

Your (**Half Yearly Compliance Report**) has been **Submitted** with following details

Proposal No	IA/OR/IND/2129/2007
Compliance ID	104328552
Compliance Number(For Tracking)	EC/M/COMPLIANCE/104328552/2024
Reporting Year	2024
Reporting Period	01 Dec(01 Apr - 30 Sep)
Submission Date	28-11-2024
RO/SRO Name	ARTATRANA MISHRA
RO/SRO Email	jhk109@ifs.nic.in
State	ODISHA
RO/SRO Office Address	Integrated Regional Offices, Bhubaneswar

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



Ref. No: FAMD/FAPB/ 014 /FY24

Date: 15.10.2024

**Additional Principal Chief Conservator of Forests (C),
Ministry of Environment, Forest and Climate Change,
Regional Office (EZ),
A/3, Chandrasekharpur,
Bhubaneswar -751023**

Sub: Submission of Six-monthly compliance report on Implementation of Environmental safeguard of Ferro Alloy Plant, Bamnival, for the period from Apr'2024 to Sep'2024

Ref: Ministry of Environment and Forests Letter NO: J-1101/10/2007-IAII (I), dated 07.05.2007

Dear Sir,

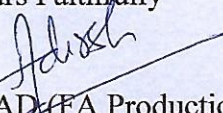
We are herewith submitting the six-monthly compliance report in respect of the stipulated environmental clearance conditions of Ferro Alloy Plant, Bamnival, for the period from Apr'2024 to Sep'2024 as per EIA Notification, 2006.

We have sent the soft copy of the report to your good office on email: roez.bsr-mef@nic.in for your ready reference.

We trust that the measures taken towards environmental safeguards comply with the stipulated environmental conditions. We look forward to your further guidance which shall certainly help us in our endeavour for further improve upon our environmental management practices.

Thanking You,

Yours Faithfully


HEAD (FA Production)
FAP, Bamnival
M/s Tata Steel Ltd.

Encl: Six Monthly Compliance Report (with Annexures) for Apr'2024 to Sep'2024

CC to: Member Secretary, SPCB, Odisha, Bhubaneswar-751012.

Regional Officer, SPCB, Odisha, Baniapat, College Road, Keonjhar-758001, Orissa.

TATA STEEL

Ferro Alloy Plant , Bamnival-758082, Keonjhar, Orissa , India

Tel.: 9238118601,9238118603,Fax: 916726243324

Regd.Office : Bombay House, 24 Homi Mody Street, Mumbai -400 001

Tel 91 22 6665 8282 Fax 91 22 66657724

Corporate Identity Number L27100MH1907PLC000260 Website www.tatasteel.com

**Half Yearly Compliance Report
2024**

01 Dec(01 Apr - 30 Sep)

Acknowledgement

Proposal Name	Expansion of Ferro Chrome Plant (50000 to 100000TPA) and coal based Captive Power Plant (60 MW) in Ferro Alloy Plant at Brahmanipal, Ghatgaon, Keonjhar, Orissa by M/s Tata Steel Limited		
Name of Entity / Corporate Office	Tata Steel Limited		
Village(s)	N/A		
District	KENDUJHAR		
Proposal No.	IA/OR/IND/2129/2007	Category	Industrial Projects - 1
Plot / Survey / Khasra No.	N/A	Sub-District	N/A
State	ODISHA	Entity's PAN	*****2803M
MoEF File No.	J-11011/10/2007-IA.II(I)	Entity name as per PAN	UTSAV KASHYAP

Compliance Reporting Details

Reporting Year 2024
Remarks (if any)
Reporting Period 01 Dec(01 Apr - 30 Sep)

Details of Production and Project Area

Name of Entity / Corporate Office Tata Steel Limited

	Project Area as per EC Granted	Actual Project Area in Possession
Private	71.719	71.719
Revenue Land	0	0
Forest	39.72	0
Others	0	0
Total	111.439	71.719

Production Capacity

Sr. no	Product Name	units	Valid Upto	Capacity	Production last year	Capacity as per CTO
1	High Carbon Ferro Chrome	Tons per Annum (TPA)	31/03/2025	100000	37,637	65000

Conditions

Specific Conditions

Sr.No.	Condition Type	Condition Details
1	WASTE MANAGEMENT	SAF slag shall not be dumped but reused as per the alternate action plan submitted to the Ministry. Product fines and flue dust shall not be dumped anywhere but reused in the process.
<p>PPs Submission: Complied</p> <p>SAF hard slag is used for Back filling and Landfill activities in Tata Steel Kalinganagar Projects and Road Making from Duburi to Chandikhol NHAI Projects. CPP project and plant expansion activity have not been carried out during the validity period of EC.</p>		Date: 28/11/2024
2	AIR QUALITY MONITORING AND PRESERVATION	The gaseous emissions from various process units shall confirm 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. At no time, the emission level shall go beyond the prescribed standards. Interlocking facilities shall be provided so that process can be automatically stopped in case emission level exceeds the limit.
<p>PPs Submission: Complied</p> <p>Existing plant emission level is within the permissible limit. Guidelines/codes of practice issued by CPCB are followed. Monthly reports are sent to SPCB, Bhubaneswar and Regional office, Keonjhar.</p>		Date: 28/11/2024
3	AIR QUALITY MONITORING AND PRESERVATION	Continuous stack monitoring facilities for all the major stacks and adequate air pollution control systems shall be provided to keep emission levels below 50 mg/Nm ³ and reports submitted to the OSPCB and CPCB.
<p>PPs Submission: Complied</p> <p>The proposed expansion project construction not yet started and it is realized that the construction of proposed project activity have not been carried out during the validity period (as per the EIA notification J-11011/10/2007-IA II(I) dated 07.05.2007) thus we shall obtain fresh approval from the ministry as per the provision EPA 1986 if the management envisages to undertake the said expansion in future. Monthly stack monitoring report of existing plant is submitted to OSPCB, BBSR and RO, OSPCB, Keonjhar, Orissa, every month. Monthly stack analysis report is attached as Annexure-III from Apr2024 to Sep2024 As per the OSPCB consent order the prescribed emission standard for stack attached to Arc furnace and GFPS is only for PM i.e. 100 mg/ Nm³.</p>		Date: 28/11/2024
4	ENERGY PRESERVATION MEASURES	In-plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Fume and dust extraction system with bag filters shall be provided at the transfer and discharge points to control fugitive emissions. Pneumatic ash conveying system and storage silos shall be used for dust transfer to silos. ESP shall be provided to the Captive Power Plant (CPP) to control air emissions to 100mg/Nm ³ . Further, specific measures like water sprinkling around the coal stockpiles and asphaltting or concreting of the roads shall be done to control fugitive emissions.
<p>PPs Submission: Complied</p> <p>The proposed expansion project construction not yet started and it is realized that the construction of proposed project activity have not been carried out during the validity period (as per the EIA notification J-11011/10/2007-IA II(I) dated 07.05.2007) thus we shall obtain fresh approval from the ministry as per the provision EPA 1986 if the management envisages to undertake the said expansion in future. However, for the existing control of ferro-chrome plant for the dust and fugitive emission, the dust extraction system with bag filters have been provided at GFPS (Grinding, Filtering, pelletizing and sintering) transfer and discharge points to control fugitive emissions. Water spraying arrangement in haul road and auto water sprinkling system installed at raw material store</p>		Date: 28/11/2024

		yard and weigh bridge area. DFDS (Dry Fog Dust Suppression) System and 3 Nos high velocity mist canon has been installed at dust generating sources like conveyor belt, skip hoist, pellet screen, vibrating feeder. In existing plant control measures for checking fugitive emissions from all the vulnerable sources have been installed.	
5	AIR QUALITY MONITORING AND PRESERVATION	Secondary fugitive emissions shall be controlled within the prescribed limits, regularly monitored and records maintained. Guideline / Code of practice issued by the CPCB in this regard shall be followed.	
		<p>PPs Submission: Complied</p> <p>In existing plant, we have three air quality monitoring stations (Two in the work zone, one in residential area). Monitoring of the ambient air quality was being conducted twice in a week as per CPCB guidelines. Likewise, monthly monitoring is done in 3 buffer zone locations. PM10, PM2.5, SO2, NOx, CO, NH3, C6H6, BaP, Ni, Pb, as parameters in the air quality is monitored as per Gazette Notification 826(E), dated 16.11.2009. The data on ambient air quality of core zone as well as buffer zone for the period Apr 2024 to Sep 2024 is attached as Annexure-I. The ambient air quality analysis report is submitted to OSPCB, BBSR and RO, OSPCB Keonjhar, Orissa every month.</p>	Date: 28/11/2024
6	WATER QUALITY MONITORING AND PRESERVATION	Total requirement of the water from Remal Dam and Kusei River shall not exceed 4416 m3/day and 7584 m3/day respectively as per the permission accorded by the Department of Water Resources, Govt. of Orissa. All the 3640 m3/day treated effluent shall be used for dust suppression and green belt development after treatment for total suspended solids (TSS) and pH. Domestic wastewater shall be treated in Sewage Treatment Plant (STP). No waste water shall be discharged outside the factory premises and Zero discharge shall be adopted.	
		<p>PPs Submission: Complied</p> <p>The proposed expansion project construction not yet started and it is realized that the construction of proposed project activity has not been carried out during the validity period (as per the EIA notification J-11011/10/2007-IA II(I) dated 07.05.2007) thus we shall obtain fresh approval from the ministry as per the provision EPA 1986 if the management envisages to undertake the said expansion in future. The water requirement for existing plant is 1750 KLD, and is well below the above permissible limit and we have adopted Zero discharge.</p>	Date: 28/11/2024
7	WASTE MANAGEMENT	All the solid waste including process slag, SAF flue dust, raw material fines, product fines, ash, raw water treatment slurry and ETP sludge shall be properly disposed of. Fly ash and granulated slag shall be provided to the cement manufacturing units for further use. Hexavalent Chromium present in the slag shall be converted to trivalent chromium. Ferro-chrome shall be stored in secured landfill as per the CPCB guidelines. Bottom ash shall be disposed of in a suitably designed landfill as per CPCB guide line to prevent leaching to the sub-oil and underground aquifer. STP sludge after drying shall be used as fertilizer for green belt development. Used oil shall be sold to recyclers and pre-processors.	
		<p>PPs Submission: Complied</p> <p>The proposed expansion project construction not yet started and it is realized that the construction of proposed project activity have not been carried out during the validity period (as per the EIA notification J-11011/10/2007-IA II(I) dated 07.05.2007) thus we shall obtain fresh approval from the ministry as per the provision EPA 1986 if the management envisages to undertake the said expansion in future. However, for the existing plant we are complying with the OSPCB norms for the disposal of all solid wastes.</p>	Date: 28/11/2024
8	GREENBELT	Comments/observations of the Chief Wildlife Warden/State Forest Department shall be obtained regarding impact of the proposed	

