

Ref. No. TSL/FAMD/FAPJ/FY25/1692

Date:28/11/2024

To

The Director, MOEF & CC Impact Assessment Division (EAC-Industry-1) Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhavan, Jor Bagh Road, Aliganj, New Delhi-110003

Subject: Submission of Half Yearly EC Compliance for a period of April '2024 to September '2024 considering the financial year from 1st April 2024 to 31st March 2025.

Ref:

- EC Vide File No.- J-11011/372/2009-IA II (I) dated 30th September 2010
- EC Vide File No. J-11011/372 /2009-IA II (I) dated 21st September 2012.

Dear Sir,

With reference to the subject and reference number cited above, we are herewith submitting the *
Half Yearly Compliance Report of Environment Clearance conditions for the period of April
2024 to September 2024 for your kind perusal and needful.

With Best Regards

For My. Tata Steel Limited

Alok Kumar Sada Plant Head Ferro Alloys Plant, Jajpur

.

Enclosure: As Enclosed

Alok Kumar Panda Head Ferro Alloys Plant, Jajpur TATA STEEL LTD. KNIC, P.O.-Manatira, Via-Danagadi Jajpur-755026, Odisha

Cc: The Regional Officer, Kalinganagar, Jajpur Road. The MOEF, Regional Office, Bhubaneswar The State Pollution Control Board, Bhubaneswar

TATA STEEL LIMITED

Registered Office Bombay House 24 Homi Mody Street Fort Mumbai 400 001 India Tel 91 22 6665 8262 Fax 91 22 6665 7724 Website www.tatasteel.com Corporate Identity Number L27100MH1907PLC000260

Half Yearly Compliance Report 2024 01 Dec(01 Apr - 30 Sep)

Acknowledgement

Proposal Name	Expansion of Ferro Alloys Plant (Submerged Arc Furnace 4*16.5 MVA (existing), 1*33 MVA (Proposed) along with Captive Power Plant (67.5MW) at Kalinganagar Industrial Complex (Growth Centre), Village: Kanchrigaon & Chandia, Mouza Duburi, Tehsil: Sukinda, District :Jajpur, Odisha.
Name of Entity / Corporate Office	Ferro Alloys Plant, Jajpur, Tata Steel Limited
Village(s)	N/A
District	JAJAPUR

Proposal No.	IA/OR/IND/4594/2010
Plot / Survey / Khasra No.	N/A
State	ODISHA
MoEF File No.	J-11011/372/2009-IA- II(I)

Category	Industrial Projects - 1
Sub-District	N/A
Entity's PAN	****2803M
Entity name as per PAN	UTSAV KASHYAP

Compliance Reporting Details

Reporting Year 2024

Submission of Half Yearly

EC Compliance for a

Remarks (if any) period of October 2023 to

March 2024 in details as

below.

Reporting Period 01 Dec(01 Apr - 30 Sep)

Details of Production and Project Area

Name of Entity / Corporate Office Ferro Alloys Plant, Jajpur, Tata Steel Limited

	Project Area as per EC Granted	Actual Project Area in Possession
Private	24.28	24.28
Revenue Land	0	0
Forest	0	0
Others	0	0
Total	24.28	24.28

Production Capacity

Sr. no	Product Name	units	Valid Upto	Capacity	Production last year	Capacity as per CTO
1	Ferro Manganese, Silico Manganese, Ferro Silicon,Ferro Chrome	Tons per Annum (TPA)	31/03/2025	100000	60602	100000
2	Captive Power	MW	31/03/2025	67.5	0	0

Conditions

Specific Conditions

Sr.No.	Condition Type	Condition Details
1	ENERGY PRESERVATION MEASURES	No charcoal shall be used as fuel. Pet coke shall be used as fuel instead of charcoal from unknown sources.

PPs Submission: Complied

Low Ash Metallurgical Coke (LAM Coke) having a sulfur content of 0.8 percent is used for Ferro Chrome manufacturing in place of Pet Coke having a sulfur content of 3-8 percent . Therefore, as a replacement, for more clean option met coke is used.

Date: 28/11/2024

2 AIR QUALITY 2 MONITORING AND PRESERVATION Continuous monitoring facilities for all the stacks and sufficient air pollution control equipments viz. fume extraction system with bag filters, ID fan and stack of adequate height to submerged arc furnace shall be provided to control emissions below 50 mg/Nm3.

PPs Submission: Complied

Presently we are conducting the monitoring manually twice in a month. Procurement has been initiated for online stack monitoring system which is in process and completion is targeted by 30.05.2025. Gas Cleaning plant of adequate capacity have been put in operation along with Pneumatic dust handling system for existing facility. Photographs of the Order copy and GCP units are attached as per Annexure-1. Stack Monitoring report for the period (April 2024 to September 2024) is attached as per Annexure-2.

Date: 29/11/2024

3 AIR QUALITY
MONITORING AND
PRESERVATION

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 shall be followed

PPs Submission: Complied

The following control measures are implemented to keep a check on secondary fugitive emission: -- Vehicular Movement on road - Concreting of internal roads and additional mobile water sprinkler are engaged within the premises for fugitive dust suppression. - Furnace fume tapping - Tapping fumes are sucked by a Hood and collection system which is routed through GCP. - Feeding Points - Water fogging system installed at feeding points. - Conveyor System - At all the conveyor nodes, intermittent water sprinkling is practiced.

Date: 28/11/2024

WATER QUALITY
4 MONITORING AND
PRESERVATION

Prior permission for the drawl of 9,155 KLD water from competent authority shall be obtained. Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement should be met from other sources.

960 K requir		Furnace as per present configuration. Additional water sed after obtaining fresh EC. We have obtained NOC 2026	Date: 28/11/2024
5	WATER QUALITY MONITORING AND PRESERVATION	Regular monitoring of influent and effluent surface ground water shall be ensured and treated wastewate norms prescribed by the State Pollution Control Boar under the E(P) Act whichever are more stringent. Let the effluent generated and analysis should also be regout and report submitted to the Ministry's Regional C Bhubaneswar, SPCB and CPCB.	r shall meet the rd or described achate study for gularly carried
Monit regula STP o Annex	or basis. ETP (720KLD) has also been of $2x10KLD$ has also been installed an	and sub surface and ground water is being done on commissioned and is operational since December 2023. d is operational. Pictures of ETP and STP attached as sub Surface and ground water for the period (April 2024-5.	Date: 29/11/2024
5	Statutory compliance	The company shall comply with all the conditions according environmental clearance vide Ministry's lenumber dated 30th September, 2010.	
		To. J-11011/372/2009-IA,II(I) dated 30/09/2010 are being	Date: 28/11/2024
7	WASTE MANAGEMENT	The company shall recover ferro chrome from ferror. The remaining slag shall be disposed of in the waste after carrying TCLP Test.	
The pastacki	<i>2</i>	ing the low-lying areas. We have earmarked the area for ographs attached as per Annexure-15. TCLP is being are-6	Date: 29/11/2024
3	WATER QUALITY MONITORING AND PRESERVATION	The ground water quality monitoring around the di- be regularly monitored and the results of the monitor submitted to the SPCB and to the RO of the Ministry	ed data shall be
Grour		e disposal site is being carried out regularly and result is Bhubaneswar. The report is attached as per Annexure-5	Date: 29/11/2024
9	MISCELLANEOUS	The trucks carrying the slag shall be covered with t	arpaulin.
	Submission: Complied ulin covered transportation of slag is b	peing carried out.	Date: 28/11/2024
	AIR QUALITY		

Date:

29/11/2024

Regular Monitoring results indicate that the AAQ results are very much within the NAAQS limit

period (April 2024 to September 2024) is attached as Annexure - 3.

during the operation along with the pollution control equipment. Ambient Air Quality results for the

PPs Submission: Complied

	Submission: Complied atter Circuit of the Plant adheres to Ze	ero Effluent Discharge principle.	Date: 28/11/2024
12	WASTE MANAGEMENT	All the Ferro alloy slag shall be used for land filling inside the plator used as building material only after passing through Toxic Chemical Leach ability Potential (TCLP) test. Otherwise, hazardous substances shall be recovered from the slag and output waste and be disposed in secured landfill as per CPCB guidelines.	
	Submission: Complied Chemical Leachability Potential test	ΓCLP Test report is attached as Annexure - 6.	Date: 29/11/2024
13	WASTE MANAGEMENT	Slag produced in Ferro Manganese (Fe-Mn) producti used in manufacture Silico Manganese (Si-Mn).	ion shall be
	Submission: Complied pplicable. The unit is not producing M	Ianganese (Mn) Alloys.	Date: 28/11/2024
14	Statutory compliance	No Ferro Chrome shall be manufactured without price from the Ministry of Environment & Forests.	or approval
Ameno Silico		ne apart from producing Ferro Alloys (Ferro Manganese, approved production capacity has been obtained from I(I) on dated 21.09.2012.	Date: 28/11/2024
15	Risk Mitigation and Disaster	Risk and Disaster Management Plan along with the measures should be prepared and a copy submitted to t	
	Management	Regional Office at Bhubaneswar, OSPCB and CPCB v of issue of environment clearance letter	
PPs Compl Bhuba	Submission: Complied ied. Onsite Emergency plan is approved the approved the same of 11.08.2024. Approval Copensister of 11.08.2024.		Date:
PPs Compl	Submission: Complied ied. Onsite Emergency plan is approved the approved the same of 11.08.2024. Approval Copensister of 11.08.2024.	of issue of environment clearance letter ved by Directorate of Factories and Boilers,	Date: 29/11/2024
PPs Complement Bhuba Annex 16 PPs Plant in Acres addition 25. Annex	Submission: Complied ied. Onsite Emergency plan is approveneswar on 11.08.2024. Approval Copure-7. GREENBELT Submission: Complied solocated over the area of 60 Acre. The (17 percent of total area). Pictures attendal area is in progress to achieve 33 process.	of issue of environment clearance letter yed by Directorate of Factories and Boilers, y of the Onsite Emergency Plan is attached as As proposed, green belt shall be developed in at least project area. Selection of the plant species shall be as p	Date: 29/11/2024

PPs Submission: Complied

Tata Steel Mining Ltd. (amalgamated with Tata Steel Limited) has acquired the Plant through NCLT under the IBC code and is engaging with Tata Steel Foundation(TSF) for implementing CSR activities as per Corporate guidelines.

Date: 28/11/2024

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MISCELLANEOUS

The company shall provide housing for 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.

PPs Submission: Complied

Complied during construction phase. Facilities Available at Site: 1. One Canteen with sitting capacity of 80 -100 persons 2. Two rest shelters 3. Two Mobile STP (10KLD) 4. Drinking water (12 numbers) 5. Toilets (55 blocks) 6. Creche for ladies 7. Safety PPE room 8. First Aid Center (24X7) 9. Ambulance (24X7)

Date: 28/11/2024

General Conditions

Sr.No.	Condition Type	Condition Details
1	MISCELLANEOUS	Requisite amount 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 and Forests 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.

PPs Submission: Complied

Annual recurring cost for maintenance of Pollution control equipment to the tune of 3 Cr/annum is being spent towards environmental protection measures. One time Capital cost for construction of new GCP ,ETP, STP, Internal Roads and drain, plantation to the tune of around 28-29 crores for the year 2023-2024.

Date: 28/11/2024

2 MISCELLANEOUS

A copy of clearance letter shall be sent by the proponent to concerned 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.

PPs Submission: Complied Yes Submitted and Complied

Date: 28/11/2024

3 AIR QUALITY 3 MONITORING AND PRESERVATION 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 MOEF 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.

PPs Submission: Complied

Since the acquisition of Plant, the conditions stipulated in EC are being complied and submitted as

Date: 28/11/2024

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4	Statutory compliance	The project proponent shall also submit six monthly status of the compliance of the stipulated environmenta including results of monitored data (both in hard copies e-mail) to the Regional Office of MOEF, the respective of CPCB and the SPCB. The Regional Office of this M. Bhubaneswar/CPCB/SPCB shall monitor the stipulated	al conditions s as well as b e Zonal Offic Iinistry at
Six Mo	Submission: Complied onthly compliance report of stipulatically at the Regional Office of Mol	ed environmental conditions is being submitted EF at Bhubaneswar.	Date: 28/11/2024
5	Statutory compliance	The environmental statement for each financial year March in Form-V as is mandated to be submitted by the proponent to the concerned State Pollution Control Bost prescribed under the Environment (Protection) Rules, amended subsequently, shall also be put on the website company along with the status of compliance of environce conditions and shall also be sent to the respective Region the MOEF at Bhubaneswar by e-mail.	ne project ard as 1986, as e of the onmental
The las		V) was submitted to SPCB and RO of MoEFCC as per EC er submitted is attached as per Annexure-13	Date: 29/11/2024
		The Project Proponent shall inform the public that the been accorded environmental clearance by the Ministry the clearance letter are available with the SPCB and mat Website of the Ministry of Environment and Forests	y and copies ay also be se
6	Statutory compliance	http:/envfor.nic.in. This shall be advertised within seve the date of issue of the clearance letter, at least in two l newspapers that are widely circulated in the region of v be in the vernacular language of the locality concerned the same should be forwarded to the Regional office at	en days from local which one sh l and a copy o
PPs S Tata St by erst	Submission: Complied teel Ltd. has acquired the Plant throwhile owner i.e Rohit Ferrotech limits and the summer i.e	the date of issue of the clearance letter, at least in two l newspapers that are widely circulated in the region of v be in the vernacular language of the locality concerned	en days from local which one sh l and a copy of Bhubaneswa
Tata St by erst	Submission: Complied teel Ltd. has acquired the Plant throwhile owner i.e Rohit Ferrotech limits and the summer i.e	the date of issue of the clearance letter, at least in two learning in the region of value of the vernacular language of the locality concerned the same should be forwarded to the Regional office at sugh NCLT under the IBC code. The advertisement done mited is not traceable by us. Once the EC is transferred in	en days from local which one shad a copy of Bhubanesway Date: 28/11/2024 as well as the al of the
PPs State St	Submission: Complied teel Ltd. has acquired the Plant thro while owner i.e Rohit Ferrotech lime of Tata Steel, the advertisement Statutory compliance Submission: Complied teel Ltd. has acquired the Plant thro rt of the work concerned authorities	the date of issue of the clearance letter, at least in two learning in the vernacular language of the locality concerned the same should be forwarded to the Regional office at sugh NCLT under the IBC code. The advertisement done mited is not traceable by us. Once the EC is transferred in will be published and hosted on the website. Project authorities shall inform the Regional Office a Ministry, the date of financial closure and final approximately project by the concerned authorities and the date of contents of the region of the same should be regional of the region of the same should be regional of the region of the same should be regional of the region of the same should be regional of the region of the same should be regional of	Date: 28/11/2024
PPs State St	Submission: Complied teel Ltd. has acquired the Plant thro while owner i.e Rohit Ferrotech lime of Tata Steel, the advertisement Statutory compliance Submission: Complied teel Ltd. has acquired the Plant thro rt of the work concerned authorities operation at a rated capacity 100000	the date of issue of the clearance letter, at least in two I newspapers that are widely circulated in the region of where the vernacular language of the locality concerned the same should be forwarded to the Regional office at such that the same should be forwarded to the Regional office at such that the same should be forwarded to the Regional office at such traceable by us. Once the EC is transferred in will be published and hosted on the website. Project authorities shall inform the Regional Office a Ministry, the date of financial closure and final approve project by the concerned authorities and the date of conland development work. Sugh NCLT under the IBC code. Post-acquisition, before the were informed. Presently the four furnaces (16.5 MVA)	Date: 28/11/2024 Solutions made and a copy of Bhubanesware 28/11/2024 Date: 28/11/2024 Date: 29/11/2024

Submission: Complied		Date: 28/11/2024
wledged and status quo is being and wi	ll be maintained.	28/11/2024
AIR QUALITY MONITORING AND PRESERVATION	the load/mass based standards notified by this Ministry 1993 and standards prescribed from time to time. The smay specify more stringent standards for the relevant p	on 19th May State Board parameters
		Date: 28/11/2024
AIR QUALITY MONITORING AND PRESERVATION	established in the downward direction as well as where ground level concentration of PM10, SO2, NOx are an consultation with the SPCB. Data on ambient air qualit emission shall be regularly submitted to this Ministry i	e maximum ticipated in ty and stack ncluding its
g, Infront of Furnace Cast House, Infror results for the period (April 2024 to So	ont of CPP, MRP Building, Briquette). Ambient Air eptember 2024) is attached as Annexure - 3. Stack	Date: 29/11/2024
WASTE MANAGEMENT	conform to the standards prescribed under GSR 422 (E May, 1993 and 31st December, 1993 or as amended fo	c) dated 19th rm time to
		Date: 29/11/2024
Noise Monitoring & Prevention	well within the standards (85 dBA) by providing noise measures including acoustic hoods, silencers, enclosure sources of noise generation. The ambient noise levels standards (85 dBA) by providing noise measures including acoustic hoods, silencers, enclosure sources of noise generation.	control es etc. on all should conforr
res have been provided for DG Sets g carried out Use of vibration damper	Regular maintenance of noise generating machineries ners for all the equipment Ambient Noise Level	Date: 29/11/2024
Statutory compliance	Occupational health surveillance of the workers shall regular basis and records maintained as per the Factoric	
	AIR QUALITY MONITORING AND PRESERVATION Submission: Complied ow, 5 Nos. of ambient air quality static arried out twice a month. We are follow AIR QUALITY MONITORING AND PRESERVATION Submission: Complied the installed total 5 numbers of Ambient g, Infront of Furnace Cast House, Infror results for the period (April 2024 to String report for the period for DG String results for the period for DG Sets. Noise Monitoring & Prevention Noise Monitoring & Prevention Submission: Complied and measures are implemented to restrict resonance are impl	AIR QUALITY MONITORING AND PRESERVATION The gaseous emissions from various process units she load/mass based standards notified by this Ministry 1993 and standards prescribed from time to time. The smay specify more stringent standards for the relevant period ow, 5 Nos. of ambient air quality stations are installed and operational. Stack emission is also arried out twice a month. We are following all related conditions strictly at site. AIR QUALITY MONITORING AND PRESERVATION AIR QUALITY MONITORING PRESERVATION AIR QUALITY MONITORING AND PRESERVATION AIR QUAL

12. It is being done as per the Factories Act in every 3rd Quarter of a Financial Year covering complete employees and contractor workmen. The company shall develop surface water harvesting structures to 15 **MISCELLANEOUS** harvest the rain water for utilization in the lean season besides recharging the ground water table. PPs Submission: Complied At present there exist small rainwater harvesting pond in front of the Admin Building. The capacity Date: of the pond is approx. 90 cubic meter. Further a detail feasibility study is under process, and it is 28/11/2024 expected to be complete by FY 2025. Going forward, Tata Steel has a plan to develop 30 more rainwater recharge pits and 1 no. of catchment pond. The same is expected to be completed by June 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 socio-economic 16 Statutory compliance development activities in the surrounding villages like community development programs, educational programs, drinking water supply and health care etc. **PPs Submission:** Complied Date: All the stipulated conditions of the Environmental Clearance is being complied to safeguard the 28/11/2024 immediate surrounding environment. The Management also adheres to compliance in respect of EP Act, Air Act and Water Act, IF Act, Labour Laws as on date.

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

Note: This acknowledgement is as per the details submitted by project proponent. In no way is this document to be considered as conclusion on any action on the compliance of the project. This is strictly for the project proponent's reference purpose.

Six-Monthly Compliance Report of stipulated conditions of Environmental Clearance

	EC File No. J-11011/372/2009-IA.II(I) dated 30.09.2010		
S.No.	Specific Conditions	Compliances	
1.	No charcoal shall be used as fuel. Pet coke shall be used as fuel instead of charcoal from unknown sources.	Low Ash Metallurgical Coke (LAM Coke) having a sulfur content of 0.8% is used for Ferro Chrome manufacturing in place of Pet Coke having a sulfur content of 3-8%. Therefore, as a replacement, for more clean option met coke is used.	
2.	Continuous monitoring facilities for all the stacks and sufficient air pollution control equipment's viz. fume extraction system with bag filters, ID fan and stack of adequate height to submerged arc furnace shall be provided to control emissions below 50 mg/Nm³.	Presently we are conducting the monitoring manually twice in a month. Procurement has been initiated for online stack monitoring system which is in process and completion is targeted by 30.05.2025. Gas Cleaning plant of adequate capacity have been put in operation along with Pneumatic dust handling system for existing facility. Photographs of the Order copy and GCP units are attached as per Annexure-1 . Stack Monitoring report for the period (April 2024 to September 2024) is attached as per Annexure-2 .	
3.	The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16 th November, 2009 shall be followed.	Regular Monitoring results indicate that the AAQ results are very much within the NAAQS limit during the operation along with the pollution control equipment. Ambient Air Quality results for the period (April 2024 to September 2024) is attached as Annexure - 3.	
4.	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 shall be followed.	The following control measures are implemented to keep a check on secondary fugitive emission: Source of Secondary emissions	

Six-Monthly Compliance Report of stipulated conditions of Environmental Clearance

		Feeding Points	by a Hood and collection system which is routed through GCP. Water fogging system installed at feeding points.
		Conveyor System	At all the conveyor nodes, intermittent water sprinkling is practiced.
5.	Prior permission for the drawl of 9,155 KLD water from competent authority shall be obtained. Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement should be met from other sources.	Furnace as p Additional wat Plant will be pro EC. We have obtain	r is used in Submerged Arc per present configuration. er requirement for Power occessed after obtaining fresh ined NOC from CGWA for till 27/12/2026
6.	Regular monitoring of influent and effluent surface, sub-surface and ground water shall be ensured and treated wastewater shall meet the norms prescribed by the State Pollution Control Board or described under the E(P) Act whichever are more stringent. Leachate study for the effluent generated and analysis should also be regularly carried out and report submitted to the Ministry's Regional Office at Bhubaneswar, SPCB and CPCB.	Monitoring of influent and effluent surface and sub surface and ground water is being done on regular basis. ETP (720KLD) has also been commissioned and is operational since December 2023. STP of 2x10KLD has also been installed and is operational. Pictures of ETP and STP attached as Annexure-4 . Monitoring reports of Surface, sub Surface and ground water for the period (April 2024 to September 2024 is attached as Annexure-5 .	
7.	'Zero' effluent discharge shall be strictly followed and no wastewater should be discharged outside the premises.		cuit of the Plant adheres to scharge" principle.
8.	All the Ferro alloy slag shall be used for land filling inside the plant or used as building material only after passing through Toxic Chemical Leach ability Potential (TCLP) test. Otherwise, hazardous substances shall be recovered from the slag and output waste and be disposed in secured landfill as per CPCB guidelines.		Leachability Potential test rt is attached as Annexure –
9.	Slag produced in Ferro Manganese (Fe-Mn) production shall be used in manufacture Silico Manganese (Si-Mn).	Not Applicable. Manganese (Mn	The unit is not producing) Alloys.
10.	No Ferro Chrome shall be manufactured without prior approval from the Ministry of Environment & Forests.	apart from pro	production of Ferro Chrome ducing Ferro Alloys (Ferro ico Manganese and Ferro n approved production

Six-Monthly Compliance Report of stipulated conditions of Environmental Clearance

		capacity has been obtained from MoEF vide File No. J-11011/372/2009-IA,II(I) on dated 21.09.2012.	
11.	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, OSPCB and CPCB within 3 months of issue of environment clearance letter.	Complied. Onsite Emergency plan is approved by Directorate of Factories & Boilers, Bhubaneswar on 11.08.2024. Approval Copy of the Onsite Emergency Plan is attached as Annexure-7 .	
12.	As proposed, green belt shall be developed in at least 33 % of the project area. Selection of the plant species shall be as per the CPCB guidelines in consultation with the DFO.	Plant is located over the area of 60 Acre. The green cover has been developed over an area of 10.2 Acres (17% of total area). Pictures attached as Annexure-8 Development of green cover over additional area is in progress to achieve 33% green cover and shall be completed by October'25. Amount earmarked for the plantation approx. 1.2 crores. Detail Plantation Plan for FY 2024-2025 is attached as Annexure-9 .	
13.	At least 5 % of the total cost of the project should be earmarked towards the corporate social responsibility and item- wise details along with time bound action plan (need based) should be prepared and submitted to the Ministry's Regional Office at Bhubaneswar. Implementation of such program shall be ensured accordingly in a time bound manner.	Tata Steel Mining Ltd. (amalgamated with Tata Steel Limited) has acquired the Plant through NCLT under the IBC code and is engaging with Tata Steel Foundation(TSF) for implementing CSR activities as per	
14.	The company shall provide housing for 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.	Complied during construction phase. Facilities Available at Site: 1. One Canteen with sitting capacity of 80 -100 persons 2. Two rest shelters 3. Two Mobile STP (10KLD) 4. Drinking water (12 numbers) 5. Toilets (55 blocks) 6. Creche for ladies 7. Safety PPE room 8. First Aid Center (24*7) 9. Ambulance (24*7)	
S.No.	General Conditions	Compliances	

Six-Monthly Compliance Report of stipulated conditions of Environmental Clearance

1.	The project authorities must strictly adhere to the stipulations made by the Orissa State Pollution Control Board and the State Government.	All the stipulations made by the Odisha Pollution Control Board and the State Government are being strictly followed.
2.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.	Acknowledged and status quo is being and will be maintained.
3	The gaseous emissions from various process units shall conform to the load/mass based standards notified by this Ministry on 19th May, 1993 and standards prescribed from time to time. The State Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location.	As of now, 5 Nos. of ambient air quality stations are installed and operational. Stack emission is also being carried out twice a month. We are following all related conditions strictly at site.
4	At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of PM ₁₀ , SO ₂ , NO _x 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.	We have installed total 5 numbers of Ambient Air Quality stations across the units (Roof Top -ADM Building, Infront of Furnace Cast House, Infront of CPP, MRP Building, Briquette). Ambient Air Quality results for the period (April 2024 to September 2024) is attached as Annexure - 3 . Stack Monitoring report for the period (April 2024 to September 2024) is attached as per Annexure-2 .
5	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended form time to time. The treated wastewater shall be utilized for plantation purpose.	No waste water generation. Surface run-off are being treated in ETP and reused in plantation and water sprinkling on the roads. The water is being tested every month and sample copy of the report is attached as per Annexure-10 .
		Following measures are implemented to
6	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70dBA (nighttime).	 restrict noise levels within prescribed limits:- Acoustic enclosures have been provided for DG Sets. Regular maintenance of noise generating machineries is being carried out. Use of vibration dampeners for all the equipment. Ambient Noise Level report for this period is attached as Annexure - 11.

Six-Monthly Compliance Report of stipulated conditions of Environmental Clearance

		Financial Year covering complete employees	
		and contractor workmen.	
8	The company shall develop surface water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.	At present there exist small rainwater harvesting pond in front of the Admin Building. The capacity of the pond is approx. 90 cubic meter. Further a detail feasibility study is under process, and it is expected to be complete by FY 2025. Going forward, Tata Steel has a plan to develop 30 more rainwater recharge pits and 1 no. of catchment pond. The same is expected to be completed by June 2026	
9	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 socioeconomic development activities in the surrounding villages like community development programs, educational programs, drinking water supply and health care etc.	All the stipulated conditions of the Environmental Clearance is being complied to safeguard the immediate surrounding environment. The Management also adheres to compliance in respect of EP Act, Air Act and Water Act, IF Act, Labour Laws as on date.	
10	Requisite amount 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 and Forests 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.	Annual recurring cost for maintenance of Pollution control equipment's to the tune of 3 Cr/annum is being spent towards environmental protection measures. One time Capital cost for construction of new GCP ,ETP, STP, Internal Roads and drain, plantation to the tune of around 28-29 crores for the year 2023-2024.	
11	A copy of clearance letter shall be sent by the proponent to concerned 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.	Yes Submitted and Complied	
12	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 MOEF at Bhubaneswar. The respective Zonal Office of	Since the acquisition of Plant, the conditions stipulated in EC are being complied and submitted as per statute at SPCB and Regional Office of the MOEF at Bhubaneswar.	

Six-Monthly Compliance Report of stipulated conditions of Environmental Clearance

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	CPCB and the SPCB. The criteria pollutant levels namely; PM_{10} , SO_2 , NO_x (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.	
13	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 MOEF, the respective Zonal Office of CPCB and the SPCB. The Regional Office of this Ministry at Bhubaneswar/CPCB/SPCB shall monitor the stipulated conditions.	Six Monthly compliance report of stipulated environmental conditions is being submitted periodically at the Regional Office of MoEF at Bhubaneswar.
14	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Office of the MOEF at Bhubaneswar by email.	The last Environmental Statement (Form-V) was submitted to SPCB & RO of MoEF&CC as per EC condition & EP Rule 1986. Copy of letter submitted is attached as per Annexure-13
15	The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment and Forests at http:/envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers 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.	Tata Steel Ltd. has acquired the Plant through NCLT under the IBC code. The advertisement done by erstwhile owner i.e Rohit Ferrotech limited is not traceable by us. Once the EC is transferred in the name of Tata Steel, the advertisement will be published and hosted on the website.
16	Project authorities shall inform the Regional Office as well as the 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.	Tata Steel Ltd. has acquired the Plant through NCLT under the IBC code. Postacquisition, before the start of the work concerned authorities were informed. Presently the four furnaces (16.5 MVA) are in operation at a rated capacity 100000 TPA

Six-Monthly Compliance Report of stipulated conditions of Environmental Clearance

	after obtaining valid CTO from SPCB, Copy
	Attached Annexure14

	EC File No. J-11011/372/2009-IA.II(I) dated 21.09.2012			
S.No.	Specific Conditions	Compliances		
1.	The company shall comply with all the conditions stipulated while according environmental clearance vide Ministry's letter of even number dated 30th September, 2010.	Conditions stipulated in previous EC File No. J-11011/372/2009-IA,II(I) dated 30/09/2010 are being complied.		
2.	The company shall recover ferro chrome from ferro chrome slag. The remaining slag shall be disposed of in the waste disposal site after carrying TCLP Test.	The processed slag is utilized directly in filling the low-lying areas. We have earmarked the area for stacking of slag and is being followed. Photographs attached as per Annexure-15 . TCLP is being carried out and report is attached as Annexure-6		
3.	The ground water quality monitoring around the disposal site shall be regularly monitored and the results of the monitored data shall be submitted to the SPCB and to the RO of the Ministry.	Ground water quality monitoring around the disposal site is being carried out regularly and result is being submitted to SPCB and RO, MoEF, Bhubaneswar. The report is attached as per Annexure-5		
4.	The trucks carrying the slag shall be covered with tarpaulin.	Tarpaulin covered transportation of slag is being carried out.		

TATA STEEL



Annexure 1- Air Pollution Control Measures and CEMS Order Copy





Sl.No	Gas Cleaning Plant (GCP)	
1	Rated Capacity - 240000 M3/Hr	
3	Bag house -240000M3/Hr Total -10 chambers No of filter bag =156x10 ,150 dia *450 mtr length	
4	Dust Handling System-12000 M3/Hr, connected to silo bag house consists of 60 numbers of filter bags	
6	Tapping fume system -60,000M3/Hr connected to the GCP bag house	
7	ID fan -24,0000 M3/Hr connected to bag house outlet plennum.	





BQT DE and GCP system

Rated Capacity -130,000 M3/Hr

Bag House capacity -130 ,000 M3/Hr No of chambers-4 No of Cage and Bags-182x4

ID fan Volume- 1,30,000 M3/Hr, One in operation and one stand by system is also provided for continous operations.

CEMS Order Copy

TATASTEEL

Programme to the

Tata Steel Limited

Verdor Code - 5279 SICK INDIA PIT LTD. 215 Western Edge II

Mastern Euroses Highway Bernall (E)

BYLLOGIAL BYLLOGIAL Pri Certe - BILLIAN

1550 EJSali – s najabi@wik.iroka mm

Phone No. - 1008011784 Fac No. - 52740788300 Qualificity - 5474700 85.57.2024 Order Valid From 08.08.2024 to 11.01.2025 POW 9804022348/POA POWS 988.8624

Conset Farson - Ashini Recola F.Mari - ashini remini@talastasi.com Flore ha - 5000006-0

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Report No. - CEMC/TSL/040524/St1

Issued Date-04.05.2024

STACK EMISSION MONITORING TEST REPORT

Name & Address of the Client	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Nature of Sampling	Source Emission
Instrument Used	Flue Gas Analyzer
Sampling Date & Time	03.04.2024 & 12.45 PM
Location of Sampling	GCP-1&2

ANALYSIS RESULT

A.	General Information about stack		Transaction .
1	Stack connected to GCP Chimney-1&2		mey-1&2
2	Emission due to		
3	Material of Construction of Stack	M,S	
4	Shape of Stack	Circular	
5	Whether Stack is provided with Permanent Platform & Ladders	Yes	
6	Boiler/Furnace/DG/Kiln Capacity	NA.	
B.	Physical Characteristics of Stack:	MARKET DO	
1	Height of the stack		
	(a) from Ground Level (m)	16	
2	Diameter of the stack at sampling point (m)	2.0	
	(a) at bottom (m)	-	
3	Area of Stack (m²)	3.14	
C.	Analysis/Characteristics of Stack		
1	Fuel used NA		
2	Fuel consumption	NA	
D	Results of sampling & Analysis of gaseous emission	Result	Method
1	Temperature of emission (°C)	126	IS: 11255 (Part III)
2	Barometric Pressure (mmHg)	759	USEPA(Part 2)
3	Velocity of gas in duct (M/sec)	7.81	IS: 11255 (Part III)
4	Quantity of gas flow (Nm³/hr)	84134	IS: 11255 (Part III)
5	Concentration of SO ₂ (mg/Nm ³)	56.4	IS: 11255 (Part II)
6	Concentration of NOx (mg/Nm³)	68.2	IS: 11255 (Part 7)
7	Concentration of CO (% V/V)	3.5	IS: 5182 (Part 10)
8	Concentration of CO ₂ (% V/V)	6.4	IS: 13270
9	Concentration of PM (mg/Nm³)	56	IS: 11255 (Part 1)
E ·	Pollution Control Device Details of pollution control device attached with the stack	NA.	
F	Remarks Remarks		

Notes:

The result given above related to the tested sample, as received. The customer asked for the above test only.

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E-mail- cemc_consultancy@yahoo.co.in, cemc122@gmail.com, website: www.cemc.in.

Laboratory At: Plot No. 800/1274, Johal, Pahal, Bhubaneswar-752101, Odisha, India, Mobile: 7752014842



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Report No. - CEMC/TSL/040524/St3

Location of Sampling

Issued Date-04.05,2024

INC TEST DEPORT

STACK EMISSION MONITORING TEST REPORTS		
Name & Address of the Client	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur	
Nature of Sampling	Source Emission	
Instrument Used	Flue Gas Analyzer	
Sampling Date & Time	25.04.2024 & 11.45 PM	

GCP-1&2

ANALYSIS RESULT

	ATTACAGE	-		
A.	General Information about stack	GCP Chim	may 18:2	
1	Stack connected to		mey-recz	
2	Emission due to	146		
3	Material of Construction of Stack	M.S		
4	Shape of Stack	Circular		
5	Whether Stack is provided with Permanent Platform & Yes Ladders			
6	Boiler/Furnace/DG/Kiln Capacity	NA		
B.	Physical Characteristics of Stack:			
1	Height of the stack	30		
7:	(a) from Ground Level (m)	16		
2	Diameter of the stack at sampling point (m)	2.0		
	(a) at bottom (m)	-		
3	Area of Stack (m²) 3.14			
C.	Analysis/Characteristics of Stack			
1	Fuel used	NA		
2	Fuel consumption	NA		
D	Results of sampling & Analysis of gaseous emission	Result	Method	
1	Temperature of emission (°C)	123	IS: 11255 (Part III)	
2	Barometric Pressure (mmHg)	759	USEPA(Part 2)	
3	Velocity of gas in duct (M/sec)	7.51	IS: 11255 (Part III)	
4	Quantity of gas flow (Nm³/hr)	84128	IS: 11255 (Part III)	
5	Concentration of SO ₂ (mg/Nm ³)	58.4	IS: 11255 (Part II)	
6	Concentration of NOx (mg/Nm²)	67.6	IS: 11255 (Part 7)	
7	Concentration of CO (% V/V)	3.7	IS: 5182 (Part 10)	
8	Concentration of CO ₂ (% V/V)	6,5	IS: 13270	
9	Concentration of PM (mg/Nm ³)	52	IS: 11255 (Part 1)	
E	Pollution Control Device Details of pollution control device attached with the stack	NA		
F	Remarks	NA SAIN		
-				

Authorized Signatory

Notes:

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Report No. - CEMC/TSL/040524/St2

Issued Date-04.05.2024

STACK	EMISSION	MONIT	ORING	TEST	REP	ORT
DO A PROPERTY	441.444.44					-

Name & Address of the Client	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Nature of Sampling	Source Emission
Instrument Used	Flue Gas Analyzer
Sampling Date & Time	03.04.2024 & 2.45PM
Location of Sampling	GCP-3&4

ANALYSIS RESULT

	AMALI SIS RESCE			
A.	General Information about stack			
1	Stack connected to	GCP Chim	ney-3&4	
2	Emission due to		Market Market Company	
3	Material of Construction of Stack	MS		
4	Shape of Stack	Circular		
5	Whether Stack is provided with Permanent Platform & Ladders	Yes		
6	Boiler/Furnace/DG/Kiln Capacity	NA		
B.	Physical Characteristics of Stack:			
1	Height of the stack			
	(a) from Ground Level (m)	16		
2	Diameter of the stack at sampling point (m)	2.0	2.0	
	(a) at bottom (m)	-		
3	Area of Stack (m²)	3.14	3.14	
C.	Analysis/Characteristics of Stack	- 0.15150		
1	Fuel used	NA	NA	
2	Fuel consumption	NA		
D	Results of sampling & Analysis of gaseous emission	Result	Method	
1	Temperature of emission (°C)	110	IS: 11255 (Part III)	
2	Barometric Pressure (mmHg)	759	USEPA(Part 2)	
3	Velocity of gas in duct (M/sec)	8.48	IS: 11255 (Part III)	
4	Quantity of gas flow (Nm³/hr)	920488	IS: 11255 (Part III)	
5	Concentration of SO ₂ (mg/Nm ³)	65.4	IS: 11255 (Part II)	
6	Concentration of NOx (mg/Nm³)	71.3	IS: 11255 (Part 7)	
7	Concentration of CO (% V/V)	4.7	IS: 5182 (Part 10)	
8	Concentration of CO ₂ (% V/V)	6.5	IS: 13270	
9	Concentration of PM (mg/Nm³)	46	IS: 11255 (Part 1)	
E	Pollution Control Device Details of pollution control device attached with the stack	NA	The same of the same of	
F	Remarks	Nil		
	Kemarks	1411		

Authorized Signatory

Notes:

Laboratory January The customer asked for the above test only.

