour | Hazen | IS 3025 (Part - 04) | 5 | 15 | <5 |
| 5. | Odour | --- | IS 3025 (Part - 05) | Agreeable | Agreeable | Agreeable |
| 6. | Total Dissolved Solids | mg/l | IS 3025 (Part - 16) | 500 | 2000 | 185 |
| 7. | Calcium (as Ca) | mg/l | IS 3025 (Part - 40) | 75 | 200 | 17 |
| 8. | Total Alkalinity (as CaCO ₃) | mg/l | IS 3025 (Part - 23) | 200 | 600 | 68 |
| 9. | Total Hardness (as CaCO ₃) | mg/l | IS 3025 (Part - 21) | 200 | 600 | 50 |
| 10. | Chloride (as Cl) | mg/l | IS 3025 (Part - 32) | 250 | 1000 | 28 |
| 11. | Sulphate (as SO ₄) | mg/l | IS 3025 (Part - 24) | 200 | 400 | 25 |
| 12. | Magnesium (as Mg) | mg/l | APHA 3500 Mg B. 2017 | 30 | 100 | BDL (MDL - 1.0) |
| 13. | Copper | mg/l | APHA 3111 B.2017 | 0.05 | 1.5 | BDL (MDL - 0.02) |
| 14. | Chromium | mg/l | APHA 3111 B.2017 | 0.05 | No Relaxation | BDL (MDL - 0.005) |
| 15. | Lead | mg/l | APHA 3111 B.2017 | 0.01 | No Relaxation | BDL (MDL - 0.07) |
| 16. | Zinc | mg/l | APHA 3111 B.2017 | 5 | 15 | 1.8 |
| 17. | Nickel | mg/l | APHA 3111 B.2017 | 0.3 | No Relaxation | BDL (MDL - 0.03) |
| 18. | Mercury | mg/l | APHA 3112 C.2017 | 0.001 | No Relaxation | BDL (MDL - 0.0008) |
| 19. | Arsenic | mg/l | APHA 3114 C.2017 | 0.01 | No Relaxation | BDL (MDL - 0.002) |
| 20. | Manganese | mg/l | APHA 3111 B.2017 | 0.1 | No Relaxation | BDL (MDL - 0.04) |

---End Report---

| | |
|------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Norms** is Specified | IS 10500 :2012 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Neema Kumari
Sample Drawn By: Rahul Singh & Team

Specific Contractual Notes: -

- The laboratory accepts responsibility for content of this report.
- This report shall not be reproduced except in full, without written approval of the MD.
- This report is intended for only guidance and not for legal purpose or for advertisement.
- Any complaint about this report should be communicated in writing within 7 days of its issue.
- Total liability of Institute for Environmental Management will be limited to invoiced amount only.
- In case of feedback/ complaints, please send an email at gm.iemeco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

Checked by _____ Authorized Signatory _____

(Tauqeer Ahmad) (Dr. S. C. Jain)
Technical Manager Director

Corporate office - A-8, Modi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony,
Ranchi-834002, Jharkhand, India

Ph - 8407804253, 8407804251, Email - iem2012@rediffmail.com



Test Report

| | | |
|---|--|---------------------------|
| Discipline: Chemical | Group: Water | Sub-Group: Ground Water |
| Report Issue Date: 04-07-2024 | Test Report No.: RN-230714001GW4 | |
| Sample ID: 240701WA02004 & 240701RC01004 | Sample Description: Ground Water - Bore well | |
| Challan No./P.O. No.: 4511010303 | Challan No./ P.No. Date: 04-07-2022 | |
| Issued to: M/s Tata Steel Limited (Formerly Tata Steel Long Products Limited) Gamaharia Phase-V, Adityapur Industrial Area, Seraikela-Kharsawan, Jharkhand-832108 | | |
| Type of Industry: Iron & Steel | Customer Representative: Shweta Kumari | |
| Sample Drawn by: IEM Team | Sampling Date: 28-06-2024 | |
| Protocol: CPCB Guideline& IS Method 3025 Part-01 | | |
| Sampling Location: JHARKHULI | | |
| Sample Receiving date: 01-07-2024 | Testing Started: 01-07-2024 | Testing Ended: 04-07-2024 |

---Test Result---

| Sl. No. | Tested Parameter | Unit | Method No. | Norms** | | Results |
|---------|-------------------------------|------|----------------------------------|------------|---------------|---------------|
| | | | | Acceptable | Permissible | |
| 1. | Taste | --- | IS 3025 (Part - 07) | Agreeable | Agreeable | Agreeable |
| 2. | Nitrite Nitrogen | mg/l | IS 3025 (Part - 34) | -- | -- | BDL (MDL 0.1) |
| 3. | Fluoride (as F ⁻) | mg/l | APHA 4500 F ⁻ D. 2017 | 1.0 | 1.5 | 0.56 |
| 4. | Iron | mg/l | APHA 3111 B.2017 | 1.0 | No Relaxation | 0.28 |

