



Ref.No.: FAMD/FAPJ/ 183 /FY23

Date: 19.05.2022

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'2021 to March'2022.

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'2021 to March'2022 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) Zonal Office Kolkata, Central Pollution Control Board, South end Conclave, Block 502, 5th and 6th Floors, 1582 Rajdanga Main Road, Kolkata, West Bengal 700107.
- 2) The Member Secretary, State Pollution Control Board, A/118, Nilakantha Nagar, Bhubaneswar, Odisha-751012.
- 3) The Regional Officer, State Pollution Control Board, Baniapat, DD College Road, Keonjhar, Odisha-758001.

TATA STEEL LTD.

Ferro Alloys & Minerals Division, Ferro Alloys Plant, JodaAt/P.O.: Joda,
Dist: Keonjhar Odisha – 758 034 Tel.: 9238101370, e-mail : mnminesadmin@tatasteel.com
Regd.Office : Bombay House, 24 Homi Modi Street, Mumbai – 400 001 Tel 912266658282, Fax 912266657724
Corporate Identity Number L27100MH1907PLC000260 website : www.tatasteel.com



Half -Yearly Compliance Report

On

Environmental Clearance Conditions

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

Period: Oct'2021 – Mar'2022

Submitted By:

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

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

Table of Contents

S.No	Title/Chapter	Page No.
A	Compliance Status to EC	03-10
B	Annexure-1 (AAQ Abstract of Six-Month Monitoring results)	11
C	Annexure-2 (Detailed Monitoring Result)	12-17
D	Annexure-3 (Photographs of Pollution Control Measures)	18
E	Annexure-4 (Detailed Monitoring Result)	19-21
F	Annexure-5 (Fugitive Dust Emission Monitoring Reports)	22
G	Annexure-6 (Photographs of RCC roads and Fixed Sprinkling)	23
H	Annexure-7 (Photographs of Fume Extraction System)	24
I	Annexure-8 (Photographs of Rainwater Harvesting)	25
J	Annexure- 9 (Photographs of STP & ETP)	26-27
K	Annexure- 10 (Ground Water Analysis Report)	28-29
L	Annexure- 11 (Risk & Disaster Mitigation Plan)	30-31
M	Annexure- 12 (Photographs of Greenbelt developed)	32
N	Annexure- 13 (Details of CSR funds Expenditure)	33
O	Annexure- 14 (Status of Project Implementation)	34
P	Annexure- 15 (Noise Monitoring Report)	35-36
Q	Annexure- 16 (Periodic Medical Examination Records)	37
R	Annexure- 17 (Expenses Incurred for Environment Management)	38
S	Annexure- 18 (Intimation Letter of EC to Zila Parishad)	39-40
T	Annexure- 19 (upload of Six-Monthly Compliance Reports)	41
U	Annexure- 20 (Environment statement FY21)	42
V	Annexure- 21 (Publication of EC in News Paper)	43-44

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 Oct'21 to Mar'2022

A. SPECIFIC CONDITION:

Sl. No.	Specific Condition	Compliance Status (Oct'21 to Mar'2022)
I	<p>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>	<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 Oct'21 to Mar'22 is enclosed as Annexure-2.</p>
II	<p>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 50 mg/Nm³ and installing energy efficient technology.</p>	<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 with capital expenditure of around Rs.4.0 Cr. 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 is 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 Oct'21 to Mar'2022

Sl. No.	Specific Condition	Compliance Status (Oct'21 to Mar'2022)
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 quarterly basis for Particulate Matter. Sampling and Analysis is carried out by an MoEF&CC recognised laboratory.</p> <p>The results conform 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 roads within plant premises, capital project for development of RCC road over 3.0 Kms with an expenditure of around 1.3Cr has been completed.</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>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>Two nos. of fume extraction system are in place for existing plant with proper hooding and suction facility to take care of the taphole emissions. 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 and furnace building is in working stage. The potential of rainwater harvesting is around 1500 cu.m/year.</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</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 Oct'21 to Mar'2022

Sl. No.	Specific Condition	Compliance Status (Oct'21 to Mar'2022)
		<p>in operation. Specific water consumption at present for the plant is around 4.10 Kl/Tn of Product. Photographs of Rainwater Harvesting Project is enclosed as Annexure-8.</p>
VIII	<p>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>	<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. 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. Treated effluent is reused for gardening and horticulture purposes. Effluent samples from the STP are getting analysed on monthly basis. Photographs and Monitoring Reports are enclosed as Annexure-9.</p>
IX	<p>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>	<p align="center"><u>Complied.</u></p> <p>Monitoring of surface water (from Kundra nala/Sona River) is carried out on monthly basis. Similarly, ground water and subsurface water samples are also collected from the borewells as well as nearby peripheral areas on monthly basis. Sampling and analysis is carried out by an MoEF&CC as well as 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'21 to March'22 is enclosed as Annexure-10. Leachate study is also carried out by professional agencies during the monsoon season. Recently Detailed surface runoff as well as leachate analysis has been carried out by SGS. Study Report is enclosed.</p>
X	<p>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>	<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. During FY 2021-22, Total, slag generated 34120.5 MT out of which 11557.1 MT is used inhouse for the process and 17629.8 MT is sold to the Ferro Alloys Industry for making Si-Mn.</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 Oct'21 to Mar'2022

Sl. No.	Specific Condition	Compliance Status (Oct'21 to Mar'2022)
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 15.9Acres with self-sustained plantation of around 16210 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 21-22, the company has spent around Rs. 14.53 Crore on the strengthening of social welfare infrastructure of the area (Joda valley).</p> <p>Details of expenditure is provided as Annexure- 13.</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 Oct'21 to Mar'2022

Sl. No.	Specific Condition	Compliance Status (Oct'21 to Mar'2022)
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	<u>Complied.</u> There are no labour camps within the Site. However, workers are provided with all necessary infrastructure and facilities such as fuel for cooking mobile toilets, mobile STP, Safe drinking water, medical health care, crèche etc outside the plant premises.

B. General Conditions

Sl. No.	General Condition	Compliance Status (Oct'21 to Mar'2022)
I	The project authorities must strictly adhere to the stipulations made by the Odisha Pollution Control Board and the State Government.	<u>Complied.</u> All the stipulations made by the Odisha Pollution Control Board and the State Government are strictly followed for existing facility.
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 (MoEFCC).	<u>Complied.</u> The subject Environmental Clearance has been granted for the expansion of existing Ferro Alloys Plant (50KT of Fe-Mn) at Joda to incorporate addition of addl. 10Kt of Fe-Mn to the existing Fe-Mn Plant and 60KT of Si-Mn Plant (New) and 50KT of Sinter Plant (New). However, at present, necessary site clearances and contracting aspects have been completed for the stated expansion but it is envisaged that an extension to the validity of the prevailing EC would be required for the completion of the project. Accordingly, A proposal vide Proposal No. IA/OR/IND/25581/2013 dt 28.03.2022 has been submitted to the Ministry seeking extension in the validity. Detailed Status of the Project is enclosed as Annexure-14.
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.	<u>Complied.</u> 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. 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.
IV	Industrial waste water shall be properly collected, treated so as to conform to the standard prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December1993 or as amended from time to time. The treated waste water shall be utilized for plantation purpose.	<u>Complied.</u> It has been followed. Treated wastewater is utilised for plantation/gardening purpose.

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 Oct'21 to Mar'2022

Sl. No.	General Condition	Compliance Status (Oct'21 to Mar'2022)
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 (day time) 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. Abstract of the Ambient Noise level Monitoring Result is enclosed as Annexure-16.</p>
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 on Nov-Dec 2021 and 552 nos. of employees are examined including contractual employees. For this year the Periodic medical check-up is in continuation. Records were maintained as per Orissa factory rule. [Record is enclosed as Annexure XI]</p>
VII	The company shall develop rainwater harvesting structures to harvest the rain water 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 and furnace building is in working stage. The potential of rainwater harvesting is around 1500 cu.m/year. 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. To reduce water consumption, close circuit cooling system is in operation. Specific water consumption at present for the plant is around 4.10 Kl/Tn of Product. 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 2021-22, the company had spent Rs. 105 lakh (as Capital) and Rs. 99.8 lakh (Recurring) for the Environmental Protection Measures. Details of Environmental Expenditure for FY 2021-22 is enclosed as Annexure-17. All the CSR measures are carried out by the CSR wing of the company under the banner of Tata Steel Foundation. During FY 21-22, the company has spent around Rs. 14.53 crore on the strengthening of social welfare infrastructure of the area (Joda valley). Details of expenditure is provided as Annexure- 13.</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 Oct'21 to Mar'2022**

Sl. No.	General Condition	Compliance Status (Oct'21 to Mar'2022)
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 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.	<p align="center"><u>Complied.</u></p> <p>During FY 2021-22, the company had spent Rs. 105 lakh (as Capital) and Rs. 99.8 lakh (Recurring) for the Environmental Protection Measures.</p> <p>Details of Environmental Expenditure for FY 2021-22 is enclosed as Annexure-17.</p>
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.	<p align="center"><u>Complied.</u></p> <p>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-18</p>
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.	<p align="center"><u>Complied.</u></p> <p>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.</p> <p>Photograph is given in the Annexure - 19</p>
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.	<p align="center"><u>Complied.</u></p> <p>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/399/FY22 dt.30.11.2021 for the period from April-2021 to Sept-2021.</p>
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	<p align="center"><u>Complied.</u></p> <p>The Environment statement in Form V was submitted for the year 20-21 on 23rd Sep, 2021 vide letter no.- Ref. No. FAMD/FAPJ/314/FY22 to SPCB, Bhubaneswar and</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 Oct'21 to Mar'2022

Sl. No.	General Condition	Compliance Status (Oct'21 to Mar'2022)
	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-mail.	Regional office, Keonjhar and the compliance of environmental conditions is uploaded on the website. [Copy of Letter is given in Annexure-20]
XIV	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearnces letter are available with SPCB and may also be seen at website of the Ministry of Environment, Forests and Climate Change (MoEPCC) at https://envfor.nic.in . This shall be advertise 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.	<u>Complied.</u> Information regarding Environmental clearance issued is published on Sambad oriya newspaper on 13 th November issue and on the statesman English Newspaper of 13 th November issue. [Details of publication are given in Annexure -21]
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	Being Followed with. It will be strictly followed



**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 Oct'21 to Mar'2022

ANNEXURE-1



ENVIRONMENTAL MONITORING RESULTS (OCT'21 to MARCH'22)

Location	Main gate						
Parameters	NAAQ Standard	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
PM10	100(µg/m ³)	62.0	64.8	68.7	64.7	64.3	71.0
PM2.5	60 (µg/m ³)	37.2	38.9	41.2	38.8	38.6	42.6
SO2	80 (µg/m ³)	10.9	12.8	14.6	12.4	11.9	12.8
NO2	80(µg/m ³)	15.5	15.5	17.5	16.5	15.8	16.3
Carbon Monoxide (CO)	4(mg/m ³)	0.50	0.55	0.57	0.51	0.54	0.58
Location	Admin Building						
Parameters	NAAQ Standard	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
PM10	100(µg/m ³)	63.2	68.9	70.2	70.2	73.6	73.2
PM2.5	60 (µg/m ³)	37.9	41.3	42.1	42.1	44.1	43.9
SO2	80 (µg/m ³)	13.4	14.2	15.4	15.3	16.2	16.6
NO2	80(µg/m ³)	15.2	15.7	16.9	17.4	17.9	18.6
Carbon Monoxide (CO)	4(mg/m ³)	0.44	0.45	0.53	0.57	0.61	0.63
Location	Ore yard						
Parameters	NAAQ Standard	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
PM10	100(µg/m ³)	63.9	64.8	71.9	68.2	71.4	68.9
PM2.5	60 (µg/m ³)	38.3	38.9	43.2	40.9	42.8	41.4
SO2	80 (µg/m ³)	15.0	15.2	16.1	16.1	16.5	16.6
NO2	80(µg/m ³)	17.0	18.4	19.8	19.9	20.2	19.0
Carbon Monoxide (CO)	4(mg/m ³)	0.78	0.82	0.89	0.89	0.83	0.82
Location	Back gate						
Parameters	NAAQ Standard	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
PM10	100(µg/m ³)	72.0	63.2	82.1	70.6	71.5	73.2
PM2.5	60 (µg/m ³)	43.2	37.9	49.3	42.4	42.9	43.9
SO2	80 (µg/m ³)	11.7	12.6	14.3	13.6	13.5	15.1
NO2	80(µg/m ³)	12.8	14.2	15.6	16.1	16.6	15.7
Carbon Monoxide (CO)	4(mg/m ³)	0.43	0.51	0.63	0.59	0.65	0.59

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 Oct'21 to Mar'2022

Annexure - 2

Ambient Air quality Report From 01.10.2021 To 31-03-2022

Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Certified for: ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017
Accredited by: NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

Laboratory Services
Environment Lab
Food Lab
Soil Lab
Metal Lab
Mineral Lab
&
Microbiology Lab

- Infrastructure Engineering
- Water Resource Management
- Environmental & Social Study

- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy

- Agricultural Development
- Information Technology
- Public Health Engineering

- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Ref : Envlab/21/R-5990 Date : 02.11.2021