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Report No. - CEMC/TSL/040524/St4

Issued Date-04.05,2024

STACK EMISSION	MONITORING TES	T REPORT
	THE STATE OF THE S	I KELVILL

Name & Address of the Client	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Nature of Sampling	Source Emission
Instrument Used	Flue Gas Analyzer
Sampling Date & Time	25.04.2024 & 2.45PM
Location of Sampling	GCP-3&4

ANALYSIS DESILIT

Consent Later of		
General Information about stack		
	GCP Chim	ney-3&4
Material of Construction of Stack	M.S	
	Circular	and the same of th
Ladders	Yes	****
Boiler/Furnace/DG/Kiln Capacity	NA	
Physical Characteristics of Stack:	1125	
Height of the stack		
(a) from Ground Level (m)	16	
Diameter of the stack at sampling point (m)		
(a) at bottom (m)		y_1/1
Anna account of the		
Fuel used	NA	
The Paris Control of the Control of		
	227	
Temperature of emission (°C)	THE RESERVE OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TW	The trademontal agency
Barometric Pressure (mmHg)		IS: 11255 (Part III)
Velocity of gas in duct (M/sec)	The second second	USEPA(Part 2)
Quantity of gas flow (Nm³/hr)	Company of the Compan	IS: 11255 (Part III)
Concentration of SO ₂ (mg/Nm ³)		IS: 11255 (Part III)
Concentration of NOx (mg/Nm³)	THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TW	IS: 11255 (Part II)
Concentration of CO (% V/V)		IS: 11255 (Part 7)
	and the same of th	IS: 5182 (Part 10)
	No. of Contract of	IS: 13270
	the state of the s	IS: 11255 (Part 1)
Details of pollution control device attached with the stack	NA	
The property of the party of th		
	Stack connected to Emission due to Material of Construction of Stack Shape of Stack Whether Stack is provided with Permanent Platform & Ladders Boiler/Furnace/DG/Kiln Capacity Physical Characteristics of Stack: Height of the stack (a) from Ground Level (m) Diameter of the stack at sampling point (m) (a) at bottom (m) Area of Stack (m²) Analysis/Characteristics of Stack Fuel used Fuel consumption Results of sampling & Analysis of gaseous emission Temperature of emission (°C) Barometric Pressure (mmHg) Velocity of gas in duct (M/sec) Quantity of gas flow (Nm³/hr) Concentration of SO ₂ (mg/Nm³) Concentration of CO (% V/V) Concentration of PM (mg/Nm³) Pollution Control Device	Stack connected to Emission due to Material of Construction of Stack Shape of Stack Whether Stack is provided with Permanent Platform & Yes Ladders Boiler/Furnace/DG/Kiln Capacity Physical Characteristics of Stack: Height of the stack (a) from Ground Level (m) Diameter of the stack at sampling point (m) (a) at bottom (m) Area of Stack (m²) Analysis/Characteristics of Stack Fuel used Fuel consumption Results of sampling & Analysis of gaseous emission Result Temperature of emission (°C) Barometric Pressure (mmHg) Velocity of gas in duct (M/sec) Quantity of gas flow (Nm³/hr) Concentration of SO ₂ (mg/Nm³) Concentration of NOx (mg/Nm³) Concentration of CO (% V/V) Concentration of PM (mg/Nm³) Pollution Control Device M.S. M.S. M.S. M.S. M.S. M.S. M.S. Stack Circular Yes NA Psesult Analysis/Characteristics of Stack: NA Psesult of sampling & Analysis of gaseous emission Result Temperature of emission (°C) 118 Psesult Concentration of SO ₂ (mg/Nm³) Concentration of SO ₂ (mg/Nm³) Concentration of PM (mg/Nm³) Pollution Control Device

Authorized Signatory

Notes:

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Report No. - CEMC/TSL/050624/St1

Issued Date-05.06.2024

STACK EMISSION MONITORING TEST REPORT

Name & Address of the Client	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Nature of Sampling	Source Emission
Instrument Used	Flue Gas Analyzer
Sampling Date & Time	14.05.2024 & 10.30 AM
Location of Sampling	GCP-1&2

ANALYSIS RESULT

A.	General Information about stack	1	
1	Stack connected to	GCP Chimney-1&2	
2	Emission due to		
3	Material of Construction of Stack	M.S	
4	Shape of Stack	Circular	
5	Whether Stack is provided with Permanent Platform & Ladders		
6	Boiler/Furnace/DG/Kiln Capacity	NA	
B.	Physical Characteristics of Stack:		
1	Height of the stack		
1000	(a) from Ground Level (m)	25	
2	Diameter of the stack at sampling point (m)	2.0	
400	(a) at bottom (m)	-	
3	Area of Stack (m ²)	3.14	
C.	Analysis/Characteristics of Stack		
1	Fuel used	NA	
2	Fuel consumption	NA	
D	Results of sampling & Analysis of gaseous emission	Result	Method
1	Temperature of emission (°C)	123	IS: 11255 (Part III)
2	Barometric Pressure (mmHg)	759	USEPA(Part 2)
3	Velocity of gas in duct (M/sec)	8.01	IS: 11255 (Part III)
4	Quantity of gas flow (Nm ³ /hr)	840152	IS: 11255 (Part III)
5	Concentration of SO ₂ (mg/Nm ³)	55.5	IS: 11255 (Part II)
6	Concentration of NOx (mg/Nm³)	62.9	IS: 11255 (Part 7)
7	Concentration of CO (% V/V)	4.2	IS: 5182 (Part 10)
8	Concentration of CO ₂ (% V/V)	6.4	IS: 13270
9	Concentration of PM (mg/Nm³)	52	IS: 11255 (Part I)
Е	Pollution Control Device NA Details of pollution control device attached with the stack		
F	Remarks	NI	
	CONT.	Con-	

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Notes:

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Report No. - CEMC/TSL/050624/St3

Issued Date-05.06.2024

STACK EMISSION MONITORING TEST REPORT

Name & Address of the Client	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Nature of Sampling	Source Emission
Instrument Used	Flue Gas Analyzer
Sampling Date & Time	31.05.2024 & 11.30AM
Location of Sampling	GCP-1 & 2

ANALYSIS RESULT

-	ANALISIS RESCE			
A.	General Information about stack			
1	Stack connected to	GCP Chim	ney-1&2	
2	Emission due to			
3	Material of Construction of Stack	M.S		
4	Shape of Stack	Circular		
5	Whether Stack is provided with Permanent Platform & Ladders	Yes		
6	Boller/Furnace/DG/Kiln Capacity	NA		
B.	Physical Characteristics of Stack:			
1	Height of the stack			
	(a) from Ground Level (m)	25		
2	Diameter of the stack at sampling point (m)	2.0		
1,5	(a) at bottom (m)			
3	Area of Stack (m²)		3.14	
C,	Analysis/Characteristics of Stack			
1	Fuel used	NA		
2	Fuel consumption NA			
D	Results of sampling & Analysis of gaseous emission	Result	Method	
1	Temperature of emission (°C)	131	IS: 11255 (Part III)	
2	Barometric Pressure (mmHg)	759	USEPA(Part 2)	
3	Velocity of gas in duct (M/sec)	8.18	IS: 11255 (Part III)	
4	Quantity of gas flow (Nm ³ /hr)	849442	IS: 11255 (Part III)	
5	Concentration of SO ₂ (mg/Nm ³)	51.5	IS: 11255 (Part II)	
6	Concentration of NOx (mg/Nm³)	59.9	IS: 11255 (Part 7)	
7	Concentration of CO (% V/V)	4.8	IS: 5182 (Part 10)	
8	Concentration of CO ₂ (% V/V)	6.0	IS: 13270	
9	Concentration of PM (mg/Nm ³)	61	IS: 11255 (Part I)	
E	Pollution Control Device Details of pollution control device attached with the stack	NA NA		
F	Remarks	Men Horse		

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Notes:

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Report No. - CEMC/TSL/050624/St2

Issued Date-05.06.2024

STACK EMISSION MONITORING TEST REPORT

Name & Address of the Client	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Nature of Sampling	Source Emission
Instrument Used	Flue Gas Analyzer
Sampling Date & Time	13.05.2024 & 2.45PM
Location of Sampling	GCP-3&4

ANALYSIS RESULT

A.	General Information about stack		
1	Stack connected to	GCP Chin	nney-3&4
2	Emission due to		
3	Material of Construction of Stack	MS	
4	Shape of Stack	Circular	
5	Whether Stack is provided with Permanent Platform & Ladders	Yes	
6	Boiler/Furnace/DG/Kiln Capacity	NA	
B.	Physical Characteristics of Stack:	E-7-1527	
1	Height of the stack		
	(a) from Ground Level (m)	16	
2	Diameter of the stack at sampling point (m)	2.0	
	(a) at bottom (m)	-	
3	Area of Stack (m²)	3.14	
C.	Analysis/Characteristics of Stack	307.1	
1	Fuel used	NA	
2	Fuel consumption	NA	
D	Results of sampling & Analysis of gaseous emission	Result	Method
1	Temperature of emission (°C)	119	IS: 11255 (Part III)
2	Barometric Pressure (mmHg)	759	USEPA(Part 2)
3	Velocity of gas in duct (M/sec)	9.17	IS: 11255 (Part III)
4	Quantity of gas flow (Nm³/hr)	918745	IS: 11255 (Part III)
5	Concentration of SO ₂ (mg/Nm ³)	62.2	IS: 11255 (Part II)
5	Concentration of NOx (mg/Nm³)	79.9	IS: 11255 (Part 7)
7	Concentration of CO (% V/V)	3.8	IS: 5182 (Part 10)
3	Concentration of CO ₂ (% V/V)	5.8	IS: 13270
)	Concentration of PM (mg/Nm³)	46	IS: 11255 (Part I)
3	Pollution Control Device	NA	1 -5 Trass (tall)
	Details of pollution control device attached with the stack		
	Remarks	March	

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Report No. - CEMC/TSL/050624/St4

Issued Date-05.06.2024

STACK EMISSION MONITORING TEST REPORT

Name & Address of the Client	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Nature of Sampling	Source Emission
Instrument Used	Flue Gas Analyzer
Sampling Date & Time	31.05.2024 & 2.45PM
Location of Sampling	GCP-3&4

ANALYSIS RESULT

	ANALISIS RESUL	-		
A.	General Information about stack			
1	Stack connected to	GCP Chim	ney-3&4	
2	Emission due to			
3	Material of Construction of Stack	M.S	M.S	
4	Shape of Stack	Circular	Circular	
5	Whether Stack is provided with Permanent Platform & Ladders	k Yes		
6	Boiler/Furnace/DG/Kiln Capacity	NA		
B.	Physical Characteristics of Stack:			
1	Height of the stack			
	(a) from Ground Level (m)	16		
2	Diameter of the stack at sampling point (m)	2.0		
	(a) at bottom (m)	-		
3	Area of Stack (m ²)	3.14		
C.	Analysis/Characteristics of Stack	-		
1	Fuel used	NA		
2	Fael consumption	NA		
D	Results of sampling & Analysis of gaseous emission	Result	Method	
1	Temperature of emission (°C)	115	IS: 11255 (Part III)	
2	Barometric Pressure (mmHg)	759	USEPA(Part 2)	
3	Velocity of gas in duct (M/sec)	8.98	IS: 11255 (Part III)	
4	Quantity of gas flow (Nm ³ /hr)	906549	IS: 11255 (Part III)	
5	Concentration of SO ₂ (mg/Nm ³)	59.8	IS: 11255 (Part II)	
6	Concentration of NOx (mg/Nm ³)	76.2	IS: 11255 (Part 7)	
7	Concentration of CO (% V/V)	3.4	IS: 5182 (Part 10)	
8	Concentration of CO ₂ (% V/V)	5.2	IS: 13270	
9	Concentration of PM (mg/Nm³)	52	IS: 11255 (Part 1)	
Е	Pollution Control Device Details of pollution control device attached with the stack	NA	1 mi trass (rate 1)	
F	Remarks	So Tone		

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Notes

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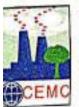
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Report No. - CEMC/TSL/040724/St1

Issued Date-04.07.2024

STACK EMISSION MONITORING TEST REPORT

Name & Address of the Client	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Nature of Sampling	Source Emission
Instrument Used	Stack Kit
Sampling Date & Time	07.06.2024 &11.00AM
Location of Sampling	GCP-1&2

ANALYSIS RESULT

A.	General Information about stack			
1	Stack connected to	GCP Chim	ney-1&2	
2	Emission due to			
3	Material of Construction of Stack	M.S		
4	Shape of Stack	Circular	Circular	
5	Whether Stack is provided with Permanent Platform & Ladders	Yes Yes		
6	Boiler/Furnace/DG/Kiln Capacity	NA	NA	
B,	Physical Characteristics of Stack:			
1	Height of the stack			
	(a) from Ground Level (m)	25		
2	Diameter of the stack at sampling point (m)	2.0		
	(a) at bottom (m)			
3	Area of Stack (m ²)	3.14		
C.	Analysis/Characteristics of Stack	- Invested		
1	Fuel used	NA		
2	Fuel consumption	NA		
D	Results of sampling & Analysis of gaseous emission	Result	Method	
1	Temperature of emission (°C)	128	IS: 11255 (Part 3)	
2	Barometric Pressure (mmHg)	759	USEPA(Part 2)	
	Velocity of gas in duct (m/sec)	8.12	IS: 11255 (Part 3)	
4	Quantity of gas flow (Nm ³ /hr)	851689	IS: 11255 (Part 3)	
5	Concentration of SO ₂ (mg/Nm ⁵)	53.2	IS: 11255 (Part 2)	
6	Concentration of NOx (mg/Nm³)	60.4	IS: 11255 (Part 7)	
7	Concentration of CO (% V/V)	4.1	IS: 13270	
8	Concentration of CO ₂ (% V/V)	6.2	IS: 13270	
9	Concentration of PM (mg/Nm3)	48	IS: 11255 (Part 1)	
E	Pollution Control Device Details of pollution control device attached with the stack	NA	, , ,	
F	Remarks	Nil		

Authorized Signatory Notes:

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Report No. - CEMC/TSL/040724/St3

Issued Date-04.07.2024

STACK EMISSION MONITORING TEST REPORT

Name & Address of the Client	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Nature of Sampling	Source Emission
Instrument Used	Stack Kit
Sampling Date & Time	26.06.2024 & 10.45AM
Location of Sampling	GCP-1 &2

ANALYSIS RESULT

A.	General Information about stack			
1	Stack connected to	GCP Chim	nev-1&2	
2	Emission due to	OCI CHILL	nej-rez	
3	Material of Construction of Stack	M.S		
4	Shape of Stack	Circular		
5	Whether Stack is provided with Permanent Platform & Ladders	Yes		
6	Boiler/Furnace/DG/Kiln Capacity	NA		
B.	Physical Characteristics of Stack:			
1	Height of the stack			
C.	(a) from Ground Level (m)	25		
2	Diameter of the stack at sampling point (m)	2.0		
	(a) at bottom (m)	-		
3	Area of Stack (m ²)	3.14		
C.	Analysis/Characteristics of Stack			
1	Fuel used	NA		
2	Fuel consumption	NA		
D	Results of sampling & Analysis of gaseous emission	Result	Method	
1	Temperature of emission (°C)	128	IS: 11255 (Part 3)	
2	Barometric Pressure (mmHg)	759	USEPA(Part 2)	
3	Velocity of gas in duct (m/sec)	8.34	IS: 11255 (Part 3)	
4	Quantity of gas flow (Nm ³ /hr)	866057	IS: 11255 (Part 3)	
5	Concentration of SO ₂ (mg/Nm ³)	50.2	IS: 11255 (Part 2)	
6	Concentration of NOx (mg/Nm³)	57.4	IS: 11255 (Part 7)	
7	Concentration of CO (% V/V)	5.1	IS: 13270	
8	Concentration of CO ₂ (% V/V)	6.8	IS: 13270	
9	Concentration of PM (mg/Nm³)	64	IS: 11255 (Part 1)	
E	Pollution Control Device Details of pollution control device attached with the stack	NA	1 -3. 1.2.2 (. 44. 1)	
F		SALL CON		

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Report No. - CEMC/TSL/040724/St2

Issued Date-04.07.2024

STACK EMISSION MONITORING TEST REPORT

Name & Address of the Client	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Nature of Sampling	Source Emission
Instrument Used	Stack Kit
Sampling Date & Time	07.06.2024 &3.00PM
Location of Sampling	GCP-3&4

ANALYSIS RESULT

	ANALISIS RESUL	1			
A.	General Information about stack				
1	Stack connected to	GCP Chim	ney-3&4		
2	Emission due to				
3	Material of Construction of Stack	M.S			
4	Shape of Stack	Circular	Circular		
5	Whether Stack is provided with Permanent Platform & Ladders	Yes			
6	Boiler/Furnace/DG/Kiln Capacity	NA	NA		
В.	Physical Characteristics of Stack;				
1	Height of the stack		words and the		
	(a) from Ground Level (m)	16			
2	Diameter of the stack at sampling point (m)	2.0			
V	(a) at bottom (m)				
3	Area of Stack (m²)	3.14			
C.	Analysis/Characteristics of Stack				
1	Fuel used	NA			
2	Fuel consumption	NA			
D	Results of sampling & Analysis of gaseous emission	Result	Method		
1	Temperature of emission (°C)	113	IS: 11255 (Part 3)		
2	Barometric Pressure (mmHg)	759	USEPA(Part 2)		
3	Velocity of gas in duct (m/sec)	8.98	1S: 11255 (Part 3)		
4	Quantity of gas flow (Nm ³ /hr)	899708	IS: 11255 (Part 3)		
5	Concentration of SO ₂ (mg/Nm ³)	60.4	IS: 11255 (Part 2)		
6	Concentration of NOx (mg/Nm³)	77.2	IS: 11255 (Part 7)		
7	Concentration of CO (% V/V)	3.2	IS: 13270		
8	Concentration of CO ₂ (% V/V)	5.1	IS: 13270		
9	Concentration of PM (mg/Nm3)	42	IS: 11255 (Part 1)		
Е	Pollution Control Device Details of pollution control device attached with the stack	NA			
F	Remarks	ma Vi			
	The state of the s	- 00			

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Notes:

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Report No. - CEMC/TSL/040724/St4

Issued Date-04.07.2024

STACK EMISSION MONITORING TEST REPORT

Name & Address of the Client	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Nature of Sampling	Source Emission
Instrument Used	Stack Kit
Sampling Date & Time	26.06.2024 & 3.00PM
Location of Sampling	GCP-3&4

ANALYSIS RESULT

	ANALISIS KESUL	1	
Α.	General Information about stack		
1	Stack connected to	GCP Chim	ney-3&4
2	Emission due to		
3	Material of Construction of Stack	M.S	- 137 VIII.
4	Shape of Stack	Circular	
5	Whether Stack is provided with Permanent Platform & Ladders		
6	Boiler/Furnace/DG/Kiln Capacity	NA	
B.	Physical Characteristics of Stack:		
1	Height of the stack	3	
2.5	(a) from Ground Level (m)	16	
2	Diameter of the stack at sampling point (m)	2.0	
	(a) at bottom (m)	-	
3	Area of Stack (m ²)	3.14	
C.	Analysis/Characteristics of Stack	1.000	
1	Fuel used	NA	
2	Fuel consumption	NA	.,,
D	Results of sampling & Analysis of gaseous emission	Result	Method
1	Temperature of emission (°C)	119	IS: 11255 (Part 3)
2	Barometric Pressure (mmHg)	759	USEPA(Part 2)
3	Velocity of gas in duct (m/sec)	8.72	1S: 11255 (Part 3)
4	Quantity of gas flow (Nm³/hr)	882931	IS: 11255 (Part 3)
5	Concentration of SO ₂ (mg/Nm ³)	58.1	IS: 11255 (Part 2)
6	Concentration of NOx (mg/Nm ³)	74.4	IS: 11255 (Part 7)
7	Concentration of CO (% V/V)	3.1	IS: 13270
8	Concentration of CO ₂ (% V/V)	4.6	IS: 13270
9	Concentration of PM (mg/Nm³)	44	IS: 11255 (Part 1)
E	Pollution Control Device Details of pollution control device attached with the stack	NA	,
F	Remarks	подражения	
	7300	Cal	

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Notes:

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Report No. - CEMC/TSL/050824/St1

Issued Date-05.08.2024

STACK EMISSION MONITORING	TEST	REPORT
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Name & Address of the Client	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur		
Nature of Sampling	Source Emission		
Instrument Used	Flue Gas Analyzer		
Sampling Date & Time	11.07.2024 & 4.00 PM		
Location of Sampling	GCP-1&2		

ANALYSIS DECLIT

A.	General Information about stack		
1	Stack connected to		
2	Emission due to	GCP Chimney-1&2	
3	Material of Construction of Stack	****	Surveyor Godon Co.
4	Shape of Stack	M.S	
5		Circular	
-	Whether Stack is provided with Permanent Platform & Ladders	Yes	
6	Boiler/Fumace/DG/Kiln Capacity	NA	
B.	Physical Characteristics of Stack:	INA	
1	Height of the stack		
	(a) from Ground Level (m)	25	
2	Diameter of the stack at sampling point (m)	2.0	
	(a) at bottom (m)	4.0	
3	Area of Stack (m²) 3.14		
C.	Analysis/Characteristics of Stack	3.14	
1	Fuel used	NA	
2	Fuel consumption NA		
D	Results of sampling & Analysis of gaseous emission	Result	Method
1	Temperature of emission (°C)	122	IS: 11255 (Part 3)
2	Barometric Pressure (mmHg)	759	USEPA(Part 2)
3	Velocity of gas in duct (M/sec)	7.88	IS: 11255 (Part 3)
1	Quantity of gas flow (Nm³/hr)	84888	IS: 11255 (Part 3)
	Concentration of SO- (mg/Nm³)	54.2	IS: 11255 (Part 2)
	Concentration of NOx (mg/Nm³)	67.1	IS: 11255 (Part 7)
	Concentration of CO (% V/V)	3.7	IS: 13270
	Concentration of CO ₂ (% V/V)	6.9	IS: 13270
	Concentration of PM (mg/Nm ⁵)	52	IS: 11255 (Part 1)
	Pollution Control Device	NA	1 13. 11233 (ran 1)
	Details of pollution control device attached with the stack		
		Nil	

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Notes:

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Report No. - CEMC/TSL/050824/St3

Issued Date-05.08.2024

STACK EMISSION MONITORING TEST REPOR	STACK	EMISSION	MONITORING TEST	REPORT
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Name & Address of the Client	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur		
Nature of Sampling	Source Emission		
Instrument Used	Flue Gas Analyzer		
Sampling Date & Time	23.07.2024 & 11.00 PM		
Location of Sampling	GCP-1&2		

ANALYSIS RESULT

A.	General Information about stack	-		
1	Stack connected to GCP Chimney-1&2		1 6-7	
2	Emission due to		mey-1002	
3	Material of Construction of Stack	N/C		
4	Shape of Stack	M.S Circular		
5	Whether Stack is provided with Permanent Platform &			
6	Boiler/Furnace/DG/Kiln Capacity	NA		
B.	Physical Characteristics of Stack:	1161		
1	Height of the stack			
	(a) from Ground Level (m)	25	M STORE	
2	Diameter of the stack at sampling point (m)	2.0		
	(a) at bottom (m)	-		
3	Area of Stack (m²)		3.14	
C.	Analysis/Characteristics of Stack	1 - 10 - 1		
1	Fuel used	NA		
2	Fuel consumption NA			
D	Results of sampling & Analysis of gascous emission	Result	Method	
1	Temperature of emission (°C)	128	IS: 11255 (Part 3)	
2	Barometric Pressure (mmHg)	759	USEPA(Part 2)	
3	Velocity of gas in duct (M/sec)	7.67	IS: 11255 (Part 3)	
4	Quantity of gas flow (Nm³/hr)	85920	IS: 11255 (Part 3)	
5	Concentration of SO ₂ (mg/Nm ³)	55.6	IS: 11255 (Part 2)	
6	Concentration of NOx (mg/Nm³)	66.4	IS: 11255 (Part 7)	
7	Concentration of CO (% V/V)	3.9	IS: 13270	
8	Concentration of CO ₂ (% V/V)	6.8	IS: 13270	
9	Concentration of PM (mg/Nm³)	56	IS: 11255 (Part 1)	
E	Pollution Control Device	NA NA		
F	Remarks	TOR S		

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Report No. - CEMC/TSL/050824/St2

Issued Date-05.08.2024

STACK EMISSION MONITORING TEST REPORT	STACK	EMUSSION	MONITORING	TEST REPORT
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Name & Address of the Client	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur	
Nature of Sampling	Source Emission	
Instrument Used	Flue Gas Analyzer	
Sampling Date & Time	11.07.2024 & 12.45PM	
Location of Sampling	GCP-3&4	

ANALYSIS RESULT

A.	General Information about stack		
1	Stack connected to		ney-3&4
2	Emission due to	CCI CIII	aley see?
3	Material of Construction of Stack	M.S	
4	Shape of Stack	Circular	
5	Whether Stack is provided with Permanent Platform & Ladders		
6	Boiler/Furnace/DG/Kiln Capacity	NA	
B.	Physical Characteristics of Stack:		
1	Height of the stack		
	(a) from Ground Level (m)	16	
2	Diameter of the stack at sampling point (m)	2.0	
0.00	(a) at bottom (m)		
3	Area of Stack (m ²) 3.14		
C.	Analysis/Characteristics of Stack		
1	Fuel used	NA	
2	Fuel consumption	NA	
D	Results of sampling & Analysis of gaseous emission	Result	Method
1	Temperature of emission (°C)	115	IS: 11255 (Part 3)
2	Barometric Pressure (mmHg)	759	USEPA(Part 2)
3	Velocity of gas in duct (M/sec)	8.34	IS: 11255 (Part 3)
4	Quantity of gas flow (Nm³/hr)	905291	IS: 11255 (Part 3)
5	Concentration of SO ₂ (mg/Nm ³)	64.2	IS: 11255 (Part 2)
6	Concentration of NOx (mg/Nm³)	70.1	IS: 11255 (Part 7)
7	Concentration of CO (% V/V)	4,9	IS: 13270
8	Concentration of CO ₂ (% V/V)	6.8	IS: 13270
9	Concentration of PM (mg/Nm³)	49	IS: 11255 (Part 1)
E	Pollution Control Device	NA	
F	Remarks	John Content	

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Report No. - CEMC/TSL/050824/St4

Issued Date-05.08.2024

STACK EMISSION MONITORING TEST REPORT

Name & Address of the Client	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kaling Nagar, Jajpur		
Nature of Sampling	Source Emission		
Instrument Used	Flue Gas Analyzer		
Sampling Date & Time	23.07.2024 & 3.00PM		
Location of Sampling	GCP-3&4		

ANALYSIS RESULT

	ANALYSIS RESULT		
Α.	General Information about stack		
1	Stack connected to	GCP Chimney-3&4	
2	Emission due to		The same of the sa
3	Material of Construction of Stack	M.S	
4	Shape of Stack	Circular	
5	Whether Stack is provided with Permanent Platform & Ladders	Yes	
6	Boiler/Furnace/DG/Kiln Capacity	NA	
B.	Physical Characteristics of Stack:		
1	Height of the stack		
	(a) from Ground Level (m)	16	
2	Diameter of the stack at sampling point (m)	2.0	
	(a) at bottom (m)	*	
3	Area of Stack (m ²)	3.14	
C.	Analysis/Characteristics of Stack	e e e e e e e e e e e e e e e e e e e	
1	Fuel used	NA	
2	Fuel consumption	NA	
D	Results of sampling & Analysis of gaseous emission	Result	Method
1	Temperature of emission (°C)	121	IS: 11255 (Part 3)
2	Barometric Pressure (mmHg)	759	USEPA(Part 2)
3	Velocity of gas in duct (M/sec)	8.69	IS: 11255 (Part 3)
4	Quantity of gas flow (Nm ³ /hr)	877977	IS: 11255 (Part 3)
5	Concentration of SO ₂ (mg/Nm ³)	61.8	IS: 11255 (Part 2)
6	Concentration of NOx (mg/Nm³)	69.1	IS: 11255 (Part 7)
7	Concentration of CO (% V/V)	4.4	IS: 13270
8	Concentration of CO ₂ (% V/V)	7.1	IS: 13270
9	Concentration of PM (mg/Nm³)	48	IS: 11255 (Part 1)
E	Pollution Control Device	NA	
F	Remarks	en la	

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Report No. - CEMC/TSL/030924/St1

Issued Date-03.09.2024

STACK EMISSION MONITORING TEST REPORT

Name & Address of the Client	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur	
Nature of Sampling	Source Emission	
Instrument Used	Flue Gas Analyzer	
Sampling Date & Time	21.08.2024 & 3.00 PM	
Location of Sampling	GCP-1&2	

ANALYSIS RESULT

A.	General Information about stack		
1	Stack connected to	GCP Chimney-1&2	
2	Emission due to	oci cann	163-1622
3	Material of Construction of Stack	M.S	
4	Shape of Stack	Circular	
5	Whether Stack is provided with Permanent Platform & Ladders	Yes	
6	Boiler/Furnace/DG/Kiln Capacity	NA	
B.	Physical Characteristics of Stack:	1425	
1	Height of the stack	77	
	(a) from Ground Level (m)	25	
2	Diameter of the stack at sampling point (m)	2.0	
	(a) at bottom (m)	-	
3	Area of Stack (m²)	3.14	
C.	Analysis/Characteristics of Stack		
1	Fuel used	NA	
2	Fuel consumption	NA	
D	Results of sampling & Analysis of gaseous emission	Result	Method
1	Temperature of emission (°C)	126	IS: 11255 (Part 3)
2	Barometric Pressure (mmHg)	759	USEPA(Part 2)
3	Velocity of gas in duct (M/sec)	7.92	IS: 11255 (Part 3)
4	Quantity of gas flow (Nm3/hr)	85318.9	IS: 11255 (Part 3)
5	Concentration of SO ₂ (mg/Nm ³)	53.8	IS: 11255 (Part 2)
6	Concentration of NOx (mg/Nm ³)	66.2	IS: 11255 (Part 7)
7	Concentration of CO (% V/V)	3.5	IS: 13270
8	Concentration of CO ₂ (% V/V)	6.9	IS: 13270
9	Concentration of PM (mg/Nm ³)	48	IS: 11255 (Part 1)
Е	Pollution Control Device Details of pollution control device attached with the stack	NA 15. 11255 (Part 1)	
F		e Millson	

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Report No. - CEMC/TSL/030924/St3

Issued Date-03.09.2024

STACK EMISSION MONITORING TEST REPORT

Name & Address of the Client	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur		
Nature of Sampling	Source Emission Flue Gas Analyzer 28.08.2024 & 11.00 AM		
Instrument Used			
Sampling Date & Time			
Location of Sampling	GCP-1&2		

ANALYSIS RESULT

A.	General Information about stack					
1	Stack connected to	GCP Chimney-1&2				
2	Emission due to					
3	Material of Construction of Stack	M.S				
4	Shape of Stack	Circular				
5	Whether Stack is provided with Permanent Platform & Ladders	Yes				
6	Boiler/Furnace/DG/Kiln Capacity	NA				
B.	Physical Characteristics of Stack:					
1	Height of the stack					
	(a) from Ground Level (m)	25				
2	Diameter of the stack at sampling point (m)	2.0				
	(a) at bottom (m)	-				
3	Area of Stack (m ²)	3.14				
C.	Analysis/Characteristics of Stack	Later 1				
1	Fuel used	NA				
2	Fuel consumption	NA				
D	Results of sampling & Analysis of gaseous emission	Result	Method			
1	Temperature of emission (°C)	132	IS: 11255 (Part 3)			
2	Barometric Pressure (mmHg)	759	USEPA(Part 2)			
3	Velocity of gas in duct (M/sec)	7.54	IS: 11255 (Part 3)			
4	Quantity of gas flow (Nm³/hr)	84464.1	IS: 11255 (Part 3)			
5	Concentration of SO ₂ (mg/Nm ³)	54.7	IS: 11255 (Part 2)			
6	Concentration of NOx (mg/Nm²)	64.8	IS: 11255 (Part 7)			
7	Concentration of CO (% V/V)	3.6	IS: 13270			
8	Concentration of CO ₂ (% V/V)	6.2	IS: 13270			
9	Concentration of PM (mg/Nm ³)	53	IS: 11255 (Part 1)			
E	Pollution Control Device Details of pollution control device attached with the stack	NA NA				
F	Remarks					

Authorized Signatory Notes:

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Report No. - CEMC/TSL/030924/St2

Issued Date-03.09.2024

STACK EMISSION MONITORING TEST REPORT

Name & Address of the Client	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur		
Nature of Sampling	Source Emission		
Instrument Used	Flue Gas Analyzer		
Sampling Date & Time	21.08.2024 & 11.20AM		
Location of Sampling	GCP-3&4		

ANALYSIS RESULT

A.	General Information about stack	· · · · · ·			
1	Stack connected to	con ct:			
2	Emission due to	GCP Chimney-3&4			
3	Material of Construction of Stack				
4	Shape of Stack	M.S			
5	Whether Stack is provided with Permanent Platform &	Circular			
	Ladders Violation &	Yes			
6	Boiler/Furnace/DG/Kiln Capacity	NA			
B.	Physical Characteristics of Stack:	100			
1	Height of the stack				
	(a) from Ground Level (m)	16			
2	Diameter of the stack at sampling point (m)	2.0			
	(a) at bottom (m)	-			
3	Area of Stack (m ³)	3.14			
C.	Analysis/Characteristics of Stack				
1	Fuel used	NA			
2	Fuel consumption	NA			
D	Results of sampling & Analysis of gaseous emission	Result	Method		
1	Temperature of emission (°C)	119	IS: 11255 (Part 3)		
2	Barometric Pressure (mmHg)	759	USEPA(Part 2)		
3	Velocity of gas in duct (M/sec)	8.57	IS: 11255 (Part 3)		
4	Quantity of gas flow (Nm ³ /hr)	930257.3	IS: 11255 (Part 3)		
5	Concentration of SO ₂ (mg/Nm ³)	64.2	IS: 11255 (Part 2)		
6	Concentration of NOx (mg/Nm ³)	68.4	IS: 11255 (Part 7)		
7	Concentration of CO (% V/V)	4.6	IS: 13270		
8	Concentration of CO ₂ (% V/V)	6.4	IS: 13270		
9	Concentration of PM (mg/Nm ³)	46	IS: 11255 (Part 1)		
E	Pollution Control Device	NA	The state of the state of		
	Details of pollution control device attached with the stack				
F	Remarks	Nil			

Authorized Signatory

Environmental Laboratory

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Notes:

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Report No. - CEMC/TSL/030924/St4

Issued Date-03.09.2024

STACK EMISSION MONITORING TEST REPORT

Name & Address of the Client	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Nature of Sampling	Source Emission
Instrument Used	Flue Gas Analyzer
Sampling Date & Time	28.08.2024 & 3.20PM
Location of Sampling	GCP-3&4

ANALYSIS RESULT

Α.	General Information about stack			
1	Stack connected to	GCP Chimn	ey-3&4	
2	Emission due to			
3	Material of Construction of Stack	M.S		
4	Shape of Stack	Circular		
5	Whether Stack is provided with Permanent Platform & Ladders	Yes		
6	Boiler/Furnace/DG/Kiln Capacity	NA		
B.	Physical Characteristics of Stack:			
1	Height of the stack			
	(a) from Ground Level (m)	16		
2	Diameter of the stack at sampling point (m)	2.0		
	(a) at bottom (m)	-		
3	Area of Stack (m2)	3.14		
C.	Analysis/Characteristics of Stack			
1	Fuel used	NA		
2	Fuel consumption	NA		
D	Results of sampling & Analysis of gaseous emission	Result	Method	
1	Temperature of emission (°C)	128	IS: 11255 (Part 3)	
2	Barometric Pressure (mmHg)	759	USEPA(Part 2)	
3	Velocity of gas in duct (M/sec)	8.43	IS: 11255 (Part 3)	
4	Quantity of gas flow (Nm³/hr)	851708.5	IS: 11255 (Part 3)	
5	Concentration of SO ₂ (mg/Nm ³)	60.4	IS: 11255 (Part 2)	
6	Concentration of NOx (mg/Nm³)	67.2	IS: 11255 (Part 7)	
7	Concentration of CO (% V/V)	4.1	IS: 13270	
8	Concentration of CO ₂ (% V/V)	6.8	IS: 13270	
9	Concentration of PM (mg/Nm³)	45	IS: 11255 (Part 1)	
E	Pollution Control Device Details of pollution control device attached with the stack	NA		
F	Remarks	MICE		

Authorized Signatory

Notes:

> The result given above related to the tested sample, as received. The result given asked for the above test only.

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Report No. - CEMC/TSL/031024/St1

Issued Date-03.10.2024

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STACK EMISSION MONITORING TEST REPORT

Name & Address of the Client	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Nature of Sampling	Source Emission
Instrument Used	Flue Gas Analyzer
Sampling Date & Time	09.09.2024 & 12.10 PM
Location of Sampling	GCP-1&2

ANALYSIS RESULT

Α.	General Information about stack	_		
1	Stack connected to	GCP Chim	nov. 1 & 2	
2	Emission due to	GCF CHIM	ney-16.2	
3	Material of Construction of Stack	M.S		
4	Shape of Stack	Circular		
5	Whether Stack is provided with Permanent Platform &			
	Ladders Stack is provided with Permanent Platform &	Yes		
6	Boiler/Furnace/DG/Kiln Capacity	NA		
B.	Physical Characteristics of Stack:	1.3.7.2		
1	Height of the stack			
	(a) from Ground Level (m)	25		
2	Diameter of the stack at sampling point (m)	2.0		
	(a) at bottom (m)	-		
3	Area of Stack (m2)	3.14		
C.	Analysis/Characteristics of Stack			
1	Fuel used	NA		
2	Fuel consumption	NA		
D	Results of sampling & Analysis of gaseous emission	Result	Method	
1	Temperature of emission (°C)	124	IS: 11255 (Part 3)	
2	Barometric Pressure (mmHg)	759	USEPA(Part 2)	
3	Velocity of gas in duct (M/sec)	8.11	IS: 11255 (Part 3)	
4	Quantity of gas flow (Nm3/hr)	87365,7	IS: 11255 (Part 3)	
5	Concentration of SO ₂ (mg/Nm ³)	52.4	IS: 11255 (Part 2)	
6	Concentration of NOx (mg/Nm³)	65,6	IS: 11255 (Part 7)	
7	Concentration of CO (% V/V)	3.2	IS: 13270	
8	Concentration of CO ₂ (% V/V)	6.1	IS: 13270	
9	Concentration of PM (mg/Nm³)	45	IS: 11255 (Part 1)	
E	Pollution Control Device	NA	Tros trans (Part 1)	
- 5	Details of pollution control device attached with the stack	3000		
F	Remarks	Nil		
	.0			

Author ized Signatory Notes:

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Report No. - CEMC/TSL/031024/St2

Issued Date-03.10.2024

STACK EMISSION MONITORING TEST REPORT

Name & Address of the Client	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Nature of Sampling	Source Emission
Instrument Used	Flue Gas Analyzer
Sampling Date & Time	28.09,2024 & 10.40 AM
Location of Sampling	GCP-1&2

ANALYSIS RESULT

A.	General Information about stack				
1	Stack connected to	GCP Chim	nev-1&2		
2	Emission due to		107.1000		
3	Material of Construction of Stack	M.S			
4	Shape of Stack	Circular	The second second		
5	Whether Stack is provided with Permanent Platform & Ladders	Yes			
6	Boiler/Furnace/DG/Kiln Capacity	NA			
B.	Physical Characteristics of Stack:				
1	Height of the stack				
	(a) from Ground Level (m)	25			
2	Diameter of the stack at sampling point (m)	2.0			
	(a) at bottom (m)	-			
3	Area of Stack (m²)	3.14			
C.	Analysis/Characteristics of Stack	(thoda)			
1	Fuel used	NA			
2	Fuel consumption	NA			
D	Results of sampling & Analysis of gaseous emission	Result	Method		
1	Temperature of emission (°C)	129	IS: 11255 (Part 3)		
2	Barometric Pressure (mmHg)	759	USEPA(Part 2)		
3	Velocity of gas in duct (M/sec)	7.82	IS: 11255 (Part 3)		
4	Quantity of gas flow (Nm3/hr)	87600.7	IS: 11255 (Part 3)		
5	Concentration of SO ₂ (mg/Nm ³)	53.4	IS: 11255 (Part 2)		
5	Concentration of NOx (mg/Nm³)	63.6	IS: 11255 (Part 7)		
7	Concentration of CO (% V/V)	3.3	IS: 13270		
3	Concentration of CO ₂ (% V/V)	5.8	IS: 13270		
)	Concentration of PM (mg/Nm³)	48	IS: 11255 (Part 1)		
3	Pollution Control Device Details of pollution control device attached with the stack	NA	1 11 (1 1)		
7	Remarks				

Authorized Signatory Notes:

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Report no.-CEMC/TSL/040524/A1

Issued Date-04.05,2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	Roof Top-ADM Building (Core Zone)
Average Flow Rate of PM (m /min)/ Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-04052024A1
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

ANALYSIS RESULT

O Date	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m³)	NOx (µg/m³)	CO (mg/m²)	NH ₃ (µg/m ³)	O ₃	Pb (µg/m³)	Ni (ag/m²)	As (ng/m³)	Benzene (µg/m²)	BaP (ng/m²)
@1.04.24	94.2	45.8	11.8	21.3	0.41	<20	<10	<0.1	<0.6	<0.44	<5	<1
04.04.24	96.4	46.1	12.6	19.6	0.42	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
8.04.24	89.6	43,4	13.2	20.8	0.43	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
11.04.24	90.1	42.2	15.4	21.9	0.38	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
5.04.24	93.5	39.3	13.9	22.6	0.45	<20	<10	< 0.1	<0.6	<0.44	<5	<1
18.04.24	89.4	41.4	13.1	21.7	0.36	<20	<10	<0.1	<0.6	< 0.44	<5	<1
22.04.24	94.8	36.2	13.9	19.6	0.38	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
25.04.24	87.2	37.8	13.4	21.4	0.41	<20	<10	< 0.1	<0.6	< 0.44	<5	<1
29.04.24	86.7	38.7	12.8	21.8	0.42	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
Avg	91.32	41.21	13.34	21.19	0.41	<20	<10	<0.1	<0.6	< 0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Hethods of Analysis	IS: 5182 (Part-23)	IS: 5182 (Part-24)	IS: 5182 (Part-2)	1S: 5182 (Part-6)	15: 5182 (Part-10)	18: 5182 (Part-25)		IS: 5182 (Part-22)			1S: 5182 (Part-11)	1S: 5182 (Part-12)

N.B. *NAAQ-National Ambient Air Quality Standard as per 18th Nov. 2009 Gatt. Notification.