---END Report---

| | |
|------------------------|--|
| Env. Condition of Lab. | Laboratory is maintaining Temperature $27 \pm 2^{\circ}\text{C}$ and Relative Humidity $65 \pm 5\%$ in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Norms** is Specified | IS 10500 :2012 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Neema Kumari

Sample Drawn By: Rahul Singh & Team

Specific Contractual Notes:-

1. The laboratory accepts responsibility for content of this report.
2. This report shall not be reproduced except in full, without written approval of the MD.
3. This report is intended for only guidance and not for legal purpose or for advertisement.
4. Any complaint about this report should be communicated in writing within 7 days of its issue
5. Total liability of Institute for Environmental Management will be limited to invoiced amount only.
6. In case of feedback/ complaints, please send an email at gm.iemeco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

Checked by

Authorized Signatory

T. Ahmad

S. C. Jain

(Tauqeer Ahmad)

Dr. S. C. Jain

Technical Manager

Director

Page 2 of 2 Corporate office - A-8, Modi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony,
Ranchi-834002, Jharkhand, India

Ph - 8407804253, 8407804251, Email - iem2012@rediffmail.com

Ambient Noise Monitoring Report

| Unit (Location) | Sampling on | Result dB(A) | |
|------------------------------------|---------------|--------------|------------|
| | | Day Time | Night Time |
| SBWM - 1 (Near QA Building) | Apr-24 | 64.9 | 59.5 |
| | May-24 | 66.4 | 61.5 |
| | Jun-24 | 68.4 | 63.4 |
| | Jul-24 | 69.4 | 63.4 |
| | Aug-24 | 65.6 | 61.6 |
| | Sep-24 | 67.1 | 63.2 |



Institute for Environmental Management



Test Report

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|------------------------------|------------------|-----------------------------|---|--------------|---|---|---------------------------|---|---|---|----------------|---|---|---|---|--|
| ULR No.: | T | C | 1 | 1 | 5 | 1 | 5 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 1 | 3 | |
| Discipline: Chemical | | | Group: Atmospheric Pollution | | | | | | Sub-Group: Ambient Noise Levels (Excluding Vibration) | | | | | | | | | | |
| Report Issue Date: 11-09-2024 | | | | | | | | | Test Report No.: RN-240715001N5 | | | | | | | | | | |
| Sample ID: 240909AP07005 | | | | | | | | | Sample Description: Ambient Noise | | | | | | | | | | |
| Challan No./P.O. No.: 3000173714/J02 | | | | | | | | | Challan No./ P.No. Date: 15-07-2024 | | | | | | | | | | |
| Issued to: M/s Tata Steel Limited (Formerly Tata Steel Long Products Limited) Gamaharia Phase-V, Adityapur Industrial Area, Seraikela-Kharsawan, Jharkhand-832108 | | | | | | | | | | | | | | | | | | | |
| Type of Industry: Iron & Steel | | | | | | | | | Customer Representative: Kishor Pramanik | | | | | | | | | | |
| Sample Drawn by: IEM Team | | | | | | | | | Sampling Date: 07-09-2024 to 08-09-2024 | | | | | | | | | | |
| Protocol: CPCB Guideline & IS Method 9989:1981 | | | | | | | | | | | | | | | | | | | |
| Sampling Location: SBM NEAR QA BUILDING UNIT - 1 | | | | | | | | | | | | | | | | | | | |
| Field Meteorological Information | | | | A. Temp.(°C): 31 | | | R.H. (%): 67 | | | W.C.: Partly Sunny | | | | W.D.: SE to NW | | | | | |
| Sample Receiving Date: 09-09-2024 | | | | | Testing Started: 09-09-2024 | | | | | Testing Ended: 11-09-2024 | | | | | | | | | |

----Test Result----

| Sl. No | Parameter | Method | Unit | Day Time | Night Time | Norms** |
|--------|------------------------------|--------------|-------|----------|------------|------------------------|
| 1. | Equivalent Sound Level (Leq) | IS 9989:1981 | dB(A) | 67.1 | 63.2 | Day - 75 Night - 70 |

----End of Reports----

Note: -

1. Day time shall mean from 6.00 a.m. to 10.00 p.m.
2. Night time shall mean from 10.00 p.m. to 6.00 a.m.
3. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.
4. dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.
5. A "decibel" is a unit in which noise is measured. "A", in dB(A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.
6. Leq: It is an energy mean of the noise level, over a specified period.

| | |
|------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Norms** is specified | As per Noise Pollution (Regulation and Control) Rules - 2000 |
| Remark | Sample Comply with Prescribed Specification. |

