



Ref. No.: FAMD/FAPJ/170/FY25

By: E-mail and Parivesh
Date: 22.05.2024

To,

**The Additional Director,
Ministry of Environment and Forest & Climate Change,
Eastern Region Office,
A/3, Chandrasekharpur,
Bhubaneswar-751023**

Subject: Submission of half-yearly compliance report on the stipulated environmental clearance terms and conditions in respect of Ferro Alloys Plant, Joda of M/s TATA Steel Ltd., for the period from October'2023 to March'2024.

Reference:

- 1) MoEF File No: J-11011/03/2012-IA II (I) DATED 5th Nov 2015.
- 2) MoEF&CC's notification vide S.O-5845 (E), dt. 28th Nov 2018.

Respected Sir,

We are herewith submitting the six-monthly compliance report on the status of the implementation of the conditions stipulated in environmental clearance awarded to us vide MoEF File No: **J-11011/03/2012-IA II (I) DATED 5th Nov 2015** in respect of Ferro Alloys Plant, Joda of M/s TATA Steel Ltd. for the period from October'2023 to March'2024 for your kind perusal.

This is in reference to the MoEF&CC's notification vide S.O-5845, dt. 28th Nov 2018, the six-monthly compliance report is being submitted only in soft copy mode, shared with your good office at e-mail @ roez.bsr-mef@nic.in.

We believe the above submission is in order.

Thanking you,

Yours faithfully,
F: TATA STEEL LTD.

Head
Ferro Alloys Plant, Joda

Encl: As above.

Copy To:

- 1) The Member Secretary, State Pollution Control Board, A/118, Nilakantha Nagar, Bhubaneswar, Odisha-751012
- 2) The Regional Officer, State Pollution Control Board, Baniapat, DD College Road, Keonjhar, Odisha-758001.

TATA STEEL LTD.

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Half -Yearly Compliance Report

On

Environmental Clearance Conditions

(MoEF File No. J-11011/03/2012-IA. II (I) Dated 5th November 2015)

Period: October'2023 – March'2024

Submitted By:

**Ferro Alloys Plant,
M/s TATA STEEL LIMITED**

**At/Po – Joda, District – Keonjhar,
Odisha – 758034**

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**Six Monthly Compliance Report to the Terms of Conditions of Environmental Clearance granted in favor of Ferro Alloys Plant,
Joda, M/s Tata Steel Limited for October'23 to March'2024**

A. SPECIFIC CONDITION:

Sl. No.	Specific Condition	Compliance Status (October'2023 to March'2024)
I	The project proponent should install 24x7 air monitoring devices to monitor air emission, as provided by CPCB and submit report to Ministry and its Regional Office.	<p align="center"><u>Complied.</u></p> <p>Presently four nos. ambient air monitoring stations have been developed for the monitoring of Ambient Air Quality Parameters as per National Ambient Air Quality Standard 2009.</p> <p>Monitoring and analysis is carried out by engaging an MoEF&CC as well as NABL Accredited laboratory. Reports are submitted to State Pollution Control Board Odisha on monthly basis.</p> <p>Photographs of Monitoring Station as well as Abstract of monitoring results for the past six months are enclosed as Annexure-1.</p> <p>Detailed Monitoring Reports for the period from October'2023 to March'2024 is enclosed as Annexure-2.</p>
II	Stack of adequate height & diameter with continuous stack monitoring facilities for all the stacks shall be provided and sufficient air pollution control devices viz, Electrostatic precipitator (ESP), bag house, bag filters etc. shall be provided to keep the emission levels below 100 mg/Nm ³ and installing energy efficient technology.	<p align="center"><u>Complied.</u></p> <p>Presently, the plant is operated with two semi closed electric arc furnaces, each provided with two Gas Cleaning Plants (one in working and one as standby) comprising wet scrubbing arrangements.</p> <p>Thus, Total 04 Nos of Gas Cleaning Plants have been installed. Each Gas Cleaning Plant (GCP) has one stack of height around 36.57 mtr above ground level with internal diameter of 0.4 mtr.</p> <p>The pollution control measures such as Gas Cleaning plant with venturi scrubbers are also provided with online Continuous Emission Monitoring System (CEMS) having SPECTROLYSERS for real time surveillance of Emission parameters such as Particulate Matter (PM), Carbon Monoxide (CO), Oxides of Sulphur (SO_x), Oxides of Nitrogen (NO_x). The Emission monitoring system has been integrated with the online server of Odisha Pollution Control Board (OSPCB).</p> <p>The results for emission parameters in the flue gas are observed to be well within the OSPCB prescribe limits.</p> <p>The stack emission parameter testing is also carried out by engaging an NABL Accredited laboratory on monthly basis. The report indicates that the emission parameters conform to the applicable permissible standards.</p> <p>Photographs of Pollution Control Measures (GCP) and Continuous Emission Monitoring System enclosed as Annexure-3.</p> <p>Abstract of Stack Emission Monitoring Results (Detailed Reports) are enclosed as Annexure-4.</p>

**Six Monthly Compliance Report to the Terms of Conditions of Environmental Clearance granted in favor of Ferro Alloys Plant,
Joda, M/s Tata Steel Limited for October'23 to March'2024**

Sl. No.	Specific Condition	Compliance Status (October'2023 to March'2024)
III	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November 2009 shall be followed.	<p align="center"><u>Complied.</u></p> <p>Presently, ambient Air Quality Standard notified vide G.S.R. No. 826(E) dated 16th November 2009 is followed. For this purpose, four (04) nos. of ambient air monitoring stations have been developed for the monitoring of Ambient Air Quality Parameters as per NAAQS-2009 with a frequency of twice per week.</p> <p align="center">Pl. Refer to Annexure-1 & Annexure-2.</p>
IV	Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines/Code of Practice issued by the CPCB should be followed. New standards for the sponge iron plant issued by the Ministry vide G.S.R. 414 (E) dated 30 th May, 2008 should be followed.	<p align="center"><u>Complied.</u></p> <p>Following the standards notified by the Ministry vide G.S.R. 414 (E) dated 30th May 2008, fugitive dust emission is monitored at strategic locations such as Slag Crusher Area, Raw Material Storage Yard, Feed hopper on half yearly basis for Particulate Matter. Sampling and Analysis is carried out by an MoEF&CC recognised laboratory.</p> <p>The results confirm that fugitive dust emission is well within the permissible limit of 2000 µg/m³. Monitoring Results of past two quarters is enclosed as Annexure-5.</p>
V	Water sprinkling arrangements as well as dry fog system to control fugitive emission shall be undertaken.	<p align="center"><u>Complied.</u></p> <p>For containing fugitive dust generation from the internal roads within plant premises are bitumen or RCC.</p> <p>Apart from this, One Mobile mist canon is in operation round the clock to arrest fugitive emission. Fixed Sprinkling arrangement has also been installed to take care of fugitive emission for the haul roads (internal) over a stretch of 500mtrs.</p> <p>A mobile tanker mounted with mist canon and with road sprinkling provision also available round the clock.</p> <p>Photographs of RCC roads and Fixed Sprinkling arrangements are enclosed as Annexure-6.</p>
VI	Tap hole emissions shall be taken to GCP system by providing proper hood and suction system.	<p align="center"><u>Complied.</u></p> <p>Dedicated fume extraction system has been installed with bag filters for tap hole emission. Photographs enclosed Annexure 7.</p>
VII	Efforts should further be made to use maximum water from the rainwater harvesting sources. If needed, capacity of the reservoir shall be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from other sources. Use of air-cooled condensers shall be explored, and closed-circuit cooling system should be provided to reduce water consumption and water requirement shall be modified accordingly.	<p align="center"><u>Complied.</u></p> <p>Presently, a fully functional roof top rainwater harvesting cum recharging project at the administrative office with potential of rainwater harvesting is around 1500 cu.m/year.</p> <p>New rainwater harvesting recharge pit made near furnace building.</p> <p>A surface impoundment at the back side of the plant premises has been developed over around 1Acre area for harvesting of rainwater. This project has been dedicated to the community</p>

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		<p>in vicinity. The harvesting potential of the same is around 1200 cum/year.</p> <p>To reduce water consumption, close circuit cooling system is in operation.</p> <p>Photographs of Rainwater Harvesting Project is enclosed as Annexure-8.</p>
VIII	All the effluent should be treated and used for ash handling, dust suppression and green belt development. No effluent shall be discharged, and 'zero' discharge shall be adopted. Sanitary sewage should be treated in septic tank followed by the soak pit.	<p align="center"><u>Complied.</u></p> <p>There are neither any potential sources for generation of ash nor any activity as such handling ash inside plant premises. The plant is maintained with "Zero Discharge Standard". The plant has two operational aspects with water usage demand i.e., Furnace Cooling system and Gas Cleaning plant. For furnace cooling system complete close circuit-based recirculation system has been provided however makeup water is required to cater to the same. Whereas the effluents generated from the cleaning of GCP plant is passed through Solid-Liquid Separation system and the underflow is recirculated via thickener. There is no wastewater getting generated from the processes.</p> <p>The plant has an operational STP of 10KLD to take care of the domestic effluent generated from the office premises, canteen areas and others, etc.</p> <p>The plant has an operational 720 KLD ETP Effluent samples from the STP are getting analysed on monthly basis.</p> <p>Photographs and Monitoring Reports are enclosed as Annexure-9.</p>
IX	Regular monitoring of surface, sub-surface and ground water should be ensured, and treated wastewater should meet the norms prescribed by the State Pollution Control Board or described under the E(P) Act 1986 whichever are more stringent. Leachate study for the effluent generated and analysis shall also be regularly carried out and report submitted to the Ministry's Regional Office at Bhubaneswar, SPEB and CPCB.	<p align="center"><u>Complied.</u></p> <p>Monitoring of surface water (from Kundra nala/Sona River) is carried out on monthly basis.</p> <p>Similarly, ground water samples are also collected from the borewells.</p> <p>Sampling and analysis are carried out by an NABL Accredited laboratory. The analysis reports are also submitted to the Odisha State Pollution Control Board on monthly basis. Abstract of water Quality (wastewater, ground water and surface water) for the period of Oct'23 to March'23 is enclosed as Annexure-10.</p>
X	Slag produced in Ferro Manganese (Fe-Mn) production should be used in manufacture of Silico Manganese (Si-Mn). All the other Ferro alloy slag should be used in the preparation of building materials.	<p align="center"><u>Complied.</u></p> <p>Slag produced from existing Fe-Mn plant are, partly used in the process as a raw material for Fe-Mn production and rest are sold to the Ferro Alloys Industry for making Si-Mn.</p> <p>During FY 2023-24, (Oct-Mar) the total, slag generated 18239 MT approx. and 12856 MT sold Industry for making rest kept inhouse.</p>

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Sl. No.	Specific Condition	Compliance Status (October'2023 to March'2024)
XI	Risk and Disaster Management Plan along with the mitigation measures should be prepared and a copy submitted to the Ministry's Regional Office at Bhubaneswar, SPCB and CPCB within 3 months of issue of environment clearance letter.	<p align="center"><u>Complied.</u></p> <p>Risk and disaster management plan along with the mitigation measures was submitted. Reference to our communication in this regard are as follows:</p> <ol style="list-style-type: none"> Letter no. FAPJ/4249/2016, dated. 01.02.2016 for Central Pollution Control Board, New Delhi, Letter no. FAP(J)/4250/2016, dated. 01.02.2016, for the erstwhile Ministry of Environment & Forest, Eastern Regional Office, Bhubaneswar Letter no. FAP(J)/4251/2016, dated. 01.02.2016 to State Pollution Control Board, Bhubaneswar. <p>[Copy of the letters is enclosed as Annexure-11]</p>
XII	Green belt shall be developed in 33% of plant area. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO.	<p align="center"><u>Complied.</u></p> <p>The plant is established over an area of 47.135 Acre, out of which the existing project work (Fe-Mn Plant with Two Furnace units) is established over 33.4 Acres and 13. 735 Acres has been earmarked for the proposed expansion project (Si-Mn Plant & Sinter Plant) in respect of which the subject EC has been granted.</p> <p>The said proposed expansion project has been initiated however it is envisaged that there would be significant delay to establish and commission the upcoming plants/projects for the purpose of which, an application for extension of the validity of prevailing Environmental Clearance is sought from the Ministry.</p> <p>Accordingly, we are required to develop our greenbelt over 15.55 Acres (33% of 47.135Acres). Presently, greenbelt has been developed over an area of around 16 Acres with self-sustained plantation of around 16830 Nos.</p> <p>Photographs of greenbelt developed inside plant premises is enclosed as Annexure- 12.</p>
XIII	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Plants shall be implemented.	<p align="center"><u>Complied.</u></p> <p>All the applicable recommendations of CREP have been implemented.</p>
XIV	At least 5% of the total cost of the project shall be earmarked towards the Enterprise Social Commitment (ESC) based on locals need and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office at Chennai. Implementation of such program shall be ensured accordingly in a time bound manner.	<p align="center"><u>Complied.</u></p> <p>All the CSR measures are carried out by the CSR wing of the company under the banner of Tata Steel Foundation. During FY 23-24 the company has spent around Rs. 30.44 Crore on the strengthening of social welfare infrastructure of the Joda valley region.</p> <p>Details of expenditure is provided as Annexure- 13.</p>

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Sl. No.	Specific Condition	Compliance Status (October'2023 to March'2024)
XV	Provisions shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as 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	<p align="center"><u>Complied.</u></p> <p>There are no labour camps within the Site. However, workers are provided with all necessary infrastructure and facilities such as toilets, STP, Safe drinking water, medical, crèche, rest shelter etc.</p>

B. General Conditions

Sl. No.	General Condition	Compliance Status (October'2023 to March'2024)
I	The project authorities must strictly adhere to the stipulations made by the Odisha Pollution Control Board and the State Government.	<p align="center"><u>Complied.</u></p> <p>All the stipulations made by the Odisha Pollution Control Board and the State Government are strictly followed for existing facility.</p>
II	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).	<u>Noted.</u>
III	At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of PM10, PM2.5, SO2 and NOx are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the SPCB/CPCB once in six months.	<p align="center"><u>Complied.</u></p> <p>Presently four nos. ambient air monitoring stations have been installed for the monitoring of Ambient Air Quality Parameters as per National Ambient Air Quality Standard 2009.</p> <p>Monitoring and analysis is carried out by engaging an MoEF&CC as well as NABL Accredited laboratory. Reports are submitted to State Pollution Control Board Odisha on monthly basis.</p>
IV	Industrial wastewater shall be properly collected, treated so as to conform to the standard prescribed under GSR 422 (E) dated 19th May 1993 and 31st December 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.	<p align="center"><u>Complied.</u></p> <p>It has been followed. Treated wastewater is utilised for plantation/gardening and road water sprinkling purpose.</p>
V	Overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz 75 dBA (daytime) and 70 dBA (night-time).	<p align="center"><u>Complied.</u></p> <p>All the Noise generating sources have been provided with requisite acoustic enclosures. Ambient Noise level is also monitored at several places inside plant premises.</p> <p>Abstract of the Ambient Noise level Monitoring Result is enclosed as Annexure-14.</p>

Six Monthly Compliance Report to the Terms of Conditions of Environmental Clearance granted in favor of Ferro Alloys Plant, Joda, M/s Tata Steel Limited for October'23 to March'2024

Sl. No.	General Condition	Compliance Status (October'2023 to March'2024)
VI	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act	<p align="center"><u>Complied.</u></p> <p>Periodic medical check-ups were conducted yearly. Last medical check-up was done in November 2023 and 783 nos. of employees were examined including contractual employees. Records were maintained as per Orissa factory rule.</p> <p>[PME record sample of 2023 is enclosed as Annexure 15]</p>
VII	The company shall develop rainwater harvesting structures to harvest the rainwater for utilization in the lean season besides recharging the ground water table.	<p align="center"><u>Complied.</u></p> <p>Presently, a fully functional roof top rainwater harvesting cum recharging project at the administrative office with potential of rainwater harvesting is around 1500 cu.m/year.</p> <p>New rainwater harvesting recharge pit made near furnace building.</p> <p>A surface impoundment at the back side of the plant premises has been developed over around 1Acre area for harvesting of rainwater. This project has been dedicated to the community in vicinity. The harvesting potential of the same is around 1200 cum/year.</p> <p>To reduce water consumption, close circuit cooling system is in operation.</p> <p>Photographs of Rainwater Harvesting Project is enclosed as Annexure-7.</p>
VIII	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake social- economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.	<p align="center"><u>Complied.</u></p> <p>Necessary Environmental Protection Measures are implemented in line with the provision of EIA/EMP report. During FY 2023-24, the company kept a budget of Rs. 37 lakhs (recurring expenses) for the Environmental Protection Measures.</p> <p>Details of Environmental Expenditure for FY 2023-24 is enclosed as Annexure-16.</p> <p>All the CSR measures are carried out by the CSR wing of the company under the banner of Tata Steel Foundation. During FY 23-24, the company has spent around Rs. 30.44 crore on the strengthening of social welfare infrastructure of the Joda valley region.</p> <p>Details of expenditure is provided as Annexure- 13.</p>
IX	Requisite funds shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change (MoEFCC) as well as the State Government. An implementation schedule for	<p align="center"><u>Complied.</u></p> <p>During FY 2023-24, the company kept a budget of Rs. 37 lakhs (recurring expenses) for the Environmental Protection Measures</p> <p>Details of Environmental Expenditure for FY 2023-24 is enclosed as Annexure-16.</p>

**Six Monthly Compliance Report to the Terms of Conditions of Environmental Clearance granted in favor of Ferro Alloys Plant,
Joda, M/s Tata Steel Limited for October'23 to March'2024**

Sl. No.	General Condition	Compliance Status (October'2023 to March'2024)
	implementing all the conditions stipulated herein shall be submitted to the Regional Office of the Ministry at Bhubaneswar. The funds so provided shall not be diverted for any other purpose.	
X	A copy of clearance letter shall be sent by the proponent to concern Panchayat, Zila Parishad/Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.	<u>Complied.</u> Already Complied. Intimation of obtaining Environmental Clearance is given to Zila Parishad vide letter No. FAPJ/4136/2015. Copy of Letter is given in Annexure-17
XI	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEFCC at Bhubaneswar. The respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely, PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	<u>Complied.</u> The six-monthly compliance reports along with the monitoring results are uploaded in Tata Steel's website www.tatasteel.com for public view and updated periodically. Photograph is given in the Annexure - 18
XII	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MoEFCC, the respective Zonal Office of CPCB and the SPCB. The Regional Office of the Ministry at Bhubaneswar/CPCB/SPVCB shall monitor the stipulated conditions.	<u>Complied.</u> Six monthly compliance reports are being submitted regularly to the MoEF, its Regional Office Bhubaneswar, Central Pollution Control Board Kolkata and State Pollution Control Board. Last six-monthly compliance report was sent vide letter No FAMD/FAPJ/782/FY24 dt.22.11.2023 for the period from April-2023 to September-2023.
XIII	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Office of the MoEFCC) at Bhubaneswar by e-	<u>Complied.</u> The Environment statement in Form V was submitted for the year 2022-23 on 23 rd Sep 2023 vide letter no.- Ref. No. FAMD/FAPJ/716/FY24 to SPCB, Bhubaneswar and Regional office, Keonjhar and the compliance of environmental conditions is uploaded on the website. [Copy of Letter is given in Annexure-19]

**Six Monthly Compliance Report to the Terms of Conditions of Environmental Clearance granted in favor of Ferro Alloys Plant,
Joda, M/s Tata Steel Limited for October'23 to March'2024**

Sl. No.	General Condition	Compliance Status (October'2023 to March'2024)
	mail.	
XIV	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearances letter are available with SPCB and may also be seen at website of the Ministry of Environment, Forests and Climate Change (MoEFCC) at https://envfor.nic.in . This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspaper that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional Office at Bhubaneswar.	<p align="center"><u>Complied.</u></p> <p>Information regarding Environmental clearance issued is published on Sambad oriya newspaper on 12th November issue and on the statesman English Newspaper of 12th November issue.</p> <p>[Details of publication are given in Annexure -20]</p>
XV	Project authorities shall inform the Regional Office as well as ministry. The date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work	<p align="center">Being Followed with.</p> <p>It is being strictly followed.</p>



**Head,
Ferro Alloys Plant, Joda
Tata Steel Ltd.**

**Six Monthly Compliance Report to the Terms of Conditions of Environmental Clearance granted in favor of Ferro Alloys Plant,
Joda, M/s Tata Steel Limited for October'23 to March'2024**

ANNEXURE-1

ENVIRONMENTAL MONITORING RESULTS (OCTOBER'23 to MARCH'24)