" symbol implicates that the values are below the limit or undestrable and cannot be incorporated in the report

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Report no.-CEMC/TSL/040524/A2

Issued Date-04.05,2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	Infront of FC cast House (Core Zone)
Average Flow Rate of PM (m /min)/ Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-04052024A2
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

ANALYSIS RESULT

					ANAL	1919 KE9	ULL				1007 700 100	
Date	РМ ₁₀ (µg/m ³)	PM _{2.5} (μg/m ³)	SO ₂ (μg/m ³)	NOx (μg/m³)	CO (mg/m ³)	NH ₃ (µg/m ³)	Ο ₃ (μg/m ³)	Pb (μg/m ³)	Ni (ng/m³)	As (ng/m ³)	Benzene (µg/m³)	BaP (ng/m³)
01.04.24	87.4	40.6	13.1	19.8	0.38	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
4.04.24	91.4	41.3	13.4	18.6	0.41	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
08.04.24	90,8	41.5	14.2	20.3	0.37	<20	<10	< 0.1	<0.6	< 0.44	<5	<1
1.04.24	88.5	38.2	15.4	21.4	0.39	<20	<10	< 0.1	<0.6	<0.44	<5	<1
15.04.24	91.8	42.6	14.6	20.5	0.4	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
18.04.24	94.3	42.4	14.5	21.1	0.38	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
22.04.24	90.2	39.8	13.6	20.6	0.39	<20	<10	< 0.1	<0.6	< 0.44	<5	<1
25.04.24	91.4	38.6	14.7	22.4	0.43	<20	<10	<0.1	<0.6	< 0.44	<5	<1
29.04.24	88.6	37.9	13.4	21.7	0.42	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
O Avg	90.49	40.32	14.10	20,71	0.40	<20	<10	<0.1	<0.6	<0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of	15: 5182 (Part-23)	IS: 5182 (Part-24)	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	IS: 5182 (Part-25)	III EUROS MINISTERNO	IS: 5182 (Part-22)		A CONTRACTOR OF THE PARTY OF TH	IS: 5182 (Part-11)	IS: 5182 (Part-12

N.B. *NAAQ-National Ambient Air Quality Standard as per 18th Nov. 2009 Gatt. Notification.

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Report no.-CEMC/TSL/040524/A3

Issued Date-04.05,2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

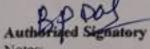
Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	Infront of CPP (Core Zone)
Average Flow Rate of PM (m²/min)/ Gases (LPM)	1,1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-04052024A3
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

ANALYSIS RESULT BaP Pb Ni As Benzene PMin PM₂₅ NOx CO NH; O, SO2 Date (µg/m³) (µg/m³) (ng/m³) (ng/m³) (ng/m³) (mg/m3) (ug/m") (µg/m3) (µg/m³) (µg/m (µg/m3) (µg/m') < 0.44 -5 <1 01.04.24 <20 <10 < 0.1 < 0.6 88.2 37.8 12.5 20.2 0.37 <5 <1 < 0.6 < 0.44 <20 <10 < 0.1 0.39 04.04.24 86.8 394 13.8 19.6 <10 < 0.1 < 0.6 < 0.44 <5 <1 08,04.24 <20 13.4 20.8 0.4191.6 36.6 <5 <1 < 0.1 < 0.6 < 0.44 35.2 12.9 20.4 0.38 <20 <10 11.04.24 89.4 <5 <1 0.4 <20 <10 < 0.1< 0.6 < 0.44 15,04,24 90.8 37.4 13.1 19.6 < 0.44 <5 <1 0.36 <20 <10 < 0.1 < 0.6 18.04.24 36.2 14.0 21.7 86.2 <20 <5 <1 0.35 <10 < 0.1 < 0.6 < 0.44 19.2 14.4 22.04.24 85.6 35.1 0.34 <20 <10 < 0.1 < 0.6 < 0.44 <5 <1 13.6 19.6 25.04.24 34.6 86.4 <20 <10 < 0.6 < 0.44 <3 <1 29,04.24 88.6 36.5 13.9 21.8 0.42 < 0.1 <20 <10 < 0.44 3 <1 88.18 36.53 13.51 20.32 0.38 < 0.1 < 0.6 Avg NAAQ* 4 400 100 1.0 20 6 5 1 100 60 80 80 itandard IS: 5182 IS: 5182 IS: 5182 CPCB IS: 5182 IS: 5182 IS: 5182 Methods of IS: 5182 IS: 5182 15: 5182 IS: 5182 (Part-25) (Part-9) (Part-22) (Part-26) Method (Part-11) (Part-12) (Part-23) (Part-24) (Part-2) (Part-6) (Part-10) Analysis

N.B. *NAAQ- National Ambient Air Quality Standard as per 18th New, 2009 Gett. Notification

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Report no.-CEMC/TSL/040524/A4

Issued Date-04.05,2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	MRP Building (Core Zone)
Average Flow Rate of PM (m ³ /min)/ Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-04052024A4
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

ANALYSIS RESULT

Real Property lies					- PROPERTY AND REAL PROPERTY.	DISKES	CUI					
O Date	PM ₁₀ (µg/m ³)	PM _{2.5} (μg/m ³)	SO ₂ (µg/m ³)	NOx (µg/m³)	CO (mg/m ³)	NH ₃ (µg/m ³)	O ₃ (µg/m ³)	Pb (ng/m³)	Ni (ng/m³)	90'00011040	Benzene (µg/m³)	BaP (ng/m³)
01.04.24	84.3	35.4	12.3	19.4	0.34	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
04.04.24	86.2	36.3	13.1	20.2	0.36	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
08.04.24	85.4	34.7	12.4	18.3	0.29	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
11.04.24	85.5	36.1	13.2	19.2	0.31	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
5.04.24	87.3	34.5	13.5	19.8	0.32	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
18.04.24	88.1	33.6	12.6	19.6	0.34	<20	<10	< 0.1	<0.6	< 0.44	<5	<1
22.04.24	86.5	36.4	13.8	20.4	0.37	<20	<10.	<0.1	< 0.6	< 0.44	<5	<1
25.04.24	83.4	33.8	12.2	19.6	0.29	<20	<10	<0.1	<0.6	< 0.44	<5	<1
29.04.24	87.8	36.5	13.4	21.2	0.41	<20	<10	< 0.1	<0.6	< 0.44	<5	<1
Avg	86.06	35.26	12.94	19.74	0.34	<20	<10	<0.1	<0.6	<0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
elethods of Analysis	15: 5182 (Part-23)	1S: 5182 (Part-24)	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	1S: 5182 (Part-25)		IS: 5182 (Part-22)			IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B. *NAAQ- National Ambient Air Quality Standard as per 18th Nov. 2009 Gatt. Notification.

" symbol implicates that the values are below the limit or undestrable and cannot be incorporated in the report

END OF REPORT

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Report no.-CEMC/TSL/040524/A5

Issued Date-04.05,2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur						
Sample Description	Ambient Air Quality						
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day						
Sample Drawn by	Mr. Rabindranath Das						
Sampling Location	BQT (Briquette) (Core Zone)						
Average Flow Rate of PM (m /min)/ Gases (LPM)	1.1/1.0						
Weather Conditions	Clear Sky						
Reference No.	CEMC-04052024A5						
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment						

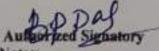
ANALYSIS RESULT

Date	PM ₁₀ (μg/m³)	PM _{2.5} (μg/m ³)	SO ₂ (µg/m ³)	NOx (µg/m³)	CO (mg/m³)	NH ₃ (µg/m ³)	O ₃ (µg/m ³)	Pb (µg/m³)	Ni (ng/m³)	As (ng/m ³)	Benzene (µg/m³)	BaP (ng/m³)
01.04.24	102.3	44.6	13.4	19.8	0.38	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
04.04.24	106.5	46.8	12.8	22,2	0.42	<20	<10	< 0.1	< 0.6	< 0.44	<3	<1
08.04.24	98.8	45.1	12.6	19.6	0.36	<20	<10	< 0.1	<0.6	< 0.44	<5	<1
11.04.24	104.4	46.2	12.7	19.7	0.39	<20	<10	<0.1	<0.6	< 0.44	<5	<1
15.04.24	101.6	43.4	13.4	20.2	0.41	<20	<10	< 0.1	<0.6	< 0.44	<5	<1
18.04.24	99.2	42.5	12.8	19.8	0.37	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
22.04.24	102.8	43.6	13.2	21.6	0.43	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
25.04.24	97.6	41.9	12.4	20.7	0.41	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
29.04.24	105.4	45,4	13.5	21.9	0.42	<20	<10	< 0.1	<0.6	< 0.44	<5	<1
Avg	102.07	44.39	12.98	20.61	0.40	<20	<10	<0.1	<0.6	<0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
ethods of Analysis	IS: 5182 (Part-23)	IS: 5182 (Part-24)	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	IS: 5182 (Part-25)			IS: 5182 (Part-26)		IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B. *NAAQ- National Ambient Air Quality Standard as per 18th New, 2009 Gats Notification.

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Report no.-CEMC/TSL/050624/A1

Issued Date-05.06.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur						
Sample Description	Ambient Air Quality						
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day						
Sample Drawn by	Mr. Rabindranath Das						
Sampling Location	Roof Top-ADM Building (Core Zone)						
Average Flow Rate of PM (m³/min)/ Gases (LPM)	1.1/1.0						
Weather Conditions	Clear Sky						
Reference No.	CEMC-05062024A1						
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gascous Attachment						

ANALYSIS RESULT

		ANALYSIS RESULT											
Date	PM ₁₀ (μg/m ³)	PM _{2,5} (μg/m ³)	SO ₂ (µg/m ³)	NOx (µg/m³)	CO (mg/m³)	NH ₃ (µg/m ³)	O ₃ (µg/m ³)	Pb (μg/m³)	Ni (ng/m³)		Benzene (µg/m³)	BaP (ng/m³)	
02.05.24	95.9	49.6	16.4	21.4	0.42	<20	<10	<0.1	< 0.6	< 0.44	<5	<1	
06.05.24	97.1	42.9	14.9	23.7	0.44	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1	
09.05.24	99.3	45.3	15.8	25.4	0.38	<20	<10	<0.1	<0.6	< 0.44	<5	<1	
13.05.24	95.1	47.9	16.2	21.8	0.39	<20	<10	<0.1	< 0.6	< 0.44	<5	<1	
16.05.24	96.8	44.3	17.9	22.9	0.41	<20	<10	< 0.1	<0.6	< 0.44	<5	<1	
20.05.24	101.6	50.1	18.2	23.2	0.42	<20	<10	<0.1	<0.6	< 0.44	<5	<1	
23.05.24	99.1	49.5	16.3	25.6	0.37	<20	<10	<0.1	<0.6	< 0.44	<5	<1	
27.05.24	92.7	48.4	15.4	29.9	0.40	<20	<10	<0.1	< 0.6	< 0.44	<5	<1	
30.05.24	98.5	49.1	15.1	25.7	0.42	<20	<10	<0.1	< 0.6	< 0.44	<5	<1	
Avg	97.34	47.46	16.24	24.40	0.41	<20	<10	<0.1	<0.6	< 0.44	<5	<1	
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1	
Methods of Analysis	IS: 5182 (Part-23)	IS: 5182 (Part-24)	IS: 5182 (Part-2)	IS: 5182 (Part-6)	1S: 5182 (Part-10)	IS: 5182 (Part-25)	The second second second	BECOME SECURITION OF STREET	IS: 5182 (Part-26)		IS: 5182 (Part-11)	IS: 5182 (Part-12	

N.B. *NAAQ-National Ambient Air Quality Standard as per 18th Nov., 2009 Gatt. Notification.

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END OF REPORT

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Report no.-CEMC/TSL/050624/A2

Issued Date-05.06.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	Infront of FC cast House (Core Zone)
Average Flow Rate of PM (m³/min)/ Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-05962024A2
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

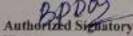
ANALYSIS RESULT

			T. Daniel			LISIS RESULT						
Date	PM ₁₀ (μg/m ³)	PM _{2.5} (μg/m ³)	SO ₂ (µg/m ³)	NOx (μg/m³)	CO (mg/m³)	NH ₃ (µg/m ³)	O ₃ (μg/m ³)	Pb (μg/m³)	Ni (ng/m²)	As (ng/m ³)	Benzene (µg/m³)	BaP (ng/m ³
02.05.24	90.3	41.9	13.7	19.4	0.38	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
06.05.24	97.4	38.2	14.1	17.4	0.39	<20	<10	< 0.1	<0.6	< 0.44	<5	<1
09.05.24	101.6	41.2	17.6	24.3	0.39	<20	<10	<0.1	<0.6	< 0.44	<5	<1
13.05.24	100.2	42.8	18.1	26.2	0.35	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
16.05.24	99.4	33.6	16.3	18.9	0.39	<20	<10	<0.1	<0.6	< 0.44	<5	<1
20.05.24	95.9	34.9	17.3	21.2	0.36	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
23.05.24	90.4	32,6	15.7	19.3	0.38	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
27.05.24	99.3	38.5	16.3	17.3	0.39	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
30.05.24	94.3	38.1	17.2	19.1	0.41	<20	<10	< 0.1	<0.6	< 0.44	<5	<1
Avg	96.53	37.98	16.26	20.34	0.38	<20	<10	<0.1	<0.6	< 0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	15: 5182 (Part-24)	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	IS: 5182 (Part-25)			IS: 5182 (Part-26)		18: 5182 (Part-11)	IS: 5182 (Part-12

N.B. *NAAQ- National Ambient Air Quality Standard on per 18th New, 2009 Gatt. Notification.

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Report no.-CEMC/TSL/050624/A3

Issued Date-05.06.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	Infront of CPP (Core Zone)
Average Flow Rate of PM (m /min)/ Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-05062024A3
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

ANALYSIS DESILT

Date	PM ₁₀ (μg/m ³)	PM _{2,5} (µg/m ³)	SO ₂ (µg/m ³)	NOx (μg/m³)	CO (mg/m³)	NH ₃ (μg/m³)	0,	Pb (µg/m³)	Ni (ne/m³)	As (ng/m³)	Benzene (µg/m³)	BaP (ng/m³)
02.05.24	87.5	34.3	15.6	19.4	0.33	<20	<10	<0.1	<0.6	<0.44	<5	<1
06.05.24	88.6	31.4	14.2	18.6	0.34	<20	<10	<0.1	<0.6	<0.44	<5	<1
09.05.24	85.9	37.7	12.6	19.3	0.37	<20	<10	<0.1	<0.6	< 0.44	<5	<1
13.05.24	80.3	36.7	15.6	20.7	0.36	<20	<10	<0.1	<0.6	<0.44	<5	<1
16.05.24	89.9	34,5	13.2	17.4	0.33	<20	<10	<0.1	<0.6	<0.44	<5	<1
20,05.24	88.1	39.7	14.5	20.8	0.32	<20	<10	<0.1	<0.6	< 0.44	- 65	<1
23.05.24	90.1	34.7	15.6	17.4	0.37	<20	<10	<0.1	<0.6	< 0.44	<5	<1
27.05.24	88.2	38.8	12.9	17.1	0.31	<20	<10	<0.1	< 0.6	<0.44	<5	<i< td=""></i<>
30.05.24	87.4	36.6	15.4	18.6	0.32	<20	<10	<0.1	<0.6	< 0.44	- 45	<1
Avg	87.33	36.04	14.40	18.81	0.34	<20	<10	<0.1	<0.6	<0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	15: 5182 (Part-23)	IS: 5182 (Part-24)	1S: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	IS: 5182 (Part-25)			IS: 5182 (Part-26)		IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B. *NAAQ-National Ambient Air Quality Standard as per 18th Nov. 2009 Gatt. Notification.

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END OF REPORT

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Report no.-CEMC/TSL/050624/A4

Issued Date-05.06.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	MRP Building (Core Zone)
Average Flow Rate of PM (m3/min)/ Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-05062924A4
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

ANALYSIS RESULT

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(Part-25)

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PMin PM2.5 SO NOX CO NH Pb Ni O, Date As Benzene BaP (µg/m) (µg/m3) (µg/m3) (µg/m3) (mg/m') (µg/m³) (µg/m³) (ng/m³) (µg/m³) (µg/m²) (ng/m') 02.05.24 89.6 39.2 13.5 17.5 0.34 <20 <10 < 0.1 < 0.6 < 0.44 06.05.24 88.9 31.7 12.4 18.1 0.33 <20 < 10< 0.1 < 0.6 <0.44 <5 3 09.05.24 94.1 38.8 13.9 19.5 0.38 -20 <10 < 0.1 < 0.6 < 0.44 <5 < 13.05.24 12.4 88.6 32.9 17.4 0.34 <20 <10 < 0.1 < 0.6 < 0.44 <5 <1 16.05.24 82.3 31.1 14.2 19.4 0.28 <20 <10 < 0.1 < 0.6 < 0.44 <5 <1 20.05.24 81.6 35.4 12.8 18.7 0.32 <20 <10 < 0.1 < 0.6 < 0.44 25 <1 23.05.24 85.3 31.5 14.2 19.8 0.38 <20 <10 < 0.1 < 0.6 < 0.44 25 <1 27.05.24 90.5 35.3 13.5 19.4 0.30 <20 <10 < 0.1 < 0.6 < 0.44 <5 <1 30.05.24 82.9 32.9 13.5 17.6 0.36 <20 <10 < 0.1<0.6 < 0.44 35 <1 87.09 Avg 34.31 13.38 18.61 0.34 <20 <10 < 0.1 < 0.6 < 0.44 <5 <1 NAAQ*

(Part-9) (Part-22) (Part-26) Method (Part-11) (Part-12) N.B. *NAAQ-Neutomat Ambient Air Quality Standard as per 18th Nov., 2009 Gutt. Northwestian.

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IS: 5182

(Part-10)

END OF REPORT

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IS: 5182

(Part-24)

Notes:

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IS: 5182

(Part-23)

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Methods of

Analysis

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IS: 5182

(Part-2) (Part-6)

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An SQ 3001-27154 DRSAS SOCIETY OF EIA Studies as 'A' Category Consultant Organization. Emparaties with PCCF (Wildits) &CWLW, Odisha Enlisted in Construction Industry Development Council (CIDC) established by the Planning Councilssion (Gove. of India) MoEFACC, Govt of India RecognizedEnvironment Laboratory under Environment (Protection) Act, 1986 & NABL Accredited Laboratory

Report no.-CEMC/TSL/050624/A5

Issued Date-05.06.2024

AMRIENT AIR QUALITY MONITORING TEST DEPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	BQT (Briquette) (Core Zone)
Average Flow Rate of PM (m3/min)/ Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-05062024A5
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

					ANALY	YSIS RES	ULT					-
Date	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₁ (μg/m ³)	NOx (µg/m³)	CO (mg/m³)	NH ₃ (μg/m ³)	O _j (µg/m ³)	Pb (μg/m³)	Ni (ng/m³)	As (ng/m ³)	Benzene (µg/m³)	BaP (ng/m³)
02.05.24	99.2	49.2	17.6	21.5	0.44	<20	<10	<0.1	< 0.6	< 0.44	<5	<i< td=""></i<>
06.05.24	103.6	51.6	16.5	21.9	0.48	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
09.05.24	100.1	50.2	16.2	19.4	0.41	<20	<10	<0.1	<0.6	<0.44	<5	<1
13.05.24	106.3	53.4	18.2	22.9	0.46	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
16.05.24	97.6	43.1	15.6	20.4	0.49	<20	<10	<0.1	<0.6	< 0.44	<5	<1
20.05.24	101.3	44.7	16.4	21.9	0.43	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
23,05.24	100.2	49.8	17.6	22.1	0.49	<20	<10	<0.1	<0.6	< 0.44	<5	<1
27.05.24	97.8	41.9	18.4	23.9	0.41	<20	<10	<0.1	<0.6	< 0.44	<5	<1
30.05.24	99.3	50.1	16.9	20.1	0.40	<20	<10	<0.1	<0.6	<0.44	<5	<1
Avg	100.6	48.22	17.04	21.57	0.45	<20	<10	<0.1	<0.6	< 0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	18: 5182 (Part-23)	IS: 5182 (Part-24)	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	IS: 5182 (Part-25)			18: 5182 (Part-26)		IS: 5182 (Part-11)	IS: 5182 (Part-12)

National Ambient Air Quality Standard as per 18th New, 2009 Gatt. Notification.

" symbol implicates that the values are below the limit or undexvable and cannot be incorporated in the report

END OF REPORT

Authory Notes:

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Report no.-CEMC/TSL/040724/A1

Issued Date-04.07.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur						
Sample Description	Ambient Air Quality						
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day						
Sample Drawn by	Mr. Rabindranath Das						
Sampling Location	Roof Top-ADM Building (Core Zone)						
Average Flow Rate of PM (m3/min)/ Gases (LPM)	1.1/1.0						
Weather Conditions	Clear Sky						
Reference No.	CEMC-04072024A1						
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment						

ANALYSIS RESULT

					ANALI	1919 KES	ULL					
Date	PM ₁₀ (μg/m ³)	PM _{2.5} (μg/m ³)	SO ₂ (µg/m ³)	NOx (μg/m³)	CO (mg/m³)	NH ₃ (μg/m ³)	O ₃ (μg/m ³)	Pb (μg/m³)	Ni (ng/m³)	As (ng/m³)	Benzene (µg/m³)	BaP (ng/m³)
03.06.24	90.4	46.2	15.8	20.1	0.39	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
06.06.24	94.6	41.4	14.1	22.4	0.41	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
10.06.24	96.8	44.6	15.0	24.6	0.37	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
13.06.24	92.4	46.2	15.4	20.2	0.36	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
7.06.24	94.3	43.4	16.5	21.6	0.38	<20	<10	< 0.1	< 0.6	< 0.44	<5	<
20.06.24	86.2	38.6	13.6	19.4	0.35	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
24.06.24	84.6	38.2	13.1	19.8	0.34	<20	<10	< 0.1	<0.6	< 0.44	<5	<1
27.06.24	82.4	37.6	12.8	19.2	0.32	<20	<10	< 0.1	<0.6	< 0.44	<5	<1
a Avg	90.21	42.03	14.54	20.91	0.37	<20	<10	<0.1	<0.6	< 0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	15: 5182 (Part-24)	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	IS: 5182 (Part-25)		IS: 5182 (Part-22)	MERCHANIST BOX	DOMESTIC OF THE PARTY.	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nav. 2009 Gatt. Notification.

"<" symbol implicates that the values are below the limit or undestrable and cannot be incorporated in the report

END OF REPORT

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Laboratory At: Plot No. 800/1274, Johal, Pahai, Bhubaneswar-752101, Odisha, India, ,Mobile: 7752014842 E-mail: cemclab@yahoo.in

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Report no.-CEMC/TSL/040724/A2

Issued Date-04.07.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	Infront of FC cast House (Core Zone)
Average Flow Rate of PM (m3/min)/ Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-04072024A2
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

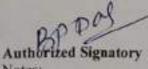
ANALYSIS DESILT

Date	PM ₁₀ (μg/m³)	PM _{2.5} (μg/m ³)	SO ₂ (µg/m ³)	NOx (µg/m³)	CO (mg/m³)	NH ₃ (µg/m ³)	Ο ₃ (μg/m³)	Pb (µg/m³)	Ni (ng/m³)	As (ng/m ³)	Benzene (µg/m³)	BaP (ng/m³)
03.06.24	88.2	39.6	12.8	18.3	0.37	<20	<10	<0.1	<0.6	<0.44	<5	<1
06.06.24	91.4	34.6	13.1	16.2	0.36	<20	<10	<0.1	<0.6	< 0.44	<5	<1
10.06.24	92.3	40.6	17.1	23.6	0.38	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
3.06.24	96.4	40.4	17.4	25.6	0.35	<20	<10	<0.1	<0.6	< 0.44	<5	<1
17.06.24	94.2	36.2	15.6	17.8	0.37	<20	<10	<0.1	<0.6	< 0.44	<5	<1
20.06.24	85.6	32.2	16.1	18.2	0.34	<20	<10	< 0.1	<0.6	< 0.44	<5	<1
24.06.24	82.8	30.4	15.2	17.4	0.32	<20	<10	<0.1	<0.6	< 0.44	<5	<1
27.06.24	81.4	37.3	14.8	16.1	0.31	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
Avg	89.04	36.41	15.26	19.15	0.35	<20	<10	<0.1	<0.6	<0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	IS: 5182 (Part-24)	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	IS: 5182 (Part-25)		IS: 5182 (Part-22)			1S: 5182 (Part-11)	18: 5182 (Part-12)

N.B. *NAAQ- National Ambient Air Quality Standard as per 18th Nov. 2009 Gatt. Notification.

- symbol implicates that the values are below the limit or undestrable and cannot be incorporated in the report.

END OF REPORT



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Seal of Laboratory

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Report no.-CEMC/TSL/040724/A3

Issued Date-04.07.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	Infront of CPP (Core Zone)
Average Flow Rate of PM (m/min) Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-04072024A3
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

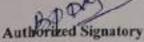
ANALYSIS RESULT

-		2.00	111		ANALI	(212 KE2)	ULIL	-	1 100	11		
Date	PM ₁₀ (μg/m ³)	PM _{2.5} (μg/m ³)	SO ₂ (µg/m ³)	NOx (µg/m³)	CO (mg/m³)	NH ₃ (μg/m ³)	Ο ₃ (μg/m ³)	Pb (μg/m³)	Ni (ng/m³)	As (ng/m ³)	Benzene (µg/m³)	BaP (ng/m³)
03.06.24	82.4	31.6	14.3	18.2	0.31	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
06.06.24	83.2	30.2	13.5	17.8	0.32	<20	<10	<0.1	<0.6	<0.44	<5	<1
10.06.24	80.5	34.4	12.4	18.4	0.35	<20	<10	<0.1	< 0.6	<0.44	<5	<1
13.06.24	78.6	33.3	13.8	20.1	0.34	<20	<10	<0.1	< 0.6	<0.44	<5	<1
17.06.24	84.8	33.2	12.6	16.3	0.31	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
20.06.24	76.4	32.8	13.8	19.2	0.30	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
24.06.24	85.2	33.4	14.2	16.2	0.35	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
27.06.24	83.4	34.2	12.1	16.4	0.32	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
Avg	81.81	32.89	13.34	17.83	0.33	<20	<10	<0.1	<0.6	<0.44	্	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	1S: 5182 (Part-23)	IS: 5182 (Part-24)	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	1S: 5182 (Part-25)	I MANAGEMENT HOLE	IS: 5182 (Part-22)	STATE OF THE PARTY	BEN DE STANISSES	IS: 5182 (Part-11)	IS: 5182 (Part-12

N.B. *NAAQ- National Ambient Air Quality Standard as per 18th Nov. 2009 Gatt. Notification.

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END OF REPORT



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Report no.-CEMC/TSL/040724/A4

Weather Conditions

Issued Date-04.07.2024

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	MRP Building (Core Zone)
Average Flow Rate of PM (m/min) Gases (LPM)	1.1/1.0

Clear Sky

AMBIENT AIR QUALITY MONITORING TEST REPORT

Reference No. CEMC-04072024A4

Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

										_			
	ANALYSIS RESULT												
Date	PM ₁₀ (μg/m ³)	PM _{2.5} (μg/m ²)	SO ₂ (µg/m ³)	NOx (μg/m³)	CO (mg/m²)	NH ₃ (µg/m ³)	O ₃ (µg/m³)	Рь (µg/m³)	Ni (ng/m³)	As (ng/m³)	Benzene (µg/m³)	BaP (ng/m³)	
03.06.24	85.2	33.7	12.8	16.4	0.33	<20	<i0< td=""><td>< 0.1</td><td><0.6</td><td>< 0.44</td><td><.5</td><td><1</td></i0<>	< 0.1	<0.6	< 0.44	<.5	<1	
06.06.24	84.6	30.8	11.8	16.1	0.31	<20	<10	< 0.1	<0.6	<0,44	<5	<1	
10.06.24	86.6	35.4	13.2	18.6	0.36	<20	<10	< 0.1	<0.6	< 0.44	<5	<1	
13.06.24	84.4	31.6	11.8	16.6	0.31	<20	<10	< 0.1	<0.6	<0.44	45	<1	
17.06.24	78.4	29.8	13.1	18.2	0.27	<20	<10	< 0.1	<0.6	<0.44	<5	<1	
20.06.24	74.6	30.2	11.4	17.2	0.29	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1	
24.06.24	76.4	30.6	13.6	18.4	0.32	<20	<10	< 0.1	<0.6	< 0.44	<5	<1	
27.06.24	82.2	31.1	12.8	18.2	0.28	<20	<10	< 0.1	<0.6	< 0.44	<5	<1	
Avg	81.55	31.65	12.56	17.46	0.31	<20	<10	< 0.1	<0.6	< 0.44	<5	<1	
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1	
Methods of Analysis	15: 5182 (Part-23)	1S: 5182 (Part-24)	IS: 5182 (Part-2)	IS: 5182 (Part-6)	1S: 5182 (Part-10)	18: 5182 (Part-25)		IS: 5182 (Part-22)	The second second	A STATE OF THE PARTY OF THE PAR	IS: 5182 (Part-11)	15: 5182 (Part-12	

N.B. *NASQ-National Ambient die Quality Standard as per 18th Nov. 2009 Gott. Northcomm

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Laboratory

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Report no.-CEMC/TSL/040724/A5

Issued Date-04.07.2024

AMBIENT AIR	QUALITY	MONITORING	TEST	REPORT
		M/s. TATA Ste	el Ltd.,	(Ferro Alloys I

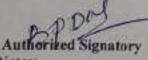
Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	BQT (Briquette) (Core Zone)
Average Flow Rate of PM (m3/min)/ Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-04072024A5
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

ANALYSIS RESULT

Date	PM ₁₀ (μg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NOx (μg/m³)	CO (mg/m³)	NH ₃ (µg/m ³)	O ₃ (µg/m ³)	Pb (µg/m³)	Ni (ng/m³)		Benzene	STATE OF THE PARTY
03.06.24	95.8	46.5	16.4	20.4	0.43	<20		CONTRACTOR DESIGNATION AND ADDRESS OF THE PARTY OF THE PA	The Real Property lies	7		(ng/m ³)
06.06.24	98.4	47.6	15.2	19.2	0.45		<10	<0.1	<0.6	< 0.44	<5	<1
10.06.24	96.4	49.4	15.8	-		<20	<10	<0.1	<0.6	<0.44	<5	<1
13.06.24	99.6	50.2		18.6	0.39	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
7.06.24	The second second second		17.6	21.7	0.44	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
Contract of the Park of the Pa	92.4	42.6	14.8	19.2	0.47	<20	<10	< 0.1	<0.6	<0.44	<5	<1
20.06.24	86.4	40.2	15.6	20.7	0.41	<20	<10	< 0.1	<0.6	< 0.44	<5	-
24.06.24	85.6	44.4	16.7	21.2	0.46	<20	<10	<0.1	<0.6	< 0.44		<1
27,06.24	84.8	40.6	17.4	22.8	0.39	<20	<10	<0.1	-	THE PERSON NAMED IN	<5	<1
Avg	92.43	45.19	16.19	20.48	0.43	<20	-		< 0.6	< 0.44	<5	<1
NAAQ*	0700000		AUIA/	20.40	0.43	~20	<10	<0.1	<0.6	< 0.44	<5	<1
Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	1S: 5182 (Part-23)	1S: 5182 (Part-24)	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	IS: 5182 (Part-25)	IS: 5182 (Part-9)	CONTRACTOR OF THE PARTY OF THE	15: 5182 (Part-76)	CPCB	IS: 5182 (Part-11)	IS: 5182

N.B. *NAAQ- National Ambient Air Quality Standard as per 18th Nov., 2009 Gatt. Notification.

END OF REPORT



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Report no.-CEMC/TSL/050824/A1

Issued Date-05.08.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	Roof Top-ADM Building (Core Zone)
Average Flow Rate of PM (m ³ /min)/ Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-05082024A1
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

Date	PM ₁₀ (μg/m ²)	PM _{2.5} (μg/m ³)	SO ₂ (µg/m ³)	NOx (μg/m³)	CO (mg/m³)	NH ₃ (µg/m ³)	03	Pb (µg/m³)	Ni (ne/m³)	As (ng/m ³)	Benzene	
01.07.24	83.4	42.4	11.1	20.6	0.39	<20	<10	<0.1	<0.6	<0.44	The state of the s	(ng/m²)
04.07.24	82.6	41.8	11.7	18.4	0.4	<20	<10	<0.1	<0.6		<5	<1
¥8.07.24	71.6	40.4	11.2	19.8	0.43	\$20 \$20	S10	-	The second line	<0,44	<5	<1
11.07.24	82.8	42.6	11.9	20.9	0.38	<20	-	<0.1	<0.6	<0.44	<3	<1
5.07.24	80.5	40.3	11.9	18.6	0.45		<10	<0.1	< 0.6	< 0.44	<5	<1
18.07.24	72.4	39.2	10.1	20.7	The second second second	<20	<10	<0.1	< 0.6	<0.44	<5	<1
22.07.24	78.8	41.4	11.5		0.36	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
25 07 24	72.1			19.2	0.38	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
		9.8F	11.8	20.4	0.39	<20	<10	<0.1	<0.6	< 0.44	<5	<1
29.07.24	80.6	39.4	11.4	19.6	0.38	<20	<10	< 0.1	< 0.6	<0.44	<5	<1
Avg	78.31	40.71	11.40	19.80	0.40	<20	<10	<0.1	<0.6	< 0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
dethods of	15: 5182 (Pari-23)	18: 5182 (Fart-24)	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Fari-10)	IS: 5182 (Pari-25)	15: 5182 (Part-9)	IS: 5182	18: 5182	СРСВ	IS: 5182 (Fart-11)	IS: 5182

nt Air Quality Standard as per 18th Nov., 2009 Gatt. Notification.

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Report no.-CEMC/TSL/050824/A2

Issued Date-05.08.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air C. Ti
Sample Drawn Period/ Time	Ambient Air Quality
Sample Drawn by	Monthly/ 0900 to 0900 next day
Canalla - I	Mr. Rabindranath Das
Sampling Location	Infront of FC cast House (Core Zone)
Average Flow Rate of PM (m³/min)/ Gases (LPM)	1.1/1.0
Weather Conditions	1.7012.7000
Reference No.	Clear Sky
A STATE OF THE STA	CEMC-05082024A2
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

Date	PM ₁₀ (μg/m ³)	PM _{2.5} (μg/m ³)	SO ₂ (µg/m ³)	NOx (μg/m³)	CO (mg/m³)	YSIS RES NH ₃ (μg/m ³)	0,	Pb	Ni	As	Benzene	BaP
01.07.24	82.6	38.4	12.8	18.6	0.37	The second secon) (µg/m³	A COLUMN TO A COLU) (ng/m ³)	(µg/m')	(ng/m³)
14.07.24	81.4	39.6	12.4	-		<20_	<10	< 0.1	< 0.6	<0.44	<5	<1
08.07.24	79.8	39.1	The second second	18.2	0.55	<20	<10	<0.1	<u.0< td=""><td><0.44</td><td><3</td><td><1</td></u.0<>	<0.44	<3	<1
1.07.24	-	The second second	12.1	18.5	0.38	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
The second second second	80.6	37.8	12.6	19.4	0.36	<20	<10	<0.1	<0.6	< 0.44	<5	
15.07.24	83.2	40.4	13.2	19.6	0.39	<20	<10	<0.1	<0.6			<1
18.07.24	80.1	40.6	13.3	18.8	0.36	<20	<10	-	-	<0.44	<5	<1
22 07 24	82.7	38.2	12.4	198	0.38		-	<0.1	<0.6	< 0.44	<5	<1
25.07.24	79.8	37.4	13.1	100000000000000000000000000000000000000		<70	<10	<0.1	<0.6	<0.44	<5	<1
29,07.24	78.6		The state of the s	20.1	0.39	<20	<10	<0.1	<0.6	< 0.44	<5	<1
	CONTRACTOR OF THE PARTY OF THE	37.0	12.6	19.4	0.37	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
Avg	80.92	38.72	12.72	19.16	0.37	<20	<10	<0.1	<0.6	< 0.44	-	
NAAQ* standard	100	60	80	80	4	400	100	1.0	20	6	<5 5	<1
Methods of Analysis	IS: 5182 (Part-23)	IS: 5182 (Part-24)	IS: 5182 (Part-2)	18: 5182 (Part-6)	18: 5182 (Part-10)	18: 5182 (Part-25)	IS: 5182	IS: 5182	IS: 5182	100	IS: 5182	IS: 5182 (Part-12)

tional Ambient Air Quality Standard as per 18th Nov. 2009 Gatt. Notification.

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Report no.-CEMC/TSL/050824/A3

Issued Date-05.08.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	Infront of CPP (Core Zone)
Average Flow Rate of PM (m ² /min)/ Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-05082024A3
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

ANALYSIS RESULT PM10 PM2.5 NH, BaP NOx CO Ph Benzene SO2 O₃ As Date (µg/m³) (µg/m³) (ng/m³) (ng/m³) (µg/m³) (µg/m3) (µg/m3) (ng/m') (µg/m3) (µg/m3) (mg/m3) (µg/m") 01.07.24 < 0.6 < 0.44<5 <1 78.6 36.6 12.1 18.4 0.36 <20 <10 < 0.1-5 20 30.1 < 9.6 < 0.44 c1 04.07.24 79.4 12.6 0.34 <10 38.2 18.9 12.9 <20 <10 0.1 < 0.6 < 0.44 08.07.24 80.2 35.8 19.1 0.38 11.07.24 12.2 19.6 <20 <10 < 0.1 < 0.6 < 0.44< 5 <1 81.6 34.6 0.36 < 0.6 < 0.44 <5 15.07.24 78.2 36.2 12.4 19.2 0.35 <20 <10 < 0.1<1 0.34 <10 < 0.1 < 0.6 < 0.44 <5 77.6 35.4 12.8 18.5 <20 <1 18.07.24 0.33 <20 <10 <0.1 < 0.6 < 0.44 <5 <1 22.07.24 79.2 34.6 13.6 18.6 <20 < 5 25.07.24 77.8 33.4 12.4 19.2 0.32< 10< 0.1< 0.6 < 0.44 ≤ 1 <5 0.36 <20) <10 < 0.1 < 0.6 < 0.44<1 35.2 12.3 20.129.07.24 76.4 0.35 <20 <5 78.78 35.56 12.59 19.07 <10 < 0.1 < 0.6 < 0.44 <1 Avg NAAO* 5 4 400 100 ı 80 1.0 20 6 100 60 80 Standard CPCB 18, 5182 13. 5102 13. 5102 13. 5102 13, 5182 13. 5182 13. 5162 dictionis of 15, 5182 13. 5132 13, 5182 IS. 5182 (Part-25) (Part-9) (Part-22) (Part-26) Method (Part-11) (Part-10) Analysis (Part-23) (Part-24) (Part-2) (Part-6)

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Report no.-CEMC/TSL/050824/A4

Issued Date-05.08.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	MRP Building (Core Zone)
Average Flow Rate of PM (m ² /min)/ Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-05082024A4
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

ANALYSIS RESULT

	ANALYSIS RESULT												
PM ₁₀ (μg/m ³)	PM _{2.5} (μg/m ³)	SO ₂ (µg/m ³)	NOx (μg/m³)	CO (mg/m ³)	NH ₃ (μg/m ³)	Ο, (μg/m³)	Pb (µg/m³)	Ni (ng/m³)	THE PERSON NAMED IN	001000000000000000000000000000000000000	BaP (ng/m³)		
78.2	34.6	11.8	18.8	0.32	<20	<10	< 0.1	< 0.6	< 0.44	CONTRACTOR OF THE PARTY OF THE	<1		
77.6	35.4	11.2	19.4	0.34	<20	<10	< 0.1	<0.6	< 0.44	<5	<1		
76.4	33.8	li.ó	18.0	0.31	<20	~10	<0.1	~0.ó			~ 1		
77.8	35.2	10.4	18.6	0.29	<20	<10	< 0.1	<0.6	< 0.44		<1		
79.4	33.6	12.2	18.4	0.30	<20	<10	<0.1	<0.6	< 0.44	101000000000000000000000000000000000000	<1		
80.4	32.8	12.1	18.9	0.32	<20	<10	< 0.1		and trained balances	-	<1		
78.6	35.6	12.4	19.2	0.35	<20	<10	< 0.1				<1		
75.8	32.4	11.8	18.2	0.27	<20	<10	<0.1		-		<1		
81.4	33.3	12.3	19.6	0.38	<20	<10	-	THE RESIDENCE AND ADDRESS OF THE PERSON NAMED IN COLUMN TWO IN COLUMN TW			<1		
78.40	34.08	11.76	18.79	0.32	<20	<10	-		THE RESERVE AND ADDRESS OF THE PARTY.		<1		
100	60	80	80	4	400	100	1.0	20	6	5	1		
IS: 5182 (Part-23)	IS: 5182 (Part-24)	15: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	IS: 5182 (Part-25)			Charles 300	NS 12 4	IS: 5182	IS: 5182		
	(µg/m³) 78.2 77.6 76.4 77.8 79.4 80.4 78.6 75.8 81.4 78.40 100	(µg/m³) (µg/m³) 78.2 34.6 77.6 35.4 76.4 33.8 77.8 35.2 79.4 33.6 80.4 32.8 78.6 35.6 75.8 32.4 81.4 33.3 78.40 34.08 100 60 18: 5182 18: 5182	(μg/m³) (μg/m³) (μg/m³) 78.2 34.6 11.8 77.6 35.4 11.2 76.4 33.8 11.6 77.8 35.2 10.4 79.4 33.6 12.2 80.4 32.8 12.1 78.6 35.6 12.4 75.8 32.4 11.8 81.4 33.3 12.3 78.40 34.08 11.76 100 60 80 18: 5182 18: 5182 18: 5182	(μg/m³) (μg/m³) (μg/m³) (μg/m³) (μg/m³) 78.2 34.6 11.8 18.8 77.6 35.4 11.2 19.4 76.4 35.8 11.6 18.0 77.8 35.2 10.4 18.6 79.4 33.6 12.2 18.4 80.4 32.8 12.1 18.9 78.6 35.6 12.4 19.2 75.8 32.4 11.8 18.2 81.4 33.3 12.3 19.6 78.40 34.08 11.76 18.79 100 60 80 80 18:5182 18:5182 18:5182 18:5182	PM ₁₀ (μg/m³) PM _{2.8} (μg/m³) SO ₂ (μg/m³) (μg/m³) NOx (μg/m³) (μg/m³) CO (mg/m³) (μg/m³) 78.2 34.6 11.8 18.8 0.32 77.6 35.4 11.2 19.4 0.34 76.4 33.8 11.6 18.0 0.31 77.8 35.2 10.4 18.6 0.29 79.4 33.6 12.2 18.4 0.30 80.4 32.8 12.1 18.9 0.32 78.6 35.6 12.4 19.2 0.35 75.8 32.4 11.8 18.2 0.27 81.4 33.3 12.3 19.6 0.38 78.40 34.08 11.76 18.79 0.32 100 60 80 80 4 18:5182 18:5182 18:5182 18:5182 18:5182	PM ₁₀ (μg/m³) PM _{2.5} (μg/m³) SO ₂ (μg/m³) NOx (μg/m³) (μg/m³) CO (μg/m³) (μg/m³) NH ₃ (μg/m³) 78.2 34.6 11.8 18.8 0.32 <20	PM ₁₀ (μg/m³) PM _{2.5} (μg/m³) SO ₂ (μg/m³) NOx (μg/m³) (μg/m³) CO (μg/m³) (μg/m³) NH ₃ (μg/m³) (μg/m³) O ₃ (μg/m³) (μg/m³) O ₃ (μg/m³) (μg/m³) O ₄ (μg/m³) (μg/m³) (μg/m³) (μg/m³) (μg/m³) O ₄ (μg/m³) (μg	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	PM ₁₀ (μg/m³) PM _{2.5} (μg/m³) SO ₂ (μg/m³) NOx (μg/m³) CO (μg/m³) (μg/m³) NH ₃ (μg/m³) (μg/m³) O ₃ Pb Ni (μg/m³) (μg/m³) (μg/m³) Ni (μg/m³) (μg/m³) (μg/m³) (μg/m³) Ni (μg/m³) (μg/m³) (μg/m³) (μg/m³) (μg/m³) (μg/m³) (μg/m³) (μg/m³) (μg/m³) Ni (μg/m³)	PM _{1e} (μg/m³) PM _{2.8} (μg/m³) SO ₂ (μg/m³) NOx (μg/m³) (μg/m³) CO (μg/m³) (μg/m³) NH ₃ (μg/m³) (μg/m³) (μg/m³) (μg/m³) O ₃ Pb Ni As (μg/m³) (μg/m³) (μg/m³) (μg/m³) (μg/m³) (μg/m³) Ni (μg/m³) (μg/m³) (μg/m³) (μg/m³) (μg/m³) (μg/m³) (μg/m³) (μg/m³) Ni (μg/m³)	PM ₁₀ (μg/m³) PM _{2.5} (μg/m³) SO ₂ (μg/m³) NOx (μg/m³) (μg/m³) CO (μg/m³) (μg/m³) NH ₃ (μg/m³) (μg/m³) (μg/m³) O ₃ Pb Ni (μg/m³) (μg/m³) (μg/m³) As Benzene (μg/m³) 78.2 34.6 11.8 18.8 0.32 <20		

N.B-*NAAQ-National Ambient Air Quality Standard as per 18th Nov. 2009 Gatt. Notification.