		expansion plant on the Rebana RF, Daitari RF, Tamka RF, Mahagiri RF which are located around the project site and all the recommendations should be implemented in time bound manner.
<p>PPs Submission: Complied</p> <p>The proposed expansion project construction not yet started and it is realized that the construction of proposed project activity have not been carried out during the validity period (as per the EIA notification J-11011/10/2007-IA II(I) dated 07.05.2007) thus we shall obtain fresh approval from the ministry as per the provision EPA 1986 if the management envisages to undertake the said expansion in future. Comments/observations of the Chief Wildlife Warden/State Forest Department will be made available and will be implemented in time.</p>		<p>Date: 28/11/2024</p>
9	WATER QUALITY MONITORING AND PRESERVATION	The company shall develop rainwater harvesting structures to harvest the rainwater for utilization in the lean season besides recharging the ground water table.
<p>PPs Submission: Complied</p> <p>Rainwater harvesting pond has been developed and feasibility test has been undergone for ground water recharging and strengthening rainwater harvesting.</p>		<p>Date: 28/11/2024</p>
10	LAND RECLAMATION	Out of total 71.719 ha. Green belt shall be developed in 40 ha within and around the plant premises as per the CPCB guidelines in consultation with DFO besides compensatory afforestation in 39.72 ha in lieu of forest land acquired.
<p>PPs Submission: Complied</p> <p>It will be adhered. Green belt will be developed in 40 ha area in lieu of 39.72 ha forest land proposed to be acquired for the said project. However green belt has been developed within and around the existing ferro-chrome plant premises.</p>		<p>Date: 28/11/2024</p>
11	Human Health Environment	Occupational Health Surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
<p>PPs Submission: Complied</p> <p>Periodic medical check-ups were conducted yearly. Last medical check-up was done on December 2023 and Approx 626 nos. of employees are examined including contractual employees. Next medical check-up scheduled on December 2024.</p>		<p>Date: 28/11/2024</p>
12	Statutory compliance	Recommendations made in the CREP guidelines issued for Ferro chrome plants shall be implemented.
<p>PPs Submission: Complied</p> <p>CREP (Corporate Responsibility for Environmental Protection) recommendations have been implemented</p>		<p>Date: 28/11/2024</p>
13	MISCELLANEOUS	No construction activities at the 39.72 ha forest land shall start without prior approval under Forest (Conservation) Act, 1980 and subsequent amendments.
<p>PPs Submission: Complied</p> <p>The proposed expansion project construction not yet started and it is realized that the construction of proposed project activities have not been carried out during the validity period (as per the EIA notification J-11011/10/2007-IA II(I) dated 07.05.2007) thus we shall obtain fresh approval from the ministry as per the provision EPA 1986 if the management envisages to undertake the said expansion in future. Before starting the construction activity at 39.72 forest lands (proposed to be acquired for the project), prior approval will be taken.</p>		<p>Date: 28/11/2024</p>
<p>General Conditions</p>		

Sr.No.	Condition Type	Condition Details
1	MISCELLANEOUS	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
<p>PPs Submission: Complied</p> <p>The proposed expansion project construction not yet started and it is realized that the construction of proposed project activity has not been carried out during the validity period (as per the EIA notification J-11011/10/2007-IA II(I) dated 07.05.2007) thus we shall obtain fresh approval from the ministry as per the provision EPA 1986 if the management envisages to undertake the said expansion in future</p>		Date: 28/11/2024
2	Statutory compliance	The project authorities must strictly adhere to the stipulations made by the Orissa Pollution Control Board (OSPCB) and the State Government.
<p>PPs Submission: Complied</p> <p>All the stipulations made by the Odisha Pollution Control Board and the State Government are strictly followed for existing facility.</p>		Date: 28/11/2024
3	Statutory compliance	No further expansion or modification in the plant should be carried out without prior approval of the Ministry of Environment and Forests.
<p>PPs Submission: Complied</p> <p>No expansion or modifications in the plant is carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC).</p>		Date: 28/11/2024
4	AIR QUALITY MONITORING AND PRESERVATION	At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of SPM, SO ₂ and NO _x are anticipated in consultation with the OSPCB. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the OSPCB/CPCB once in six months.
<p>PPs Submission: Complied</p> <p>The proposed expansion project construction not yet started and it is realized that the construction of proposed project activities have not been carried out during the validity period (as per the EIA notification J-11011/10/2007-IA II(I) dated 07.05.2007) thus we shall obtain fresh approval from the ministry as per the provision EPA 1986 if the management envisages to undertake the said expansion in future For existing plant there are three air quality monitoring stations (two in the work zone, one in residential area). Monitoring of the air quality has been conducted twice in a week as per CPCB guidelines. Likewise, monthly monitoring has been done in 3 buffer zone locations. The air quality analysis report submitted to OSPCB BBSR and Regional Office, OSPCB, Keonjhar, Orissa every month. Air quality analysis report is attached as Annexure-I.</p>		Date: 28/11/2024
5	WATER QUALITY MONITORING AND PRESERVATION	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 from time to time. The treated wastewater shall be utilized for plantation purpose.
<p>PPs Submission: Complied</p> <p>For existing process industrial wastewater is being collected in settling pond. After two stages of settlement the overflow water is being recycled completely without discharging outside. The waste water generated from venturi scrubber is being treated in the thickener and the sludge is being conveyed to an impervious lined pond in the form of slurry for settlement. The overflow water of the sludge pond is being recycled back to the process without discharging outside.</p>		Date: 28/11/2024

<p>PPs Submission: Complied For existing process industrial wastewater is being collected in settling pond. After two stages of settlement the overflow water is being recycled completely without discharging outside. The waste water generated from venturi scrubber is being treated in the thickener and the sludge is being conveyed to an impervious lined pond in the form of slurry for settlement. The overflow water of the sludge pond is being recycled back to the process without discharging outside.</p>		<p>Date: 28/11/2024</p>
6	Noise Monitoring & Prevention	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 level should conform to the standards prescribed under EPA Rules, 1989 viz 75 dBA (daytime) and 70 dBA (night-time).
<p>PPs Submission: Complied It has been strictly adhered. Monitoring results for last six months i.e Apr 2024 to Sep 2024 is enclosed as Annexure-II</p>		<p>Date: 28/11/2024</p>
7	Corporate Environmental Responsibility	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 development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.
<p>PPs Submission: Complied The proposed expansion project construction not yet started and it is realized that the construction of proposed project activity have not been carried out during the validity period (as per the EIA notification J-11011/10/2007-IA II(I) dated 07.05.2007) thus we shall obtain fresh approval from the ministry as per the provision EPA 1986 if the management envisages to undertake the said expansion in future. For existing ferro-chrome plant the socio-economic, development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc. are being taken care of by our TSRDS team (CSR team).</p>		<p>Date: 28/11/2024</p>
8	MISCELLANEOUS	As mentioned in the EIA/EMP, Rs.25.44 Crores and Rs.3.26 Crores shall be earmarked towards capital cost and recurring cost/annum to control pollution and shall be judiciously utilized to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. The funds so provided shall not be diverted for any other purpose.
<p>PPs Submission: Being Complied The proposed expansion project construction not yet started and it is realized that the construction of proposed project activity have not been carried out during the validity period (as per the EIA notification J-11011/10/2007-IA II(I) dated 07.05.2007) thus we shall obtain fresh approval from the ministry as per the provision EPA 1986 if the management envisages to undertake the said expansion in future and Will strictly adhere the EIA/EMP report.</p>		<p>Date: 28/11/2024</p>
9	Statutory compliance	The Regional Office of this Ministry at Bhubaneswar/CPCB/OSPCB shall monitor the stipulated conditions. A six-monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.
<p>PPs Submission: Complied The proposed expansion project construction not yet started. A six-monthly compliance report and the monitored data along with statistical interpretation have been submitted to MoEF Bhubaneswar and CPCB/OSPCB.</p>		<p>Date: 28/11/2024</p>
10	MISCELLANEOUS	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 OSPCB/Committee 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 shall be forwarded to the Regional Office at Bhubaneswar.