Location	Main gate						
Parameters	NAAQ Standard	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24
PM10	100($\mu\text{g}/\text{m}^3$)	62.2	63.4	63	61.5	63.6	65.9
PM2.5	60 ($\mu\text{g}/\text{m}^3$)	26.3	24.1	24.4	24.6	25.7	27.1
SO2	80 ($\mu\text{g}/\text{m}^3$)	11.7	11	11	12.1	11.3	12.7
NO2	80($\mu\text{g}/\text{m}^3$)	24.9	22.6	21.2	23.3	23.4	25.9
Location	General Office						
Parameters	NAAQ Standard	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24
PM10	100($\mu\text{g}/\text{m}^3$)	51.9	51.5	53.8	51.7	54	53.8
PM2.5	60 ($\mu\text{g}/\text{m}^3$)	20.9	18.5	18.7	19.4	18.7	18.9
SO2	80 ($\mu\text{g}/\text{m}^3$)	10.4	8.4	9.4	9.1	9.6	9.9
NO2	80($\mu\text{g}/\text{m}^3$)	20	18.1	18	19.3	19.4	17.6
Location	Near ETP						
Parameters	NAAQ Standard	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24
PM10	100($\mu\text{g}/\text{m}^3$)	52.4	52.9	50.9	50.6	52.1	60.6
PM2.5	60 ($\mu\text{g}/\text{m}^3$)	21.3	21.1	18.2	20.4	22	22.5
SO2	80 ($\mu\text{g}/\text{m}^3$)	10.7	9.9	9.6	9.8	11.3	11.6
NO2	80($\mu\text{g}/\text{m}^3$)	20.9	19.5	19.1	18.7	20.4	21.3
Location	Back gate						
Parameters	NAAQ Standard	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24
PM10	100($\mu\text{g}/\text{m}^3$)	59.5	58.7	59.4	60.5	60.7	61.2
PM2.5	60 ($\mu\text{g}/\text{m}^3$)	25.2	28.4	22.7	23	24.8	22
SO2	80 ($\mu\text{g}/\text{m}^3$)	11.6	11.5	11.6	11	11.3	10.7
NO2	80($\mu\text{g}/\text{m}^3$)	22.9	23	21.8	21.7	23.3	22.2

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Annexure - 2

Ambient Air quality Report Samples From 01.10.2023 To 31-03-2023



Anacon Laboratories

Test Report

TC 5458

ULR No.- TC545823000003494F

Page 1 of 1

Ambient Air Quality Monitoring Report-October-2023

Report No.: AN/AAQ/TSL-F/2023/3-1 Date: 31/10/2023


Name and Address of Industry:-	TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)	W. O. No.	3000144107/056
		W. O. date:	19/04/2022
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/23102023/Mon-2/16-TSLFAP-CZ/AAQMS-1,2
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	9, 23, 31 October-2023
Test Started On:-	9, 23, 31 October-2023	Test Completed On:-	9, 23, 31 October-2023
Sampling Procedure	ANd/7.2/Mon-01		

Sr. No.	LOCATION	Date of sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³
Method Reference							
			IS 5182 (Part 23)	USEPA-40 (Part 50)	IS 5182 (Part-2)	IS 5182 (Part-6)	IS 5182 (Part-10)
AAQMS-1	Near Main Gate	03/10/2023	64.7	28.1	12.9	27.4	BDL (DL - 0.5)
		05/10/2023	68.3	31.9	14.7	31.6	BDL (DL - 0.5)
		09/10/2023	57.1	26.4	9.6	23.8	BDL (DL - 0.5)
		11/10/2023	61.9	28.3	11.4	24.9	BDL (DL - 0.5)
		16/10/2023	57.3	26.7	12.8	28.1	BDL (DL - 0.5)
		20/10/2023	62.4	23.6	9.2	21.7	BDL (DL - 0.5)
		23/10/2023	56.1	18.3	7.9	16.8	BDL (DL - 0.5)
		27/10/2023	64.8	24.9	11.6	23.1	BDL (DL - 0.5)
		30/10/2023	67.3	28.6	14.9	26.7	BDL (DL - 0.5)
		Monthly Average Value	62.2	26.3	11.7	24.9	BDL (DL - 0.5)
AAQMS-2	General Office	03/10/2023	53.8	21.6	9.7	17.6	BDL (DL - 0.5)
		05/10/2023	47.3	16.9	8.4	16.7	BDL (DL - 0.5)
		09/10/2023	56.1	24.7	11.6	21.9	BDL (DL - 0.5)
		11/10/2023	48.7	18.2	9.2	18.3	BDL (DL - 0.5)
		16/10/2023	52.9	23.6	12.8	21.7	BDL (DL - 0.5)
		20/10/2023	47.1	19.3	8.4	18.6	BDL (DL - 0.5)
		23/10/2023	47.1	18.4	9.2	19.2	BDL (DL - 0.5)
		27/10/2023	52.8	21.6	11.4	21.7	BDL (DL - 0.5)
		30/10/2023	57.1	23.9	12.8	24.6	BDL (DL - 0.5)
		Monthly Average Value	51.9	20.9	10.4	20.0	BDL (DL - 0.5)

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Remark: - All Results are within Limit as per CPCB Standards.

Verified by



Snehal Raut
Deputy Technical Manager

Authorized Signatory




Dr. (Mrs.) S. D. Garway
Quality Manager

---End of Report---

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Test Report

TC 5458

ULR No.- TC545823000003494F

Page 1 of 1

Ambient Air Quality Monitoring Report-October-2023

Report No.: AN/AAQ/TSL-F/2023/3-2 Date: 31/10/2023


Name and Address of Industry:-	TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)	W. O. No.	3000144107/056
		W. O. date:	19/04/2022
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/23102023/Mon-2/16-TSLFAP-CZ/AAQMS-3,4
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	9, 23, 31 October-2023
Test Started On:-	9, 23, 31 October-2023	Test Completed On:-	9, 23, 31 October-2023
Sampling Procedure	ANd/7.2/Mon-01		

Sr. No.	LOCATION	Date of sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³
Method Reference							
			IS 5182 (Part 23)	USEPA-40 (Part 50)	IS 5182 (Part-2)	IS 5182 (Part-6)	IS 5182 (Part-10)
AAQMS-3	Near Well Zone	03/10/2023	57.2	24.9	11.6	23.1	BDL (DL - 0.5)
		05/10/2023	54.7	21.6	9.2	21.7	BDL (DL - 0.5)
		09/10/2023	47.3	16.2	7.6	17.2	BDL (DL - 0.5)
		11/10/2023	53.9	24.8	11.3	23.6	BDL (DL - 0.5)
		16/10/2023	47.3	21.3	12.9	19.3	BDL (DL - 0.5)
		20/10/2023	51.7	16.8	9.7	17.4	BDL (DL - 0.5)
		23/10/2023	53.8	23.6	12.4	21.9	BDL (DL - 0.5)
		27/10/2023	56.1	24.7	11.9	24.6	BDL (DL - 0.5)
		30/10/2023	49.3	18.2	9.3	19.2	BDL (DL - 0.5)
		Monthly Average Value	52.4	21.3	10.7	20.9	BDL (DL - 0.5)
AAQMS-4	Near Back Gate	03/10/2023	57.3	28.1	13.6	24.7	BDL (DL - 0.5)
		05/10/2023	63.9	31.8	14.1	26.3	BDL (DL - 0.5)
		09/10/2023	56.2	24.6	9.3	19.1	BDL (DL - 0.5)
		11/10/2023	54.7	21.3	11.6	21.4	BDL (DL - 0.5)
		16/10/2023	61.3	26.8	12.9	25.8	BDL (DL - 0.5)
		20/10/2023	57.1	19.3	9.2	18.7	BDL (DL - 0.5)
		23/10/2023	62.8	24.6	11.3	21.9	BDL (DL - 0.5)
		27/10/2023	64.1	28.4	12.9	24.6	BDL (DL - 0.5)
		30/10/2023	58.3	21.9	9.7	23.8	BDL (DL - 0.5)
		Monthly Average Value	59.5	25.2	11.6	22.9	BDL (DL - 0.5)

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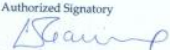
Remark: - All Results are within Limit as per CPCB Standards.

Verified by



Snehal Raut
Deputy Technical Manager

Authorized Signatory



Dr. (Mrs.) S. D. Garway
Quality Manager


---End of Report---

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Six Monthly Compliance Report to the Terms of Conditions of Environmental Clearance granted in favor of Ferro Alloys Plant, Joda, M/s Tata Steel Limited for October'23 to March'2024



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TC 5458

Test Report

ULR No.- TC545823000003925F Page 1 of 1


Ambient Air Quality Monitoring Report-November-2023

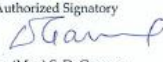
Report No.: AN/AAQ/TSL-F/2023/2-1		Date: 30/11/2023	
Name and Address of Industry:- TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)		W. O. No.	3000144107/056
		W. O. date:	19/04/2022
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/22112023/Mon-2/43-TSLFAP-CZ/AAQMS-1,2
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	8, 13, 20, 29 November-2023
Test Started On:-	9, 17, 21, 29 November-2023	Test Completed On:-	10, 18, 22, 30 November-2023
Sampling Procedure	ANtd/7.2/Mon-01		

Sr. No.	LOCATION	Date of sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO _x µg/m ³	CO mg/m ³
Method Reference			IS 5182 (Part 23)	USEPA-40 (Part 50)	IS 5182 (Part-2)	IS 5182 (Part-6)	IS 5182 (Part-10)
AAQMS-1	Near Main Gate	02/11/2023	67.2	31.6	13.4	28.1	BDL (DL - 0.5)
		04/11/2023	71.8	32.4	14.6	29.7	BDL (DL - 0.5)
		07/11/2023	64.3	26.1	9.7	21.6	BDL (DL - 0.5)
		10/11/2023	62.9	24.7	11.3	23.4	BDL (DL - 0.5)
		14/11/2023	56.3	18.2	8.6	19.2	BDL (DL - 0.5)
		17/11/2023	61.7	19.3	9.4	21.6	BDL (DL - 0.5)
		21/11/2023	64.2	23.8	12.1	24.7	BDL (DL - 0.5)
		24/11/2023	59.6	19.7	11.3	18.6	BDL (DL - 0.5)
		27/11/2023	62.8	21.4	8.7	16.4	BDL (DL - 0.5)
		Monthly Average Value			63.4	24.1	11.0
AAQMS-2	General Office	02/11/2023	51.6	18.3	8.4	16.9	BDL (DL - 0.5)
		04/11/2023	53.8	21.4	9.2	18.1	BDL (DL - 0.5)
		07/11/2023	47.3	16.2	7.6	16.4	BDL (DL - 0.5)
		10/11/2023	51.9	18.7	8.1	17.3	BDL (DL - 0.5)
		14/11/2023	56.2	23.9	11.6	21.4	BDL (DL - 0.5)
		17/11/2023	49.1	16.4	7.3	18.1	BDL (DL - 0.5)
		21/11/2023	53.9	18.7	8.4	19.3	BDL (DL - 0.5)
		24/11/2023	51.6	16.2	7.1	18.7	BDL (DL - 0.5)
		26/11/2023	48.2	16.9	8.3	16.4	BDL (DL - 0.5)
		Monthly Average Value			51.5	18.5	8.4

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Verified by

Snehal Raut
Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway
Quality Manager



----End of Report----

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TC 5458

Test Report

ULR No.- TC545823000003925F Page 1 of 1


Ambient Air Quality Monitoring Report-November-2023


Report No.: AN/AAQ/TSL-F/2023/2-2		Date: 30/11/2023	
Name and Address of Industry:- TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)		W. O. No.	3000144107/056
		W. O. date:	19/04/2022
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/22112023/Mon-2/43-TSLFAP-CZ/AAQMS-3,4
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	8, 13, 20, 29 November-2023
Test Started On:-	9, 17, 21, 29 November-2023	Test Completed On:-	10, 18, 22, 30 November-2023
Sampling Procedure	ANtd/7.2/Mon-01		

Sr. No.	LOCATION	Date of sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO _x µg/m ³	CO mg/m ³
Method Reference			IS 5182 (Part 23)	USEPA-40 (Part 50)	IS 5182 (Part-2)	IS 5182 (Part-6)	IS 5182 (Part-10)
AAQMS-3	Near Well Zone	02/11/2023	54.9	21.4	9.7	21.4	BDL (DL - 0.5)
		04/11/2023	61.7	23.8	11.4	21.9	BDL (DL - 0.5)
		07/11/2023	53.4	18.2	8.6	16.7	BDL (DL - 0.5)
		10/11/2023	49.3	19.1	9.3	18.4	BDL (DL - 0.5)
		14/11/2023	56.7	24.6	11.9	23.8	BDL (DL - 0.5)
		17/11/2023	52.9	21.4	8.7	19.3	BDL (DL - 0.5)
		21/11/2023	47.6	19.1	9.2	18.7	BDL (DL - 0.5)
		24/11/2023	51.7	23.6	11.4	21.9	BDL (DL - 0.5)
		26/11/2023	48.3	18.7	9.1	16.3	BDL (DL - 0.5)
		Monthly Average Value			52.9	21.1	9.9
AAQMS-4	Near Back Gate	02/11/2023	58.3	27.6	14.1	26.8	BDL (DL - 0.5)
		04/11/2023	62.9	31.2	13.8	27.6	BDL (DL - 0.5)
		07/11/2023	54.2	26.1	8.3	21.7	BDL (DL - 0.5)
		10/11/2023	58.3	28.4	11.7	23.9	BDL (DL - 0.5)
		14/11/2023	61.7	31.9	13.6	24.2	BDL (DL - 0.5)
		17/11/2023	57.2	27.3	9.7	19.6	BDL (DL - 0.5)
		21/11/2023	54.7	24.6	8.4	18.3	BDL (DL - 0.5)
		24/11/2023	58.9	26.8	11.6	23.4	BDL (DL - 0.5)
		26/11/2023	62.4	31.6	12.1	21.9	BDL (DL - 0.5)
		Monthly Average Value			58.7	28.4	11.5

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Verified by

Snehal Raut
Deputy Technical Manager


Authorized Signatory

Dr. (Mrs.) S. D. Garway
Quality Manager

----End of Report----

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Six Monthly Compliance Report to the Terms of Conditions of Environmental Clearance granted in favor of Ferro Alloys Plant, Joda, M/s Tata Steel Limited for October'23 to March'2024



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Test Report

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Ambient Air Quality Monitoring Report-December-2023


Report No.: AN/AAQ/TSL-F/2023/1-1		Date: 30/12/2023	
Name and Address of Industry:-		W. O. No. 3000144107/056	
TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)		W. O. date: 19/04/2022	
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/22122023/ Mon-5/36-TSLFAP-CZ/AAQMS-1,2
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	11, 18, 25,30 December-2023
Test Started On:-	11, 18, 25,30 December-2023	Test Completed On:-	12, 19, 26,30 December-2023
Sampling Procedure	ANtd/7.2/Mon-01		

Sr. No.	LOCATION	Date of sampling	PM ₁₀ µg/m ³ (Part 23)	PM _{2.5} µg/m ³ (Part 50)	SO ₂ µg/m ³ (Part-2)	NO ₂ µg/m ³ (Part-6)	CO mg/m ³ (Part-10)
AAQMS-1	Near Main Gate	02/12/2023	72.9	32.8	14.7	26.1	BDL (DL - 0.5)
		04/12/2023	64.1	28.6	12.8	24.7	BDL (DL - 0.5)
		06/12/2023	63.7	24.9	8.2	16.8	BDL (DL - 0.5)
		11/12/2023	57.1	18.3	9.7	18.2	BDL (DL - 0.5)
		14/12/2023	67.3	26.1	12.6	23.9	BDL (DL - 0.5)
		18/12/2023	58.7	24.7	11.9	21.6	BDL (DL - 0.5)
		22/12/2023	56.2	19.2	8.7	16.8	BDL (DL - 0.5)
		26/12/2023	61.9	23.6	9.1	19.2	BDL (DL - 0.5)
		29/12/2023	64.8	21.4	11.3	23.6	BDL (DL - 0.5)
		Monthly Average Value	63.0	24.4	11.0	21.2	BDL (DL - 0.5)
AAQMS-2	General Office	02/12/2023	53.6	17.6	7.9	15.8	BDL (DL - 0.5)
		04/12/2023	47.3	16.4	6.8	15.3	BDL (DL - 0.5)
		06/12/2023	56.7	21.8	11.4	18.9	BDL (DL - 0.5)
		11/12/2023	61.3	24.6	9.2	17.6	BDL (DL - 0.5)
		14/12/2023	54.6	18.2	8.7	16.9	BDL (DL - 0.5)
		18/12/2023	56.2	21.7	11.3	23.8	BDL (DL - 0.5)
		22/12/2023	49.3	16.4	9.6	18.2	BDL (DL - 0.5)
		26/12/2023	53.6	15.8	12.7	17.6	BDL (DL - 0.5)
		29/12/2023	51.7	16.1	6.8	18.1	BDL (DL - 0.5)
		Monthly Average Value	53.8	18.7	9.4	18.0	BDL (DL - 0.5)

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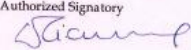
Remark: - All Results are within Limit as per CPCB Standards.

Verified by




Snehal Raut
Deputy Technical Manager

Authorized Signatory




Dr. (Mrs.) S. D. Garway
Quality Manager

----End of Report----



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Test Report

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Ambient Air Quality Monitoring Report-December-2023


Report No.: AN/AAQ/TSL-F/2023/2-2		Date: 30/12/2023	
Name and Address of Industry:-		W. O. No. 3000144107/056	
TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)		W. O. date: 19/04/2022	
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/22122023/Mon-5/36-TSLFAP-CZ/AAQMS-3,4
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	11, 18, 25,30 December-2023
Test Started On:-	11, 18, 25,30 December-2023	Test Completed On:-	12, 19, 26,30 December-2023
Sampling Procedure	ANtd/7.2/Mon-01		

Sr. No.	LOCATION	Date of sampling	PM ₁₀ µg/m ³ (Part 23)	PM _{2.5} µg/m ³ (Part 50)	SO ₂ µg/m ³ (Part-2)	NO ₂ µg/m ³ (Part-6)	CO mg/m ³ (Part-10)
AAQMS-3	Near Well Zone	02/12/2023	46.7	16.8	8.4	17.2	BDL (DL - 0.5)
		04/12/2023	51.9	18.2	9.7	18.4	BDL (DL - 0.5)
		06/12/2023	47.3	15.7	7.6	15.9	BDL (DL - 0.5)
		11/12/2023	53.7	19.3	11.4	21.7	BDL (DL - 0.5)
		14/12/2023	56.2	21.9	12.8	23.6	BDL (DL - 0.5)
		18/12/2023	49.6	18.2	9.2	18.3	BDL (DL - 0.5)
		22/12/2023	52.7	19.6	11.4	21.7	BDL (DL - 0.5)
		26/12/2023	48.3	16.9	8.7	17.2	BDL (DL - 0.5)
		29/12/2023	51.6	17.2	7.6	18.3	BDL (DL - 0.5)
		Monthly Average Value	50.9	18.2	9.6	19.1	BDL (DL - 0.5)
AAQMS-4	Near Back Gate	02/12/2023	56.7	24.6	13.9	21.7	BDL (DL - 0.5)
		04/12/2023	54.9	23.8	11.6	18.3	BDL (DL - 0.5)
		06/12/2023	61.8	26.1	14.7	23.9	BDL (DL - 0.5)
		11/12/2023	64.2	27.6	13.1	24.6	BDL (DL - 0.5)
		14/12/2023	56.7	19.3	9.6	18.2	BDL (DL - 0.5)
		18/12/2023	61.8	21.7	11.9	19.7	BDL (DL - 0.5)
		22/12/2023	57.2	18.4	8.7	21.4	BDL (DL - 0.5)
		26/12/2023	59.1	19.2	9.2	23.6	BDL (DL - 0.5)
		29/12/2023	62.4	23.7	11.4	24.9	BDL (DL - 0.5)
		Monthly Average Value	59.4	22.7	11.6	21.8	BDL (DL - 0.5)

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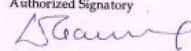
Remark: - All Results are within Limit as per CPCB Standards.