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Report no.-CEMC/TSL/050824/A5

Issued Date-05.08.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	BQT (Briquetta) (Core Zona)
Average Flow Rate of PM (m ³ /min) Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-05082024A5
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

ANALYSIS RESULT

		ANALISIS RESULT												
Date	PM ₁₀ (μg/m ³)	PM _{2.5} (μg/m ³)	SO ₂ (µg/m ³)	NOx (μg/m³)	CO (mg/m³)	NH ₃ (μg/m ³)	Ο ₃ (μg/m ³)	Pb (μg/m³)	Ni (ng/m²)	As (ng/m ¹)	Benzene (µg/m³)	BaP (ng/m³		
01.07.24	81.6	42.4	12.8	19.1	0.37	<20	<10	< 0.1	<0.6	< 0.44	<5	<1		
04.07.24	85.2	43.2	13.1	20.4	0.41	<20	<10	< 0.1	< 0.6	< 0.44	<5	<		
08.07.24	76.4	42.8	13.4	20.8	0.38	~20	\i0	<0.i	-0.6	~0.44	~5	~1		
11.07.24	86.8	44.4	12.6	19.4	0.37	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1		
\$5.07.24	72.4	41.6	12.8	19.2	0.39	<20	<10	< 0.1	<0.6	< 0.44	<5	<1		
18.07.24	74.6	40.8	12.4	19.4	0.36	<20	<10	<0.1	<0.6	<0.44	<5	<1		
22.07.24	81.8	42.3	12.2	20.1	0.41	<20	<10	<0.1	< 0.6	< 0.44	<5	<1		
25.07.24	86.6	40.2	11.8	19.6	0.39	<20	<10	<0.1	<0.6	<0.44	<5	<1		
29.07.24	83.2	42.6	13.2	21.9	0.4	<20	<10	< 0.1	< 0.6	<0.44	<5	<1		
Avg	80.95	42.26	12.70	19.99	0.39	<20	<10	<0.1	< 0.6	< 0.44	<5	<1		
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1		
Analysis	1S: 5182 (Part 23)	15: 5182 (Part-24)	ES: 5182 (Part 2)	1S: 5182 (Part-6)	IS: 5182 (Part 10)	IS: 5182 (Part-25)	TO COMPANY OF THE PARTY OF THE	IS: 5182 (Part 22)	BARONA DINE	INTERNATION OF THE PARTY OF THE	IS: 5182 (Part-11)	IS: 5182 (Part 12)		

N.B. *NAAQ- National Ambient Air Quality Standard as per 18th Nov. 2009 Gatt. Nonfication.

"<" symbol implicates that the values are below the limit or undestrable and cannot be incorporated in the report

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Report no.-CEMC/TSL/030924/A1

Issued Date-03.09.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	Roof Top-ADM Building (Core Zone)
Average Flow Rate of PM (m /min)/ Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-03092024A1
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

ANALYSIS RESULT

O Date	PM ₁₀ (μg/m ³)	PM _{2.5} (μg/m ³)	SO ₂ (µg/m ³)	NOx (µg/m³)	CO (mg/m³)	NH ₃ (μg/m ³)	O ₃ (µg/m ³	Pb (μg/m³)	Ni (ng/m³)	As (ng/m³)	Benzene (µg/m³)	BaP (ng/m³)
@1.08.24	80.2	40.2	10.6	20.2	0.38	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
05.08.24	79.5	38.9	11.4	17.7	0.37	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
€8.08.24	68.4	38.1	10.9	19.5	0.41	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
12.08.24	79.6	40.4	11.6	20.5	0.35	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
@ 5.08.24	77.3	38.1	11.4	18.3	0.41	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
19.08.24	69.6	37.3	9.9	20.4	0.34	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
22.08.24	74.7	39.6	11.3	19.1	0.37	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
-26.08.24	69.4	36.7	11.6	19.7	0.37	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
@9.08.24	77.4	37.2	11.1	19.3	0.36	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
Avg	75.12	38.50	11.09	19.41	0.37	<20	<10	< 0.1	<0.6	< 0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Olethods of Analysis	1S: 5182 (Part-23)	15: 5182 (Part-24)	18: 5182 (Part-2)	1S: 5182 (Part-6)	IS: 5182 (Part-10)	IS: 5182 (Part-25)		18: 5182 (Part-22)			IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ-National Ambient Air Quality Standard as per 18th Nov. 2009 Gutt. Notification.

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Report no.-CEMC/TSL/030924/A2

Issued Date-03.09.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	Infront of FC cast House (Core Zone)
Average Flow Rate of PM (m²/min)/ Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-03092024A2
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

					ANAL	YSIS RES	ULT					
Date	PM ₁₀ (μg/m ³)	PM _{2.5} (μg/m ³)	SO ₂ (µg/m ³)	NOx (μg/m³)	CO (mg/m³)	NH ₃ (μg/m ³)	O ₃ (µg/m ³)	Pb (µg/m³)	Ni (ng/m ³	As (ng/m³)	Benzene (µg/m³)	BaP (ng/m³)
01.08.24	79.4	36.3	12.5	18.2	0.35	<20	<10	< 0.1	< 0.6	<0.44	<5	<1
@ 5.08.24	78.6	37.5	12.1	17.8	0.34	<20	<10	< 0.1	<0.6	<0.44	<5	<1
08.08.24	76.4	37.2	11.8	18.1	0.37	<20	<10	<0.1	<0.6	< 0.44	<5	<1
2.08.24	77.2	35.6	12.1	18.7	0.34	<20	<10	<0.1	<0.6	< 0.44	<5	<1
15.08.24	80.3	38.5	12.7	19.2	0.36	<20	<10	<0.1	<0.6	<0.44	<5	<1
49.08.24	77.5	38.1	12.8	18.5	0.33	<20	<10	< 0.1	<0.6	< 0.44	<5	<1
- 22.08.24	79,3	36.4	12.2	19.4	0.36	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
6.08.24	76.5	35.7	12.8	19.7	0.37	<20	<10	< 0.1	<0.6	< 0.44	<5	<1
29.08.24	75.2	35.11	12.4	18.6	0.35	<20	<10	<0.1	<0.6	< 0.44	<5	<1
@ Avg	77.82	36.71	12.38	18.69	0.35	<20	<10	<0.1	<0.6	< 0.44	<5	<1
NAAQ*	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	IS: 5182 (Part-24)	15: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	1S: 5182 (Part-25)		18: 5182 (Part-22)			1S: 5182 (Part-11)	18: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov. 2009 Gatt. Notification.

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Report no.-CEMC/TSL/030924/A3

Issued Date-03,09,2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant). Kalinga Nagar, Jajpur						
Sample Description	Ambient Air Quality						
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day						
Sample Drawn by	Mr. Rabindranath Das						
Sampling Location	Infront of CPP (Core Zone)						
Average Flow Rate of PM (m3/min)/ Gases (LPM)	1.1/1.0						
Weather Conditions	Clear Sky						
Reference No.	CEMC-03092024A3						
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment						

ANALYSIS RESULT PM10 PM25 SO₂ NOx CO NH, O Pb Ni Benzene As BaP Date (µg/m*) (µg/m⁴) (µg/m3) (µg/m') (mg/m3) (µg/m3) (µg/m³) (µg/m³) (ng/m³) (ng/m³) (µg/m") (ng/m²) 01.08.24 75.4 34.5 11.8 17.8 0.35 <20 <10 <0.1 < 0.6 < 0.44 <5 95.08.24 76.5 36.3 12.3 18.5 0.33 <20 <10 < 0.1 < 0.6 <5 < 0.44 <1 08.08.24 77.1 33.7 12.6 18.7 0.36 <20 < 10 < 0.1 < 0.6 0.44 <5 <1 2.08.24 78.7 32.5 11.7 19 0.34<20 <10 < 0.1 < 0.6 < 0.44 <5 <1 15.08.24 75.1 34.3 12.1 18.8 0.32 <20 <10 < 0.1 < 0.6 < 0.44 <5 <1 19.08.24 74.7 33.5 12.5 18.1 0.31 < 20<10 < 0.1 < 0.6 Q).44 <5 <1 2.08.24 76.3 32.5 13.3 18.2 0.35 <20 <10 < 0.1 < 0.6 < 0.44 <5 <1 26.08.24 74.7 31.5 12.1 18.6 0.29 <20 <10 < 0.1 < 0.6 < 0.44 45 <1 29.08.24 73.5 33.3 11.8 19.7 0.34 <20 <10 < 0.1< 0.6 <5 < 0.44 <1 75.78 33.57 12.24 18.60 0.33 <20 Avg <10 < 0.1 < 0.6 < 0.44 <5 <1 NAAO* 100 60 80 80 4 400 100 1.0 20 5 1 tandard Methods of IS: 5182 CPCB IS: 5182 18: 5182 Analysis (Part-23) (Part-24) (Part-2) (Part-6) (Part-10) (Part-25) (Part-9) (Part-22) (Part-26) Method (Part-11) (Part-12)

N.B. *NAAQ- National Ambient Air Quality Standard as per 18th Nev, 2009 Gatt. Notification.

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Report no.-CEMC/TSL/030924/A4

Issued Date-03.09.2024

AMBIENT AL	RQUAL	TY MONITORING TE	ST REPORT
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Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	MRP Building (Core Zone)
Average Flow Rate of PM (m3/min)/ Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-03092024A4
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

ANALYSIS RESULT

	ANALYSIS KESULI											
O Date	PM ₁₀ (μg/m ³)	PM _{2.5} (μg/m ³)	SO ₂ (µg/m ³)	NOx (µg/m³)	CO (mg/m³)	NH ₃ (μg/m ³)	O ₃ (μg/m ³)	Pb (µg/m³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m³)	BaP (ng/m³)
1.08.24	75.3	32.7	11.5	18.4	0.29	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
05.08.24	74.7	33.5	10.9	19.1	0.32	<20	<10	<0.1	<0.6	< 0.44	<5	<1
8.08.24	73.5	31.7	11.3	17.6	0.28	<20	<10	<0.1	<0.6	< 0.44	<5	<1
12.08.24	74.7	33.4	10.2	18.2	0.27	<20	<10	<0.1	< 0.6	<0.44	<5	<1
65.08.24	76.2	31.4	11.7	17.8	0.28	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
19.08.24	77.2	30.7	11.6	18.3	0.31	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
22.08.24	75.4	33.5	12.1	18.6	0.33	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
26.08.24	72.6	30.3	11.5	17.6	0.25	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
@9.08.24	78.5	31.2	11.8	19.2	0.34	<20	<10	<0.1	<0.6	<0.44	<5	<1
Avg	75.34	32.04	11.40	18.31	0.30	<20	<10	<0.1	<0.6	< 0.44	<5	<1
●AAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Cethods of Analysis	IS: 5182 (Part-23)	IS: 5182 (Part-24)	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	IS: 5182 (Part-25)			IS: 5182 (Part-26)		18: 5182 (Part-11)	IS: 5182 (Part-12)

N.B. *NAAQ-National Ambient Air Quality Standard as per 18th Nov., 2009 Gatt. Nonfication.

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Report no.-CEMC/TSL/030924/A5

Issued Date-03.09.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	BQT (Briquette) (Core Zone)
Average Flow Rate of PM (m³/min)/ Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-03092024A5
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

ANALYSIS RESULT

Date	PM10	PM _{2.5}	SO ₂	NOx	CO	NH ₃	O ₁	Pb	Ni	As	Benzene	BaP
Date	(µg/m³)	(µg/m ³)	(µg/m ³)	(µg/m³)	(mg/m³)	(µg/m³)	2000	(µg/m ³)	(ng/m³)	(ng/m ³)	DEPOSIT STATE OF THE PARTY OF T	(ng/m³)
AL.08.24	78.4	40.1	12.5	18.7	0.36	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
05.08.24	82.3	41.3	12.6	19.8	0.39	<20	<10	<0.1	<0.6	< 0.44	45	<1
@8.08.24	73.2	40.6	12.8	20.1	0.37	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
12.08.24	83.4	42.2	12.3	18.8	0.35	<20	<10	< 0.1	< 0.6	< 0.44	<3	<1
66.08.24	69.6	39.5	12.6	18.5	0.34	<20	<10	<0.1	<0.6	< 0.44	<5	<1
19.08.24	71.4	38.6	12	18.7	0.35	<20	<10	< 0.1	<0.6	< 0.44	<5	<1
22.08.24	78.6	40.1	11.7	19.5	0.39	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
26.08.24	83.5	38.3	11.5	19.2	0.37	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
29.08.24	80.4	40.2	12.6	21.5	0.38	<20	<10	<0.1	<0.6	< 0.44	<5	<1
Avg	77.87	40.10	12.29	19.42	0.37	<20	<10	<0.1	<0.6	< 0.44	<5	<1
MAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Cethods of Analysis	15: 5182 (Part-23)	15: 5182 (Part-24)	18: 5182 (Part-2)	18: 5182 (Part-6)	IS: 5182 (Part-10)	IS: 5182 (Part-25)			18: 5182 (Part-26)		15: 5182 (Part-11)	18: 5182 (Part-12

N.B. *NAAQ- National Ambient Air Quality Standard as per 18th Nov. 2009 Gatt. Notification.

"<" symbol implicates that the values are below the limit or underirable and cannot be incorporated in the report

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Report no.-CEMC/TSL/031024/A1

Issued Date-03.10.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant). Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	Roof Top-ADM Building (Core Zone)
Average Flow Rate of PM (m ³ /min)/ Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-03102024A1
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

ANALYSIS RESULT

Date	PM ₁₀ (μg/m ³)	PM _{2.5} (μg/m ³)	SO ₂ (µg/m ³)	NOx (μg/m³)	CO (mg/m³)	NH ₃ (μg/m ³)	O ₃	Pb (μg/m³)	Ni (nn/m³)	As (no/m²)	Benzene	III III CONTRACTOR OF THE PARTY
02.09.24	78.4	38.6	10.5	19.8	0.37	<20	<10	<0.1	(ng/m²) <0.6	(ng/m [*])	(µg/m')	(ng/m²)
05.09.24	77.6	36.6	10.9	17.5	0.35	<20	<10	<0.1	The second second	-	<5	<1
09.09.24	72.4	37.1	10.6	19.1	0.39	<20	<10	<0.1	<0.6	< 0.44	<5	<1
12.09.24	77.2	38.2	11.4	20.1	0.34	<20	<10	<0.1	<0.6	< 0.44	<5	<1
M6.09.24	75.6	37.4	10.8	18.8	0.38	<20	<10	<0.1	-	< 0.44	<5	<i< td=""></i<>
19.09.24	70.4	35.8	10.2	19.7	0.36	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
23.09.24	72.2	38.2	10.7	18.6	0.35	<20	<10	<0.1	<0.6	< 0.44	<5	<1
26.09.24	73.1	37.4	11.2	19.5	0.36	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
30.09.24	74.2	36.6	10.8	18.6	0.37	<20	<10		<0.6	< 0.44	<5	<1
Avg	74.57	37,32	10.79	19.08	0.36	<20		<0.1	<0.6	< 0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	<10 100	<0.1	<0.6	<0.44 6	<5 5	1
dethods of Analysis	IS: 5182 (Part-23)	1S: 5182 (Part-24)	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	IS: 5182 (Part-25)		IS: 5182 (Part-22)			1S: 5182 (Part-11)	IS: 5182 (Part-12)

N.B. *NAAQ- National Ambient Air Quality Standard as per 18th Nov., 2009 Gatt. Notification.

" symbol implicates that the values are below the limit or undestrable and cannot be incorporated in the report

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Report no.-CEMC/TSL/031024/A2

Issued Date-03.10.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	Infront of FC cast House (Core Zone)
Average Flow Rate of PM (m3/min)/ Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-03102024A2
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gascous Attachment

Date	PM ₁₀ (μg/m ³)	PM _{2.5} (μg/m ³)	SO ₂ (µg/m ³)	NOx (µg/m³)	CO (mg/m³)	NH ₃ (μg/m ³)	0,	Pb (μg/m³)	Ni (ng/m³)	As (ng/m³)	Benzene (µg/m³)	BaP (ng/m³)
02.09,24	77.6	36.2	12.1	17.9	0.34	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
05.09.24	76.4	36.4	11.8	17.5	0.33	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
09.09.24	74.8	36.8	11.4	17.6	0.35	<20	<10	<0.1	<0.6	< 0.44	<5	<1
12.09.24	75.6	35.8	11.9	18.2	0.33	<20	<10	< 0.1	<0.6	< 0.44	<5	<1
16.09.24	78.2	37.2	12.2	18.8	0.35	-20	<10	<0.1	< 0.6	< 0.44	<5	<1
19.09.24	75.8	36.4	12.4	18.2	0.34	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
23.09.24	77.4	38.8	11.9	18.8	0.33	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
26.09.24	74.8	36.4	12.2	19.1	0.35	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
30.09.24	73.4	37.8	12.1	18.8	0.34	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
D Avg	76.00	36.87	12.00	18,32	0.34	<20	<10	<0.1	<0.6	< 0.44	<5	<1
NAAQ* standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	1S: 5182 (Part-23)	IS: 5182 (Part-24)	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	1S: 5182 (Part-25)		IS: 5182 (Part-22)			IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B. *NAAQ-National Ambient Air Quality Standard as per 18th Nov., 2009 Gatt. Notification.

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Report no.-CEMC/TSL/031024/A3

Issued Date-03,10,2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	Infront of CPP (Core Zone)
Average Flow Rate of PM (m3/min)/ Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-03102024A3
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

					ANALI	ISIS RES	ULI					
Date	PM ₁₀ (μg/m ³)	PM _{2.5} (μg/m ³)	SO ₂ (µg/m ³)	NOx (µg/m³)	CO (mg/m³)	NH ₃ (μg/m ³)	O ₃ (µg/m ³)	Pb (µg/m³)	Ni (ng/m³)	As (ng/m ³)	Benzene (µg/m³)	BaP (ng/m)
02.09.24	73.8	32.1	11.4	17.1	0.34	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
05,09.24	74.2	34.2	11.8	17.9	0.32	<20	<10	< 0.1	<0.6	< 0.44	<5	<1
09.09.24	75.4	31.6	12.4	18.4	0.35	<20	<10	< 0.1	<0.6	< 0.44	<5	<1
12.09.24	76.2	33.2	11.3	18.2	0.33	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
16.09.24	73.2	33.4	11.8	18.6	0.34	<20	<10	<0.1	<0.6	< 0.44	<5	<1
19.09.24	72.1	31.8	12.2	17.4	0.29	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
23.09.24	74.4	31.6	12.9	17.8	0.34	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
26.09.24	72.6	32.4	11.8	18.4	0.31	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
30.09.24	74.8	34.2	12.2	19.9	0.35	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
Avg	74.08	32.72	11.98	18.19	0.33	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	IS: 5182 (Part-24)	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	IS: 5182 (Part-25)		IS: 5182 (Part-22)		CPCB Method	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B. *NAAQ-National Ambient Air Quality Standard as per 18th Nov. 2009 Gatt. Notification.

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Report no.-CEMC/TSL/031024/A4

Issued Date-03.10.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	MRP Building (Core Zone)
Average Flow Rate of PM (m'/min)/ Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-03102024A4
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

ANALYSIS RESULT

Date	PM ₁₀ (μg/m ³)	PM _{2.5} (μg/m ³)	SO ₂ (μg/m ³)	NOx (μg/m³)	CO (mg/m³)	NH ₃ (µg/m ³)	Ο ₃ (μg/m ³)	Pb (μg/m³)	Ni (ng/m ³)	As (ng/m³)	Benzene (µg/m³)	BaP (ng/m³)
02.09.24	76.2	35.2	11.8	17.8	0.35	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
05.09.24	77.6	37.5	12.4	18.5	0.33	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
09.09.24	78.4	34.6	12.6	18.6	0.36	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
12.09.24	79.8	33.4	11.8	19.2	0.35	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
16:09.24	76.4	35.6	12.1	18.9	0.34	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
19.09.24	75.2	34.2	12.4	18.3	0.33	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
23.09.24	77.8	33.4	12.9	18.1	0.32	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
26.09.24	75.6	32.8	11.7	18.6	0.31	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
30.09.24	74.2	34.6	12.1	19.6	0.35	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
Avg	76.80	34.59	12.20	18.62	0.34	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	IS: 5182 (Part-24)	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	1S: 5182 (Part-25)		IS: 5182 (Part-22)		CPCB Method	18: 5182 (Part-11)	IS: 5182 (Part-12)

N.B. *NAAQ- National Ambient Air Quality Standard as per 18th Nov. 2009 Gatt. Notification.

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Report no.-CEMC/TSL/031024/A5

Issued Date-03.10.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Sampling Location	BQT (Briquette) (Core Zone)
Average Flow Rate of PM (m3/min)/ Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-03102024A5
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

	DAG	DAG	1 00		The second second	YSIS RES	ULI					
Date	PM ₁₀ (μg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NOx (μg/m³)	(mg/m³)	NH ₃ (µg/m ³)	O ₃	Pb (µg/m³)	Ni (ng/m³	As (ng/m²)	Benzene (μg/m ³)	BaP (ng/m ³
02.09.24	76.8	38.6	12.3	18.1	0.35	<20	<10	< 0.1	<0.6	< 0.44	<5	RESIDENCE WARRANT
05.09.24	80.4	39.2	12:4	19.4	0.37	<20	<10	<0.1	<0.6	<0.44	<5	<1
09.09.24	75.6	38.4	12.6	19.8	0.35	<20	<10	<0.1	<0.6	< 0.44	<5	<1
12.09.24	81.8	40.3	12.1	18.4	0.34	<20	<10	<0.1	< 0.6	<0.44	<5	<1
6.09.24	73.2	39.8	12.4	18.3	0.33	<20	<10	<0.1	<0.6	< 0.44	<5	<1
19.09.24	74.6	37.2	11.8	18.5	0.34	<20	<10	<0.1	<0.6	<0.44	-5	<1
23.09.24	76.2	38.8	11.5	19.1	0.37	<20	<10	<0.1	<0.6	<0.44	<5	<1
26.09.24	81.2	36.4	11.7	18.6	0.35	<20	<10	<0.1	<0.6	< 0.44	<5	<1
30.09.24	78.8	39.6	12.4	20.4	0.37	<20	<10	<0.1	<0.6	< 0.44	<5	
Avg	77.62	38.70	12.13	18.96	0.35	<20	<10	<0.1	<0.6	< 0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	<1
Methods of Analysis	1S: 5182 (Part-23)	1S: 5182 (Part-24)	1S: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	IS: 5182 (Part-25)	IS: 5182 (Part-9)	IS: 5182 (Part. 22)	IS: 5182	CPCB Method	IS: 5182 (Purt-11)	IS: 5182 (Part-12)

mt Air Quality Standard as per 18th Nov. 2009 Gatt. Notification.

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Report no.-CEMC/TSL/040524/A6

Issued Date-04.05,2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Date of Sampling/Period	26.04.2024 & 27.04.2024/ 24 hrs sampling
Sample Drawn by	Mr. Rabindranath Das
Average Flow Rate of PM (m ² /min)/ Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-04052024A6
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

ANALYSIS RESULT

(Buffer Zone)

		-14										
cation	PM ₁₆ (µg/m ³)	PM _{2.8} (μg/m ³)	SO ₂ (µg/m ³)	Nox (µg/m³)	CO (mg/m³)	NH ₃ (µg/m ³)	O ₃ (µg/m ³)	Pb (ag/m ³)	Ni (ng/m³)	As (ng/m ³)	Benzene (pg/m³)	BaP (ng/m ³)
Bangala	61.4	39.2	9.2	14.8	0.32	<20	<10	<0.1	<0.6	-	<5	<1
Rabana	60.2	38.4	8.9	14.4	0.31	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
lakhapura	55.3	32.3	8.4	13.9	0.27	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
Kumudi Sahi	53.8	32.1	8.2	14.1	0.29	<20	<10	<0.1	<0.6	<0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1,0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	15: 5182 (Part-24)	IS: 5182 (Part-2)	1S: 5182 (Part-6)	15: 5182 (Part-10)	IS: 5182 (Part-25)		IS: 5182 (Part-22)			IS: 5182 (Part-11)	15: 5182 (Part-12)

N.B. *NAAQ: National Ambient Air Quality Standard as per 18th Nov. 2009 Gatt. Notification.

" symbol implicates that the values are below the limit or undestrable and cannot be incorporated in the report

END OF REPORT

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Report no.-CEMC/TSL/040524/A7

Issued Date-04.05.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Sample Drawn Period/ Time	Monthly/ 0900 to 0900 next day
Sample Drawn by	Mr. Rabindranath Das
Average Flow Rate of PM (m³/min)/ Gases(lpm)	1.1/1.0
Weather Conditions	Clear Sky
Date of Sampling	04.04.2024
Reference No.	CEMC-04052024A7
Instrument Used	Respirable Dust Sampler
Sample Description	Heavy Metals in Air

ANALYSIS RESULT

Locations	Iron (µg/m³)	Zinc (µg/m³)	Cadmium (µg/m³)	T. Chromium (µg/m³)	Hexa Cr (µg/m²)
BQT (Briquette)	23.95	10.08	< 0.02	0.8	0.5
MRP	8.84	4.57	< 0.02	< 0.03	<0.03
Product Handling Yard (Finish Yard)	12.24	7.32	<0.02	0.09	<0.03
Furnace Area	19.12	8.21	< 0.02	0.52	0.23
Methods of Analysis	ICP method	ICP method	ICP method	ICP method	Colorimetric method

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Report no.-CEMC/TSL/050624/A6

Issued Date-05.06.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Date of Sampling/Period	14.05.2024 & 15.05.2024/ 24 hrs sampling
Sample Drawn by	Mr. Rabindranath Das
Average Flow Rate of PM (m³/min)/ Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-05062024A6
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

ANALYSIS RESULT

(Buffer Zone)

	(status to the state of the sta												
Location	PM ₁₆ (μg/m ³)	PM _{2.5} (μg/m ³)	SO ₂ (µg/m ³)	NOx (µg/m³)	CO (mg/m³)	NH ₃ (µg/m ³)	Ο, (μg/m³)	Pb (μg/m ³)	Ni (ng/m ³)		Benzene (µg/m³)	BaP (ng/m³)	
Bangala	61.9	39,2	8.4	12.9	0.17	<20	<10	<0.1	< 0.6	< 0.44	<5	<1	
Rabana	59.3	32.4	8.9	13.5	0.19	<20	<10	<0.1	< 0.6	< 0.44	<5	<1	
Jakhapura	55.1	33.9	7.4	13.1	0.21	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1	
Kumudi Sahi	52,8	31.9	9.6	14.6	0.23	<20	<10	<0.1	<0.6	<0.44	<5	<1	
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1	
Methods of Analysis	IS: 5182 (Part-23)	IS: 5182 (Part-24)	1S: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	IS: 5182 (Part-25)		IS: 5182 (Part-22)			IS: 5132 (Part-11)	IS: 5182 (Part-12)	

N.B. *NAAQ- National Ambient Air Quality Standard as per 18th Nov., 2009 Gatt. Notification.

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Report no.-CEMC/TSL/040724/A6

Issued Date-04.07.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur				
Sample Description	Ambient Air Quality				
Date of Sampling/Period	07.06.2024 & 08.06.2024/ 24 hrs sampling				
Sample Drawn by	Mr. Rabindranath Das				
Average Flow Rate of PM (m/min)/ Gases (LPM)	1.1/1.0				
Weather Conditions	Clear Sky				
Reference No.	CEMC-04072024A6				
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment				

ANALYSIS RESULT

(Buffer Zone)

Location	PM ₁₀ (μg/m ³)	PM _{2.5} (μg/m ³)	SO ₂ (µg/m³)	NOx (μg/m³)	CO (mg/m³)	NH ₃ (μg/m ³)	O ₃ (µg/m³)	Pb (μg/m²)	Ni (ng/m³)	As (ng/m³)	Benzene (µg/m³)	BaP (ng/m³)
Bangala	58.4	37.4	8.1	11.3	0.15	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
Rabana	57.2	30.6	7.8	12.4	0.16	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
hakhapura	53.6	32.2	7.2	12.2	0.19	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
Kumudi Sahi	50.3	29.4	8.7	13.2	0.21	<20	<10	<0.1	<0.6	<0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	18: 5182 (Part-24)	18: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	1S: 5182 (Part-25)		IS: 5182 (Part-22)			IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ-National Ambient Air Quality Standard as per 18th Nov. 2009 Gatt. Notification.

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Report no.-CEMC/TSL/050824/A6

Issued Date-05.08.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur				
Sample Description	Ambient Air Quality				
Date of Sampling/Period	12.07.2024 & 13.07.2024/ 24 hrs sampling				
Sample Drawn by	Mr. Rabindranath Das				
Average Flow Rate of PM (m3/min)/ Gases (LPM)	1.1/1.0				
Weather Conditions	Clear Sky				
Reference No.	CEMC-05082024A6				
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment				

ANALYSIS RESULT

(Buffer Zone)

Location	PM ₁₀ (μg/m ³)	PM _{2.5} (μg/m ³)	SO; (µg/m³)	Nox (µg/m³)	CO (mg/m³)	NH ₃ (µg/m ³)	Ο ₃ (μg/m ³)	Pb (µg/m³)	Ni (ng/m³)	As (ng/m³)	Benzene (µg/m³)	BaP (ng/m³)
Bangala	54.8	36.4	8.8	14.2	0.29	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
Rabana	52.6	35.8	8.1	13.8	0.28	<20	<10	< 0.1	<0.6	< 0.44	<5	<1
iskiapua	49.4	30.6	7.9	13.4	0.26	<20	<10	<0.1	<0.6	<0.44	-5	<1
Kumudi Sahi	50.6	29.4	7.7	13.2	0.28	<20	<10	<0.1	<0.6	< 0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	IS: 5182 (Part-24)	1S: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	1S: 5182 (Part-25)		1S: 5182 (Part-22)			IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B. *NASQ: National Ambient Air Quality Standard as per 18th Nov. 2009 Gatt. Notification.

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Report no.-CEMC/TSL/030924/A6

Issued Date-03.09.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Date of Sampling/Period	22.08.2024 & 23.08.2024/ 24 hrs sampling
Sample Drawn by	Mr. Rabindranath Das
Average Flow Rate of PM (m³/min)/ Gases (LPM)	1.1/1.0
Weather Conditions	Clear Sky
Reference No.	CEMC-03092024A6
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

ANALYSIS RESULT

(Buffer Zone)

(Built Polic)												
Cocation	PM ₁₀ (μg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	Nox (µg/m³)	CO (mg/m³)	NH ₁ (μg/m ³)	Ο ₃ (μg/m ³)	Pb (µg/m³)	Ni (ng/m³)		Benzene (µg/m³)	BaP (ng/m³)
Bangala	51.6	34.8	8.6	13.9	0.28	<20	<10	< 0.1	< 0.6	< 0.44	<5	<1
Rabana	50.2	33.6	7.9	13.6	0.27	<20	<10	< 0.1	< 0.6	< 0.44	<5	×1
khapura	47.8	28.4	7.7	13.2	0.25	<20	<10	<0.1	<0.6	< 0.44	<5	<1
Kumudi Sahi	48.4	27.6	7.5	13.1	0.26	<20	<10	<0.1	<0.6	< 0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	1S: 5182 (Part-23)	IS: 5182 (Part-24)	18: 5182 (Part-2)	1S: 5182 (Part-6)	IS: 5182 (Part-10)	IS: 5182 (Part-25)		IS: 5182 (Part-22)			IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B-*NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

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Report no.-CEMC/TSL/031024/A6

Issued Date-03.10.2024

AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Air Quality
Date of Sampling/Period	10.09.2024 & 28.09.2024/ 24 hrs sampling
Sample Drawn by	Mr. Rabindranath Das
Average Flow Rate of PM (m3/min)/ Gases (LPM)	1.1/1,0
Weather Conditions	Clear Sky
Reference No.	CEMC-03102024A6
Instrument Used	Respirable Dust Sampler, Fine Dust Sampler, Gaseous Attachment

ANALYSIS RESULT

(Buffer Zone)

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Location	PM ₁₀ (μg/m³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	Nox (µg/m³)	CO (mg/m³)	NH ₃ (µg/m ³)	Ο ₅ (μg/m ³)	Pb (µg/m³)	Ni (ng/m ³)	As (ng/m³)	Benzene (µg/m ³)	BaP (ng/m ³)
Bangala	48.2	32.4	8.4	13.2	0.27	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
Rabana	48.8	32.6	7.5	13.2	0.26	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
lakhapura	45.4	27.2	7.4	12.9	0.24	<20	<10	<0.1	< 0.6	< 0.44	<5	<1
Kumudi Sahi	45.6	27.2	7.3	12.8	0.25	<20	<10	<0.1	<0.6	<0.44	<\$	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	10
Methods of Analysis	1S: 5182 (Part-23)	IS: 5182 (Part-24)	1S: 5182 (Part-2)	IS: 5182 (Part-6)	1S: 5182 (Part-10)	IS: 5182 (Part-25)	The second second second	BUT OF THE OWNER, THE PARTY OF	15: 5182 (Part-26)	The contract of the contract o	1S: 5182 (Part-11)	IS: 5182 (Part-12)

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Report no.-CEMC/TSL/040524/F1

Issued Date-04.05,2024

FUGITIVE AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Fugitive Air Quality
Sample Drawn Period	Monthly Once
Sample Drawn by	Mr. Rabindranath Das
Instrument Used	Respirable Dust Sampler
Date of Sampling	03.04.2024 & 04.04.2024
Reference No	CEMC-04052024F1

ANALYSIS RESULT

SL No.	Locations	Suspended Particulate Matter (SPM)	Respirable Particulate Matter (RPM)		
1	GCP Area	590	143		
2	MRP Site	652	194		
3	Product Handling Yard (Finish Yard)	568	165		
4	Furnace Cast House	704	181		
5	Weigh Bridge	411	138		
MoEF&	CC Notification 03rd Feb,2006	1200			
Unit		μg/m³			
	Method	IS: 5182(Part-4) Gravimetric me			

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Report no.-CEMC/TSL/050624/F1

Issued Date-05.06.2024

FUGITIVE AIR QUALITY MONITORING TEST REPORT

M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Fugitive Air Quality
Monthly Once
Mr. Rabindranath Das
Respirable Dust Sampler
13.05.2024
CEMC-05062024F1

ANALYSIS RESULT

Sl. No.	Locations	Suspended Particulate Matter (SPM)	Respirable Particulate Matter (RPM)		
10	GCP Area	602	142		
2	MRP Site	671	178		
3	Product Handling Yard (Finish Yard)	506	134		
4	Furnace Cast House	658	145		
5	Weigh Bridge	399	132		
MoEF&	CC Notification 03rd Feb,2006	1200			
Unit	300	μg/m³			
Testing	Method	IS: 5182(Part-4) Gravimetric met			

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Report no.-CEMC/TSL/040724/F1

Issued Date-04.07.2024

FUGITIVE AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Fugitive Air Quality
Sample Drawn Period	Monthly Once
Sample Drawn by	Mr. Rabindranath Das
Instrument Used	Respirable Dust Sampler
Date of Sampling	07.06.2024& 08.06.2024
Reference No.	CEMC-04072024F1

ANALYSIS RESULT

Sl. No.	Locations	Suspended Particulate Matter (SPM)	Respirable Particulate Matter (RPM)
1	GCP Area	588	134
2	MRP Site	654	162
3	Product Handling Yard (Finish Yard)	492	124
4	Furnace Cast House	634	138
5	Weigh Bridge	386	129
MoEF&	CC Notification 03rd Feb,2006	12	200
Unit		μg/m³	
Testing	Method	IS: 5182(Part-4) G	ravimetric method

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Report no.-CEMC/TSL/050824/F1

Issued Date-05.08.2024

FUGITIVE AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Fugitive Air Quality
Sample Drawn Period	Monthly Once
Sample Drawn by	Mr. Rabindranath Das
Instrument Used	Respirable Dust Sampler
Date of Sampling	11.07.2024 & 12.07.2024
Reference No.	CEMC-05082024F1

ANALYSIS RESULT

SI. No.	Locations	Suspended Particulate Matter (SPM)	Respirable Particulate Matter (RPM)
1	GCP Area	462	122
2	MRP Site	530	154
3	Product Handling Yard (Finish Yard)	446	122
4	Furnace Cast House	578	114
5	Weigh Bridge	270	107
MoEFA	CC Notification 03rd Feb, 2006	12	00
Unit		μе	/m³
Testing	Method	IS: 5182(Part-4) G	ravimetric method

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Report no.-CEMC/TSL/030924/F1

Issued Date-03.09.2024

FUGITIVE AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Fugitive Air Quality
Sample Drawn Period	Monthly Once
Sample Drawn by	Mr. Rabindranath Das
Instrument Used	Respirable Dust Sampler
Date of Sampling	21.08.2024 & 22.08.2024
Reference No.	CEMC-03092024F1

ANALYSIS RESULT

Sl. No.	Locations	Suspended Particulate Matter (SPM)	Respirable Particulate Matter (RPM)
1	GCP Area	454	118
2	MRP Site	515	142
3	Product Handling Yard (Finish Yard)	432	114
4	Furnace Cast House	562	106
5	Weigh Bridge	254	98
MoEF&	CC Notification 03rd Feb,2006	12	200
Unit		μg/m ³	
Testing !	Method	IS: 5182(Part-4) G	ravimetric method

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Report no.-CEMC/TSL/031024/F1

Issued Date-03.10,2024

FUGITIVE AIR QUALITY MONITORING TEST REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Fugitive Air Quality
Sample Drawn Period	Monthly Once
Sample Drawn by	Mr. Rabindranath Das
Instrument Used	Respirable Dust Sampler
Date of Sampling	09.09.2024 & 10.09.2024
Reference No.	CEMC-03102024F1

ANALYSIS RESULT

Sl. No.	Locations	Suspended Particulate Matter (SPM)	Respirable Particulate Matter (RPM)
1	GCP Area	438	108
2	MRP Site	492	136
3	Product Handling Yard (Finish Yard)	426	102
4	Furnace Cast House	548	92
5	Weigh Bridge	226	72.
MoEF&	CC Notification 03 rd Feb,2006	12	000
Unit		μg	/m³
Testing .	Method	IS: 5182(Part-4) G	ravimetric metho

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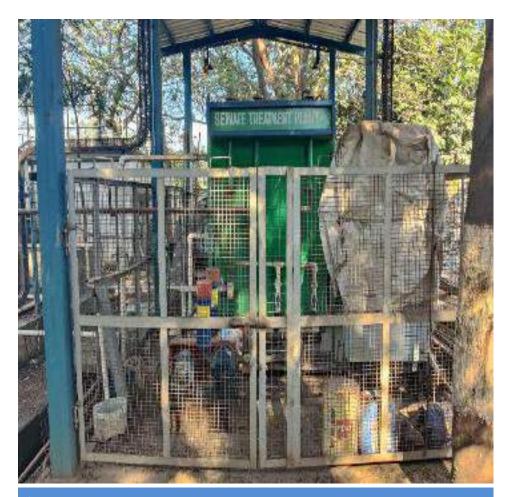
Annexure 4- ETP and STP Newly Installed



ETP-720KLD

Major Facilities of Effluent Treatment Plant:

- Central Effluent Collection tank.
- Final Treated Collection Tank and
- Clarified water Storage Tank
- High-Rate Solid Contact Clarifier, Reaction Tank with Baffle Reactor and Pump & Blower room



- STP 10KLD 2 numbers installed
- Located at QC Lab
- Located at Briquette Plant



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Report no. - CEMC/TSL/040524/GW1

Issued Date-04,05,2024

GROUND WATER QUALITY TEST REPORT

Name & Address of the Client

: M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Kalinga Nagar, Jajpur

Date of Sampling Sampling by

: 03.04.2024

Date of Sample Received

: Mr. Rabindra Nath Das

Sample Description Sample Location

: 03.04.2024 : Ground Water

Date of Analysis

: Near Main Gate

Reference No.