AMBIENT AIR QUALITY MONITORING REPORT FOR OCTOBER-2021 (CORE ZONE)

1. Name of Industry : FAP, JODA (M/s TATA Steel Limited)
2. Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer.
3. Instrument Serial No & Calibration Validity : 2180-DTE-2017(APM 460) 538-DT-2017 (APM 550 MINI)
2236-DT-2017(APM 460) 498-DT-2017 (APM 550 MINI)
Validity : 02.07.2022
4. Sample collected by : VCSPL Representative in presence of TATA Representative

Monitoring Date	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)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	Bap (ng/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)
AAQMS-1-Gate No 1												
01.10.2021	59.6	35.8	10.6	14.6	0.41	BDL	BDL	BDL	BDL	BDL	BDL	BDL
05.10.2021	60.8	36.5	11.2	14.8	0.42	BDL	BDL	BDL	BDL	BDL	BDL	BDL
08.10.2021	64.2	38.5	11.4	15.2	0.54	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12.10.2021	63.8	38.3	10.8	15.6	0.56	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15.10.2021	62.6	37.5	11.2	16.1	0.58	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.10.2021	61.8	37.1	10.6	15.8	0.52	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22.10.2021	60.9	36.5	10.2	15.6	0.51	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26.10.2021	62.2	37.3	11.1	16.20	0.48	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	62.0	37.2	10.9	15.5	0.50	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	100	400	5	01	01	20	06

Monitoring Date	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)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	Bap (ng/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)
AAQMS-2-General Office												
01.10.2021	60.9	36.5	13.8	14.2	0.44	BDL	BDL	BDL	BDL	BDL	BDL	BDL
05.10.2021	61.4	36.8	14.6	13.9	0.46	BDL	BDL	BDL	BDL	BDL	BDL	BDL
08.10.2021	62.2	37.3	12.8	13.6	0.48	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12.10.2021	62.6	37.6	13.2	15.4	0.44	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15.10.2021	63.8	38.3	13.4	15.8	0.46	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.10.2021	64.6	38.8	12.8	16.2	0.41	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22.10.2021	65.8	39.5	13.4	16.4	0.42	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26.10.2021	64.2	38.5	13.2	15.9	0.43	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	63.2	37.9	13.4	15.2	0.44	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	100	400	5	01	01	20	06

Testing Method	Gravimetric	Gravimetric	Impromed Wink and Gaske method	Modified Jacob & Hochheiser (In-Arphen)	NOR Spectroscopy	Chemical Method	Indo Phenol Blue Method	Absorption & Desorption followed by GC	Solvent Extraction followed by GC	AAS Method	AAS Method	AAS Method

BDL Values: SO₂ < 4 µg/m³, NO_x < 9 µg/m³, NH₃ < 20 µg/m³, Ni < 0.01 ng/m³, As < 0.01 ng/m³, C₆H₆ < 0.01 µg/m³, Bap < 0.002 ng/m³, Pb < 0.001 µg/m³, CO < 0.1 mg/m³

Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Certified for: ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017
Accredited by: NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

Laboratory Services
Environment Lab
Food Lab
Soil Lab
Metal Lab
Mineral Lab
&
Microbiology Lab

- Infrastructure Engineering
- Water Resource Management
- Environmental & Social Study

- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy

- Agricultural Development
- Information Technology
- Public Health Engineering

- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Ref : Envlab/21/R-5991 Date : 02.11.2021

AMBIENT AIR QUALITY MONITORING REPORT FOR OCTOBER-2021 (CORE ZONE)

1. Name of Industry : FAP, JODA (M/s TATA Steel Limited)
2. Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer.
3. Instrument Serial No & Calibration Validity : 2225-DT-2017(APM 460) 535-DT-2017 (APM 550 MINI)
2346-DT-2012(APM 460) 500-DT-2017 (APM 550 MINI)
Validity : 02.07.2022
4. Sample collected by : VCSPL Representative in presence of TATA Representative

Monitoring Date	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)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	Bap (ng/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)
AAQMS-3-Near Ore Yard												
01.10.2021	62.6	37.6	13.4	17.6	0.71	BDL	BDL	BDL	BDL	BDL	BDL	BDL
05.10.2021	63.8	38.3	13.8	16.8	0.76	BDL	BDL	BDL	BDL	BDL	BDL	BDL
08.10.2021	64.6	38.8	14.6	26.6	0.74	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12.10.2021	65.8	39.5	14.2	16.2	0.81	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15.10.2021	66.2	39.7	16.6	17.4	0.84	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.10.2021	67.2	40.3	15.8	17.6	0.79	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22.10.2021	58.8	35.3	15.6	16.8	0.77	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26.10.2021	62.2	37.3	16.10	16.90	0.82	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	63.9	38.3	15.0	17.0	0.78	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	100	400	5	01	01	20	06

Monitoring Date	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)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	Bap (ng/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)
AAQMS-4-Gate No 2												
01.10.2021	66.8	40.1	10.8	12.4	0.46	BDL	BDL	BDL	BDL	BDL	BDL	BDL
05.10.2021	67.9	40.7	11.6	12.6	0.41	BDL	BDL	BDL	BDL	BDL	BDL	BDL
08.10.2021	74.6	44.8	12.4	12.8	0.44	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12.10.2021	74.8	44.9	12.4	13.2	0.43	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15.10.2021	72.2	43.3	12.1	13.6	0.42	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.10.2021	72	43.2	11.6	12.6	0.41	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22.10.2021	73.8	44.3	11.8	12.8	0.44	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26.10.2021	74.2	44.5	11.2	12.2	0.43	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	72.0	43.2	11.7	12.8	0.43	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	100	400	5	01	01	20	06

Testing Method	Gravimetric	Gravimetric	Impromed Wink and Gaske method	Modified Jacob & Hochheiser (In-Arphen)	NOR Spectroscopy	Chemical Method	Indo Phenol Blue Method	Absorption & Desorption followed by GC	Solvent Extraction followed by GC	AAS Method	AAS Method	AAS Method

BDL Values: SO₂ < 4 µg/m³, NO_x < 9 µg/m³, NH₃ < 20 µg/m³, Ni < 0.01 ng/m³, As < 0.001 ng/m³, C₆H₆ < 0.001 µg/m³, Bap < 0.002 ng/m³, Pb < 0.001 µg/m³, CO < 0.1 mg/m³

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 Oct'21 to Mar'2022

Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Certified for: ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017
Accredited by: NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

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

- Infrastructure Engineering
- Water Resource Management
- Environmental & Social Study

- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy

- Agricultural Development
- Information Technology
- Public Health Engineering

- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Ref : Envlab/21/R-7332 Date : 01.12.2021

AMBIENT AIR QUALITY MONITORING REPORT FOR NOVEMBER-21 (CORE ZONE)

1. Name of Industry : **FAP, JODA (M/s TATA Steel Limited)**
2. Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer.
3. Instrument Serial No & Calibration Validity : 2180-DTE-2017(APM 460) 538-DTI-2017 (APM 550 MINI)
2236-DTJ-2017(APM 460) 498-DTD-2017 (APM 550 MINI)
Validity : 02.07.2022
4. Sample collected by : VCSPL Representative in presence of TATA Representative

Monitoring Date	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)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	Bap (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)
AAQMS-1 Gate No 1												
02.11.2021	60.80	36.5	11.6	14.8	0.44	BDL	BDL	BDL	BDL	BDL	BDL	BDL
05.11.2021	61.60	37.0	11.8	15.6	0.48	BDL	BDL	BDL	BDL	BDL	BDL	BDL
09.11.2021	62.80	37.7	13.6	15.8	0.51	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12.11.2021	66.60	40.0	13.8	16.2	0.54	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16.11.2021	68.20	40.9	12.6	16.6	0.56	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.11.2021	63.80	38.3	12.8	15.4	0.62	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23.11.2021	65.60	39.4	13.2	15.1	0.66	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26.11.2021	69.20	41.5	13.10	14.8	0.61	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	64.8	38.9	12.8	15.5	0.55	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	100	400	5	01	01	20	06

Monitoring Date	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)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	Bap (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)
AAQMS-2 General Office												
02.11.2021	63.8	38.3	13.6	14.6	0.49	BDL	BDL	BDL	BDL	BDL	BDL	BDL
05.11.2021	65.6	39.4	14.8	15.4	0.48	BDL	BDL	BDL	BDL	BDL	BDL	BDL
09.11.2021	66.8	40.1	14.6	15.8	0.44	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12.11.2021	70.6	42.4	13.2	16.2	0.43	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16.11.2021	71.4	42.8	15.1	16.8	0.42	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.11.2021	72.8	43.7	14.2	15.6	0.41	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23.11.2021	71.2	42.7	13.8	15.4	0.44	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26.11.2021	68.8	41.3	14.1	16.1	0.46	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	68.9	41.3	14.2	15.7	0.45	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	100	400	5	01	01	20	06

ZDL Values: SO₂< 4 µg/m³, NO_x< 9 µg/m³, O₃< 4 µg/m³, NH₃< 20 µg/m³, Ni< 0.01 ng/m³, As < 0.001 ng/m³, C₆H₆< 0.001 µg/m³, Bap< 0.002 µg/m³, Pb< 0.001 µg/m³, CO< 0.1 mg/m³.

Reviewed By: P. Jeyaraman

Verified By: P. Jeyaraman

Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Certified for: ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017
Accredited by: NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

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

- Infrastructure Engineering
- Water Resource Management
- Environmental & Social Study

- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy

- Agricultural Development
- Information Technology
- Public Health Engineering

- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Ref : Envlab/21/R-7333 Date : 01.12.2021

AMBIENT AIR QUALITY MONITORING REPORT FOR OCTOBER-21 (CORE ZONE)

1. Name of Industry : **FAP, JODA (M/s TATA Steel Limited)**
2. Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer.
3. Instrument Serial No & Calibration Validity : 2225-DTI-2017(APM 460) 535-DTI-2017 (APM 550 MINI)
2346-DTB-2012(APM 460) 500-DTD-2017 (APM 550 MINI)
Validity : 02.07.2022
4. Sample collected by : VCSPL Representative in presence of TATA Representative

Monitoring Date	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)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	Bap (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)
AAQMS-3 Near Ore Yard												
02.11.2021	63.8	38.3	13.8	17.4	0.78	BDL	BDL	BDL	BDL	BDL	BDL	BDL
05.11.2021	64.6	38.8	14.6	18.4	0.82	BDL	BDL	BDL	BDL	BDL	BDL	BDL
09.11.2021	65.2	39.1	15.4	18.6	0.88	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12.11.2021	65.8	39.5	14.2	19.1	0.84	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16.11.2021	66.4	39.8	14.8	18.2	0.83	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.11.2021	65.2	39.1	15.6	17.8	0.78	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23.11.2021	64.4	38.6	16.2	18.6	0.79	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26.11.2021	63.2	37.9	16.8	18.8	0.81	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	64.8	38.9	15.2	18.4	0.82	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	100	400	5	01	01	20	06

Monitoring Date	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)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	Bap (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)
AAQMS-4 Gate No 2												
02.11.2021	65.9	39.5	11.6	13.2	0.48	BDL	BDL	BDL	BDL	BDL	BDL	BDL
05.11.2021	66.8	40.1	12.4	13.8	0.52	BDL	BDL	BDL	BDL	BDL	BDL	BDL
09.11.2021	62.6	37.6	12.8	14.4	0.55	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12.11.2021	63.8	38.3	11.9	14.6	0.53	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16.11.2021	61.9	37.1	13.4	15.2	0.52	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.11.2021	60.8	36.5	13.8	14.8	0.51	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23.11.2021	61.4	36.8	12.6	14.1	0.49	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26.11.2021	62.2	37.3	12.1	13.6	0.44	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	63.2	37.9	12.6	14.2	0.51	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	100	400	5	01	01	20	06

ZDL Values: SO₂< 4 µg/m³, NO_x< 9 µg/m³, O₃< 4 µg/m³, NH₃< 20 µg/m³, Ni< 0.01 ng/m³, As < 0.001 ng/m³, C₆H₆< 0.001 µg/m³, Bap< 0.002 µg/m³, Pb< 0.001 µg/m³, CO< 0.1 mg/m³.