PPs Submission: Complied

The project proponent had been informed to the public in two local newspapers (The Samaja, The Indian Express) that are widely circulated in the region of locality concerned in the vernacular language, a copy of the same forwarded to the Regional Office at Bhubaneswar.

Date:
28/11/2024

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.

Half -Yearly Compliance Report

On

Name of the Project: Ferro Alloys Plant, Bamnival of M/s Tata Steel Limited

Environmental Clearance Conditions

(MoEF LETTER NO. - J-11011/10/2007-A.II(I), DATED- 07th May 2017, ISSUED BY
GOVT. OF INDIA, MINISTRY OF ENVIRONMENT & FOREST, NEW DELHI)

Period: Apr'2024 to Sep'2024

Submitted By:

Ferro Alloys Plant, Bamnival

Of M/s Tata Steel Limited

P.O- Bamnival, Dist. Keonjhar

Odisha- 758082

SPECIFIC CONDITION:

Sl. No.	Specific Condition	Compliance Status (Apr'2024 to Sep'2024)
I	<p>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. At no time, the emission level shall go beyond the prescribed standards. Interlocking facilities shall be provided so that process can be automatically stopped in case emission level exceeds the limit.</p>	<p>Complied. Existing plant emission level is within the permissible limit. Guidelines/codes of practice issued by CPCB are followed. Monthly reports are sent to SPCB, Bhubaneswar and Regional office, Keonjhar.</p>
II	<p>Continuous stack monitoring facilities for all the major stacks and adequate air pollution control systems shall be provided to keep emission levels below 50 mg/Nm³ and reports submitted to the OSPCB & CPCB.</p>	<p>Complied. The proposed expansion project construction not yet started & it is realized that the construction of proposed project activity have not been carried out during the validity period (as per the EIA notification J-11011/10/2007-IA II(I) dated 07.05.2007) thus we shall obtain fresh approval from the ministry as per the provision EPA 1986 if the management envisages to undertake the said expansion in future. Monthly stack monitoring report of existing plant is submitted to OSPCB, BBSR and RO, OSPCB, Keonjhar, Orissa, every month. Monthly stack analysis report is attached as Annexure-III from Apr'2024 to Sep'2024 As per the OSPCB consent order the prescribed emission standard for stack attached to Arc furnace and GFPS is only for PM i.e. 100 mg/ Nm³.</p>
pIII	<p>In-plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Fume and dust extraction system with bag filters shall be provided at the transfer and discharge points to control fugitive emissions. Pneumatic ash conveying system and storage silos shall be used for dust transfer to silos. ESP shall be provided to the</p>	<p>Complied. The proposed expansion project construction not yet started & it is realized that the construction of proposed project activity have not been carried out during the validity period (as per the EIA notification J-11011/10/2007-IA II(I) dated 07.05.2007) thus we shall obtain fresh approval from the ministry as per the provision EPA 1986 if</p>

	<p>Captive Power Plant (CPP) to control air emissions to 100mg/Nm³. Further, specific measures like water sprinkling around the coal stockpiles and asphaltting or concreting of the roads shall be done to control fugitive emissions.</p>	<p>the management envisages to undertake the said expansion in future. However, for the existing control of ferro-chrome plant for the dust and fugitive emission, the dust extraction system with bag filters have been provided at GFPS (Grinding, Filtering, pelletizing and sintering) transfer and discharge points to control fugitive emissions. Water spraying arrangement in haul road and auto water sprinkling system installed at raw material store yard and weigh bridge area. DFDS (Dry Fog Dust Suppression) System & 3 Nos high velocity mist canon has been installed at dust generating sources like conveyor belt, skip hoist, pellet screen, vibrating feeder. In existing plant control measures for checking fugitive emissions from all the vulnerable sources have been installed.</p>
IV	<p>Secondary fugitive emissions shall be controlled within the prescribed limits, regularly monitored and records maintained. Guideline / Code of practice issued by the CPCB in this regard shall be followed.</p>	<p style="text-align: center;">Complied.</p> <p>In existing plant, we have three air quality monitoring stations (Two in the work zone, one in residential area). Monitoring of the ambient air quality was being conducted twice in a week as per CPCB guidelines. Likewise, monthly monitoring is done in 3 buffer zone locations. PM10, PM2.5, SO2, NOx, CO, NH3, C6H6, BaP, Ni, Pb, as parameters in the air quality is monitored as per Gazette Notification 826(E), dated 16.11.2009. The data on ambient air quality of core zone as well as buffer zone for the period Apr'2024 to Sep'2024 is attached as Annexure-I. The ambient air quality analysis report is submitted to OSPCB, BBSR and RO, OSPCB Keonjhar, Orissa every month.</p>
Sl. No.	Specific Condition	Compliance Status (Apr'2024 to Sep'2024)
V	<p>Total requirement of the water from Remal Dam and Kusei River shall not exceed 4416 m³/day and 7584 m³/day respectively as per the permission accorded by the Department of Water Resources, Govt. of Orissa. All the 3640 m³/day treated effluent shall be used for dust suppression and green belt development after treatment for total suspended solids (TSS) and pH. Domestic wastewater shall be treated in Sewage Treatment Plant (STP). No waste water</p>	<p style="text-align: center;">Complied.</p> <p>The proposed expansion project construction not yet started & it is realized that the construction of proposed project activity has not been carried out during the validity period (as per the EIA notification J-11011/10/2007-IA II(I) dated 07.05.2007) thus we shall obtain fresh approval from the ministry as per the provision EPA 1986 if the management envisages to undertake the said expansion in future. The water requirement for existing plant is 1750 KLD, and is well below the</p>

	shall be discharged outside the factory premises and 'Zero' discharge shall be adopted.	above permissible limit and we have adopted 'Zero' discharge.
VI	All the solid waste including process slag, SAF flue dust, raw material fines, product fines, ash, raw water treatment slurry and ETP sludge shall be properly disposed of. Fly ash and granulated slag shall be provided to the cement manufacturing units for further use. Hexavalent Chromium present in the slag shall be converted to trivalent chromium. Ferro-chrome shall be stored in secured landfill as per the CPCB guidelines. Bottom ash shall be disposed of in a suitably designed landfill as per CPCB guide line to prevent leaching to the sub-oil and underground aquifer. STP sludge after drying shall be used as fertilizer for green belt development. Used oil shall be sold to recyclers and pre-processors.	Complied. The proposed expansion project construction not yet started & it is realized that the construction of proposed project activity have not been carried out during the validity period (as per the EIA notification J-11011/10/2007-IA II(I) dated 07.05.2007) thus we shall obtain fresh approval from the ministry as per the provision EPA 1986 if the management envisages to undertake the said expansion in future. However, for the existing plant we are complying with the OSPCB norms for the disposal of all solid wastes.
VII	SAF slag shall not be dumped but reused as per the alternate action plan submitted to the Ministry. Product fines and flue dust shall not be dumped anywhere but reused in the process.	Complied. SAF hard slag is used for Back filling & Landfill activities in Tata Steel Kalinganagar Projects and Road Making from Duburi to Chandikhol NHAI Projects. CPP project and plant expansion activity have not been carried out during the validity period of EC.
VIII	The company shall develop rainwater harvesting structures to harvest the rainwater for utilization in the lean season besides recharging the ground water table.	Complied. Rainwater harvesting pond has been developed and feasibility test has been undergone for ground water recharging and strengthening rainwater harvesting.
IX	Out of total 71.719 ha. Green belt shall be developed in 40 ha within and around the plant premises as per the CPCB guidelines in consultation with DFO besides compensatory afforestation in 39.72 ha in lieu of forest land acquired.	Complied. It will be adhered. Green belt will be developed in 40 ha area in lieu of 39.72 ha forest land proposed to be acquired for the said project. However green belt has been developed within and around the existing ferro-chrome plant premises.

