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TATA

TSL/MoEF&CC/TS-26/2025-01/561
May29, 2025

The Director(s)
Ministry of Environment, Forest & Climate Change,
Integrated Regional Office,
A/3, Chandrasekharpur,
Bhubaneswar-751023

Subject: Submission of half yearly EC compliance reports of 256 MW Power Plant of M/s. Tata Steel Limited, Meramandali for the period from October' 2024 to March' 2025.

Reference: EC vide letter No. J-13012/77/2011-IA-II(I); dated: 12.02.2015

Dear Sir,

With reference to the captioned subject and cited reference, we are herewith submitting six monthly compliance reports for the conditions stipulated in the Environmental Clearance of 256 MW power plant M/s. Tata Steel Limited, Meramandali for the period from October' 2024 to March' 2025 along with monitoring reports for your kind perusal.

The soft copies of the aforesaid compliance report are also being sent through mail to roez.bsr-mef@nic.in for your kind information and necessary record please. Also copy of 256 MW power plant EC compliance is being uploaded on MoEF&CC web site on portal http:// environmental clearance.nic.in.

Hope, the above are in line with the statutory requirements.

Thanking you

Yours faithfully,

For Tata Steel Limited

Anoop Srivastava
Chief Environment - TSM

Copy to: 1. The Zonal Officer, Central Pollution Control Board, Southern Conclave Block, 502, 5th& 6th Floors, 1582 Rajdanga Main Road, Kolkata – 700107.
2. The Member Secretary, SPCB, Parivesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII, Odisha, Bhubaneswar-751012
3. The Regional Officer, State Pollution Control Board, Angul,Odisha.

(For the period from October' 2024 to March' 2025)

SL.	STIPULATED CONDITIONS	COMPLIANCE STATUS
i	Vision document specifying prospective plan for the site shall be formulated and submitted to the RO of the Ministry within six months.	• Vision, Mission and Environment Policy statements have been submitted to the Regional Office, MoEF&CC, BBSR along with the compliance report.
ii	Harnessing solar power within the premises of the plant particularly at available roof tops shall be carried out and status of implementation including actual generation of solar power shall be submitted along with half yearly monitoring report.	• Power is co-generated utilizing waste heat from DRI units through WHRBs. • Additionally, coke oven and blast furnace gases are also used for generating green power through gas fired boilers utilizing renewal energy source. • Third party has been engaged to carryout feasibility study for installation of solar power plant and the study has been completed.
iii	Sulphur and ash contents in the imported coal to be used in the project shall not exceed 0.3% and 6% respectively at any given time. In case of variation of coal quality at any point of time, fresh reference shall be made to the Ministry for suitable amendments to environment clearance condition wherever necessary.	• Not applicable, as presently gas-based power plant of capacity 165 MW has been commissioned. This plant does not consume coal hence, no ash is being generated. • Amendments in environment clearance has been made on 13th Aug 2021 for change of fuel from dual firing (Coal + Mixed gas) to 100 % mixed gas firing.
iv	A long term study of radioactivity and heavy metals contents in coal to be used shall be carried out through a reputed institute and results thereof analyzed every two years and reported along with monitoring reports. Thereafter mechanism for an in-built continuous monitoring for radioactivity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.	• Not applicable**,** as presently gas-based power plant of capacity 165 MW has been commissioned. This plant does not consume coal hence, no ash is being generated. • Hence, no need no monitor Radioactivity and heavy metals contents in coal and ash.
v	A stack of 220-meter height shall be provided with continuous online monitoring equipment for SO_x, NO_x, PM_{10} and $PM_{2.5.}$ Exit velocity of flue gases shall not be less than 22 m / sec. Mercury emissions from stack shall also be monitored on periodic basis.	• Not applicable, Gas fired boiler has been commissioned instead of CFBC coal fired boiler. Chimney height of 70 m and 40 m is attached to 60 TPH & 125 TPH and 250 TPH gas fired boilers respectively. • Online monitoring system has been installed for Sox and NOx in the stacks. Online data

		is transmitted to SPCB and CPCB servers through RT-DAS.
vi	High efficiency ESPs shall be installed to ensure that particulate emission does not exceed 50 mg / Nm^3. Adequate dust extraction system such as cyclones/bag filters and water spraying system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.	• Not applicable**,** Presently gas-based power plant of capacity 165 MW has been commissioned. This plant does not consume coal and particulate matter emission is very less. Hence, no requirement of ESPs.
vii	Adequate dust extraction system such as cyclones / bag filters and water spraying system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.	• Not applicable, EC was granted to install coal base thermal power plant; however, gas base power plant has installed. • Presently only gas fired boilers (60TPH, 125TPH & 250TPH capacities). Hence, coal and ash handling and dust extraction system such as cyclones / bag filters and water spraying system not required.
viii	COC of at least 5.0 shall be adopted	• COC in the range of 7 -8 is being maintained.
ix	Monitoring of surface water quantity and quality shall also be regularly conducted and records maintained. The monitoring data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of the flow of ground water and records maintained. Monitoring for heavy metals in ground water shall also be undertaken and results/findings submitted along with half yearly monitoring report.	• Monitoring of surface water and ground water has been carried out on regular basis. Monthly monitoring reports are being submitted to the SPCB, Odisha. Last monitoring report was submitted on May 10th, 2025. • The six-monthly summarized data from Oct' 2024 to Mar'2025 has been enclosed as **Annexure - I.**
x	A well designed rainwater harvesting system shall be put in place within six months, which shall comprise of rain water collection from the built up and open area in the plant premises and detailed records kept of the quantity of water harvested every year and its use.	Adequate number of rainwater harvesting ponds have been constructed to collect surface runoff water which is being used for plant applications.
xi	No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the setting up / operation of the power plant.	No water body or natural drainage system is disturbed.

xii	Hydrogeology of the area shall be reviewed annually from an institute / organization of repute to assess impact of surface water and ground regime (especially around ash dyke). In case any deterioration is observed, specific mitigation measures shall be undertaken and report / data of water quality monitored regularly and maintained shall be submitted to the Regional Office of the Ministry.	At present gas-based power plant of capacity 165 MW has been commissioned. However, ground water level and quality are being monitored on quarterly basis and hydrogeology study is being carried out by IMMT, Bhubaneswar. The summary of the report is attached as **Annexure- II**.
xiii	Waste water generated from the plant shall be treated before discharge to comply limits prescribed by the SPCB / CPCB.	• Wastewater generated from the plant is being treated in Effluent Treatment Plant • Treated water is reused in slag granulation, greenery development and low-end application in Blast Furnace & Sinter Plant etc. • The water quality parameters are well within the limit as per the prescribed standard. • Water analysis report for the period from Oct' 2024 to Mar' 2025 is enclosed as **Annexure-I**.
xiv	Additional soil for leveling of the proposed site shall be generated within the site (to the extent possible) so that natural drainage system of the area is protected and improved.	No additional soil is required for leveling the site.
xv	Prior approval of the Ministry shall be obtained for Mine Void and abandoned stone quarry filling of fly ash based on the outcome of the pilot study for which permission was accorded to the existing units by the Ministry on 05.09.2013 subject to Hon'ble NGT's Order.	We request to withdraw this condition as this is not applicable. We have communicated vide letter No. TSBSL/MoEF&CC/BS-01/2020-01/57 dtd.27.08.2020.
xvi	Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry. Mercury and other heavy metals (As, Cr, Pb etc) will be monitored in the bottom ash as also in the effluents emanating	Not applicable, Currently gas-based power plant of capacity 165 MW has been commissioned. This plant does not consume coal hence, no ash is being generated.

	from the existing ash pond. No ash shall be disposed off in low lying areas.	
xvii	Fugitive emission of fly ash (dry or wet) shall be controlled such that no agricultural or non-agricultural land is affected. Damage to any land shall be mitigated and suitable compensation provided in consultation with the local panchayat.	Not applicable, Currently gas-based power plant of capacity 165 MW has been commissioned. This plant does not consume coal hence, no ash is being generated.
xviii	Ash pond shall be lined up with HDPE/LDPE lining or any other suitable material impermeable media such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.	Not applicable, Currently gas-based power plant of capacity 165 MW has been commissioned. This plant does not consume coal hence, no ash is being generated.
xix	Green belt consisting of three tire of plantation of native species around plant and at least 50 m width shall be raised. Wherever 50 m width is not feasible a 20 m width shall be raised and adequate justification shall be submitted to the Ministry. Tree density shall not be less than 2500 trees per ha with survival rate not less than 80%. Only native species shall be planted and the green belt development shall be expedited.	• Green belt development is under progress in and around the plant complex by planting indigenous species as per CPCB guidelines. Till Mar'25, 33% area (this includes Plant, R&R and CSR plantation) has been covered under green belt. Rapid afforestation using MiyaWaki method in consultation with IIT, Kharagpur has been initiated. • Plantation of saplings are done regularly based on the availability of vacant area. • Proper maintenance of green coverage is being ensured throughout the year.
xx	CSR schemes identified based on Public Hearing issues and need based assessment shall be implemented in consultation with the village panchayat and the District administration starting from the development of the project itself. As part of CSR, prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken. Company shall provide separate budget for community development activities and income generating program.	• The peripheral development is being carried out based on socio economic survey and need based assessment. Based on this, company has provided the facilities of sanitation, drinking water, education, health care, road and communication facilities etc. in surrounding villages. • Various socio-economic development programs covering education, safe drinking water, sports and health care etc. have been undertaken in nearby villages. • Details breakup of CSR initiatives is enclosed as **Annexure-III**

xxi	As committed, a minimum amount of Rs. 40.00 crore shall be earmarked for CSR activities for next five years. For proper and periodic monitoring of CSR activities, a CSR committee or a social audit committee or a suitable credible external agency shall be appointed. CSR activities shall also be evaluated by an independent external agency. This evaluation shall be both concurrent and final.	CSR department has been established to monitor the CSR activities. The CSR activities are based on need based assessment.
xxii	For proper and periodic monitoring of CSR activities, a CSR committee or a social audit committee or a suitable credible external agency shall be appointed. CSR activities shall also be evaluated by an independent external agency. This evaluation shall be both concurrent and final.	• As per the revised companies Act, 2013 and its amendment, CSR committee has been formed. Evaluation of each specific CSR intervention/activities is monitored & evaluated by the CSR Committee. • Evaluation of the Impact of Corporate Social Responsibility Projects has been carried out by XIMB, Bhubaneswar.
xxiii	An Environmental Cell comprising of at least one expert in environment science/engineering, ecology, occupational health and social science, shall be created preferably at the project site itself and shall be headed by an officer of appropriate superiority and qualification. It shall be ensured that the Head of the Cell shall directly report to the Head of the Plant who would be accountable for implementation of environmental regulations and social impact improvement / mitigation measures.	• Environment Management Department has been established for implementation of stipulated environmental safeguards and control of pollution. • The head of the Environment department and other officers are having Environmental Science/Engineering qualification and adequate experience.