Reviewed By: P. Jeyaraman

Verified By: P. Jeyaraman

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 Oct'21 to Mar'2022

Visiontek Consultancy Services Pvt. Ltd.
(Committed For Better Environment)
Certified for: ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017
Accredited by: NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

- Infrastructure Engineering
- Water Resource Management
- Environmental & Social Study
- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy
- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Ref: Envlab/21/R-0990 Date: 04.02.2022

AMBIENT AIR QUALITY MONITORING REPORT FOR JANUARY 2022 (CORE ZONE)

1. Name of Industry : FAP, JODA (M/s TATA Steel Limited)
2. Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer.
3. Instrument Serial No & Calibration Validity : 2180-DTE-2017(APM 460) 538-DT1-2017 (APM 550 MINI)
2236-DTJ-2017(APM 460) 498-DTD-2017 (APM 550 MINI)
Validity : 02.07.2022

4. Sample collected by : VCSPL Representative in presence of TATA Representative

Monitoring Date	PM ₁₀ (µg/m³)	PM _{2.5} (µg/m³)	SO ₂ (µg/m³)	NO _x (µg/m³)	CO (mg/m³)	O ₃ (µg/m³)	NH ₃ (µg/m³)	C ₆ H ₆ (µg/m³)	Bap (ng/m³)	Pb (µg/m³)	Ni (ng/m³)	As (ng/m³)
AAQMS-1-Gate No 1												
04.01.2022	63.80	38.3	11.8	16.6	0.48	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
07.01.2022	64.60	38.8	12.6	15.4	0.46	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
11.01.2022	65.80	39.5	13.2	15.9	0.48	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
14.01.2022	66.20	39.7	12.8	16.6	0.55	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
18.01.2022	64.90	38.9	11.9	16.8	0.54	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
21.01.2022	63.20	37.9	11.4	16.2	0.53	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
25.01.2022	62.80	37.7	12.2	17.4	0.54	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
28.01.2022	66.60	40.0	13.10	17.20	0.51	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
Monthly Average	64.7	38.8	12.4	16.5	0.51	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
NAAQ Standard	100	60	80	80	4	100	400	5	01	01	20	06
AAQMS-2-General Office												
04.01.2022	70.5	42.4	14.4	15.6	0.54	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
07.01.2022	70.8	42.5	14.8	16.8	0.56	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
11.01.2022	71.4	42.8	15.2	17.4	0.55	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
14.01.2022	71.6	43.0	15.6	17.6	0.58	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
18.01.2022	70.2	42.1	16.1	18.2	0.61	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
21.01.2022	69.8	41.9	15.8	18.6	0.64	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
25.01.2022	66.8	40.1	15.4	17.8	0.55	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
28.01.2022	70.4	42.2	14.9	17.2	0.53	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
Monthly Average	70.2	42.1	15.3	17.4	0.57	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
NAAQ Standard	100	60	80	80	4	100	400	5	01	01	20	06
Testing Method	Gravimetric	Gravimetric	Improved Wet and Gaseous Method	Modified Jendrassik & Kolthar's (Na-Arsenite)	NDIR Spectroscopy	Chemical Method	Indo Phenol Blue Method	Absorption & Desorption Followed by GC	Solvent Extraction Followed by GC	AAS Method	AAS Method	AAS Method

DDI Value: SO₂< 4 µg/m³, NO_x< 9 µg/m³, O₃< 4 µg/m³, NH₃< 20 µg/m³, Ni<0.01 ng/m³, As< 0.001 ng/m³, C₆H₆<0.001 µg/m³, Bap<0.002 ng/m³, Pb<0.001 µg/m³, CO<0.1 mg/m³.

Reviewed By: M. P. Parnekar
Verified By: P. J. Kulkarni

Visiontek Consultancy Services Pvt. Ltd.
(Committed For Better Environment)
Certified for: ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017
Accredited by: NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

- Infrastructure Engineering
- Water Resource Management
- Environmental & Social Study
- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy
- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Ref: Envlab/21/R-0991 Date: 04.02.2022

AMBIENT AIR QUALITY MONITORING REPORT FOR JANUARY 2022 (CORE ZONE)

1. Name of Industry : FAP, JODA (M/s TATA Steel Limited)
2. Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer.
3. Instrument Serial No & Calibration Validity : 2225-DT1-2017(APM 460) 535-DT1-2017 (APM 550 MINI)
2346-DTB-2012(APM 460) 500-DTD-2017 (APM 550 MINI)
Validity : 02.07.2022

4. Sample collected by : VCSPL Representative in presence of TATA Representative

Monitoring Date	PM ₁₀ (µg/m³)	PM _{2.5} (µg/m³)	SO ₂ (µg/m³)	NO _x (µg/m³)	CO (mg/m³)	O ₃ (µg/m³)	NH ₃ (µg/m³)	C ₆ H ₆ (µg/m³)	Bap (ng/m³)	Pb (µg/m³)	Ni (ng/m³)	As (ng/m³)
AAQMS-3-Near Ore Yard												
04.01.2022	65.8	39.5	14.6	18.6	0.84	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
07.01.2022	66.9	40.1	14.8	18.8	0.88	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
11.01.2022	64.6	38.8	15.6	19.4	0.89	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
14.01.2022	65.9	39.5	15.8	19.6	0.92	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
18.01.2022	70.6	42.4	16.4	20.8	0.91	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
21.01.2022	71.8	43.1	16.6	21.4	0.93	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
25.01.2022	72.8	43.7	17.4	20.2	0.89	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
28.01.2022	66.8	40.1	17.80	20.20	0.85	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
Monthly Average	68.2	40.9	16.1	19.9	0.89	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
NAAQ Standard	100	60	80	80	4	100	400	5	01	01	20	06
AAQMS-4-Gate No 1												
04.01.2022	66.8	40.1	12.2	14.6	0.53	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
07.01.2022	74.6	44.8	12.8	14.8	0.56	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
11.01.2022	73.8	44.3	13.4	15.6	0.58	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
14.01.2022	73.2	43.9	13.6	15.8	0.62	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
18.01.2022	72.6	43.6	14.6	16.6	0.66	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
21.01.2022	68.8	41.3	14.8	17.4	0.62	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
25.01.2022	69.4	41.6	13.2	17.8	0.59	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
28.01.2022	65.8	39.5	13.8	16.2	0.56	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
Monthly Average	70.6	42.4	13.6	16.1	0.59	<4	<20	<0.001	<0.002	<0.001	<0.01	<0.001
NAAQ Standard	100	60	80	80	4	100	400	5	01	01	20	06
Testing Method	Gravimetric	Gravimetric	Improved Wet and Gaseous Method	Modified Jendrassik & Kolthar's (Na-Arsenite)	NDIR Spectroscopy	Chemical Method	Indo Phenol Blue Method	Absorption & Desorption Followed by GC	Solvent Extraction Followed by GC	AAS Method	AAS Method	AAS Method

DDI Value: SO₂< 4 µg/m³, NO_x< 9 µg/m³, O₃< 4 µg/m³, NH₃< 20 µg/m³, Ni<0.01 ng/m³, As< 0.001 ng/m³, C₆H₆<0.001 µg/m³, Bap<0.002 ng/m³, Pb<0.001 µg/m³, CO<0.1 mg/m³.

Reviewed By: M. P. Parnekar
Verified By: P. J. Kulkarni

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 Oct'21 to Mar'2022

Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Certified for : ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017
Accredited by : NABET-A Grade, MOEF & CCCPCB & SPCB-A Grade

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

- Infrastructure Engineering
- Water Resource Management
- Environmental & Social Study

- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy

- Agricultural Development
- Information Technology
- Public Health Engineering

- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Ref : Envlab/21/R-2007

Date : 02.03.2022

AMBIENT AIR QUALITY MONITORING REPORT FOR FEBRUARY 2022 (CORE ZONE)

1. Name of Industry : FAP, JODA (M/s TATA Steel Limited)
2. Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer.
3. Instrument Serial No & Calibration Validity : 2180-DTE-2017(APM 460) 538-DTI-2017 (APM 550 MINI)
2236-DTJ-2017(APM 460) 498-DTD-2017 (APM 550 MINI)
Validity : 02.07.2022
4. Sample collected by : VCSPL Representative in presence of TATA Representative

Monitoring Date	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)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	Bsp (ng/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)
AAQMS-1:Gate No 1												
01.02.2022	65.80	39.5	10.8	15.4	0.53	BDL	BDL	BDL	BDL	BDL	BDL	BDL
04.02.2022	63.60	38.2	11.2	15.6	0.51	BDL	BDL	BDL	BDL	BDL	BDL	BDL
08.02.2022	62.80	37.7	11.6	16.2	0.55	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11.02.2022	61.60	37.0	11.8	16.8	0.54	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15.02.2022	66.80	40.1	12.4	15.9	0.52	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18.02.2022	65.60	39.4	12.6	15.4	0.51	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22.02.2022	64.80	38.9	13.1	16.1	0.56	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25.02.2022	63.20	37.9	11.8	15.2	0.58	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	64.3	38.6	11.9	15.8	0.54	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	100	400	5	01	01	20	06
AAQMS-2:General Office												
01.02.2022	71.6	43.0	14.8	16.6	0.56	BDL	BDL	BDL	BDL	BDL	BDL	BDL
04.02.2022	72.8	43.7	14.9	17.2	0.58	BDL	BDL	BDL	BDL	BDL	BDL	BDL
08.02.2022	73.6	44.2	15.6	17.8	0.61	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11.02.2022	73.8	44.3	15.8	17.6	0.66	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15.02.2022	74.2	44.5	16.6	17.8	0.64	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18.02.2022	74.6	44.8	16.8	18.4	0.62	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22.02.2022	75.1	45.1	17.2	18.6	0.58	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25.02.2022	72.8	43.7	17.8	18.8	0.66	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	73.6	44.1	16.2	17.9	0.61	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	100	400	5	01	01	20	06
Testing Method	Gravimetric	Gravimetric	Improved Wet and Gase method	Modified Jacobs & Hochheiser (No-Arsenic)	NIR Spectroscopy	Chemical Method	Indo Phenol Blue Method	Absorption & Description followed by GC	Solvent Extraction followed by GC	AAS Method	AAS Method	AAS Method

ZDL Value: SO₂< 4 µg/m³, NO_x< 9 µg/m³, O₃< 4 µg/m³, NH₃< 20 µg/m³, Ni<0.01 µg/m³, As < 0.001 µg/m³, C₆H₆<0.001 µg/m³, Bsp<0.002 ng/m³, Pb<0.001 µg/m³, CO<0.1 mg/m³.

Reviewed By: *M. Parikh*

Verified By: *P. J. Mahapatra*

Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Certified for : ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017
Accredited by : NABET-A Grade, MOEF & CCCPCB & SPCB-A Grade

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

Ref : Envlab/21/R-2008

Date : 02.03.2022

AMBIENT AIR QUALITY MONITORING REPORT FOR FEBRUARY 2022 (CORE ZONE)

1. Name of Industry : FAP, JODA (M/s TATA Steel Limited)
2. Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer.
3. Instrument Serial No & Calibration Validity : 2225-DTI-2017(APM 460) 535-DTI-2017 (APM 550 MINI)
2346-DTB-2012(APM 460) 500-DTD-2017 (APM 550 MINI)
Validity : 02.07.2022
4. Sample collected by : VCSPL Representative in presence of TATA Representative

Monitoring Date	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)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	Bsp (ng/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)
AAQMS-3: Near Ore Yard												
01.02.2022	66.8	40.1	14.8	18.8	0.82	BDL	BDL	BDL	BDL	BDL	BDL	BDL
04.02.2022	70.2	42.1	15.2	19.2	0.88	BDL	BDL	BDL	BDL	BDL	BDL	BDL
08.02.2022	70.8	42.5	15.6	19.6	0.84	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11.02.2022	71.4	42.8	16.6	19.8	0.83	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15.02.2022	71.6	43.0	16.8	20.2	0.82	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18.02.2022	72.8	43.7	17.4	20.6	0.81	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22.02.2022	73.6	44.2	17.6	21.4	0.84	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25.02.2022	74.1	44.5	18.20	21.80	0.82	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	71.4	42.8	16.5	20.2	0.83	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	100	400	5	01	01	20	06
AAQMS-4:Gate No 2												
01.02.2022	69.6	41.8	12.8	14.8	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL
04.02.2022	70.8	42.5	12.6	15.6	0.58	BDL	BDL	BDL	BDL	BDL	BDL	BDL
08.02.2022	70.6	42.4	13.4	15.8	0.62	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11.02.2022	71.4	42.8	13.2	16.6	0.66	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15.02.2022	72.2	43.3	14.2	16.9	0.69	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18.02.2022	72.8	43.7	14.6	17.4	0.64	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22.02.2022	71.6	43.0	13.8	17.6	0.71	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25.02.2022	73.2	43.9	13.1	17.8	0.77	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	71.5	42.9	13.5	16.6	0.65	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	100	400	5	01	01	20	06
Testing Method	Gravimetric	Gravimetric	Improved Wet and Gase method	Modified Jacobs & Hochheiser (No-Arsenic)	NIR Spectroscopy	Chemical Method	Indo Phenol Blue Method	Absorption & Description followed by GC	Solvent Extraction followed by GC	AAS Method	AAS Method	AAS Method

ZDL Value: SO₂< 4 µg/m³, NO_x< 9 µg/m³, O₃< 4 µg/m³, NH₃< 20 µg/m³, Ni<0.01 µg/m³, As < 0.001 µg/m³, C₆H₆<0.001 µg/m³, Bsp<0.002 ng/m³, Pb<0.001 µg/m³, CO<0.1 mg/m³.