X	Occupational Health Surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	<p style="text-align: center;">Complied.</p> <p>Periodic medical check-ups were conducted yearly. Last medical check-up was done on December'2023 and Approx 626 nos. of employees are examined including contractual employees. Next medical check-up scheduled on December'2024.</p>
XI	Recommendations made in the CREP guidelines issued for Ferro chrome plants shall be implemented.	<p style="text-align: center;">Complied.</p> <p>CREP (Corporate Responsibility for Environmental Protection) recommendations have been implemented</p>
XII	No construction activities at the 39.72 ha forest land shall start without prior approval under Forest (Conservation) Act, 1980 and subsequent amendments.	<p style="text-align: center;">Complied.</p> <p>The proposed expansion project construction not yet started & it is realized that the construction of proposed project activities have not been carried out during the validity period (as per the EIA notification J-11011/10/2007-IA II(I) dated 07.05.2007) thus we shall obtain fresh approval from the ministry as per the provision EPA 1986 if the management envisages to undertake the said expansion in future. Before starting the construction activity at 39.72 forest lands (proposed to be acquired for the project), prior approval will be taken.</p>
XIII	Comments/observations of the Chief Wildlife Warden/State Forest Department shall be obtained regarding impact of the proposed expansion plant on the Rebana RF, Daitari RF, Tamka RF, Mahagiri RF which are located around the project site and all the recommendations should be implemented in time bound manner.	<p style="text-align: center;">Complied.</p> <p>The proposed expansion project construction not yet started & it is realized that the construction of proposed project activity have not been carried out during the validity period (as per the EIA notification J-11011/10/2007-IA II(I) dated 07.05.2007) thus we shall obtain fresh approval from the ministry as per the provision EPA 1986 if the management envisages to undertake the said expansion in future. Comments/observations of the Chief Wildlife Warden/State Forest Department will be made available and will be implemented in time.</p>

B. General Conditions

Sl. No.	General Condition	Compliance Status (Apr'2024 to Sep'2024)
I	The project authorities must strictly adhere to the stipulations made by the Orissa Pollution Control Board (OSPCB) and the State Government.	Complied. All the stipulations made by the Odisha Pollution Control Board and the State Government are strictly followed for existing facility.
II	No further expansion or modification in the plant should be carried out without prior approval of the Ministry of Environment and Forests.	Complied. No expansion or modifications in the plant is carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC).
III	At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of SPM, SO ₂ and NO _x are anticipated in consultation with the OSPCB. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the OSPCB/CPCB once in six months.	Complied. The proposed expansion project construction not yet started & it is realized that the construction of proposed project activities have not been carried out during the validity period (as per the EIA notification J-11011/10/2007-IA II(I) dated 07.05.2007) thus we shall obtain fresh approval from the ministry as per the provision EPA 1986 if the management envisages to undertake the said expansion in future For existing plant there are three air quality monitoring stations (two in the work zone, one in residential area). Monitoring of the air quality has been conducted twice in a week as per CPCB guidelines. Likewise, monthly monitoring has been done in 3 buffer zone locations. The air quality analysis report submitted to OSPCB BBSR and Regional Office, OSPCB, Keonjhar, Orissa every month. Air quality analysis report is attached as Annexure-I .
IV	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 from time to time. The	Complied. For existing process industrial wastewater is being collected in settling pond. After two stages of settlement the overflow water is being recycled completely without discharging outside. The waste water

Sl. No.	General Condition	Compliance Status (Apr'2024 to Sep'2024)
	treated wastewater shall be utilized for plantation purpose.	generated from venturi scrubber is being treated in the thickener and the sludge is being conveyed to an impervious lined pond in the form of slurry for settlement. The overflow water of the sludge pond is being recycled back to the process without discharging outside.
V	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 level should conform to the standards prescribed under EPA Rules, 1989 viz 75 dBA (daytime) and 70 dBA (night-time).	<p style="text-align: center;">Complied.</p> It has been strictly adhered. Monitoring results for last six months i.e Apr'2024 to Sep'2024 is enclosed as Annexure-II
VI	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 development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.	<p style="text-align: center;">Complied.</p> The proposed expansion project construction not yet started & it is realized that the construction of proposed project activity have not been carried out during the validity period (as per the EIA notification J-11011/10/2007-IA II(I) dated 07.05.2007) thus we shall obtain fresh approval from the ministry as per the provision EPA 1986 if the management envisages to undertake the said expansion in future. For existing ferro-chrome plant the socio-economic, development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc. are being taken care of by our TSRDS team (CSR team).
VII	As mentioned in the EIA/EMP, Rs.25.44 Crores and Rs.3.26 Crores shall be earmarked towards capital cost and recurring cost/annum to control pollution and shall be judiciously utilized to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. The funds so provided shall not be diverted for any other purpose.	<p style="text-align: center;">Being Complied.</p> The proposed expansion project construction not yet started & it is realized that the construction of proposed project activity have not been carried out during the validity period (as per the EIA notification J-11011/10/2007-IA II(I) dated 07.05.2007) thus we shall obtain fresh approval from the ministry as per the provision EPA 1986 if the management envisages to undertake the said expansion

Sl. No.	General Condition	Compliance Status (Apr'2024 to Sep'2024)
		in future & Will strictly adhere the EIA/EMP report.
VIII	The Regional Office of this Ministry at Bhubaneswar/CPCB/OSPCB shall monitor the stipulated conditions. A six-monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.	<p style="text-align: center;">Complied.</p> The proposed expansion project construction not yet started. A six-monthly compliance report and the monitored data along with statistical interpretation have been submitted to MoEF Bhubaneswar & CPCB/OSPCB.
IX	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 OSPCB/Committee 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 shall be forwarded to the Regional Office at Bhubaneswar.	<p style="text-align: center;">Complied.</p> The project proponent had been informed to the public in two local newspapers (The Samaja, The Indian Express) that are widely circulated in the region of locality concerned in the vernacular language, a copy of the same forwarded to the Regional Office at Bhubaneswar. Attached As Annexure-V
X	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.	<p style="text-align: center;">Complied.</p> The proposed expansion project construction not yet started & it is realized that the construction of proposed project activity has not been carried out during the validity period (as per the EIA notification J-11011/10/2007-IA II(I) dated 07.05.2007) thus we shall obtain fresh approval from the ministry as per the provision EPA 1986 if the management envisages to undertake the said expansion in future

Environmental Clearance Letter

(MOEF's LETTER NO. No.: J-11011/10/2007-IA. II (I), Dated 07.05.2007)

F. No. J-11011/10/2007- IA II (I)
Government of India
Ministry of Environment and Forests
(I.A. Division)

Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi – 110 003

E-mail : pb.rastogi@nic.in
Telefax : 011: 2436 7668
Dated 7th May, 2007

To, ✓
Shri K.S. Raju
Chief (Ferro Alloys Production)
M/s Tata Steels Ltd.
P.O. Brahmanipal
Keonjhar-758 082
Orissa

1. EIC (FAMD)
2. Dr. Vinod P Sankar
3. Mr. KS Raju

Fax No. : 011 - 23326265

CC: DyMD (CS)/VP (EM) Chandel
7/5/07

Subject : Expansion of Ferro Chrome Plant (50,000 to 1,00,000 TPA) and coal based
Captive Power Plant (60 MW) in Ferro alloy Plant at Brahmanipal,
Ghatgaon, Keonjhar, Orissa by M/s Tata Steel Ltd.

Sir,

This has reference to your letter no. TSL DEL/1235/2007 dated 3rd January, 2007
alongwith application and EIA/EMP and subsequent clarifications furnished by you vide
your letters dated 5th February, 2007 for environmental clearance on the above mentioned
project.

2.0 The Ministry of Environment and Forests has examined your application. It is
noted that proposal of M/s Tata Steel Ltd. is for the expansion of high carbon Ferro
Chrome (50,000 to 1,00,000 TPA) and Captive Power Plant (60 MW) in the Ferro Alloy
Plant at Brahmanipal, Ghatgaon, Keonjhar, Orissa. Expansion will be carried out at the
existing site measuring 71.719 ha. of which 24.282 ha. area is notified industrial area and
47.437 ha. revenue land. It is proposed to acquire 39.72 ha forestland for the raw
material storage and solid waste disposal. The existing plant is located in Rebana Forest.
No wasteland is available nearby. Rebana RF to the West, Daitari RF to the South West,
Tamka RF 5.1 Km away and Mahagiri RF, 5.5 Km to the South surround the plant. No
national park or wild life sanctuary is located within 10 km. of the site. No rehabilitation
and resettlement is involved.

3.0 ESP to captive power plant, bag filters at the transfer and discharge points, dust
extraction and suppression system will be provided to control air emissions to 50 mg/Nm³.
4416 m³/d and 7584 m³/d water will be drawn from Remal dam and Kusei river
respectively as per the permission accorded by the Department of Water Resources,
Govt. of Orissa. The treated effluent (97%) generated will be used for dust suppression
and green belt development. No effluent will be discharged outside the premises. Slag
and slurry from RWTP & ETP will be dumped. Fines will be reused. Ash will be sold to
cement manufacturers. Hexavalent Chromium present in the slag will be converted to

trivalent Chromium. Product fines will be reused in the process. Slag will be sent to a granulation pit. Ferro chrome will be stored in designated storage areas.

4.0 Public hearing meeting was held on 12th May, 2006. 'Consent to Establish' has been accorded by the OSPCB vide letter no.23085/IND-II-NIOC-4154 dated 19.9.2006. Total cost of the project is Rs. 350.00 Crores.