Verified by




Snehal Raut
Deputy Technical Manager

Authorized Signatory




Dr. (Mrs.) S. D. Garway
Quality Manager



----End of Report----



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Six Monthly Compliance Report to the Terms of Conditions of Environmental Clearance granted in favor of Ferro Alloys Plant, Joda, M/s Tata Steel Limited for October'23 to March'2024



Anacon Laboratories


TC 5458

Test Report

ULR No.- TC54582400000472F Page 1 of 1


Ambient Air Quality Report-January-2024

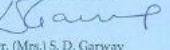
Report No.: AN/AAQ/TSL-F/2024/1-1		Date: 31/01/2024	
Name and Address of Industry:- TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)		W. O. No.	3000144107/056
		W. O. date:	19/04/2022
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/25012024/ Mon-3/44-TSLFAP-CZ/AAQMS-1,2
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	8,15,22,29, 31 January-2024
Test Started On:-	8,15,22,29, 31 January-2024	Test Completed On:-	9,16,23,30, 31 January-2024
Sampling Procedure ANtd/7.2/Mon-01			

Sr. No.	LOCATION	Date of sampling	PM ₁₀ µg/m ³ (IS 5182 (Part 23))	PM _{2.5} µg/m ³ (USEPA-40 (Part 50))	SO ₂ µg/m ³ (IS 5182 (Part-2))	NO _x µg/m ³ (IS 5182 (Part-6))	CO mg/m ³ (Part-10)
AAQMS-1	Near Main Gate	02/01/2024	64.7	31.6	16.3	28.4	BDL (DL - 0.5)
		05/01/2024	56.2	24.9	11.6	23.8	BDL (DL - 0.5)
		08/01/2024	61.8	28.4	12.9	26.7	BDL (DL - 0.5)
		11/01/2024	63.4	27.6	9.4	18.3	BDL (DL - 0.5)
		18/01/2024	57.3	19.2	11.6	21.8	BDL (DL - 0.5)
		20/01/2024	61.7	23.8	12.7	23.9	BDL (DL - 0.5)
		22/01/2024	64.1	24.6	11.9	27.1	BDL (DL - 0.5)
		25/01/2024	56.3	19.2	8.4	16.7	BDL (DL - 0.5)
		29/01/2024	61.9	21.7	12.6	21.9	BDL (DL - 0.5)
		30/01/2024	67.3	24.8	13.9	24.1	BDL (DL - 0.5)
		Monthly Average Value	61.5	24.6	12.1	23.3	BDL (DL - 0.5)
AAQMS-2	General Office	02/01/2024	51.6	18.4	8.1	16.3	BDL (DL - 0.5)
		05/01/2024	53.9	19.7	9.2	18.1	BDL (DL - 0.5)
		08/01/2024	47.3	16.1	7.6	15.9	BDL (DL - 0.5)
		11/01/2024	57.1	24.6	11.7	23.7	BDL (DL - 0.5)
		18/01/2024	52.9	21.9	9.2	18.4	BDL (DL - 0.5)
		20/01/2024	48.3	16.4	7.1	17.9	BDL (DL - 0.5)
		22/01/2024	51.6	18.3	9.7	23.8	BDL (DL - 0.5)
		25/01/2024	54.1	19.7	11.8	21.6	BDL (DL - 0.5)
		29/01/2024	47.3	16.9	7.6	18.4	BDL (DL - 0.5)
		30/01/2024	52.8	21.6	9.2	19.3	BDL (DL - 0.5)
		Monthly Average Value	51.7	19.4	9.1	19.3	BDL (DL - 0.5)

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Verified by

Snehal Raut
Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway
Quality Manager

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TC 5458

Test Report

ULR No.- TC54582400000472F Page 1 of 1


Ambient Air Quality Report-January-2024

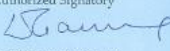
Report No.: AN/AAQ/TSL-F/2024/1-2		Date: 31/01/2024	
Name and Address of Industry:- TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)		W. O. No.	3000144107/056
		W. O. date:	19/04/2022
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/25012024/ Mon-3/44-TSLFAP-CZ/AAQMS-3,4
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	8,15,22,29, 31 January-2024
Test Started On:-	8,15,22,29, 31 January-2024	Test Completed On:-	9,16,23,30, 31 January-2024
Sampling Procedure ANtd/7.2/Mon-01			

Sr. No.	LOCATION	Date of sampling	PM ₁₀ µg/m ³ (IS 5182 (Part 23))	PM _{2.5} µg/m ³ (USEPA-40 (Part 50))	SO ₂ µg/m ³ (IS 5182 (Part-2))	NO _x µg/m ³ (IS 5182 (Part-6))	CO mg/m ³ (Part-10)
AAQMS-3	Near Well Zone	02/01/2024	48.3	17.1	9.3	16.4	BDL (DL - 0.5)
		05/01/2024	46.7	15.9	8.4	16.1	BDL (DL - 0.5)
		08/01/2024	53.6	21.4	11.6	18.9	BDL (DL - 0.5)
		11/01/2024	48.3	17.6	9.2	17.2	BDL (DL - 0.5)
		18/01/2024	54.8	24.7	12.9	21.6	BDL (DL - 0.5)
		20/01/2024	47.2	19.3	8.4	18.3	BDL (DL - 0.5)
		22/01/2024	51.6	21.6	9.2	21.8	BDL (DL - 0.5)
		25/01/2024	46.3	18.1	8.7	16.9	BDL (DL - 0.5)
		29/01/2024	52.7	23.8	11.3	21.6	BDL (DL - 0.5)
		30/01/2024	56.1	24.3	14.4	18.3	BDL (DL - 0.5)
		Monthly Average Value	50.6	20.4	9.8	18.7	BDL (DL - 0.5)
AAQMS-4	Near Back Gate	02/01/2024	62.8	28.4	12.7	26.1	BDL (DL - 0.5)
		05/01/2024	67.3	31.6	13.9	28.4	BDL (DL - 0.5)
		08/01/2024	89.1	26.3	11.6	19.7	BDL (DL - 0.5)
		11/01/2024	61.7	24.7	9.3	21.3	BDL (DL - 0.5)
		18/01/2024	54.8	19.1	8.7	16.4	BDL (DL - 0.5)
		20/01/2024	61.3	21.8	11.6	23.9	BDL (DL - 0.5)
		22/01/2024	64.8	23.4	12.9	21.8	BDL (DL - 0.5)
		25/01/2024	57.2	16.9	8.1	18.3	BDL (DL - 0.5)
		29/01/2024	61.7	19.2	9.3	17.6	BDL (DL - 0.5)
		30/01/2024	54.1	18.3	11.4	23.7	BDL (DL - 0.5)
		Monthly Average Value	60.5	23.0	11.0	21.7	BDL (DL - 0.5)

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Remark: - All Results are within Limit as per CPCB Standards.


Verified by

Snehal Raut

Authorized Signatory

Dr. (Mrs.) S. D. Garway



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Six Monthly Compliance Report to the Terms of Conditions of Environmental Clearance granted in favor of Ferro Alloys Plant, Joda, M/s Tata Steel Limited for October'23 to March'2024



Anacon Laboratories

TC-12998

Test Report

ULR No.- TC12998240000647F

Page 1 of 1

Ambient Air Quality Report-February-2024


Report No.: AN/AAQ/TSL-F/2024/1-1		Date: 29/02/2024	
Name and Address of Industry:- TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)		W. O. No.	3000144107/056
		W. O. date:	19/08/2022
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/20022024/ Mon-3/31-TSLFAP-CZ/AAQMS-1,2
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	12,19,26,28 February-2024
Test Started On:-	12,19,26,28 February-2024	Test Completed On:-	13,20,27,28 February-2024
Sampling Procedure	ANtd/7.2/Mon-01		

Sr. No.	LOCATION	Date of sampling	PM ₁₀ µg/m ³ IS 5182 (Part 22)	PM _{2.5} µg/m ³ USEPA-40 (Part 50)	SO ₂ µg/m ³ IS 5182 (Part 2)	NO _x µg/m ³ IS 5182 (Part 4)	CO mg/m ³ IS 5182 (Part 10)
AAQMS-1	Near Main Gate	02/02/2024	68.3	32.9	13.9	31.2	BDL (DL - 0.5)
		06/02/2024	71.6	34.6	12.8	28.7	BDL (DL - 0.5)
		08/02/2024	63.9	27.1	9.3	24.6	BDL (DL - 0.5)
		14/02/2024	57.3	19.3	8.4	17.3	BDL (DL - 0.5)
		16/02/2024	61.7	23.6	11.9	21.8	BDL (DL - 0.5)
		19/02/2024	64.1	24.7	12.6	23.9	BDL (DL - 0.5)
		22/02/2024	57.6	19.2	9.2	18.3	BDL (DL - 0.5)
		26/02/2024	64.1	23.8	11.9	21.6	BDL (DL - 0.5)
		Monthly Average Value	63.6	25.7	11.3	23.4	BDL (DL - 0.5)
AAQMS-2	General Office	02/02/2024	54.9	17.6	9.4	17.2	BDL (DL - 0.5)
		06/02/2024	61.4	21.7	11.3	23.8	BDL (DL - 0.5)
		08/02/2024	56.1	19.2	9.7	21.4	BDL (DL - 0.5)
		14/02/2024	52.9	16.8	8.4	17.3	BDL (DL - 0.5)
		16/02/2024	47.6	16.3	8.1	16.9	BDL (DL - 0.5)
		19/02/2024	56.3	21.4	11.9	22.6	BDL (DL - 0.5)
		22/02/2024	54.1	19.2	9.2	18.3	BDL (DL - 0.5)
		26/02/2024	48.3	17.6	8.4	17.9	BDL (DL - 0.5)
		Monthly Average Value	54.0	18.7	9.6	19.4	BDL (DL - 0.5)

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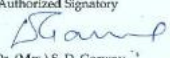
Remark: - All Results are within Limit as per CPCB Standards.

Verified by



Snehal Raut
Deputy Technical Manager

Authorized Signatory




Dr. (Mrs.) S. D. Garway
Quality Manager



---End of Report---

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TC-12998

Test Report

ULR No.- TC12998240000647F

Page 1 of 1

Ambient Air Quality Report-February-2024


Report No.: AN/AAQ/TSL-F/2024/1-2		Date: 29/02/2024	
Name and Address of Industry:- TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)		W. O. No.	3000144107/056
		W. O. date:	19/04/2022
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/20022024/ Mon-3/31-TSLFAP-CZ/AAQMS-3,4
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	12,19,26,28 February-2024
Test Started On:-	12,19,26,28 February-2024	Test Completed On:-	13,20,27,28 February-2024
Sampling Procedure	ANtd/7.2/Mon-01		

Sr. No.	LOCATION	Date of sampling	PM ₁₀ µg/m ³ IS 5182 (Part 22)	PM _{2.5} µg/m ³ USEPA-40 (Part 50)	SO ₂ µg/m ³ IS 5182 (Part 2)	NO _x µg/m ³ IS 5182 (Part 4)	CO mg/m ³ IS 5182 (Part 10)
AAQMS-3	Near Well Zone	02/02/2024	52.7	19.1	11.6	18.3	BDL (DL - 0.5)
		06/02/2024	56.3	24.9	12.4	23.9	BDL (DL - 0.5)
		08/02/2024	48.1	16.3	9.2	17.2	BDL (DL - 0.5)
		14/02/2024	51.6	28.4	11.3	21.4	BDL (DL - 0.5)
		16/02/2024	53.7	24.9	12.9	23.8	BDL (DL - 0.5)
		19/02/2024	49.2	17.3	9.2	17.6	BDL (DL - 0.5)
		22/02/2024	51.6	23.8	11.4	19.2	BDL (DL - 0.5)
		26/02/2024	53.7	21.4	12.7	21.8	BDL (DL - 0.5)
		Monthly Average Value	52.1	22.0	11.3	20.4	BDL (DL - 0.5)
AAQMS-4	Near Back Gate	02/02/2024	58.2	27.9	11.4	26.3	BDL (DL - 0.5)
		06/02/2024	63.9	31.6	14.3	27.6	BDL (DL - 0.5)
		08/02/2024	67.3	32.1	13.9	31.7	BDL (DL - 0.5)
		14/02/2024	58.1	18.3	9.7	19.1	BDL (DL - 0.5)
		16/02/2024	62.8	26.4	11.6	24.9	BDL (DL - 0.5)
		19/02/2024	57.3	24.7	9.1	21.8	BDL (DL - 0.5)
		22/02/2024	61.7	19.3	11.4	18.2	BDL (DL - 0.5)
		26/02/2024	56.3	17.9	9.2	16.4	BDL (DL - 0.5)
		Monthly Average Value	60.7	24.8	11.3	23.3	BDL (DL - 0.5)

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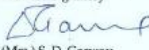
Remark: - All Results are within Limit as per CPCB Standards.

Verified by



Snehal Raut
Deputy Technical Manager

Authorized Signatory




Dr. (Mrs.) S. D. Garway
Quality Manager

---End of Report---

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Test Report

Test Report No. : ALPL/30032024/1-9 dated 30/03/2024 Page 1 of 1

Issued To:
TATA STEEL LIMITED
FAP JODA, Keonjhar,
FAMD, ODISHA-758034 (India)

Sample Inward No.
ALPL/26032024/ENV-70-SW-1 & 2

Inward Date
26/03/2024

Reference
W.O. - 3000144107/056

Reference Date
19.04.2022

Analysis Start
26/03/2024

Analysis End
30/03/2024

Report Issue Date
30/03/2024

Sample Category
Water

Sample Name	Sample Source	Sample Particulars	Sample Condition	Quantity Received
Surface Water	1. Upstream 2. Downstream	Sample Code-SW-1 & 2	Sealed & Ice Preserved	2.0 Lit & 250 ml

Sample Collected By	Sampling Date	Sampling Time	Sampling Location
Anacon Representative	22/03/2024	2.50 & 3.10 pm	1. Sona River Upstream (SW-1) 2. Sona River Downstream (SW-2)

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Standards as per IS 2296:1992 Class C	Test Result	
					SW-3	SW-4
I	Biological Testing - I. Water					
1	Coliform	MPN/100ml	IS 1622 : 1981	5000	BDL (DL-2)	BDL (DL-2)
II	Chemical Testing - I. Water					
2	pH value	-	IS 3025 (Part 11) : 2022	6.0 to 9.0	6.41 at 25°C	6.53 at 25°C
3	Colour	Hazen units	IS 3025 (Part 4) : 2021	300	52	41
4	Dissolved Oxygen	mg/l	IS 3025 (Part 38) : 1989	4.0	6.5	6.2
5	Total Suspended Solid (as TSS)	mg/l	IS 3025 (Part 17) : 2022	—	28	24
6	BOD (3 days at 25°C)	mg/l	IS 3025 (Part 44) : 2023	3.0	2.51	2.46
7	Chemical oxygen demand	mg/l	IS 3025 (Part 58) : 2022	—	6.94	6.37
8	Total Dissolved Solids (TDS)	mg/l	IS 3025 : (Part 16) : 2023	1500	1291	1164
9	Copper (as Cu)	mg/l	IS 3025 (Part 2) : 2019	1.5	0.05	0.03
10	Chloride (as Cl)	mg/l	IS 3025 (Part 32) : 1988	600	131.58	121.43
11	Sulphate (as SO ₄)	mg/l	IS 3025 (Part 24) : 2022	400	271.92	257.16
12	Nitrate (as NO ₃)	mg/l	APHA method 23rd edition: 2017	50	32.51	28.43
13	Fluoride (as F)	mg/l	IS 3025 (Part 60) : 2008	1.5	0.57	0.46
14	Cyanide (as CN)	mg/l	IS 3025 (Part 27) : 2021	0.05	BDL (DL-0.005)	BDL (DL-0.005)
15	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part 43) : 1992	0.005	BDL (DL-0.001)	BDL (DL-0.001)
16	Anionic Detergents (as MBAS)	mg/l	IS 13428 : (Annex K) : 2005	1.0	BDL (DL-0.01)	BDL (DL-0.01)
17	Chemical Testing - 2. Residues In Water					
18	Iron (as Fe)	mg/l	IS 3025 (Part 2) : 2019	0.5	0.37	0.31
19	Cadmium (as Cd)	mg/l	IS 3025 (Part 2) : 2019	0.01	BDL (DL-0.002)	BDL (DL-0.002)
20	Selenium (as Se)	mg/l	IS 3025 (Part 56) : 2003	0.05	BDL (DL-0.01)	BDL (DL-0.01)
21	Arsenic (as As)	mg/l	IS 3025 (Part 37) : 2022	0.2	BDL (DL-0.01)	BDL (DL-0.01)
22	Lead (as Pb)	mg/l	IS 3025 (Part 2) : 2019	0.1	BDL (DL-0.01)	BDL (DL-0.01)
23	Zinc (as Zn)	mg/l	IS 3025 (Part 2) : 2019	15	BDL (DL-0.02)	BDL (DL-0.02)
24	Hexa Chromium (as Cr ^{VI})	mg/l	IS 3025 (Part 52) : 2003	0.05	BDL (DL-0.01)	BDL (DL-0.01)
25	Mercury (as Hg)	mg/l	IS 3025 (Part 48) : 1994	—	BDL (DL-0.001)	BDL (DL-0.001)
26	Manganese (as Mn)	mg/l	IS 3025 (Part 2) : 2019	—	BDL (DL-0.02)	BDL (DL-0.02)

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Nidhi Dubey
Nidhi Dubey
Deputy Technical Manager


Authorized Signatories

Sheela Raut
Sheela Raut
Deputy Technical Manager


Pooja Kulkarni
Pooja Kulkarni
Technical Manager

Dr. (Mrs.) S.D. Garway
Dr. (Mrs.) S.D. Garway
Quality Manager

---End of Report---



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Test Report

Page 1 of 1

Ambient Air Quality Report-March-2024

Report No.: AN/AAQ/TSL-F/2024/1-1

Date: 30/03/2024

Name and Address of Industry:-	TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)	W. O. No.	3000144107/056
		W. O. date:	19/04/2022

Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/26032024/ Mon-1/37-TSLFAP-CZ/AAQMS-1,2
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	04.11.18,29 March-2024
Test Started On:-	04.11.18,29 March-2024	Test Completed On:-	05.12.19,30 March-2024
Sampling Procedure	AN/7.2/Mon-01		

Sr. No.	LOCATION	Date of sampling	PM ₁₀ µg/m ³ (IS 5182 (Part 22))	PM _{2.5} µg/m ³ (USEPA-40 (Part 50))	SO ₂ µg/m ³ (IS 5182 (Part-2))	NO ₂ µg/m ³ (IS 5182 (Part-6))	CO mg/m ³ (IS 5182 (Part-10))
AAQMS-1	Near Main Gate	01/03/2024	72.8	34.6	16.1	32.9	BDL (DL - 0.5)
		04/03/2024	68.3	28.4	13.9	27.1	BDL (DL - 0.5)
		07/03/2024	64.9	26.3	12.8	24.7	BDL (DL - 0.5)
		11/03/2024	67.3	31.9	14.3	31.6	BDL (DL - 0.5)
		14/03/2024	71.9	28.4	13.9	27.3	BDL (DL - 0.5)
		18/03/2024	64.1	26.3	9.2	21.7	BDL (DL - 0.5)
		21/03/2024	61.7	21.9	11.6	24.8	BDL (DL - 0.5)
		26/03/2024	56.3	19.2	9.7	17.3	BDL (DL - 0.5)
		Monthly Average Value	65.9	27.1	12.7	25.9	BDL (DL - 0.5)
AAQMS-2	General Office	01/03/2024	56.2	18.2	9.7	16.4	BDL (DL - 0.5)
		04/03/2024	62.8	21.9	12.6	18.1	BDL (DL - 0.5)
		07/03/2024	58.3	19.1	13.4	17.3	BDL (DL - 0.5)
		11/03/2024	52.9	18.3	8.2	16.7	BDL (DL - 0.5)
		14/03/2024	47.3	16.7	7.6	17.1	BDL (DL - 0.5)
		18/03/2024	53.7	21.6	11.3	21.8	BDL (DL - 0.5)
		21/03/2024	51.9	18.2	8.4	16.2	BDL (DL - 0.5)
		26/03/2024	47.3	16.9	7.6	17.1	BDL (DL - 0.5)
		Monthly Average Value	53.8	18.9	9.9	17.6	BDL (DL - 0.5)

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Remark: - All Results are within Limit as per CPCB Standards.


Verified by

Sheela Raut
Sheela Raut
Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway
Dr. (Mrs.) S. D. Garway
Quality Manager

---End of Report---



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Annexure -3



Continious Emission Monitoring System


STACK EMISSION MONITORING RESULTS (OCTOBER'23 to MARCH'24)



Location	ARC FURNACE-1	Limit as per CTO						
Parameters	UNIT		Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24
PM	(mg/Nm3)	100	54.9	62.7	65	57.3	52.8	46.2
SOX	(mg/Nm3)	-	287	273	270	264	273	281
NOX	(mg/Nm3)	-	163	156	160	191	192	197

Location	ARC FURNACE-2	Limit as per CTO						
Parameters	NAAQ Standard		Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24
PM	(mg/Nm3)	100	54	56	53	58.2	52.8	54.9
SOX	(mg/Nm3)	-	287	291	287	291	281	276
NOX	(mg/Nm3)	-	141	152	163	176	164	148

Six Monthly Compliance Report to the Terms of Conditions of Environmental Clearance granted in favor of Ferro Alloys Plant, Joda, M/s Tata Steel Limited for October'23 to March'2024

Annexure - 4
Stack Monitoring Report



Anacon Laboratories



Test Report


ULR No.- TC545823000003494F

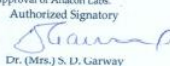
Stack Emission Monitoring Report

Report No.: ALPL/31102023/3-3		Date: 31/10/2023
Issued to	TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)	P. O. No. 3000144107/056-19.04.2022
Sample Description/Type	Stack Emission Monitoring	Sample Collected by Anacon Laboratory
Sampling Location	Furnace-IV	Sample Quantity/Packing Thimble: 1 X 1 No. SO ₂ : 30 mL X 1 No. PVC Bottle NO _x : 30 mL X 1 No. PVC Bottle
Sample Ref. No.:	ALPL/27102023/Mon-4/4-S1	Date of Sampling 26/10/2023
Sampling Procedure	ANtd/7.2/Mon-01	Date of Receipt of Sample 27/10/2023
Date of Start of Analysis	30/10/2023	Date of Completion of Analysis 31/10/2023

Stack Details			
Stack Name		Furnace	
Ambient Temperature	34	°C	
Ambient Relative Humidity	83	%	
Stack height above ground level	10	Meter	
Stack diameter	0.35	Meter	
Type of Fuel	Coal	---	
Parameter	Unit	Results	Method Reference
Flue gas temperature	°C	108	IS:11255 (Part 3)
Flue gas velocity	m/s	8.95	IS:11255 (Part 3)
Total gas quantity at STP	m ³ /h	3099.71	IS:11255 (Part 3)
Total gas quantity at NTP	Nm ³ /h	2360.64	IS:11255 (Part 3)
Particulate Matter (PM)	mg/Nm ³	54.9	IS:11255 (Part 1)
Sulphur Dioxide (SO ₂)	mg/Nm ³	287	IS 11255 (Part 2)
Oxide of Nitrogen (NO _x)	mg/Nm ³	163	IS 11255 (Part 7)