Reviewed By: *M. Parikh*

Verified By: *P. J. Mahapatra*

Page 16 of 44

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 Oct'21 to Mar'2022



Visiontek Consultancy Services Pvt. Ltd.
(Committed For Better Environment)
Certified for : ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017
Accredited by : NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

- Infrastructure Engineering
- Water Resource Management
- Environmental & Social Study
- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy
- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

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



Ref : Envlab/21R-4015 Date : 31.03.2022

AMBIENT AIR QUALITY MONITORING REPORT FOR MARCH 2022 (CORE ZONE)

- Name of Industry : FAP, JODA (M/s TATA Steel Limited)
- Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer.
- Instrument Serial No & Calibration Validity : 2180-DTE-2017(APM 460) 538-DTI-2017 (APM 550 MINI)
2236-DTJ-2017(APM 460) 498-DTD-2017 (APM 550 MINI)
Validity : 02.07.2022
- Sample collected by : VCSPL Representative in presence of TATA Representative

Monitoring Date	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)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	BaP (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)
AAQMS-1-Gate No 1												
01.03.2022	68.8	41.3	11.6	16.6	0.54	BDL	BDL	BDL	BDL	BDL	BDL	BDL
04.03.2022	69.6	41.8	12.4	16.8	0.58	BDL	BDL	BDL	BDL	BDL	BDL	BDL
08.03.2022	71.2	42.7	12.6	16.1	0.56	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11.03.2022	74.6	44.8	12.8	15.4	0.52	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15.03.2022	70.8	42.5	13.2	15.6	0.66	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18.03.2022	66.8	40.1	13.8	16.2	0.64	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22.03.2022	72.2	43.3	13.4	16.8	0.58	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25.03.2022	73.8	44.3	12.90	17.10	0.59	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	71.0	42.6	12.8	16.3	0.58	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	100	400	5	01	01	20	06
AAQMS-2-General Office												
01.03.2022	73.6	44.2	15.2	17.4	0.59	BDL	BDL	BDL	BDL	BDL	BDL	BDL
04.03.2022	74.2	44.5	15.6	17.8	0.66	BDL	BDL	BDL	BDL	BDL	BDL	BDL
08.03.2022	74.8	44.9	18.2	18.4	0.64	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11.03.2022	73.2	43.9	16.6	18.6	0.62	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15.03.2022	72.8	43.7	16.8	18.9	0.63	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18.03.2022	72.2	43.3	17.4	19.6	0.61	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22.03.2022	71.6	43.0	16.6	19.2	0.64	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25.03.2022	73.1	43.9	16.1	18.8	0.62	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	73.2	43.9	16.6	18.6	0.63	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	100	400	5	01	01	20	06

BDL Values: PM₁₀<20 µg/m³, PM_{2.5}<10 µg/m³, SO₂<4 µg/m³, NO_x<6 µg/m³, O₃<4 µg/m³, NH₃<20 µg/m³, Ni<2.5 ng/m³, As<1 ng/m³, C₆H₆<4 µg/m³, BaP<0.5 ng/m³, Pb<0.02 µg/m³, CO<0.1 mg/m³

Reviewed By:  Verified By: 

Accredited by : NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

- Infrastructure Engineering
- Water Resource Management
- Environmental & Social Study
- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy
- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Ref : Envlab/21R-4016 Date : 31.03.2022

AMBIENT AIR QUALITY MONITORING REPORT FOR MARCH 2022 (CORE ZONE)

- Name of Industry : FAP, JODA (M/s TATA Steel Limited)
- Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer.
- Instrument Serial No & Calibration Validity : 2225-DTI-2017(APM 460) 535-DTI-2017 (APM 550 MINI)
2346-DTB-2012(APM 460) 500-DTD-2017 (APM 550 MINI)
Validity : 02.07.2022
- Sample collected by : VCSPL Representative in presence of TATA Representative

Monitoring Date	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)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	BaP (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)
AAQMS-3-Near Ore Yard												
01.03.2022	67.8	40.7	15.6	18.9	0.78	BDL	BDL	BDL	BDL	BDL	BDL	BDL
04.03.2022	65.8	39.5	15.8	19.6	0.76	BDL	BDL	BDL	BDL	BDL	BDL	BDL
08.03.2022	66.8	40.1	15.4	19.8	0.82	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11.03.2022	69.6	41.8	16.61	18.8	0.88	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15.03.2022	68.8	41.3	16.2	18.2	0.84	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18.03.2022	70.6	42.4	17.4	17.8	0.79	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22.03.2022	70.8	42.5	17.8	19.4	0.83	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25.03.2022	71.2	42.7	18.10	19.20	0.82	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	68.9	41.4	16.6	19.0	0.82	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	100	400	5	01	01	20	06
AAQMS-4-Gate No 2												
01.03.2022	72.9	43.7	13.6	14.9	0.54	BDL	BDL	BDL	BDL	BDL	BDL	BDL
04.03.2022	73.4	44.0	13.8	15.6	0.61	BDL	BDL	BDL	BDL	BDL	BDL	BDL
08.03.2022	73.6	44.2	14.6	15.2	0.66	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11.03.2022	74.8	44.9	15.2	16.2	0.62	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15.03.2022	74.2	44.5	15.8	16.8	0.59	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18.03.2022	72.6	43.6	16.2	15.6	0.55	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22.03.2022	72.2	43.3	16.1	15.8	0.53	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25.03.2022	71.8	43.1	15.4	15.2	0.62	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	73.2	43.9	15.1	15.7	0.59	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	100	400	5	01	01	20	06

BDL Values: PM₁₀<20 µg/m³, PM_{2.5}<10 µg/m³, SO₂<4 µg/m³, NO_x<6 µg/m³, O₃<4 µg/m³, NH₃<20 µg/m³, Ni<2.5 ng/m³, As<1 ng/m³, C₆H₆<4 µg/m³, BaP<0.5 ng/m³, Pb<0.02 µg/m³, CO<0.1 mg/m³

Reviewed By:  Verified By: 

Annexure -3



Continious Emission Monitoring System

STACK EMISSION MONITORING RESULTS (OCT'21 to MARCH'22)

Location	ARC FURANCE-1						
Parameters	UNIT	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
PM10	(mg/Nm3)	54.60	60.90	61.80	58.20	56.80	57.80
SOX	(mg/Nm3)	126.00	132.00	138.00	138.00	142.00	148.00
NOX	(mg/Nm3)	61.80	56.20	58.20	62.80	60.60	62.80
Carbon Monoxide (CO)	(mg/Nm3)	54.60	60.90	61.80	58.20	56.80	57.80
Location	ARC FURNACE-2						
Parameters	NAAQ Standard	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
PM10	(mg/Nm3)	53.80	58.80	60.60	55.60	54.6	55.20
SOX	(mg/Nm3)	88.80	89.40	93.40	90.60	91.6	93.20
NOX	(mg/Nm3)	124.20	130.80	141.20	132.80	133.8	139.00
Carbon Monoxide (CO)	(mg/Nm3)	59.60	54.10	56.60	59.60	60.8	61.90

Annexure - 4

Stack Monitoring Report From 01.10.2021 To 31-03-2022



Visiontek Consultancy Services Pvt. Ltd.
(Committed For Better Environment)

Certified for : ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017
Accredited by : NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

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

- Infrastructure Engineering
- Water Resource Management
- Environmental & Social Study
- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy
- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services



Visiontek Consultancy Services Pvt. Ltd.
(Committed For Better Environment)

Certified for : ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017
Accredited by : NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

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

- Infrastructure Engineering
- Water Resource Management
- Environmental & Social Study
- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy
- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Ref : Envlab/21/R-5995

Date : 02.11.2021

STACK ANALYSIS REPORT FOR THE MONTH OF OCTOBER -2021

- Name of Industry : FAP, JODA (M/s TATA Steel Limited)
- Sampling Location : ST-1: Furnance-1
ST-2: Furnance-2
- Date of Analysis : 28.10.2021
- Instrument Serial No & Calibration Validity : VBSS1-121919, Validity 06.12.2021
- Sample Collected by : VCSPL Representative in presence of TATA Representative

Date of Sampling	28.10.2021 at 10.25AM		28.10.2021 at 11.49 PM	
A General Information about Stack				
1 Stack Connected to	Furnance-1		Furnance-2	
B Results of Sampling & Analysis of Gaseous Emission	Analysis Results	CPCB Limit	Analysis Results	CPCB Limit
1 Temperature of Emission (°C)	74		78	
2 Barometric Pressure (mm of Hg)	714		714	
3 Velocity of Gas (m/sec)	20.6		20.1	
4 Quantity of Gas Flow (Nm ³ /hr)	6296.28		6546.81	
5 Concentration of Carbon monoxide (mg/Nm ³)	61.8		59.6	150
6 Concentration of Sulphur Dioxide (mg/Nm ³)	90.2		88.8	
7 Concentration of Nitrogen Dioxide (mg/Nm ³)	126	2285(1100 ppmv)	124.2	2285(1100 ppmv)
8 Concentration of Particulate Matters (mg/Nm ³)	54.6	75	53.8	75
C Pollution control Device				
Details of pollution control	Nil		Nil	
Device attached with the stack				



Ref : Envlab/21/R-7337

Date : 01.12.2021

STACK ANALYSIS REPORT FOR THE MONTH OF NOVEMBER -2021

- Name of Industry : FAP, JODA (M/s TATA Steel Limited)
- Sampling Location : ST-1: Furnance-1
ST-2: Furnance-2
- Date of Analysis : 25.11.2021
- Instrument Serial No & Calibration Validity : VBSS1-121919, Validity 06.12.2021
- Sample Collected by : VCSPL Representative in presence of TATA Representative

Description	25.11.2021 at 10.45AM		25.11.2021 at 11.40AM	
A General Information about Stack				
1 Stack Connected to	Furnance-1		Furnance-2	
B Results of Sampling & Analysis of Gaseous Emission	Analysis Results	CPCB Limit	Analysis Results	CPCB Limit
1 Temperature of Emission (°C)	72		76	
2 Barometric Pressure (mm of Hg)	714		714	
3 Velocity of Gas (m/sec)	21.8		20.8	
4 Quantity of Gas Flow (Nm ³ /hr)	6389.2		6618.2	
5 Concentration of Carbon monoxide (mg/Nm ³)	60.9		58.8	150
6 Concentration of Sulphur Dioxide (mg/Nm ³)	91.6		89.4	
7 Concentration of Nitrogen Dioxide (mg/Nm ³)	132	2265(1100 ppmv)	130.8	2265(1100 ppmv)
8 Concentration of Particulate Matters (mg/Nm ³)	56.2	75	54.1	75
C Pollution control Device				
Details of pollution control	Nil		Nil	
Device attached with the stack				



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 Oct'21 to Mar'2022

Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Certified for : ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017
Accredited by : NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

Laboratory Services

Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

- Infrastructure Engineering
- Water Resource Management
- Environmental & Social Study

- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy

- Agricultural Development
- Information Technology
- Public Health Engineering

- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Ref : Envlab/21/R-9315 Date : 03.12.2021

STACK ANALYSIS REPORT FOR THE MONTH OF DECEMBER -2021

1. Name of Industry : FAP, JODA (M/s TATA Steel Limited)
2. Sampling Location : ST-1: Furnace-1
ST-2: Furnace-2
3. Date of Analysis : 25.11.2021
4. Instrument Serial No & Calibration Validity : VB551-121919, Validity 06.12.2021
5. Sample Collected by : VCSPL Representative in presence of TATA Representative

Description	17.12.2021 at 10.30AM		17.12.2021 at 11.30AM	
A General Information about Stack				
1. Stack Connected to	Furnace-1		Furnace-2	
B Results of Sampling & Analysis of Gaseous Emission	Analysis Results	CPCB Limit	Analysis Results	CPCB Limit
1. Temperature of Emission (°C)	74		78	
2. Barometric Pressure (mm of Hg)	714		714	
3. Velocity of Gas (m/sec.)	22.6		21.6	
4. Quantity of Gas Flow (Nm ³ /hr.)	6412.2		6626.2	
5. Concentration of Carbon monoxide (mg/Nm ³)	61.8		60.6	150
6. Concentration of Sulphur Dioxide (mg/Nm ³)	92.8		93.4	
7. Concentration of Nitrogen Dioxide (mg/Nm ³)	138	2258(1100 ppmv)	141.2	2258(1100 ppmv)
8. Concentration of Particulate Matters (mg/Nm ³)	58.2	75	56.6	75
C Pollution control Device				
Details of pollution control	Nil		Nil	
Device attached with the stack				

Reviewed By *M. Pradeep*

Verified By *Pooja Mahapatra*

Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Certified for : ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017
Accredited by : NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

Laboratory Services

Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

- Infrastructure Engineering
- Water Resource Management
- Environmental & Social Study

- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy

- Agricultural Development
- Information Technology
- Public Health Engineering

- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Ref : Envlab/21/R-0995 Date : 04.02.2022

STACK ANALYSIS REPORT FOR THE MONTH OF JANUARY 2022

1. Name of Industry : FAP, JODA (M/s TATA Steel Limited)
2. Sampling Location : ST-1: Furnace-1
ST-2: Furnace-2
3. Date of Analysis : 28.01.2022
4. Instrument Serial No & Calibration Validity : VB551-121919, Validity 06.12.2022
5. Sample Collected by : VCSPL Representative in presence of TATA Representative

Description	28.01.2022 at 11.00AM		28.01.2022 at 11.45AM	
A General Information about Stack				
1. Stack Connected to	Furnace-1		Furnace-2	
B Results of Sampling & Analysis of Gaseous Emission	Analysis Results	CPCB Limit	Analysis Results	CPCB Limit
1. Temperature of Emission (°C)	74		78	
2. Barometric Pressure (mm of Hg)	714		714	
3. Velocity of Gas (m/sec.)	20.6		20.8	
4. Quantity of Gas Flow (Nm ³ /hr.)	6288.96		6634.2	
5. Concentration of Carbon monoxide (mg/Nm ³)	62.8		59.6	150
6. Concentration of Sulphur Dioxide (mg/Nm ³)	94.6		90.6	
7. Concentration of Nitrogen Dioxide (mg/Nm ³)	138	2258(1100 ppmv)	132.8	2258(1100 ppmv)
8. Concentration of Particulate Matters (mg/Nm ³)	58.2	75	55.6	75
C Pollution control Device				
Details of pollution control	Nil		Nil	
Device attached with the stack				