5.0 The Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification dated 14th September, 2006 subject to strict compliance of the following specific and general conditions:

A. SPECIFIC CONDITIONS :

- i) 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. At no time, the emission level shall go beyond the prescribed standards. Interlocking facilities shall be provided so that process can be automatically stopped in case emission level exceeds the limit.
- ii) Continuous stack monitoring facilities for all the major stacks and adequate air pollution control systems shall be provided to keep emission levels below 50 mg/Nm³ and reports submitted to the OSPCB & CPCB.
- iii) In-plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Fume and dust extraction system with bag filters shall be provided at the transfer and discharge points to control fugitive emissions. Pneumatic ash conveying system and storage silos shall be used for dust transfer to silos. ESP shall be provided to the Captive Power Plant (CPP) to control air emissions to 100 mg/Nm³. Further, specific measures like water sprinkling around the coal stockpiles and asphaltting or concreting of the roads shall be done to control fugitive emissions.
- iv) Secondary fugitive emissions shall be controlled within the prescribed limits, regularly monitored and records maintained. Guidelines / Code of Practice issued by the CPCB in this regard shall be followed.
- v) Total requirement of the water from Remal dam and Kusei river shall not exceed 4416 m³/d and 7584 m³/d respectively as per the permission accorded by the Department of Water Resources, Govt. of Orissa. All the 3640 m³/day treated effluent shall be used for dust suppression and green belt development after treatment for total suspended solids (TSS) and pH. Domestic wastewater shall be treated in Sewage Treatment Plant (STP). No wastewater shall be discharged outside the factory premises and 'Zero' discharge shall be adopted.
- vi) All the solid waste including process slag, SAF flue dust, raw material fines, product fines, ash, raw water treatment slurry and ETP sludge shall be properly disposed off. Fly ash and granulated slag shall be provided to the cement manufacturing units for further use. Hexavalent Chromium present in the slag shall be converted to trivalent Chromium. Ferro chrome shall be stored in secured landfill as per the CPCB guidelines. Bottom ash shall be disposed off in

a suitably designed landfill as per CPCB guidelines to prevent leaching to the sub-soil and underground aquifer. STP sludge after drying shall be used as fertilizer for green belt development. Used oil shall be sold to recyclers and preprocessors.

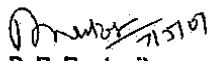
- vii) SAF slag shall not be dumped but reused as per the alternate action plan submitted to the Ministry. Product fines and flue dust shall not be dumped anywhere but reused in the process.
- viii) The company shall develop rain water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.
- ix) Out of total 71.719 ha., green belt shall be developed in 40 ha. within and around the plant premises as per the CPCB guidelines in consultation with DFO besides compensatory afforestation in 39.72 ha in lieu of forest land acquired.
- x) Occupational Health Surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- xi) Recommendations made in the CREP guidelines issued for the Ferro chrome plants shall be implemented.
- xii) No construction activities at the 39.72 ha. forest land shall start without prior approval under Forest (Conservation) Act, 1980 and subsequent amendments.
- xiii) Comments/observations of the Chief Wildlife Warden/State Forest Department shall be obtained regarding impact of the proposed expansion plant on the Rebana RF, Daitari RF, Tamka RF, Mahagiri PF which are located around the project site and all the recommendations should be implemented in time bound manner.

B. GENERAL CONDITIONS:

- i. The project authorities must strictly adhere to the stipulations made by the Orissa Pollution Control Board (OSPCB) and the State Government.
- ii. No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment and Forests.
- iii. At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of SPM, SO₂ and NO_x are anticipated in consultation with the OSPCB. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the OSPCB / CPCB once in six months.
- iv. 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 from time to time. The treated wastewater shall be utilized for plantation purpose.

4

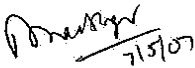
- v. The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).
 - vi. 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 development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.
 - vii. As mentioned in the EIA/EMP, Rs. 25.44 Crores and Rs. 3.26 Crores shall be earmarked towards capital cost and recurring cost/annum to control pollution and shall be judiciously utilized to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. The funds so provided shall not be diverted for any other purpose.
 - viii. The Regional Office of this Ministry at Bhuvaneshwar / CPCB / OSPCB shall monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.
 - ix. 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 OSPCB / Committee 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 shall be forwarded to the Regional office at Bhuvaneshwar.
 - x. 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.
- 6.0. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
 - 7.0. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner will implement these conditions.
 - 8.0. The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management and Handling) Rules, 2003 and the Public (Insurance) Liability Act, 1991 along with their amendments and rules


(Dr. P. B. Rastogi)
Additional Director

5

Copy to:-

1. The Secretary, State Department of Environment, Govt. of Orissa, Bhubaneswar, Orissa.
2. Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi – 110 032.
3. Chairman, Orissa Bengal Pollution Control Board, Parivesh Bhavan, A/118, Neelkanthhanagar, Unit-8, Bhubaneswar - 751 012, Orissa.
4. The Chief Conservator of Forests (Eastern), Regional Office (EZ), A/3, Chandrasekharpur, Bhubaneswar - 751 023, Orissa.
5. Joint Secretary (CCI-I), Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
6. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
7. Monitoring Cell
8. Guard File.
9. Record File.


(Dr. P. B. Rastogi)
Additional Director

Annexure # 1
Ambient Air quality Report From Apr 24 To Sep 24



Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Certified for : ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017

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

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

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

- Agricultural Development
- Information Technology
- Public Health Engineering

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

Ref : Envlab/24-25/TR-10669

Date :15.10.2024

SIX MONTH COMPLIANCE REPORT
AAQ MONITORING REPORT FOR APRIL 2024 TO SEPTEMBER 2024
(CORE ZONE)

1. Name of Industry	:	Ferro Alloys Plant Bamnival, (M/s TATA Steel Limited); Keonjhar
2. Sampling Location	:	Monitoring Station ID: AAQMS-1 (Near Admin Building).
3. Monitoring Instruments	:	RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler
4. Sample collected by	:	VCSPL representative in presence of TATA representative.

Month	PARAMETERS											
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	O ₃ (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	BaP (ng/m ³)	Ni (ng/m ³)	Pb (µg/m ³)	As (ng/m ³)
APR 2024	64.1	33.7	12.3	21.4	11.9	0.75	25.4	BDL	BDL	BDL	BDL	BDL
MAY 2024	65.3	34.4	11.2	20.2	11	0.77	25.2	BDL	BDL	BDL	BDL	BDL
JUN 2024	63.3	32.4	12.5	19.9	11	0.73	24.8	BDL	BDL	BDL	BDL	BDL
JUL 2024	58.6	27.7	11.5	19.2	10.1	0.7	23.6	BDL	BDL	BDL	BDL	BDL
AUG 2024	57.8	28	10.8	18	9.3	0.68	23.1	BDL	BDL	BDL	BDL	BDL
SEP 2024	56.2	27.5	9.2	16.2	8.9	0.62	23.2	BDL	BDL	BDL	BDL	BDL
Average	60.9	30.6	11.3	19.2	10.4	0.7	24.2	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	180	4	400	5	1	20	1	6
Testing method	Gravimetric	Gravimetric	Improved West and Gaeke method	Modified Jacob & Hochheiser (Na-Arsenite)	Chemical Method	NDER Spectroscopy	Indo phenol blue method	Absorption & Desorption followed by GC analysis	Solvent extraction followed by Gas Chromatograph by analysis	AAS method after sampling	AAS method after sampling	AAS method after sampling

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

[Signature]
 Prepared By



[Signature]
 Reviewed By





Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

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

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

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

- Agricultural Development
- Information Technology
- Public Health Engineering

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

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

Ref : Envlab/24-25/TR-10670

Date : 15.10.2024

SIX MONTH COMPLIANCE REPORT AAQ MONITORING REPORT FOR APRIL 2024 TO SEPTEMBER 2024 (CORE ZONE)

1. Name of Industry	:	Ferro Alloys Plant Bamnival, (M/s TATA Steel Limited); Keonjhar
2. Sampling Location	:	Monitoring Station ID:AAQMS-2 (Near Kusei Club)
3. Monitoring Instruments	:	RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler
4. Sample collected by	:	VCSPL representative in presence of TATA representative.

Date	PARAMETERS											
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	O ₃ (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	BaP (ng/m ³)	Ni (ng/m ³)	Pb (µg/m ³)	As (ng/m ³)
APR 2024	64.9	33.5	11.4	22.2	14.4	0.77	24.5	BDL	BDL	BDL	BDL	BDL
MAY 2024	65	33.6	12.7	21.5	11.6	0.76	25.3	BDL	BDL	BDL	BDL	BDL
JUN 2024	64.1	33.5	13	21.8	11	0.74	23.8	BDL	BDL	BDL	BDL	BDL
JUL 2024	59.7	28	10.9	15.1	10.4	0.6	23.3	BDL	BDL	BDL	BDL	BDL
AUG 2024	58.7	28.7	11.6	16.6	9.9	0.67	23.2	BDL	BDL	BDL	BDL	BDL
SEP 2024	58.9	29.5	10.6	17.2	8.7	0.69	23.9	BDL	BDL	BDL	BDL	BDL
Average	61.9	31.1	11.7	19.1	11	0.71	24	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	180	4	400	5	1	20	1	6
Testing method	Gravimetric	Gravimetric	Improve d West and Gaeke method	Modified Jacob & Hochheiser (Na-Arsenite)	Chemical Method	NDIR Spectroscopy	Indo phenol blue method	Absorption & Desorption followed by GC analysis	Solvent extraction followed by Gas Chromatography analysis	AAS method after sampling	AAS method after sampling	AAS method after sampling

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

P. Patil
 Prepared By



P. Patil
 Reviewed By





Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Certified for : ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017

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Laboratory Services
 Environment Lab
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 &
 Microbiology Lab

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

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

- Agricultural Development
- Information Technology
- Public Health Engineering

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

Ref : Envlab/24-25/TR-10671

Date : 15.10.2024

SIX MONTH COMPLIANCE REPORT AAQ MONITORING REPORT FOR APRIL 2024 TO SEPTEMBER 2024 (CORE ZONE)

5. Name of Industry	:	Ferro Alloys Plant Bamnival, (M/s TATA Steel Limited); Keonjhar.
6. Sampling Location	:	Monitoring Station ID:AAQMS-3 (Near Helipad)
7. Monitoring Instruments	:	RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler
8. Sample collected by	:	VC SPL representative in presence of TATA representative.