A	**General Conditions:**	
i	Space for FGD shall be provided for future installation as may be required.	Not applicable, At present gas-based power plant of capacity 165 MW has been commissioned. This plant does not consume

		coal hence, generation of SO_2 is minimum. Hence, FGD is not required.
ii	The treated effluents conforming to the prescribed standards only shall be re-circulated and re-used within the plant. Arrangements shall be made that effluents and storm water do not get mixed.	Wastewater is treated in ETP. The treated effluent, conforming to the prescribed standards, are recycled and reused for slag granulation, dust suppression and green area development.
iii	A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt / plantation.	STP of 100 m^3 per day has been installed near Blast Furnace-I.
iv	Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fire in coal yard especially during summer season. Copy of these measures with full details along with location on plant layout shall be submitted to the Ministry as well as to the Regional Office of the Ministry.	Not applicable, At present gas-based power plant of capacity 165 MW has been commissioned. This plant does not consume coal.
v	Storage facility for auxiliary liquid fuel such as LDO/HFO/LSHS shall be made in the plant area in consultation with the Department of Explosives, Nagpur. Sulphur content in the liquid fuel will not exceed 0.5%. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil.	Not applicable, LDO/HFO/LSHS is not used for startup activities. Startup activities are being carried out by LPG or COG.
vi	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Adequate First aid and sanitation arrangements were made during construction phase of the plant and similar facilities are being maintained during operational phase also for the workers and employees.
vii	Noise level emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 85 dB(A) from the source. For people working in the high noised areas, requisite PPEs like ear plugs/ear muffs etc shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc shall be periodically examined to maintain audiometric	• Silencers have been provided at boilers to control noise emission during steam venting. • Necessary PPEs are being provided to all the workers working in noisy areas and periodic examination is being conducted for the workers engaged in noisy areas. • Noise monitoring is carried out regularly in the work zone areas and reports are enclosed as **Annexure-IV.**

	records and for treatment for any hearing loss including shifting to non-noisy/less noisy areas.	
viii	Regular monitoring of ambient air ground level concentration of SO_2, NO_x, $PM_{2.5}$, PM_{10} and Hg shall be carried out in the impact zone and records maintained. If at any stage levels are found to exceed the prescribe limits, necessary control measures shall be provided immediately. The locations of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the regional office of the Ministry. The data shall also be put on the website of the Company.	Five ambient air quality monitoring stations have been set up in nearby villages for measuring ground level concentrations of PM10, SO2 and NOx in consultation with SPCB. Odisha. EC compliance along with all report is being uploaded on the company's website at http://www.tatasteel.com.
Ix	Utilization of 100 % fly ash generated shall be made from 4th year of operation. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.	Not applicable, presently gas-based power plant of capacity 165 MW has been commissioned. This plant does not consume coal hence, no ash is being generated.
x	Provision shall be made for the housing of contractor workers (as applicable) within the site with all necessary infrastructure facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc.	Adequate arrangements of housing for construction workers were made during construction phase of the plant.
xi	The project proponent shall advertise in at least two local news papers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environment clearance and copies of the clearance letters are available with the SPCB/Committee and may also be seen at website of the Ministry of Environment and Forests at http://envfor.nic.in	• Advertisements were circulated in The Telegraph (English daily) dated 15.02.2015 and the Samaya (Oriya daily) dated 15.02.2015. • A copy of the same was submitted to MoEF&CC vide our letter no. BSL/MoEF&CC/BS-02/2015-09 dated 21.02.2015.

xii	A copy of the 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.	Copy of the environment clearance was submitted to the concerned panchayat, Zila Parishad, District Industry Centre etc.
xiii	The proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of measured data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF, the respective zonal office of CPCB and the SPCB. The criteria pollutant levels namely SPM, RSPM (PM_{10} and $PM_{2.5}$) SO_2, NO_x (ambient as well as stack emission) shall be displayed at a convenient location near the main gate of the Company in the public domain.	• Status of compliance of the stipulated environment clearance conditions are being uploaded on website and are being sent to the Ministry, CPCB and SPCB. Results of online air quality monitoring are displayed electronically near the main gate. • The last half yearly compliance report was submitted vide letter no. TSL/MoEF&CC/TS-26/2024-02/507 dated 25.11.2024.
xiv	The environment statement for each financial year ending 31st March in Firm-V as is mandated to be submitted by the project proponent to the concerned SPCB 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 environment clearance conditions and shall also be sent to the respective Regional Office of the Ministry by e-mail.	• The environment statement in Form-V for each financial year ending 31st March is submitted to the Regional Office of the Ministry, CPCB and SPCB. • Last environment statement was submitted vide letter no. TSL/SPCB/TS-03/2024-15/489 dated 09.09.2024.
xv	The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of environment and Forests, its Regional Office, CPCB and SPCB. The project proponent shall upload the status of compliance of the	• Six monthly reports on status of the implementation of the stipulated environmental safeguards are being submitted. • Status of compliance with the environmental clearance conditions is being uploaded on the Company's website at http://www.tatasteel.com.

	environmental clearance conditions on their website and update the same periodically and simultaneously send the same by e-mail to the Regional office of MoEF.	
xvi	Regional office of the MoEF will monitor the implementation of the stipulated conditions. A complete set of documents including Environment Impact Assessment report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring. Project proponent will upload the compliance status in their website and update the same from time to time at least six monthly basis. Criteria pollutants levels including NOx (from stack and ambient air) shall be displayed at the main gate of the power plant.	• All the required documents have been already submitted to the Regional Office and will be made available during inspection. • Compliance status is uploaded on the website and updated in every six months.
xvii	Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. These shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.	• Adequate funds are being provided by the management for pollution control and to meet recurring costs. Environmental requirements are given top priority for fund allocation and approval of capital projects. • The funds earmarked for environment pollution control measures are not diverted for any other purpose. • The company has invested adequate capital expenditure to improve mix of clean power & also reduction of carbon emissions
xviii	The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the project authorities and the dates of land development work and commissioning of plant.	Financial closure and financial approval will be communicated to the regional office and the Ministry of MoEF&CC.
xix	Full cooperation shall be extended to the Scientists/Officers from the Ministry / Regional Office / CPCB / SPCB who	Full cooperation is extended to the Scientists/Officers from the Ministry / Regional Office / CPCB / SPCB who would be

	would be monitoring the compliance on environmental status.	monitoring the compliance on environmental status.
Name change in EC from M/s. Tata Steel BSL Limited to M/s. Tata Steel Limited		
SL	**ADDITIONAL CONDITION**	**COMPLIANCE STATUS**
I	M/s Tata Steel BSL Ltd. (new incumbent) shall submit an application for amendment in EC for switching from 50% coal & 50% mix gases from Steel plant to 100% mix gases from steel plant for stipulation of adequate conditions on pollution control measures by the Ministry.	Amendment EC has been obtained for switching from 50% coal & 50% mix gases from Steel plant to 100% mix gases.
II	The revised emission standards and specific water consumption as per the Ministry's Notification vide S.O.33.5 dated 17.12.2015 and subsequent amendments shall be complied with. The progress of implementation of new emission standards as per the extended timelines given by CPCB vide Order dated 16.04.2018 shall be submitted as part of compliance report.	The revised emission standards and specific water consumption as per the Ministry's Notification vide S.O.33.5 dated 17.12.2015 and subsequent amendments is being complied with.
III	Details of quantity of water consumption, power generation and Specific water consumption shall be submitted as part of compliance report.	Water consumption, power generation and specific water consumption for the period FY'25 are given below. Power Generation: 1084958 MWh Specific water consumption: 2.60 m3/MWh
IV	The status of case (CC case No.16/2014) filed before Hon'ble Sub Divisional Judicial Magistrate, Dhenkanal against Shri Neeraj Singhal, M/s Bhushan Steel Ltd. shall also be communicated to the Ministry.	Case is pending for Supply of Prosecution Report.
Amendment Environment clearance of 256 MW power plant Letter no.: J-13012/77/2011-I-A. II (T) dated 13.08.2021		
SL	**ADDITIONAL CONDITION**	**COMPLIANCE STATUS**
7	PP shall submit Compliance report of Ministry Regional office within 6 months.	Certificate of compliance has already been communicated vide letter No.TSL/MoEF &CC/BS-26/2022-02/202 dtd. 13.05.2022.

Annexure-I

Summary of Surface Water Quality Analysis

(Period: From October 2024 to March 2025)

S. N	Parameter	Unit	Kishinda Nala		Lingara Nala		Brahamani River	
			U/S	D/S	U/S	D/S	U/S	D/S
1	pH Value	-	7.24-8.35	7.72-8.35	7.75-8.61	7.64-8.56	7.08-8.27	7.24-8.14
2	Colour	Hazen	BDL(DL:2.0)	BDL(DL:2.0)	BDL(DL:2.0)	BDL(DL:2.0)	BDL(DL:2.0)	BDL(DL:2.0)
3	Temperature	Deg C	25-25.2	25-25.2	25-25.2	25-25.2	25-25.2	25-25.2
4	Total Suspended Solids	mg/l	18-31.2	2.6-28.3	3.2-14	4.1-13.1	3-20.2	8-20.3
5	Arsenic as As	mg/l	BDL(DL:0.005)	BDL(DL:0.005)	BDL(DL:0.005)	BDL(DL:0.005)	BDL(DL:0.005)	BDL(DL:0.005)
6	BOD, 3days at 27°C	mg/l	2.1-2.5	3.2-4.6	2.6-5.3	3.2-4.6	3.2-8.3	2.4-5.8
7	Boron as B	mg/l	BDL(DL:0.25)	BDL(DL:0.25)	BDL(DL:0.25)	BDL(DL:0.25)	BDL(DL:0.25)	BDL(DL:0.25)
8	Cadmium as Cd	mg/l	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)
9	Calcium as Ca	mg/l	18.1-36	16.5-42	22.1-42.4	16.8-43	8-22	8-22
10	Chlorides as Cl	mg/l	8.6-45.26	9.7-45.26	11.1-116.9	13.2-116.9	4.8-21	11.31-19
11	COD	mg/l	7.9-8	12-19.6	3.4-7.6	7.8-9.8	3.2-8.3	9.8-14
12	Copper (as Cu)	mg/l	BDL(DL:0.02)	BDL(DL:0.02)	BDL(DL:0.02)	BDL(DL:0.02)	BDL(DL:0.02)	BDL(DL:0.02)
13	Cyanide as CN	mg/l	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)
14	Fluoride as F-	mg/l	0.82-4.2	1.2-6	0.13-1.2	0.17-2.6	0.16-4.5	0.11-2.9
15	Hexa Chromium as Cr +6	mg/l	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)