Tested By: Akanksha Sourabh

Sample Drawn By: Rahul Singh & Team

Specific Contractual Notes: -

1. The laboratory accepts responsibility for content of this report.
2. This report shall not be reproduced except in full, without written approval of the MD.
3. This report is intended for only guidance and not for legal purpose or for advertisement.
4. Any complaint about this report should be communicated in writing within 7 days of its issue.
5. Total liability of Institute for Environmental Management will be limited to invoiced amount only.
6. In case of feedback/ complaints, please send an email at qm.iemeco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

Reviewed by Authorized Signatory

T. Ahmad
(Tauqeer Ahmad)
Technical Manager

Dr. S. C. Jain
Director



Institute for Environmental Management



Test Report

| | | |
|--|---|------------------------------------|
| Discipline: Chemical | Group: Atmospheric Pollution | Sub-Group: Work Environment |
| Report Issue Date: 11-04-2024 | Test Report No.: RN-230714001FE01 | |
| Sample ID: 240408AP14001 | Sample Description: Work Zone Air | |
| Challan No./P.O. No.: 4511012880 | Challan No./ P.No. Date: 13-07-2023 | |
| Issued to: M/s Tata Steel Limited (Formerly Tata Steel Long Products Limited) Gamaharia Phase-V, Adityapur Industrial Area, Seraikela-Kharsawan, Jharkhand-832108 | | |
| Type of Industry: Iron & Steel | Customer Representative: Shweta Kumari | |
| Sample Drawn by: IEM Team | Sampling Date: 03-04-2024 | |
| Protocol: CPCB Guideline(NAAQMS/36/2012-13) & IS Method 5182 Series | | |
| Sampling Location: : SBWM NEAR FURNACE AREA UNIT-1 | | |
| Field Meteorological Information | A. Temp. (°C): 35 | R.H.(%): 54 |
| | W.C.: Sunny | W.D.: SW - NE |
| Sample Receiving Date: 08-04-2024 | Testing Started: 08-04-2024 | Testing Ended: 11-04-2024 |

----Test Results----

| Sl. No. | Parameters | Test Method | Unit | Result | Norms** |
|---------|--|-------------------------------|-------------------|--------------|---------|
| 1. | Particulate Matter (PM ₁₀) | IS 5182 Part 23:2006 RA 2017 | µg/m ³ | 1247.5 | --- |
| 2. | Sulphure Dioxide (SO ₂) | IS 5182 Part-02: 2001 RA 2017 | µg/m ³ | 26.7 | --- |
| 3. | Nitrogen Dioxide (NO ₂) | IS 5182 Part-06: 2006 RA 2017 | µg/m ³ | 48.5 | --- |
| 4. | Carbon Monoxide (CO) | IEM/SOP/2022/01 | mg/m ³ | BDL(MDL-1.8) | --- |

----End of Report----

| | |
|-------------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Norms** is Specified | -- |
| Remark | -- |

Tested By: Akanksha Sourabh

Sample Drawn By: Rahul Singh & Team

Specific Contractual Notes:-

- The laboratory accepts responsibility for content of this report.
- This report shall not be reproduced except in full, without written approval of the MD.
- This report is intended for only guidance and not for legal purpose or for advertisement.
- Any complaint about this report should be communicated in writing within 7 days of its issue.
- Total liability of Institute for Environmental Management will be limited to invoiced amount only.
- In case of feedback/ complaints, please send an email at gm.iemeco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

Checked by

Authorized Signatory

T. Ahmed
(Tauqeer Ahmed)
Technical Manager

S. C. Jain
(S. C. Jain)
Director



Test Report

| | | | | | |
|---|--|------------------------------|--|-----------------------------|---------------|
| Discipline: Chemical | | Group: Atmospheric Pollution | | Sub-Group: Work Environment | |
| Report Issue Date: 11-04-2024 | | | Test Report No.: RN-230714001FE02 | | |
| Sample ID: 240408AP14002 | | | Sample Description: Work Zone Air | | |
| Challan No./P.O. No.: 4511012880 | | | Challan No./ P.No. Date: 13-07-2023 | | |
| Issued to: M/s Tata Steel Limited (Formerly Tata Steel Long Products Limited) Gamaharia Phase-V, Adityapur Industrial Area, Seraikela-Kharsawan, Jharkhand-832108 | | | | | |
| Type of Industry: Iron & Steel | | | Customer Representative: Shweta Kumari | | |
| Sample Drawn by: IEM Team | | | Sampling Date: 03-04-2024 | | |
| Protocol: CPCB Guideline(NAAQMS/36/2012-13) & IS Method 5182 Series | | | | | |
| Sampling Location: : SBWM NEAR QUALITY LAB UNIT-2 | | | | | |
| Field Meteorological Information | | A. Temp.(°C): 35 | R.H.(%): 54 | W.C.: Sunny | W.D.: SW - NE |
| Sample Receiving Date: 08-04-2024 | | Testing Started: 08-04-2024 | | Testing Ended: 11-04-2024 | |