Reviewed By *M. Pradeep*

Verified By *Pooja Mahapatra*

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 Oct'21 to Mar'2022



Visiontek Consultancy Services Pvt. Ltd.
(Committed For Better Environment)

Certified for : ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017
Accredited by : NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

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

- Infrastructure Engineering
- Surface & Sub-Surface Investigation
- Agricultural Development
- Mine Planning & Design
- Water Resource Management
- Quality Control & Project Management
- Information Technology
- Mineral/Sub-Soil Exploration
- Environmental & Social Study
- Renewable Energy
- Public Health Engineering
- Waste Management Services



Visiontek Consultancy Services Pvt. Ltd.
(Committed For Better Environment)

Certified for : ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017
Accredited by : NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

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

- Infrastructure Engineering
- Surface & Sub-Surface Investigation
- Agricultural Development
- Mine Planning & Design
- Water Resource Management
- Quality Control & Project Management
- Information Technology
- Mineral/Sub-Soil Exploration
- Environmental & Social Study
- Renewable Energy
- Public Health Engineering
- Waste Management Services

Ref : Envlab/21/R-2012

Date : 02.03.2022

STACK ANALYSIS REPORT FOR THE MONTH OF FEBRUARY 2022

1. Name of Industry : FAP, JODA (M/s TATA Steel Limited)
2. Sampling Location : ST-1: Furnance-1
ST-2: Furnance-2
3. Date of Analysis : 01.02.2022
4. Instrument Serial No & Calibration Validity : VBSS1-121919, Validity 06.12.2021
5. Sample Collected by : VCSPL Representative in presence of TATA Representative

Description	01.02.2022 at 11.00 AM		01.02.2022 at 11.45 AM	
A General Information about Stack				
1 Stack Connected to	Furnance-1		Furnance-2	
B Results of Sampling & Analysis of Gaseous Emission	Analysis Results	CPCB Limit	Analysis Results	CPCB Limit
1 Temperature of Emission (°C)	78		76	
2 Barometric Pressure (mm of Hg)	714		714	
3 Velocity of Gas (m/sec.)	21.8		21.6	
4 Quantity of Gas Flow (Nm ³ /hr.)	6314.88		6639.6	
5 Concentration of Carbon monoxide (mg/Nm ³)	60.6		60.8	150
6 Concentration of Sulphur Dioxide (mg/Nm ³)	92.8		91.6	
7 Concentration of Nitrogen Dioxide (mg/Nm ³)	142	2266(1100 ppmv)	133.8	2266(1100 ppmv)
8 Concentration of Particulate Matters (mg/Nm ³)	56.8	75	54.6	75
C Pollution control Device				
Details of pollution control	Nil		Nil	
Device attached with the stack				



M. Panda



Pooja Mishra

Ref : Envlab/21/R-4020

Date : 31.03.2022

STACK ANALYSIS REPORT FOR THE MONTH OF MARCH 2022

1. Name of Industry : FAP, JODA (M/s TATA Steel Limited)
2. Sampling Location : ST-1: Furnance-1
ST-2: Furnance-2
3. Date of Analysis : 16.03.2022
4. Instrument Serial No & Calibration Validity : VBSS1-121919, Validity 06.12.2021
5. Sample Collected by : VCSPL Representative in presence of TATA Representative

Description	16.03.2022 at 11.10 AM		16.03.2022 at 12.00 PM	
A General Information about Stack				
1 Stack Connected to	Furnance-1		Furnance-2	
B Results of Sampling & Analysis of Gaseous Emission	Analysis Results	CPCB Limit	Analysis Results	CPCB Limit
1 Temperature of Emission (°C)	84		82	
2 Barometric Pressure (mm of Hg)	714		714	
3 Velocity of Gas (m/sec.)	23.6		24.2	
4 Quantity of Gas Flow (Nm ³ /hr.)	6618.24		6824.5	
5 Concentration of Carbon monoxide (mg/Nm ³)	62.8		61.9	150
6 Concentration of Sulphur Dioxide (mg/Nm ³)	94.6		93.2	
7 Concentration of Nitrogen Dioxide (mg/Nm ³)	148	2266(1100 ppmv)	139.6	2266(1100 ppmv)
8 Concentration of Particulate Matters (mg/Nm ³)	57.8	75	55.2	75
C Pollution control Device				
Details of pollution control	Nil		Nil	
Device attached with the stack				



M. Panda



Pooja Mishra

Annexure - 5

Fugitive dust emission monitoring Report

Visiontek Consultancy Services Pvt. Ltd.
 (Committed For Better Environment)
 Certified for : ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017
 Accredited by : NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

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

- Infrastructure Engineering
- Water Resource Management
- Environmental & Social Study
- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy
- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Sell Exploration
- Waste Management Services

Visiontek Consultancy Services Pvt. Ltd.
 (Committed For Better Environment)
 Certified for : ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017
 Accredited by : NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

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

- Infrastructure Engineering
- Water Resource Management
- Environmental & Social Study
- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy
- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Sell Exploration
- Waste Management Services

Report No: Envlab/22/R-2080

Date : 05.03.2022

FUGITIVE EMISSION REPORT FOR THE MONTH OF FEBRUARY-2022

Name of The Industry	: M/s FAP, Joda (M/s TATA Steel Limited)
Sample Description	: Fugitive Dust Emission Monitoring
Sampling Code	: 2022/FE/001/S1 TO S4
Sample Location Name	: S1- Raw Material Yard (Latitude: 22.018018°, Longitude: 85.428064°) S2- Slag Crusher (Latitude: 22.018139°, Longitude: 85.427976°) S3- Feed Hopper (Latitude: 22.019838°, Longitude: 85.427306°) S4- ACS (Latitude: 22.020758°, Longitude: 85.426719°)
Environment Condition During Sampling	: Atmospheric Temp: 22°C TO 34°C Barometric Pressure :751 mmHg
Sample Condition	: Air Tight Sealed
Sample Collected By	: Mr. Priyaranjan Mohanty
Date of Sampling	: 08.02.2022
Date of Sample Received On	: 10.02.2022
Date of Test Started On	: 10.02.2022
Date of test Complete On	: 11.02.2022
Sampling Procedure	: CPCB Guidelines (NAAQMS/Volume - I/2013-14)
Instrument Used	: RDS (2180-DTE-2017 (APM 460))

Sample Code	Name of the Parameter	Test Method	Test Results (µg/m³)	Standards as per MoEF GSR 414 (E)
S1	RSPM µg/m³	Gravimetric	432.8	2000 µg/m³
S2	RSPM µg/m³	Gravimetric	522.4	
S3	RSPM µg/m³	Gravimetric	460.8	
S4	RSPM µg/m³	Gravimetric	482.2	



Report No: Envlab/22/R-2081

Date : 04.04.2022

FUGITIVE EMISSION REPORT FOR THE MONTH OF MARCH-2022

Name of The Industry	: M/s FAP, Joda (M/s TATA Steel Limited)
Sample Description	: Fugitive Dust Emission Monitoring
Sampling Code	: 2022/FE/002/S1 TO S4
Sample Location Name	: S1- Raw Material Yard (Latitude: 22.018018°, Longitude: 85.428064°) S2- Slag Crusher (Latitude: 22.018139°, Longitude: 85.427976°) S3- Feed Hopper (Latitude: 22.019838°, Longitude: 85.427306°) S4- ACS (Latitude: 22.020758°, Longitude: 85.426719°)
Environment Condition During Sampling	: Atmospheric Temp: 22°C TO 34°C Barometric Pressure :751 mmHg
Sample Condition	: Air Tight Sealed
Sample Collected By	: Mr. Priyaranjan Mohanty
Date of Sampling	: 15.03.2022
Date of Sample Received On	: 17.03.2022
Date of Test Started On	: 17.03.2022
Date of test Complete On	: 18.03.2022
Sampling Procedure	: CPCB Guidelines (NAAQMS/Volume - I/2013-14)
Instrument Used	: RDS (2180-DTE-2017 (APM 460))

Sample Code	Name of the Parameter	Test Method	Test Results (µg/m³)	Standards as per MoEF GSR 414 (E)
S1	RSPM µg/m³	Gravimetric	442.6	2000 µg/m³
S2	RSPM µg/m³	Gravimetric	523.4	
S3	RSPM µg/m³	Gravimetric	482.4	
S4	RSPM µg/m³	Gravimetric	502.1	



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



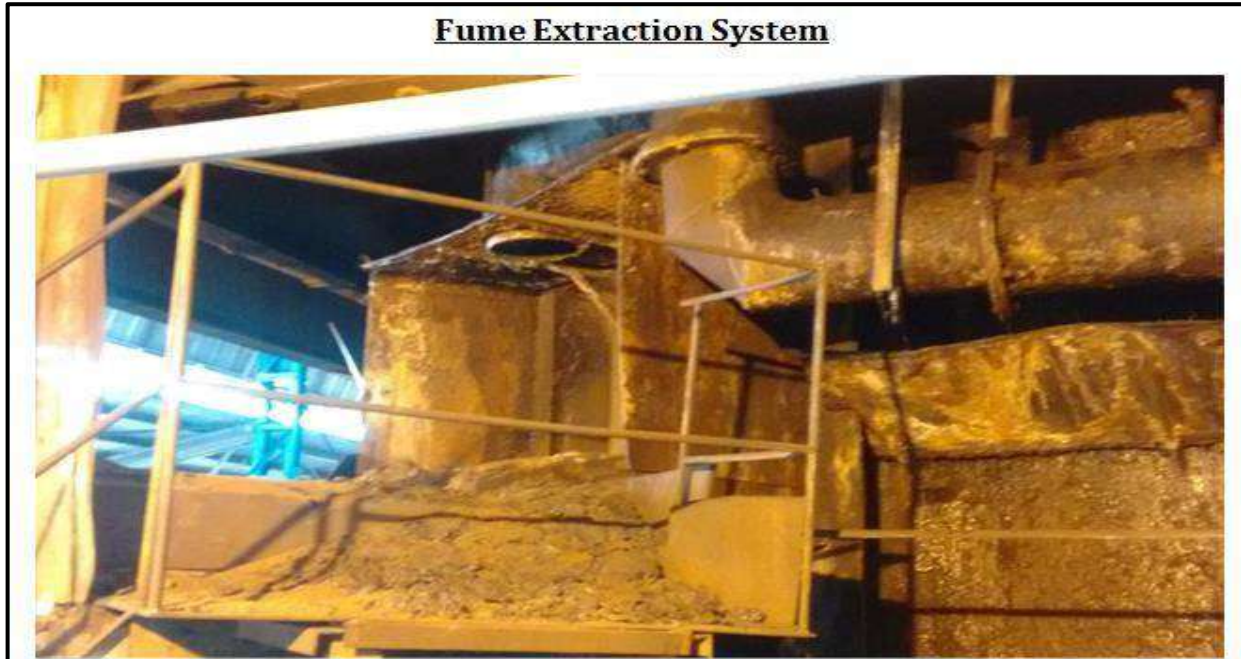
Auto Sprinkling of Water for Dust Suppression



RCC ROAD DEVELOPED IN SIDE THE PLANT

Annexure-7

Fume Extraction System



Fume Extraction System For existing Plant

Annexure-8

RAINWATER HARVESTING



BEFORE



AFTER

WATER HARVESTING STRUCTURE & BATHING GHAT AT JODA BASTI

Annexure- 9



**INSTALLATION OF 10 KLD SEWAGE TREATMENT PLANT (STP) FOR RECYCLING
WATER DISCHARGED FROM CANTEEN & ADMINSTRATIVE BUILDING**



EFFLUENT TREATMENT PLANT (ETP)-30 M3/HR UNDER CONSTRUCTION

STP WATER QUALITY REPORT



GLOBAL TECH ENVIRO EXPERTS PVT. LTD.