16	Iron as Fe	mg/l	1.84-5.4	0.14-1.8	0.27-0.8	0.16-0.17	0.21-1.9	0.18-2.1
17	Lead (as Pb)	mg/l	BDL(DL:0.005)	BDL(DL:0.005)	BDL(DL:0.005)	BDL(DL:0.005)	BDL(DL:0.005)	BDL(DL:0.005)
18	Manganese (as Mn)	mg/l	BDL(DL:0.02)	BDL(DL:0.02)	BDL(DL:0.02)	BDL(DL:0.02)	BDL(DL:0.02)	BDL(DL:0.02)
19	Mercury (as Hg)	mg/l	BDL(DL:0.0002)	BDL(DL:0.0002)	BDL(DL:0.0002)	BDL(DL:0.0002)	BDL(DL:0.0002)	BDL(DL:0.0002)
20	Nickel (as Ni)	mg/l	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)
21	O&G	mg/l	BDL(DL:1.4)	BDL(DL:1.4)	BDL(DL:1.4)	BDL(DL:1.4)	BDL(DL:1.4)	BDL(DL:1.4)
22	Phenolic Comp	mg/l	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)
23	Phosphate as P	mg/l	0.32-0.34	0.26-0.28	0.16-0.21	0.19-0.23	0.12-0.28	0.24-0.32
24	RFC	mg/l	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)
25	Selenium (as Se)	mg/l	BDL(DL:0.005)	BDL(DL:0.005)	BDL(DL:0.005)	BDL(DL:0.005)	BDL(DL:0.005)	BDL(DL:0.005)
26	TKN	mg/l	BDL(DL:0.3)	BDL(DL:0.3)	BDL(DL:0.3)	BDL(DL:0.3)	BDL(DL:0.3)	BDL(DL:0.3)
27	Zinc (as Zn)	mg/l	BDL(DL:0.02)	BDL(DL:0.02)	BDL(DL:0.02)	BDL(DL:0.02)	BDL(DL:0.02)	BDL(DL:0.02)

Ground Water Quality Analysis Report of surrounding villages

February 2025

	Location		Kharagprasad	Charadagadia	Sibpur	Kochilamada	Galapada	Motonga	Narendrapur	Khaliberena	Kharagprasad
S.N.	**Parameters**	**unit**	**GW-01**	**GW-02**	**GW-03**	**GW-04**	**GW-05**	**GW-06**	**GW-07**	**GW-08**	**GW-9**
1	**pH**	**-**	8.12	8.04	7.55	8.08	8.01	7.69	8.21	8.03	8.01
2	**Odour**	**-**	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	**Colour**	**mg/l**	BDL(DL:2.0)	BDL(DL:2.0)	BDL(DL:2.0)	BDL(DL:2.0)	BDL(DL:2.0)	BDL(DL:2.0)	BDL(DL:2.0)	BDL(DL:2.0)	BDL(DL:2.0)
4	**Turbidity**	**N.T. U**	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)
5	**Total Dissolved Solids (as TDS)**	**mg/l**	848	841	888	860	876	946	792	780	758
6	**Aluminium as Al**	**mg/l**	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)
7	**Anionic Surface-Active Agents as (MBAS)**	**mg/l**	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)
8	**Boron as B**	**mg/l**	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)
9	**Calcium as Ca**	**mg/l**	114	108	114	130	100	130	123	106	139
10	**Chloride as Cl**	**mg/l**	57	37	24	93	143	56	89	143	96
11	**Copper as Cu**	**mg/l**	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)
12	**Fluoride as F**	**mg/l**	1.7	1.9	2.6	3.1	3.8	4.2	1.3	1.4	1.9
13	**Residual Free Chlorine**	**mg/l**	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)
14	**Iron as Fe**	**mg/l**	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.05)	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)
15	**Magnesium as Mg**	**mg/l**	28	29	25	25	29	40	29	22	14
16	**Manganese as Mn**	**mg/l**	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)
17	**Mineral Oil**	**mg/l**	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)
18	**Nitrate as NO3**	**mg/l**	BDL(DL:0.2)	2.4	3.2	17.4	7.3	5.6	33.2	19	27.6
19	**Phenolic Compounds as C6H5OH**	**mg/l**	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)
20	**Selenium as Se**	**mg/l**	BDL (DL:0.005)	BDL (DL:0.005)	BDL (DL:0.005)	BDL (DL:0.005)	BDL (DL:0.005)	BDL (DL:0.005)	BDL (DL:0.005)	BDL (DL:0.005)	BDL (DL:0.005)
21	**Sulphate as SO4**	**mg/l**	87	133	89	121	143	112	158	143	126
22	**Total Alkalinity**	**mg/l**	435	431	420	416	451	500	467	420	482

	as CaCO3										
23	**Total Hardness as CaCO3**	**mg/l**	402	392	388	428	370	492	430	356	406
24	**Zinc as Zn**	**mg/l**	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	1.06	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)
25	**Cadmium as Cd**	**mg/l**	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)
26	**Cyanide as CN**	**mg/l**	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)
27	**Lead as Pb**	**mg/l**	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)
28	**Mercury as Hg**	**mg/l**	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)
29	**Nickel (as Ni)**	**mg/l**	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)
30	**Total Arsenic (as As)**	**mg/l**	BDL (DL:0.005)	BDL (DL:0.005)	BDL (DL:0.005)	BDL (DL:0.005)	BDL (DL:0.005)	BDL (DL:0.005)	BDL (DL:0.005)	BDL (DL:0.005)	BDL (DL:0.005)
31	**E. coli**	**/100ml**	Not Detected	Detected	Not Detected	Not Detected	Not Detected	Detected	Not Detected	Not Detected	Not Detected

Note: BDL: Below Detectable Limit; DL: Detectable Limit, U/S: Upstream D/S: Downstream

Source: Monitoring/ Analysis report of S.K. Mitra Private Limited and Environment Laboratory of TSM.

(AMBIENT AIR QUALITY REPORT)

(Period: From January 2024 to March 2025)

S. No	Location	PM 10 in µg/m3	PM2.5 in µg/m3
1	Motanga	71.98 -79.34	36.54 -40.08
2	Galpada	70.32 -76.24	33.42 -36.94
3	Nalachandrapur (Nalatangra)	68.22 -74	31.6-36.19
4	Narandrapur	68.91 -76.04	33.44 -37.65
5	Mangalpur	72.64 -76	35.4 8-37.85
6	Khaliberana	72-75.38	33.9-38.05
7	Kochilamara	70.04 -82.59	32.34 -42.56
8	Itapa	69.5-75.82	32.04 -37.56

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

CSIR-INSTITUTE OF MINERALS & MATERIALS TECHNOLOGY.

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Environmental Chemical Laboratory

Bhubaneswar,Odisha

(An NABL Accredited Laboratory)

NABL
TC-12319

TEST REPORT

Issued to: Tata Steel Limited, Meramandali **Date : 16.12.2024**

Test Report No.11/2024-001

Sample Condition: In Plastic Jar

Sample quantity: 2 Litre

Sampling Method: APHA1060B

Source of Sample :Kisinda UP & Down stream **Sample Collected on: 14.11.2024**

Letter Reference : **Sample Analysed on: 15.11.2024**

Sl No	Characteristics	Test Method As Per APHA	Kisinda UP-stream	Kisinda down stream	Standard as per Class C-IS 2296/CPCB/SPCB
1	pH Value	APHA 4500H+ B	8.33	8.03	6.0-9.0
2	Colour	APHA 2120 B, C	15	20	300 (max)
3	Electrical Conductivity, µs/cm	APHA 2510 B	711	1004	--
4	Total Dissolved Solids, mg/l	APHA 2540 C	448.0	692.0	1500 (max)
5	Dissolved Oxygen, mg/l	APHA 2540 C	9.0	8.8	4 (min)
6	BOD (3) days at 27°C	APHA 5210 B	5.4	3.4	3 (max)
7	Chloride , mg/l	APHA 4500Cl- B	35.0	126.0	600 (max)
8	Fluoride as F , mg/l	APHA 4500F- C	5.2	3.5	1.5 (max)
9	Sulphates (SO_4) , mg/l	APHA 4500 SO42- E	41.01	111.96	400 (max)
10	Nitrate as NO_3, mg/l	APH4500 NO3- E	10.2	17.7	50 (max)
11	Hexa Chromium as Cr^{+6}, mg/l	APHA 3500Cr B	<0.01	<0.01	0.05
12	Cyanide as CN , mg/l	APHA 4500 CN- C,D	<0.03	<0.03	0.05 (max)
13	Copper as Cu , mg/l	APHA 3111 B,C	0.074	0.107	1.5 (max)
14	Iron as Fe , mg/l	APHA 3500Fe, B	0.078	0.211	0.5 (max)
15	Cadmium as Cd , mg/l	APHA 3111 B,C	<0.003	<0.003	0.01 (max)

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NABL Accredited Lab/ISO/IEC 17025:2005.

06/05/2025

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NABL
TC-12319

TEST REPORT

16	Selenium as Se, mg/l	APHA 3114 B	<0.01	<0.01	0.05 (max)
17	Arsenic as As, mg/l	APHA 3114 B	0.008	0.011	0.2 (max)
18	Lead as Pb(max), mg/l	APHA 3111 B,C	<0.01	<0.01	0.1 (max)
19	Zinc as Zn(max), mg/l	APHA 3111 B,C	0.108	0.010	15 (max)
20	Sodium Absorption Ratio	By Calculation	10.28	10.81	--
21	Total Coliform	APHA 9221 B	348	>542	5000
22	Fecal Coliform	APHA 9221 B	33	120	300
23	Manganese as Mn, mg/l		0.017	<0.01	0.1
24	Sodium as Na, mg/l		62.36	72.05	
25	Potassium as K, mg/l		2.11	5.89	
26	Nickel as Ni, mg/l		0.014	0.018	0.02
27	Chemical Oxygen Demand, mg/l		40.0	36.0	
28	Free Ammonia , mg/l		<0.01	<0.01	0.5
29	Boron as B, mg/l		0.012	0.018	0.5

Authorized Signatory

06/05/2025

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NABL

TC-12319

TEST REPORT

Issued to: Tata Steel Limited, Meramandali **Date : 16.12.2024**

Test Report No.11/2024-002

Sample Condition: In Plastic Jar

Sample quantity: 2 Litre

Sampling Method: APHA1060B

Source of Sample :Lingra UP & Down stream **Sample Collected on: 14.11.2024**

Letter Reference : **Sample Analysed on: 15.11.2024**

Sl No	Characteristics	Test Method As Per APHA	Lingra UP-stream	Lingra down stream	Standard as per Class C-IS 2296/CPCB/SPCB
1	pH Value	APHA 4500H+ B	8.36	7.91	6.0-9.0
2	Colour	APHA 2120 B, C	20	25	300 (max)
3	Electrical Conductivity, µs/cm	APHA 2510 B	499	598	--
4	Total Dissolved Solids, mg/l	APHA 2540 C	309.0	360.0	1500 (max)
5	Dissolved Oxygen, mg/l	APHA 2540 C	9.9	8.6	4 (min)
6	BOD (3) days at 27°C	APHA 5210 B	6.9	3.0	3 (max)
7	Chloride , mg/l	APHA 4500Cl- B	25.0	41.0	600 (max)
8	Fluoride as F , mg/l	APHA 4500F- C	0.70	1.50	1.5 (max)
9	Sulphates (SO_4) , mg/l	APHA 4500 SO42- E	10.54	27.42	400 (max)
10	Nitrate as NO_3, mg/l	APH4500 NO3- E	6.28	17.0	50 (max)
11	Hexa Chromium as Cr^{+6}, mg/l	APHA 3500Cr B	<0.01	<0.01	0.05
12	Cyanide as CN , mg/l	APHA 4500 CN-C,D	<0.03	<0.03	0.05 (max)
13	Copper as Cu , mg/l	APHA 3111 B,C	0.065	0.147	1.5 (max)
14	Iron as Fe , mg/l	APHA 3500Fe, B	0.078	0.412	0.5 (max)
15	Cadmium as Cd , mg/l	APHA 3111 B,C	<0.003	<0.003	0.01 (max)

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06/05/2025

TEST REPORT

16	Selenium as Se, mg/l	APHA 3114 B	<0.01	<0.01	0.05 (max)
17	Arsenic as As, mg/l	APHA 3114 B	0.005	0.007	0.2 (max)
18	Lead as Pb(max), mg/l	APHA 3111 B,C	<0.01	<0.01	0.1 (max)
19	Zinc as Zn(max), mg/l	APHA 3111 B,C	0.005	0.032	15 (max)
20	Sodium Absorption Ratio	By Calculation	7.05	7.40	--
21	Total Coliform (CFU/ml)	APHA 9221 B	542	348	5000
22	Fecal Coliform (CFU/ml)	APHA 9221 B	32	120	300
23	Manganese as Mn, mg/l		<0.005	<0.005	0.1
24	Sodium as Na, mg/l		37.31	39.95	
25	Potassium as K, mg/l		1.94	4.52	
26	Nickel as Ni, mg/l		0.015	0.016	0.02
27	Chemical Oxygen Demand, mg/l		24.0	28.0	
28	Free Ammonia , mg/l		<0.01	<0.01	0.5
29	Boron as B, mg/l		0.014	0.019	0.5

Authorized Signatory

04/05/2025

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CSIR-INSTITUTE OF MINERALS & MATERIALS TECHNOLOGY.