Date	PARAMETERS											
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	O ₃ (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	BaP (ng/m ³)	Ni (ng/m ³)	Pb (µg/m ³)	As (ng/m ³)
APR 2024	64.6	33.5	12.1	17.5	17.0	0.79	22.5	BDL	BDL	BDL	BDL	BDL
MAY 2024	65.4	34.4	12.5	14.7	14.3	0.76	24.8	BDL	BDL	BDL	BDL	BDL
JUN 2024	64	33.8	11.9	14.4	10.8	0.74	24.9	BDL	BDL	BDL	BDL	BDL
JUL 2024	56.6	26.8	11.3	14.5	10.1	0.6	23.5	BDL	BDL	BDL	BDL	BDL
AUG 2024	59.4	30.2	10.9	17.5	9.2	0.71	24.4	BDL	BDL	BDL	BDL	BDL
SEP 2024	60.3	30.5	11.2	18.3	9.2	0.76	24.3	BDL	BDL	BDL	BDL	BDL
Average	61.7	31.5	11.7	16.2	11.8	0.73	24.1	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	180	4	400	5	1	20	1	6
Testing method	Gravimetric	Gravimetric	Improved West and Gaeke method	Modified Jacob & Hochheiser (Na-Arsenite)	Chemical Method	NDIR Spectroscopy	Indo phenol blue method	Absorption & Desorption followed by GC analysis	Solvent extraction followed by Gas Chromatography analysis	AAS method after sampling	AAS method after sampling	AAS method after sampling

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

[Signature]
 Prepared By

[Signature]
 Reviewed By



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- Waste Management Services



Ref : Envlab/24-25/TR-10672

Date : 15.10.2024

SIX MONTH COMPLIANCE REPORT AAQ MONITORING REPORT FOR APRIL 2024 TO SEPTEMBER 2024 (BUFFER ZONE)

1. Name of Industry : Ferro Alloys Plant Bamnival, (M/s TATA Steel Limited); Keonjhar.
2. Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer & VOC Sampler
3. Sample collected by : VCSPL Representative in presence of TATA Representative

Monitoring Date	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	O ₃ (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	BaP (µg/m ³)	Ni (µg/m ³)	Pb (µg/m ³)	As (µg/m ³)
BZ-1: Narharipur Village												
APR 2024	64.8	32.8	13.2	15.2	BDL	0.75	BDL	BDL	BDL	BDL	BDL	BDL
MAY 2024	62.9	30.9	11.6	10.9	7.8	0.81	BDL	BDL	BDL	BDL	BDL	BDL
JUN 2024	60.8	27.4	10.5	12.1	10.2	0.74	BDL	BDL	BDL	BDL	BDL	BDL
JUL 2024	54.2	23.6	11.2	13.4	9.7	0.59	BDL	BDL	BDL	BDL	BDL	BDL
AUG 2024	52.8	25.3	9.4	11.8	7.6	0.54	BDL	BDL	BDL	BDL	BDL	BDL
SEP 2024	53.3	25.6	8.6	10.5	7.3	0.52	BDL	BDL	BDL	BDL	BDL	BDL
Average	58.1	27.6	10.8	12.3	8.5	0.66	BDL	BDL	BDL	BDL	BDL	BDL
BZ-2: Somnathpur Village												
APR 2024	67.1	36.4	10.5	13.9	BDL	0.79	BDL	BDL	BDL	BDL	BDL	BDL
MAY 2024	61.7	28.7	12.3	13.2	8.9	0.76	BDL	BDL	BDL	BDL	BDL	BDL
JUN 2024	58.7	25.7	9.7	10.6	9.3	0.65	BDL	BDL	BDL	BDL	BDL	BDL
JUL 2024	51.8	22.8	9.6	10.8	10.5	0.54	BDL	BDL	BDL	BDL	BDL	BDL
AUG 2024	54.3	24.1	8.7	9.6	8.2	0.52	BDL	BDL	BDL	BDL	BDL	BDL
SEP 2024	49.6	23.8	10.2	12.3	8.4	0.55	BDL	BDL	BDL	BDL	BDL	BDL
Average	57.2	26.9	10.2	11.7	9.1	0.6	BDL	BDL	BDL	BDL	BDL	BDL
BZ-3: Badagaa Village												
APR 2024	65.5	33.7	12.4	16.4	BDL	0.84	BDL	BDL	BDL	BDL	BDL	BDL
MAY 2024	63.3	29.1	10.6	9.7	10.6	0.8	BDL	BDL	BDL	BDL	BDL	BDL
JUN 2024	61.2	30.4	12.4	11.4	7.8	0.63	BDL	BDL	BDL	BDL	BDL	BDL
JUL 2024	53.1	25.4	10.7	12.3	9.4	0.55	BDL	BDL	BDL	BDL	BDL	BDL
AUG 2024	51.2	25.6	10.1	10.2	7.5	0.56	BDL	BDL	BDL	BDL	BDL	BDL
SEP 2024	50.1	24.4	9.2	9.8	8.6	0.58	BDL	BDL	BDL	BDL	BDL	BDL
Average	57.4	28.1	10.9	11.6	8.8	0.66	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	--	100	60	80	80	4	--
Testing Method	Gravimetric	Gravimetric	Improved West and Gaeke method	Modified Jacob & Hochheiser F (No-Arsenite)	Chemical Method	NDIR Spectroscopy	Indo phenol blue method	Absorption & Desorption followed by GC chromatography analysis	Solvent extraction followed by Gas Chromatography analysis	AAS method after sampling	AAS method after sampling	AAS method after sampling

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

Prepared By  

Reviewed By  

Annexure #2 (Stack Monitoring Report)



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

Ref : Envlab/24-25/TR- 10673

Date : 15.10.2024

SIX MONTH COMPLIANCE REPORT STATIONARY EMISSION MONITORING REPORT FOR APRIL 2024 TO SEPTEMBER 2024

1. Name of Industry : M/s Ferro Alloys Plant Bamnival, (M/s TATA Steel Limited); Keonjhar
 2. Sampling Location : ST-I Stack attached to Arc Furnace
 3. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
 4. Sample Collected by : VCSPL Representative

Parameters	Unit of Measurement	APR 2024	MAY 2024	JUN 2024	JUL 2024	AUG 2024	SEP 2024	Standard MoEF & CPCB	AVG
Stack Temperature		49.1	46.8	42.5	37.5	38.1	41.2	--	42.5
Velocity of Flue Gas	^o C	10.2	8.5	7.84	7.56	8.4	7.9	--	8.4
Concentration of Particulate Matter as PM	m/sec	35.2	30.6	34.7	28.6	30.2	31.5	50	31.8
Sulphur dioxide as SO ₂	mg/Nm ³	29.4	27.3	25.4	22.1	21.4	19.8	600	24.2
Oxides of Nitrogen as NO _x	mg/Nm ³	25.6	22.9	23.4	23.6	20.9	25.3	300	23.6
Carbon Monoxide as CO	mg/Nm ³	18.7	16.7	10.8	9.4	8.1	9.2	--	12.2


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- Mineral/Sub-Soil Exploration
- Waste Management Services



Ref : Envlab/24-25/TR-10674

Date : 15.10.2024

SIX MONTH COMPLIANCE REPORT STATIONARY EMISSION MONITORING REPORT FOR APRIL 2024 TO SEPTEMBER 2024

1. Name of Industry : M/s Ferro Alloys Plant Bamnival, (M/s TATA Steel Limited); Keonjhar
2. Sampling Location : ST-II Stack attached to GFPS
3. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
4. Sample Collected by : VCSPL Representative

Parameters	Unit of Measurement	APR 2024	MAY 2024	JUN 2024	JUL 2024	AUG 2024	SEP 2024	Standard MoEF & CPCB	AVG
Stack Temperature		46.3	45.9	39.8	35.9	36.9	39.4	--	40.7
Velocity of Flue Gas	^o C	9.7	10.2	9.6	6.84	7.81	8.5	--	8.8
Concentration of Particulate Matter as PM	m/sec	36.8	34.2	36.3	30.1	32.4	33.6	50	33.9
Sulphur dioxide as SO ₂	mg/Nm ³	26.1	24.1	22.7	19.7	18.7	20.1	600	21.9
Oxides of Nitrogen as NO _x	mg/Nm ³	23.9	21.9	18.6	18.6	21.3	22.7	300	21.2
Carbon Monoxide as CO	mg/Nm ³	20.1	19.8	17.1	8.7	7.5	8.5	--	13.6

P. Patil
 Prepared By



P. Patil
 Reviewed By



Annexure #3 (Noise and Illumination Report)



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Ref : Envlab/23-24/TR - 10678