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Verified by

Snehal Raut
Deputy Technical Manager



Authorized Signatory

Dr. (Mrs.) S. D. Garway
Quality Manager

End of Report

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Test Report


ULR No.- TC545823000003494F

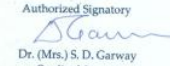
Stack Emission Monitoring Report

Report No.: ALPL/31102023/3-4		Date: 31/10/2023
Issued to	TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)	P. O. No. 3000144107/056-19.04.2022
Sample Description/Type	Stack Emission Monitoring	Sample Collected by Anacon Laboratory
Sampling Location	Furnace-II	Sample Quantity/Packing Thimble: 1 X 1 No. SO ₂ : 30 mL X 1 No. PVC Bottle NO _x : 30 mL X 1 No. PVC Bottle
Sample Ref. No.:	ALPL/27102023/Mon-4/4-S2	Date of Sampling 26/10/2023
Sampling Procedure	ANtd/7.2/Mon-01	Date of Receipt of Sample 27/10/2023
Date of Start of Analysis	30/10/2023	Date of Completion of Analysis 31/10/2023

Stack Details			
Stack Name		Furnace	
Ambient Temperature	34	°C	
Ambient Relative Humidity	83	%	
Stack height above ground level	10	Meter	
Stack diameter	0.35	Meter	
Type of Fuel	Coal	---	
Parameter	Unit	Results	Method Reference
Flue gas temperature	°C	103	IS:11255 (Part 3)
Flue gas velocity	m/s	8.70	IS:11255 (Part 3)
Total gas quantity at STP	m ³ /h	3016.08	IS:11255 (Part 3)
Total gas quantity at NTP	Nm ³ /h	2327.50	IS:11255 (Part 3)
Particulate Matter (PM)	mg/Nm ³	54.9	IS:11255 (Part 1)
Sulphur Dioxide (SO ₂)	mg/Nm ³	276	IS 11255 (Part 2)
Oxide of Nitrogen (NO _x)	mg/Nm ³	148	IS 11255 (Part 7)

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Snehal Raut
Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway
Quality Manager

End of Report

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**Anacon
Laboratories**



TC 5458

Test Report

ULR No.- TC545823000003925F

Stack Emission Monitoring Report

Report No.: ALPL/30112023/2-4		Date: 30/11/2023	
Issued to		P. O. No.	
TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)		3000144107/056-19.04.2022	
Sample Description/Type	Stack Emission Monitoring	Sample Collected by	Anacon Laboratory
Sampling Location	Furnace-IV	Sample Quantity/Packing	Thimble: 1 X 1 No. SO ₂ : 30 mL X 1 No. PVC Bottle NO _x : 30 mL X 1 No. PVC Bottle
Sample Ref. No.:	ALPL/22112023/Mon-2/43-S1	Date of Sampling	28/11/2023
Sampling Procedure	ANtd/7.2/Mon-01	Date of Receipt of Sample	29/11/2023
Date of Start of Analysis	29/11/2023	Date of Completion of Analysis	30/11/2023

Stack Details			
Stack Name		Furnace	
Ambient Temperature		34	°C
Ambient Relative Humidity		83	%
Stack height above ground level		10	Meter
Stack diameter		0.35	Meter
Type of Fuel		Coal	---
Parameter	Unit	Results	Method Reference
Flue gas temperature	°C	113	IS:11255 (Part 3)
Flue gas velocity	m/s	8.63	IS:11255 (Part 3)
Total gas quantity at STP	m ³ /h	2989.90	IS:11255 (Part 3)
Total gas quantity at NTP	Nm ³ /h	2247.52	IS:11255 (Part 3)
Particulate Matter (PM)	mg/Nm ³	62.7	IS:11255 (Part 1)
Sulphur Dioxide (SO ₂)	mg/Nm ³	273	IS 11255 (Part 2)
Oxide of Nitrogen (NO _x)	mg/Nm ³	156	IS 11255 (Part 7)

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Verified by

Snehal Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway

Dr. (Mrs.) S. D. Garway
Quality Manager

----End of Report----

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TC 5458

Test Report

ULR No.- TC545823000003925F

Stack Emission Monitoring Report

Report No.: ALPL/30112023/2-5		Date: 30/11/2023	
Issued to		P. O. No.	
TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)		3000144107/056-19.04.2022	
Sample Description/Type	Stack Emission Monitoring	Sample Collected by	Anacon Laboratory
Sampling Location	Furnace-II	Sample Quantity/Packing	Thimble: 1 X 1 No. SO ₂ : 30 mL X 1 No. PVC Bottle NO _x : 30 mL X 1 No. PVC Bottle
Sample Ref. No.:	ALPL/22112023/Mon-2/43-S2	Date of Sampling	28/11/2023
Sampling Procedure	ANtd/7.2/Mon-01	Date of Receipt of Sample	29/11/2023
Date of Start of Analysis	29/11/2023	Date of Completion of Analysis	30/11/2023

Stack Details			
Stack Name		Furnace	
Ambient Temperature		34	°C
Ambient Relative Humidity		83	%
Stack height above ground level		10	Meter
Stack diameter		0.35	Meter
Type of Fuel		Coal	---
Parameter	Unit	Results	Method Reference
Flue gas temperature	°C	108	IS:11255 (Part 3)
Flue gas velocity	m/s	8.38	IS:11255 (Part 3)
Total gas quantity at STP	m ³ /h	2905.31	IS:11255 (Part 3)
Total gas quantity at NTP	Nm ³ /h	2212.60	IS:11255 (Part 3)
Particulate Matter (PM)	mg/Nm ³	58.7	IS:11255 (Part 1)
Sulphur Dioxide (SO ₂)	mg/Nm ³	261	IS 11255 (Part 2)
Oxide of Nitrogen (NO _x)	mg/Nm ³	153	IS 11255 (Part 7)

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Deputy Technical Manager

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TC 5458

Test Report

ULR No.- TC545824000000472F


Stack Emission Report

Report No.: ALPL/31012024/1-3		Date: 31/01/2024	
Issued to	TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)		P. O. No. 3000144107/056-19.04.2022
Sample Description/Type	Stack Emission	Sample Collected by	Anacon Laboratory
Sampling Location	Furnace-IV	Sample Quantity/Packing	Thimble: 1 X 1 No. SO ₂ : 30 mL X 1 No. PVC Bottle NO _x : 30 mL X 1 No. PVC Bottle
Sample Ref. No.:	ALPL/25012024/Mon-3/44-S1	Date of Sampling	16/01/2024
Sampling Procedure	ANtd/7.2/Mon-01	Date of Receipt of Sample	25/01/2024
Date of Start of Analysis	25/01/2024	Date of Completion of Analysis	27/01/2024

Stack Details			
Stack Name		Furnace	
Ambient Temperature		34	°C
Ambient Relative Humidity		48	%
Stack height above ground level		10	Meter
Stack diameter		0.35	Meter
Type of Fuel		Coal	---
Parameter	Unit	Results	Method Reference
Flue gas temperature	°C	116	IS:11255 (Part 3)
Flue gas velocity	m/s	8.95	IS:11255 (Part 3)
Total gas quantity at STP	m ³ /h	3099.93	IS:11255 (Part 3)
Total gas quantity at NTP	Nm ³ /h	2312.26	IS:11255 (Part 3)
Particulate Matter (PM)	mg/Nm ³	57.3	IS:11255 (Part 1)
Sulphur Dioxide (SO ₂)	mg/Nm ³	264	IS 11255 (Part 2)
Oxide of Nitrogen (NO _x)	mg/Nm ³	191	IS 11255 (Part 7)

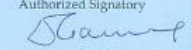
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Snehal Raut
Deputy Technical Manager

Authorized Signatory




Dr. (Mrs.) S. D. Garway
Quality Manager



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Anacon Laboratories

TC 5458

Test Report

ULR No.- TC545824000000472F


Stack Emission Report

Report No.: ALPL/31012024/1-4		Date: 31/01/2024	
Issued to	TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)		P. O. No. 3000144107/056-19.04.2022
Sample Description/Type	Stack Emission	Sample Collected by	Anacon Laboratory
Sampling Location	Furnace-II	Sample Quantity/Packing	Thimble: 1 X 1 No. SO ₂ : 30 mL X 1 No. PVC Bottle NO _x : 30 mL X 1 No. PVC Bottle
Sample Ref. No.:	ALPL/25012024/Mon-3/44-S2	Date of Sampling	16/01/2024
Sampling Procedure	ANtd/7.2/Mon-01	Date of Receipt of Sample	25/01/2024
Date of Start of Analysis	25/01/2024	Date of Completion of Analysis	27/01/2024

Stack Details			
Stack Name		Furnace	
Ambient Temperature		34	°C
Ambient Relative Humidity		48	%
Stack height above ground level		10	Meter
Stack diameter		0.35	Meter
Type of Fuel		Coal	---
Parameter	Unit	Results	Method Reference
Flue gas temperature	°C	114	IS:11255 (Part 3)
Flue gas velocity	m/s	8.64	IS:11255 (Part 3)
Total gas quantity at STP	m ³ /h	2993.48	IS:11255 (Part 3)
Total gas quantity at NTP	Nm ³ /h	2244.40	IS:11255 (Part 3)
Particulate Matter (PM)	mg/Nm ³	57.3	IS:11255 (Part 1)
Sulphur Dioxide (SO ₂)	mg/Nm ³	247	IS 11255 (Part 2)
Oxide of Nitrogen (NO _x)	mg/Nm ³	161	IS 11255 (Part 7)

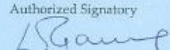
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Snehal Raut
Deputy Technical Manager

Authorized Signatory



Dr. (Mrs.) S. D. Garway
Quality Manager

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Six Monthly Compliance Report to the Terms of Conditions of Environmental Clearance granted in favor of Ferro Alloys Plant, Joda, M/s Tata Steel Limited for October'23 to March'2024



**Anacon
Laboratories**

Test Report



TC-12998

ULR No.- TC12998240000648F

Stack Emission Report

Report No.: ALPL/29022024/1-6		Date: 29/02/2024	
Issued to		P. O. No.	
TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)		3000144107/056-19.04.2022	
Sample Description/Type	Stack Emission	Sample Collected by	Anacon Laboratory
Sampling Location	Furnace-III	Sample Quantity/Packing	Thimble: 1 X 1 No. SO ₂ : 30 mL X 1 No. PVC Bottle NO _x : 30 mL X 1 No. PVC Bottle
Sample Ref. No.:	ALPL/26022024/Mon-1/2-S1	Date of Sampling	26/02/2024
Sampling Procedure	ANtd/7.2/Mon-01	Date of Receipt of Sample	28/02/2024
Date of Start of Analysis	28/02/2024	Date of Completion of Analysis	29/02/2024

Stack Details			
Stack Name		Furnace	
Ambient Temperature		36	°C
Ambient Relative Humidity		43	%
Stack height above ground level		10	Meter
Stack diameter		0.35	Meter
Type of Fuel		Coal	---
Parameter	Unit	Results	Method Reference
Flue gas temperature	°C	124	IS:11255 (Part 3)
Flue gas velocity	m/s	7.91	IS:11255 (Part 3)
Total gas quantity at STP	m ³ /h	2741.88	IS:11255 (Part 3)
Total gas quantity at NTP	Nm ³ /h	2017.52	IS:11255 (Part 3)
Particulate Matter (PM)	mg/Nm ³	52.8	IS:11255 (Part 1)
Sulphur Dioxide (SO ₂)	mg/Nm ³	273	IS:11255 (Part 2)
Oxide of Nitrogen (NO _x)	mg/Nm ³	192	IS:11255 (Part 2)

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. • Test report shall not be reproduced except in full without prior written approval of Anacon Labs.

Verified by

Snehal Raut
Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway
Quality Manager

---End of Report---

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on feedback@anacon.in.

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**Anacon
Laboratories**

Test Report



TC-12998

ULR No.- TC12998240000648F

Stack Emission Report

Report No.: ALPL/29022024/1-7		Date: 29/02/2024	
Issued to		P. O. No.	
TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)		3000144107/056-19.04.2022	
Sample Description/Type	Stack Emission	Sample Collected by	Anacon Laboratory
Sampling Location	Furnace-IV	Sample Quantity/Packing	Thimble: 1 X 1 No. SO ₂ : 30 mL X 1 No. PVC Bottle NO _x : 30 mL X 1 No. PVC Bottle
Sample Ref. No.:	ALPL/26022024/Mon-1/2-S2	Date of Sampling	26/02/2024
Sampling Procedure	ANtd/7.2/Mon-01	Date of Receipt of Sample	28/02/2024
Date of Start of Analysis	28/02/2024	Date of Completion of Analysis	29/02/2024

Stack Details			
Stack Name		Furnace	
Ambient Temperature		36	°C
Ambient Relative Humidity		43	%
Stack height above ground level		10	Meter
Stack diameter		0.35	Meter
Type of Fuel		Coal	---
Parameter	Unit	Results	Method Reference
Flue gas temperature	°C	121	IS:11255 (Part 3)
Flue gas velocity	m/s	9.16	IS:11255 (Part 3)
Total gas quantity at STP	m ³ /h	3173.60	IS:11255 (Part 3)
Total gas quantity at NTP	Nm ³ /h	2352.96	IS:11255 (Part 3)
Particulate Matter (PM)	mg/Nm ³	62.4	IS:11255 (Part 1)
Sulphur Dioxide (SO ₂)	mg/Nm ³	291	IS:11255 (Part 2)
Oxide of Nitrogen (NO _x)	mg/Nm ³	176	IS:11255 (Part 2)

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Verified by

Snehal Raut
Deputy Technical Manager

Authorized Signatory

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---End of Report---

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Stack Emission Report

Report No.: ALPL/30032024/1-4		Date: 30/03/2024	
Issued to		P. O. No.	
TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)		3000144107/056-19.04.2022	
Sample Description/Type	Stack Emission	Sample Collected by	Anacon Laboratory
Sampling Location	Furnace-III	Sample Quantity/Packing	Thimble: 1 X 1 No. SO ₂ : 30 mL X 1 No. PVC Bottle NO _x : 30 mL X 1 No. PVC Bottle
Sample Ref. No.:	ALPL/30032024/Mon-1/2-S1	Date of Sampling	29/03/2024
Sampling Procedure	ANtd/7.2/Mon-01	Date of Receipt of Sample	30/03/2024
Date of Start of Analysis	30/03/2024	Date of Completion of Analysis	30/03/2024

Stack Details			
Stack Name			
Furnace			
Ambient Temperature		38	°C
Ambient Relative Humidity		67	%
Stack height above ground level		10	Meter
Stack diameter		0.35	Meter
Type of Fuel		Coal	---
Parameter	Unit	Results	Method Reference
Flue gas temperature	°C	131	IS:11255 (Part 3)
Flue gas velocity	m/s	8.64	IS:11255 (Part 3)
Total gas quantity at STP	m ³ /h	2990.07	IS:11255 (Part 3)
Total gas quantity at NTP	Nm ³ /h	2147.51	IS:11255 (Part 3)
Particulate Matter (PM)	mg/Nm ³	46.2	IS:11255 (Part 1)
Sulphur Dioxide (SO ₂)	mg/Nm ³	281	IS 11255 (Part 2)
Oxide of Nitrogen (NO _x)	mg/Nm ³	197	IS 11255 (Part 7)

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Verified by

 Snehal Raut
 Deputy Technical Manager

Authorized Signatory

 Dr. (Mrs.) S. D. Garway
 Quality Manager

----End of Report----

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Stack Emission Report

Report No.: ALPL/30032024/1-5		Date: 30/03/2024	
Issued to		P. O. No.	
TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)		3000144107/056-19.04.2022	
Sample Description/Type	Stack Emission	Sample Collected by	Anacon Laboratory
Sampling Location	Furnace-I	Sample Quantity/Packing	Thimble: 1 X 1 No. SO ₂ : 30 mL X 1 No. PVC Bottle NO _x : 30 mL X 1 No. PVC Bottle
Sample Ref. No.:	ALPL/30032024/Mon-1/2-S2	Date of Sampling	29/03/2024
Sampling Procedure	ANtd/7.2/Mon-01	Date of Receipt of Sample	30/03/2024
Date of Start of Analysis	30/03/2024	Date of Completion of Analysis	30/03/2024

Stack Details			
Stack Name			
Furnace			
Ambient Temperature		38	°C
Ambient Relative Humidity		67	%
Stack height above ground level		10	Meter
Stack diameter		0.35	Meter
Type of Fuel		Coal	---
Parameter	Unit	Results	Method Reference
Flue gas temperature	°C	119	IS:11255 (Part 3)
Flue gas velocity	m/s	7.56	IS:11255 (Part 3)
Total gas quantity at STP	m ³ /h	2618.77	IS:11255 (Part 3)
Total gas quantity at NTP	Nm ³ /h	1938.41	IS:11255 (Part 3)
Particulate Matter (PM)	mg/Nm ³	52.9	IS:11255 (Part 1)
Sulphur Dioxide (SO ₂)	mg/Nm ³	287	IS 11255 (Part 2)
Oxide of Nitrogen (NO _x)	mg/Nm ³	163	IS 11255 (Part 7)

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Verified by

 Snehal Raut
 Deputy Technical Manager

Authorized Signatory

 Dr. (Mrs.) S. D. Garway
 Quality Manager

----End of Report----

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Annexure - 5

Fugitive dust emission monitoring Report



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Test Report

Fugitive Emission Report-March-2024

Report No.: AN/FE/TS-FAPJ/2024/1		Date: 30/03/2024	
Name and Address of Industry:-		P. O. No.	
TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)		3000144107/056-19/04/2022	
Sample Description/Type	Fugitive Emission	Sample Ref. No.:-	ALPL/26032024/ Mon-1/37- FE-1 to 4
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	26/03/2024
Test Started On:-	26/03/2024	Test Completed On:-	27/03/2024
FE-1(Lat: 22.018018°; Long: 85.428064°)	FE-2(Lat: 22.018139°; Long: 85.427976°)	FE-3(Lat: 22.019838°; Long: 85.427306°)	FE-4(Lat: 22.020758°; Long: 85.426719°)
Sampling Procedure		ANtd/7.2/Mon-01	

Sl. No.	Location Name	Date of sampling	TSPM (µg/m³)
Method Reference			IS 5182 (Part 23)
FE-1	Raw Material Yard	18/03/2024	862
FE-2	Slag Crusher	18/03/2024	739
FE-3	Feed Hopper	21/03/2024	594
FE-4	ACS	21/03/2024	712
MoEF & CC Norms:			1200 µg/m³

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. • Test report shall not be reproduced except in full without prior written approval of Anacon Labs.

Remark: - All Results are within Limit as per MoEF & CC Norms.

Verified by

 Snehal Raut
 Deputy Technical Manager

Authorized Signatory

 Dr. (Mrs.) S. D. Garway
 Quality Manager

----End of Report----

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Test Report

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Fugitive Emission Monitoring Report-January-2023

Report No.: AN/FE/TS-JEIM/2022/1-7		Date: 31/01/2023	
Name and Address of Industry:-		W. O. No.	
TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)		3000144107/056-19/04/2022	
Sample Description/Type	Fugitive Emission	Sample Ref. No.:-	ALPL/25012023/ENV- 06/TSFAP/FE-1 to 2
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	30/01/2023
Test Started On:-	30/01/2023	Test Completed On:-	30/01/2023
Sampling Procedure		ANtd/7.2/Mon-01	

Sl. No.	Location Name	Date of sampling	TSPM µg/m³
Method Reference			IS 5182 (Part 23)
FE-1	Near Main Gate	25/01/2023	853
FE-2	Near Back Gate	25/01/2023	631
MoEF & CC Norms:			1200 µg/m³

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. • Test report shall not be reproduced except in full without prior written approval of Anacon Labs.

Remark: - All Results are within Limit as per Norms.