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Environmental Chemical Laboratory

Bhubaneswar, Odisha

TEST REPORT

NABL TC-12319

Issued to : TATA STEEL LIMITED, MERAMANDALI	**Date : 16.12.2024**
Test report No – 11/2024-003	
Source of Sample : Ganthigadia	**Sample receiving Date : 14.11.2024**
Type of Sample : Well water	**Sample Analysis Date : 15.11.2024**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
1.	Turbidity, NTU	Part 10	1	5	1.64
2.	pH@Temp° C	Part 11	6.5-8.5	No relaxation	7.43@25.0° C
3.	Total Dissolved Solids mg/L	Part 16	500	2000	841.0
4.	Total Hardness (as $CaCO_3$),mg/L	Part 21	200	600	572.0
5.	Calcium as Ca, mg/L	Part 40	75	200	63.33
6.	Magnesium as Mg, mg/L	Part 46	30	100	100.60
7.	Alkalinity as $CaCO_3$, mg/L	Part 23	200	600	470.0
8.	Chloride as Cl, mg/L	Part 32	250	1000	64.0
9.	Sulfate as SO_4, mg/L	Part 24	200	400	119.26
10.	Fluoride as F, mg/L	Part 60	1.0	1.5	1.00
11.	Iron as Fe, mg/L	Part 53	0.3	No relaxation	0.137
12.	Copper as Cu, mg/L	Part 42	0.05	1.5	0.007
13.	Manganese as Mn, mg/L	APHA(PART 3111B)	0.1	0.3	<0.005
14.	Zinc as Zn, mg/L	Part 49	5.0	15.0	0.139
15.	Lead as Pb, mg/L	Part 47	0.01	No relaxation	<0.010
16.	Cadmium as Cd, mg/L	Part 41	0.003	No relaxation	<0.003
17.	Chromium as Cr, mg/L	Part 52	0.05	No relaxation	0.008
18.	Nickel as Ni, mg/l	Part 54	0.02	No relaxation	0.015

Authorized Signatory

16.12.2024

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NOTES :

1. The sample is drawn by EC Laboratory & result relates to the sample tested.
2. This certificate shall not be reproduced wholly or in part without prior written consent of the laboratory.
3. This certificate shall not be used in any advertising media or as evidence in the court of Law without prior written consent of laboratory.
4. Latest version of test methods used as per latest specification.
5. It is recommended that the acceptable limit is to be implemented. Values in excess of those mentioned in "acceptable limit" render the water not suitable, but still may be tolerated in the absence of an alternative source but up to the limits indicate under "permissible limit" in the absence of alternative sources, above which the source will have to be rejected.

Non NABL Test report – P.T.O

'End of Test Report'

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CSIR-INSTITUTE OF MINERALS & MATERIALS TECHNOLOGY.

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Environmental Chemical Laboratory
Bhubaneswar, Odisha

TEST REPORT

Issued to : TATA STEEL LIMITED, MERAMANDALI	**Date : 16.12.2024**
Test report No – 11/2024-003	
Source of Sample : Ganthigadia	**Sample receiving Date : 14.11.2024**
Type of Sample : Well water	**Sample Analysis Date : 15.11.2024**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
19.	Color, Hazen Units	Part 4	5	15	< 5
20.	Odour	Part 5	Agreeable	Agreeable	Agreeable
21.	Conductivity, µs/cm	Part 14	--	--	1185
22.	Total Suspended Solid, mg/l	Part 17	--	--	4.1
23.	Nitrite as NO_2, mg/l	Part 34	--	--	0.215
24.	Nitrate as NO_3, mg/l	Part 34	45	No relaxation	34.3
25.	Sodium as Na, mg/l	Part 45	--	--	34.18
26.	Potassium as K, mg/l	Part 45	--	--	3.01
27.	Residual Free Chlorine, mg/l	Part 26	0.2	1.0	<0.1
28.	Arsenic as As, mg/l	Part 37	0.01	No relaxation	<0.010
29.	Dissolved Oxygen, mg/l	Part 38	--	--	2.6
30.	Biological Oxygen Demand, mg/l	Part 44	--	--	1.6
31.	Total Coliform by MPN	IS 1622 RA 2019	Shall not be detectable in 100ml sample	No relaxation	>542
32.	Fecal Coliform by MPN	IS 1622 RA 2019	Shall not be detectable in 100ml sample	No relaxation	79

Authorized Signatory

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07/05/2025

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NOTES :

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5. It is recommended that the acceptable limit is to be implemented. Values in excess of those mentioned in "acceptable limit" render the water not suitable, but still may be tolerated in the absence of an alternative source but up to the limits indicate under "permissible limit" in the absence of alternative sources, above which the source will have to be rejected.

'End of Test Report'

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Environmental Chemical Laboratory

Bhubaneswar, Odisha

TEST REPORT

NABL TC-12319

Issued to : TATA STEEL LIMITED, MERAMANDALI	**Date : 16.12.2024**
Test report No – 11/2024-004	
Source of Sample : Khaliberena	**Sample receiving Date : 14.11.2024**
Type of Sample : Well water	**Sample Analysis Date : 15.11.2024**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
1.	Turbidity, NTU	Part 10	1	5	0.41
2.	pH@Temp° C	Part 11	6.5-8.5	No relaxation	7.61@25.0 °C
3.	Total Dissolved Solids mg/L	Part 16	500	2000	484.0
4.	Total Hardness (as $CaCO_3$),mg/L	Part 21	200	600	296.0
5.	Calcium as Ca, mg/L	Part 40	75	200	56.91
6.	Magnesium as Mg, mg/L	Part 46	30	100	37.42
7.	Alkalinity as $CaCO_3$, mg/L	Part 23	200	600	342.0
8.	Chloride as Cl, mg/L	Part 32	250	1000	18.0
9.	Sulfate as SO_4, mg/L	Part 24	200	400	49.82
10.	Fluoride as F, mg/L	Part 60	1.0	1.5	0.71
11.	Iron as Fe, mg/L	Part 53	0.3	No relaxation	0.176
12.	Copper as Cu, mg/L	Part 42	0.05	1.5	0.046
13.	Manganese as Mn, mg/L	APHA(PART 3111B)	0.1	0.3	0.002
14.	Zinc as Zn, mg/L	Part 49	5.0	15.0	0.095
15.	Lead as Pb, mg/L	Part 47	0.01	No relaxation	<0.010
16.	Cadmium as Cd, mg/L	Part 41	0.003	No relaxation	0.003
17.	Chromium as Cr, mg/L	Part 52	0.05	No relaxation	0.011
18.	Nickel as Ni, mg/l	Part 54	0.02	No relaxation	0.008

Authorized Signatory

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Non NABL Test report – P.T.O

'End of Test Report'

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CSIR-INSTITUTE OF MINERALS & MATERIALS TECHNOLOGY.

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TEST REPORT

Issued to : TATA STEEL LIMITED, MERAMANDALI	**Date : 16.12.2024**
Test report No – 11/2024-004	
Source of Sample : Khaliberena	**Sample receiving Date : 14.11.2024**
Type of Sample : Well water	**Sample Analysis Date : 15.11.2024**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
19.	Color, Hazen Units	Part 4	5	15	< 5
20.	Odour	Part 5	Agreeable	Agreeable	Agreeable
21.	Conductivity, µs/cm	Part 14	--	--	716
22.	Total Suspended Solid, mg/l	Part 17	--	--	2.9
23.	Nitrite as NO_2, mg/l	Part 34	--	--	0.081
24.	Nitrate as NO_3, mg/l	Part 34	45	No relaxation	14.3
25.	Sodium as Na, mg/l	Part 45	--	--	33.08
26.	Potassium as K, mg/l	Part 45	--	--	1.11
27.	Residual Free Chlorine, mg/l	Part 26	0.2	1.0	<0.1
28.	Arsenic as As, mg/l	Part 37	0.01	No relaxation	<0.010
29.	Dissolved Oxygen, mg/l	Part 38	--	--	6.4
30.	Biological Oxygen Demand, mg/l	Part 44	--	--	4.6
31.	Total Coliform by MPN	IS 1622 RA 2019	Shall not be detectable in 100ml sample	No relaxation	221
32.	Fecal Coliform by MPN	IS 1622 RA 2019	Shall not be detectable in 100ml sample	No relaxation	17

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TEST REPORT

NABL
TC-12319

Issued to : TATA STEEL LIMITED, MERAMANDALI	**Date : 16.12.2024**
Test report No – 11/2024-005	
Source of Sample : SARAPA	**Sample receiving Date : 14.11.2024**
Type of Sample : Well water	**Sample Analysis Date : 15.11.2024**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
1.	Turbidity, NTU	Part 10	1	5	9.23
2.	pH@Temp° C	Part 11	6.5-8.5	No relaxation	7.83@25.0° C
3.	Total Dissolved Solids mg/L	Part 16	500	2000	461.0
4.	Total Hardness (as $CaCO_3$),mg/L	Part 21	200	600	284.0
5.	Calcium as Ca, mg/L	Part 40	75	200	78.56
6.	Magnesium as Mg, mg/L	Part 46	30	100	21.38
7.	Alkalinity as $CaCO_3$, mg/L	Part 23	200	600	212.0
8.	Chloride as Cl, mg/L	Part 32	250	1000	65.0
9.	Sulfate as SO_4, mg/L	Part 24	200	400	52.08
10.	Fluoride as F, mg/L	Part 60	1.0	1.5	0.54
11.	Iron as Fe, mg/L	Part 53	0.3	No relaxation	0.152
12.	Copper as Cu, mg/L	Part 42	0.05	1.5	0.042
13.	Manganese as Mn, mg/L	APHA(PART 3111B)	0.1	0.3	<0.005
14.	Zinc as Zn, mg/L	Part 49	5.0	15.0	0.177
15.	Lead as Pb, mg/L	Part 47	0.01	No relaxation	<0.010
16.	Cadmium as Cd, mg/L	Part 41	0.003	No relaxation	<0.003
17.	Chromium as Cr, mg/L	Part 52	0.05	No relaxation	0.012
18.	Nickel as Ni, mg/l	Part 54	0.02	No relaxation	0.007