Date : 15.10.2024

SIX MONTH COMPLIANCE ILLUMINATION ANALYSIS REPORT

1. Name of Industry : Ferro Alloys Plant Bamnival, (M/s TATA Steel Limited); Keonjhar.

2. Label measured by : VCSPL Representative in presence of TATA Representative

Sl No	Name of Location	Standard as per IS 3646(P-1): 1992 RA 2003	Unit	Day Time	Night Time
1	FLEXO BELT AREA (GROUND FLOOR)	200-500	LUX	138.5	126.5
2	JAW CRUSHER			128.5	137
3	CONE CRUSHER			178	144
4	VIBRATING SCREEN AREA			165	144.5
5	UPON FEEDER AREA			148.5	115.5
6	NEW CONVEYER BELT			144.5	124.5
7	CONTROL ROOM			146.5	134
8	JIG AREA			141	131
9	JIG REJECTS DEWATERING SCREEN AREA			147	122.5
10	CONVEYER BELT-III			167	131
1	COMPRESSOR ROOM	200-500	LUX	231	148.5
2	CO GAS COMPRESSOR			222.5	122.5
3	TAPPING FLOOR(5M)			204.5	128.5
4	FURNACE FLOOR (8M)			185	132.5
5	HYDRAULIC SYSTEM FLOOR (15M)			213.5	155.5
6	FEEDING RING AREA (21M)			217	132.5
7	CONTROL ROOM			220.5	131.5
8	DAY BIN AREA			189.5	155
1	COMPRESSOR & PUMP HOUSE			142	130
2	BALL MILL AREA			168.5	137
3	SKIP AREA	147.5	128		
4	PLATE FEEDER AREA	131	136		
5	BURNER FLOOR	155	131.5		
6	SALA FLOOR	150	125		
7	PALLETISING AREA	149.5	136.5		
8	CONTROL ROOM	179	155		
9	DRUM FILTER AREA	157.5	129		
10	VACCUM PUMP	152	161		
11	BLOWER ROOM	187	136		
1	ELECTRICAL & MECHANICAL WORK SHOP	300-750	LUX	145	118
2	THICKENER PUMP HOUSE			159	144.5
3	DG ROOM			163	130
4	CAST HOUSE AREA			170	190
5	ADMN OFFICE (GROUND FLOOR)			174	145
6	ADMN OFFICE (FIRST FLOOR)			141.5	127.5
7	QC LABORATORY			149.5	137
8	SUBSTATION ROOM			144.5	116
9	WEIGH BRIDGE-1 (INSIDE THE ROOM)			170.5	156.5
10	WEIGH BRIDGE (INSIDE THE ROOM)			173.5	120
11	OUTSIDE CENTRAL STORE ROOM			163	118.5
12	LABOUR CANTEEN			171.5	135.5
13	STAFF CANTEEN			146.5	151.5
14	UTILITY ROOM			184	130.5

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- Waste Management Services

Ref : Envlab/23-24/TR -10679

Date :15.10.2024

SIX MONTH COMPLIANCE NOISE LEVEL MONITORING REPORT

Name of Industry : Ferro Alloys Plant Bamnival, (M/s TATA Steel Limited); Keonjhar.

Label measured by : VCSPL Representative in presence of TATA Representative

Sl.No	Sampling Location	Day Time		Night Time	
		CPCB Noise Standard Day Time	Result in dB (A)	CPCB Noise Standard Night Time	Result in dB (A)
1	Gate No-1	75	69.3	70	54.4
2	General Office		66.7		61.2
3	Office Varanda		65.7		54.9
4	Canteen		67.6		51.2
5	Mechanical Work Shop		63.4		55.2
6	Fabrication Area		67.2		56.2
7	RMPH Office		64.2		53.7
8	Packing Plot (2A)		64.6		53.8
9	Cater Point		65.7		56.1
10	Weigh Bridge		67.6		53.9
11	Gate No-2		64.2		53.3
12	Ore Yard		68.3		51
13	well Area		63.6		52.8
14	Outside Furnace		62.7		55.1
15	Inside Furnace		71.4		55.7
16	Furnace Control Room		71.7		58.6
17	In front Of DG Room		72.4		54.6
18	In front of fire Hydrant Room		66.6		54.8
19	132 KV Electricity Substation Room		63.9		55.8
20	Work Area		60.5		57.5
21	CMDC Area		61.5		57.7
22	Play Ground		60.9		54.4

P. Patil
 Prepared By



P. Patil
 Reviewed By



Annexure # 4 (Water Analysis Report)



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

Ref : Envlab/23-24/TR-10675

Date :15.10.2024

SIX MONTH COMPLIANCE OF DRINKING WATER QUALITY

1. Name of Industry : Ferro Alloys Plant Bamnival, (M/s TATA Steel Limited); Keonjhar .
2. Sampling location : DW-1:From Canteen

Sl. No.	Parameter	Testing Methods	Unit	Standard as per IS -10500:2012 Amended on 2015 & 2018		Analysis Result
				Desirable Limit	Acceptable Limit	
Essential Characteristics						
1	Colour	APHA 2120 B, C	Hazen	5	15	CL
2	Odour	APHA 2150 B	—	Agreeable	Agreeable	Agreeable
3	Taste	APHA 2160 C	—	Agreeable	Agreeable	Agreeable
4	Turbidity	APHA 2130 B	NTU	1	5	<1
5	pH at 25°C	APHA 4500H ⁺ B	—	6.5-8.5	No Relaxation	7.17
6	Total Hardness (as CaCO ₃)	APHA 2340 C	mg/l	200	600	132.7
7	Iron (as Fe)	APHA 3500Fe, B	mg/l	1	No Relaxation	0.38
8	Chloride (as Cl ⁻)	APHA 4500Cl B	mg/l	250	1000	49.3
9	Residual, free Chlorine	APHA 4500Cl, B	mg/l	0.2	1	0.23
Desirable Characteristics						
10	Dissolved Solids	APHA 2540 C	mg/l	500	2000	239.3
11	Calcium (as Ca)	APHA 3500Ca B	mg/l	75	200	33.5
12	Magnesium (as Mg)	APHA 3500Mg B	mg/l	30	100	10.9
13	Copper (as Cu)	APHA 3111 B,C	mg/l	0.05	1.5	<0.02
14	Manganese (as Mn)	APHA 3500Mn B	mg/l	0.1	0.3	<0.03
15	Sulphate (as SO ₄)	APHA 4500 SO ₄ ²⁻ E	mg/l	200	400	5.3
16	Nitrate (as NO ₃)	APHA 4500 NO ₃ E	mg/l	45	No Relaxation	0.181
17	Fluoride (as F)	APHA 4500F C	mg/l	1.0	1.5	0.0395
18	Phenolic Compounds (as C ₆ H ₅ OH)	APHA 5530 B,D	mg/l	0.001	0.002	<0.001
19	Mercury (as Hg)	APHA 3500 Hg	mg/l	0.001	No Relaxation	<0.001
20	Cadmium (as Cd)	APHA 3111 B,C	mg/l	0.003	No Relaxation	<0.003
21	Selenium (as Se)	APHA 3114 B	mg/l	0.01	No Relaxation	<0.01
22	Arsenic (as As)	APHA 3114 B	mg/l	0.01	No Relaxation	<0.01
23	Cyanide (as CN)	APHA 4500 CN C,D	mg/l	0.05	No Relaxation	<0.01
24	Lead (as Pb)	APHA 3111 B,C	mg/l	0.01	No Relaxation	<0.01
25	Zinc (as Zn)	APHA 3111 B,C	mg/l	5	15	<0.03
26	Anionic Detergents (as MBAS)	APHA 5540 C	mg/l	0.2	No Relaxation	<0.2
27	Chromium (as Cr ⁶⁺)	APHA 3500Cr B	mg/l	—	—	<0.01
28	Mineral Oil	APHA 5220 B	mg/l	0.5	No Relaxation	<0.001
29	Alkalinity	APHA 2320 B	mg/l	200	600	126.1
30	Aluminum as(Al)	APHA 3500Al B	mg/l	0.03	0.2	<0.03
31	Boron (as B)	APHA 4500B, B	mg/l	2.4	No Relaxation	<0.1
32	Total Coliform (as TC)	APHA 9221-B	MPN/100ml	Shall not be detectable in any 100ml sample	—	Absent

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

BDL Value : Ca <0.02 mg/l, Mn <0.025 mg/l, Cd/Se/Hg <0.05 mg/l, Hg <0.004 mg/l, Cd < 0.01 mg/l, Se <0.001 mg/l, As < 0.003 mg/l, CN <0.01 mg/l, Pb <0.02 mg/l, Zn < 0.03 mg/l, MBAS <0.2 mg/l, Cr⁶⁺ <0.01 mg/l, Moil <0.001 mg/l, Al <0.1mg/l, B <0.1mg/l

Prepared By  

Reviewed By  



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- Waste Management Services

Ref : Envlab/23-24/TR-10676

Date : 15.10.2024

SIX MONTH COMPLIANCE OF DRINKING WATER QUALITY

1. Name of industry : Ferro Alloys Plant Bamnival, (M/s TATA Steel Limited); Keonjhar .
2. Sampling location : DW-2:From Gaste House