Verified by

 Gajendrasinha Desai
 (Technical Manager)

Authorized Signatory

 Dr. (Mrs.) S. D. Garway
 (Quality Manager)

-----End of Report-----

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Annexure-6

Photographs of RCC roads and Fixed Sprinkling arrangements



Mobile High Velocity Water Sprinkler cum Mist Canon



Dry Fogging System for Fugitive dust suppression



RCC roads and water sprinklers



Constructed RCC roads

Annexure-7



Fume extraction system with bag filter for Tap Hole Emission

Annexure-8

RAINWATER HARVESTING



Annexure- 9

INSTALLATION OF 10 KLD SEWAGE TREATMENT PLANT (STP)



EFFLUENT TREATMENT PLANT (ETP)- 720 KLD CAPACITY

Six Monthly Compliance Report to the Terms of Conditions of Environmental Clearance granted in favor of Ferro Alloys Plant, Joda, M/s Tata Steel Limited for October'23 to March'2024

TREATED EFFLUENT QUALITY REPORT

Visiontek Consultancy Services Pvt. Ltd.
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Accredited by: NABET-A Grade, MOEF & CCPCB & SPCB-A Grade

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Environmental & Social Study • Renewable Energy • Public Health Engineering • Waste Management Services

Laboratory Services
Environment Lab
Food Lab
Material Lab
Soil Lab
Microbiology Lab

Report No: Envlab/23-24/TR- 12024

Date: 04.12.2023

WASTE WATER QUALITY ANALYSIS REPORT FOR NOVEMBER-2023

Name & Address of the Client : FAP, JODA (M/s Tata Steel Limited)
Dist. Jajpur, Odisha

Sample Type : Waste Water

Sampling Location : WW-1: ETP Inlet

Date of Sampling : 22.11.2023

Date of Analysis : 23.11.2023 to 29.11.2023

Sampling done by : VISIONTEK CONSULTANCY SERVICES PVT.LTD

Sl. No.	Parameters	Unit of Measurement	Method of Testing	Standard as per Schedule VI of EP Act (Discharge to Inland Surface Water)	Results
1	pH at 25°C		APHA 4500-H ⁺ B	5.5-9.0	7.8
2	Colour	Hazen	APHA 2120 B	5	<5
3	Odour		IS 3025, Part 5	Agrable	Agrable
4	Temperature	°C	IS 3025, Part 9	Should not exceed 5°C above the receiving water	27.6
5	Suspended Solids	mg/l	APHA 2540 D	100	49.4
6	Total Residual Chlorine	mg/l	IS 3025, Part 36	1.0	0.19
7	Oil & Grease	mg/l	IS 3025 (Part 39)	10.0	1.1
8	Biochemical Oxygen Demand as BOD at 27°C For 3 Days	mg/l	IS 3025 (P-40)	30.0	12.6
9	Chemical Oxygen Demand as COD	mg/l	APHA 5220 B	250.0	38.2
10	Total Nitrogen (as N)	mg/l	APHA 4500-NH ₄ F	50.0	3.56
11	Total Soluble Nitrogen	mg/l	APHA 4500-N ₂ B	100.0	2.2
12	Free Ammonia	mg/l	Calculation	5.0	0.031
13	Nitrate as NO ₃	mg/l	APHA 4500-NO ₃ B	10.0	1.12
14	Dis. Phosphate (as P)	mg/l	APHA 4500-P D	5.0	0.71
15	Fluoride	mg/l	APHA 4500 F	2.0	0.99
16	Sulphide	mg/l	APHA 4500-S F	2.0	ND
17	Phenolic Compound	mg/l	APHA 5520 D	1.0	<0.05
18	Cyanide (as CN)	mg/l	APHA SM 4500-CN C, E	0.2	<0.01
19	Hexavalent Chromium as Cr ^{VI}	mg/l	APHA SM 3500 Cr B	0.1	<0.01
20	Mercury (as Hg)	mg/l	APHA 3112 B	0.01	<0.004
21	Arsenic	mg/l	APHA 3500 As B	0.1	<0.004
22	Lead (as Pb)	mg/l	APHA 3111 B	0.1	<0.02
23	Cadmium (as Cd)	mg/l	APHA 3111 B	0.1	<0.01
24	Total Chromium (as Cr)	mg/l	APHA 3111 B	0.1	<0.05
25	Copper (as Cu)	mg/l	APHA 3111 B	0.1	<0.02
26	Zinc (as Zn)	mg/l	APHA 3111 B	0.1	<0.02
27	Selenium (as Se)	mg/l	APHA 3500 Se C	0.05	<0.001
28	Nickel (as Ni)	mg/l	APHA 3111 B	0.1	<0.1
29	Manganese (as Mn)	mg/l	APHA 3500 Mn B	2.0	<0.025
30	Iron (as Fe)	mg/l	APHA 3111 B	3.0	0.31
31	Vanadium (as V)	mg/l	APHA 3500 V	0.2	<0.2
32	Bio-assay Test	%	IS 4582, Part 2	90% survival of fish after 96 hours in 100% effluent	90%
33	Particle Size of Suspended Solids	µ	APHA : 2500 D	Should pass 850 micron IS Sieve	< 850
34	Perfide	mg/l	APHA 6630 B	Should pass 850 micron IS Sieve	< 850

RD Values: Arsenic<0.05 mg/l, Lead<0.02 mg/l, Cr<0.01 mg/l, Copper<0.02 mg/l, Selenium<0.001 mg/l, Manganese<0.02 mg/l, Mercury<0.004 mg/l, Cadmium<0.01 mg/l, Hexavalent Chromium<0.01 mg/l, Nickel<0.02 mg/l, Cyanide<0.01 mg/l, Phenolic Compound<0.01 mg/l.

Reviewed By:

Approved By:

Plot No.- M-22 & 23, Chandaka Industrial Estate, Patia, Bhubaneswar, Khurda, Odisha-751024, India Tel: 0674-3511721
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Laboratory Services
Environment Lab
Food Lab
Material Lab
Soil Lab
Microbiology Lab

Report No: Envlab/23-24/TR- 12025

Date: 04.12.2023

WASTE WATER QUALITY ANALYSIS REPORT FOR NOVEMBER-2023

Name & Address of the Client : FAP, JODA (M/s Tata Steel Limited),
Dist. Jajpur, Odisha

Sample Type : Waste Water

Sampling Location : WW-5: STP Inlet

Date of Sampling : 22.11.2023

Date of Analysis : 23.11.2023 to 29.11.2023

Sampling done by : VISIONTEK CONSULTANCY SERVICES PVT.LTD

Sl. No.	Parameters	Unit of Measurement	Method of Testing	Standard	Results
1	pH at 25°C		-	APHA SM 4500-H ⁺ B	6.5-9.0
2	Suspended Solids	mg/l	APHA SM 2540 D	20	16.8
3	Oil & Grease	mg/l	IS 3025 (Part 39)	10	7.3
4	Biochemical Oxygen Demand as BOD at 27°C For 3 days	mg/l	IS 3025 (Part 44)	10	12.5
5	Chemical Oxygen Demand as COD	mg/l	APHA SM 5220 B	50	37.9
6	Hexavalent Chromium as Cr ^{VI}	mg/l	APHA SM 3500 Cr B	0.1	2.78
7	Total Chromium (as Cr)	mg/l	APHA 3111 B	2.0	0.49
8	Fecal Coliform	MPN/100 ml	APHA 9221 B	MPN/100ml	221

Reviewed By:

Approved By:

Plot No.- M-22 & 23, Chandaka Industrial Estate, Patia, Bhubaneswar, Khurda, Odisha-751024, India Tel: 0674-3511721
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Visit us at: www.visiontek.org

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Laboratory Services
Environment Lab
Food Lab
Material Lab
Soil Lab
Microbiology Lab

Report No: Envlab/23-24/TR-12875

Date: 04.01.2024

WASTE WATER QUALITY ANALYSIS REPORT FOR DECEMBER-2023

Name & Address of the Client : FAP, JODA (M/s Tata Steel Limited)
Dist. Jajpur, Odisha

Sample Type : Waste Water

Sampling Location : WW-1: ETP Inlet

Date of Sampling : 14.12.2023

Date of Analysis : 15.12.2023 to 21.12.2023

Sampling done by : VISIONTEK CONSULTANCY SERVICES PVT.LTD

Sl. No.	Parameters	Unit of Measurement	Method of Testing	Standard as per Schedule VI of EP Act (Discharge to Inland Surface Water)	Results
1	pH at 25°C		APHA 4500-H ⁺ B	5.5-9.0	7.2
2	Colour	Hazen	APHA 2120 B	5	<5
3	Odour		IS 3025, Part 5	Agrable	Agrable
4	Temperature	°C	IS 3025, Part 9	Should not exceed 5°C above the receiving water	26.8
5	Suspended Solids	mg/l	APHA 2540 D	100	17.4
6	Total Residual Chlorine	mg/l	IS 3025, Part 36	1.0	0.25
7	Oil & Grease	mg/l	IS 3025 (Part 39)	10.0	3.11
8	Biochemical Oxygen Demand as BOD at 27°C For 3 Days	mg/l	IS 3025 (P-40)	30.0	35.3
9	Chemical Oxygen Demand as COD	mg/l	APHA 5220 B	250.0	89.5
10	Total Nitrogen (as N)	mg/l	APHA 4500-NH ₄ F	50.0	5.25
11	Total Soluble Nitrogen	mg/l	APHA 4500-N ₂ B	100.0	3.46
12	Free Ammonia	mg/l	Calculation	5.0	0.03
13	Nitrate as NO ₃	mg/l	APHA 4500-NO ₃ B	10.0	0.2
14	Dis. Phosphate (as P)	mg/l	APHA 4500-P D	5.0	0.71
15	Fluoride	mg/l	APHA 4500 F	2.0	0.87
16	Sulphide	mg/l	APHA 4500-S F	2.0	1.2
17	Phenolic Compound	mg/l	APHA 5520 D	1.0	<0.05
18	Cyanide (as CN)	mg/l	APHA SM 4500-CN C, E	0.2	<0.01
19	Hexavalent Chromium as Cr ^{VI}	mg/l	APHA SM 3500 Cr B	0.1	0.29
20	Mercury (as Hg)	mg/l	APHA 3112 B	0.01	<0.004
21	Arsenic	mg/l	APHA 3500 As B	0.1	<0.004
22	Lead (as Pb)	mg/l	APHA 3111 B	0.1	<0.02
23	Cadmium (as Cd)	mg/l	APHA 3111 B	0.1	<0.01
24	Total Chromium (as Cr)	mg/l	APHA 3111 B	0.1	<0.05
25	Copper (as Cu)	mg/l	APHA 3111 B	0.1	<0.02
26	Zinc (as Zn)	mg/l	APHA 3111 B	0.1	<0.02
27	Selenium (as Se)	mg/l	APHA 3500 Se C	0.05	<0.001
28	Nickel (as Ni)	mg/l	APHA 3111 B	0.1	<0.1
29	Manganese (as Mn)	mg/l	APHA 3500 Mn B	2.0	<0.025
30	Iron (as Fe)	mg/l	APHA 3111 B	3.0	0.35
31	Vanadium (as V)	mg/l	APHA 3500 V	0.2	<0.2
32	Bio-assay Test	%	IS 4582, Part 2	90% survival of fish after 96 hours in 100% effluent	79%
33	Particle Size of Suspended Solids	µ	APHA : 2500 D	Should pass 850 micron IS Sieve	FAIL
34	Perfide	mg/l	APHA 6630 B	Should pass 850 micron IS Sieve	ABSENT

RD Values: Arsenic<0.05 mg/l, Lead<0.02 mg/l, Cr<0.01 mg/l, Copper<0.02 mg/l, Selenium<0.001 mg/l, Manganese<0.02 mg/l, Mercury<0.004 mg/l, Cadmium<0.01 mg/l, Hexavalent Chromium<0.01 mg/l, Nickel<0.02 mg/l, Cyanide<0.01 mg/l, Phenolic Compound<0.01 mg/l.

Reviewed By:

Approved By:

Plot No.- M-22 & 23, Chandaka Industrial Estate, Patia, Bhubaneswar, Khurda, Odisha-751024, India Tel: 0674-3511721
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Laboratory Services
Environment Lab
Food Lab
Material Lab
Soil Lab
Microbiology Lab

Report No: Envlab/23-24/TR-12876

Date: 04.01.2024

WASTE WATER QUALITY ANALYSIS REPORT FOR DECEMBER-2023

Name & Address of the Client : FAP, JODA (M/s Tata Steel Limited),
Dist. Jajpur, Odisha

Sample Type : Waste Water

Sampling Location : WW-5: STP Inlet

Date of Sampling : 14.12.2023

Date of Analysis : 15.12.2023 to 21.12.2023

Sampling done by : VISIONTEK CONSULTANCY SERVICES PVT.LTD


Sl. No.	Parameters	Unit of Measurement	Method of Testing	Standard	Results
1	pH at 25°C		-	APHA SM 4500-H ⁺ B	6.5-9.0
2	Suspended Solids	mg/l	APHA SM 2540 D	20	17.2
3	Oil & Grease	mg/l	IS 3025 (Part 39)	10	6.6
4	Biochemical Oxygen Demand as BOD at 27°C For 3 days	mg/l	IS 3025 (Part 44)	10	10.8
5	Chemical Oxygen Demand as COD	mg/l	APHA SM 5220 B	50	33.5
6	Hexavalent Chromium as Cr ^{VI}	mg/l	APHA SM 3500 Cr B	0.1	2.68
7	Total Chromium (as Cr)	mg/l	APHA 3111 B	2.0	0.57
8	Fecal Coliform	MPN/100 ml	APHA 9221 B	MPN/100ml	210

Reviewed By:

Approved By:

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Six Monthly Compliance Report to the Terms of Conditions of Environmental Clearance granted in favor of Ferro Alloys Plant, Joda, M/s Tata Steel Limited for October'23 to March'2024



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- Waste Management Services

Laboratory Services
Environmental Lab
Food Lab
Material Lab
Soil Lab
Water Lab
Wastewater Lab
Microbiology Lab

Report No: Envlab/23-24/TR-13886 Date: 05.02.2024

WASTE WATER QUALITY ANALYSIS REPORT FOR JANUARY-2024

Name & Address of the Client : FAP, JODA (M/s TATA Steel Limited)
Dist. Jajpur, Odisha

Sample Type : Waste Water

Sampling Location : WW-1: ETP Inlet
: WW-2: ETP Outlet


Date of Sampling : 17.01.2024

Date of Analysis : 18.01.2024 to 24.01.2024

Sampling done by : VISIONTEK CONSULTANCY SERVICES PVT.LTD

Sl. No.	Parameters	Unit of Measurement	Method of Testing	Standard as per Schedule VI of E.P. Act (Discharge to Inland Surface Water)	Results
					WW-1 WW-2
1	pH at 25°C	-	APHA 4500-H ⁺ B	5.5-9.0	7.42 6.74
2	Colour	Hazen	APHA 2120 B	5	<15 <5
3	Odour	-	IS 3025, Part 5	Agreeable	Agreeable
4	Temperature	°C	IS 3025, Part 9	Shall not exceed 30°C above the receiving water	27.1 26.5
5	Suspended Solids	mg/l	APHA 5240 D	100	157 48.5
6	Total Residual Chlorine	mg/l	IS 3025, Part 39	1.0	0.32 0.13
7	Oil & Grease	mg/l	IS 3025 (Part 39)	10.0	3.65 0.9
8	Biochemical Oxygen Demand as BOD at 27°C For 3 days	mg/l	IS 3025 (Part 39)	10.0	3.65 3.3
9	Chemical Oxygen Demand as COD	mg/l	APHA 5220 B	250.0	34.6 11.5
10	Ammonia Nitrogen (as N)	mg/l	APHA 4500-NH ₃ F	50.0	5.65 0.87
11	Total Kjeldahl Nitrogen	mg/l	APHA 4500-N _T B	100.0	6.74 1.21
12	Nitrate as NO ₃	mg/l	Calculation	5.0	0.22 0.02
13	Nitrite as NO ₂	mg/l	APHA 4500-NO ₂ B	10.0	3.8 4.9
14	Total Phosphate (as P)	mg/l	APHA 4500-P D	1.0	0.81 <0.05
15	Fluoride	mg/l	APHA 4500 F	1.0	0.72 <0.1
16	Sulphate	mg/l	APHA 4500-S B	2.0	1.28 ND
17	Phenolic Compound	mg/l	APHA 5530D	1.0	<0.05 <0.05
18	Cyanide (as CN)	mg/l	APHA SM 4500-CN C, E	0.2	<0.01 <0.01
19	Hexavalent Chromium as Cr ⁺⁺	mg/l	APHA SM 3500 Cr B	0.1	0.23 <0.01
20	Mercury (as Hg)	mg/l	APHA 3112 B	0.01	<0.004 <0.004
21	Arsenic	mg/l	APHA 3500 As B	0.2	<0.004 <0.004
22	Lead (as Pb)	mg/l	APHA 3111 B	0.1	<0.02 <0.02
23	Cadmium (as Cd)	mg/l	APHA 3111 B	2.0	<0.01 <0.01
24	Total Chromium (as Cr)	mg/l	APHA 3111 B	2.0	0.36 <0.05
25	Copper (as Cu)	mg/l	APHA 3111 B	3.0	<0.02 <0.02
26	Zinc (as Zn)	mg/l	APHA 3111 B	5.0	<0.03 <0.03
27	Selenium (as Se)	mg/l	APHA 3500 Se C	0.05	<0.001 <0.001
28	Nickel (as Ni)	mg/l	APHA 3111 B	3.0	<0.1 <0.1
29	Manganese (as Mn)	mg/l	APHA 3500 Mn B	2.0	<0.02 <0.02
30	Iron (as Fe)	mg/l	APHA 3111 B	3.0	0.43 0.24
31	Vanadium (as V)	mg/l	APHA 3500 V	0.2	<0.2 <0.2
32	Bio-assay Test	%	IS 4052, Part 2	90% survival of fish after 96 hours in 100% effluent	75% 98%
33	Particle Size of Suspended Solids	-	APHA : 2540D	Shall pass 600 micron IS Sieve	FAIL PASS
34	Pretitride	mg/l	APHA 6430 B	-	Absent Absent

BBT Values: Arsenic<0.01 mg/l, Lead<0.02 mg/l, Cr<0.01 mg/l, Copper<0.02 mg/l, Selenium<0.001 mg/l, Manganese<0.02 mg/l, Mercury<0.004 mg/l, Cyanide<0.01 mg/l, Hexavalent Chromium<0.01 mg/l, Nickel<0.1 mg/l, Vanadium<0.2 mg/l, Fluoride<0.1 mg/l, Sulphate<0.1 mg/l, Phenolic Compound<0.05 mg/l

Reviewed By:  Approved By: 

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- Waste Management Services

Laboratory Services
Environmental Lab
Food Lab
Material Lab
Soil Lab
Water Lab
Wastewater Lab
Microbiology Lab

Report No: Envlab/23-24/TR-13887 Date: 05.02.2024

WASTE WATER QUALITY ANALYSIS REPORT FOR JANUARY-2024

Name & Address of the Client : FAP, JODA (M/s TATA Steel Limited),
Dist. Jajpur, Odisha

Sample Type : Waste Water

Sampling Location : WW-3: STP Inlet
: WW-4: STP Outlet

Date of Sampling : 17.01.2024


Date of Analysis : 18.01.2024 to 24.01.2024

Sampling done by : VISIONTEK CONSULTANCY SERVICES PVT.LTD

Sl. No.	Parameters	Unit of Measurement	Method of Testing	Standard	Results
					WW-3 WW-4
1	pH at 25°C	-	APHA SM 4500-H ⁺ B	6.5-9.0	6.89 7.42
2	Suspended Solids	mg/l	APHA SM 2540 D	20	16.8 1.13
3	Oil & Grease	mg/l	IS 3025 (Part 39)	10	5.9 ND
4	Biochemical Oxygen Demand as BOD at 27°C For 3 days	mg/l	IS 3025 (Part 44)	10	9.7 2.4
5	Chemical Oxygen Demand as COD	mg/l	APHA SM 5220 B	50	31.6 7.8
6	Hexavalent Chromium as Cr ⁺⁺	mg/l	APHA SM 3500 Cr B	0.1	2.57 <0.01
7	Total Chromium (as Cr)	mg/l	APHA 3111 B	2.0	0.62 <0.1
8	Fecal Coliform	MPN/100 ml	APHA 9221 B	MPN/100ml	204 <1.8

Reviewed By:  Approved By: 

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- Waste Management Services

Laboratory Services
Environmental Lab
Food Lab
Material Lab
Soil Lab
Water Lab
Wastewater Lab
Microbiology Lab

Report No: Envlab/23-24/TR-00549 Date: 04.04.2024

WASTE WATER QUALITY ANALYSIS REPORT FOR MARCH-2024

Name & Address of the Client : FAP, JODA (M/s TATA Steel Limited)
Dist. Jajpur, Odisha

Sample Type : Waste Water

Sampling Location : WW-1: ETP Inlet
: WW-2: ETP Outlet



Date of Sampling : 06.03.2024

Date of Analysis : 07.03.2024 to 14.03.2024

Sampling done by : VISIONTEK CONSULTANCY SERVICES PVT.LTD

Sl. No.	Parameters	Unit of Measurement	Method of Testing	Standard as per Schedule VI of E.P. Act (Discharge to Inland Surface Water)	Results
					WW-1 WW-2
1	pH at 25°C	-	APHA 4500-H ⁺ B	5.5-9.0	8.21 6.56
2	Colour	Hazen	APHA 2120 B	5	<15 <5
3	Odour	-	IS 3025, Part 5	Agreeable	Agreeable
4	Temperature	°C	IS 3025, Part 9	Shall not exceed 30°C above the receiving water	26.7 28.3
5	Suspended Solids	mg/l	APHA 5240 D	100	156 41.4
6	Total Residual Chlorine	mg/l	IS 3025, Part 39	1.0	0.44 0.31
7	Oil & Grease	mg/l	IS 3025 (Part 39)	10.0	3.79 0.5
8	Biochemical Oxygen Demand as BOD at 27°C For 3 days	mg/l	IS 3025 (Part 39)	10.0	25.4 2.5
9	Chemical Oxygen Demand as COD	mg/l	APHA 5220 B	250.0	84.6 8.1
10	Ammonia Nitrogen (as N)	mg/l	APHA 4500-NH ₃ F	50.0	4.89 0.48
11	Total Kjeldahl Nitrogen	mg/l	APHA 4500-N _T B	100.0	6.65 1.23
12	Nitrate as NO ₃	mg/l	Calculation	5.0	0.36 0.10
13	Nitrite as NO ₂	mg/l	APHA 4500-NO ₂ B	10.0	4.2 5.1
14	Total Phosphate (as P)	mg/l	APHA 4500-P D	1.0	0.75 <0.05
15	Fluoride	mg/l	APHA 4500 F	1.0	0.85 <0.1
16	Sulphate	mg/l	APHA 4500-S B	2.0	1.43 ND
17	Phenolic Compound	mg/l	APHA 5530D	1.0	<0.05 <0.05
18	Cyanide (as CN)	mg/l	APHA SM 4500-CN C, E	0.2	<0.02 <0.02
19	Hexavalent Chromium as Cr ⁺⁺	mg/l	APHA SM 3500 Cr B	0.1	0.39 <0.01
20	Mercury (as Hg)	mg/l	APHA 3112 B	0.01	<0.004 <0.004
21	Arsenic	mg/l	APHA 3500 As B	0.2	<0.004 <0.004
22	Lead (as Pb)	mg/l	APHA 3111 B	0.1	<0.02 <0.02
23	Cadmium (as Cd)	mg/l	APHA 3111 B	2.0	<0.01 <0.01
24	Total Chromium (as Cr)	mg/l	APHA 3111 B	2.0	0.36 <0.05
25	Copper (as Cu)	mg/l	APHA 3111 B	3.0	<0.02 <0.02
26	Zinc (as Zn)	mg/l	APHA 3111 B	5.0	<0.03 <0.03
27	Selenium (as Se)	mg/l	APHA 3500 Se C	0.05	<0.001 <0.001
28	Nickel (as Ni)	mg/l	APHA 3111 B	3.0	<0.1 <0.1
29	Manganese (as Mn)	mg/l	APHA 3500 Mn B	2.0	<0.02 <0.02
30	Iron (as Fe)	mg/l	APHA 3111 B	3.0	0.74 0.21
31	Vanadium (as V)	mg/l	APHA 3500 V	0.2	<0.2 <0.2
32	Bio-assay Test	%	IS 4052, Part 2	90% survival of fish after 96 hours in 100% effluent	74% 97%
33	Particle Size of Suspended Solids	-	APHA : 2540D	Shall pass 600 micron IS Sieve	FAIL PASS
34	Pretitride	mg/l	APHA 6430 B	-	Absent Absent