(FORMERLY GLOBAL EXPERTS)
An ISO 9001:2008 Certified Company

C-23, BJB Nagar,
Bhubaneswar-751014
Ph. : 0674-2436851
Fax- 0674-2433487
E-mail- globalexerts@rediffmail.com
global.technexperts@gmail.com
Visit us: www.globaltechnexperts.com

GTEEPL/LQR/56

TEST REPORT



TC-10101

NABL ULR NO : TC1010122000000091P
Report No. : GTEEPL/03/22/EW/91B Issue Date: 04.04.2022
Name of the Client : Ferro Alloys Plant, M/s. TATA Steel Ltd.
Address : Joda, Keonjhar, Odisha
Date of Sampling : 16.03.2022 Date of Receiving: 17.03.2022
Date of Testing : 17.03.2022 to 20.03.2022
Sampling Location : 10 KLD STP Out-let
Identification of Sample : Sewage Water
Quantity of Sample : 1LTR X 2
Sampling procedure : GTEEPL/LSOP/09

Sl. No.	Parameter	Unit	Result	Requirement as per The Environment (Protection) Rules, 1986, Schedule-VI(a)	Test Methods
1	Total Suspended Solid as TSS	mg/l	13	100	IS 3025(Part-17)1984 RA2017
2	pH Value	--	6.89	5.5-9.0	IS 3025(Part-11)1983 RA 2017
3	Biochemical Oxygen Demand as BOD (For 3 days at 27°C)	mg/l	5.4	30	IS 3025(Part-44)1998 RA2017
4	Chemical Oxygen Demand as COD	mg/l	34	50	APHA 23 rd Ed. 2017 – 5220-D
5	Oil & Grease	mg/l	1.5	10	IS 3025(Part-39)2021

-END OF REPORT-

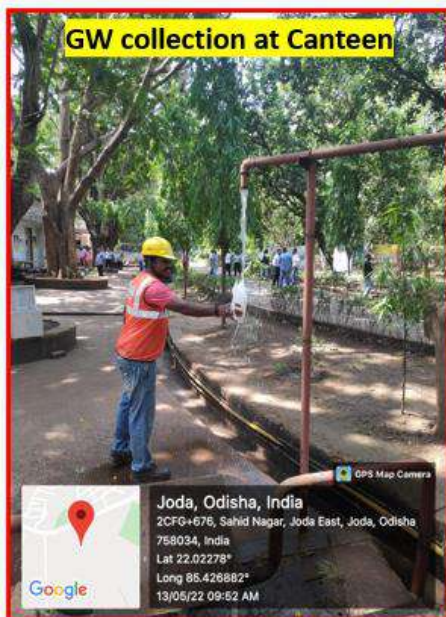
Authorised Signatory
Global Tech Enviro Experts Pvt. Ltd.

- N.B.:
- The results relate to the sample received in respect to the Parameters tested.
 - Liability for return of sample ceases after 15 days from the date of Test certificate.
 - The report cannot be reproduced either in full or in part, without prior written consent of Director.
 - In case of any complaint, Please mail us globalexerts@rediffmail.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 Oct'21 to Mar'2022

Annexure - 10



Ground Water Analysis Report

Visiontek Consultancy Services Pvt. Ltd.
(Committed For Better Environment)

Certified for : ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017
Accredited by : NABET-A Grade, MOEF & CC/PCB & SPCB-A Grade

- Infrastructure Engineering
- Water Resource Management
- Environmental & Social Study

- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy

- Agricultural Development
- Information Technology
- Public Health Engineering

- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

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

Ret : Envlab/21/R-5998 **Date: 02.11.2021**

WATER QUALITY ANALYSIS REPORT FOR THE MONTH OF OCTOBER-2021

1. Name of Industry : FAP, JODA (M/S TATA Steel Limited)
2. Sampling location : GW-1: Near Pump House
GW-2: Near Canteen
3. Date of sampling : 21.10.2021
4. Date of analysis : 22.10.2021 TO 27.10.2021
5. Sample collected by : VCSPL Representative in presence of TATA Representative

Sl No	Parameter	Testing Methods	Unit	Standard as per IS-10500:2012 Amended in 2015 & 2018		Analysis Results	
				Acceptable Limit	Permissible Limit	GW-1	GW-2
Essential Characteristics							
1	Colour	APHA 2130 B, C	Hazen	5	15	<3	<5
2	Odour	APHA 2150 B	--	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	APHA 2160 C	--	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	APHA 2130 B	NTU	1	5	7.1	79.1
5	pH at 25°C	APHA 4500T ² B	--	6.5-8.5	No Relaxation	6.92	7.11
6	Total Hardness (as CaCO ₃)	APHA 2540 C	mg/l	200	600	174	118
7	Iron (as Fe)	APHA 3500Fe, B	mg/l	1	No relaxation	1.9	0.8
8	Chloride (as Cl)	APHA 4500Cl B	mg/l	250	1000	44	40
9	Residual, free Chlorine	APHA 4550Cl, B	mg/l	0.2	1	ND	ND
Desirable Characteristics							
10	Dissolved Solids	APHA 2510 D	mg/l	500	2000	191	100
11	Calcium (as Ca)	APHA 3500Ca, B	mg/l	75	300	46	34
12	Magnesium (as Mg)	APHA 3500Mg, B	mg/l	30	100	11.8	8.4
13	Copper (as Cu)	APHA 3111 B,C	mg/l	0.05	1.5	<0.05	<0.05
14	Manganese (as Mn)	APHA 3500Mn, B	mg/l	0.1	0.3	<0.05	<0.05
15	Sulphate (as SO ₄)	APHA 4500 SO ₄ -E	mg/l	200	400	3.6	3.1
16	Nitrate (as NO ₃)	APHA 4500 NO ₃ -E	mg/l	45	No Relaxation	3.2	3.8
17	Fluoride (as F)	APHA 4500F- C	mg/l	1.0	1.5	0.41	0.38
18	Phenolic Compounds (as C ₆ H ₅ OH)	APHA 5570 B,D	mg/l	0.001	0.002	0.039	0.027
19	Mercury (as Hg)	APHA 5560 Hg	mg/l	0.001	No Relaxation	<0.001	<0.001
20	Cadmium (as Cd)	APHA 3111 B,C	mg/l	0.003	No Relaxation	<0.001	<0.001
21	Selenium (as Se)	APHA 3114 B	mg/l	0.01	No Relaxation	<0.001	<0.001
22	Arsenic (as As)	APHA 3114 B	mg/l	0.01	No Relaxation	<0.001	<0.001
23	Cyanide (as CN)	APHA 4500 CN- C,D	mg/l	0.05	No Relaxation	ND	ND
24	Lead (as Pb)	APHA 3111 B, C	mg/l	0.01	No Relaxation	<0.01	<0.01
25	Zinc (as Zn)	APHA 3111 B, C	mg/l	5	15	<0.05	<0.05
26	Anionic Detergents (as MDAS)	APHA 5530 C	mg/l	0.2	1.0	<0.2	<0.2
27	Chromates (as Cr ⁶⁺)	APHA 3100C, D	mg/l	--	--	<0.05	<0.05
28	Mineral Oil	APHA 5220 B	mg/l	1.5	No Relaxation	<0.001	<0.001
29	Alkalinity	APHA 2520 B	mg/l	200	600	112	78
30	Aluminium (as Al)	APHA 2500Al B	mg/l	0.05	0.2	<0.001	<0.001
31	Boron (as B)	APHA 4500B, B	mg/l	1.5	No relaxation	<0.01	<0.01
32	Poly Aromatic Hydrocarbon as PAH	APHA 6440 B	mg/l	0.0001	No Relaxation	<0.0001	<0.0001
33	Pesticide	APHA 6630 B,C	mg/l	--	No Relaxation	Absent	Absent

Note: CL : Colorless, AL: Agreeable, UO: Unobjectionable, ND: Not Detected

**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 Oct'21 to Mar'2022**

Ref : Envlab/21/R-0997

Date : 04.02.2022

WATER QUALITY ANALYSIS REPORT FOR THE MONTH OF JANUARY 2022

1. Name of Industry : **FAP, JODA (M/s TATA Steel Limited)**
2. Sampling location : **GW1: Near Pump House, GW2: Near Canteen**
3. Date of sampling : **22.01.2022**
4. Date of analysis : **24.01.2022 to 29.01.2022**
5. Sample collected by : **VCSPL Representative in presence of TATA Representative**

Sl. No	Parameter	Testing Methods	Unit	Standard as per IS -10500:2012 Amended on 2015 & 2018		Analysis Results	
				Acceptable Limit	Permissible Limit	GW-1	GW-2
Essential Characteristics							
1	Colour	APHA 2120 B, C	Hazen	5	15	<5	<5
2	Odour	APHA 2150 B	--	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	APHA 2160 C	--	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	APHA 2130 B	NTU	1	5	7.18	7.81
5	pH at 25°C	APHA 4500H ⁺ B	--	6.5-8.5	No Relaxation	7.06	7.24
6	Total Hardness (as CaCO ₃)	APHA 2340 C	mg/l	200	600	182	124
7	Iron (as Fe)	APHA 3500Fe, B	mg/l	1	No relaxation	2.1	1.2
8	Chloride (as Cl)	APHA 4500Cl B	mg/l	250	1000	46	42
9	Residual, free Chlorine	APHA 4500Cl, B	mg/l	0.2	1	ND	ND
Desirable Characteristics							
10	Dissolved Solids	APHA 2540 D	mg/l	500	2000	198	142
11	Calcium (as Ca)	APHA 3500Ca B	mg/l	75	200	48	32
12	Magnesium (as Mg)	APHA 3500Mg B	mg/l	30	100	32.6	22.4
13	Copper (as Cu)	APHA 3111 B,C	mg/l	0.05	1.5	<0.05	<0.05
14	Manganese (as Mn)	APHA 3500Mn B	mg/l	0.1	0.3	<0.05	<0.05
15	Sulphate (as SO ₄)	APHA 4500 SO ₄ -E	mg/l	200	400	4.1	3.4
16	Nitrate (as NO ₃)	APHA 4500 NO ₃ -E	mg/l	45	No Relaxation	3.4	3.1
17	Fluoride (as F)	APHA 4500F- C	mg/l	1.0	1.5	0.46	0.42
18	Phenolic Compounds (as C ₆ H ₅ OH)	APHA 5530 B,D	mg/l	0.001	0.002	0.041	0.029
19	Mercury (as Hg)	APHA 3500 Hg	mg/l	0.001	No Relaxation	<0.001	<0.001
20	Cadmium (as Cd)	APHA 3111 B,C	mg/l	0.003	No Relaxation	<0.001	<0.001
21	Selenium (as Se)	APHA 3114 B	mg/l	0.01	No Relaxation	<0.001	<0.001
22	Arsenic (as As)	APHA 3114 B	mg/l	0.01	No Relaxation	<0.001	<0.001
23	Cyanide (as CN)	APHA 4500 CN- C,D	mg/l	0.05	No Relaxation	ND	ND
24	Lead (as Pb)	APHA 3111 B,C	mg/l	0.01	No Relaxation	<0.01	<0.01
25	Zinc (as Zn)	APHA 3111 B,C	mg/l	5	15	<0.05	<0.05
26	Anionic Detergents (as MBAS)	APHA 5540 C	mg/l	0.2	1.0	<0.2	<0.2
27	Chromium (as Cr ⁶⁺)	APHA 3500Cr B	mg/l	--	--	<0.05	<0.05
28	Mineral Oil	APHA 5220 B	mg/l	0.5	No Relaxation	<0.001	<0.001
29	Alkalinity	APHA 2320 B	mg/l	200	600	118	82
30	Aluminium as(Al)	APHA 3500Al B	mg/l	0.03	0.2	<0.001	<0.001
31	Boron (as B)	APHA 4500B, B	mg/l	2.4	No relaxation	<0.01	<0.01
32	Poly Aromatic Hydrocarbon as PAH	APHA 6440 B	mg/l	0.0001	No Relaxation	<0.0001	<0.0001
33	Pesticide	APHA 6630 B,C	µg/l	--	No Relaxation	Absent	Absent



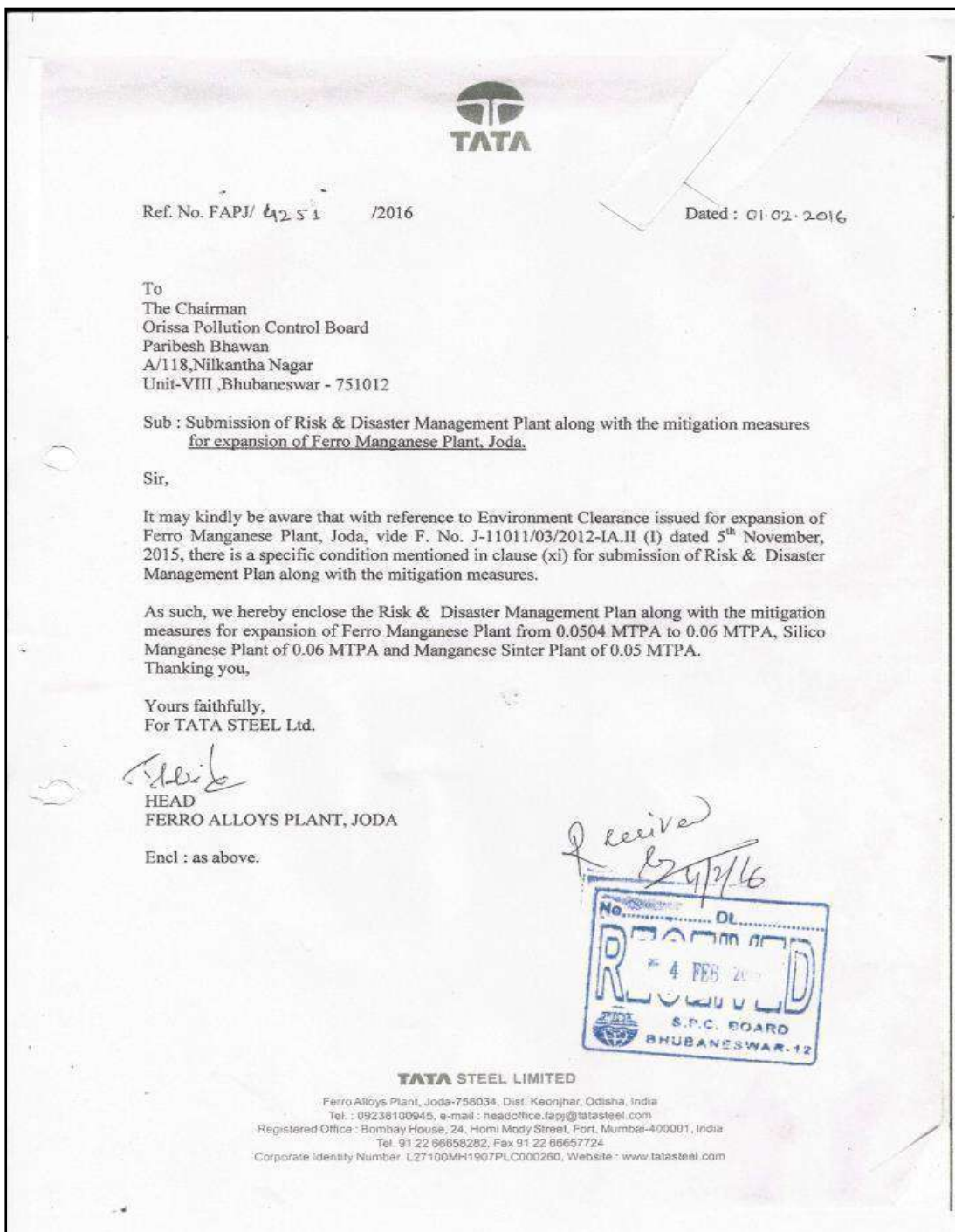
M. Panda



Pooja Acharya

Annexure - 11

Risk & Disaster Mitigation Plan submission covering Letter
Risk & Disaster Management Plan Submitted to OSCPCB, Bhubaneswar