Sl. No.	Parameter	Testing Methods	Unit	Standard as per IS -10500:2012 Amended on 2015 & 2018		Analysis Result
				Desirable Limit	Acceptable Limit	
Essential Characteristics						DW-2
1	Colour	APHA 2120 B, C	Hazen	5	15	CL
2	Odour	APHA 2150 B	--	Agreeable	Agreeable	Agreeable
3	Taste	APHA 2160 C	--	Agreeable	Agreeable	Agreeable
4	Turbidity	APHA 2130 B	NTU	1	5	<1
5	pH at 25°C	APHA 4500H* B	--	6.5-8.5	No Relaxation	7.03
6	Total Hardness (as CaCO ₃)	APHA 2340 C	mg/l	200	600	124.5
7	Iron (as Fe)	APHA 3500Fe, B	mg/l	1	No Relaxation	0.34
8	Chloride (as Cl)	APHA 4500Cl B	mg/l	250	1000	50.5
9	Residual, free Chlorine	APHA 4500Cl, B	mg/l	0.2	1	0.22
Desirable Characteristics						
10	Dissolved Solids	APHA 2540 C	mg/l	500	2000	241.4
11	Calcium (as Ca)	APHA 3500Ca B	mg/l	75	200	33.5
12	Magnesium (as Mg)	APHA 3500Mg B	mg/l	30	100	10.1
13	Copper (as Cu)	APHA 3111 B,C	mg/l	0.05	1.5	<0.02
14	Manganese (as Mn)	APHA 3500Mn B	mg/l	0.1	0.3	<0.03
15	Sulphate (as SO ₄)	APHA 4500 SO ₄ ²⁻ E	mg/l	200	400	5.6
16	Nitrate (as NO ₃)	APHA 4500 NO ₃ E	mg/l	45	No Relaxation	0.429
17	Fluoride (as F)	APHA 4500F C	mg/l	1.0	1.5	0.047
18	Phenolic Compounds (as C ₆ H ₅ OH)	APHA 5530 B,D	mg/l	0.001	0.002	<0.001
19	Mercury (as Hg)	APHA 3500 Hg	mg/l	0.001	No Relaxation	<0.001
20	Cadmium (as Cd)	APHA 3111 B,C	mg/l	0.003	No Relaxation	<0.003
21	Selenium (as Se)	APHA 3114 B	mg/l	0.01	No Relaxation	<0.001
22	Arsenic (as As)	APHA 3114 B	mg/l	0.01	No Relaxation	<0.004
23	Cyanide (as CN)	APHA 4500 CN* C,D	mg/l	0.05	No Relaxation	<0.01
24	Lead (as Pb)	APHA 3111 B,C	mg/l	0.01	No Relaxation	<0.01
25	Zinc (as Zn)	APHA 3111 B,C	mg/l	5	15	<0.03
26	Anionic Detergents (as MBAS)	APHA 5540 C	mg/l	0.2	No Relaxation	<0.2
27	Chromium (as Cr ⁶⁺)	APHA 3500Cr B	mg/l	--	--	<0.01
28	Mineral Oil	APHA 5220 B	mg/l	0.5	No Relaxation	<0.001
29	Alkalinity	APHA 2320 B	mg/l	200	600	125.2
30	Aluminum as(Al)	APHA 3500Al B	mg/l	0.03	0.2	<0.03
31	Boron (as B)	APHA 4500B, B	mg/l	2.4	No Relaxation	<0.1
32	Total Coliform (as TC)	APHA 9221-B	MPN/100ml	Shall not be detectable in any 100ml sample	--	Absent

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

MDL Value : Cu <0.02 mg/l, Mn <0.025 mg/l, CdSO₄ <0.05 mg/l, Hg <0.004 mg/l, Cd <0.01 mg/l, Se <0.001 mg/l, As <0.003 mg/l, CN <0.01 mg/l, Pb <0.02 mg/l, Zn <0.03 mg/l, MBAS <0.2 mg/l, Cr⁶⁺ <0.01 mg/l, Moil <0.001 mg/l, Al <0.1mg/l, B <0.1mg/l

Prepared By  

Reviewed By  



Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Certified for : ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017

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

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

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- Quality Control & Project Management
- Renewable Energy

- Agricultural Development
- Information Technology
- Public Health Engineering

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

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

Ref : Envlab/23-24/TR-10677

Date : 15.10.2024

SIX MONTH COMPLIANCE OF GROUND WATER QUALITY

1. Name of Industry : Ferro Alloys Plant Bamnival, (M/s TATA Steel Limited); Keonjhar
2. Sampling location : Near Pump House

Sl. No.	Parameter	Testing Methods	Unit	Standard as per IS -10500:2012 Amended on 2015 & 2018		Analysis Results
				Acceptable Limit	Permissible Limit	
Essential Characteristics						
1	Colour	APHA 2120 B, C	Hazen	5	15	<5
2	Odour	APHA 2150 B	—	Agreeable	Agreeable	Agreeable
3	Taste	APHA 2160 C	—	Agreeable	Agreeable	Agreeable
4	Turbidity	APHA 2130 B	NTU	1	5	<1
5	pH Value (at 25°C)	APHA 4500H ⁺ B	—	6.5-8.5	No relaxation	6.81
6	Total Hardness (as CaCO ₃)	APHA 2340 C	mg/l	200	600	158
7	Chloride (as Cl ⁻)	APHA 4500Cl ⁻ B	mg/l	250	1000	33
8	Residual, free Chlorine	APHA 4500Cl ₂ B	mg/l	0.2	1	BDL
9	Dissolved Solids	APHA 2540 C	mg/l	500	2000	182
10	Calcium (as Ca)	APHA 3500Ca B	mg/l	75	200	52
11	Magnesium (as Mg)	APHA 3500Mg B	mg/l	30	100	6.93
12	Sulphate (as SO ₄)	APHA 4500 SO ₄ ²⁻ E	mg/l	200	400	6.6
13	Nitrate (as NO ₃)	APHA 4500 NO ₃ ⁻ E	mg/l	45	No relaxation	0.038
14	Fluoride (as F ⁻)	APHA 4500F ⁻ C	mg/l	1.0	1.5	<0.05
15	Phenolic Compounds (as C ₆ H ₅ OH)	APHA 5530 B,D	mg/l	0.001	0.002	<0.001
16	Cyanide (as CN ⁻)	APHA 4500 CN ⁻ C,D	mg/l	0.05	No relaxation	<0.05
17	Mineral Oil	APHA 5220 B	mg/l	0.5	No relaxation	BDL
18	Alkalinity	APHA 2320 B	mg/l	200	600	124
19	Aluminium as(Al)	APHA 3500Al B	mg/l	0.03	0.2	<0.03
20	Boron (as B)	APHA 4500B ⁻ B	mg/l	0.5	2.4	<0.5
21	Poly Aromatic Hydrocarbon as PAH	APHA 6440 B	mg/l	0.0001	No relaxation	<0.0001
22	Pesticide	APHA 6630 B,C	µg/l	—	—	Absent
23	E Coli	APHA 9221-F	MPN/100 ml	shall not be detectable in any 100 ml sample	—	<1.1
24	Total Coli forms	APHA 9221-B	MPN/100 ml	shall not be detectable in any 100 ml sample	—	<1.1
Trace Metals						
01	Iron (as Fe)	APHA 3500Fe, B	mg/l	1	No relaxation	0.58
02	Manganese (as Mn)	APHA 3111 B	mg/l	0.1	0.3	<0.1
03	Copper (as Cu)	APHA 3111 B,C	mg/l	0.05	1.5	<0.05
04	Mercury (as Hg)	APHA 3500 Hg	mg/l	0.001	No relaxation	<0.001
05	Cadmium (as Cd)	APHA 3111 B,C	mg/l	0.003	No relaxation	<0.003
06	Selenium (as Se)	APHA 3500 Se C	mg/l	0.01	No relaxation	<0.01
07	Arsenic (as As)	APHA 3114 B	mg/l	0.01	No relaxation	<0.01
08	Lead (as Pb)	APHA 3111 B,C	mg/l	0.01	No relaxation	<0.01
09	Zinc (as Zn)	APHA 3111 B,C	mg/l	5.0	15.0	<0.03
10	Chromium (as Cr ⁶⁺)	APHA 3500Cr B	mg/l	—	—	<0.01

Note: ND: Not Detected.

BDL (Below Detectable Limits) Values: Turbidity<1NTU, Cu<0.02 mg/l, Mn<0.025 mg/l, C₆H₅OH<0.05 mg/l, Hg<0.004 mg/l, Cd<0.03 mg/l, Se<0.001 mg/l, As<0.004 mg/l, Pb<0.02 mg/l, Zn<0.03 mg/l, Cr⁶⁺<0.01 mg/l, Al<0.1 mg/l, B<0.1 mg/l, Anionic Detergents<0.2mg/l, PAH<0.0001 mg/l.

Reviewed By



Verified By



ANNEXURE-IV

Details of CSR funds allocated and released Expenditure against CSR Activities

Details of CSR funds allocated and released Expenditure against CSR Activities FY 25				
Period	expenditure Planning for a year in (Rs Cr.)	Actual Expenditure for C.S.R till date in Rs Cr.	Name Of the CSR activities	Whether Completed or Not
FY 25	15.09 Cr. (Program and Enterprise cost included)	3.05 Cr (till Sep'24) (Program and Enterprise cost included)	Sanitization of village, Health camps, Static Clinic, Mobile medical facilities, construction of deep bore well at different villages, School Improvement Project (1000 school and Hans foundation), Women Empowerment Programs, Livelihood through Agriculture & Tasar cultivation	In progress

ANNEXURE-V