BBT Values: Arsenic<0.01 mg/l, Lead<0.02 mg/l, Cr<0.01 mg/l, Copper<0.02 mg/l, Selenium<0.001 mg/l, Manganese<0.02 mg/l, Mercury<0.004 mg/l, Cyanide<0.01 mg/l, Hexavalent Chromium<0.01 mg/l, Nickel<0.1 mg/l, Vanadium<0.2 mg/l, Fluoride<0.1 mg/l, Sulphate<0.1 mg/l, Phenolic Compound<0.05 mg/l

Reviewed By:  Approved By: 

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Material Lab
Soil Lab
Water Lab
Wastewater Lab
Microbiology Lab

Report No: Envlab/23-24/TR-00550 Date: 04.04.2024

WASTE WATER QUALITY ANALYSIS REPORT FOR MARCH-2024

Name & Address of the Client : FAP, JODA (M/s TATA Steel Limited),
Dist. Jajpur, Odisha

Sample Type : Waste Water


Sampling Location : WW-3: STP Inlet
: WW-4: STP Outlet

Date of Sampling : 06.03.2024

Date of Analysis : 07.03.2024 to 14.03.2024

Sampling done by : VISIONTEK CONSULTANCY SERVICES PVT.LTD

Sl. No.	Parameters	Unit of Measurement	Method of Testing	Standard	Results
					WW-3 WW-4
1	pH at 25°C	-	APHA SM 4500-H ⁺ B	6.5-9.0	8.45 6.98
2	Suspended Solids	mg/l	APHA SM 2540 D	20	15.4 1.69
3	Oil & Grease	mg/l	IS 3025 (Part 39)	10	4.7 BDL
4	Biochemical Oxygen Demand as BOD at 27°C For 3 days	mg/l	IS 3025 (Part 44)	10	9.1 2.1
5	Chemical Oxygen Demand as COD	mg/l	APHA SM 5220 B	50	26.8 6.1
6	Hexavalent Chromium as Cr ⁺⁺	mg/l	APHA SM 3500 Cr B	0.1	2.46 <0.01
7	Total Chromium (as Cr)	mg/l	APHA 3111 B	2.0	0.59 <0.1
8	Fecal Coliform	MPN/100 ml	APHA 9221 B	MPN/100ml	197 <1.8

Reviewed By:  Approved By: 


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**Six Monthly Compliance Report to the Terms of Conditions of Environmental Clearance granted in favor of Ferro Alloys Plant,
Joda, M/s Tata Steel Limited for October'23 to March'2024**

Annexure – 10
(Water Sample Collections from Different Location)



Sample Water Analysis Reports



Anacon Laboratories

Test Report

Test Report No.: ALPL/30122023/1-8 dated 30/12/2023 Page 1 of 1

Issued To: TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)	Sample Inward No. ALPL/22122023/Mon-5/31-GW-2 Inward Date 22/12/2023 Reference W.O.- 3000144107/056-19.04.2022	Analysis Start 25/12/2023 Analysis End 30/12/2023 Report Issue Date 30/12/2023 Sample Category Water
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Sample Name Ground Water Sample Source Borewell Sample Particulars GW-2 Ground Water Quantity Received 2 lit Sample Collected By Anacon Representative Sampling Date 18/12/2023 Sampling Time 11:20 am Sampling Location In Plant
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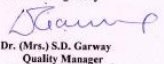
Tests Required : Iron, Total Chromium, Copper, Selenium, Arsenic, Cadmium, Mercury, Lead, Zinc, Manganese.

TEST RESULTS


S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I Chemical Testing I. Residues In Water						
1	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	1.0	No relaxation	0.42
2	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2): 2019	0.05	No relaxation	BDL(DL-0.03)
3	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	0.05	No relaxation	BDL(DL-0.03)
4	Selenium (as Se)	mg/l	IS 3025 (Part 56): 2003	0.01	No relaxation	BDL (DL - 0.001)
5	Arsenic (as As)	mg/l	IS 3025 (Part 37): 2022	0.01	No relaxation	BDL (DL - 0.01)
6	Cadmium (as Cd)	mg/l	IS 3025 (Part 2): 2019	0.003	No relaxation	BDL (DL - 0.001)
7	Mercury (as Hg)	mg/l	IS 3025 (Part 48): 1994	0.001	No relaxation	BDL (DL - 0.0005)
8	Lead (as Pb)	mg/l	IS 3025 (Part 2): 2019	0.01	No relaxation	BDL(DL-0.001)
9	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5	No relaxation	BDL(DL-0.1)
10	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	0.1	No relaxation	BDL(DL-0.05)

NOTES: Please see watermark 'Original Test Report' to confirm the authenticity of this report. Results shall be referred to tested sample(s) and applicable to tested parameters only. Test report shall not be reproduced except in full without prior written approval of Anacon Labs. Liability of Anacon Labs is limited to invoiced amount only. Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. 'mg/l' is equivalent to 'ppm'. 'MPN' indicates most probable number. 'BDL' indicates Below detection limit. 'DL' indicates detection limit of instrument/method and shall be considered as 'absent'.
REMARKS : As requested by the client, sample was tested for above parameters only. Sample complies with IS:10500:2012, for tests conducted Only.

Verified By

Mangesh Fande
Technical Manager

Authorized Signatory

Dr. (Mrs.) S.D. Garway
Quality Manager

—End of Report—



Anacon Laboratories

Test Report

Test Report No.: ALPL/30122023/1-7 dated 30/12/2023 Page 1 of 1

Issued To: TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)	Sample Inward No. ALPL/22122023/Mon-5/31-GW-1 Inward Date 22/12/2023 Reference W.O.- 3000144107/056-19.04.2022	Analysis Start 25/12/2023 Analysis End 30/12/2023 Report Issue Date 30/12/2023 Sample Category Water
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Sample Name Ground Water Sample Source Open Well Sample Particulars GW-1 Ground Water Quantity Received 2 lit Sample Collected By Anacon Representative Sampling Date 18/12/2023 Sampling Time 10:55 am Sampling Location In Plant

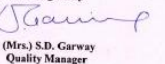
Tests Required : Iron, Total Chromium, Copper, Selenium, Arsenic, Cadmium, Mercury, Lead, Zinc, Manganese.

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I Chemical Testing I. Residues In Water						
1	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	1.0	No relaxation	0.38
2	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2): 2019	0.05	No relaxation	BDL(DL-0.03)
3	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	0.05	No relaxation	BDL(DL-0.03)
4	Selenium (as Se)	mg/l	IS 3025 (Part 56): 2003	0.01	No relaxation	BDL (DL - 0.001)
5	Arsenic (as As)	mg/l	IS 3025 (Part 37): 2022	0.01	No relaxation	BDL (DL - 0.01)
6	Cadmium (as Cd)	mg/l	IS 3025 (Part 2): 2019	0.003	No relaxation	BDL (DL - 0.001)
7	Mercury (as Hg)	mg/l	IS 3025 (Part 48): 1994	0.001	No relaxation	BDL (DL - 0.0005)
8	Lead (as Pb)	mg/l	IS 3025 (Part 2): 2019	0.01	No relaxation	BDL(DL-0.001)
9	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5	No relaxation	BDL(DL-0.1)
10	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	0.1	No relaxation	BDL(DL-0.05)


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REMARKS : As requested by the client, sample was tested for above parameters only. Sample complies with IS:10500:2012, for tests conducted Only.

Verified By

Mangesh Fande
Technical Manager



Authorized Signatory

Dr. (Mrs.) S.D. Garway
Quality Manager

—End of Report—

Six Monthly Compliance Report to the Terms of Conditions of Environmental Clearance granted in favor of Ferro Alloys Plant, Joda, M/s Tata Steel Limited for October'23 to March'2024



Anacon Laboratories
Test Report

ULR No.- TC54582400000472F
 Test Report No.: ALPL/31012024/1-7 dated 31/01/2024 Page 1 of 1

Issued To: TATA STEEL LIMITED FAP JODA, Koonjhar, FAMD, ODISHA-758034 (India)	Sample Inward No. ALPL/25012024/Mon-3/44-GW-1 Inward Date 25/01/2024 Reference W.O.-3000144107/056-19.04.2022	Analysis Start 25/01/2024 Analysis End 31/01/2024 Report Issue Date 31/01/2024 Sample Category Water	
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Sample Name Ground Water	Sample Source Open Well	Sample Particulars GW-1 Ground Water	Quantity Received 2 lit
Sample Collected By Anacon Representative	Sampling Date 17/01/2024	Sampling Time 11.20 am	Sampling Location In Plant

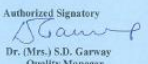
Tests Required: Iron, Total Chromium, Copper, Selenium, Arsenic, Cadmium, Mercury, Lead, Zinc, Manganese.

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
1	Chemical Testing					
1	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	1.0	No relaxation	0.39
2	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2): 2019	0.05	No relaxation	BDL (DL-0.03)
3	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	0.05	1.5	BDL (DL-0.03)
4	Selenium (as Se)	mg/l	IS 3025 (Part 56): 2003	0.01	No relaxation	BDL (DL-0.001)
5	Arsenic (as As)	mg/l	IS 3025 (Part 2): 2019	0.01	No relaxation	BDL (DL-0.01)
6	Cadmium (as Cd)	mg/l	IS 3025 (Part 2): 2019	0.003	No relaxation	BDL (DL-0.001)
7	Mercury (as Hg)	mg/l	IS 3025 (Part 48): 1994	0.001	No relaxation	BDL (DL-0.0005)
8	Lead (as Pb)	mg/l	IS 3025 (Part 2): 2019	0.01	No relaxation	BDL (DL-0.001)
9	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5	15	BDL (DL-0.1)
10	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	0.1	0.3	BDL (DL-0.05)

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REMARKS: As requested by the client, sample was tested for above parameters only. The submitted sample complies with requirement as per IS: 10500:2012, for tests conducted only.


Verified By

 Mangesh Fande
 Technical Manager

Authorized Signatory

 Dr. (Mrs.) S.D. Garway
 Quality Manager



---End of Report---

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Anacon Laboratories
Test Report

ULR No.- TC545823000002498F
 Test Report No.: ALPL/31082023/1-10 dated 31/08/2023 Page 1 of 1

Issued To: TATA STEEL LIMITED FAP JODA, Koonjhar, FAMD, ODISHA-758034 (India)	Sample Inward No. ALPL/24082023/Mon-3/20-GW-4 Inward Date 24/08/2023 Reference W.O.-3000144107/056-19.04.2022	Analysis Start 24/08/2023 Analysis End 31/08/2023 Report Issue Date 31/08/2023 Sample Category Water	
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Sample Name Ground Water	Sample Source Borewell	Sample Particulars GW-4 Ground Water	Quantity Received 2 lit
Sample Collected By Anacon Representative	Sampling Date 18/08/2023	Sampling Time 11.10 am	Sampling Location In Plant

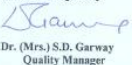
Tests Required: Iron, Total Chromium, Copper, Selenium, Arsenic, Cadmium, Mercury, Lead, Zinc, Manganese.

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
1	Chemical Testing					
1	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	1.0	No relaxation	0.38
2	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2): 2019	0.05	No relaxation	BDL (DL-0.03)
3	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	0.05	1.5	BDL (DL-0.03)
4	Selenium (as Se)	mg/l	IS 3025 (Part 56): 2003	0.01	No relaxation	BDL (DL-0.001)
5	Arsenic (as As)	mg/l	IS 3025 (Part 2): 2019	0.01	No relaxation	BDL (DL-0.01)
6	Cadmium (as Cd)	mg/l	IS 3025 (Part 2): 2019	0.003	No relaxation	BDL (DL-0.001)
7	Mercury (as Hg)	mg/l	IS 3025 (Part 48): 1994	0.001	No relaxation	BDL (DL-0.0005)
8	Lead (as Pb)	mg/l	IS 3025 (Part 2): 2019	0.01	No relaxation	BDL (DL-0.001)
9	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5	15	BDL (DL-0.1)
10	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	0.1	0.3	BDL (DL-0.05)

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REMARKS: As requested by the client, sample was tested for above parameters only. Sample complies with IS:10500:2012, for tests conducted, indicating that it is fit for drinking purpose with respect to tested parameters.

Verified By

 Mangesh Fande
 Technical Manager


Authorized Signatory

 Dr. (Mrs.) S.D. Garway
 Quality Manager

---End of Report---

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Test Report

Test Report No. : ALPL/30032024/1-8

dated 30/03/2024

Page 1 of 1

Issued To :	Sample Inward No.	Analysis Start	Analysis End	Report Issue Date	Sample Category
TATA STEEL LIMITED	ALPL/26032024/Mon-1/37-GW-2	26/03/2024	30/03/2024	30/03/2024	Water
FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)	Inward Date 26/03/2024 Reference W.O.- 3000144107/056-19.04.2022				

Sample Name Ground Water	Sample Source Borewell	Sample Particulars GW-2 Ground Water	Quantity Received 2 lit
Sample Collected By Anacon Representative	Sampling Date 22/03/2024	Sampling Time 12.25 pm	Sampling Location In Plant


Tests Required : Iron, Total Chromium, Copper, Selenium, Arsenic, Cadmium, Mercury, Lead, Zinc, Manganese.

TEST RESULTS						
S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
1	Chemical Testing					
1	Residues In Water					
1	Iron (as Fe)	mg/l	IS 3025 (Part 2) : 2019	1.0	No relaxation	0.58
2	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2) : 2019	0.05	No relaxation	BDL (DL - 0.02)
3	Copper (as Cu)	mg/l	IS 3025 (Part 2) : 2019	0.05	1.5	BDL (DL - 0.02)
4	Selenium (as Se)	mg/l	IS 3025 (Part 56) : 2003	0.01	No relaxation	BDL (DL - 0.01)
5	Arsenic (as As)	mg/l	IS 3025 (Part 37) : 2022	0.01	No relaxation	BDL (DL - 0.01)
6	Cadmium (as Cd)	mg/l	IS 3025 (Part 2) : 2019	0.003	No relaxation	BDL (DL - 0.002)
7	Mercury (as Hg)	mg/l	IS 3025 (Part 48) : 1994	0.001	No relaxation	BDL (DL - 0.001)
8	Lead (as Pb)	mg/l	IS 3025 (Part 2) : 2019	0.01	No relaxation	BDL (DL - 0.01)
9	Zinc (as Zn)	mg/l	IS 3025 (Part 2) : 2019	5	15	BDL (DL - 0.02)
10	Manganese (as Mn)	mg/l	IS 3025 (Part 2) : 2019	0.1	0.3	BDL (DL - 0.02)

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REMARKS : As requested by the client, sample was tested for above parameters only. The submitted sample complies with requirement as per IS: 10500:2012, for tests conducted only.

Verified By




Nidhi Dubey
Deputy Technical Manager

Authorized Signatory




Dr. (Mrs.) S.D. Garway
Quality Manager

-----End of Report-----



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Test Report

Test Report No. : ALPL/30042024/1-7

dated 30/04/2024

Page 1 of 1

Issued To :	Sample Inward No.	Analysis Start	Analysis End	Report Issue Date	Sample Category
TATA STEEL LIMITED	ALPL/26042024/ENV-90-GW-1	26/04/2024	30/04/2024	30/04/2024	Water
FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)	Inward Date 26/04/2024 Reference W.O.- 3000144107/056-19.04.2022				

Sample Name Ground Water	Sample Source Borewell	Sample Particulars GW-1 Ground Water	Quantity Received 2 lit
Sample Collected By Anacon Representative	Sampling Date 23/04/2024	Sampling Time 12.20 pm	Sampling Location Near DG Set


Tests Required : Iron, Total Chromium, Copper, Selenium, Arsenic, Cadmium, Mercury, Lead, Zinc, Manganese.

TEST RESULTS						
S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
1	Chemical Testing					
1	Residues In Water					
1	Iron (as Fe)	mg/l	IS 3025 (Part 2) : 2019	1.0	No relaxation	0.27
2	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2) : 2019	0.05	No relaxation	BDL (DL - 0.02)
3	Copper (as Cu)	mg/l	IS 3025 (Part 2) : 2019	0.05	1.5	BDL (DL - 0.02)
4	Selenium (as Se)	mg/l	IS 3025 (Part 56) : 2003	0.01	No relaxation	BDL (DL - 0.01)
5	Arsenic (as As)	mg/l	IS 3025 (Part 37) : 2022	0.01	No relaxation	BDL (DL - 0.01)
6	Cadmium (as Cd)	mg/l	IS 3025 (Part 2) : 2019	0.003	No relaxation	BDL (DL - 0.002)
7	Mercury (as Hg)	mg/l	IS 3025 (Part 48) : 1994	0.001	No relaxation	BDL (DL - 0.001)
8	Lead (as Pb)	mg/l	IS 3025 (Part 2) : 2019	0.01	No relaxation	BDL (DL - 0.01)
9	Zinc (as Zn)	mg/l	IS 3025 (Part 2) : 2019	5	15	BDL (DL - 0.02)
10	Manganese (as Mn)	mg/l	IS 3025 (Part 2) : 2019	0.1	0.3	BDL (DL - 0.02)

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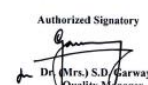
REMARKS : As requested by the client, sample was tested for above parameters only. The submitted sample complies with requirement as per IS: 10500:2012, for tests conducted only.