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Non NABL Test report – P.T.O

'End of Test Report'

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TEST REPORT

Issued to : TATA STEEL LIMITED, MERAMANDALI	**Date : 16.12.2024**
Test report No – 11/2024-005	
Source of Sample : SARAPA	**Sample receiving Date : 14.11.2024**
Type of Sample : Well water	**Sample Analysis Date : 15.11.2024**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
19.	Color, Hazen Units	Part 4	5	15	< 5
20.	Odour	Part 5	Agreeable	Agreeable	Agreeable
21.	Conductivity, µs/cm	Part 14	--	--	688
22.	Total Suspended Solid, mg/l	Part 17	--	--	14.2
23.	Nitrite as NO_2, mg/l	Part 34	--	--	0.122
24.	Nitrate as NO_3, mg/l	Part 34	45	No relaxation	13.1
25.	Sodium as Na, mg/l	Part 45	--	--	27.83
26.	Potassium as K, mg/l	Part 45	--	--	2.13
27.	Residual Free Chlorine, mg/l	Part 26	0.2	1.0	<0.1
28.	Arsenic as As, mg/l	Part 37	0.01	No relaxation	<0.010
29.	Dissolved Oxygen, mg/l	Part 38	--	--	4.6
30.	Biological Oxygen Demand, mg/l	Part 44	--	--	1.0
31.	Total Coliform by MPN	IS 1622 RA 2019	Shall not be detectable in 100ml sample	No relaxation	11
32.	Fecal Coliform by MPN	IS 1622 RA 2019	Shall not be detectable in 100ml sample	No relaxation	2

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Environmental Chemical Laboratory

Bhubaneswar, Odisha

TEST REPORT

NABL TC-12319

Issued to : TATA STEEL LIMITED, MERAMANDALI	**Date : 16.12.2024**
Test report No – 11/2024-006	
Source of Sample : SIBAPUR	**Sample receiving Date : 14.11.2024**
Type of Sample : Well water	**Sample Analysis Date : 15.11.2024**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
1.	Turbidity, NTU	Part 10	1	5	1.39
2.	pH@Temp° C	Part 11	6.5-8.5	No relaxation	7.61@25.0 °C
3.	Total Dissolved Solids mg/L	Part 16	500	2000	366.0
4.	Total Hardness (as $CaCO_3$),mg/L	Part 21	200	600	230.0
5.	Calcium as Ca, mg/L	Part 40	75	200	55.31
6.	Magnesium as Mg, mg/L	Part 46	30	100	22.36
7.	Alkalinity as $CaCO_3$, mg/L	Part 23	200	600	196.0
8.	Chloride as Cl, mg/L	Part 32	250	1000	33.0
9.	Sulfate as SO_4, mg/L	Part 24	200	400	37.24
10.	Fluoride as F, mg/L	Part 60	1.0	1.5	0.59
11.	Iron as Fe, mg/L	Part 53	0.3	No relaxation	0.162
12.	Copper as Cu, mg/L	Part 42	0.05	1.5	0.036
13.	Manganese as Mn, mg/L	APHA(PART 3111B)	0.1	0.3	0.044
14.	Zinc as Zn, mg/L	Part 49	5.0	15.0	0.016
15.	Lead as Pb, mg/L	Part 47	0.01	No relaxation	<0.010
16.	Cadmium as Cd, mg/L	Part 41	0.003	No relaxation	<0.003
17.	Chromium as Cr, mg/L	Part 52	0.05	No relaxation	0.018
18.	Nickel as Ni, mg/l	Part 54	0.02	No relaxation	0.014

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Non NABL Test report – P.T.O

'End of Test Report'

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TEST REPORT

Issued to : TATA STEEL LIMITED, MERAMANDALI	**Date : 16.12.2024**
Test report No – 11/2024-006	
Source of Sample : SIBAPUR	**Sample receiving Date : 14.11.2024**
Type of Sample : Well water	**Sample Analysis Date : 15.11.2024**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
19.	Color, Hazen Units	Part 4	5	15	< 5
20.	Odour	Part 5	Agreeable	Agreeable	Agreeable
21.	Conductivity, µs/cm	Part 14	--	--	561
22.	Total Suspended Solid, mg/l	Part 17	--	--	2.8
23.	Nitrite as NO_2, mg/l	Part 34	--	--	0.049
24.	Nitrate as NO_3, mg/l	Part 34	45	No relaxation	6.12
25.	Sodium as Na, mg/l	Part 45	--	--	13.8
26.	Potassium as K, mg/l	Part 45	--	--	16.58
27.	Residual Free Chlorine, mg/l	Part 26	0.2	1.0	<0.1
28.	Arsenic as As, mg/l	Part 37	0.01	No relaxation	<0.010
29.	Dissolved Oxygen, mg/l	Part 38	--	--	2.4
30.	Biological Oxygen Demand, mg/l	Part 44	--	--	1.5
31.	Total Coliform by MPN	IS 1622 RA 2019	Shall not be detectable in 100ml sample	No relaxation	542
32.	Fecal Coliform by MPN	IS 1622 RA 2019	Shall not be detectable in 100ml sample	No relaxation	21

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TEST REPORT

NABL TC-12319

Issued to : TATA STEEL LIMITED, MERAMANDALI	**Date : 16.12.2024**
Test report No – 11/2024-007	
Source of Sample : Charadagadia	**Sample receiving Date : 14.11.2024**
Type of Sample : well water	**Sample Analysis Date : 15.11.2024**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
1.	Turbidity, NTU	Part 10	1	5	2.28
2.	pH@Temp° C	Part 11	6.5-8.5	No relaxation	7.25@25.0° C
3.	Total Dissolved Solids mg/L	Part 16	500	2000	1392.0
4.	Total Hardness (as $CaCO_3$),mg/L	Part 21	200	600	686.0
5.	Calcium as Ca, mg/L	Part 40	75	200	75.35
6.	Magnesium as Mg, mg/L	Part 46	30	100	121.01
7.	Alkalinity as $CaCO_3$, mg/L	Part 23	200	600	504.0
8.	Chloride as Cl, mg/L	Part 32	250	1000	181.0
9.	Sulfate as SO_4, mg/L	Part 24	200	400	147.19
10.	Fluoride as F, mg/L	Part 60	1.0	1.5	1.10
11.	Iron as Fe, mg/L	Part 53	0.3	No relaxation	0.181
12.	Copper as Cu, mg/L	Part 42	0.05	1.5	0.040
13.	Manganese as Mn, mg/L	APHA(PART 3111B)	0.1	0.3	0.016
14.	Zinc as Zn, mg/L	Part 49	5.0	15.0	0.186
15.	Lead as Pb, mg/L	Part 47	0.01	No relaxation	<0.010
16.	Cadmium as Cd, mg/L	Part 41	0.003	No relaxation	0.002
17.	Chromium as Cr, mg/L	Part 52	0.05	No relaxation	0.036
18.	Nickel as Ni, mg/l	Part 54	0.02	No relaxation	0.017

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06/05/25

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Non NABL Test report – P.T.O

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TEST REPORT

Issued to : TATA STEEL LIMITED, MERAMANDALI	**Date : 16.12.2024**
Test report No – 11/2024-007	
Source of Sample : Charadagadia	**Sample receiving Date : 14.11.2024**
Type of Sample : well water	**Sample Analysis Date : 15.11.2024**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
19.	Color, Hazen Units	Part 4	5	15	< 5
20.	Odour	Part 5	Agreeable	Agreeable	Agreeable
21.	Conductivity, µs/cm	Part 14	--	--	1973
22.	Total Suspended Solid, mg/l	Part 17	--	--	4.8
23.	Nitrite as NO_2, mg/l	Part 34	--	--	0.527
24.	Nitrate as NO_3, mg/l	Part 34	45	No relaxation	184.0
25.	Sodium as Na, mg/l	Part 45	--	--	159.6
26.	Potassium as K, mg/l	Part 45	--	--	4.84
27.	Residual Free Chlorine, mg/l	Part 26	0.2	1.0	<0.1
28.	Arsenic as As, mg/l	Part 37	0.01	No relaxation	<0.010
29.	Dissolved Oxygen, mg/l	Part 38	--	--	2.6
30.	Biological Oxygen Demand, mg/l	Part 44	--	--	1.6
31.	Total Coliform by MPN	IS 1622 RA 2019	Shall not be detectable in 100ml sample	No relaxation	278
32.	Fecal Coliform by MPN	IS 1622 RA 2019	Shall not be detectable in 100ml sample	No relaxation	120

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TEST REPORT

NABL TC-12319

Issued to : TATA STEEL LIMITED, MERAMANDALI	**Date : 16.12.2024**
Test report No – 11/2024-008	
Source of Sample : KOCHILAMARA	**Sample receiving Date : 14.11.2024**
Type of Sample : Well water	**Sample Analysis Date : 15.11.2024**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
1.	Turbidity, NTU	Part 10	1	5	0.46
2.	pH@Temp° C	Part 11	6.5-8.5	No relaxation	7.49@25.0° C
3.	Total Dissolved Solids mg/L	Part 16	500	2000	738.0
4.	Total Hardness (as $CaCO_3$),mg/L	Part 21	200	600	376.0
5.	Calcium as Ca, mg/L	Part 40	75	200	46.49
6.	Magnesium as Mg, mg/L	Part 46	30	100	63.18
7.	Alkalinity as $CaCO_3$, mg/L	Part 23	200	600	454.0
8.	Chloride as Cl, mg/L	Part 32	250	1000	63.0
9.	Sulfate as SO_4, mg/L	Part 24	200	400	83.03
10.	Fluoride as F, mg/L	Part 60	1.0	1.5	1.00
11.	Iron as Fe, mg/L	Part 53	0.3	No relaxation	0.216
12.	Copper as Cu, mg/L	Part 42	0.05	1.5	0.034
13.	Manganese as Mn, mg/L	APHA(PART 3111B)	0.1	0.3	<0.005
14.	Zinc as Zn, mg/L	Part 49	5.0	15.0	0.052
15.	Lead as Pb, mg/L	Part 47	0.01	No relaxation	<0.010
16.	Cadmium as Cd, mg/L	Part 41	0.003	No relaxation	0.003
17.	Chromium as Cr, mg/L	Part 52	0.05	No relaxation	0.015
18.	Nickel as Ni, mg/l	Part 54	0.02	No relaxation	0.008

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06/03/25

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Non NABL Test report – P.T.O

'End of Test Report'

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CSIR-INSTITUTE OF MINERALS & MATERIALS TECHNOLOGY.