: 04.04.2024 to 15.04.2024 : CEMC-04052024GW1

ANALYSIS RESULT

SL.	Powerster Unit of	Testing Method	Standard as pe	Standard as per IS: 10500, 2012		
No	No Parameter	measurement		Acceptable Limit	Permissible Limit	Result
1	Colour	Hazen	APHA 2120 B.C	5	15	<5
2	Odour		APHA 2150 B	AL	AL	AL
3	Turbidity	NTU	APHA 2130 B	1	5	<1
4	pH Value @ 25°C		APHA 4500H B	6.5-8.5	No Relaxation	6.71
5	Total Hardness (as CaCO ₃)	mg/l	APHA 2340 C	200	600	188
6	Iron (as Fe)	mg/l	APHA 3500Fe, B	0.3	No Relaxation	< 0.05
7	Chloride (as Cl)	mg/l	APHA 4500Cl' B	250	1000	25.9
8	Residual, free Chlorine	mg/l	APHA 4500Cl, B	0.2	1.0	ND
9	Total Dissolved Solids	mg/l	APHA 2540 C	500	2000	
10	Calcium (as Ca)	mg/l	APHA 3500Ca B	75	200	302.4
11	Magnesium (as Mg)	mg/l	APHA 3500Mg B	30	100	37.67
12	Sulphate (as SO ₄)	mg/l	APHA 4500 SO ₄ 2 E	200	400	22.84
13	Fluoride (as F)	mg/l	APHA 4500F C	1.0	17.77	72.4
14	Total Alkalinity (as CaCO ₃)	mg/l	APHA 2320 B	200	1.5	<0.05 186
15	Anionic Detergents (as MBAS)	mg/l	APHA 5540 C	0.2	1,0	ND
16	Chloramines (as Cl ₂)	mg/l	IS 3025 (P-26)	4.0	No Deleveri	
17	Boron (as B)	mg/l	APHA 4500B, B	0.5	No Relaxation	ND <0.2

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Report no. - CEMC/TSL/040524/GW2

Issued Date-04.05,2024

GROUND WATER QUALITY TEST REPORT

Name & Address of the Client

: M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Kalinga Nagar, Jajpur

Date of Sampling

: 03.04.2024

Sampling by

2 Mr. Rabindra Nath Das

Date of Sample Received Sample Description

: 03.04.2024

Sample Location

: Ground Water : Near CPP

Date of Analysis Reference No.

: 04.04.2024 to 15.04.2024

: CEMC-04052024GW2

ANALYSIS RESULT

SI.		Parameter Unit of measurement	Testing Method	Standard as pe	Standard as per IS: 10500, 2012		
No				Acceptable Limit	Permissible Limit	Result	
1	Colour	Hazen	APHA 2120 B,C	5	15	<5	
2	Odour	-	APHA 2150 B	AL	AL	AL	
3	Turbidity	NTU	APHA 2130 B	1	5	<1	
4	pH Value @ 25°C		APHA 4500H B	6.5-8.5	No Relaxation	7,03	
5	Total Hardness (as CaCO ₃)	mg/l	APHA 2340 C	200	600	184	
6	Iron (as Fe)	mg/l	APHA 3500Fe, B	0.3	No Relaxation	<0.05	
7	Chloride (as CI)	mg/l	APHA 4500Cl B	250	1000	37.9	
8	Residual, free Chlorine	mg/l	APHA 4500Cl, B	0.2	1.0	ND	
9	Total Dissolved Solids	mg/l	APHA 2540 C	500	2000	352.4	
10	Calcium (as Ca)	mg/l	APHA 3500Ca B	75	200	45.7	
11	Magnesium (as Mg)	mg/l	APHA 3500Mg B	30	100	17.01	
12	Sulphate (as SO ₄)	mg/l	APHA 4500 SO ₄ E	200	400	24.6	
13	Fluoride (as F)	mg/l	APHA 4500F C	1.0	1.5	<0.05	
14	Total Alkalinity (as CaCO ₃)	mg/l	APHA 2320 B	200	600	198	
15	Anionic Detergents (as MBAS)	mg/I	APHA 5540 C	0.2	1.0	ND	
16	Chloramines (as Cl ₂)	mg/I	IS 3025 (P-26)	4.0	No Relaxation	ND	
17	Boron (as B)	mg/l	APHA 4500B, B	0.5	1.0	<0.2	

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Report no. - CEMC/TSL/040524/GW3

Issued Date-04.05,2024

GROUND WATER QUALITY TEST REPORT

Name & Address of the Client

: M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Kalinga Nagar, Jajpur

Date of Sampling

: 03.04.2024

Sampling by Date of Sample Received : Mr. Rabindra Nath Das

Sample Description

: 03.04.2024

Sample Location

: Ground Water

Date of Analysis Reference No.

: MRP : 04.04,2024 to 15.04,2024

: CEMC-04052024GW3 ANALYSIS RESULT

Testing Method Standard as ner IS: 10500, 2012

SI.	The second second	Unit of	Account visiting	Standard as pe	1 13; 10300, 2012	Result
No	Parameter	measurement		Acceptable Limit	Permissible Limit	Result
1	Colour	Hazen	APHA 2120 B,C	5	15	<5
2	Odour	-	APHA 2150 B	AL	AL	AL
3	Turbidity	NTU	APHA 2130 B	1	5	<1
4	pH Value @ 25℃	-	APHA 4500H B	6.5-8.5	No Relaxation	6.92
5	Total Hardness (as CaCO ₂)	mg/l	APHA 2340 C	200	600	278
6	Iron (as Fe)	mg/l	APHA 3500Fe, B	0.3	No Relaxation	< 0.05
7	Chloride (as Cl)	mg/I	APHA 4500CT B	250	1000	49.9
8	Residual, free Chlorine	mg/I	APHA 4500Cl, B	0.2	1.0	ND
9	Total Dissolved Solids	mg/l	APHA 2540 C	500	2000	562.4
10	Calcium (as Ca)	mg/l	APHA 3500Ca B	75	200	67.33
11	Magnesium (as Mg)	mg/l	APHA 3500Mg B	30	100	26.73
12	Sulphate (as SO ₄)	mg/l	APHA 4500 SO ₄ E	200	400	42.4
13	Fluoride (as F)	mg/l	APHA 4500F C	1.0	1.5	<0.05
14	Total Alkalinity (as CaCO ₁)	mg/l	APHA 2320 B	200	600	226
15	Anionic Detergents (as MBAS)	mg/l	APHA 5540 C	0.2	1.0	ND
16	Chloramines (as Cl ₂)	mg/I	IS 3025 (P-26)	4.0	No Relaxation	ND
17	Boron (as B)	mg/l	APHA 4500B, B	0.5	1.0	<0.2

NB: ND- Not Detectable, AL- Agreeable.

Authori

Notes:

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Report No. - CEMC/TSL/040524/SW1

Issued Date-04.05.2024

SURFACE WATER QUALITY TEST REPORT

: M/s. TATA Steel Ltd., (Ferro Alloys Plant), Name & Address of the Client

Kalinga Nagar, Jajpur

: 03.04.2024 Date of Sampling : Mr. Rabindra Nath Das Sampling by

: 03.04.2024 Date of Sample Received : Surface Water Sample Description

: 2.0 Ltrs Sample Quantity

: Nala Water near Bridge area Location : 04.04.2024 to 15.04.2024 Date of Analysis : CEMC-04052024SW1 Reference No.

ANALYSIS RESULT

SI. No	Parameter	Unit of measurement	IS 2490: Discharge into Inland Surface Water	Testing Method	Result
1	Colour	Hazen	-	APHA 2120 B,C &	10
2	Odour	-	-	APHA 2150 B	U/O
3	Total Suspended Solids	mg/l	100	APHA 2540 D	26,4
4	Particular size of SS	-	Shall pass 850	APHA 2540 D	<850
5	pH Value @ 25°C	-	5.5 to 9.0	APHA 4500H B	7,17
6	Temperature	°C	Shall not Exceed 40 within 15 m d/s from effluent Outlet	APHA 2550 B	26.8
7	Oil & Grease	mg/l	10	APHA 5520 B	<1
8	Residual Free Chlorine	mg/l	1.0	APHA 4500CL B	ND
9	Ammonical Nitrogen	mg/l	50	APHA 4500NH3 B,C	ND
10	Total Kjeldahl Nitrogen as N	mg/l	100	APHA 4500 N. B	4.2
11	Free Ammonia	mg/l	5.0	Calculation Method	ND
12	Biochemical Oxygen Demand	mg/l	30	APHA 5210 B	6.2
13	Chemical Oxygen Demand	mg/l	250	APHA 5220 C	20
14	Arsenic (as As)	mg/l	0.2	APHA 3114 B	< 0.00
15	Mercury (as Hg)	mg/l	0.01	APHA 3500Hg	< 0.00
16	Lend (as Pb)	mg/l	0.1	APHA 3111 B,C	<0.01
17	Cadmium (as Cd)	mg/l	2.0	APHA 3111 B,C	<0.01
18	Hexavalent Chromium (as Cr ^{+b})	mg/l	0.1	APHA 3500Cr B	0.09
19	Total Chromium (as Cr)	mg/l	2.0	APHA 3111 B,C	0.22
20	Copper (as Cu)	mg/l	3.0	APHA 3111 B,C	< 0.03
21	Zinc (as Zn)	mg/l	5,0	APHA 3111 B,C	<0.05
22	Selenium (as Se)	mg/l	0.05	APHA 3114 B	<0.00
23	Nickel (as Ni)	mg/l	3.0	APHA 3111 B,C	<0.05
24	Cyanide (as CN)	mg/l	0.2	APHA 4500CN C,D	ND
25	Fluoride (as F)	mg/l	2.0	APHA 4500F C	0.08
26	Dissolved Phosphate (as PO ₆)	mg/l	5,0	APHA 4500P D	0.62
27	Sulphide (as S)	mg/l	2.0	APHA 4500 S ² D	<0.1

N.B: U/O-Unobjectionable, ND-Not Detectable

Pg-3 of 4

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Report No. - CEMC/TSL/040524/SW1

_			
7	Date-04	OF	Aba.
155511047	11016-110	410	70/24

28	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	1,0	APHA 5530 B,D	<0.001
29	Bioassay Test	-	90% survival of fish after 96 hours in 100% effluent	APHA 8910 C	95%
30	Manganese (as Mn)	mg/l	2.0	APHA 3500Mn B	< 0.05
31	Iron (as Fe)	mg/l	3.0	APHA 3500Fe, B	0.28
32	Vanadium (as V)	mg/l	0.2	APHA 3111 B,C	<0.01
33	Nitrate (as NO ₃)	mg/l	10	APHA 4500 NO, E	3.6
34	Dissolved Oxygen	mg/l	-	APHA 45000 C	6.2

End of the Report

Authorited Signatory

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Report No. - CEMC/TSL/040524/SW2

Issued Date-04.05.2024

SURFACE WATER QUALITY TEST REPORT

Name & Address of the Client

: M/s, TATA Steel Ltd., (Ferro Alloys Plant),

Kalinga Nagar, Jajpur

Date of Sampling Sampling by

: 03.04.2024

Date of Sample Received

: Mr. Rabindra Nath Das

Sample Description

: 03.04.2024

Sample Quantity

: Surface Water

Location

: 2.0 Ltrs

Date of Analysis Reference No.

: IDCO Water to the Reservoir : 04.04.2024 to 15.04.2024

: CEMC-04052024SW2

ANALYSIS RESULT

SI. No	Parameter	Unit of measurement	IS 2490: Discharge into Inland Surface Water	Testing Method	Result
1	Colour	Hazen	_	APHA 2120 B,C &	<5
2	Odour	**		APHA 2150 B	U/O
3	Total Suspended Solids	mg/I	100	APHA 2540 D	<5
4	Particular size of SS		Shall pass 850	APHA 2540 D	<850
5	pH Value @ 25°C	-	5.5 to 9.0	APHA 4500H' B	7.41
6	Temperature	°C	Shall not Exceed 40 within 15 m d/s from effluent Outlet	АРНА 2550 В	26.2
7	Oil & Grease	mg/l	10	APHA 5520 B	<1
8	Residual Free Chlorine	mg/l	1.0	APHA 4500Cl, B	ND
9	Ammonical Nitrogen	mg/l	50	APHA 4500NH3 B,C	ND
10	Total Kjeldahl Nitrogen as N	mg/l	100	APHA 4500 N, B	2.6
11	Free Ammonia	mg/l	5.0	Calculation Method	ND
12	Biochemical Oxygen Demand	mg/l	30	APHA 5210 B	<2
13	Chemical Oxygen Demand	mg/l	250	APHA 5220 C	10
14	Arsenic (as As)	mg/l	0.2	APHA 3114 B	< 0.001
15	Mercury (as Hg)	mg/l	0.01	APHA 3500Hg	< 0.001
16	Lead (as Pb)	mg/l	0.1	APHA 3111 B,C	<0.01
17	Cadmium (as Cd)	mg/l	2.0	APHA 3111 B,C	< 0.01
18	Hexavalent Chromium (as Cr+6)	mg/l	0.1	APHA 3500Cr B	< 0.05
19	Total Chromium (as Cr)	mg/l	2,0	APHA 3111 B,C	< 0.05
20	Copper (as Cu)	mg/l	3.0	APHA 3111 B,C	< 0.03
21	Zinc (as Zn)	mg/l	5.0	APHA 3111 B,C	< 0.05
22	Selenium (as Se)	mg/l	0.05	APHA 3114 B	< 0.001
23	Nickel (as Ni)	mg/l	3.0	APHA 3111 B,C	< 0.05
24	Cyanide (as CN)	mg/l	0.2	APHA 4500CN C,D	ND
25	Fluoride (as F)	mg/l	2.0	APHA 4500F C	<0.05
26	Dissolved Phosphate (as PO ₄)	mg/l	5.0	APHA 4500P D	<0.05
27	Sulphide (as S)	mg/l	2.0	APHA 4500 S ² D	<0.1

N.B: U/O-Unobjectionable, ND-Not Detectable

Pg-3 of 4

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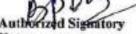
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Report No. - CEMC/TSL/040524/SW2

Issued Date-04.05.2024

28	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	1.0	APHA 5530 B,D	<0.001
29	Bioassay Test	-	90% survival of fish after 96 hours in 100% effluent	APHA 8910 C	95%
30	Manganese (as Mn)	mg/l	2.0	APHA 3500Mn B	< 0.05
31	Iron (as Fe)	mg/l	3.0	APHA 3500Fe, B	1.3
32	Vanadium (as V)	mg/l	0.2	APHA 3111 B,C	<0.01
33	Nitrate (as NO ₃)	mg/l	10	APHA 4500 NO, E	1.9
34	Dissolved Oxygen	mg/l	_	APHA 45000 C	5.9

"End of the Report"



Notes:

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Report no. - CEMC/18L/050824/GW1

Issued Date-05,08.2024

GROUND WATER QUALITY TEST REPORT

Name & Address of the Client

Date of Sample Received

Date of Sampling

Sample Description

Sample Quantity

Sample Location

Date of Analysis

Reference No.

Sampling by

: M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Kalinga Nagar, Jajpur

: 12.07.2024

: Mr. Rabindranath Das

: 13.07.2024

: Ground Water

: 1.0 Ltr

: Near Main Gate

: 13.07.2024 to 23.07.2024

: CEMC-05082024GW1

ANALYSIS RESULT

			1	Testing Method	d Standard as per 1S: 10500, 2012		
	SL No	Parameter	Parameter Unit of measurement		Acceptable Limit	Permissible Limit	Result
		1000		APHA 2120 B,C	5	15	<5
Y.	1	Colour	Hazen	APHA 2150 B	AL	AL	AL
	2	Odour		The state of the s	1	5	<1
	3	Turbidity	NTU	APIIA 2130 B	6.5-8.5	No Relaxation	7.14
	4	pH Value @ 25°C	**	APHA 4500H B	0.5-6-5		400
1	5	Total Hardness (as	mg/l	APHA 2340 C	200	600	190
	-	CaCO ₃)	mg/l	APHA 3500Fe, B	1.0	No Relaxation	< 0.05
	6	Iron (as Fe)		APHA 4500Cl B	250	1000	26.9
	7	Chloride (as Cl)	mg/l	APHA 4500Cl, B	0.2	1.0	ND
	8	Residual, free Chlorine	mg/t	APHA 2540 C	500	2000	336.2
	9	Total Dissolved Solids	mg/l		75	200	38.47
13	10	Calcium (as Ca)	mg/l	APHA 3500Ca B	30	100	22.84
_	11	Magnesium (as Mg)	mg/l	APHA 3500Mg B	-	400	73.2
_	12	Sulphate (as SO ₄)	mg/l	APHA 4500 SO ₄ ²⁻ E	200		<0.05
_	13	Fluoride (as F)	mg/l	APHA 4500F C	1.0	1.5	~0.03
-	14	Total Alkalinity (as CaCO ₃)	mg/I	APHA 2320 B	200	600	194
	15	Anionic Detergents (as MBAS)	mg/l	APHA 5540 C	0.2	1.0	ND
-	16	Chloramines (as Cl ₂)	mg/l	IS 3025 (P-26)	4.0	No Relaxation	ND
-	17	Boron (as B)	mg/l	APHA 4500B, B	0.5	1.0	<0.2

NB: ND- Not Detectable, AL- Agreeable.

Authorized Signatory

Notes:

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Report no. - CENIC/TSL/050824/GW2

Issued Date-05.08.2024

GROUND WATER QUALITY TEST REPORT

Name & Address of the Client

Date of Sample Received

Date of Sampling

Sample Description

Sample Quantity Sample Location

Date of Analysis

Reference No.

Sampling by

: M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Kalinga Nagar, Jajpur

: 12.07.2024

: Mr. Rabindranath Das

: 13.07.2024

: Ground Water

: 1.0 Ltr

: Near CPP

: 13.07.2024 to 23.07.2024

: CEMC-05082024GW2

ANALYSIS RESULT

T			****	Testing Method	Standard as po	r IS: 10500, 2012	D
0	SL No	Donom etem	1770	Acceptable Limit	Permissible Limit	Result	
9	1	Colour	Hazen	APHA 2120 B,C	5	15	<5
1	2	Odour	-	APHA 2150 B	AL	AL	AL
á	3	Turbidity	NTU	APITA 2130 B	1	5	<1
Ť	4	pH Value @ 25°C		APHA 4500H B	6.5-8.5	No Relaxation	6.98
-	5	Total Hardness (as CaCO ₃)	mg/l	APHA 2340 C	200	600	182
r	6	Iron (as Fe)	mg/l	APHA 3500Fe, B	1.0	No Relaxation	<0.05
r	7	Chloride (as Cl)	mg/l	APHA 4500CF B	250	1000	36.9
ŀ	8	Residual, free Chlorine	mg/l	APHA 4500Cl, B	0.2	1,0	ND
	9	Total Dissolved Solids	mg/l	APHA 2540 C	500	2000	341.2
1	10	Calcium (as Ca)	mg/l	APHA 3500Ca B	. 75	200	44.88
5	11	Magnesium (as Mg)	mg/l	APHA 3500Mg B	30	100	17.01
7	12	Sulphate (as SO ₄)	mg/l	APHA 4500 SO ₄ 2- E	200	400	23.8
•	13	Fluoride (as F)	mg/l	APHA 4500F C	1.0	1.5	< 0.05
-	14	Total Aliminity (as CaCO ₃)	mg/l	APHA 2320 B	200	600	194
I	15	Anionic Detergents (as MBAS)	mg/l	APHA 5540 C	0.2	1.0	ND
7	16	Chloramines (as Cl ₂)	mg/l	IS 3025 (P-26)	4.0	No Relaxation	ND
1	17	Boron (as B)	mg/I	APHA 4500B, B	0.5	1.0	< 0.2

NB: ND- Not Detectable, AL- Agrecable.

Authorized Signatory

Notes:

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Report no. - CEMC/TSL/050824/GW3

Issued Date-05.08.2024

GROUND WATER QUALITY TEST REPORT

Name & Address of the Client

: M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Kalinga Nagar, Jajpur

Date of Sampling

: 12.07.2024

Sampling by

: Mr. Rabindranath Das

Date of Sample Received Sample Description

: 13.07.2024 : Ground Water

Sample Quantity Sample Location

: 1.0 Ltr : MRP

Date of Analysis Reference No.

: 13.07.2024 to 23.07.2024 : CEMC-05082024GW3

ANALYSIS RESULT

1	SL	042-00-00-00-0	Unit of	Testing Method	Standard as pe	r IS: 10500, 2012	
	No	Parameter	measurement		Acceptable Limit	Permissible Limit	Resul
Ĺ	1	Colour	Hazen	APHA 2120 B,C	5	15	<5
	2	Odour	**	APHA 2150 B	AL	AL	AL
b	3	Turbidity	NTU	APIIA 2130 B	1	. 5	<1
L	4	pH Value @ 25°C	- 10	APHA 4500H B	6.5-8.5	No Relaxation	7.21
Ì	5	Total Hardness (as CaCO ₃)	mg/l	APHA 2340 C	200	600	274
l	6	Iron (as Fe)	mg/l	APHA 3500Fe, B	1.0	No Relaxation	< 0.05
7	7	Chloride (as Cl)	mg/I	APHA 4500CF B	250	1000	48.9
ľ	8	Residual, free Chlorine	mg/l	APHA 4500CL B	0.2	1.0	ND
ł	9	Total Dissolved Solids	mg/l	APHA 2540 C	500	2000	550.8
Ι	10	Calcium (as Ca)	mg/l	APHA 3500Ca B	75	200	66.53
P	11	Magnesium (as Mg)	mg/l	APHA 3500Mg B	30	100	26.24
I	12	Sulphate (as SO ₄)	mg/l	APHA 4500 SO ₄ ² · E	200	400	41.8
ť	13	Fluoride (as F)	mg/l	APHA 4500F C	1.0	1.5	<0.05
5	14	Total Alkalinity (as CaCO ₃)	mg/l	APHA 2320 B	200	600	230
	15	Anionic Detergents (as MBAS)	mg/l	APHA 5540 C	0.2	1.0	ND
7	16	Chloramines (as Cl ₂)	mg/i	IS 3025 (P-26)	4.0	No Relaxation	ND
	17	Boron (as B) NB: ND- Not Detectable	mg/l	APHA 4500B, B	0.5	1.0	<0.2

Authorized Signatory

Notes:

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Report No. - CEMC/TSL/050824/SW1

Issued Date-05.08.2024

SURFACE WATER QUALITY TEST REPORT

Name & Address of the Client

: M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Kalinga Nagar, Jajpur

: 12.07.2024

: Mr. Rabindranath Das

: 13.07.2024

: Surface Water

: 2.0 Ltra

: Nala Water near Bridge area

: 13.07.2024 to 23.07.2024

: CEMC-05082024SW1

Date of Sampling Sampling by

Date of Sample Received

Sample Description

Sample Quantity

Location

Date of Analysis

Reference No.

ANALYSIS RESULT

SL No	Parameter	Unit of measurement	IS 2490: Discharge into Inland Surface Water	Testing Method	Result
1	Colour	Hazen		APHA 2120 B,C &	100
2	Odour	-	-	APHA 2150 B	U/O
3	Total Suspended Solids	mg/l	100	APHA 2540 D	68.4
4	Particular size of SS		Shall pass 850	APIIA 2540 D	<850
5	pH Value @ 25°C	**	5.5 to 9.0	APHA 4500H+ B	7.94
6	Temperature	°C	Shall not Exceed 40 within 15 m d/s from effluent Outlet	APHA 2550 B	25.6
7	Oil & Grease	mg/l	10	APHA 5520 B	<1
8	Residual Free Chlorine	mg/l	1.0	APHA 4500Cl, B	ND
9	Ammonical Nitrogen	mg/l	50	APHA 4500NH3 B,C	ND
10	Total Kjeldahl Nitrogen as N	mg/l	100	APHA 4500 N, B	6.2
11	Free Ammonia	mg/l	5.0	Calculation Method	ND
12	Riochemical Oxygen Demand	mg/l	30	APHA 5210 B	16
13	Chemical Oxygen Demand	mg/l	250	APHA 5220 C	80
14	Arsenic (as As)	mg/l	0.2	APHA 3114 B	<0.00
15	Mercury (as Hg)	mg/l	0.01	APHA 3500Hg	< 0.00
16	Lead (as Pb)	mg/l	0.1	APHA 3111 B,C	< 0.01
17	Cadmium (as Cd)	mg/l	2.0	APHA 3111 B,C	< 0.01
18	Hevavalent Chromium (as Cr ⁴⁶)	mg/l	0.1	APHA 3500Cr B	0.08
19	Total Chromium (as Cr)	mg/l	2.0	APHA 3111 B,C	0.21
20	Copper (as Cu)	mg/l	3.0	APHA 3111 B,C	< 0.03
21	Zinc (as Zn)	mg/l	5.0	APHA 3111 B,C	0.14
22	Selenium (as Se)	mg/l	0.05	APHA 3114 B	< 0.00
23	Nickel (as Ni)	mg/l	3.0	APHA 3111 B,C	< 0.05
24	Cyanide (as CN)	mg/l	0.2	APHA 4500CN C.D	ND
25	Fluoride (as F)	mg/l	2.0	APHA 4500F C	0.58
26	Dissolved Phosphate (as PO ₄)	mg/l	5.0	APHA 4500P D	0.52
27	Sulphide (as S)	mg/l	2.0	APHA 4500 S ² D	1.4

N.B: U/O-Unobjectionable, ND-Not Detectable

Pg-3 01 4

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Report No. - CEMC/TSL/050824/SW1

Issued Date-05.08.2024

28	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	1.0	APHA 5530 B,D	<0.001
29	Bioassay Test	-	90% survival of fish after 96 hours in 100% effluent	АРНА 8910 C	93%
30	Manganese (as Mn)	mg/l	2.0	APHA 3500Mn B	0.12
31	Iron (as Fe)	mg/l	3.0	APHA 3500Fe, B	2.86
32	Vanadium (as V)	mg/l	0.2	APHA 3111 B,C	<0.01
33	Nitrate (as NO ₃)	mg/l	10	APHA 4500 NO3 E	4.6
34	Dissolved Oxygen	mg/l		APHA 45000 C	5.9

End of the Report

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Notes:

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Report No. - CEMC/TSL/050824/SW2

Issued Date-05.08.2024

SURFACE WATER QUALITY TEST REPORT

Name & Address of the Client

: M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Kalinga Nagar, Jajpur

: 12.07.2024

: Mr. Rabindranath Das

: 13.07.2024

: Surface Water

: 2.0 Ltrs

: IDCO Water to the Reservoir

: 13.07.2024 to 23.07.2024

: CEMC-05082024SW2

Anna Tabasan Taban

Date of Sampling Sampling by

Date of Sample Received

Sample Description

Sample Quantity

Location

Date of Analysis

Reference No.

ANALYSIS RESULT

SL No	Parameter	Unit of measurement	IS 2490: Discharge into Inland Surface Water	Testing Method	Resul
1	Colour	Hazen	-	APHA 2120 B,C &	<5
2	Odour	**		APHA 2150 B	U/O
3	Total Suspended Solids	mg/l	100	APHA 2540 D	<5
4	Particular size of SS	-	Shall pass 850	APHA 2540 D	~830
5	pH Value @ 25°C		5.5 to 9.0	APHA 4500H B	7.33
6	Temperature	°C	Shall not Exceed 40 within 15 m d/s from effluent Outlet	АРНА 2550 В	25.8
7	Oil & Grease	lgm	10	APHA 5520 D	<1
8	Residual Free Chlorine	mg/l	1.0	APHA 4500Cl, B	ND
9	Ammonical Nitrogen	mg/l	50	APHA 4500NH3 B,C	ND
10	Total Kjeldahl Nitrogen as N	mg/l	100	APHA 4500 N, B	2.2
11	Free Ammonia	mg/l	5.0	Calculation Method	ND
12	Biochemical Oxygen Demand	mg/l	30	APHA 5210 B	<2
13	Chemical Oxygen Demand	mg/t	250	APHA 5220 C	10
14	Arsenic (as As)	mg/l	0.2	APHA 3114 B	< 0.001
15	Mercury (as Hg)	mg/l	0.01	APHA 3500Hg	< 0.001
16	Lead (as Pb)	mg/l	0.1	APHA 3111 B,C	<0.01
17	Cadmium (as Cd)	mg/l	2.0	APHA 3111 B,C	< 0.01
18	Hexavalent Chromium (as Cr ¹⁶)	mg/l	0.1	APHA 3500Cr B	< 0.05
19	Total Chromium (as Ct)	ing/i	2.0	APHA 3111 B,C	<0.05
20	Copper (as Cu)	mg/l	3.0	APHA 3111 B,C	< 0.03
21	Zinc (as Zn)	mg/l	5.0	APHA 3111 B,C	< 0.05
22	Selenium (as Se)	mg/l	0.05	APHA 3114 B	<0.001
23	Nickel (as Ni)	mg/l	3.0	APHA 3111 B,C	< 0.05
24	Cyanide (as CN)	mg/l	0.2	APHA 4500CN C,D	ND
25	Fluoride (as F)	mg/i	2.0	APHA 4500F C	<0.05
26	Dissolved Phosphate (as PO ₄)	mg/l	5.0	APHA 4500P D	< 0.05
27	Sulphide (as S)	mg/l	2.0	APHA 4500 S ² D	< 0.1

N.B: U/O-Unobjectionable, ND-Not Detectable

Pg-3 of 4

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Report No. - CEMC/TSL/050824/SW2

Issued	Date-05.08.2024

28	Phenolic Compounds (as C _b H ₅ OH)	mg/l	1.0	APHA 5530 B,D	< 0.001
29	Bioassay Test	-	90% survival of fish after 96 hours in 100% effluent	APHA 8910 C	96%
30	Manganese (as Mn)	mg/l	2.0	APHA 3500Mn B	< 0.05
31	Iron (as Fe)	mg/l	3.0	APHA 3500Fe, B	1.1
32	Vanadium (as V)	mg/l	0.2	APHA 3111 B,C	<0.01
33	Nitrate (as NO ₃)	mg/l	10	APHA 4500 NO ₃ E	1.6
34	Dissolved Oxygen	mg/l	44	APHA 45000 C	6.2

End of the Report

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Notes:

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Report No. - CEMC/TSL/050724/SW1

Issued Date-05.07.2024

SURFACE WATER QUALITY TEST REPORT

Name & Address of the Client

: M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Kalinga Nagar, Jajpur

Date of Sampling Sampling by

: 02.07.2024 : Mr. Rabindranath Das

Date of Sample Received Sample Description Sample Quantity

: 02.07.2024 : Surface Water

Location

: 2.0 Ltrs

Date of Analysis Reference No.

: Finishing Yard Sump Pit : 02.07.2024 to 05.07.2024

: CEMC-05072024SW1

Si. No	Parameter	Unit of measurement	S RESULT IS 2490: Discharge into Inland Surface Water	Testing Method	Result
1	Colour	Hazen	-	APHA 2120 B,C &	120
2	Odour		-	APHA 2150 B	U/O
3	Total Suspended Solids	mg/l	100	APHA 2540 D	134
4	Particular size of SS	-	Shall pass 850	APHA 2540 D	<850
5	pH Value @ 25°C	**	5.5 to 9.0	APHA 4500H° B	8.01
6	Temperature	°C	Shall not Exceed 40 within 15 m d/s from effluent Outlet	APHA 2550 B	25.1
7	Oil & Grease	Fign	10	APIIA 5520 B	<1
8	Residual Free Chlorine	mg/l	1.0	APHA 4500Cl, B	ND
9	Ammonical Nitrogen	mg/I	50	APHA 4500NH3 B,C	ND
10	Total Kjeldahl Nitrogen as N	mg/l	100	APHA 4500 N, B	7.14
11	Free Ammonia	mg/l	5.0	Calculation Method	1.28
12	Biochemical Oxygen Demand	mg/l	30	APHA 5210 B	60
13	Chemical Oxygen Demand	Figur	250	APHA 5220 C	200
14	Arsenic (as As)	mg/l	0.2	APHA 3114 B	< 0.001
15	Mercury (as Hg)	mg/l	0.01	APHA 3500Hg	< 0.00
16	Lead (as Pb)	mg/l	0.1	APHA 3111 B,C	0.01
17	Cadmium (as Cd)	mg/l	2.0	APHA 3111 B,C	< 0.005
18	Hexavalent Chromium (as Cr ⁺⁶)	mg/l	0.1	APHA 3500Cr B	0.07
19	Total Chromium (as Cr)	mg/l	2.0	APHA 3111 B,C	0.17
20	Copper (as Cu)	mg/l	3.0	APHA 3111 B,C	0.02
21	Zinc (as Zn)	mg/l	5.0	APHA 3111 B,C	0.19
22	Selenium (as Se)	mg/l	0.05	APHA 3114 B	<0.00
23	Nickel (as Ni)	mg/l	3.0	APHA 3111 B,C	0.037
24	Cyanide (as CN)	mg/l	0.2	APHA 4500CN C,D	ND
25	Fluoride (as F)	mg/i	2.0	APHA 4500F C	1.05
26	Dissolved Phosphate (as PO ₄)	mg/l	5.0	APHA 4500P D	0.38
27	Sulphide (as S)	mg/l	2.0	APHA 4500 S ² D	1.2

N.B: U/O-Unobjectionable, ND-Not Detectable

Pg-3 of 4

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Report No. - CEMC/TSL/050724/SW1

Issued Date-05.07.2024

28	Phenolic Compounds (as C _b H ₂ OH)	mg/l	1.0	APHA 5530 B,D	<0.001
29	Bioassay Test	-	90% survival of fish after 96 hours in 100% effluent	APHA 8910 C	94%
30	Manganese (as Mn)	mg/l	2.0	APHA 3500Mn B	0.16
31	Iron (as Fe)	mg/l	3.0	APHA 3500Fe, B	3.05
32	Vanadium (as V)	mg/l	0.2	APHA 3111 B,C	< 0.005
33	Nitrate (as NO ₃)	mg/l	10	APHA 4500 NO ₃ E	1.37
34	Dissolved Oxygen	mg/l	-	APHA 45000 C	5.4

End of the Report

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Notes:

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Report No. - CEMC/TSL/050724/SW2

Issued Date-05.07.2024

SURFACE WATER QUALITY TEST REPORT

Name & Address of the Client

Date of Sampling Sampling by

Date of Sample Received Sample Description

Sample Quantity Location

Date of Analysis Reference No. : M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Kalinga Nagar, Jajpur

: 02.07.2024

: Mr. Rabindranath Das

: 02.07.2024

: Surface Water

: 2.0 Ltrs

: Furnace Backside Sump Drain

: 02.07.2024 to 05.07.2024

: CEMC-05072024SW2

ANALYSIS RESULT

5i. No	Parameter	Unit of measurement	IS 2490: Discharge into Inland Surface Water	Testing Method	Result
1	Colour	Hazen	**	APHA 2120 B,C &	190
2	Odour	**		APHA 2150 B	U/O
3	Total Suspended Solids	mg/l	100	APHA 2540 D	170
4	Particular size of 55	**	Shall pass 850	APHA 2540 D	1 4650
5	pH Value @ 25°C	**	5.5 to 9.0	APHA 4500H* B	7.57
6	Temperature	°C	Shall not Exceed 40 within 15 m d/s from effluent Outlet	АРНА 2550 В	25.3
7	Oil & Grease	i'gm	10	APITA 5520 B	- 51
8	Residual Free Chlorine	mg/l	1.0	APHA 4500Cl, B	ND
9	Ammonical Nitrogen	mg/l	50	APHA 4500NH3 B,C	ND
10	Total Kjeldahl Nitrogen as N	mg/l	100	APHA 4500 N, B	8.28
11	Free Ammonia	mg/l	5.0	Calculation Method	1.56
12	Biochemical Oxygen Demand	mg/l	30	APHA 5210 B	160
13	Chemical Oxygen Demand	i'gm	250	APHA 5220 C	400
14	Arsenic (as As)	mg/l	0.2	APHA 3114 B	<0.001
15	Mercury (as Hg)	mg/l	0.01	APHA 3500Hg	<0.00
16	Lead (as Pb)	mg/l	0.1	APHA 3111 B,C	0.005
17	Cadmium (as Cd)	mg/l	2.0	APHA 3111 B,C	<0.003
18	Hexavalent Chromium (as Cr ¹⁶)	mg/l	0.1	APHA 3500Cr B	0.05
19	Total Chromium (as Cr)	ம்லுள்	2.0	APHA 3111 B,C	0.42
20	Copper (as Cu)	mg/l	3.0	APHA 3111 B,C	0.01
21	Zinc (as Zn)	mg/l	5.0	APHA 3111 B,C	0.15
22	Selenium (as Se)	mg/l	0.05	APHA 3114 B	<0.001
23	Nickel (as Ni)	mg/l	3.0	APHA 3111 B,C	0.11
24	Cyanide (as CN)	mg/l	0.2	APHA 4500CN C,D	ND
25	Fluoride (as F)	mg/i	2.0	APHA 4500F C	0.98
26	Dissolved Phosphate (as PO ₄)	mg/l	5.0	APHA 4500P D	0.19
27	Sulphide (as S)	mg/l	2.0	APHA 4500 S ² D	3.2

N.B: U/O-Unobjectionable, ND-Not Detectable

Pg-3 of 4

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Report No	CEMC/TSI	J050724/SW2
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Issned	Date-05.0	7 2024

28	Phenolic Compounds (as C _b H ₅ OH)	mg/l	1.0	APHA 5530 B,D	<0.001
29	Bioassay Test	-	90% survival of fish after 96 hours in 100% effluent	APHA 8910 C	93%
30	Manganese (as Mn)	mg/l	2.0	APHA 3500Mn B	0.2
31	Iron (as Fe)	mg/l	3.0	APHA 3500Fe, B	3.38
32	Vanadium (as V)	The second secon		The state of the s	The second second
33	Nitrate (as NO ₃)	mg/l	0.2	APHA 3111 B,C	< 0.01
-	Distributed (as NO3)	mg/l	10	APHA 4500 NO; E	13.15
34	Dissolved Oxygen	mg/l		APHA 45000 C	5.1

End of the Report

Authorized Signatory

Notes:

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Report No. - CEMC/TSL/050724/SW3

Issued Date-05.07.2024

SURFACE WATER QUALITY TEST REPORT

Name & Address of the Client

: M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Kalinga Nagar, Jajpur : 02.07.2024

Date of Sampling Sampling by

: Mr. Rabindranath Das

Date of Sample Received Sample Description

: 02.07.2024

Sample Quantity Location

: Surface Water : 2.0 Ltrs

Date of Analysis

: Surface Drain Near Furnance-i

Reference No.