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 Oct'21 to Mar'2022

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
Registered Office : Bombay House, 24, Horni Mody Street, Fort, Mumbai-400001, India
Tel. 91 22 66658282, Fax 91 22 66857724
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

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	Whether Completed or Not
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 orthopedic 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	Completed
2019-20	13.02 Cr	12.8 Cr	Health, Education, Livelihood, Rural Infrastructure, Major Project Like Kalyan Mandap in Joda	Completed
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.	Completed
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.	Completed

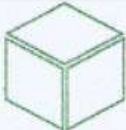
Annexure- 14

Status of Project Implementation as on 31st March 2022.

Sr. No	Products	Existing Facilities	Existing Production Capacity (MTPA)	Proposed Facilities	Proposed Production Capacity (MTPA)	Status as 31.03.2022
1	HC Fe-Mn	1 X 9 MVA 1 X 15 MVA	0.0504	1 X 12 MVA Furnace 1 X 15 MVA Furnace	0.060	i. Existing 9 MVA Furnace Transformers has been replace with 4 x 3 MVA transformer to augment the capacity to 12 MVA. ii. For further modifications of furnace shell dia, Procurement of necessary spares & equipment under progress. Final modification is proposed in Oct'22.
2	Mn-Sinter	--	--	Sinter Plant	0.050	PO placed for getting layout, basic engineering, CAPEX from prospective vendor.
3	Si-Mn	--	--	2 X 18 MVA furnace	0.060	1. 18 MVA Furnace transformers (2 nos) Procured from M/s Tamini, Italy 2. Lower Electrode assembly procured from M/s Cometva, France 3.Site enabling Job has been completed & Civil enabling job is in progress 4. Placement of Work order for EPC contract for complete installation of plant with Utility & ancillary unit is under progress.

Annexure- 15

Noise Monitoring Report from 01.10.2021 to 31.03.2022

	<h2 style="margin: 0;">Visiontek Consultancy Services Pvt. Ltd.</h2> <p style="margin: 0;">(Committed For Better Environment)</p> <p style="margin: 0;">Certified for : ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017</p> <p style="margin: 0;">Accredited by : NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade</p>	<div style="border: 1px solid black; padding: 2px; font-size: 8px;"> Laboratory Services Environment Lab Food Lab Material Lab Soil Lab Mineral Lab & Microbiology Lab </div>	
<ul style="list-style-type: none"> <li style="width: 25%;">● Infrastructure Engineering <li style="width: 25%;">● Surface & Sub-Surface Investigation <li style="width: 25%;">● Agricultural Development <li style="width: 25%;">● Mine Planning & Design <li style="width: 25%;">● Water Resource Management <li style="width: 25%;">● Quality Control & Project Management <li style="width: 25%;">● Information Technology <li style="width: 25%;">● Mineral/Sub-Soil Exploration <li style="width: 25%;">● Environmental & Social Study <li style="width: 25%;">● Renewable Energy <li style="width: 25%;">● Public Health Engineering <li style="width: 25%;">● Waste Management Services 	<p>Ref : Envlab/21/R-5999 Date: 02.11.2021</p>		
<p>FAP, Joda (M/s. TATA Steel Limited)</p> <p>Noise Analysis Report –OCTOBER 2021</p> <p>Date of Sampling : 27.10.2021</p>			
Sl.No	Sampling Location	Day	Night
1	In front of Store	70.8	58.8
2	JCB 40X 1MTR Distance	70.2	62.6
3	Near Weight Bridge	71.2	54.6
4	Loader 2mtr distance	71.4	61.8
5	Crusher Area	71.2	61.6
6	Near Back Gate	70.8	64.8
7	Breaking Yard (During Work)	71.2	63.6
8	Plot No 4 B	70.6	61.6
9	Area Furnance Ground Floor	70.8	66.2
10	Area Furnance Floor	78.8	62.8
11	Pit Site Area	72.2	60.6
12	Near Cooling Tower	72.1	61.6
13	Pump House (Inside)	71.8	60.8
14	Telphar Floor	80.6	68.8
15	GCP Floor (1 mtr away from blower)	81.4	71.9
16	ACS Area	81.8	66.8
17	CMDS Area	79.6	64.6
18	Office Area	79.8	60.2
19	Quality Control Analysis Lab	78.8	44.6
20	Laboratory Crusher Room (During Work)	78.9	56.8
21	Canteen Kitchen	68.8	52.6
22	Near Main gate	72.4	57.4
23	D.G Room	81.6	55.8
24	Locomotive During Operation	73.8	60.8
Noise Standard For Auto Mobiles, Equipments & Work Zone		In dBA	
i	Pasenger or Commercial Vehicles upto 4 tonnes	72.6	
ii	Pasenger or Commercial Vehicles upto 4 tonnes & upto 12 tonnes	82.8	
iii	Pasenger or Commercial Vehicles exceeding 12 tonnes	85.2	
iv	Work Zone Standard	76.8	

SI.No	Sampling Location	Day	Night
1	Infront of Store	71.2	59.6
2	JCB 40X 1MTR Distance	70.6	60.8
3	Near Weight Bridge	71.6	54.8
4	Loader 2mtr distance	71.2	60.2
5	Crusher Area	72.8	60.8
6	Near Back Gate	72.6	62.2
7	Breaking Yard (During Work)	71.8	63.8
8	Plot No 4 B	71.2	61.2
9	Area Furnance Ground Floor	71.4	65.8
10	Area Furnance Floor	76.8	63.4
11	Pit Site Area	72.6	60.8
12	Near Cooling Tower	72.4	61.9
13	Pump House (Inside)	71.2	61.2
14	Telphar Floor	81.6	68.2
15	GCP Floor (1 mtr away from blower)	80.8	70.4
16	ACS Area	80.2	66.2
17	CMDS Area	78.2	65.8
18	Office Area	76.8	61.6
19	Quality Control Analysis Lab	77.4	45.8
20	Laboratory Crusher Room (During Work)	78.2	52.6
21	Canteen Kitchen	66.6	51.4
22	Near Main gate	70.6	56.8
23	D.G Room	81.8	54.6
24	Locomotive During Operation	74.6	61.2
Noise Standard For Auto Mobiles, Equipments & Work Zone		In dBA	
i	Pasenger or Commercial Vehicles upto 4 tonnes	72.6	
ii	Pasenger or Commercial Vehicles upto 4 tonnes & upto 12 tonnes	82.8	
iii	Pasenger or Commercial Vehicles exceeding 12 tonnes	85.2	
iv	Work Zone Standard	65.8	

Annexure- 16

Periodic Medical Examination Records

Form No. 31 - A HEALTH RECORD (Pre-employment /Periodical) (Prescribed under Rule 62-J)		Date: <u>27/10/21</u>
Aadhaar No.		Sl. No. <u>05</u>
PO No.		
1. Name of the Factory	<u>FAP, Joda</u>	Photo
2. Name of the Employee	<u>Jhanka Mondal</u>	
3. Name of the Agency	<u>I.T.L</u>	
4. Employee Distinguishing Number:		
5. Age of the Employee	<u>21/m</u>	
Identification mark	<u>A cut mark on the R-cheek</u>	
Nature of Job	<u>Dressing</u>	
6. Date of Employment	<u>18-11-2019</u>	
7. Length of service in years	<u>03 years</u>	
8. General Survey		
Health	<u>Good / Fair / Poor</u>	
Height	<u>175cm</u>	
Weight	<u>61 Kg.</u>	
9. Blood Group	<u>A +ve</u>	
10. Eye Vision	<u>Normal / Abnormal</u>	
use glass	<u>Yes / No</u>	
11. Hearing	<u>Normal / Abnormal</u>	
12. Respiratory system & Chest Measurement		
Inspiration	<u>89cm</u>	
Expiration	<u>84cm</u>	
16. Locomotor System	<u>Normal / Abnormal</u>	
17. Skin condition	<u>Normal / Abnormal</u>	
Remarks on any skin condition noticed	<u>Cut</u>	
18. Hernias	<u>Present / Absent</u>	
19. Hydrosol	<u>Present / Absent</u>	
20. Present Complain, if any	<u>NO</u>	
21. Summary of Findings		
Heart Disease	:	}
Hypertension	:	
Diabetes	:	
T.B.	:	
Epilepsy	:	
Poisoning	:	
Others	:	
Occupational disease, if any	:	
22. Recommendation, if any further investigation	<u>At for away</u>	
<u>Jhanka Mondal</u> Signature of the Employee		<u>29/11/21</u> Dr. Raghunath Behura Regd.No-7618 Signature of the Medical Officer

Annexure-17

Expenses Incurred for Environment Management during FY-22			
Sl. No	Activity	Capital (Rs. In Lakhs)	Recurring (Rs.inLakhs)
1	Annual maintenance of all four the Gas Cleaning Plant		40
2	Annual Operation & maintenance of High velocity mobile type rotary water sprinkler		6
3	Maintenance of existing fixed water sprinkler		5
4	Annual Maintenance of Fume Extraction System		4
5	Extensive Plantation in and around the Plant		2
6	Organic Compost machine installed	2	
8	Operation and Maintenance of dry fog system		2
9	RCC Road Inside the Plant	103	
10	Maintenance of rainwater harvesting structures		1
11	Operation and Maintenance of STP		3.6
12	Maintenance of CAAQMS and spares		7
13	Environmental Monitoring by third party		9.3
14	Annual Water Audit as advised by CGWA		5.5
15	GW Impact Assessment & Modelling Report		5.5
16	Surface Runoff Study		6.6
	Total	105	99.8

Annexure -18

Intimation Letter of EC to Zila Parishad



Ref: FAPJ/ 4/36 /2015
Date : 9th Nov, 2015

To
President
Zilla Parisad
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,

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, Horni Mody Street, Fort, Mumbai-400001, India
Tel. 91 22 66658282, Fax 91 22 66657724
Corporate Identity Number L27100MH1907PLC000260, Website : www.tatasteel.com

Received
your copy
of Environmental
clearance
Rm
12-11-15
P.A. to President
Zilla Parishad
Keonjhar