Verified By




Nidhi Dubey
Deputy Technical Manager

Authorized Signatory



Dr. (Mrs.) S.D. Garway
Quality Manager

-----End of Report-----



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Test Report

Test Report No.: ALPL/30032024/1-9 dated 30/03/2024 Page 1 of 1

Issued To: TATA STEEL LIMITED
 FAP JODA, Keonjhar,
 FAMD, ODISHA-758034 (India)

Sample Inward No.: ALPL/26032024/ENV-70-SW-1 & 2
Inward Date: 26/03/2024
Reference: W.O.- 3000144107/056
Reference Date: 19/04/2022

Analysis Start: 26/03/2024
Analysis End: 30/03/2024
Report Issue Date: 30/03/2024
Sample Category: Water

Sample Name	Sample Source	Sample Particulars	Sample Condition	Quantity Received
Surface Water	1. Upstream 2. Downstream	Sample Code-SW-1 & 2	Sealed & Ice Preserved	2.0 Ltr & 250 ml

Sample Collected By	Sampling Time	Sampling Date	Sampling Location
Anacon Representative	22/03/2024	2.50 & 3.10 pm	1. Sona River Upstream (SW-1) 2. Sona River Downstream (SW-2)

TEST RESULTS

TEST RESULTS				Test Result		
S.N.	Test Parameter	Measurement Unit	Test Method	Standards as per IS 2296:1992 Class C	SW-3	SW-4
I Biological Testing - 1. Water						
1	Coliform	MPN/100ml	IS 1622 : 1981	5000	BDL(DL-2)	BDL(DL-2)
II Chemical Testing - 1. Water						
2	pH value	-	IS 3025 (Part 11) : 2022	6.0 to 9.0	6.41 at 25°C	6.53 at 25°C
3	Colour	Hazen units	IS 3025 (Part 4) : 2021	300	52	41
4	Dissolved Oxygen	mg/l	IS 3025 (Part 38) : 1989	4.0	6.5	6.2
5	Total Suspended Solid (as TSS)	mg/l	IS 3025 (Part 17) : 2022	28	24	24
6	BOD (3 days at 20°C)	mg/l	IS 3025 (Part 44) : 2023	3.0	2.51	2.46
7	Chemical oxygen demand	mg/l	IS 3025 (Part 58) : 2022	6.94	6.37	6.37
8	Total Dissolved Solids (TDS)	mg/l	IS 3025 (Part 16) : 2023	1500	1291	1164
9	Copper (as Cu)	mg/l	IS 3025 (Part 2) : 2019	1.5	0.05	0.03
10	Chloride (as Cl)	mg/l	IS 3025 (Part 32) : 1988	600	131.58	121.43
11	Sulphate (as SO ₄)	mg/l	IS 3025 (Part 24) : 2022	400	271.92	257.16
12	Nitrate (as NO ₃)	mg/l	APHA method 23rd edition : 2017	50	32.51	28.43
13	Fluoride (as F)	mg/l	IS 3025 (Part 60) : 2008	1.5	0.57	0.46
14	Cyanide (as CN)	mg/l	IS 3025 (Part 27) : 1992	0.05	BDL(DL-0.005)	BDL(DL-0.005)
15	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part 43) : 1992	0.005	BDL(DL-0.001)	BDL(DL-0.001)
16	Anionic Detergents (as MBAS)	mg/l	IS 13428 : (Annex K) : 2005	1.0	BDL(DL-0.01)	BDL(DL-0.01)
Chemical Testing - 2. Residues in Water						
17	Iron (as Fe)	mg/l	IS 3025 (Part 2) : 2019	0.5	0.37	0.31
18	Calcium (as Ca)	mg/l	IS 3025 (Part 2) : 2019	0.01	BDL(DL-0.002)	BDL(DL-0.002)
19	Selenium (as Se)	mg/l	IS 3025 (Part 50) : 2003	0.05	BDL(DL-0.01)	BDL(DL-0.01)
20	Arsenic (as As)	mg/l	IS 3025 (Part 37) : 2022	0.2	BDL(DL-0.01)	BDL(DL-0.01)
21	Lead (as Pb)	mg/l	IS 3025 (Part 2) : 2019	0.1	BDL(DL-0.01)	BDL(DL-0.01)
22	Zinc (as Zn)	mg/l	IS 3025 (Part 2) : 2019	15	BDL(DL-0.02)	BDL(DL-0.02)
23	Hexa Chromium (as Cr ⁶⁺)	mg/l	IS 3025 (Part 52) : 2003	0.05	BDL(DL-0.01)	BDL(DL-0.01)
24	Mercury (as Hg)	mg/l	IS 3025 (Part 48) : 1994	--	BDL(DL-0.001)	BDL(DL-0.001)
25	Manganese (as Mn)	mg/l	IS 3025 (Part 2) : 2019	--	BDL(DL-0.02)	BDL(DL-0.02)

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

 Nishi Dubey
 Deputy Technical Manager

Authorized Signatory

 Sochal Raut
 Deputy Technical Manager

Authorized Signatory

 Dr. (Mrs.) S.D. Garway
 Quality Manager

-----End of Report-----

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Test Report

Test Report No.: ALPL/31102023/3-7 dated 31/10/2023 Page 1 of 1

Issued To: TATA STEEL LIMITED
 FAP JODA, Keonjhar,
 FAMD, ODISHA-758034 (India)

Sample Inward No.: ALPL/27102023/ENV-258-SW-1 & 2
Inward Date: 27/10/2023
Reference: W.O.- 3000144107/056
Reference Date: 19/04/2022

Analysis Start: 27/10/2023
Analysis End: 31/10/2023
Report Issue Date: 31/10/2023
Sample Category: Water

Sample Name	Sample Source	Sample Particulars	Sample Condition	Quantity Received
Surface Water	1. Upstream 2. Downstream	Sample Code-SW-1 & 2	Sealed & Ice Preserved	2.0 Ltr & 250 ml

Sample Collected By	Sampling Date	Sampling Time	Sampling Location
Anacon Representative	25/10/2023	3.50 & 4.20 pm	1. Sona River Upstream (SW-1) 2. Sona River Downstream (SW-2)

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Standards as per IS 2296:1992 Class C	Test Result	
					SW-1	SW-2
I	Biological Testing - 1. Water					
1	Coliform	MPN/100ml	IS 1622 : 1981	5000	BDL(DL-2)	BDL(DL-2)
2	Escherichia coli	Per 100 ml	IS 15185 : 2016	Absent	Absent	Absent
II	Chemical Testing - 1. Water					
3	pH value	-	IS 3025 (Part 11) : 2022	6.0 to 9.0	8.16 at 25°C	7.83 at 25°C
4	Colour	Hazen units	IS 3025 (Part 4) : 1983	300	24	18
5	Dissolved Oxygen	mg/l	IS 3025 (Part 38) : 1989	4.0	6.7	6.4
6	Total Suspended Solid (as TSS)	mg/l	IS 3025 (Part 17) : 1984	--	BDL(DL-10)	BDL(DL-10)
7	BOD (3 days at 20°C)	mg/l	IS 3025 (Part 44) : 1993	3.0	2.82	2.46
8	Chemical oxygen demand	mg/l	IS 3025 (Part 58) : 2006	--	12.58	11.94
9	Total Dissolved Solids (TDS)	mg/l	IS 3025 (Part 16) : 2023	1500	1276	1152
10	Copper (as Cu)	mg/l	IS 3025 (Part 2) : 2019	1.5	BDL(DL-0.03)	BDL(DL-0.03)
11	Chloride (as Cl)	mg/l	IS 3025 (Part 32) : 1988	600	46.29	38.17
12	Sulphate (as SO ₄)	mg/l	IS 3025 (Part 24) : 2022	400	62.81	54.93
13	Nitrate (as NO ₃)	mg/l	IS 3025 (Part 34) : 1988	50	13.27	11.51
14	Fluoride (as F)	mg/l	IS 3025 (Part 60) : 2008	1.5	0.46	0.42
15	Cyanide (as CN)	mg/l	IS 3025 (Part 27) : 1996	0.05	BDL(DL-0.005)	BDL(DL-0.005)
16	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part 43) : 1991	0.005	BDL(DL-0.001)	BDL(DL-0.001)
17	Anionic Detergent	mg/l	IS 13428 : 2005 Annex K	1.0	BDL(DL-0.01)	BDL(DL-0.01)
Chemical Testing - 2. Residues in Water						
18	Iron (as Fe)	mg/l	IS 3025 (Part 2) : 2019	0.5	0.43	0.41
19	Calcium (as Ca)	mg/l	IS 3025 (Part 41) : 1992	0.01	BDL(DL-0.001)	BDL(DL-0.001)
20	Selenium (as Se)	mg/l	IS 3025 (Part 51) : 2019	0.05	BDL(DL-0.001)	BDL(DL-0.001)
21	Arsenic (as As)	mg/l	IS 3025 (Part 37) : 2022	0.2	BDL(DL-0.01)	BDL(DL-0.01)
22	Lead (as Pb)	mg/l	IS 3025 (Part 47) : 2003	0.1	BDL(DL-0.001)	BDL(DL-0.001)
23	Zinc (as Zn)	mg/l	IS 3025 (Part 2) : 2019	15	BDL(DL-0.1)	BDL(DL-0.1)
24	Hexa Chromium (as Cr ⁶⁺)	mg/l	IS 3025 (Part 52) : 2003	0.05	BDL(DL-0.03)	BDL(DL-0.03)
25	Mercury (as Hg)	mg/l	IS 3025 (Part 48) : 1994	--	BDL(DL-0.0005)	BDL(DL-0.0005)
26	Manganese (as Mn)	mg/l	IS 3025 (Part 2) : 2019	--	BDL(DL-0.05)	BDL(DL-0.05)

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. • Test report shall not be reproduced except in full without prior written approval of Anacon Labs. • Liability of Anacon Labs is limited to involved amount only. • Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. • "mg/l" is equivalent to "ppm". • BDL- Below detection limit • DL- Indicates detection limit of instrument/method and shall be considered as "absent".

REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

 Mangesh Fande
 Technical Manager

Authorized Signatory

 Sochal Raut
 Deputy Technical Manager

Authorized Signatory

 Pooja Kathane
 Technical Manager

Dr. (Mrs.) S.D. Garway
 Quality Manager

-----End of Report-----

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavor towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on feedback@anacon.in.

Six Monthly Compliance Report to the Terms of Conditions of Environmental Clearance granted in favor of Ferro Alloys Plant, Joda, M/s Tata Steel Limited for October'23 to March'2024



Anacon Laboratories

Anacon Laboratories Pvt. Ltd. Nagpur Lab
QFP-34, 35, Food Park, Five Star Industrial Estate,
MIDC Butibori, Nagpur, Maharashtra, India - 441 122
☎ + 91 8045685558 Email : info@anacon.in
🌐 https://www.anaconlaboratories.com

Test Report

Test Report No. : ALPL/30122023/1-9		dated 30/12/2023		Page 1 of 1	
Issued To : TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)		Sample Inward No. ALPL/2012023/ENV-304-SW-1 & 2 Inward Date 22/12/2023 Reference W.O.- 3000144107/056 Reference Date 19.04.2022		Analysis Start 25/12/2023 Analysis End 30/12/2023 Report Issue Date 30/12/2023 Sample Category Water	
Sample Name Surface Water	Sample Source 1. Upstream 2. Downstream	Sample Particulars Sample Code-SW-1 & 2	Sample Condition Sealed & Ice Preserved	Quantity Received 2.0 Ltr & 250 ml	
Sample Collected By Anacon Representative		Sampling Date 18/12/2023	Sampling Time 3.40 & 4.10 pm	Sampling Location 1. Sona River Upstream (SW-1) 2. Sona River Downstream (SW-2)	

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Standards as per IS 2296:1992 Class C	Test Result	
					SW-1	SW-2
I	Biological Testing 1.Water					
1	Coliform	MPN/100ml	IS 1622 : 1981	5000	BDL(DL-2)	BDL(DL-2)
2	Escherichia coli	Per 100 ml	IS 15185 : 2016	Absent	Absent	Absent
II	Chemical Testing 1.Water					
3	pH value	-	IS 3025 (Part 11) : 2022	6.0 to 9.0	7.91 at 25°C	7.86 at 25°C
4	Colour	Hazen units	IS 3025 (Part 4) : 1983	300	32	26
5	Dissolved Oxygen	mg/l	IS 3025 (Part 38) : 1989	4.0	6.4	6.4
6	Total Suspended Solid (as TSS)	mg/l	IS 3025 (Part 17) : 1984	—	BDL(DL-10)	BDL(DL-10)
7	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44) : 1993	3.0	2.84	2.63
8	Chemical oxygen demand	mg/l	IS 3025 (Part 58) : 2006	—	13.76	11.94
9	Total Dissolved Solids (TDS)	mg/l	IS 3025 (Part 16) : 2023	1500	1429	1376
10	Copper (as Cu)	mg/l	IS 3025 (Part 2) : 2019	1.5	BDL(DL-0.03)	BDL(DL-0.03)
11	Chloride (as Cl)	mg/l	IS 3025 (Part 32) : 1988	600	57.39	52.81
12	Sulphate (as SO ₄)	mg/l	IS 3025 (Part 24) : 2022	400	67.28	61.94
13	Nitrate (as NO ₃)	mg/l	IS 3025 (Part 34) : 1988	50	23.43	19.43
14	Fluoride (as F)	mg/l	IS 3025 (Part 60) : 2008	1.5	0.56	0.47
15	Cyanide (as CN)	mg/l	IS 3025 (Part 27) : 1986	0.05	BDL(DL-0.005)	BDL(DL-0.005)
16	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part 43) : 1001	0.005	BDL(DL-0.001)	BDL(DL-0.001)
17	Anionic Detergent	mg/l	IS 13428 : 2005 Annex K	1.0	BDL(DL-0.01)	BDL(DL-0.01)
18	Chemical Testing 2. Residues In Water					
19	Iron (as Fe)	mg/l	IS 3025 (Part 2) : 2019	0.5	0.46	0.43
20	Cadmium (as Cd)	mg/l	IS 3025 (Part 41) : 1992	0.01	BDL(DL-0.001)	BDL(DL-0.001)
21	Selenium (as Se)	mg/l	IS 3025 (Part 2) : 2019	0.05	BDL(DL-0.001)	BDL(DL-0.001)
22	Arsenic (as As)	mg/l	IS 3025 (Part 37) : 2022	0.2	BDL(DL-0.01)	BDL(DL-0.01)
23	Lead (as Pb)	mg/l	IS 3025 (Part 47) : 2003	0.1	BDL(DL-0.001)	BDL(DL-0.001)
24	Zinc (as Zn)	mg/l	IS 3025 (Part 2) : 2019	15	BDL(DL-0.1)	BDL(DL-0.1)
25	Hexa Chromium (as Cr ⁶⁺)	mg/l	IS 3025 (Part 52) : 2003	0.05	BDL(DL-0.03)	BDL(DL-0.03)
26	Mercury (as Hg)	mg/l	IS 3025 (Part 48) : 1994	—	BDL(DL-0.0005)	BDL(DL-0.0005)
27	Manganese (as Mn)	mg/l	IS 3025 (Part 2) : 2019	—	BDL(DL-0.05)	BDL(DL-0.05)

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REMARKS : As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande
Technical Manager

Snehal Raut
Deputy Technical Manager

Authorized Signatories

Pooja Kathane
Technical Manager

Dr. (Mrs.) S.D. Garway
Quality Manager

—End of Report—

Thanks for putting in your faith and trust in our services. We at Anacon Laboratories cherish our relationship. We put in a lot of hard work to ensure that you have a seamless experience at every step of our relationship. In order to ensure that your next experience will be significantly better, we welcome your feedback over email on feedback@anacon.in



Anacon Laboratories

Anacon Laboratories Pvt. Ltd. Nagpur Lab
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MIDC Butibori, Nagpur, Maharashtra, India - 441 122
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Test Report

Test Report No. : ALPL/31012024/1-9		dated 31/01/2024		Page 1 of 1	
Issued To : TATA STEEL LIMITED FAP JODA, Keonjhar, FAMD, ODISHA-758034 (India)		Sample Inward No. ALPL/2012024/ENV-17-SW-1 & 2 Inward Date 25/01/2024 Reference W.O.- 3000144107/056 Reference Date 19.04.2022		Analysis Start 25/01/2024 Analysis End 31/01/2024 Report Issue Date 31/01/2024 Sample Category Water	
Sample Name Surface Water	Sample Source 1. Upstream 2. Downstream	Sample Particulars Sample Code-SW-1 & 2	Sample Condition Sealed & Ice Preserved	Quantity Received 2.0 Ltr & 250 ml	
Sample Collected By Anacon Representative		Sampling Date 17/01/2024	Sampling Time 3.45 & 4.15 pm	Sampling Location 1. Sona River Upstream (SW-1) 2. Sona River Downstream (SW-2)	

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Standards as per IS 2296:1992 Class C	Test Result	
I Biological Testing 1.Water						
1	Coliform	MPN/100ml	IS 1622 : 1981	5000	BDL(DL-2)	BDL(DL-2)
2	Escherichia coli	Per 100 ml	IS 15185 : 2016	Absent	Absent	Absent
II Chemical Testing 1.Water						
3	pH value	-	IS 3025 (Part 11) : 2022	6.0 to 9.0	8.16 at 25°C	7.93 at 25°C
4	Colour	Hazen units	IS 3025 (Part 4) : 1983	300	24	18
5	Dissolved Oxygen	mg/l	IS 3025 (Part 38) : 1989	4.0	6.5	6.1
6	Total Suspended Solid (as TSS)	mg/l	IS 3025 (Part 17) : 1984	—	BDL(DL-10)	BDL(DL-10)
7	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44) : 1993	3.0	2.76	2.53
8	Chemical oxygen demand	mg/l	IS 3025 (Part 58) : 2006	—	9.18	7.26
9	Total Dissolved Solids (TDS)	mg/l	IS 3025 (Part 16) : 2023	1500	1387	1291
10	Copper (as Cu)	mg/l	IS 3025 (Part 32) : 1988	1.5	BDL(DL-0.03)	BDL(DL-0.03)
11	Chloride (as Cl)	mg/l	IS 3025 (Part 22) : 1988	600	58.18	48.27
12	Sulphate (as SO ₄)	mg/l	IS 3025 (Part 24) : 2022	400	104.73	97.58
13	Nitrate (as NO ₃)	mg/l	IS 3025 (Part 34) : 1988	50	26.51	24.71
14	Fluoride (as F)	mg/l	IS 3025 (Part 60) : 2008	1.5	0.63	0.58
15	Cyanide (as CN)	mg/l	IS 3025 (Part 27) : 1986	0.05	BDL(DL-0.005)	BDL(DL-0.005)
16	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part 43) : 1001	0.005	BDL(DL-0.001)	BDL(DL-0.001)
17	Anionic Detergent	mg/l	IS 13428 : 2005 Annex K	1.0	BDL(DL-0.01)	BDL(DL-0.01)
Chemical Testing 2. Residues In Water						
18	Iron (as Fe)	mg/l	IS 3025 (Part 2) : 2019	0.5	0.43	0.38
19	Cadmium (as Cd)	mg/l	IS 3025 (Part 41) : 1992	0.01	BDL(DL-0.001)	BDL(DL-0.001)
20	Selenium (as Se)	mg/l	IS 3025 (Part 2) : 2019	0.05	BDL(DL-0.001)	BDL(DL-0.001)
21	Arsenic (as As)	mg/l	IS 3025 (Part 37) : 2022	0.2	BDL(DL-0.01)	BDL(DL-0.01)
22	Lead (as Pb)	mg/l	IS 3025 (Part 47) : 2003	0.1	BDL(DL-0.001)	BDL(DL-0.001)
23	Zinc (as Zn)	mg/l	IS 3025 (Part 2) : 2019	15	BDL(DL-0.1)	BDL(DL-0.1)
24	Hexa Chromium (as Cr ⁶⁺)	mg/l	IS 3025 (Part 52) : 2003	0.05	BDL(DL-0.03)	BDL(DL-0.03)
25	Mercury (as Hg)	mg/l	IS 3025 (Part 48) : 1994	—	BDL(DL-0.0005)	BDL(DL-0.0005)
26	Manganese (as Mn)	mg/l	IS 3025 (Part 2) : 2019	—	BDL(DL-0.05)	BDL(DL-0.05)

NOTES : • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. • Test report shall not be reproduced except in full without prior written approval of Anacon Labs. • Liability of Anacon Labs is limited to invoiced amount only. • Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. • "mg/l" is equivalent to "ppm". • BDL- Below detection limit • DL- Indicates detection limit of instrument/method and shall be considered as "absent".

REMARKS : As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande
Technical Manager

Snehal Raut
Deputy Technical Manager


Pooja Kathane
Technical Manager

Dr. (Mrs.) S.D. Garway
Quality Manager

—End of Report—

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Annexure-11
Risk & Disaster Mitigation Plan submission covering Letter.
Risk & Disaster Management Plan Submitted to OSCPCB, Bhubaneswar



Ref. No. FAPJ/ 4251 /2016 Dated : 01.02.2016

To
The Chairman
Orissa Pollution Control Board
Paribesh Bhawan
A/118, Nilkantha Nagar
Unit-VIII, Bhubaneswar - 751012

Sub : Submission of Risk & Disaster Management Plan along with the mitigation measures
for expansion of Ferro Manganese Plant, Joda.

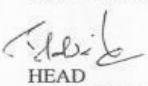
Sir,

It may kindly be aware that with reference to Environment Clearance issued for expansion of Ferro Manganese Plant, Joda, vide F. No. J-11011/03/2012-LA.II (I) dated 5th November, 2015, there is a specific condition mentioned in clause (xi) for submission of Risk & Disaster Management Plan along with the mitigation measures.

As such, we hereby enclose the Risk & Disaster Management Plan along with the mitigation measures for expansion of Ferro Manganese Plant from 0.0504 MTPA to 0.06 MTPA, Silico Manganese Plant of 0.06 MTPA and Manganese Sinter Plant of 0.05 MTPA.


Thanking you,

Yours faithfully,
For TATA STEEL Ltd.


HEAD
FERRO ALLOYS PLANT, JODA

Encl : as above.

Received
24/2/16



TATA STEEL LIMITED
Ferro Alloys Plant, Joda-756034, Dist. Keonjhar, Odisha, India
Tel. : 09238100945, e-mail : headoffice.fapj@tatasteel.com
Registered Office : Bombay House, 24, Horni Mody Street, Fort, Mumbai-400001, India
Tel. 91 22 66658282, Fax 91 22 66657724
Corporate Identity Number L27100MH1907PLC000260, Website : www.tatasteel.com

Risk & Disaster Management Plan Submitted to MOEF, Regional Office, Bhubaneswar



Ref. No. FAPJ/ 4250 /2016

Dated : 01.02.2016

To
The Additional Principal Chief Conservator of Forests(C)
Ministry of Environment & Forests
Regional office (EZ)
A/3, Chandrasekharpur,
Bhubaneswar - 751023

Sub : Submission of Risk & Disaster Management Plan along with the mitigation measures
for expansion of Ferro Manganese Plant, Joda.

Sir,

It may kindly be aware that with reference to Environment Clearance issued for expansion of Ferro Manganese Plant, Joda, vide F. No. J-11011/03/2012-IA.II (I) dated 5th November, 2015, there is a specific condition mentioned in clause (xi) for submission of Risk & Disaster Management Plan along with the mitigation measures.

As such, we hereby enclose the Risk & Disaster Management Plan along with the mitigation measures for expansion of Ferro Manganese Plant from 0.0504 MTPA to 0.06 MTPA, Silico Manganese Plant of 0.06 MTPA and Manganese Sinter Plant of 0.05 MTPA.
Thanking you,

Yours faithfully,
For TATA STEEL Ltd.

HEAD
FERRO ALLOYS PLANT, JODA

Encl : as above.