: 02.07.2024 to 05.07.2024 : CEMC-05072024SW3

ANAL VEIC DECLIET

Si. No	Parameter	Unit of measurement	IS 2490: Discharge into Inland Surface Water	Testing Method	Result
1	Colour	Hazea		APHA 2120 B,C &	50
2	Odour			APHA 2150 B	U/O
3	Total Suspended Solids	mg/I	100	APHA 2540 D	119
4	Particular size of SS		Shall pass 850	APHA 2540 D	~850
5	pH Value @ 25°C		5.5 to 9.0	APHA 4500H* B	7.29
6	Temperature	°C	Shall not Exceed 40 within 15 m d/s from effluent Outlet	APHA 2550 B	25.1
7	Oil & Grease	mg/1	10	APIIA 5520 D	<1
8	Residual Free Chlorine	mg/i	1.0	APHA 4500Cl, B	ND
9	Ammonical Nitrogen	mg/l	50	APHA 4500NH3 B,C	ND
10	Total Kjeldahl Nitrogen as N	mg/l	100	APHA 4500 N, B	5.14
11	Free Ammonia	mg/l	5.0	Calculation Method	0.86
12	Biochemical Oxygen Demand	mg/l	30	APHA 5210 B	140
13	Chemical Oxygen Demand	mg/i	250	APHA 5220 C	400
14	Arsenic (as As)	mg/l	0.2	APHA 3114 B	< 0.001
15	Mercury (as Hg)	mg/l	0.01	APHA 3500Hg	< 0.001
16	Lead (as Pb)	mg/l	0.1	APHA 3111 B,C	< 0.005
17	Cadmium (as Cd)	mg/l	2.0	APHA 3111 B,C	<0.005
18	Hexavalent Chromium (as Cr ⁴⁶)	mg/l	0.1	APHA 3500Cr B	<0.05
19	Total Chromium (as Cr)	mg/t	2.0	APHA 3111 B,C	0.48
20	Copper (as Cu)	mg/l	3.0	APHA 3111 B,C	0.46
21	Zinc (as Za)	mg/l	5.0	APHA 3111 B,C	0.13
22	Seleaium (as Se)	mg/l	0.05	APHA 3114 B	<0.001
23	Nickel (as Ni)	mg/l	3.0	APHA 3111 B,C	0.001
24	Cyanide (as CN)	mg/l	0.2	APHA 4500CN C,D	ND
25	Fluoride (as F)	mg/i	2.0	APHA 4500F C	
26	Dissolved Phosphate (as PO ₄)	mg/l	5.0	APHA 4500P D	1.42
27	Sulphide (as S) U/O-Unobjectionable, ND-Not Dete	mg/l	2.0	APHA 4500 S ³ D	0.68 <0.1

N.B: U/O-Unobjectionable, ND-Not Detectable

Pg-3 of 4

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Laboratory At: Plot No. 800/1274, Johal, Pahal, Bhubaneswar-752101, Odisha, India, ,Mobile: 7752014842



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Report No. - CEMC/TSL/050724/SW3

Issued Date-05.07.2024

28	Phenolic Compounds (as C _b H ₃ OH)	mg/l	1.0	APHA 5530 B,D	<0.001
29	Bioassay Test	-	90% survival of fish after 96 hours in 100% effluent	APHA 8910 C	93%
30	Manganese (as Mn)	mg/l	2.0	APHA 3500Mn B	0.12
31	Iron (as Fe)	ing/l	3.0	APHA 3500Fe, B	2.1
31	Vanadism (as Y)	mg/l	0.2	APHA 3111 B,C	-0.01
33	Nitrate (as NO ₁)	mg/l	10	APHA 4500 NO, E	4.31
34	Dissolved Oxygen	mg/l	-	APHA 4500O C	5.2

*End of the Report

Authorized Signatory

Notes:

3

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Report No. - CEMC/TSL/050724/SW4

Issued Date-05.07.2024

SURFACE WATER QUALITY TEST REPORT

Name & Address of the Client

: M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Kalinga Nagar, Jajpur

Date of Sampling : 02.07.2024

Sampling by : Mr. Rabindranath Das

: 02.07.2024 Date of Sample Received : Surface Water Sample Description

Sample Quantity : 2.0 Ltrs

Location : Samp Fit Near ETP : 02.07.2024 to 05.07.2024 Date of Analysis : CEMC-05072024SW4 Reference No.

ANALYSIS RESULT

Sl. No	Parameter	Unit of measurement	1S 2490: Discharge into Inland Surface Water	Testing Method	Result
1	Colour	Hazen	-	APHA 2120 B,C &	30
2	Odour	-		APHA 2150 B	U/O
3	Total Suspended Solids	mg/I	100	APHA 2540 D	73
4	Particular size of SS	-	Shail pass 850	APHA 2340 D	√850
5	pH Value @ 25°C	-	5.5 to 9.0	APHA 4500H* B	7.51
6	Temperature	°C	Shall not Exceed 40 within 15 m d/s from effluent Outlet	APHA 2550 B	25.3
7	Oil & Grease	mg/l	10	APIIA 5520 D	<1
8	Residual Free Chlorine	mg/l	1.0	APHA 4500Cl, B	ND
9	Ammonical Nitrogen	mg/l	50	APHA 4500NH3 B,C	ND
10	Total Kjeldahl Nitrogen as N	mg/l	100	APHA 4500 N, B	3.5
11	Free Ammonia	mg/l	5.0	Calculation Method	ND
12	Biochemical Oxygen Demand	mg/l	30	APHA 5210 B	18
13	Chemical Oxygen Demaral	ing/i	250	APHA 5220 C	60
14	Arsenic (as As)	mg/l	0.2	APHA 3114 B	< 0.00
15	Mercury (as Hg)	mg/l	0.01	APHA 3500Hg	< 0.00
16	Lead (as Pb)	mg/l	0.1	APHA 3111 B,C	0.01
17	Cadmium (as Cd)	mg/l	2.0	APHA 3111 B,C	< 0.005
18	Hexavalent Chromium (as Cr ⁺⁶)	mg/I	0.1	APHA 3500Cr B	0.55
19	Total Chromium (as Cr)	mg/i	2.0	APHA 3111 B,C	0.67
20	Copper (as Cu)	mg/l	3.0	APHA 3111 B,C	0.01
21	Zinc (as Zn)	mg/l	5.0	APHA 3111 B,C	0.11
22	Selenium (as Se)	mg/l	0.05	APHA 3114 B	<0.00
23	Nickel (as Ni)	mg/l	3.0	APHA 3111 B,C	0.01
24	Cyanide (as CN)	mg/l	0.2	APHA 4500CN C,D	ND
25	Fluoride (as F)	mg/i	2.0	APHA 4500F C	1.64
26	Dissolved Phosphate (as PO ₄)	mg/l	5.0	APHA 4500P D	0.31
27	Sulphide (as S)	mg/l	2.0	APHA 4500 S ² D	0.51

N.B: U/O-Unobjectionable, ND-Not Detectable

Pg-3 of 4

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& dies (EIA & ERP) Monitoring, Forest Diversion Flamming, DFR, Treconomic Studies, DGPS & ETS Survey. GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Report No. - CEMC/TSL/050724/SW4

Issued Date-05.07.2024

28	Phenolic Compounds (as C ₆ H ₅ OH)	mg/I	1.0	APHA 5530 B,D	<0.001
29	Bioassay Test	-	90% survival of fish after 96 hours in 100% effluent	APHA 8910 C	94%
30	Manganese (as Mn)	mg/l	2.0	APHA 3500Mn B	0.04
31	Iron (as Fe)	mg/l	3.0	APHA 3500Fe, B	1.46
32	Vanadium (as V)	mg/l	0.2	APHA 3111 B.C	< 0.01
33	Nitrate (as NO ₃)	mg/l	10	APHA 4500 NO, E	4.31
34	Dissolved Oxygen	mg/l	-	APHA 45000 C	5.4

End of the Report

Authorized Signatory

Notes:

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Report No. - CEMC/TSL/050724/SW5

Issued Date-05.07.2024

SURFACE WATER QUALITY TEST REPORT

: M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Kalinga Nagar, Jajpur

: 02.07.2024

: Mr. Rabindranath Das

: 02.07.2024

: Surface Water

: 2.0 Ltrs

: Surface Drain Raw Material Yard, Coal Yard

: 02.07.2024 to 05.07.2024

: CEMC-05072024SW5

Name & Address of the Client

Date of Sampling Sampling by

Date of Sample Received Sample Description

Sample Quantity

Location

Date of Analysis Reference No.

ANALYSIS RESULT

SL No	Parameter	Unit of measurement	IS 2490: Discharge into Inland Surface Water	Testing Method	Result
1	Colour	Hazen		APHA 2120 B,C &	110
2	Odour			APHA 2150 B	U/O
3	Total Suspended Solids	mg/l	100	APHA 2540 D	146
4	Particular size of SS		Shall pass 850	APHA 2540 D	~850
5	pH Value @ 25°C	++	5.5 to 9.0	APHA 4500H° B	7.41
6	Temperature	°°C	Shall not Exceed 40 within 15 m d/s from effluent Outlet	АРНА 2550 В	25.4
7	Oll & Grease	mg/I	10	APHA 5520 D	<1
8	Residual Free Chlorine	mg/I	1.0	APHA 4500Cl, B	ND
9	Ammonical Nitrogen	mg/l	50	APHA 4500NH3 B,C	ND
10	Total Kjeldahl Nitrogen as N	mg/I	100	APHA 4500 N, B	7.56
11	Free Ammonia	mg/I	5.0	Calculation Method	1.28
12	Biochemical Oxygen Demand	mg/l	30	APHA 5210 B	50
13	Chemical Oxygen Demand	Ing/I	250	APHA 5220 C	200
14	Arsenic (as As)	mg/l	0.2	APHA 3114 B	<0.001
15	Mercury (as Hg)	mg/l	0.01	APHA 3500Hg	<0.00
16	Lead (as Pb)	mg/I	0.1	APHA 3111 B,C	0.01
17	Cadmium (as Cd)	mg/l	2.0	APHA 3111 B,C	<0.00
18	Hexavalent Chromium (as Cr ⁺⁶)	mg/l	0.1	APHA 3500Cr B	0.28
19	Total Chromium (as Cr)	mg/l	2.0	APHA 3111 B,C	0.28
20	Copper (as Cu)	mg/l	3.0	APHA 3111 B,C	
21	Zinc (as Zn)	mg/l	5.0	APHA 3111 B,C	0.01
22	Selenium (as Se)	mg/l	0.05	APHA 3114 B	0.13
23	Nickel (as Ni)	mg/l	3.0	APHA 3111 B,C	<0.001
24	Cyanide (as CN)	mg/l	0.2	APHA 4500CN C,D	0.12
25	Fluoride (as F)	mgi	2.0	APHA 4500F C	ND
26	Dissolved Phosphate (as PO ₄)	mg/l	5.0	APHA 4500P D	1.68
27	Sulphide (as S) U/O-Unobjectionable, ND-Not Dete	mg/l	2.0	APHA 4500 S ² D	0.76

N.B: U/O-Unobjectionable, ND-Not Detectable

Pg-3 of 4

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey,

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Report No. - CEMC/TSL/050724/SW5

Issued Date-05.07.2024

28	Phenolic Compounds (as C _b H ₂ OH)	mg/l	1.0	APHA 5530 B,D	<0.001
29	Bioassay Test	-	90% survival of fish after 96 hours in 100% effluent	APHA 8910 C	94%
30	Manganese (as Mn)	mg/l	2.0	APHA 3500Mn B	0.25
31	Iron (as Fe)	mg/l	3.0	APHA 3500Fe, B	2.1
32	Vanadium (as V)	mg/l	0.2	APHA 3111 B.C	<0.01
33	Nitrate (as NO ₃)	mg/l	10	APHA 4500 NO ₅ E	13.93
34	Dissolved Oxygen	mg/l		APHA 45000 C	5.5

End of the Report

Authorized Signatory

Notes:

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Report no. - CEMC/TSL/140624/SL1

Issued Date-14.06.2024

TCLP TEST REPORT

Name & Address of the Client : M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga

Nagar, Jajpur

Date of Sampling : 08.06.2024

Sampling by : Mr. Rabindra Nath Das

Date of Sample Received : 08.06.2024

Sample Description : Slag Sample

Date of Analysis : 08.06.2024 to 13.06.2024

Reference No. : CEMC-14062024SL1

ANALYSIS RESULT

Sl. No	Parameter	Unit of measurement	Standard*	Testing Method	Result
1	Arsenic as As	mg/l	5.0	TCLP With Zero Head Extraction Followed by Analysis in ICP-OES	< 0.001
2	Cadmium as Cd	mg/l	1.0		< 0.005
3	Chromium as Cr	mg/l	5.0		< 0.005
4	Lead as Pb	mg/l	5.0		< 0.005
5	Mercury as Hg	mg/l	0.2		< 0.001
6	Selenium as Se	mg/l	1.0		< 0.005
7	Nickel as Ni	mg/l	20.0		< 0.005
8	Zinc as Zn	mg/l	20.0		0.12
9	Manganese as Mn	mg/l	250.0		0.63
10	Copper as Cu	mg/l	10.0		0.091

* Govt. of India, MoEF & CC Schedule-II based on leachable concentration limits (TCLP) or Soluble Threshold limit Concentration (STLC), Class A, 2016

Authorized Signatory

Seal of Laboratory

Notes:

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Report no. - CEMC/TSL/170924/SL1

Issued Date-17.09.2024

TCLP TEST REPORT

Name & Address of the Client : M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga

Nagar, Jajpur

Date of Sampling : 09.09.2024

Sampling by : Mr. Rabindra Nath Das

Date of Sample Received : 10.09.2024

Sample Description : Slag Sample

Date of Analysis : 10.09.2024 to 16.09.2024

Reference No. : CEMC-17092024SL1

ANALYSIS RESULT

Sl. No	Parameter	Unit of measurement	Standard*	Testing Method	Result
1	Arsenic as As	mg/l	5.0		< 0.001
2	Cadmium as Cd	mg/l	1.0	TOT D MY	< 0.005
3	Chromium as Cr	mg/l	5.0	TCLP With	< 0.005
4	Lead as Pb	mg/l	5.0	Zero Head	< 0.005
5	Mercury as Hg	mg/l	0.2	Extraction Followed by	< 0.001
6	Selenium as Se	mg/l	1.0	•	< 0.005
7	Nickel as Ni	mg/l	20.0	Analysis in ICP-OES	< 0.005
8	Zinc as Zn	mg/l	20.0	ICI-OES	0.045
9	Manganese as Mn	mg/l	250.0		0.31
10	Copper as Cu	mg/l	10.0		0.052

* Govt. of India, MoEF & CC Schedule-II based on leachable concentration limits (TCLP) or Soluble Threshold limit Concentration (STLC), Class A, 2016

Authorized Signatory

Seal of Laboratory

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DIRECTORATE OF FACTORIES & BOILERS, ODISHA

APPROVAL OF ONSITE EMERGENCY PLAN

Certificate no: JAJ/OEP/2024/006448

Dt: 01/08/2024

In pursuance of provision contained under Section 41-B(4) of the Factories Act, 1948, the On-Site Emergency Plan of TATA STEEL MINING LTD, FERRO ALLOYS PLANT, JAJPUR, Kalinga Nagar Industrial Complex, Po- Manatira, PS- Jakhapura, Via-Danagadi, Dist-Jajpur, JAJPUR, JAJPUR having following identified Hazardous substances is hereby provisionally accepted, subject to the conditions as mentioned hereunder:-

Inventory of hazardous substances

#	Name of hazardous substance	Storage capacity (MT)	Operating capacity (MT)	Mode of storage	Mode of disposal	Container type
1	2	3	4	5	6	7
1	Oxygen	13 MT	9 MT	Above ground	na	vertical
2	High Speed Diesel	20 MT	12 MT	Underground	NA	horizontal
3	Transformer Oil	147.081 MT	80 MT	Select mode of	NA	Select mode of
				storage		storage

Hazardous gas produced/ substances generated

#	Name of hazardous gas/substance generated during the process	Rate of production	Mode of storage/use	Maximum one time storage
1	2	3	4	5
1	Flu gases	150000	Furnace 1	0
2	Flue Gas	150000	Furnace -2	0
3	Flue Gas	300000	Furnace-3 and 4	0

- 1. Consequent upon any modification / alteration in future the On-Site Emergency plan shall be prepared and submitted for acceptance.
- 2. The possible hazards associated with the factory and 'Dos' and Don'ts' shall be displayed in prominent place adjacent to main gate & conspicuous places inside the factory with the measures to be taken in case of such incident
- 3. Each key personnel of the command structure shall be provided with a worksheet containing their duties and responsibilities.
- 4. Mock Drill shall be scheduled through PAReSHRAM portal at least once in every six months involving zonal Asst. Director of Factories and Boilers/ Divisional Dy.Directors of Factories and Boilers concerned & DCG members
- 5. Annual report on hold of Mock Drills shall be submitted to the authorities of DistrictAdministration under intimation to Assistant Director of Factories & Boilers/DeputyDirector of Factories & Boilers.
- 6. Awareness programmes on hazard & mitigation shall be made amongst workers and people living in the vicinity

The approved copy of the On-Site Emergency Plan shall be downloaded and be provided to the Collector & District Magistrate, Superintendent of Police, District Fire Oficer and Chief Medical Officer of the District.

Director of Factories & Boilers, Odisha

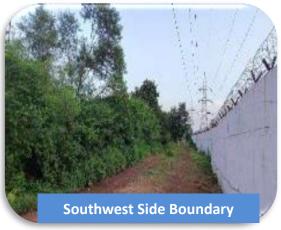
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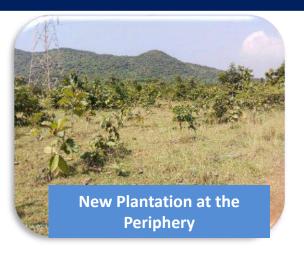
- (i) This is a digitally signed electronically generated certificate and therefore needs no ink-signed signature.
- (ii) This certificate is issued as per section 4, 5 & 6 of IT Act 2000 and its subsequent amendments in 2008.
- (iii) For verification, visit https://pareshram-labour.odisha.gov.in
- (iv) Tampering of this certificate will attract penal action.

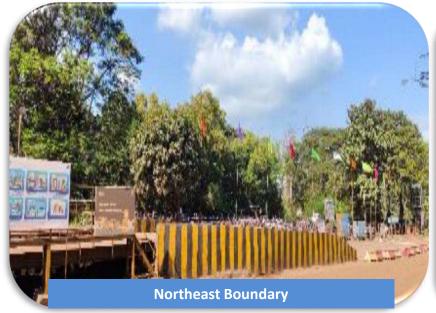


Annexure 8- Green Belt

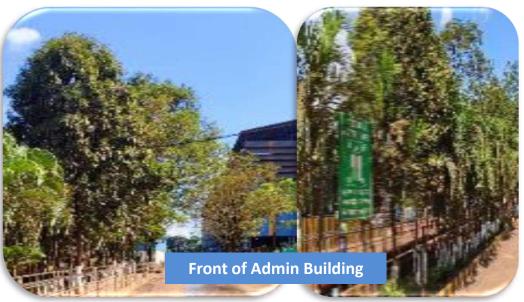












Ferro Alloys Plant, Jajpur FY 25-26

1.0 OBJECTIVE

Greenbelt is the development of green cover around on empty land inside the project area or within the project influence area. The main objectives of green belt development area to minimize the pollution load generated from different developmental activities. A green belt is generally proposed for existing or new industrial activity to minimize the effect of different construction and operational activities on surrounding

Greenbelt is a set of rows of tree planted such a way that they form an effective barrier between the plant and the surroundings. The main purpose of green belt development is to contribute to the following factors.

- To attenuate noise levels generated from the plant;
- ♣ To improve the aesthetics of the plant area;
- ♣ To trap the vehicular emissions and fugitive dust emissions;
- To maintain ecological homeostasis;
- **♣** To prevent soil erosion and to protect the natural vegetation;
- To utilize the treated effluents;

Provision of wide green belt around the plant has been foreseen to reduce any adverse impacts on the surrounding population due to emissions from the proposed expansion activity. Plantation of grass, flowers, bushes and trees is/will be taken-up to reduce generation of duct from bare earth and to enhance the aesthetic/scenic value.

2.0 GREENBELT DEVELOPMENT

The existing green belt was development by previous owner in 5.9 Acres within the plant premises. The total greenbelt area to be covered should be 19.8 Acres, which is 33% of the total area. At present, TSL is keen to preserve and maintain the existing greenbelt along with plans to further develop 13.9 Acres area as greenbelt to comply the 33% greenbelt area statute.

Also, TSL has also carried out greenbelt development outside the plant premises in around 3.0 Acres area. In addition to this, dense mangrove vegetation (natural) covers the western to Northwestern boundary of the Plant site.

Most importantly, TSL will develop greenbelt in around 13.9 Ares within the projects site in compliance to the 33% greenbelt within the project site.

The company has social obligation to recreate the environmental status by developing greenbelt/plantation to suppress the fugitive emissions and provide aesthetic beauty. Trees act as effective biological filters or sinks for particulate and gaseous emissions, generated by vehicular movements and various industrial activities.

Following characteristics will be taken into consideration while selecting plant species for greenbelt development and tree plantation:-

- I. Fast growing and tall trees
- II. Trees with 75-85% survival rate
- III. Trees having thick canopy cover
- IV. Evergreen and perennial trees
- V. Plantation in appropriate alternate rows around site to prevent lateral pollution dispersion.
- VI. Trees maintaining regional ecological balance and conforming to soil and hydrological condition.
- VII. Indigenous tree species are preferred

3.0 GREENBELT PLANTATION AT PLANT SITE

Due care will be taken to ensure that a green belt is developed around the plant area. Areas having low density vegetation will be systematically and scientifically afforested. Apart from the green belt and aesthetic plantations for fugitive emission and noise control, all other massive plantation efforts will be executed with the assistance and co-operation of the local community. The plantations of any of the above or their combinations will be decided in consultation with the local community and Local Forest Department.

In addition to this, TSL is committed to protect the Mangrove Vegetation. The following measures will be taken to conserve the natural grown Mangrove plant in the vicinity of the plant like.

- Organizing training on conservation/plantation of mangrove species to local villagers / SHGs etc.
- ➤ Establish linkage of mangrove restoration project under income generation activity like prawn cultivation, nursery development.

3.1 GUIDELINES & TECHNIQUES FOR GREENBELT DEVELOPMENT

Extensive survey in the project area will be undertaken to observe the structure and composition of vegetation. Hence, a combination of plant will be selected depending upon the topographical suitability and species selected as per SPCB Guideline. Based on the survey and environmental conditions, suitable native plants species will be proposed for green belt development plan.

- I. First layer consisting of shrubs and grasses.
- II. Second layer consisting of smaller trees.
- III. Third layer consisting of taller and larger trees.

3. 2 DEVELOPMENT OF GREENBELT

The plantation matrix to be adopted for the green belt development will include pit of 30 cm \times 30 cm \times 30 cm size with a spacing of 2 m \times 2 m for shrubs. And the pit size of 45 cm \times 45 cm \times 45 cm with a spacing of 2.5 m \times 2.5 m for trees. In addition, earth filling and manure may also be required for the proper nutritional balanced and nourishment of the sapling. It is also recommended that the plantation has taken of randomly and the landscaping aspects could be taken into consideration.

Multi-layout plantation comprising of taller trees (9 m to 11 m), medium height trees (5 m to 8m) and shrubs (5m height) are propose for the greenbelt. In addition creepers will be planted along the boundary wall to enhance its insulation capacity.

The greenbelt around industry wall will be developed in keeping view of the following objectives:-

1. Design and development of greenbelt should be in adherence to industry-specific requirements and as per guidelines CPCB

- **2.** Planting of trees in each row will be in staggered pattern.
- **3.** The short trees will be planted in the first row and the tall trees in the outer rows around the purview of the project site.
- **4.** Since the trunks of the trees are generally devoid of foliage, it will be useful to have shrubs in front of trees so as to give coverage to the portion.
- **5.** Sufficient spacing will be maintain between the trees to facilitate effective height of the greenbelt.
- 6. Plants of native origin, fast growing type canopy and large leaf index shall be preferred.

3.3 SELECTION OF PLANT SPECIES FOR GREENBELT DEVELOPMENT

The selection of plant species for the development depends on various factors such as climate, elevation and soil. The plants would exhibit the following desirable characteristic in order to be selected for plantation.

- 1. The species should be fast-growing and providing optimum penetrability.
- 2. The species should be wind-firm and deep rooted.
- 3. The species should form a dense canopy.
- 4. As far as possible the species should be indigenous and locally available.
- 5. Species tolerance to air pollution like SO2 and NOx should be preferred.
- 6. The species should be permeable to help create air turbulence and mixing within the belt.
- 7. There should be no large gaps for the air to spill through.
- 8. Trees with high foliage density, leaves with larger leaf area and hairy on both the surface.
- 9. Ability to withstand conditions like inundation and drought.
- 10. Soil improving plants (Nitrogen fixing rapidly decomposable leaf litter).
- 11. Attractive appearance with good flowering and fruit bearing.
- 12. Sustainable green cover with minimal maintenance.

Table No 1: Trees Species selected for the greenbelt as per CPCB

Scientific Name	Common Name
n in area along plant Boundary	
Peltophorumferrugineum	Radhachuda
Delonixregia	Krushnachuda
Pongamiapinnata	Karanja
Terminaliachebula	Harida
Terminaliabellirica	Bahada
Dalbergiaissoo	Sisu
Aeglemarmelos	Bela
Cascabelathevetia	Kaniara
Anthocephaluscadamba	Kadamba
Acacia auriculiformis	Akasia
Acacia mangium	Mengium
Alstoniascholaris	Chatian
Simaroubaglauca	Simarua
Phyllanthusemblica	Anala
Cedrusdeodara	Debadaru
Ailanthus exelsa	Maha Nimba
Anacardiumoccidentale	Kaju
n in the vacant areas	
Aeglemarmelos	Bela
Acacia Auriculiformis	Akasia
Cedrusdeodara	Debadaru
Acacia mangium	Mengium
Dalbergiasissoo	Sisu
Ailanthus exelsa	Maha Nimba
Sagauan	Tectona Grandis
n around office buildings, stores, garage etc.	
Cascabelathevetia	Kaniara
Anthocephaluscadamba	Kadamba
Peltophorumferrugineum	Radhachuda
Delonixregia	Krushnachuda
Phyllanthusemblic	Anala
Anacardiumoccidentale	Kaju
Saraca asoca	Ashoka
	Peltophorumferrugineum Delonixregia Pongamiapinnata Terminaliachebula Terminaliabellirica Dalbergiaissoo Aeglemarmelos Cascabelathevetia Anthocephaluscadamba Acacia mangium Alstoniascholaris Simaroubaglauca Phyllanthusemblica Cedrusdeodara Ailanthus exelsa Anacardiumoccidentale n in the vacant areas Aeglemarmelos Acacia mangium Dalbergiasissoo Ailanthus exelsa Sagauan n around office buildings, stores, garage etc. Cascabelathevetia Phyllanthusemblic Anthocephaluscadamba Peltophorumferrugineum Delonixregia Phyllanthusemblic Anacardiumoccidentale

8	Syzygium cumini	Jamun				
Avenue P	Avenue Plantation					
1	Anthocphaluscadamba	Kadamba				
2	Azadirachaindica	Neem				
3	Dalbergialatifolia	Sisham				
4	Syzygium Cumini	Jamun				
5	Tamarindusindica	Imli				

3.4 POST PLANTATION CARE

Immediately after planting the seedlings, watering the plants has to be done. The treated wastewater discharge will be used for watering the plants during non-monsoon period. Further watering will depend on the rainfall. In the dry seasons watering will be regularly done especially during February to june. Watering of yonger saplings will be more frequent. Manuring will be done using organic manure (animal dung, agricultural waste, kitchen waste etc). younger saplings will be surrounded with tree guards. Diseased and dead plants will be uprooted and destroyed and replaced by fresh saplings. Growth/health and survival rate saplings will be regularly monitored and remedial actions will be undertaken as required.

4.0 PLANTATION PROGRAMME

		Area under Greenbelt/Plantation (In Acres)						
Sl.No	Location		Existing	P	roposed	Time Frame of		
		Area	No of Plants	Area	No of plants	Proposed Plantation		
A. Inside Plant Premises								
1.	Admin building, Furnace area, Briquette plant, RM Plot etc.	10.2	25,500	9.6	24,000	Within 2 years		
	TOTAL	5.9	14,800	13.9	34,800			

Therefore, with a density of 2500 trees/acre, about 24000 trees will be planted in the proposed 9.6 Acres of area within the plant premises. Developed Lawn of approx. 3500Sqft.

4. 1 EXISTING GREENBELT PHOTOGRAPHS





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Report No. - CEMC/TSL/040524/WW1

Issued Date-04.05.2024

WASTE WATER TEST REPORT

Name & Address of the Client

Date of Sampling

Date of Sample Received

Date of Analysis

Sample Description Sample Quantity

Location

Reference No.

: M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Environmantal Sex of Laboratory

Kalinga Nagar, Jajpur

: 03.04.2024

: 03.04.2024

: 03.04,2024 to 08.04,2024

: Waste water

: 1.0 Ltr

: ETP Outlet

: CEMC-04052024WW1

ANALYSIS RESULT

Sl. No.	Parameter	Unit	Effluent Discharge Standard	Testing Method	Result
1.	pH Value @ 25°C	-	6.0-9.0	APHA 4500 H ⁺ B	7.59
2.	Total Suspended Solids	mg/l	<100	APHA 2540 D	18.4
3.	B.O.D for 3 days @ 27°C	mg/l	<30	IS 3025 (P-44)	16
4.	COD	mg/l	<250	APHA 5220 B	40
5.	Hexavalent Chromium as Cr ⁴⁶	mg/l	0.1	APHA 3500Cr B	<0.05
6.	Total Chromium as Cr	mg/l		APHA 3120 B	< 0.005
7	Iron as Fe	mg/l	3.0	APHA 3120 B	2.4
8.	Oil and Grease	mg/l	10	APHA 5520 B	1.6

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Report No. - CEMC/TSL/040524/WW1

WASTE WATER TEST REPORT

Issued Date-04.05.2024

Name & Address of the Client

Date of Sampling

Date of Sample Received

Date of Analysis Sample Description

Sample Quantity

Location

Reference No.

: M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur

: 25.04.2024

: 25.04.2024

: 25.04.2024 to 01.05.2024

: Waste water

: 1.0 Ltr

: ETP Outlet

: CEMC-04052024WW1

ANALYSIS RESULT

SL No.	Parameter	Unit	Effluent Discharge Standard	Testing Method	Result
1.	pH Value @ 25°C		6.0-9.0	APHA 4500 H ⁺ B	7.73
2.	Total Suspended Solids	mg/l	<100	APHA 2540 D	30.4
3.	B.O.D for 3 days @ 27°C	mg/l	<30	IS 3025 (P-44)	22
4.	COD	mg/l	<250	APHA 5220 B	50
5.	Hexavalent Chromium as Cr+6	mg/l	0.1	APHA 3500Cr B	<0.05
6.	Total Chromium as Cr	mg/l		APHA 3120 B	< 0.005
7.	Iron as Fe	mg/l	3.0	APHA 3120 B	2.6
8.	Oil and Grease	mg/l	10	APHA 5520 B	1.2

End of Report

of Laboratory

Notes:

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Report No. - CEMC/TSL/050624/WW1

Issued Date-05.06.2024

WASTE WATER TEST REPORT

Name & Address of the Client : M

: M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Environmental Laboratory

Kalinga Nagar, Jajpur

Date of Sampling

: 14.05.2024 : 15.05.2024

Date of Sample Received Date of Analysis

: 15.05.2024 to 25.05.2024

Sample Description

: Waste water

Sample Quantity

: 1.0 Ltr

Location

: ETP Outlet

Reference No.

: CEMC-05062024WW1

ANALYSIS RESULT

SL No.	Parameter	Unit	Effluent Discharge Standard	Testing Method	Result
1.	pH Value @ 25°C		6.0-9.0	APHA 4500 H ⁺ B	7.94
2.	Total Suspended Solids	mg/l	<100	APHA 2540 D	24.6
3.	B.O.D for 3 days @ 27°C	mg/l	<30	IS 3025 (P-44)	14
4.	COD	mg/l	<250	APHA 5220 B	30
5.	Hexavalent Chromium as Cr ⁺⁶	mg/l	0.1	APHA 3500Cr B	< 0.05
6.	Total Chromium as Cr	mg/l	**	APHA 3120 B	<0.005
7.	Iron as Fe	mg/l	3.0	APHA 3120 B	0.86
8.	Oil and Grease	mg/l	10	APHA 2520 B	<1

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Report no. - CEMC/TSL/050624/WW2

Issued Date-05.06.2024

WASTE WATER TEST REPORT

Name & Address of the Client

: M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Kalinga Nagar, Jajpur

Date of Sampling Date of Sample Received

: 31.05.2024 : 31.05.2024

Date of Analysis

: 31.05.2024 to 04.06.2024

Sample Description Sample Quantity

: Waste water : 1.0 Ltr

Location

: ETP Outlet

Reference No.

: CEMC-05062024WW2

ANALYSIS RESULT

Sl. No.	Parameter	Unit	Effluent Discharge Standard	Testing Method	Result
1.	pH Value @ 25°C		6.0-9.0	APHA 4500 H ⁺ B	7.21
2.	Total Suspended Solids	mg/l	<100	APHA 2540 D	14.4
3.	B.O.D for 3 days @ 27°C	mg/I	<30	IS 3025 (P-44)	8
4.	COD	mg/l	<250	APHA 5220 B	20
5.	Hexavalent Chromium as Cr+6	mg/l	0.1	APHA 3500Cr B	< 0.05
6.	Total Chromium as Cr	mg/l		APHA 3120 B	<0.005
7.	Iron as Fe	mg/l	3.0	APHA 3120 B	0.64
8.	Oil and Grease	mg/l	10	APHA 5520 B	<1

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Report No. - CEMC/TSL/040724/WW1

Issued Date-04.07.2024

WASTE WATER TEST REPORT

Name & Address of the Client

: M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Environmenta Laboratory

of Laboratory

Kalinga Nagar, Jajpur

Date of Sampling

: 08.06.2024 : 08.06.2024

Date of Sample Received

: 08.06.2024 to 13.06.2024

Date of Analysis

Sample Description Sample Quantity

: Waste water : 1.0 Ltr

Location

: ETP Outlet

Reference No.

: CEMC-04072024WW1

ANALYSIS RESULT

SI. No.	Parameter	Unit	Effluent Discharge Standard	Testing Method	Result
1.	pH Value @ 25°C	(#)	6.0-9.0	APHA 4500 H B	7.21
2.	Total Suspended Solids	mg/l	<100	APHA 2540 D	16.4
3.	B.O.D for 3 days @ 27°C	mg/l	<30	IS 3025 (P-44)	18
4.	COD	mg/l	<250	APHA 5220 B	40
5.	Hexavalent Chromium as Cr+6	mg/l	0.1	APHA 3500Cr B	< 0.05
6.	Total Chromium as Cr	mg/l		APHA 3120 B	< 0.005
7.	Iron as Fe	mg/l	3.0	APHA 3120 B	0.79
8.	Oil and Grease	mg/l	10	APH \$520 B	<1

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Report no. - CEMC/TSL/040724/WW2

Issued Date-04.07.2024

WASTE WATER TEST REPORT

Name & Address of the Client

: M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Kalinga Nagar, Jajpur

Date of Sampling

: 26.06.2024 : 26.06.2024

Date of Sample Received Date of Analysis

: 26.06.2024 to 02.07.2024

Sample Description

: Waste water

Sample Quantity

: 1.0 Ltr

Location

: ETP Outlet

Reference No.

: CEMC-04072024WW2

ANALYSIS RESULT

Sl. No.	Parameter	Unit	Effluent Discharge Standard	Testing Method	Result
1.	pH Value @ 25°C	-	6.0-9.0	APHA 4500 H ⁺ B	7.43
2.	Total Suspended Solids	mg/l	<100	APHA 2540 D	14.2
3.	B.O.D for 3 days @ 27°C	mg/l	<30	IS 3025 (P-44)	12
4.	COD	mg/l	<250	APHA 5220 B	30
	Hexavalent Chromium as Cr ⁺⁶	mg/l	0.1	APHA 3500Cr B	<0.05
5.	Total Chromium as Cr	mg/l		APHA 3120 B	< 0.005
6.		mg/l	3.0	APHA 3120 B	0.84
7.	Iron as Fe Oil and Grease	mg/l	10	APHA 3520 B	<1

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Report No. - CEMC/TSL/050824/WW1

Issued Date-05.08.2024

WASTE WATER TEST REPORT

Name & Address of the Client : M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Kalinga Nagar, Jajpur

Date of Sampling : 12.07.2024

Date of Sample Received : 13.07.2024

Date of Analysis : 13.07.2024 to 18.07.2024

Sample Description : Waste water Sample Quantity : 1.0 Ltr

Location : ETP Outlet

Reference No. : CEMC-05082024WW1

ANALYSIS RESULT

Sl. No.	Parameter	Unit	Effluent Discharge Standard	Testing Method	Result
1.	pH Value @ 25°C		6.0-9.0	APHA 4500 H ⁺ B	7.81
2.	Total Suspended Solids	mg/l	<100	APHA 2540 D	38.4
3.	B.O.D for 3 days @ 27°C	mg/l	<30	IS 3025 (P-44)	28
4.	COD	mg/l	<250	APHA 5220 B	100
5.	Hexavalent Chromium as Cr+6	mg/l	0.1	APHA 3500Cr B	< 0.05
6.	Total Chromium as Cr	mg/l		APHA 3120 B	< 0.005
7.	Iron as Fe	mg/l	3.0	APHA 3120 B	3.1
8.	Oil and Grease	mg/l	10	APHA 5520 B	1.8

End of Report

Environmental Laboratory

Authorized Signatory

Notes:

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Report No. - CEMC/TSL/050824/WW1

Issued Date-05.08.2024

WASTE WATER TEST REPORT

Name & Address of the Client : M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Kalinga Nagar, Jajpur

Date of Sampling : 23.07.2024 Date of Sample Received : 23.07.2024

Date of Analysis : 23.07.2024 to 29.07.2024

Sample Description : Waste water Sample Quantity : 1.0 Ltr Location : ETP Outlet

Reference No. : CEMC-05082024WW1

ANALYSIS RESULT

SI. No.	Parameter	Unit	Effluent Discharge Standard	Testing Method	Result
1.	pH Value @ 25°C	1 2	6.0-9.0	APHA 4500 H ⁺ B	7.54
2.	Total Suspended Solids	mg/l	<100	APHA 2540 D	24.6
3.	B.O.D for 3 days @ 27°C	mg/l	<30	IS 3025 (P-44)	24
4.	COD	mg/l	<250	APHA 5220 B	120
5.	Hexavalent Chromium as Cr ⁺⁶	mg/l	0.1	APHA 3500Cr B	< 0.05
6.	Total Chromium as Cr	mg/l		APHA 3120 B	< 0.005
7.	Iron as Fe	mg/l	3.0	APHA 3120 B	3.4
8.	Oil and Grease	mg/l	10	APHA 5520 B	2.0

End of Report

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Report No. - CEMC/TSL/030924/WW1

Issued Date-03.09.2024

WASTE WATER TEST REPORT

Name & Address of the Client

: M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Kalinga Nagar, Jajpur

Date of Sampling

Date of Sample Received

Date of Analysis

Sample Description

Sample Quantity Location

Reference No.

Edf-8F Paboratory

: 22.08.2024 : 23.08.2024

: 23.08.2024 to 29.08.2024

: Waste water

: 1.0 Ltr

: ETP Outlet

: CEMC-03092024WW1

ANALYSIS RESULT

SI. No.	Parameter	Unit	Effluent Discharge Standard	Testing Method	Result
1.	pH Value @ 25°C	(*)	6.0-9.0	APHA 4500 H B	8.04
2.	Total Suspended Solids	mg/l	<100	APHA 2540 D	<5
3.	B.O.D for 3 days @ 27°C	mg/l	<30	IS 3025 (P-44)	8.2
4.	COD	mg/l	<250	APHA 5220 B	20
5.	Hexavalent Chromium as Cr ⁺⁶	mg/l	0.1	APHA 3500Cr B	< 0.05
6.	Total Chromium as Cr	mg/l		APHA 3120 B	<0.005
7.	Iron as Fe	mg/l	3.0	APHA 3120 B	2.4
8.	Oil and Grease	mg/l	10	APHA 5520 B	<1

End of Report

Authorized Signatory

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Report No. - CEMC/TSL/030924/WW2

Issued Date-03.09.2024

WASTE WATER TEST REPORT

Name & Address of the Client

: M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Was agament C

Environmental Laboratory

Seal of

Kalinga Nagar, Jajpur

Date of Sampling

: 28.08.2024 : 29.08.2024

Date of Sample Received

: 29.08.2024 to 02.09.2024

Date of Analysis

: Waste water

Sample Description Sample Quantity

: 1.0 Ltr

Location

: ETP Outlet

Reference No.

: CEMC-03092024WW2

ANALYSIS RESULT

SI. No.	Parameter	Unit	Effluent Discharge Standard	Testing Method	Result
1.	pH Value @ 25°C	• /	6.0-9.0	APHA 4500 H ⁺ B	7.95
2.	Total Suspended Solids	mg/l	<100	APHA 2540 D	<5
3.	B.O.D for 3 days @ 27°C	mg/l	<30	IS 3025 (P-44)	7.6
4.	COD	mg/l	<250	APHA 5220 B	20
5.	Hexavalent Chromium as Cr ⁺⁶	mg/l	0.1	APHA 3500Cr B	< 0.05
6.	Total Chromium as Cr	mg/l	**	APHA 3120 B	< 0.005
7.	Iron as Fe	mg/l	3.0	APHA 3120 B	2.9
8.	Oil and Grease	mg/l	10	APHA 5520 B	<1

End of Report

Authorized Signatory

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Report No. - CEMC/TSL/031024/WW1

Issued Date-03.10.2024

WASTE WATER TEST REPORT

Name & Address of the Client

: M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Kalinga Nagar, Jajpur

Date of Sampling

: 09.09.2024

Date of Sample Received Date of Analysis

: 10.09.2024

Sample Description

: 10.09.2024 to 17.09.2024

Sample Quantity

: Waste water : 1.0 Ltr

Location

: ETP Outlet

Reference No.