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

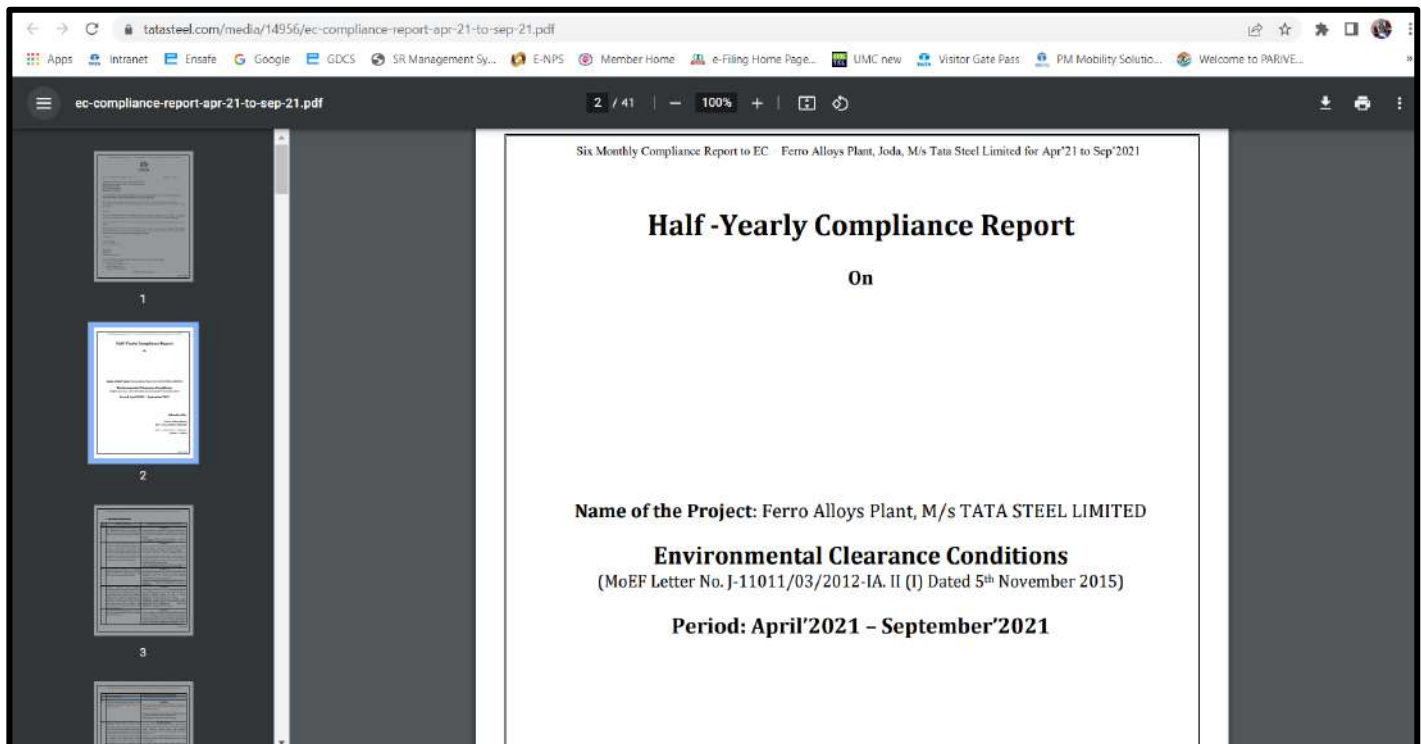
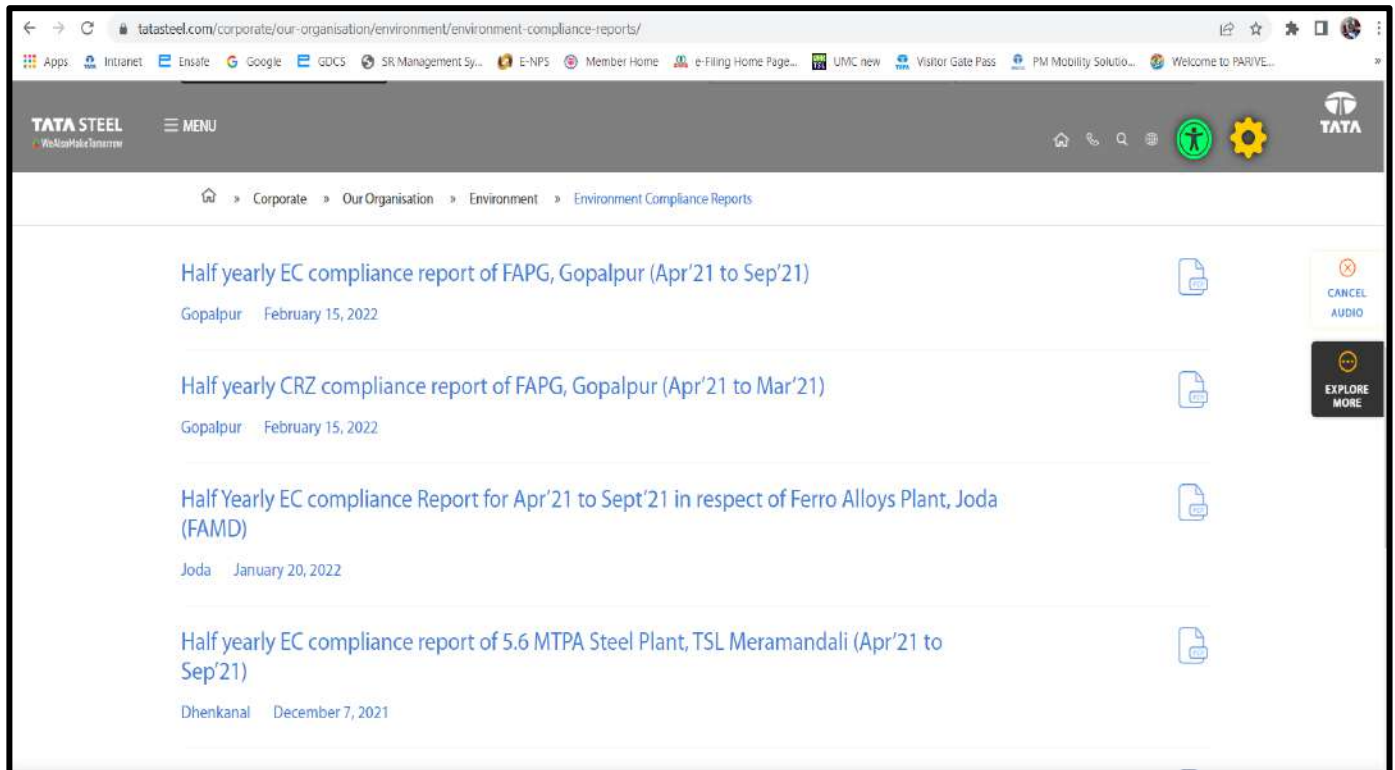
Ferro Alloys Plant, Joda-758034, Dist. Keonjhar, Odisha, India
Tel. : 09238100945, e-mail : headoffice.fapj@tatasteel.com
Registered Office : Bombay House, 24, Horni Mody Street, Fort, Mumbai-400001, India
Tel. 91 22 66658282, Fax 91 22 66657724
Corporate Identity Number L27100MH1907PLC000260, Website : 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 Oct'21 to Mar'2022

Annexure -19

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

www.tatasteel.com



Annexure -20

Covering Letter of Form V, Environment statement submission



TATA STEEL LTD.
FERRO MANGANESE PLANT, JODA

Ref. No. FAMD/FAPJ/ 214 /FY 22

Dated: 22.9.2021

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 2020-21.

Dear Sir,

We are submitting one set of Annual Environmental Statement in FORM-V dully filled in for the year 2020-2021 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.

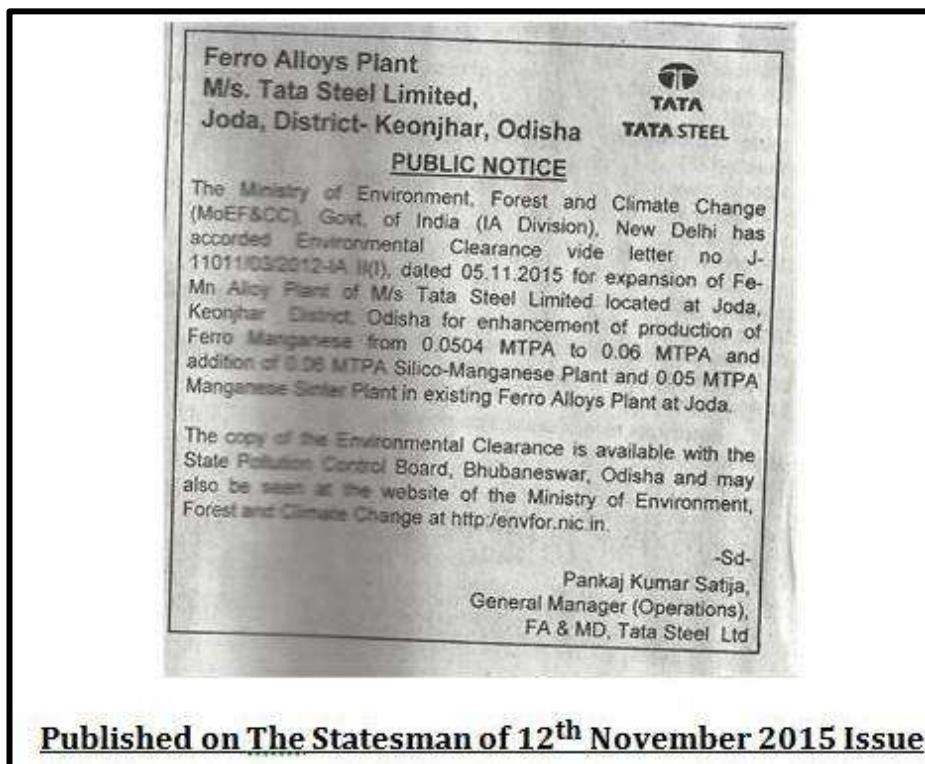
HEAD
FERRO MANGANESE PLANT,
JODA

Encl : as above.



Annexure-21

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 Oct'21 to Mar'2022



ଦେବୀଙ୍କ ପ୍ରଥମେ ବ୍ୟାଚ୍ କରି ୧୫.୯
 ଶିଳ୍ପକର ହରାଇ ୧୩୯ ରତ୍ନ କରିଥିଲା ।

ନେଇ ସାଧାରଣରେ ଚର୍ଚ୍ଚା ଚାଲିଛି ।

**ଫେରୋ ଆଲୟେଜ୍ ପ୍ଲାଣ୍ଟ
 ଟାଟା ଷ୍ଟିଲ ଲିମିଟେଡ୍,
 ଯୋଡ଼ା, ଜିଲ୍ଲା-କେନ୍ଦୁଝର, ଓଡ଼ିଶା**

ସର୍ବସାଧାରଣ ବିଜ୍ଞପ୍ତି

ଭାରତ ସରକାରଙ୍କ ପରିବେଶ, ଜଙ୍ଗଲ ଓ ଜଳବାୟୁ ପରିବର୍ତ୍ତନ ମନ୍ତ୍ରାଳୟ (ଏମ୍ପିଆର-ଏଫ୍ ଆଣ୍ଡ୍ ସିପି), (ଆଇଏ ଚିଭିଜର୍), ନୂଆଦିଲ୍ଲୀ ପକ୍ଷରୁ ଜାରି କରାଯାଇଥିବା ଚିଠି ସଂଖ୍ୟା J-11011/03/2012-IA II(I), ତା ୫.୧୧.୨୦୧୫ତାରିଖ ଅନୁସାରେ ଓଡ଼ିଶାର କେନ୍ଦୁଝର ଜିଲ୍ଲାର ଯୋଡ଼ାଠାରେ ଅବସ୍ଥିତ ଟାଟା ଷ୍ଟିଲ ଲିମିଟେଡ୍‌ର ଫେରୋ ଆଲୟେଜ୍ ପ୍ଲାଣ୍ଟରୁ ମହାଲକ୍ଷ୍ୟ ଫେରୋ ମାଙ୍ଗାନିଜ୍ ଉତ୍ପାଦନ କ୍ଷମତା ବାର୍ଷିକ ୦.୦୫୦୪ ନିୟୁତ ଟନ୍‌ରୁ ୦.୦୬ ଟନ୍‌ରୁ ବୃଦ୍ଧି ଓ ଏହାପରିତ ଯୋଡ଼ାଠାରେ ଥିବା ଫେରୋ ଆଲୟେଜ୍ ପ୍ଲାଣ୍ଟରେ ବାର୍ଷିକ ୦.୦୬ ନିୟୁତ ଟନ୍ କ୍ଷମତା ଓମ୍ପନି-ମାଙ୍ଗାନିଜ୍ ପ୍ଲାଣ୍ଟ ଓ ବାର୍ଷିକ ୦.୦୫ ନିୟୁତ ଟନ୍ କ୍ଷମତା ସମ୍ପନ୍ନ ମାଙ୍ଗାନିଜ୍ ସିଣ୍ଡର ପ୍ଲାଣ୍ଟ ପାଇଁ ପରିବେଶ ମନ୍ତ୍ରାଳୟ ପ୍ରଦାନ କରିଛନ୍ତି ।

ପରିବେଶ ମନ୍ତ୍ରାଳୟ ନିଜର ଓଡ଼ିଶାର ଭୁବନେଶ୍ୱରସ୍ଥିତ ରାଜ୍ୟ ପ୍ରତ୍ୟାଖ୍ୟା ନିୟନ୍ତ୍ରଣ ବୋର୍ଡ୍ ନିକଟରେ ଉପଲବ୍ଧ ଏବଂ ଭାରତ ସରକାରଙ୍କ ପରିବେଶ, ଜଙ୍ଗଲ ଓ ଜଳବାୟୁ ପରିବର୍ତ୍ତନ ମନ୍ତ୍ରାଳୟ ଷ୍ଟେଟ୍‌ସାଇଟ୍ <http://envfor.nic.in> ରେ ମଧ୍ୟ ଦେଖାଯାଇପାରିବ ।

ପଙ୍କଜ କୁମାର ସତିକା,
 ମହା ପ୍ରଚାରକ (ଅପରେସନ୍ସ)
 ଏଫ୍‌ଏ ଆଣ୍ଡ୍ ଏମ୍‌ଡି, ଟାଟା ଷ୍ଟିଲ ଲିମିଟେଡ୍

Published on Sambad of 13th November 2015 Issue