----Test Results----

| Sl. No. | Parameters | Test Method | Unit | Result | Norms** |
|---------|--|-------------------------------|-------------------|--------------|---------|
| 1. | Particulate Matter (PM ₁₀) | IS 5182 Part 23:2006 RA 2017 | µg/m ³ | 1006.5 | --- |
| 2. | Sulphure Dioxide (SO ₂) | IS 5182 Part-02: 2001 RA 2017 | µg/m ³ | 28.4 | --- |
| 3. | Nitrogen Dioxide (NO ₂) | IS 5182 Part-06: 2006 RA 2017 | µg/m ³ | 50.6 | --- |
| 4. | Carbon Monoxide (CO) | IEM/SOP/2022/01 | mg/m3 | BDL(MDL-1.8) | --- |

----End of Report----

| | |
|------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Norms** is Specified | -- |
| Remark | -- |

Tested By: Akanksha Sourabh

Sample Drawn By: Rahul Singh & Team

Specific Contractual Notes: -

1. The laboratory accepts responsibility for content of this report.
2. This report shall not be reproduced except in full, without written approval of the MD.
3. This report is intended for only guidance and not for legal purpose or for advertisement.
4. Any complaint about this report should be communicated in writing within 7 days of its issue
5. Total liability of Institute for Environmental Management will be limited to invoiced amount only.
6. In case of feedback/ complaints, please send an email at gm.iemeco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

| | |
|--|---|
| Checked by | Authorized Signatory |
|  |  |
| (Tauqueer Ahmad) | (Dr. S. C. Jain) |
| Technical Manager | Director |



Test Report

| | | |
|---|--|-----------------------------|
| Discipline: Chemical | Group: Atmospheric Pollution | Sub-Group: Work Environment |
| Report Issue Date: 11-04-2024 | Test Report No.: RN-230714001FE03 | |
| Sample ID: 240408AP14003 | Sample Description: Work Zone Air | |
| Challan No./P.O. No.: 4511012880 | Challan No./ P.No. Date: 13-07-2023 | |
| Issued to: M/s Tata Steel Limited (Formerly Tata Steel Long Products Limited) Gamaharia Phase-V, Adityapur Industrial Area, Seraikela-Kharsawan, Jharkhand-832108 | | |
| Type of Industry: Iron & Steel | Customer Representative: Shweta Kumari | |
| Sample Drawn by: IEM Team | Sampling Date: 03-04-2024 | |
| Protocol: CPCB Guideline(NAAQMS/36/2012-13) & IS Method 5182 Series | | |
| Sampling Location: : SBM NEAR QA BUILDING UNIT-1 | | |
| Field Meteorological Information | A. Temp.(°C): 35 | R.H.(%): 54 |
| | W.C.: Sunny | W.D.: SW - NE |
| Sample Receiving Date: 08-04-2024 | Testing Started: 08-04-2024 | Testing Ended: 11-04-2024 |

----Test Results----

| Sl. No. | Parameters | Test Method | Unit | Result | Norms** |
|---------|--|-------------------------------|-------------------|--------------|---------|
| 1. | Particulate Matter (PM ₁₀) | IS 5182 Part 23:2006 RA 2017 | µg/m ³ | 1423.5 | --- |
| 2. | Sulphure Dioxide (SO ₂) | IS 5182 Part-02: 2001 RA 2017 | µg/m ³ | 28.4 | --- |
| 3. | Nitrogen Dioxide (NO ₂) | IS 5182 Part-06: 2006 RA 2017 | µg/m ³ | 46.9 | --- |
| 4. | Carbon Monoxide (CO) | IEM/SOP/2022/01 | mg/m ³ | BDL(MDL-1.8) | --- |

----End of Report----

| | |
|------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Norms** is Specified | -- |
| Remark | -- |

Tested By: Akanksha Sourabh

Sample Drawn By: Rahul Singh & Team

Specific Contractual Notes: -

1. The laboratory accepts responsibility for content of this report.
2. This report shall not be reproduced except in full, without written approval of the MD.
3. This report is intended for only guidance and not for legal purpose or for advertisement.
4. Any complaint about this report should be communicated in writing within 7 days of its issue.
5. Total liability of Institute for Environmental Management will be limited to invoiced amount only.
6. In case of feedback/ complaints, please send an email at gm.iemeco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

| Checked by | Authorized Signatory |
|--|---|
|  (Tauqeer Ahmad) Technical Manager |  (Dr. S. C. Jain) Director |