: CEMC-03102024WW1

ANALYSIS RESULT

Sl. No.	Parameter	Unit	Effluent Discharge Standard	Testing Method	Result
1,	pH Value @ 25°C	-	6.0-9.0	APHA 4500 H ⁺ B	8.15
2.	Total Suspended Solids	mg/l	<100	APHA 2540 D	<5
3.	B.O.D for 3 days @ 27°C	mg/l	<30	IS 3025 (P-44)	8.6
4.	COD	mg/l	<250	APHA 5220 B	20
5.	Hexavalent Chromium as Cr46	mg/l	0.1	APHA 3500Cr B	< 0.05
6.	Total Chromium as Cr	mg/l		APHA 3120 B	< 0.005
7.	Iron as Fe	mg/l	3.0	APHA 3120 B	2.7
8.	Oil and Grease	mg/l	10	APHA 5520 B	<1

End of Report

Authorized Signatory

Notes:

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Report No. - CEMC/TSL/031024/WW2

Issued Date-03.10.2024

WASTE WATER TEST REPORT

Name & Address of the Client

: M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Kalinga Nagar, Jajpur

Date of Sampling

: 28.09.2024

Date of Sample Received

: 28.09.2024

Date of Analysis

: 28.09.2024 to 02.10.2024

Sample Description

: Waste water : 1.0 Ltr

Sample Quantity Location

: ETP Outlet

Reference No.

: CEMC-03102024WW2

ANALYSIS RESULT

SI. No.	Parameter	Unit	Effluent Discharge Standard	Testing Method	Result
1.	pH Value @ 25°C		6.0-9.0	APHA 4500 H ⁺ B	8.09
2.	Total Suspended Solids	mg/l	<100	APHA 2540 D	<5
3.	B.O.D for 3 days @ 27°C	mg/l	<30	IS 3025 (P-44)	2.8
4.	COD	mg/l	<250	APHA 5220 B	10
5.	Hexavalent Chromium as Cr+6	mg/l	0.1	APHA 3500Cr B	< 0.05
6.	Total Chromium as Cr	mg/l		APHA 3120 B	< 0.005
7.	Iron as Fe	mg/l	3.0	APHA 3120 B	2.4
8.	Oil and Grease	mg/l	10	APHA 5520 B	<1

End of Report

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Report No. - CEMC/TSL/041124/WW1

Issued Date-04.11.2024

WASTE WATER TEST REPORT

Name & Address of the Client

Date of Sampling Date of Sample Received

Date of Analysis Sample Description Sample Quantity

Location

Reference No.

: M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Kalinga Nagar, Jajpur

: 19.10.2024

: 20.10.2024

: 20.10.2024 to 30.10.2024

: Waste water

: 1.0 Ltr

: ETP Inlet

: CEMC-04112024WW1

ANALYSIS RESULT

SI. No.	Parameter	Unit	Testing Method	Result
1.	pH Value @ 25°C	11	APHA 4500 H ⁺ B	7.19
2.	Total Suspended Solids	mg/l	APHA 2540 D	48.6
3.	B.O.D for 3 days @ 27°C	mg/l	IS 3025 (P-44)	24
_	COD	mg/l	APHA 5220 B	60
5.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA 3500Cr B	0.08
_	Total Chromium as Cr	mg/l	APHA 3120 B	0.15
6.	Iron as Fe	mg/l	APHA 3120 B	1.88
7.	Oil and Grease	mg/l	APHA 5520 B	3.1

End of Report



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Report No. - CEMC/TSL/041124/WW1

Issued Date-04.11.2024

WASTE WATER TEST REPORT

Name & Address of the Client

Date of Sampling Date of Sample Received

Date of Analysis Sample Description Sample Quantity

Location

Reference No.

: M/s. TATA Steel Ltd., (Ferro Alloys Plant),

Kalinga Nagar, Jajpur

: 19.10.2024 : 20.10.2024

: 20.10.2024 to 30.10.2024

: Waste water

: 1.0 Ltr

: ETP Outlet

: CEMC-04112024WW1

ANALYSIS RESULT

SI. No.	Parameter	Unit	Effluent Discharge Standard	Testing Method	Result
1	pH Value @ 25°C		6.0-9.0	APHA 4500 H B	8.03
2.	Total Suspended Solids	mg/l	<100	APHA 2540 D	<5
3.	B.O.D for 3 days @ 27°C	mg/l	<30	IS 3025 (P-44)	8
4.	COD	mg/l	<250	APHA 5220 B	20
5.	Hexavalent Chromium as Cr ⁺⁶	mg/l	0.1	APHA 3500Cr B	< 0.05
6.	Total Chromium as Cr	mg/l	-	APHA 3120 B	< 0.005
7.	Iron as Fe	mg/l	3.0	APHA 3120 B	0.08
8.	Oil and Grease	mg/l	10	APHA 5520 B	<1

End of Report



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Report no.-CEMC/TSL/040524/N

Issued Date-04.05,2024

NOISE LEVEL MONITORING REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpus
Sample Description	Ambient Noise Quality
Sample Drawn Period/ Time	Monthly/ 0700 to 0700 next day
Sample Drawn by	Mr. Rabindranath Das
Weather Conditions	Clear
Reference No.	CEMC-04052024N
Instrument Used	Noise Meter
Date of Sampling	04.04.2024

St. No.	Location	dB(A) Day time	dB(A) Night time
1	ADM Building	72.4	66.0
2	Infront FC Cast House	72.6	61.4
3	MRP Building	73.5	69,8
4	Briquette	73.4	69.2
5	CPP	70.8	63.9
6	Rabana	65,9	46,6
7	Bangala	62.4	44.8
8	Jackhapura	58.6	43.2
9	Kumudi Sahi	57,8	43.6
10	Main Gate	71.4	64.8
11	Finish Yard	71.2	66.4
12	Stock Yard	70,8	64.6
13	Work Shop	71.6	63.0
14	GCP Area (3,4) 1 & 2	70.6	64.4
15	FurnaceArea	71.8	66.2
16	Central Stone	70.2	65.4
17	Day Bin (1,2,3,4)	73.6	70.0
18	MRSS/ETP	72.5	68,4

NOISE LEVEL STANDARD

Area	6. 44 17	Permissible I	imit in dB (A)
Code	Category of Area/Zone	Day Time	Night Time
A	Industrial Area	75	70
В	Commercial Area	65	55
C	Residential Area	35	45
D	Silence Zone	50	40

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E-mail- cemc_consultancy@yahoo.co.in, cemc122@gmail.com, website: www.cemc.in.



CENTRE FOR ENVOTECH AND MANAGEMENT CONSULTANCY PVT. LTD.

An ISO 9001-2015& ORSAS 45001:2018 Certified Company, Empanelled with OCCL, ORSAC and SPCB of Govt. of Odisha Accredited by NABET, QCI for EIA Studies as 'A' Category Consultant Organization. Empanelled with PCCF(Wildlife) &CWLW,Odisha Enlisted in Construction Industry Development Council (CIDC) established by the Planning Commission (Govt. of India) MoEF&CC, Govt. of India, RecognisedEnvironment Laboratory under Environment (Protection) Act, 1986 & NABL Accredited Laboratory

Report no.-CEMC/TSL/050824/N

Issued Date-05.08.2024

NOISE LEVEL MONITORING REPORT

Issued to	M/s. TATA Steel Ltd., (Ferro Alloys Plant), Kalinga Nagar, Jajpur
Sample Description	Ambient Noise Quality
Sample Drawn Period/ Time	Monthly/ 0700 to 0700 next day
Sample Drawn by	Mr. Rabindranath Das
Weather Conditions	Clear
Reference No.	CEMC-05082024N
Instrument Used	Noise Meter
Date of Sampling	23.07.2024

Sl. No.	Location	dB(A) Day time	dB(A) Night time	
1	ADM Building	72.6	66.2	
2	Infront FC Cast House	73.2	61.8	
3	MRP Building	73.8	70.2	
4	Briquette	73.6	70.4	
5	CPP	71.2	64.2	
6	Kabana	66.4	46.8	
7	Bangala	62.8	45.2	
8	Jackhapura	58.2	43,4	
9	Kumudi Sahi	57.6	43.8	
10	Main Gate	71.2	64.4	
11	Finish Yard	71.6	66.2	
12	Stock Yard	70.4	64.8	
13	Work Shop	72.2	63.4	
14	GCP Area (3,4) 1 & 2	70.4	64.0	
15	FurnaceArea	72.2	66.4	
16	Central Stone	70.8	65.6	
17	Day Bin (1,2,3,4)	73.2	69.4	
18	MRSS/ETP	72.8	68.2	

NOISE LEVEL STANDARD

Area	Category of Area/Zone	Permissible Limit in dB (A)		
Cade	Ownight of Artemanac	Day Time	Night Time	
A	Industrial Area	75	70	
В	Commercial Area	65	70	
C	Residential Area	55	33	
D	Silence Zone		45	
	Difference ZAARE	50	40	

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Authorized Signatory Notes:

The results relate only to the sample tested.

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[Form No. 31- A] Health Record

Pre-Employment/Periodical

Emp. Code :

460601

[Prescribed Under Rule 62 - J]

Date: 26/09/24

Page 1 of 2

		TOI
4) Name of	the Factory	; TSL

: HRUDANANDA SAHOO 2) Name of Employee

3) Employee distinguishing No:

4) Age of the Employee : 36 Yrs.

: BLACK MOLE ON FOREHEAD . Identification Mark

: JR. ASSOCIATE-III . Nature of Job

: 16.06.2013 5) Date of Employment

6) Length of Service in Years : 11 YEARS

7) General Survey

: GOOD . Health

cm : 160 . Height

: 58 Kg . Weight

Kg/m^2 : 22 . BMI

: "AB" 8) Blood Group

: POSITIVE . Rh Typing

: NORMAL 9) Eye vision

: NO . Use of glass

LE: 6/6 : RE: 6/6 Distance Vision

LE: N/6 : RE: N/6 Near Vision

: NORMAL Colour Vision

: NORMAL 10) Hearing

: NORMAL . Audiometry

dB : NORMAL Right Ear

dB : NORMAL Left Ear

11) Respiratory system and

chest measurement

: 95 . Inspiration

cm : 91 . Expiration /min

. Respirate rate/min : 16

: NORMAL . P.F.T

: NORMAL . FVC

: NORMAL . FEVVFVC

: NORMAL . X-Ray

: GOOD Remark if any

12) Cardiovascular system

/min . Pulse rate mmHg 132/82

, B.P. NORMAL

. Heart Sound NORMAL . E.C.G.

GOOD Remarks if any

13) Abdomen

NO Tenderness

NORMAL Liver

NORMAL Spleen

NORMAL 14) Nervous system :

NO . History of fits

> NO . Epilepsy

GOOD

Remarks on Mental Health;

NORMAL 15) Locomotor system

NORMAL 16) Skin condition

ABSENT 17) Hernia

ABSENT 18) Hydrocele

NO 19) Present complain :

if any

cm

20)	Summary	of	find	inq

- i) Heart disease
- ii) Hypertension
- iii) Diabetes mellitus :
- iv) Epilepsy
- v) T.B.
- vi) Others

NOO

. .

÷

vii) Occupational Disease, if any

21) Recommendation if any for any further investigation : NO

of Haudananda Sames

Signature of the Employee

Signature of the Medical officer

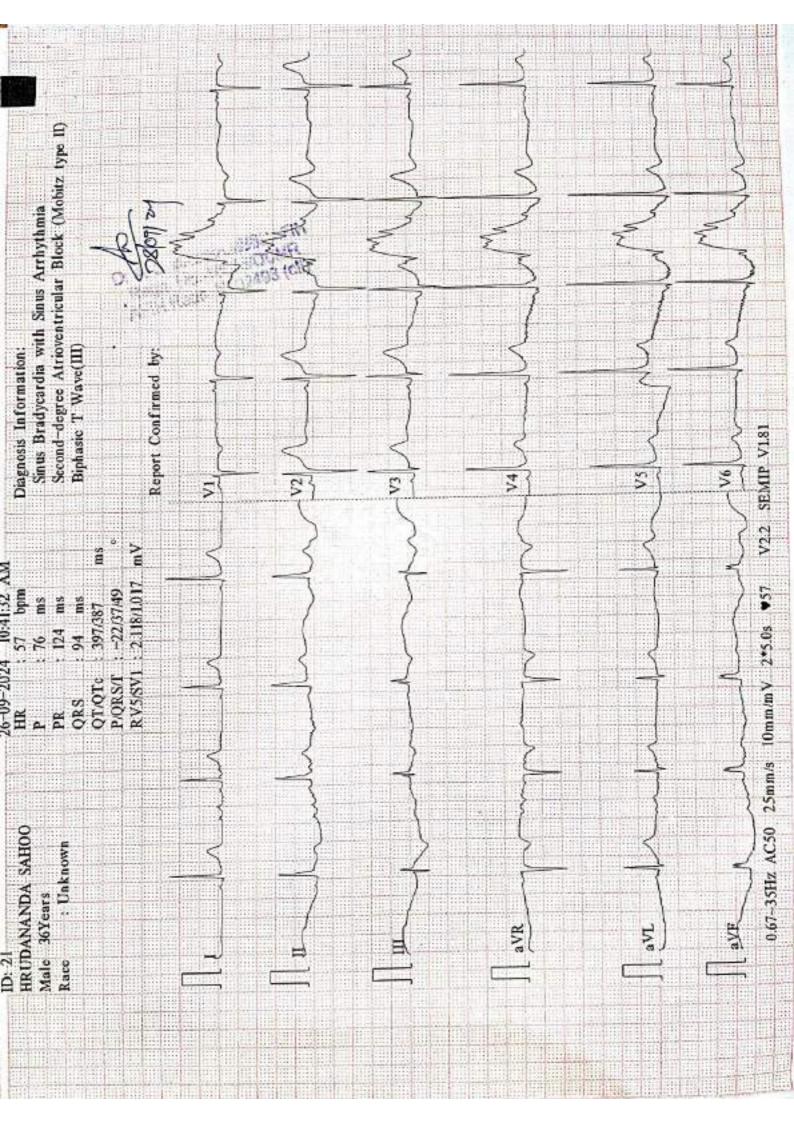
Rept. He ser and the Affiliation 1 1 2 20 and 1

Form no.25

(RULE 96)

CERTIFICATE OF FITNESS FOR DANGEROUS OPERATION

I Certify That I have personally exar	mined	
Sri/Smt	Hrudana	nda Schou
\$/OD/O	Nacemen	Sahoo
residing :	at Oay's	ρ ως
Is desirous of being employed as	8. As Sociate-il	<u>in NSL</u>
Of	CPP	
be ascertained from my examination	n is FIT/UNFIT for employn	nent at the above noted factory.
2.He is fit to be employed and may b		
às		Any 1005
3.He/She may be produced for furth	er examination after a pe	riod of One your
4.He/She is advised following furthe	r examination .	
5.He/She is advised following furthe	r treatment.	CH 10 BB
6.Comments / Medical Advice if any		
The serial number of previous certifi	cate is	
		h .
b Hrudahandus Socheo		500107
Signature of person examined	- 1	Signature of certifying Surgeon
		Circh No - (6559/OCM) Circh No - (6559/OCM) AFIN Rope (1 02493 (cli)



DHWAN DIAGNOSTICS

JHARSUGUDA SARBAHAL

Patient: HRUDANANDA BAHOO

Rofd. By:

Pred.Equa: RECORDERS

Date : 26-Sep-2024 12:53 PM

Aga : 36 Years Height: 160 Cms

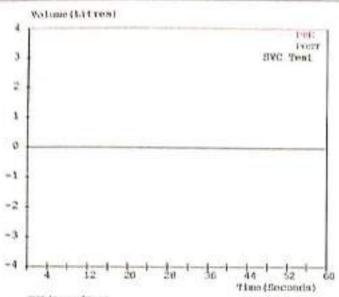
Weight : 58 Kgm

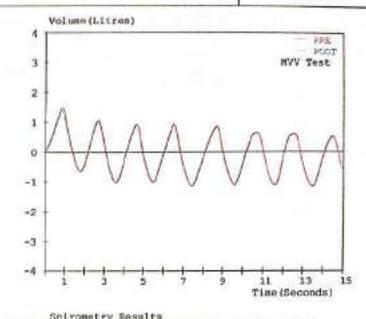
ID: 78710

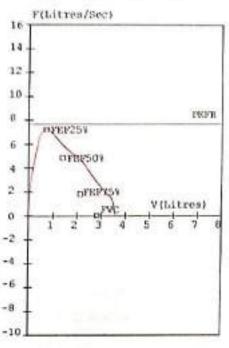
Gender : Male Bmoker : No Eth. Corr: 100

Temp : 37°C

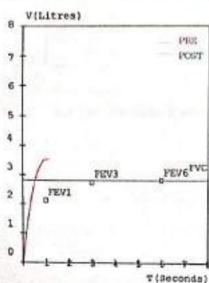








Parameter		Prod	M.Pre	*Pred	M. Post	*Pred	*Imp
LAC	(4)	02.82	03,59	127	плата		
PRV1	(L)	02.13	03.54	166		***	
MKV1/EVC	(3)	75.53	98,61	131			
FEF25-75	(1/2)	02.91	04.91	169			
PEFR	(t./n)	07.65	07.25	095			
FIVE	(L)			-	*****		
FEV.5	(L)	****	02.72				
FEV3	(1.)	02.74	03.59	131			
PIFR	(L/s)					***	
FEP75-85	(L/s)		02.56				
FKF.2-1.2		05.17	06.37	123			
FEF 251	(L/s)	07.24	07.07	098			
FEF 503	(L/s)	04.84	05,20	107			
PSY 751	(11/8)	01.00	.03,13	174			
PEV.5/FVC	(8)		75,77				
FEV3/FVC	(8)	97.16	100.00	103			
FET	(Sec)		01.31				
Expliine	(Sec)		00.10				***
Lung Age	(Yrs)	060	020	033			
PEV6	(L)	02.02					
FTF 25%	(L/s)		01.33				
FIF 50%	(L/a)		01.33				
FIF 75%	(L/8)		01.33				
SVC	(1,)						
ERV	(L)	01.04					
IRV	(L)		****		*****		
VE (L	/min)						
	/min)						
ri	(sec)				****		
Po	(sec)						
m	(L)		-				Hice.
T/T1						***	
1/Ttot							
IC	(L)		-				
	/min)	106	059	055			
MRC (I	/min)		32.05				
YVT	(L)		01.85				



Pre Medication Report Indicates

Spirometry within normal limits as (FEV1/FVC) %Fred >95 and FVC%Pred >80.

Ur A.S MISHIN WILLUS, AFILL Regn. for 1885/30CMR AFIH Roun ty 02493 (All)

EMB

DHWAN MEDICAL CENTRE

JHARSUGUDA.

Patient ID: 6228

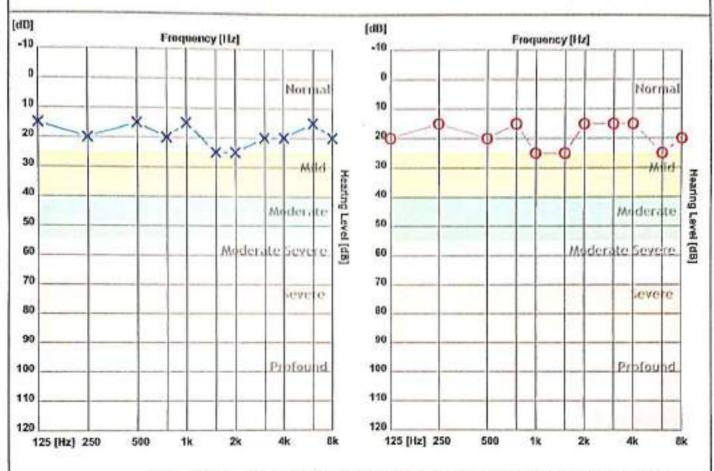
Name: HRUDANANDA SAHOO CR Number: 20240926110332

Registration Date: 26-Sep-2024

Age: 36

Gender: Male

Operator: DHWAN MEDICAL CENTRE



	125 Hz	250 Hz	500 Hz	750 Hz	1000 Hz	1500 Hz	2000 Hz	3000 Hz	4000 Hz	6000 Hz	8000 Hz
X - Air Left	15	20	15	20	15	25	25	20	20	15	20
O - Air Right	20	15	20	15	25	25	15	15	15	25	20
> - Bone Left											
< - Bone Right											

	Average	High	MId	Low
AIR Left	19.09 dB	18.75 dB	21.67 dB	17.50 dB
AIR Right	19.09 dB	18.75 dB	21.67 dB	17.50 dB

Clinical Notes ;

BILATERAL HEARING IS WITHIN NORMAL LIMITS

AFILITED A STATE OF THE STATE O

Diagnostics

A DMC GROUP

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06645 359350 sticsohs.net

Name

: HRUDANANDA SAHOO

Age

: 36 Yrs.

Sex

: Male

Ref. By Dr. : SELF

Regd. No.

: DMD/5555/18/391

Report Date : 26/09/24

Serial No. :

Report Printing Time : 3:37PM

Test Particulars	Results	Units	Reference-Range
	HAEMATOLOGY	AL.	
Haemoglobin(Hb) Total Leucocyte Count(TLC) BLOOD GROUP	: 12.6 : 5900 : "AB"	gm/dl /cmm	(M) 12 - 18 (F) 12-15 4000 - 11000
Rh (D) Type Total Erythrocyte Count (TRBC)	: Positive		-\
Platelet Count	÷ 4.6 ÷ 2.7	million/cm m. lakhs	1.5 - 4.0
P.C.V M.C.V	: 38.0 : 81.0	% fl	M: 40 - 54, F: 36 - 45 76 - 96
M.C.H.C.	: 29.0 : 35	pgms g/dl	22 - 32 30 - 35
MPV DIFFERENTIAL COUNT	: 10.4	п	9.4-12.3
Neutrophils Eosinophils	: 61 : 03	% %	40 - 70 00 - 06
Basophils ymphocytes	: 00	% %	00 - 01 20 - 40
Monocytes	: 06	%	02 - 10

*** End of Report ***

DR.Surjya P.S.N Choudhry, MBBS, MD, DM

K. C. Manuecciacó DR.K Chandramouleswari M.D

(Pathology)

Jharsuguda Certer: Near Cape Town, Sarbahal, Jharsuguda, Odisha + 768201 Mobile: 05118019921, E-mail: Infojeg@dywandiagnosticsahs.net Khordha Ceeter: Neur Govt. Hospital, Nh57, Khordha, Odisha - 752055 Contact : 08765-796557 Michile - 09827590674, E-mail: cheenmadicalconie:2020@gmail.com Angul Center : Inelde JSPL, Angul, Chendipada Road, SH - 63, AV Po- Jindal Nagar, Pin-759111

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vit : dimandin : 06645 359350

Name : HRUDANANDA SAHOO

Age : 36 Yrs.

Sex : Male

Ref. By Dr. : SELF

Regd. No. : DMD/5555/18/391

Report Date : 26/09/24

Serial No. :

Report Printing Time : 3:38PM

Test Particulars	Results	Units	Reference-Range
	BIO-CHEMISTRY	M.	\
Random Blood Sugar (RBS) ELECTROLYTES	: 116.0	mg/dl	70 - 150
Sodium (Na)	: 137.0	mmol/l	135 - 145
Potassium	: 3.9	mmol/l	3.55 - 5.5
LIPID PROFILE	V. 078540		2.00
Cholesterol	: 176.0	mg/dl	150 - 220
Triglyceride	: 95.0	mg/dl	50 - 150
High Density Lipoprotein (HDL)	: 44.0	mg/dl	35 - 60
Low Density Lipoprotein (LDL)	: 113.0	mg/dl	80 - 150
Very Low Density Lipoprotein (VLDL)	: 19.0	mg/dl	10 - 30
IVER FUNCTION TEST (LFT) 🌈 👝	V .	11:02	10 00
Total Bilirubin	: 0.62	mg/dl	0.2 - 1.2
Direct Bilirubin	: 0.18	mg/dl	0.1 - 0.4
A.S.T.(S.G,O.T.)	: 31.0	u/l	5 - 40
A.L.T.(S.G.P.T.)	: 25.0	u/I	7-56
Alkaline Phosphatase	: 91.0	u/I	<150
otal Protein	: 7.2	g/dl	6.6 - 8.3
Ubumin	: 3.6	g/dl	3.5 - 5.0
ENAL FUNCTION TEST (RFT)		8701	3,3 - 3,0
Irea	: 27.0	mg/dl	10 - 40
reatinine	: 0.84	mg/dl	M: 0.6 - 1.2/F: 0.5 - 1.1
Iric Acid	: 4.6	mg/dl	M: 3.4 - 7.0/E- 2.5 - 6.0
	TIV	L. 5. 1016 - 1 1 1 1 1	No

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Contact: 08755-78887 Mobile - 0827896871, E-mail: dhwannediasicenter@030@gredi.com

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& bring them
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visit to our center)

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Name

: HRUDANANDA SAHOO

Age

: 36 Yrs.

Sex

: Male

Ref. By Dr. : SELF

Regd. No. : DMD/5555/18/391

Report Date : 26/09/24

Serial No. :

Report Printing Time : 3:38PM

Test Particulars

Results

Units

Reference-Range

... End of Report ...

DR. Surjya P.S.N. Choudhry, MBBS, MD, DM

K. C. Manuceraco DR.K Chandramouleswari M.D. (Pathology)

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9348580289 / 8118019921 Landline:06645 359350

Web: dhwandiagnosticsohs.net

Name

: HRUDANANDA SAHOO

Age

: 36 Yrs.

Sex

: Male

Ref. By Dr.

: SELF

legd.No.

: DMD/5555/18/3914

Date : 26/09/24

Serial No. :

Results

Pale yellow

10ML

Absent

1.015

6.0

Acidic

Absent

Absent

Report Printing Time:

URINE REPORT

Test Particulars

MACROSCOPIC-EX-

Volume

Colour/appearance

Sediment

Sp. Gravity

CHEMICAL-EX-

PH%

Reaction

Albumin

Sugar

MICROSCOPIC-EX-

Pus Celis

Epithelial Cells

R.B.C. Casts

Crystals

Bacterial

Spermatozoa

Yeast Cells

DR.Surjya P.S.N

1-2/HPF

2-3/HPF

Nil/HPF

Nil

Nil

Nil

Nil

NII

*** End of Report ***

K. C. Manuelliaco -DR.K Chandramouleswari M.D.

(Pathology)

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Mobile: 08118019921 , E-mail: infojsg@shwandlageosticsohs.net

Khordha Center: Near Govt. Hospital, Nh57, Khordha, Odisha - 752955

Choudhry, MBBS, MD, DM

Contact : 08755-705507 Michile - 00827500571, E-mail: divenmedicalcenter2523@gmail.com Angul Center : Inside JSPL, Angul, Chendipada Road, SH - 63, Atl Po- Jindai Nagar,

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Web: dhwandiagnosticsohs.net

Name

: HRUDANANDA SAHOO

Age

: 36 Yrs.

Sex

: Male

Ref. By Dr. : SELF

Reg.No.

: DMD/5555/18/13556

Report Date

: 26/09/2024

Serial No.

: 460601

REPORT :-

REPORT : CHEST X-RAY PA VIEW

HISTORY :-

PERIODICAL INDUSTRIAL HEALTH CHECK-UP

FINDINGS :-

LINES/TUBES: NONE

LUNGS: The lungs are well defined & clear. There is no evidence

of pneumoconious /pneumonics/pulmonary cedema Pleura: There is no pleural effusion/pneumothorax Heart & mediastinum : The cardiomediastinal-

Silhouette is normal

The visualised skeleton is normal

IMPRESSION. :-

- CONTRACTOR

Clean lungs without evidence of pneumonia or pneumoconiosis or others lungs abnormallity.

Dr. B. B. PRADHAN, M.D. Ob. 09.24
(RADIOLOGY)

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9348580289 / 8118019921 Landline:06645 359350

Web: dhwandlagnosticsohs.net

Name

: HRUDANANDA SAHOO

36

Ago

Sex

: Male

Ref. By Dr.

: SELF

Reg.No.

: DMD/5555/18/13556

Report Date

: 26/09/2024

Serial No.

: 460601

Report Printing Time: 4:33:51PN

EYE TEST REPORT



VISUAL EXAMINATION :-

1. VISUAL AQUITY (DISTANCE VISION)

RIGHT EYE

LEFT EYE

A. With Glass

B. Without Glass

6/6

6/6

2. NEAR VISION :-

A. With Glass

B. Without Glass

N/6

N/6

3. COLOUR VISION:

NORMAL

M. Malipais Dr M.Mohapatra, M.S (Opthalmology)

Regn.No. 16255/2007

M.S (Calle palage) Rege, No. 15 - 15

Signature

Jhansuguda Centor: Near Cape Town, Sarbahal, Jhansuguda, Odisha - 768201

Mobile : 08118019921 , E-mail : Infojsg@dhwandiagnosticsohe.ret Khordha Center: Near Govt. Hospital, Nh57, Khordha, Odlsha - 752055 Conset: 96755-790197 (Mobile - 05827590571, E-mail: dhwannedicalcenter2000@cmail.com

Angul Center: Inside JSPL, Angul, Chendipeda Roed, SH - 63, At/ Pc- Jindal Nagar,

Pin - 259111

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CHEST

OCCUPATIONAL HEALTH SERVICES

FAP JAJPUR, PME 2024 25 TATA STEEL LIMITED

WELLNESS FOLLOW UP CARD

Regd. No.:

Name: HRUDANANDA SAHOO

Designation: JR ASSOCIATE III

Height: 160 weight: 58

EMP No.: 460604

Age: 36

Sex: MALE

Deptt.: CPP

Blood Group & Rh"AB"POSITIVE



In Front of Cape Town, Sarbahal, Jharsuguda, Odisha 768201 E mail: dhwandiagnostics2020@gmail.com Near DH Hospital, NH 57, Khordha, Odisha 750055 E mail: dhawnmedicalcenter2020@gmail.com

Contact No.: 0674 3566528, 9827590571, 7008055955, 9348580289 Website: www.dhwan.iphysicianhub.net

A SECONDARY PROPERTY OF THE PR

[Form No. 31- A] Health Record

Pre-Employment/Periodical

Emp. Code : TSP/602957/

Page 1 of 2

emp. Code : TSP/602	95711	[Prescribed Under	Rule 62 - J] [Date	: 29/09/24	Paga
1) Name of the Factory	; TSL (UR LIFE)		12) Cardlovascular	nynt	om	
2) Name of Employee	: BISWAJIT NAY	AK	, Pulao rato	:	70	/mtn
3) Employee distinguishing	No: TSP/60295	7/0824	, B,P,	1	110/80	mmHg
4) Age of the Employee	: 27 Yrs.		. Heart Sound	:	NORMAL	
, Identification Mark	: BLACK MO	DLE ON NEEK	, E,C,G,		NORMAL	
. Nature of Job	: DRIVER	2.00	Remarks If any	2	GOOD	
5) Date of Employment	: 01.10.2022		13) Abdomen			
6) Length of Service in Year	18 : 02 YEARS		Tendemess	;	NO	
7) General Survey			Liver		NORMAL	
0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0			Spleon	:	NORMAL.	
. Health	: GOOD		14) Nervous system	:	NORMAL	
. Height	: 170	cm	. History of fits	:	МО	
. Weight	: 63	Kg	. Epilepsy	:	МО	
. BMI	; 23	Kg/m^2	Remarks on Mental Healt	h:	GOOD	
8) Blood Group	: "A"		15) Locomotor syste	ena	NORMAL	
. Rh Typing	; POSITIVE		16) Skin condition	:	NORMAL	
9) Eye vision	: NORMAL		17) Hornia	:	ABSENT	
. Use of glass	: NO	v 41, 12	18) Hydrocele	:	ABSENT	
Distance Vision	: RE: 6/6	LE: 6/6	19) Present complain	n:	NO	
Near Vision	: RE: N/6	LE: N/6	If any			
Colour Vision	: NORMAL					
10) Hearing	: NORMAL					
. Audiometry	: NORMAL					
Right Ear	: NORMAL	dB			8	
Left Ear	: NORMAL	dB				
11) Respiratory system as chest measurement	nd		4			
. Inspiration	: 90	cm				-
. Expiration	: 86	cm				
. Respirate rate/min	: 16	/mln	1 1000			
. P.F.T	: NORMAL					
, FVC	: NORMAL	%				
. FEVVFVC	: NORMAL	%	15 11 1 1 1			
. X-Ray	: NORMAL		The state of the s			
Remark if any	: GOOD		1 2 1 1 1			

20) Summary	of	finding
-------------	----	---------

- i) Heart disease
- ii) Hypertension :
- III) Diabetes mellitus :
- iv) Epilepsy
- v) T.B.
- .

.

- vi) Others
- vii) Occupational Disease, if any

21) Recommendation if any for any further investigation :

- Bisurjild avgray

Signature of the Employee

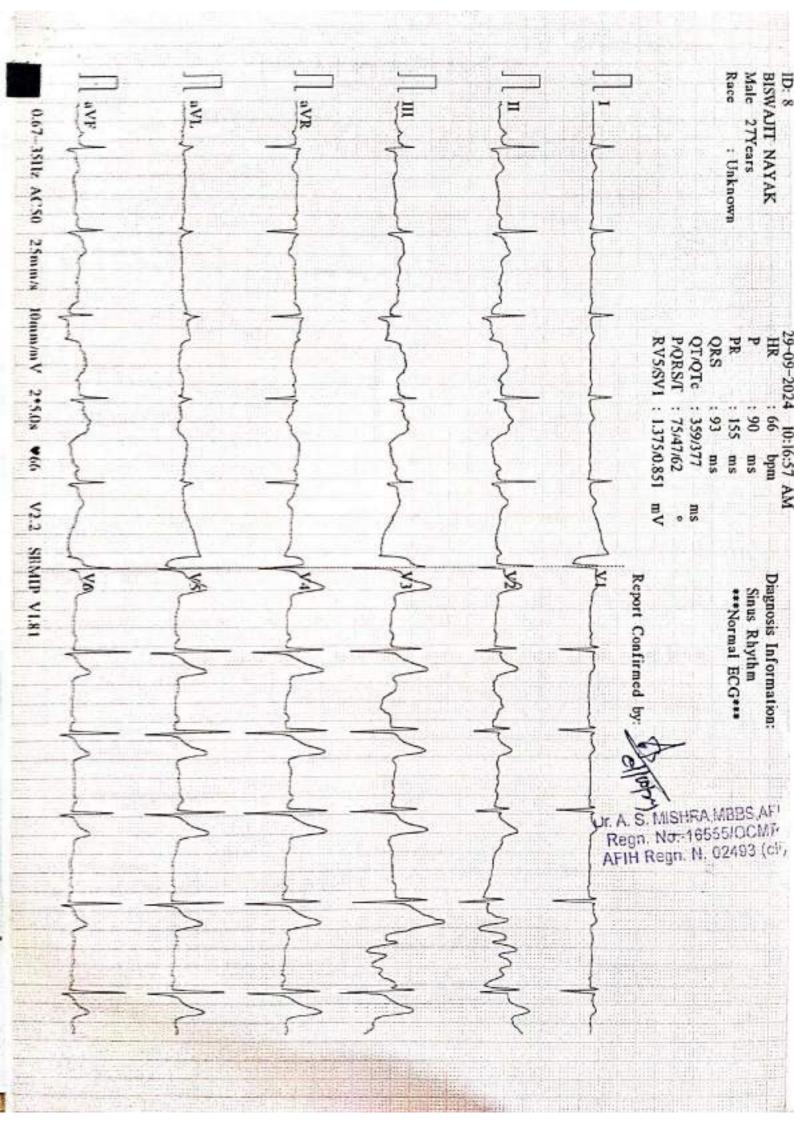
Signature of the Medical officer Of. A. S. MISHSA, MBBS, AFH Regn. No.-16555/OCMR AFIH Regn. N. 02493 (cli)

Form no.25 (RULE 96)

CERTIFICATE OF FITNESS FOR DANGEROUS OPERATION

I Certify That I have personally ex	amined
Sri/Smt	Biswojit Nayou
S/OD/O	lavaj chandra Navak
residing	gat Ĵajecot Who
Is desirous of being employed as	Drives ve ue like
Of	EHS Deptt . And that as nearly as ca
2.He is fit to be employed and may	be employed for some other none hazardous operation such
3. He/She may be produced for furt	her examination after a period of
1.He/She is advised following furthe	er examination .
.He/She is advised following further. .He/She is advised following further	er examination .
4.He/She is advised following further. b.He/She is advised following further. comments / Medical Advice if any he serial number of previous certifi	er examination .
1.He/She is advised following further. i.He/She is advised following furtherComments / Medical Advice if any	er examination . er treatment. +

Regn. No.-18555/CCMR > AFIH Regn. N. 02493 (cli)





DHWAN MEDICAL CENTRE

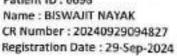
JHARSUGUDA.

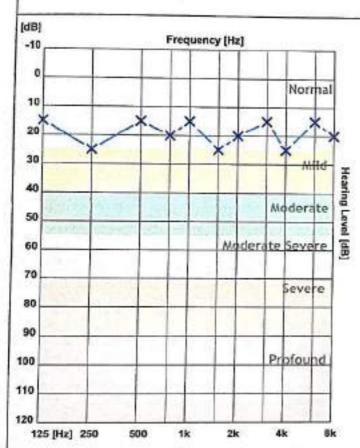
Patient ID: 6698

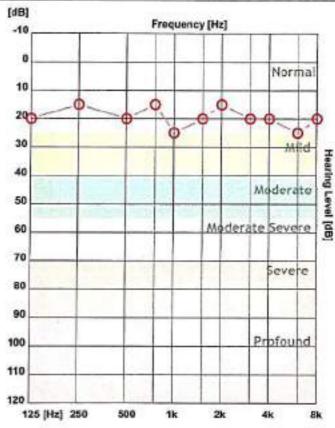
Age: 27

Gender: Male

Operator: DHWAN MEDICAL CENTRE







	125 Hz	250 Hz	500 Hz	750 Hz	1000 Hz	1500 Hz	2000 Hz	3000 Hz	4000 Hz	6000 Hz	8000 Hz
X - Air Left	15	25	15	20	15	25	20	15	25	15	20
O - Air Right	20	15	20	15	25	20	15	20	20	25	20
> - Bone Left											
< - Bone Right									è		

	Average	High	Mid	Low
AIR Left	19.09 dB	18.75 dB	20.00 dB	18.75 dB
AIR Right	19.55 dB	21.25 dB	20.00 dB	17.50 dB

Clinical Notes:

BILATERAL HEARING IS WITHIN NORMAL LIMITS

SHRA MARS AFA

Regn. No.-16555/OCMR

https://www.meenda.com © RMS Audiometes(HERMES_v3.0.0.7)

Print Date:29-Sep-2074 [-11] [NG(17), 11, 0, -35 (CF

DHWAN DIAGNOSTICS

JHARSUGUDA SARBAHAL

Patient: BISWAJIT NAYAK

Refd. By:

Pred.Eqns: RECORDERS

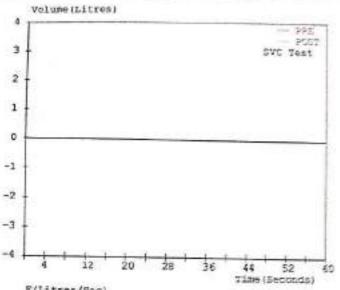
Date : 29-SEP-2024 11.45 AM

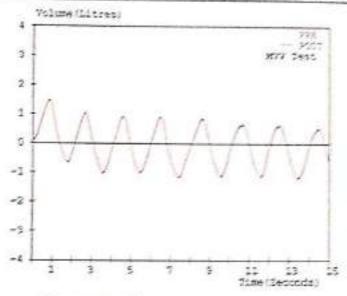
Age : 27Years Height : 170Cms

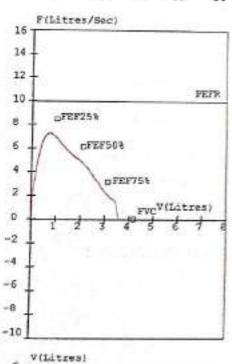
Weight : 63Kgs ID: 78710 Gender: male Emoker : No Eth. Corr: 100

Temp: 37°C



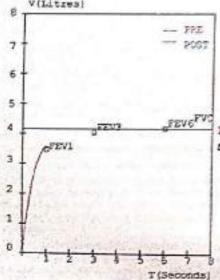






Paramete	92	Pred	M.Frs	12000	M.Foot	17:55	3000
FVC	(2)	04.18	13.13	186			
PEVI	(L)	03.68	55,54				
FZV1/F/3	19.1	83.25	25.52	535			
PEY25-75	5 (L/s)	04.45	54.51	225			
PEPP	(L/±)	09.98	27.25	073			
FIVE	(2.)	-				-	
FEV.5	压;		52.72	-	*****		
TEV3	(1.)	24,05	18115	788			
PIFE	(2/2)	-					
FEF75-8	5 (L/s)		12,56				
FEF.2-1.	2(1/1)	07.96	\$5,57	22.2		***	
FEF 25%	(1/1)	08.65	57000	23.4			-
PEF 50%	(L/x)	05.14	05.15	144			
FEF 75%	(2/8)	03,15	03.13	793			-
rzv.5/r	(F) (F)		15,71		*****		
FEV3/FVC	193	97.13	105.55	553		-	
FET	(5ec)		21				
Explina		-	25,25				
Lung Age	(Yrs)	034	153	697	*****		
1275	(1)	04.18			*****		
FIF 25%	(2/2)		02.33				
FIF 50%	157.93		\$2.33	-			
F2F 75%	(1/5)		01.13	-			
SVC	129	-		***			
ERN	(2.)	01.58					
IFV	(I)			-			
	1/ままれ)			***			
	1/xin)						
71	(1992)	-		-			
Te:	(595)						
72	(2)						
77/75		21430					
i/Ttot		27/35					-
C	(2)						
	2/200	153	059	615			
	1/min)		32.05		2		***
CVI	(I)		71.85				-
	524		40.00				

Spirometry Results



Pre Medication Report Indicates

Spironetry within normal limits as (FEV1/FVC) tored >65 and FVCtored >60.