(A Govt. of India Autonomous Body)
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TEST REPORT

Issued to : TATA STEEL LIMITED, MERAMANDALI	**Date : 16.12.2024**
Test report No – 11/2024-008	
Source of Sample : KOCHILAMARA	**Sample receiving Date : 14.11.2024**
Type of Sample : Well water	**Sample Analysis Date : 15.11.2024**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
19.	Color, Hazen Units	Part 4	5	15	< 5
20.	Odour	Part 5	Agreeable	Agreeable	Agreeable
21.	Conductivity, µs/cm	Part 14	--	--	1181
22.	Total Suspended Solid, mg/l	Part 17	--	--	1.9
23.	Nitrite as NO_2, mg/l	Part 34	--	--	0.264
24.	Nitrate as NO_3, mg/l	Part 34	45	No relaxation	61.0
25.	Sodium as Na, mg/l	Part 45	--	--	95.32
26.	Potassium as K, mg/l	Part 45	--	--	1.53
27.	Residual Free Chlorine, mg/l	Part 26	0.2	1.0	<0.1
28.	Arsenic as As, mg/l	Part 37	0.01	No relaxation	<0.010
29.	Dissolved Oxygen, mg/l	Part 38	--	--	3.2
30.	Biological Oxygen Demand, mg/l	Part 44	--	--	1.6
31.	Total Coliform by MPN	IS 1622 RA 2019	Shall not be detectable in 100ml sample	No relaxation	542
32.	Fecal Coliform by MPN	IS 1622 RA 2019	Shall not be detectable in 100ml sample	No relaxation	14

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TEST REPORT

NABL TC-12319

Issued to : TATA STEEL LIMITED, MERAMANDALI	**Date : 16.12.2024**
Test report No – 11/2024-009	
Source of Sample : KHARAGPRASAD	**Sample receiving Date : 14.11.2024**
Type of Sample : Well water	**Sample Analysis Date : 15.11.2024**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
1.	Turbidity, NTU	Part 10	1	5	1.21
2.	pH@Temp° C	Part 11	6.5-8.5	No relaxation	6.88@25.0° C
3.	Total Dissolved Solids mg/L	Part 16	500	2000	303.0
4.	Total Hardness (as $CaCO_3$),mg/L	Part 21	200	600	166.0
5.	Calcium as Ca, mg/L	Part 40	75	200	35.27
6.	Magnesium as Mg, mg/L	Part 46	30	100	18.95
7.	Alkalinity as $CaCO_3$, mg/L	Part 23	200	600	124.0
8.	Chloride as Cl, mg/L	Part 32	250	1000	21.0
9.	Sulfate as SO_4, mg/L	Part 24	200	400	36.73
10.	Fluoride as F, mg/L	Part 60	1.0	1.5	0.18
11.	Iron as Fe, mg/L	Part 53	0.3	No relaxation	0.270
12.	Copper as Cu, mg/L	Part 42	0.05	1.5	0.013
13.	Manganese as Mn, mg/L	APHA(PART 3111B)	0.1	0.3	0.017
14.	Zinc as Zn, mg/L	Part 49	5.0	15.0	0.097
15.	Lead as Pb, mg/L	Part 47	0.01	No relaxation	<0.010
16.	Cadmium as Cd, mg/L	Part 41	0.003	No relaxation	<0.003
17.	Chromium as Cr, mg/L	Part 52	0.05	No relaxation	0.027
18.	Nickel as Ni, mg/l	Part 54	0.02	No relaxation	0.008

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Non NABL Test report – P.T.O

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TEST REPORT

Issued to : TATA STEEL LIMITED, MERAMANDALI	**Date : 16.12.2024**
Test report No – 11/2024-009	
Source of Sample : KHARAGPRASAD	**Sample receiving Date : 14.11.2024**
Type of Sample : Well water	**Sample Analysis Date : 15.11.2024**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
19.	Color, Hazen Units	Part 4	5	15	< 5
20.	Odour	Part 5	Agreeable	Agreeable	Agreeable
21.	Conductivity, µs/cm	Part 14	--	--	413
22.	Total Suspended Solid, mg/l	Part 17	--	--	3.7
23.	Nitrite as NO_2, mg/l	Part 34	--	--	0.127
24.	Nitrate as NO_3, mg/l	Part 34	45	No relaxation	19.2
25.	Sodium as Na, mg/l	Part 45	--	--	14.85
26.	Potassium as K, mg/l	Part 45	--	--	12.27
27.	Residual Free Chlorine, mg/l	Part 26	0.2	1.0	<0.1
28.	Arsenic as As, mg/l	Part 37	0.01	No relaxation	<0.010
29.	Dissolved Oxygen, mg/l	Part 38	--	--	1.4
30.	Biological Oxygen Demand, mg/l	Part 44	--	--	1.0
31.	Total Coliform by MPN	IS 1622 RA 2019	Shall not be detectable in 100ml sample	No relaxation	>542
32.	Fecal Coliform by MPN	IS 1622 RA 2019	Shall not be detectable in 100ml sample	No relaxation	33

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06/01/25

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TEST REPORT

NABL TC-12319

Issued to : TATA STEEL LIMITED, MERAMANDALI	**Date : 16.12.2024**
Test report No – 11/2024-010	
Source of Sample : MOTANGA	**Sample receiving Date : 14.11.2024**
Type of Sample : Well water	**Sample Analysis Date : 15.11.2024**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
1.	Turbidity, NTU	Part 10	1	5	1.15
2.	pH@Temp° C	Part 11	6.5-8.5	No relaxation	7.56@25.0
3.	Total Dissolved Solids mg/L	Part 16	500	2000	810.0
4.	Total Hardness (as $CaCO_3$),mg/L	Part 21	200	600	422.0
5.	Calcium as Ca, mg/L	Part 40	75	200	92.18
6.	Magnesium as Mg, mg/L	Part 46	30	100	46.66
7.	Alkalinity as $CaCO_3$, mg/L	Part 23	200	600	364.0
8.	Chloride as Cl, mg/L	Part 32	250	1000	80.0
9.	Sulfate as SO_4, mg/L	Part 24	200	400	137.12
10.	Fluoride as F, mg/L	Part 60	1.0	1.5	1.00
11.	Iron as Fe, mg/L	Part 53	0.3	No relaxation	0.112
12.	Copper as Cu, mg/L	Part 42	0.05	1.5	0.009
13.	Manganese as Mn, mg/L	APHA(PART 3111B)	0.1	0.3	0.002
14.	Zinc as Zn, mg/L	Part 49	5.0	15.0	0.115
15.	Lead as Pb, mg/L	Part 47	0.01	No relaxation	<0.010
16.	Cadmium as Cd, mg/L	Part 41	0.003	No relaxation	<0.003
17.	Chromium as Cr, mg/L	Part 52	0.05	No relaxation	0.019
18.	Nickel as Ni, mg/l	Part 54	0.02	No relaxation	0.009

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Non NABL Test report – P.T.O

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TEST REPORT

Issued to : TATA STEEL LIMITED, MERAMANDALI	**Date : 16.12.2024**
Test report No – 11/2024-010	
Source of Sample : MOTANGA	**Sample receiving Date : 14.11.2024**
Type of Sample : Well water	**Sample Analysis Date : 15.11.2024**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
19.	Color, Hazen Units	Part 4	5	15	< 5
20.	Odour	Part 5	Agreeable	Agreeable	Agreeable
21.	Conductivity, µs/cm	Part 14	--	--	1156
22.	Total Suspended Solid, mg/l	Part 17	--	--	2.6
23.	Nitrite as NO_2, mg/l	Part 34	--	--	0.085
24.	Nitrate as NO_3, mg/l	Part 34	45	No relaxation	16.7
25.	Sodium as Na, mg/l	Part 45	--	--	77.02
26.	Potassium as K, mg/l	Part 45	--	--	1.22
27.	Residual Free Chlorine, mg/l	Part 26	0.2	1.0	<0.1
28.	Arsenic as As, mg/l	Part 37	0.01	No relaxation	<0.010
29.	Dissolved Oxygen, mg/l	Part 38	--	--	7.4
30.	Biological Oxygen Demand, mg/l	Part 44	--	--	2.4
31.	Total Coliform by MPN	IS 1622 RA 2019	Shall not be detectable in 100ml sample	No relaxation	33
32.	Fecal Coliform by MPN	IS 1622 RA 2019	Shall not be detectable in 100ml sample	No relaxation	2

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TEST REPORT

NABL
TC-12319

Issued to : TATA STEEL LIMITED, MERAMANDALI	**Date : 16.12.2024**
Test report No – 11/2024-011	
Source of Sample : GALPADA	**Sample receiving Date : 14.11.2024**
Type of Sample : Well water	**Sample Analysis Date : 15.11.2024**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
1.	Turbidity, NTU	Part 10	1	5	0.42
2.	pH@Temp° C	Part 11	6.5-8.5	No relaxation	7.09@ 25.0
3.	Total Dissolved Solids mg/L	Part 16	500	2000	283.0
4.	Total Hardness (as $CaCO_3$),mg/L	Part 21	200	600	138.0
5.	Calcium as Ca, mg/L	Part 40	75	200	36.07
6.	Magnesium as Mg, mg/L	Part 46	30	100	11.66
7.	Alkalinity as $CaCO_3$, mg/L	Part 23	200	600	142.0
8.	Chloride as Cl, mg/L	Part 32	250	1000	14.0
9.	Sulfate as SO_4, mg/L	Part 24	200	400	19.40
10.	Fluoride as F, mg/L	Part 60	1.0	1.5	0.28
11.	Iron as Fe, mg/L	Part 53	0.3	No relaxation	0.216
12.	Copper as Cu, mg/L	Part 42	0.05	1.5	0.011
13.	Manganese as Mn, mg/L	APHA(PART 3111B)	0.1	0.3	<0.005
14.	Zinc as Zn, mg/L	Part 49	5.0	15.0	0.051
15.	Lead as Pb, mg/L	Part 47	0.01	No relaxation	<0.010
16.	Cadmium as Cd, mg/L	Part 41	0.003	No relaxation	<0.003
17.	Chromium as Cr, mg/L	Part 52	0.05	No relaxation	0.031
18.	Nickel as Ni, mg/l	Part 54	0.02	No relaxation	0.012

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TEST REPORT

Issued to : TATA STEEL LIMITED, MERAMANDALI	**Date : 16.12.2024**
Test report No – 11/2024-011	
Source of Sample : GALPADA	**Sample receiving Date : 14.11.2024**
Type of Sample : Well water	**Sample Analysis Date : 15.11.2024**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
19.	Color, Hazen Units	Part 4	5	15	< 5
20.	Odour	Part 5	Agreeable	Agreeable	Agreeable
21.	Conductivity, µs/cm	Part 14	--	--	350
22.	Total Suspended Solid, mg/l	Part 17	--	--	1.5
23.	Nitrite as NO_2, mg/l	Part 34	--	--	0.075
24.	Nitrate as NO_3, mg/l	Part 34	45	No relaxation	12.8
25.	Sodium as Na, mg/l	Part 45	--	--	10.80
26.	Potassium as K, mg/l	Part 45	--	--	0.46
27.	Residual Free Chlorine, mg/l	Part 26	0.2	1.0	<0.1
28.	Arsenic as As, mg/l	Part 37	0.01	No relaxation	<0.010
29.	Dissolved Oxygen, mg/l	Part 38	--	--	2.8
30.	Biological Oxygen Demand, mg/l	Part 44	--	--	1.6
31.	Total Coliform by MPN	IS 1622 RA 2019	Shall not be detectable in 100ml sample	No relaxation	348
32.	Fecal Coliform by MPN	IS 1622 RA 2019	Shall not be detectable in 100ml sample	No relaxation	11