TATA STEEL LIMITED

Ferro Alloys Plant, Joda-758034, Dist. Keonjhar, Odisha, India
Tel. : 09238100945, e-mail : headoffice.fapj@tatasteel.com
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Tel. 91 22 66658282, Fax 91 22 66657724
Corporate Identity Number L27100MH1907PLC000260, Website : www.tatasteel.com

Annexure – 12
Photographs of Greenbelt developed



Annexure- 13

Details of CSR funds allocated and released Expenditure against CSR Activities

Period	Year-wise expenditure Planning in (Rs. Cr.)	Actual Expenditure for C.S.R. in Rs. Cr.	Name of CSR activities (Joda region)
2018-19	10.21 Cr.	9.50 Cr.	Health, Drinking Water, Education, Rural Infra, Roads & Drains, Livelihood (Agriculture & Enterprise Dev.), Skill Development, Disability Screening Camp- 82 patients were provided with Prosthetics and orthopaedic aids and appliances, Support of School Infrastructure- SSVM, Joda, Support of School Infrastructure- Joda Valley Girls School, Construction of drain at Kundrunala, Awareness on flora and fauna
2019-20	13.02 Cr	12.8 Cr	Health, Education, Livelihood, Rural Infrastructure, Major Project Like Kalyan Mandap in Joda
2020-21	18.84 Cr.	16.61 Cr.	Construction of Three bathing Ghat & two change room, Construction & renovation of Community Resource Centre (CRC) for their cultural & community needs, 115 toilets constructed in Kundrupani village, mobile medical units and ambulances, waiver for free treatment at Tata Steel Hospital, Joda, School improvement project (1000 Schools project), Women Empowerment Programmes.
2021-22	17.59 Cr.	14.53 Cr	Health, Drinking Water, Education, Rural Infra, Roads & Drains, Livelihood (Agriculture & Enterprise Dev.), Skill Development, Support of School Infrastructure- SSVM, Joda, Construction of total 111 nos. of IHHL at Palsa Kha & Ka village, mobile medical units and ambulances, waiver for free treatment at Tata Steel Hospital, Joda, School improvement project (1000 Schools project), Community Resource Centre (CRC) for their cultural & community needs.
2022-23 (Apr-Sep)	13.80 Cr	5.83 Cr	Health, Drinking Water, Education, Rural Infra, Roads & Drains, Livelihood (Agriculture & Enterprise Dev.), Skill Development, Support of School Infrastructure- SSVM, Joda, Construction of total 111 nos. of IHHL at Palsa Kha & Ka village, mobile medical units and ambulances, waiver for free treatment at Tata Steel Hospital, Joda, School improvement project (1000 Schools project), Community Resource Centre (CRC) for their cultural & community needs.
2022-23 (Oct-Mar)		7.94 Cr	Health, Drinking Water, Education, Rural Infra, Roads & Drains, Livelihood (Agriculture & Enterprise Dev.), Skill Development, Support of School Infrastructure- SSVM, Joda, Sports & Sports Infra Development, Agriculture equipment support, mobile medical units and ambulances, waiver for free treatment at Tata Steel Hospital, Joda, School improvement project (1000 Schools project), Community Resource Centre (CRC) for their cultural & community needs.
2023-24	34.78	30.44	Health, Drinking Water, Education, Rural Infra, Roads & Drains, Livelihood (Agriculture & Enterprise Dev.), Skill Development, Support of School Infrastructure- Joda, mobile medical units and ambulances, waiver for free treatment at Tata Steel Hospital, Joda, School improvement project (1000 Schools project), Community Resource Centre (CRC) for their cultural & community needs

**Six Monthly Compliance Report to the Terms of Conditions of Environmental Clearance granted in favor of Ferro Alloys Plant,
Joda, M/s Tata Steel Limited for October'23 to March'2024**

Annexure- 14
Noise Monitoring Report

Anacon Laboratories		Anacon Laboratories Pvt. Ltd. Nagpur Lab QFP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122 ☎ + 91 8045685538 ✉ Email : info@anacon.in 🌐 https://www.anaconlaboratories.com	
Test Report NOISE MONITORING REPORT		Page 1 of 1	
Report No.:	ALPL/30122023/1-3	Report Date:	30/12/2023
Issued to:	TATA STEEL LIMITED		
Address:	FAP Joda, Keonjhar, FAMD, ODISHA-758034 (India).		
Type of Work:	Noise Monitoring (December-2023)	Sample Inward No.:	ALPL/22122023/ENV-304-N
Sample Drawn By:	Anacon Representative	Date Received Date:	22/12/2023
Monitoring Date	13/12/2023 to 16/12/2023	Method	IS 9889:1981 (R2001)
Sampling Procedure	ANtd/7.2/Mon-01		

Sr. No.	Sampling Location	Results dB(A)	
		Day Time	Night Time
1	Gate No.1	68.4	52.9
2	General Office	47.3	38.1
3	Office Varanda	51.6	42.7
4	Canteen	48.1	39.6
5	Mechanical Workshop	67.2	56.3
6	Fabrication Area	71.7	62.9
7	RMPH Office	51.6	41.7
8	Packing Plot(2A)	56.3	48.2
9	Center Point	53.9	41.7
10	Weigh Bridge	67.1	53.6
11	Gate No.2	68.3	58.1
12	Ore Yard	62.9	53.8
13	Well Area	47.2	37.6
14	Outside Furnace	72.8	64.9
15	Inside Furnace	61.3	53.1
16	Furnace Control Room	58.7	43.6
17	Infront of DG Room	64.3	53.9
18	Infront of Fire Hydrant Room	61.7	48.2
19	132KV Electricity Substation Room	67.1	54.8
20	Work Area	54.6	42.1
21	CMDC Area	63.7	53.9
22	Play Ground	68.1	61.4
CPCB Standards		Industrial Area	75
			70

NOTES: A) Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. • Test report shall not be reproduced except in full without prior written approval of Anacon Labs.

Remark: - All Results are within Limit as per CPCB Standards.

Verified by

Snehal Raut
Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway
Quality Manager

----End of Report----

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Anacon Laboratories		Anacon Laboratories Pvt. Ltd. Nagpur Lab QFP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122 ☎ + 91 8045685538 ✉ Email : info@anacon.in 🌐 https://www.anaconlaboratories.com	
Test Report AMBIENT NOISE REPORT		Page 1 of 1	
Report No.:	ALPL/29022024/1-4	Report Date:	29/02/2024
Issued to:	TATA STEEL LIMITED		
Address:	FAP Joda, Keonjhar, FAMD, ODISHA-758034 (India).		
Type of Work:	Ambient Noise (January-2024)	Sample Inward No.:	ALPL/29022024/ENV-45-N
Sample Drawn By:	Anacon Representative	Date Received Date:	29/02/2024
Monitoring Date	26/02/2024 to 28/02/2024	Method	IS 9889:1981 (R2001)
Sampling Procedure	ANtd/7.2/Mon-01		

Sr. No.	Sampling Location	Results dB(A)	
		Day Time	Night Time
1	Infront of Store	61.7	56.3
2	Near Weight Bridge	71.6	62.8
3	Loader 2mtr distance	64.3	51.9
4	Crusher Area	68.1	57.2
5	Near Back Gate	69.7	61.8
6	Breaking Yard (During Work)	64.3	48.7
7	Plot No 4 B	52.9	38.6
8	Area Furnance Ground Floor	72.1	64.9
9	Area Furnance Floor	68.3	54.2
10	Pit Site Area	51.7	42.6
11	Near Cooling Tower	67.3	56.9
12	Pump House (Inside)	61.4	48.2
13	Teiphar Floor	49.3	37.6
14	GCP Floor (1 mtr away From Blower)	62.8	51.9
15	ACS Area	64.7	54.2
16	CMDS Area	57.9	41.6
17	Office Area	52.1	39.7
18	Quality Control Analysis Lab	47.3	38.6
19	Laboratory Crusher room (During work)	54.9	42.1
20	Canteen Kitchen	64.7	53.9
21	Near Main Gate	73.1	62.7
22	D.G Room	69.3	58.1
23	Locomotive During Operation	57.6	42.9
CPCB Standards		Industrial Area	75
			70

NOTES: A) Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. • Test report shall not be reproduced except in full without prior written approval of Anacon Labs.

Remark: - All Results are within Limit as per CPCB Standards.

Verified by

Snehal Raut
Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway
Quality Manager

----End of Report----

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavor towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on feedback@anacon.in.

Annexure- 15

Sample Periodic Medical Examination Record

[Form No. 31- A]		Health Record -		Pre-Employment/Periodical		Date : 03/11/23 Page 1 of 2	
Emp. Code :		[Prescribed Under Rule 62 - J]					
<p>1) Name of the Factory : TATA (QUESS CORP)</p> <p>2) Name of Employee : BISWARANJAN PRADHAN</p> <p>3) Employee distinguishing No: TSP/905696/1023</p> <p>4) Age of the Employee : 29 Yrs.</p> <p>Identification Mark : CUT MARK ON LT HAND</p> <p>Nature of Job : SUPERVISOR</p> <p>5) Date of Employment : 11.09.2023</p> <p>6) Length of Service in Years : 01 MONTH</p> <p>7) General Survey</p> <p>Health : GOOD</p> <p>Height : 160 cm</p> <p>Weight : 70 Kg</p> <p>BMI : 27.3 Kg/m²</p> <p>8) Blood Group : "B"</p> <p>Rh Typing : POSITIVE</p> <p>9) Eye vision : NORMAL</p> <p>Use of glass : NO</p> <p>Distance Vision : RE: 6/6 LE: 6/6</p> <p>Near Vision : RE: N/6 LE: N/6</p> <p>Colour Vision : NORMAL</p> <p>10) Hearing : NORMAL</p> <p>Audiometry : NORMAL</p> <p>Right Ear : NORMAL dB</p> <p>Left Ear : NORMAL dB</p> <p>11) Respiratory system and chest measurement</p> <p>Inspiration : 102 cm</p> <p>Expiration : 98 cm</p> <p>Respirate rate/min : 16 /min</p> <p>P.F.T : NORMAL</p> <p>FVC : NORMAL %</p> <p>FEV1/FVC : NORMAL %</p> <p>X-Ray :</p> <p>Remark if any :</p>				<p>12) Cardiovascular system</p> <p>Pulse rate : 80 /min</p> <p>B.P. : 98/72 mmHg</p> <p>Heart Sound : NORMAL</p> <p>E.C.G. : NORMAL</p> <p>Remarks if any : GOOD</p> <p>13) Abdomen</p> <p>Tenderness : NO</p> <p>Liver : NORMAL</p> <p>Spleen : NORMAL</p> <p>14) Nervous system : NORMAL</p> <p>History of fits : NO</p> <p>Epilepsy : NO</p> <p>Remarks on Mental Health : GOOD</p> <p>15) Locomotor system : NORMAL</p> <p>16) Skin condition : NORMAL</p> <p>17) Hernia : ABSENT</p> <p>18) Hydrocele : ABSENT</p> <p>19) Present complain : NO if any</p>			

Annexure-16

Budget for Environment Management in FY-24			
Sl. No	Activity	A. Capital (Rs. In Lakhs)	B. Recurring (Rs. In Lakhs)
1.	Annual Operation & maintenance of all four the Gas Cleaning Plant	-	15
2.	Annual Operation & maintenance of High velocity mobile type rotary water sprinkler	-	2
3.	Maintenance of existing fixed water sprinkler	-	2
4.	Annual Maintenance of Fume Extraction System	-	1
5.	Extensive Plantation in and around the Plant	-	0.5
6.	Operation and Maintenance of dry fog system	-	2
7.	Operation and Maintenance of STP	-	4
8.	Maintenance of CAAQMS and spares	-	3
9.	Environmental Monitoring by third party	-	7.5
	Total	-	
	Total (A+B): In Lakhs	37	

Annexure -17

Intimation Letter of EC to Zila Parishad



Ref : FAPJ/ 4136 /2015
Date : 9th Nov, 2015

To
President
Zilla Parishad
Keonjhar

**Sub: Intimation of obtaining Environmental Clearance under EIA Notification-2006 for
the expansion of Ferro Alloys Plant of TATA STEEL Ltd., Joda, Keonjhar District.**

Dear Sir/ Madam,

Received
xerox copy
of Environmental
clearance.

Rhm
12-11-15
J.A. to President
Zilla Parishad
Keonjhar

We would like to inform you that Ministry of Environment Forests & Climate Change (MOEF&CC), Govt. Of India has granted Environmental Clearance for the expansion of capacity of our existing Ferro Manganese Plant from 0.0504 MTPA to 0.06 MTPA with 0.05 MTPA Sinter Plant & addition of 2*18 MVA SAF for 0.06 MTPA Slico Manganese production at our Ferro Alloys Plant, Joda, Odisha vide letter No. F. No. J-11011/03/2012- IA II (I) dt 05.11.2015.

We therefore request your good-self to kindly acknowledge the receipt of above letter.

Yours Faithfully
F: Tata Steel Limited

HEAD
FERRO ALLOYS PLANT, JODA

Enclosed:

1. Xerox copy of Environmental Clearance

TATA STEEL LIMITED

Ferro Alloys Plant, Joda-758034, Dist. Keonjhar, Odisha, India
Tel. : 09238100945, e-mail : headoffice.fapj@tatasteel.com
Registered Office : Bombay House, 24, Homi Mody Street, Fort, Mumbai-400001, India
Tel. 91 22 66658282, Fax 91 22 66657724
Corporate Identity Number L27100MH1907PLC000260, Website : www.tatasteel.com

Intimation Letter of EC to Chairman, Joda Municipality



Ref : FAPJ/ 4135 /2015
Date : 9th Nov, 2015

To
Chairman
Joda Municipality
Joda.

**Sub: Intimation of obtaining Environmental Clearance under EIA Notification-2006 for
the expansion of Ferro Alloys Plant of TATA STEEL Ltd., Joda, Keonjhar District.**

Dear Sir/ Madam,

We would like to inform you that Ministry of Environment Forests & Climate Change (MOEF&CC), Govt. Of India has granted Environmental Clearance for the expansion of capacity of our existing Ferro Manganese Plant from 0.0504 MTPA to 0.06 MTPA with 0.05 MTPA Sinter Plant & addition of 2*18 MVA SAF for 0.06 MTPA Slico Manganese production at our Ferro Alloys Plant, Joda, Odisha vide letter No. F. No. J-11011/03/2012- IA II (I) dt 05.11.2015.

We therefore request your good-self to kindly acknowledge the receipt of above letter.

Yours Faithfully
F: Tata Steel Limited

HEAD
FERRO ALLOYS PLANT, JODA



Enclosed:

1. Xerox copy of Environmental Clearance

TATA STEEL LIMITED

Ferro Alloys Plant, Joda-758034, Dist. Keonjhar, Odisha, India
Tel. : 09238100945, e-mail : headoffice.fapj@tatasteel.com
Registered Office : Bombay House, 24, Homi Mody Street, Fort, Mumbai-400001, India
Tel. 91 22 66658282, Fax 91 22 66657724
Corporate Identity Number L27100MH1907PLC000260, Website : www.tatasteel.com

Six Monthly Compliance Report to the Terms of Conditions of Environmental Clearance granted in favor of Ferro Alloys Plant, Joda, M/s Tata Steel Limited for October'23 to March'2024

Annexure -18

Six-Monthly Compliance Reports Uploaded in Tata Steel's Website

<https://www.tatasteel.com/corporate/our-organisation/environment/environment-compliance-reports/>

TATA STEEL Expansion of Production from 12 MTPA to 19.5 MTPA of Joda East Iron Mine, M/s- Tata Steel Ltd

Home » Corporate » Our Organisation » Environment » Environment Compliance Reports

Half- yearly EC Compliance Report of Joda East Iron Mine for period April 2023 to September 2023
Joda January 25, 2024

Half Yearly EC Compliance_ April'23 to September'23_FAP Joda_Tata Steel Limited
Joda November 29, 2023

Annual SDF Performance Bamebari Iron & Mn Mines-2021-22
Joda September 30, 2023

Annual SDF Performance Joda West Iron & Mn Mines-2021-22
Joda September 30, 2023

37°C Sunny 15:16 22-05-2024

11/28/23, 12:22 PM Home Page

Your application has been **Submitted** with following details

Proposal No	IA/OR/IND/4054/2012.
Compliance ID	27574116
Compliance Number(For Tracking)	EC/M/COMPLIANCE/27574116/2023
Reporting Year	2023
Reporting Period	01 Dec(01 Apr - 30 Sep)
Submission Date	28-11-2023
IRO Name	ARTATRANA MISHRA
IRO Email	jhk109@ifs.nic.in
State	ODISHA
IRO Office Address	Budgam

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

5/26/23, 3:04 PM Compliance Report

EC Conditions Six Monthly Compliance Report
(by Project Proponent)

Proposal No : IA/OR/IND/4054/2012

1. Name of the Entity / Corporate Office :

2. Proponent Details :

Proponent Name :	Sabyasachy	Designation :	Head (Mine & Production Planning, FAMOD)
Telephone No :	6726-268763	Mobile No :	+91 7752004290
Fax No :	6726-06726268734	Email Address :	sabyasachy_mishra@yahoo.co.in
Website :	www.tatasteel.com	Pin Code :	758082
State :	Orissa	District :	Keonjhar
Village/Town :			

3. Compliance Letter/Report (Proponent):

4. Summary Status of Compliance :

Total Condition :	29		
Complied :	29	Being Complied :	0
Not Complied :	0	Partially Complied :	0
Agreed to Comply :	0		

5. Details of Production and Project Area :

6. Specific Conditions (Proponent) :

		Remarks /	Supportive	Observation
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Annexure -19

Covering Letter of Form V. Environment statement submission



Ref. No. FAMD/FAPJ/716/FY24

Dated: 23/09/2023.

The Member Secretary
State Pollution Control Board, Odisha
Paribesh Bhavan
A/118, Nilakantha Nagar, Unit-VIII
Bhubaneswar-751012

Sub: Submission of Environmental Statement of Ferro Manganese Plant, Joda for the period of 2022-23.

Dear Sir,

We are submitting one set of Annual Environmental Statement in FORM-V dully filled in for the year 2022-2023 in respect of M/s Ferro Manganese Plant, Joda by Tata steel for your kind consideration.

We wish to maintain that necessary control measures have been installed and adopted to minimize the impact on environment.

We look forward to further your guidance which shall certainly help us in endeavoring further improvements in our Environmental Management Practices.

Thanking you,

Yours faithfully,
For: TATA STEEL LTD.

Head & Factory Manager
Ferro Manganese Plant,
Joda

Encl: as above.

Copy to - Regional Officer, OPCB, At-Baniapatt, College Road, Keonjhar - with enclosure.

TATA STEEL LTD.
Ferro Alloys & Minerals Division
Ferro Manganese Plant, Joda
Joda - 758034, Odisha, India
Tel: 09238100945, e-mail - head.office@tatasteel.com
Regd. Office: Bombay House, 24 Homi Mody Street, Mumbai - 400 001



ENVIRONMENT STATEMENT

FOR THE FINANCIAL YEAR 2022-23

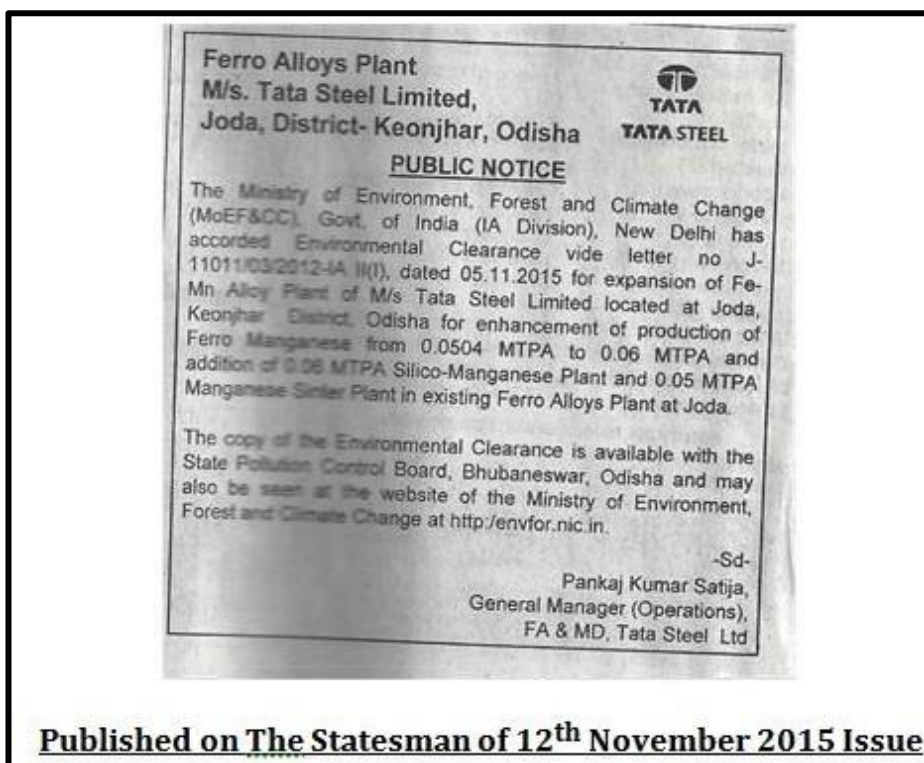
Submitted to SPCB under Rule 14 of The Environment (Protection) Rules 1986

TATA STEEL LIMITED
FERRO MANGANESE PLANT
JODA, KEONJHAR

1 | Page

Annexure-20

Details of Publication on the Newspapers



Published on The Statesman of 12th November 2015 Issue

Six Monthly Compliance Report to the Terms of Conditions of Environmental Clearance granted in favor of Ferro Alloys Plant, Joda, M/s Tata Steel Limited for October'23 to March'2024



Published on Sambad of 13th November 2015 Issue