Dr. A. S. MISHRA MEBS, AFI-Regn. No.-16555/OCMR AFIH Regn. N. 02493 (ch)



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Mobile 7008055955/ 9827590571 9348580289 / 8118019921

Landline :06645 359350

Web : dhwandlagnosticsohs.net

Name

: BISWAJIT NAYAK

Age

Sex

: Male

Ref. By Dr. : SELF

Reg.No.

: DMD/5555/18/14033

Report Date

: 29/09/2024

Serial No.

: TSP/602957/0824

Report Printing Time: 8:33:03AM

EYE TEST REPORT



VISUAL EXAMINATION :-

1. VISUAL AQUITY (DISTANCE VISION)

RIGHT EYE

LEFT EYE

A. With Glass

B. Without Glass

6/6

2. NEAR VISION :-

A. With Glass

B. Without Glass

N/6

N/6

3. COLOUR VISION:

NORMAL

Dr M.Mohapatra, M.S. (Opthalmology) Regn.No. 16255/2007

Signature

Dr. M. Mohapatra M.S (Opthalmology): Rogn. No.-15255/2007

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Pin - 75mm

Theficolcil Center: In Front of JSW. Bhunan, Sambalour, Pin-768212 Corporate Off.; Adarsh Vihar, Aryapalli, Patia, Bhubaneswar - 751024

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> 9348580289 / 8118019921 Landline: 06645 359350

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Name

: BISWAJIT NAYAK

Age

: 27 Yrs.

Sex

: Male

Ref. By Dr. : SELF

Regd. No. : DMD/5555/18/479

Report Date : 29/09/24

Serial No. :

Report Printing Time : 12:39PM

Test Particulars	Results	Units	Reference-Range
	HAEMATOLOGY		< ·
Haemoglobin(Hb) Total Leucocyte Count(TLC) BLOOD GROUP Rh (D) Type	: 13.4 : 6700 : "A"	gm/dl /cmm	(M) 12 - 18 (F) 12-15 4000 - 11000
Total Erythrocyte Count (TRBC)	Positive : 4.8	million/cm	35.55
Platelet Count P.C.V M.C.V M.C.H W.C.H.C.	: 2.7 : 39.0 : 81.0 : 27.0 : 33 : 10.4	m. lakhs % fl pgms g/dl fl	1.5 - 4.0 M: 40 - 54, F: 36 - 45 76 - 96 22 - 32 30 - 35
DIFFERENTIAL COUNT		1	9.4-12.3
leutrophils osinophils	: 62	%	40 - 70
asophils	: 03	%	00 - 06 00 - 01
mphocytes	: 30		20 - 40
fonocytes	: 05		02 - 10
	*** End of Report ***		

DR.Surjya P.S.N Choudhry, MBBS, MD, DM

K. C. Manuscard DR.K Chandramouleswari M.D (Pathology)

Dr. A. S. MISHRA, MBBS, AFT

Regn. No.-16555/OCMB

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Diagnostics

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Name

: BISWAJIT NAYAK

Age

: 27 Yrs.

Sex

: Male

Ref. By Dr. : SELF

Regd. No. : DMD/5555/18/475

Report Date : 29/09/24

Serial No. :

Report Printing Time : 12:39PM

(Test Particulars	Results	Units	Reference-Range
	BIO-CHEMISTRY		1
Random Blood Sugar (RBS)	: 91.0	mg/dl	70 - 150
ELECTROLYTES	A ALLE	Tank I	
Sodium (Na)	: 137.0	mmol/l	135 - 145
Potassium	: 3.6	mmol/I	3.55 - 5.5
IPID PROFILE		17 %	
Cholesterol	: 181.0	mg/dl	150 - 220
Triglyceride	: 95.0	mg/dl	50 - 150
ligh Density Lipoprotein (HDL)	: 45.25	mg/dl	35 - 60
ow Density Lipoprotein (LDL)	: 116.75	mg/dl	80 - 150
ery Low Density Lipoprotein (VLDL)	: 19.0	mg/dl	10 - 30
IVER FUNCTION TEST (LFT)	1011	and an	10 30
otal Bilirubin	: 0.75	mg/dl	0.2 - 1.2
Direct Bilirubin	: 0.17	mg/dl	0.1 - 0.4
.S.T.(S.G.O.T.)	: 26.0	u/I	5-40
.L.T.(S.G.P.T.)	: 34.0	u/I	7 - 56
Ikaline Phosphatase	: 91.0	u/I	<150
otal Protein	: 7.4	g/dl	6.6 - 8.3
lbumin	: 3.6	g/dl	
ENAL FUNCTION TEST (RFT)	3.0	8741	3.5 - 5.0
rea	: 24.0	mg/dl	10 - 40
reatinine	: 0.86	255	
ric Acid	: 4.7	mg/dl	M: 0.6 - 1.2/F: 0.5 - 1.1
	40 MeV.	mg/dl	M: 3.4 - 7.0/F: 2.5 - 6.0

Dr. A. S. MISHRA, MBBS, FIH Regn. No. 16555/OC R AFIH Regn. N. 02493 (d.)

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Nobile : \$8118819921 , E-mail : infojsg@dhwandiegnosticsohs.net

Khortha Center: Near Govt. Hospital, N157, Khordha, Odisha - 752055

Contact: 90755-796917 Mobile - 99077590571, E-mail: chwarmedicalcenter/925@gmail.com Angul Cecter : Inside JSPL, Angul, Cherdipada Road, SH - 63, AU Po-Jindal Nagar,

Fig - 759111

The Reside Conter: In Front of JSW. Bhusen, Sambalput, Pin-788212 Corporate Off.: Adarsh Viher, Aryspaill, Petia, Bhubeneswar - 751024

Contact: 0674-7969345, E-mail: procure@dhwandlagnesticsons net

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9348580289 / 8118019921

Landline: 06645 359350 esticsobs.net

Name

: BISWAJIT NAYAK

Age

: 27 Yrs

Sex

: Male

Ref. By Dr. : SELF

Regd. No. : DMD/5555/18/479

Report Date : 29/09/24

Serial No. :

Report Printing Time : 12:39PM

Test Particulars

Results

Units

Reference-Range

*** End of Report ***

DR.Surjya P.S.N Choudhry, MBBS, MD, DM

K. C. Namuseraco DR.K Chandramouleswari M.D

(Pathology)

ncharge

Dr. A. S. MISHRA, MBBS, AFIL Regn. No.-16555/OCMR ? AFIH Regn. N. 02493 (cli)

Jharsuguda Centor: Wear Cape Town, Sarbahal, Jharsuguda, Odisha - 761201 Mobile : 88115019921 , E-mail : Inhijsg@dhwandagnostiosohs.net

Khordha Center: Kear Govt. Hospital, Mh57, Khordha, Odisha - 752055 Confact: 96755-794597 (Nobile - 098275)0571, E-mail: shwarmedicalconter2020(ligmail.com Angul Center : Inside JSPL, Angul, Chendipada Road, SH - 63, Atl Po-Jindal Nagar,

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Mobile 7008055955/ 9827590571 9348580289 / 8118019921

Landline:06645 359350

Web: dhwandiagnosticsohs.net

Name

: BISWAJIT NAYAK

Age

27 Yrs.

Sex

: Male

Ref. By Dr.

: SELF

legd.No.

: DMD/5555/18/4797

: 29/09/24

Serial No. :

Report Printing Time: 12:39PM

URINE REPORT



Test Particulars

MACROSCOPIC-EX-

Volume

Colour/appearance

Sediment

Sp. Gravity

CHEMICAL-EX-

PH%

Reaction Albumin

Sugar

MICROSCOPIC-EX-

Pus Cells

Epithelial Cells

R.B.C.

Casts

Crystals

Bacterial

Spermatozoa

Yeast Cells

Results

20ML Pale yellow

Absent

1.010

6.0

Acidic Absent

Absent

0-1/HPF

1-2/HPF

NII/HPF

Nil

Nii

Nil

Nil

*** End of Report ***

DR. Surjya P.S.N Choudhry, MBBS, MD, DM

K. C. Manuscard DR.K Chandramouleswari M.D

(Pathology) Dr. A. S. MISHRA, MBBS, AFIH Regn. No.-16555/OCMR

Jharsuguda Center: Kear Cape Town, Sarbahal, Jharsuguda, Odisha - 768201

Wobile : 08118019921 , E-mail : infojsg@dheandiagnosticachs.net

Khoodha Center: Near Govt. Hospital, Nh57, Khordha, Odisha - 752055

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Mobile 7008055955/ 9827590571 9348580289 / 8118019921

Landline:06645 359350 Web: dhwandlagnosticsohs.net

Name

: BISWAJIT NAYAK

Age

: 27 Yrs.

Sex

: Male

Ref. By Dr. : SELF

Reg.No.

: DMD/5555/18/14033

Report Date

: 29/09/2024

Serial No.

: TSP/602957/0824

REPORT :-

REPORT: CHEST X-RAY PA VIEW

HISTORY :-

PERIODICAL INDUSTRIAL HEALTH CHECK-UP

FINDINGS :-

LINES/TUBES: NONE

LUNGS: The lungs are well defined & clear. There is no evidence

of pneumoconious /pneumonics/pulmonary oedema Pleura: There is no pleural effusion/pneumothorax Heart & mediastinum : The cardiomediastinal-

Silhouette is normal

The visualised skeleton is normal

IMPRESSION. :-

Clean lungs without evidence of pneumonia or pneumoconiosis or others lungs abnormallity.

> DR. B. B. PRADHAN, M.D. (RADIOLOGY)

Jharsuguda Center : Kear Cape Town, Sarbahal, Jharsuguda, Odisha - 768201

Nobile: 08113013921, E-mail: intojsg@dhwandlagnosticsohs.net Khortha Center: Mear Govt. Hospital, Nh57, Khordha, Odisha - 752055

Contact: 00755-790507 Nabble - 09027500571, E-mail: diswarmedicalcente/2020@grad.com Angul Center: Inside JSPL, Angul, Chendipada Road, SH - 63, At' Po- Jindal Nagar,

Pin-759111

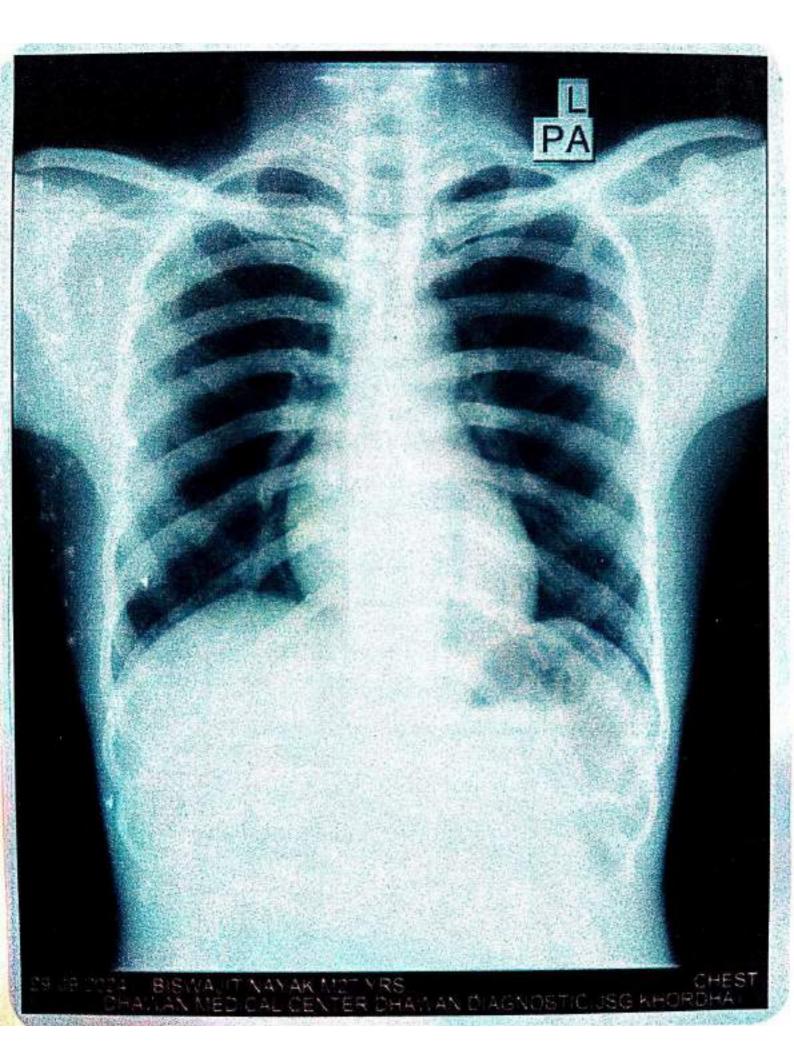
Thelkolol Center: In Front of JSW. Bhusan, Sembalpur, Pin-763212

Corporate Off.: Adarsh Vihar, Aryzpatti, Patia, Bhubaneswar - 751024

Contact: 0674-7968845, E-mail: procure@dhwandiagnosticsohs.net

(Keep the Reports Carsfully & bring them long during your next visit to our center)

Facilities: 4D Ultrasound, Fully Automated International Standard Lab, 12 Lead ECG, Digital X-Ray, PFT, Audiometry, Digital Vision testing etc. 2D Echo, ECG, PFT, Endoscopy, Speciality & Super Speciality CPD Consultation (Neuro, Nephro, Cardio, Gastro, Endo Crino, Ortho, O & G, Medicine etc.)



OCCUPATIONAL HEALTH SERVICES

FAP JAJPUR, PME 2024 25 TATA STEEL LIMITED

WELLNESS FOLLOW UP CARD

Regd. No.:

Name: BISWAJIT NAYAK

Designation: DRIVER

Height: 170 weight: 63

EMP No.: TSP/602957/0824

Age: 27

Sex: MALE

Deptt.: EHS

Blood Group & Rh : A POSITIVE



DHWAN DIAGNOSTIC

(A DMC Group)
Diagnostics with Quality & Accuracy

In Front of Cape Town, Sarbahal, Iharsuguda, Odisha 768201 E-mail: dhwandiagnostics2020@gmail.com Near DH Hospital, NH 57, Khordha, Odisha 750055 E mail: dhawnmedicalcenter2020@gmail.com

Contact No.: 0674 3566528, 9827590571, 7008055955, 9348580289

Website: www.dhwan.iphysicianhub.net



Ref. No .: TSL/FAMD | FAPT / 1425 /140.5

Date. 28/09/2024

To
The Member Secretary
State Pollution Control Board
A/118, Paribesh Bhawan
Nilakantha Nagar, Bhubaneswar-751012

Sub:- Submission of Environmental Statement for the Financial Year 2023-2024

Ref:- Under Rule-14 of The Environment (Protection) Rules 1986

Dear Sir.

With Reference to Rule-14 of The Environment (Protection) Rules 1986, we are enclosing herewith the Environmental Statement report for the Financial Year 2023-2024 attached.

This is for your kind information.

Thanking You

Yours Truly

For Tata Steel Limited

Alok Kumar Panda Haad Ferro Alloys Plant, Jajpur TATA STEEL LTD. KNIC, P.O.: Manatira, Via-Dunagadi Jajpur-755026, Odisha

Alok Kumar Panda

Plant Head & Factory Manager

Ferro Alloys Plant, Jajpur

Cc: Regional Officer, State Pollution Control Board, Kalinganagar, Jajpur

TATA STEEL LIMITED

Registered Office Bombay House 24 Homi Mody Street Fort Mumbai 400 001 India Tel 91 22 6665 8282 Fax 91 22 6665 7724 Website www.tatasteel.com Corporate Identity Number L27100MH1907PLC000230







CONSENT ORDER MS TATA STEEL LIMITED (LERRO ALLOYS PLANT)

BY REGD. POST WITH AD

STATE POLLUTION CONTROL BOARD, ODISHA

[DEPARTMENT OF FOREST, ENVIRONMENT & CLIMATE CHANGE, GOVERNMENT OF ODISHA]

A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012

Phone-2561909, Fax: 2562822, 2560955 E-mail: paribesh1@ospcboard.org, Website: www.ospcboard.org

CONSENT ORDER

No. 4669 1	IND-I-CON-5455	Dt. 30-03-202
The state of the s		2500

CONSENT ORDER NO. 2578.

Sub: Consent for discharge of sewage and trade effluent under Section 25/26 of Water (PCP) Act, 1974 and emission under Section 21 of Air (PCP) Act, 1981 for operation of the plant.

Ref: Your online application ID No. 5331741, dated 18-01-2024.

Consent to operate is hereby granted under section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 and under section 21 of Air (Prevention & Control of Pollution) Act, 1981 and rules framed thereunder to:

Name of the Industry: M/s Tata Steel Limited (Ferro Alloys Plant)

Name of the Occupier & Designation : Shri Alok Kumar Panda, Plant Head

Address: Kalinganagar Industrial Complex, Duburi, Dist: Jajpur-755026, Odisha

This consent order is valid for the period upto 31.03.2025.

Details of Products Manufactured:

SI. No	Product	Quantity
	Charge Chrome / Silico Manganese / Ferro Manganese (4x16.5 MVA) Furnace No-I, II, III & IV	1,00,000 TPA

This consent order is valid for the specified outlets, discharge quantity and quality of effluents (ii) quantity of emission and its quality, specified chimney / stack (iii) quantity of solid waste and its disposal as specified below.

This consent is granted subject to the General and Special Conditions stipulated below:



CONSENT ORDER MS TATA STEEL LIMITED (FERRO ALLOYS PLANT)

A. Discharge permitted through the following outlet subject to the standard

Outlet	Description	Point of	Quantity			Pres	cribe	d Stan	dard		
No.	of outlet	discharge	of discharge KLD or KL/hr	рн	BOD (mg/l)				N-total (mg/l)		O & G (mg/l)
01.	Domestic Effluent	Septic tank followed by soak pit	-	6.5-9.0	<30	<250	<100	5	10	<1000	(#).
02.	Cooling & other wastewater including COB Plant	Recycling			•	**	•	-	*	*	**

B. Emission permitted through the following stack subject to the prescribed standard

Chimney Stack	Description of Stack (Stack attached to)	Stack height	Quantity	Prescribed Standard		
No.		(m) Above GL	emission (Nm³/hr)	PM (mg/Nm³)	so,	NO.
01	GCP of Furnace - I	40	1,35,000	100		
02	GCP of Furnace - II	40	1,35,000	100		
03	GCP of Furnace - III & IV	40	2,70,000	100	84	**

C. Disposal of solid waste permitted in the following manner

SI. No.	Type of Solid waste	Quantity generated	Quantity to be reused on site	Quantity to be reused off site	Quantity disposed off	Description of disposal site.
01.	Slag	8236 Tonne/ Month		-	***	Used as filling material inside premises / Laterite quarries located at Manaharpur
02.	Fine Dust	10 TPD	(543)	-		Used in Briquette Plant



CONSENT ORDER M/S TATA STEEL LIMITED (FERRO ALLOYS PLANT)

GENERAL CONDITIONS FOR ALL UNITS

The consent is given by the Board in consideration of the particulars given in the application. Any change or alternation or deviation made in actual practice from the particulars furnished in the application will also be the ground for liable to review/variation/revocation of the consent order under section 27 of the Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1981 and to make such variations as deemed fit for the purpose of the Acts.

The occupier would immediately submit revised application for consent to operate to this Board in the event of any change in the quantity and quality of raw material / products / manufacturing process or

quantity /quality of the effluent rate of emission / air pollution control equipment / system etc.

The applicant shall not change or alter either the quality or quantity or the rate of discharge or 3.

temperature or the route of discharge without the previous written permission of the Board.

The application shall comply with and carry out the directives/orders issued by the Board in this consent order without any negligence on his/her part. In case of non-compliance of any order/directives issued at any time and/or violation of the terms and conditions of this consent order, the applicant shall be liable for legal action as per the provisions of the Law.

The applicant shall make an application for grant of fresh consent at least 90 days before the date of

expiry of this consent order.

The issuance of this consent does not convey any property right in either real or personal property or 6 any exclusive privileges nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Central, State laws or regulation.

This consent does not authorize or approve the construction of any physical structure or facilities or the

undertaking of any work in any natural water course.

The applicant shall display this consent granted to him in a prominent place for perusal of the public and 8 inspecting officers of this Board

An inspection book shall be opened and made available to Board's Officers during the visit to the 9.

factory.

7

- The applicant shall furnish to the visiting officer of the Board any information regarding the construction. 10 installation or operation of the plant or of effluent treatment system / air pollution control system / stack monitoring system any other particulars as may be pertinent to preventing and controlling pollution of Water / Air
- The applicant shall display suitable caution board at the place where the effluent is entering into any 11. water-body or any other place to be indicated by the Board, indicating therein that the area into which the effluents are being discharged is not fit for the domestic use/bathing.

Storm water shall not be allowed to mix with the trade and/or domestic effluent on the upstream of the 12

terminal manholes where the flow measuring devices will be installed.

- The applicant shall maintain good house-keeping both within the factory and the premises. All pipes, 13 valves, sewers and drains shall be leak-proof. Floor washing shall be admitted into the effluent collection system only and shall not be allowed to find their way in storm drains or open areas.
- The applicant shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems install or used by him to achieve with the term(s) and conditions of the consent.
- Care should be taken to keep the anaerobic lagoons, if any, biologically active and not utilized as mere 15 stagnation ponds. The anaerobic lagoons should be fed with the required nutrients for effective digestion. Lagoons should be constructed impervious.
- The utilization of treated effluent on factory's own land, if any, should be completed and there should be 16. no possibility of the effluent gaining access into any drainage channel or other water courses either directly or by overflow.

The effluent disposal on land, if any, should be done without creating any nuisance to the surroundings 17.

or inundation of the lands at any time.

If at any time the disposal of treated effluent on land becomes incomplete or unsatisfactory or create any 18. problem or becomes a matter of dispute, the occupier must adopt alternate satisfactory treatment and disposal measures.

The sludge from treatment units shall be dried in sludge drying beds and the drained liquid shall be 19. taken to equalization tank.

The effluent treatment units and disposal measures shall become operative at the time of 20. commencement of production.

STITLE

CONSENT ORDER M/S TATA STEEL LIMITED (FERRO ALLOYS PLANT)

21. The applicant shall provide port holes for sampling the emissions and access platform for carrying out stack sampling and provide electrical outlet points and other arrangements for chimneys/stacks and other sources of emissions so as to collect samples of emission by the Board or the applicant at any time in accordance with the provision of the Acts or Rules made therein.

The applicant shall provide all facilities and render required assistance to the Board staff for collection of 22

samples / stack monitoring / inspection.

23. The applicant shall not change or alter either the quality or quantity or rate of emission or install, replace or after the air pollution control equipment or change the raw material or manufacturing process resulting in any change in quality and/or quantity of emissions, without the previous written permission of the

No control equipments or chimney shall be altered or replaced or as the case may be erected or re-24

erected except with the previous approval of the Board.

25 The liquid effluent arising out of the operation of the air pollution control equipment shall be treated in the manner so as to meet the standards prescribed by the Board in accordance with the provisions of Water (Prevention and Control of Pollution) Act, 1974 (as amended).

26 In case of episodal discharge/emissions the occupier shall take immediate action to bring down the emission within the limits prescribed by the Board and stop the operation of the plant if required. Report of such accidental discharge /emission shall be brought to the notice of the Board within 24 hours of

27. The applicant shall keep the premises and air pollution control equipments clean and make all hoods, pipes, valves, stacks/chimneys leak proof. The air pollution control equipments, location, inspection

chambers, sampling port holes shall be made easily accessible at all times.

Any upset condition in any of the plant/plants of the factory which is likely to result in increased effluent 28. discharge/emission of air pollutants and / or result in violation of the standards mentioned shall be reported to the Headquarters and Regional Office of the Board by E-mail within 2 hours of its occurrence.

The occupier has to ensure that minimum three varieties of trees are planted at the density of not less 29 than 1000 trees per acre. The trees may be planted along boundaries of the premises. This plantation

is stipulated over and above the bulk plantation of trees in that area.

The solid waste such as sweeping, wastage packages, empty containers residues, sludge including that from air pollution control equipments collected within the premises of the shall be disposed off scientifically to the satisfaction of the Board. 31

All solid wastes arising in the premises shall be properly classified and disposed off to the satisfaction of

the Board by :

Land fill in case of inert material, care being taken to ensure that the material does not give rise to leachate which may percolate into ground water or carried away with storm run-off.

Controlled incineration, wherever possible in case of combustible organic material.

Composting, in case of bio-degradable material.

- Any toxic material shall be detoxicated if possible, otherwise be sealed in steel drums and buried in protected areas after obtaining approval of this Board in writing. The detoxication or sealing and burying shall be carried out in the presence of Board's authorized persons only. Letter of authorization shall be obtained for handling and disposal of hazardous wastes.
- 33. If due to any technological improvement or otherwise this Board is of opinion that all or any of the conditions referred to above requires variation (including the change of any control equipment either in whole or in part) this Board shall after giving the applicant an opportunity of being heard, vary all or any of such condition and thereupon the applicant shall be bound to comply with the conditions so varied

The applicant, his/heirs/legal representatives or assignees shall have no claim whatsoever to the 34.

condition or renewal of this consent after the expiry period of this consent.

The Board reserves the right to review, impose additional conditions or condition, revoke change or after 35

the terms and conditions of this consent.

36 Notwithstanding anything contained in this conditional letter of consent, the Board hereby reserves to it the right and power under section 27(2) of the Water (Prevention & Control of Pollution) Act, 1974 to review any and/or all the conditions imposed herein above and to make such variations as deemed fit for the purpose of the Act by the Board.

The conditions imposed as above shall continue to be in force until revoked under section 27(2) of the 37. Water (Prevention & Control of Pollution) Act, 1974 and section 21 A of Air (Prevention & Control of

Pollution) Act, 1981.

The occupier shall comply to the conditions stipulated in CTE order issued by Odisha State Pollution Control Board and conditions stipulated in Environmental Clearances issued by MoEF&CC. Govt. of India



CONSENT ORDER MS IAIA SHEL LIMITED GERRO ALLOYS PLANT)

E. SPECIAL CONDITIONS:

- The Gas Cleaning Plant installed at sub-merged arc furnaces and pollution control devices installed at briquetting plant shall be operated and maintained properly in order to comply with the emission standard of 100mg/Nm³ in respect of Particulate Matter.
- The hydraulically operated doors in all 4 furnaces shall be properly maintained and operated effectively to minimize fugitive emission.
- All raw materials, product and waste materials shall be transferred through covered vehicles without any spillage or leakages on the road.
- Dry Fog system shall be provided and effectively operated to minimize fugitive dust emission generated from raw material handling area.
- Water sprinklers provided at raw material handling area, stockpile area, other work zone area shall be properly operated and maintained in order to minimize fugitive dust emission.
- Secondary emission generated during hot metal tapping from furnaces shall be channelised through suctioned hoods and connected to the respective GCPs.
- The unit shall provide water sprinkling facility at the feeding point and other potential dust generating points of COB plant to control fugitive emission.
- All the black topped / concreted roads provided inside the factory premises shall be cleaned regularly and wetted through water sprinkling to minimize fugitive emission.
- The unit shall maintain proper housekeeping inside the plant premises specially in the raw material handling area, briquette plant.
- 10. The height of the stack connected to DG sets of capacity more than 800 KVA shall conform to the following:
 - 14Q^{0.3}, Q = Total SO₂ emission from the plant in kg/hr.
 - ii) Minimum 6m. above the building where generator set is installed.
 - iii) 30 m.
- The height of the stack connected to DG set of capacity less than and upto 800 KVA shall conform to the following:
 - i) H = h+0.2√KVA
 - ii) h= Height of the building where it is installed in meter
 - iii) KVA = Capacity of DG set
 - iv) H = Height of the stack in meter above ground level.
- 12. All DG sets installed before 1.7.2004 shall be scrapped. DG sets complying with either State-I or Stage-II emission norms shall reduce Particulate Matter Emission by 70% by installing RECD without affecting any other emission parameters as per the CPCB guidelines and Board's letter vide No.17927, dated 14.11.2023, in this regard.
- The industry shall develop a green belt along its boundary and vacant areas available inside the factory premises.
- The industry shall not operate its Furnace No.V (i.e., 33 MVA) and power plant without prior consent of the Board.
- The unit shall install pneumatic dust handling system connected to all the hoppers of bag filters and GCPs of the Ferro Alloys Plant.

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CONSENT ORDER MS IAIA SIEEL LIMITED (FERRO ALLOYS PLANT)

- The industry shall make work zone area of briquette plant, GCP area and bag filter area concreted.
- 17. Garland drains around solid waste dumping area followed by series of settling tanks shall be provided to arrest the solids in the surface run-off before discharge to outside. The overflow effluent from the settling tanks shall meet the prescribed standard Annexed in the consent order.
- All internal drains of the factory premises should lead to the settling tanks before discharge to outside.
- 19. The effluent generated from cooling, metal recovery unit etc. shall be completely recycled and under no circumstances there shall be any discharge of such effluent to outside the factory premises.
- The wastewater generated from various process of COB plant shall be treated in settling tanks and reused in a closed loop. There shall be no discharge of any effluent from the COB plant.
- The domestic effluent shall be treated properly in septic tanks followed by soak pits constructed as per BIS specifications.
- 22. Solid waste generated from FAP shall be dumped inside the factory premises for which provision of adequate land shall be made. Dumping shall be done in such a manner to prevent ground water contamination and any public nuisance. It shall be used for road making and development of built-up area.
- Tailings generated from COB plant shall be properly dewatered and shall be suitably stored in impervious lined floor with barricade to prevent surface water contamination.
- 24. Garland drain network of adequate capacity shall be provided inside and around the COB plant and the drains shall lead into the settling tanks so that there shall be no discharge from COB plant area.
- The unit shall obtain authorization under Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016.
- All internal drains and settling pits shall be de-silted before monsoon.
- The following actions shall be taken for better environmental management in consultation with Regional Officer, SPCB, Kalinganagar.
 - Approach road from GCP-I area to product cooling and breaking yard shall be concreted.
 - Damaged portion of the internal roads used for material transportation shall be concreted /blacktopped.
 - iii) More nos, of rain guns shall be installed along the raw material handling yard for effective dust suppression.
 - iv) Secondary emission from ground hopper and screen house/transfer points of briquette plant shall be channelized through suction hoods and connected to GCP/bag filter of briquette plant replacing the dry fog system.
 - Garland drain and toe wall shall be constructed around the raw material handling area.
 - vi) Spilled fines material accumulated near the bag house of GCP area of Furnace-III & IV shall be cleaned.

An action plan in this regard shall be submitted by 15.04.2024 at the Regional Office as well at Head Office of SPCB, Odisha

28. In case the consent fee is revised upward during this period, the industry shall

Page 7 of 10



CONSENT ORDER MS IAIA STEEL LIMITED (FERRO ALLOYS PLANT)

pay the differential fees to the Board (for the remaining years) to keep the consent order in force. If they fail to pay the amount within the period stipulated by the Board the consent order will be revoked without prior notice.

- 29. The Board reserves the right to revoke / refuse consent to operate at any time during period for which consent is granted in case any violation is observed and to modify/ stipulate additional conditions as deemed appropriate.
- Housekeeping shall be further improved and maintained by a dedicated team.
- The industry shall abide by the provision of E(P) Act, 1986 and Rules framed thereunder.
- 32. The industry shall construct a rain water harvesting structure for utilization of the rain water collected from the roof top of all buildings and catchment area of the industry for recharging of ground water within the premises as per the concept and practices prescribed by CPCB.

To

The Plant Head, M/s Tata Steel Limited (Ferro Alloys Plant), Kalinganagar Industrial Complex, Duburi, Dist: Jajpur-755026

> CHIEF ENV. ENGINEER (M) STATE POLLUTION CONTROL BOARD, ODISHA

 _/Dt.______/

- i) Regional Officer, State Pollution Control Board, Kalinganagar
- ii) District Collector, Jajpur
- iii) DFO, Jajpur
- iv) CES, Central Laboratory, SPC Board, Bhubaneswar
- v) ACEE, HWM Cell, Head Office
- vi) Consent Register

ADDL. CHIEF ENV. ENGINEER STATE POLLUTION CONTROL BOARD, ODISHA



CONSENT ORDER MS TATA STEEL LIMITED (FERRO ALLOYS PLANT)

GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENTAL POLLUTANTS PART – A : EFFLUENTS

SI.No.	Parameters	Standards					
		Inland surface	Public sewers	Land for irrigation	Marine Costal Areas		
		(a)	(b)	(c)	(d)		
1.	Colour & odour	Colourless/ Odourless as far as practible	3 # ##	See 6 of Annex-1	See 6 of Annex-1		
2.	Suspended Solids (mg/l)	100	600	200	For process wastewater – 100 For cooling water effluent 10% above total suspended matter of influent.		
3.	Particular size of SS	Shall pass 850	1274	1,545	9		
5.	pH value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0	5 5 to 9.0		
6.	Temperature	Shall not exceed 5°C above the receiving water temperature	(# <u>1</u>)	10.85	Shall not exceed 5°C above the receiving wate temperature		
7.	Oil & Grease mg/l max.	10	20	10	20		
8.	Total residual chlorine	1.0	***	1088	1.0		
9.	Ammonical nitrogen (as N) mg/l max.	50	50	12	50		
10.	Total Kajeldahl nitrogen (as NH ₃) mg/l max.	100	**) #4	100		
11.	Free ammonia (as NH ₃) mg/l max.	5.0	11 to 12 to	16#3	5.0		
12.	Biochemical Oxygen Demand (5 days at (20°C) mg/l max.	30	350	100	100		
13.	Chemical Oxygen Demand, mg/l max.	250	(35)		250		
14.	Arsenic (as As) mg/l max.	0.2	0.2	0.2	0.2		
15.	Mercury (as Hg) mg/l max.	0.01	0.01	(#E	0.001		
16.	Lead (as pb) mg/l max.	01.	1.0		2.0		



CONSENT ORDER MS TATA STELL LIMITED (FERRO ALLOYS PLANT)

SI.No.	Parameters	Standards						
		Inland surface	Public sewers	Land for irrigation	Marine Costal Areas			
		(a)	(b)	(c)	(d)			
17.	Cardmium (as Cd) mg/l max.	2.0	1.0	-	2.0			
18	Hexavalent Chromium (as Cr + 6) mg/l max.	0.1	20		1.0			
19.	Total Chromium (as Cr) mg/l max.	2.0	2.0	**	2.0			
20.	Copper (as Cu) mg/l max.	3.0	3.0	#	30			
21.	Zinc (as Zn) mg/l max.	5.0	15	-	15			
22.	Selenium (as Sc) mg/l max.	0.05	0.05		0.05			
23.	Nickel (as Nil) mg/l max.	3.0	3.0	- 55	5.0			
24.	Cyanide (as CN) mg/l max.	0.2	2.0	0.2	0.02			
25.	Fluoride (as F) mg/l max.	2.0	15		15			
26.	Dissolved Phosphates (as P) mg/l max.	5.0		***	*			
27,	Sulphide (as S) mg/l max.	2.0	*	**	5.0			
28.	Phennolic compounds as (C ₆ H ₅ OH) mg/l max.	1.0	5.0	<u></u>	5.0			
29.	Radioactive materials a. Alpha emitter micro curle/ml.	10'	107	10"	103			
	Beta emitter micro curle/ml.	10 ⁶	10 ⁶	107	106			
30	Bio-assay test	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluen			
31	Manganese (as Mn)	2 mg/l	2 mg/l	- 22	2 mg/l			
32.	Iron (Fe)	3 mg/l	3 mg/l		3 mg/l			
33.	Vanadium (as V)	0.2 mg/l	0.2 mg/l	*	0.2 mg/l			
34.	Nitrate Nitrogen	10 mg/l	-		20 mg/l			



CONSENT ORDER MS TATA STEEL LIMITED (FERRO ALLOYS PLANT)

NATIONAL AMBIENT AIR QUALITY STANDARDS

SL No.	Pollutants	Time	Concentrate of Ambient Air					
		Weighed Average	Industrial Residential, Rural and other Area	Ecologically Sensitive Area (notified by Central Government)	Methods of Measurement			
(1)	(2)	(3)	(4)	(5)	(6)			
1.	Sulphur Dioxide (SO ₂), µg/m ³	Annual *	50 80	20 80	-Improved west and Gaeke - Ultraviolet fluorescence			
2	Nitrogen Dioxide (NO ₂), µg/m ³	Annual *	¥0 80	30 80	Modified Jacob & Hochbeiser (Na-Arsenite) Chemiluminescence			
3.	Particulate Matter (size less than 10µm) or PM ₁₄ µg/m ³	Annual * 24 Hours **	60	60	-Gravimetric - TOEM - Beta Attenuation			
4.	Particulate Matter (size less than 2.5µm) or	Annual *	40 60	40 60	- Gravimetric - TOEM - Beta Attenuation			
5.	PM _{2.5} µg/m ³ Ozone (O ₃) µg/m ³	8 Hours **	100	100	- UV Photometric - Chemiluminescence - Chemical Method			
6.	Lead (Pb) µg/m³	Annual * 24 Hours **	0.50	0.50	-AAS/ICP method after sampling on EMP 2000 or equivalent filter paper. -ED-XRF using Teflon filter			
7.	Carbon Monoxide (CO) mg/m³	8 Hours **	02	02	- Non Dispersive Infra Red (NDIR) Spectroscopy			
8.	Ammonia (NHs) sig/m ³	Annual*	100	100	-Chemiluminescence - Indophenol Blue Method			
9.	Benzene (C ₆ H ₆) µg/m ³	Annul*	05	05	-Gas Chromatography based continuous analyzer - Adsorption and Desorption followed by GC analysis			
10.	Benzo (a) Pyrene (BaP)- Particulate phase only, mg/m ³	Annual*	01	01	-Solvent extraction followed by HPLC/GC analysis			
11.	Arsenic (As), mg/m ³	Annual*	.06	06	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper			
12	Nickel (Ni), mg/m³	Annual*	20	20	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper			

Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24
hourly at uniform intervals.

^{** 24} hourly or 08 hourly or 01 hourly monitored values, as applicable, shall be complied with 98% of the time in a year, 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.



Annexure 15- Slag Used in Low Laying areas





TCLP Report

Report to .- CEMC/TSL/101213/SL1

Issued Date-29.12.2025

TCLP TEST REPORT

: M's. TATA Steel Lid., (Ferro Alloys Phot), Kalinga Name & Adrhess of the Client

Nagar, Jajpur

Date of Sampling : 09 12, 2023

· Mr. Rabendra Nath Day. Sampling by

Date of Sample Received. : 10.12.3023

Sample Description : She Sumple

: 10.12.3023 to 20.12.2023 Date of Analysis : CEMC-201230238L1 Reference No.

ANALYSIS RESULT

SL No	Parameter	Unit of measurement	Standaril*	Testing Method	Reult
1	Amenic as As	Tgm.	5.0	200000000000000000000000000000000000000	<0.005
2	Cadminn as Cd	mgt	1.0	-	< 0.005
3	Chromom as Cr	ngl	5.0	TCLP With	< 0.005
4	Lead as Pb	Fanc	5.0	Zero Head	=0.005
5	Moretary as Hig	ms/l	9.2	Estruction	<0.001
6	Solemon at So	mg/L	1.0	Fallowed by Analysis in	< 0.005
7	Nickel as Ni	mg/l	30.0	ICP-CES	< 9.005
8	Zusc as Zn	ng/l	30.0	ILP-UES	0.066
9	Marganese as Mr.	ngt	250.0		0.5T
10.	Copper as Cu	ng1	30.0	10	0.031

* Gest. of India. MoSF & CC Scholule-II based on huckable concountation limits (TCLP) or Solicite Threshold limit

Concentration (NTLC), Cher. A. 2006



Self of Laborator

- The results relate outly to the Georgie tested.
 This Test Report shall use be seproduced wholly or in your witness the reviews consent of the laboratory.
 The complex reviewed shall be destroyed after two weeks from the date of some of the Test Report unless.
- This Test Report shall not be used in any schemining media or as evidence in the court of Law without power. written consent of the laboratory.