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16/12/24

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TEST REPORT

NABL
TC-12319

Issued to : TATA STEEL LIMITED, MERAMANDALI	**Date : 16.12.2024**
Test report No – 11/2024-012	
Source of Sample : ETAPA	**Sample receiving Date : 14.11.2024**
Type of Sample : Well water	**Sample Analysis Date : 15.11.2024**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
1.	Turbidity, NTU	Part 10	1	5	11.24
2.	pH@Temp° C	Part 11	6.5-8.5	No relaxation	7.28@ 25.0
3.	Total Dissolved Solids mg/L	Part 16	500	2000	676.0
4.	Total Hardness (as $CaCO_3$),mg/L	Part 21	200	600	312.0
5.	Calcium as Ca, mg/L	Part 40	75	200	44.09
6.	Magnesium as Mg, mg/L	Part 46	30	100	49.09
7.	Alkalinity as $CaCO_3$, mg/L	Part 23	200	600	408.0
8.	Chloride as Cl, mg/L	Part 32	250	1000	83.0
9.	Sulfate as SO_4, mg/L	Part 24	200	400	51.58
10.	Fluoride as F, mg/L	Part 60	1.0	1.5	0.93
11.	Iron as Fe, mg/L	Part 53	0.3	No relaxation	0.073
12.	Copper as Cu, mg/L	Part 42	0.05	1.5	0.013
13.	Manganese as Mn, mg/L	APHA(PART 3111B)	0.1	0.3	0.081
14.	Zinc as Zn, mg/L	Part 49	5.0	15.0	0.011
15.	Lead as Pb, mg/L	Part 47	0.01	No relaxation	<0.010
16.	Cadmium as Cd, mg/L	Part 41	0.003	No relaxation	<0.003
17.	Chromium as Cr, mg/L	Part 52	0.05	No relaxation	0.007
18.	Nickel as Ni, mg/l	Part 54	0.02	No relaxation	0.010

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CSIR-INSTITUTE OF MINERALS & MATERIALS TECHNOLOGY.

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Environmental Chemical Laboratory
Bhubaneswar, Odisha

TEST REPORT

Issued to : TATA STEEL LIMITED, MERAMANDALI	**Date : 16.12.2024**
Test report No – 11/2024-012	
Source of Sample : ETAPA	**Sample receiving Date : 14.11.2024**
Type of Sample : Well water	**Sample Analysis Date : 15.11.2024**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
19.	Color, Hazen Units	Part 4	5	15	< 5
20.	Odour	Part 5	Agreeable	Agreeable	Agreeable
21.	Conductivity, µs/cm	Part 14	--	--	1120
22.	Total Suspended Solid, mg/l	Part 17	--	--	15.6
23.	Nitrite as NO_2, mg/l	Part 34	--	--	0.112
24.	Nitrate as NO_3, mg/l	Part 34	45	No relaxation	17.2
25.	Sodium as Na, mg/l	Part 45	--	--	111.3
26.	Potassium as K, mg/l	Part 45	--	--	15.42
27.	Residual Free Chlorine, mg/l	Part 26	0.2	1.0	<0.1
28.	Arsenic as As, mg/l	Part 37	0.01	No relaxation	<0.010
29.	Dissolved Oxygen, mg/l	Part 38	--	--	2.5
30.	Biological Oxygen Demand, mg/l	Part 44	--	--	2.1
31.	Total Coliform by MPN	IS 1622 RA 2019	Shall not be detectable in 100ml sample	No relaxation	221
32.	Fecal Coliform by MPN	IS 1622 RA 2019	Shall not be detectable in 100ml sample	No relaxation	79

Authorized Signatory

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NOTES :

1. The sample is drawn by EC Laboratory & result relates to the sample tested.
2. This certificate shall not be reproduced wholly or in part without prior written consent of the laboratory.
3. This certificate shall not be used in any advertising media or as evidence in the court of Law without prior written consent of laboratory.
4. Latest version of test methods used as per latest specification.
5. It is recommended that the acceptable limit is to be implemented. Values in excess of those mentioned in "acceptable limit" render the water not suitable, but still may be tolerated in the absence of an alternative source but up to the limits indicate under "permissible limit" in the absence of alternative sources, above which the source will have to be rejected.

'End of Test Report'

Laboratory: Acharya Vihar, Bhubaneswar, Odisha-751013. Tel: 0674-2379236, Mobile: 9760387460.
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Environmental Chemical Laboratory
Bhubaneswar, Odisha

TEST REPORT

NABL
TC-12319

Issued to : TATA STEEL LIMITED, MERAMANDALI	**Date : 16.12.2024**
Test report No – 11/2024-013	
Source of Sample : NARENDRAPUR	**Sample receiving Date : 14.11.2024**
Type of Sample : Well water	**Sample Analysis Date : 15.11.2024**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
1.	Turbidity, NTU	Part 10	1	5	0.67
2.	pH@Temp° C	Part 11	6.5-8.5	No relaxation	7.41@25.0
3.	Total Dissolved Solids mg/L	Part 16	500	2000	539.0
4.	Total Hardness (as $CaCO_3$),mg/L	Part 21	200	600	322.0
5.	Calcium as Ca, mg/L	Part 40	75	200	55.31
6.	Magnesium as Mg, mg/L	Part 46	30	100	44.71
7.	Alkalinity as $CaCO_3$, mg/L	Part 23	200	600	286.0
8.	Chloride as Cl, mg/L	Part 32	250	1000	44.0
9.	Sulfate as SO_4, mg/L	Part 24	200	400	46.80
10.	Fluoride as F, mg/L	Part 60	1.0	1.5	0.82
11.	Iron as Fe, mg/L	Part 53	0.3	No relaxation	0.245
12.	Copper as Cu, mg/L	Part 42	0.05	1.5	0.011
13.	Manganese as Mn, mg/L	APHA(PART 3111B)	0.1	0.3	<0.005
14.	Zinc as Zn, mg/L	Part 49	5.0	15.0	0.059
15.	Lead as Pb, mg/L	Part 47	0.01	No relaxation	<0.010
16.	Cadmium as Cd, mg/L	Part 41	0.003	No relaxation	0.003
17.	Chromium as Cr, mg/L	Part 52	0.05	No relaxation	0.038
18.	Nickel as Ni, mg/l	Part 54	0.02	No relaxation	0.007

Authorized Signatory

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Non NABL Test report – P.T.O

'End of Test Report'

Laboratory: Acharya Vihar, Bhubaneswar, Odisha-751013. Tel: 0674-2379236, Mobile: 9760387460.
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TEST REPORT

Issued to : TATA STEEL LIMITED, MERAMANDALI	**Date : 16.12.2024**
Test report No – 11/2024-013	
Source of Sample : NARENDRAPUR	**Sample receiving Date : 14.11.2024**
Type of Sample : Well water	**Sample Analysis Date : 15.11.2024**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
19.	Color, Hazen Units	Part 4	5	15	< 5
20.	Odour	Part 5	Agreeable	Agreeable	Agreeable
21.	Conductivity, µs/cm	Part 14	--	--	821
22.	Total Suspended Solid, mg/l	Part 17	--	--	2.4
23.	Nitrite as NO_2, mg/l	Part 34	--	--	0.218
24.	Nitrate as NO_3, mg/l	Part 34	45	No relaxation	39.6
25.	Sodium as Na, mg/l	Part 45	--	--	50.54
26.	Potassium as K, mg/l	Part 45	--	--	5.89
27.	Residual Free Chlorine, mg/l	Part 26	0.2	1.0	<0.1
28.	Arsenic as As, mg/l	Part 37	0.01	No relaxation	<0.010
29.	Dissolved Oxygen, mg/l	Part 38	--	--	1.2
30.	Biological Oxygen Demand, mg/l	Part 44	--	--	0.6
31.	Total Coliform by MPN	IS 1622 RA 2019	Shall not be detectable in 100ml sample	No relaxation	542
32.	Fecal Coliform by MPN	IS 1622 RA 2019	Shall not be detectable in 100ml sample	No relaxation	21

Authorized Signatory

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'End of Test Report'

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Annexure-III

CSR EXPENDITURE AND ACTIVITY HIGHLIGHTS (Around Tata Steel Limited, Meramandali) For Period April 2024 to March 2025		
PROGRAM HEAD	**Expenditure in Lakhs**	**MAJOR INTERVENTIONS/REMARKS**
HEALTH	153.85	Public Health Unit; Rishta; Project Drishti, Poshan NCD, VBD
Agriculture	126.51	Agricultural activity
Environment	3.03	Plantation
Empowerment	106.37	GCE
DRINKING WATER	166.38	Installation of tubewells; supply of drinking water
Ethnicity	14.1	Cultural events
Rural Infra	211.61	Community infrastructure projects
EDUCATION	828.61	School infrastructure; Education sugnature project, Green school project, Pre-matric coaching
SPORTS	24.26	
Skill Development	7.2	
Miscellaneous	253.85	wages and overheads
TOTAL	**1895.77**	**Rs.18.96 Crores**

Annexure-IV

Environment Management Laboratory

M/s. TATA Steel Limited, Meramandali, Odisha

Ref.No.EMD/LAB/2024/0002

			OCT-24	NOV-24	DEC-24	JAN-25	FEB-25	MAR-25
S. N	Name of the unit	Location	Leq					
1	BF-2 Cast House	Near Motor I D Fan 1	83.5	82.3	80.8	80.3	82.2	Leq
		Near Motor I D Fan-2	84.9	84.9	83.9	84.7	84.9	81.2
		Near Motor I D Fan-3	85.4	85.8	85.6	85.0	85.2	85.1
		Near Cooling tower area	81.3	80.5	80.8	80.0	80	83.3
		Near Fire Pump House Building area	93.7	92.7	89.5	90.2	91.7	80.6
		PCI-1	83.9	82.5	82.8	82.3	82.5	92.5
		PCI-2	84.1	84	84.9	84.1	84.8	83.3
		CA Fan-1,2,3	86.3	86.8	92.3	89.3	87.4	84.4
		Control room	58	59.3	59.7	59.4	59.5	86.8
		Near B F-2 Furnace area	82.8	82.1	78.5	81.5	80.3	59.3
2	BF-2 Stock House	Near ID Fan 1	84.5	84.8	84.4	83.7	83.8	81.4
		Near ID Fan 2	85	85.1	84.7	84.4	84.3	84.8
		Control room office	59.2	59.1	59.2	58.9	61.4	83.9
3	Lime Plant	Near De dusting-2 ID Fan	81.9	83.7	83.2	80.1	80.4	60.2
		Near Blower room area	92.7	91.5	91.3	87.2	87.9	83.7
		Near Cooling tower area	80.2	81.7	81.2	80.7	79.4	89.4
		Near De dusting-3 ID Fan	SD	SD	81.2	81	77.9	82.1
		Near De dusting-4 ID Fan	SD	84.5	83.3	SD	78.9	81.7
		Near Pump House area	85.4	85.4	85	85.8	85.4	SD
		Screening House 01	88.1	SD	84.2	86.5	SD	85.8
		Screening House 02	SD	84.6	SD	88.2	SD	SD
		Screening House 03	90.1	85	87.4	89.3	86.6	85.3
		Screening House 04	87.9	86.4	87.3	88.8	87.2	84.8
		Screening House 05	87.2	85.3	86.1	SD	85.5	SD
		Delivery Building	82.7	84.2	85.1	84.6	84.6	84.5
		Near Outside Office area	77.7	80.1	76.7	78.5	68.9	90.2
		Gas Boosting Station	91	90.8	86	86.8	89.1	80.2
		Inside office building	61.3	59.8	60.9	59.7	63.7	89.6
4	BF PP-1 Boiler-01	Near ID Fan -1	84.7	SD	SD	SD	82.5	60.1
		Near ID Fan -2	SD	82.2	82.4	82.7	82.6	80.8
		Near FD Fan	90	86.5	86.9	86.3	88.9	81.7
		Near Boiler-1 Area	83.6	81.4	83.9	81.7	83.1	89.2
5	BF PP-1 Boiler-02	Near ID Fan -1	SD	SD	84.1	SD	SD	81.9
		Near ID Fan-2	SD	SD	85.8	SD	SD	83.8
		Near FD Fan	SD	SD	90.9	SD	SD	84.3
		Near Boiler-2 Area	SD	SD	84.6	SD	SD	91.5
6	BF PP-1 Boiler-03	Near ID Fan -1	84.2	83.6	SD	83.6	83.8	85.2
		Near ID Fan -2	85.4	85.1	SD	86.2	84.6	SD
		Near FD Fan	93.9	93.5	SD	93.5	91.3	SD
		Near Blower (9 m)	90.3	88.8	88.4	86.4	87.9	SD
		TG Floor (8.5 m)	89.6	86.5	87.2	87.8	86.4	87.8
		Near Boiler-3 Area	88.7	84.4	SD	83.5	85.7	88.4
		Near Control room office	62.4	63.4	66.8	66.5	63.2	SD
7	Gas fired boiler 60 TPH Area	Near ID Fan -1	SD	81.5	80.2	80.4	80.6	62.6
		Near ID Fan -2	SD	81.3	80.5	80.1	81.4	80.2
		Near FD Fan 1	SD	82	82.2	81.7	82.7	81
		Near FD Fan 2	SD	82.1	82.8	83.6	82.5	81.5

Annexure-IV

Environment Management Laboratory

M/s. TATA Steel Limited, Meramandali, Odisha

		60 TPH Blower feed water pump	SD	84.6	83.9	84.2	84.7	81.1
		Near Boiler area	SD	80.3	81.7	82.1	81.5	84.8
8	Gas fired boiler 125 TPH Area	Near ID Fan -1	82.5	81	82.4	SD	82.5	82.6
		Near ID Fan -2	83.8	84.2	83.9	SD	84.8	83.5
		Near FD Fan -1	87.1	86.2	87.6	SD	87.6	84.4
		Near FD Fan -2	87.5	87.1	88.1	SD	87.5	87.3
		Near Boiler area	82	81.7	82	SD	81.6	87.8
		125 TPH Blower feed Water pump	85.1	85	85.2	SD	85.3	82.1
9	Gas fired boiler 250 TPH Area	Near ID Fan -1 area	80.2	81.4	80.1	82.6	80.5	86.3
		Near ID Fan -2 area	82	81.6	81.1	81.7	80.6	81.6
		Near FD Fan -1 area	84.7	82.5	84.6	84.6	84.8	82.5
		Near FD Fan -2 area	85.7	82.6	84.5	84.9	85	84.8
		Near Boiler area	81.7	80.3	82.7	83.3	83.7	84.9
		250 TPH Blower feed water pump	85.9	86.3	86.2	85.8	86.2	82.4
		Office and Control Room	60.5	60.2	60.2	61.2	61.1	87.5
10	DRI	KILN NO-1						61.6
		Near Cooling tower area	80.5	78.6	79.2	80.2	SD	
		Near De-dusting 01 ID Fan	86.5	85.9	86.2	86.3	84.9	78.8
		Near 1& 2 control room office	60	60.8	60	59.2	58.7	86.2
		Near Cooler area	80.3	80	80.1	80.5	SD	59.4
		Near Lobe Compressor room	83.9	84	85.7	85.5	SD	79.9
		KILN NO-2						84.2
		Near Cooling tower area	SD	SD	81.1	81.2	80.6	
		Near Cooler area	SD	SD	80.2	80	80.1	78.4
		Near Lobe Compressor room	SD	SD	83.6	85.4	84.5	79.5
		KILN NO-3						84.9
		Near Cooling tower area	SD	SD	SD	SD	80	
		Near De-dusting 02 ID Fan	SD	SD	85.8	85.3	85.6	78.6
		Near 3& 4control room office	58.5	61.6	59.3	61.5	59.3	85.2
		Near Cooler area	SD	SD	SD	SD	80.4	58.4
		Near Lobe Compressor room	SD	SD	SD	SD	85	80.2
		KILN NO-4						81.9
		Near Cooling tower area	SD	SD	80	80	80.2	
		Near Cooler area	SD	SD	80.4	79.9	80.5	79.2
		Near Lobe Compressor room	SD	SD	84.9	84.8	84.9	78.5
		KILN NO-5						80.9
		Near Cooling tower area	81.5	81.1	78.5	SD	SD	
		Near De-dusting 03 ID Fan	87.1	86.4	86.8	86.1	86.3	SD
		Near 5& 6 control room office	59.3	59.3	60.5	60.3	58.5	85.2
		Near Cooler area	80.4	80.5	80.2	SD	SD	58.6
		Near Lobe Compressor room	87.5	83.1	84.5	SD	SD	SD
		KILN NO-6						SD
		Near Cooling tower area	81.1	81.7	78.2	79.5	80.4	
		Near Cooler area	81	79.4	80	80.2	79.5	78.5
		Near Lobe Compressor room	89.2	84.4	85	85.8	83.7	79.9
		KILN NO-7						83.5
		Near Cooling tower area	80.9	SD	80.1	80.5	82.3	
		Near De-dusting 04 ID Fan	86.8	SD	86.5	86.8	87.7	80.6
		Near 7& 8 control room office	60.3	63.2	60.2	60.2	60.2	86.3
		Near Cooler area	80.7	SD	80.1	81	79.3	59.1
		Near Lobe Compressor room	86	SD	83.8	86.3	82.8	78.3

Annexure-IV

Environment Management Laboratory

M/s. TATA Steel Limited, Meramandali, Odisha

		KILN NO-8						85.5
		Near Cooling tower area	SD	SD	SD	80.1	80.6	
		Near Cooler area	SD	SD	SD	80.4	80.8	78.5
		Near Lobe Compressor room	SD	SD	SD	84.8	82.7	79.7
		KILN NO-9						82.5
		Near Cooling tower area	81	78.3	79.3	79.6	80.5	
		Near 9&10 control room office	58.4	61.5	60.1	60.5	60	80.2
		Near Cooler area	81.5	76.9	78.2	80	80.2	63.3
		Near Lobe Compressor room	88.6	84.4	85.1	84.2	82.4	79.7
		KILN NO-10						81.4
		Near Cooling tower area	79.7	76.9	78.8	SD	80.5	
		Near De-dusting 05 ID Fan	86.4	85.9	86.1	86	85.8	80
		Near Cooler area	79.9	77.9	79.5	SD	79.7	85.2
		Near Lobe Compressor room	81.1	84.5	84.8	SD	80.4	79.5
11	110 MW Power Plant	Boiler-01						79.7
		ID Fan	82.5	81.6	SD	84.1	83.9	
		Near Boiler area	84.8	84.8	SD	81.2	80.7	83.5
		Boiler-02						84.9
		ID Fan	SD	80.6	81.4	83.4	84.5	
		Near Boiler area	SD	81.7	83.6	81.8	81.1	81.8
		Boiler-03						79.5
		ID Fan	82.7	81.4	SD	SD	85	
		Near Boiler area	83.8	80.3	SD	SD	81.4	80.4
		Boiler-04						81.1
		ID Fan	SD	SD	82.5	SD	84.7	
		Near Boiler area	SD	SD	81.9	SD	79.8	82.5
		Boiler-5						80.7
		ID Fan	85.2	85.1	85.1	84.8	SD	
		Near Boiler area	82.6	81.8	83.7	82	SD	SD
		Boiler-6						SD
		ID Fan	85.8	85.8	83.8	84.1	84.8	
		Near Boiler area	81.7	82.6	81.5	81.8	82.1	SD
		Boiler-7						SD
		ID Fan	85.8	86	86	85.6	85.5	
		Near Boiler area	83.7	81.5	82.3	81.7	80.4	86.2
		Boiler-8						80.1
		ID Fan	SD	SD	85.2	85	85.2	
		Near Boiler area	SD	SD	81.6	80.3	81.7	84.8
		Boiler-9						79.2
		ID Fan	85	84.8	84.8	84.6	84.3	
		Near Boiler area	82.9	81	81.7	80.8	80.6	85
		Boiler-10						81.2
		ID Fan	86	85.7	86.2	SD	85.1	
		Near Boiler area	81.4	80.8	80.9	SD	81.6	85.8
		AFBC Boiler Area	SD	SD	SD	SD	SD	81.5
		Near 33 TG MW	85.9	SD	SD	86.4	86.8	SD
		Near 77 TG MW	86.5	85.8	86.7	86.9	87	85.3
12	BF-1 Cast House	Near Bag House Motor I D Fan-1	86	85.6	86	86.7	85.1	86.4
		Near Bag House Motor I D Fan-2	85.8	85.4	85.8	82.6	SD	84.9
		Near Bag House Motor I D Fan-3	85.3	86.2	86.5	84.8	84.8	SD
		Near Bag House Motor I D Fan-4	85.9	SD	82.7	86.3	85.5	85.2

Annexure-IV

Environment Management Laboratory

M/s. TATA Steel Limited, Meramandali, Odisha

		Near secondary Cooling tower area	81.7	79.5	80.1	80.7	78.8	84.7
		Near Main Pump House Building area	87.4	86.8	86.1	85.6	85.3	81.8
		Near PCI building	86.9	SD	SD	87.1	85.8	86.7
		Near B F-1 Furnace	82	80.1	76.4	80.4	80.4	86.5
13	BF-1 Stock House	Near Bag House Motor I D Fan-1	SD	83.5	SD	SD	SD	80.3
		Near Bag House Motor I D Fan-2	84.2	SD	84.3	84.4	84.9	SD
		BF-1 Office	61.7	61.2	61.2	59.7	60.2	84.5
		Near Fines building Area	81.8	79.1	70.4	81.3	80.5	59.8
14	CRM	Near CRM Mill Complex Area	81.4	82.9	81.6	82.1	81.3	81.4
		Near Fire water pump house area	85	85.7	85.7	85.8	85.2	80.6
		Near T.L.L	SD	85.1	85.2	SD	SD	84.8
		Near A.R.P building	88.4	87.6	86.3	87.7	86.4	85.4
		Near Air Receiver Tank area	94.3	91.2	89.2	90.2	90.5	85.8
		Near ETP area	83.7	81.6	80.3	81.3	82.8	91.6
		Near GP-1 Zinc Pot	SD	SD	SD	SD	SD	82.7
		Near GP-2 Zinc Pot	SD	86.1	86.8	SD	87.9	SD
		Near GP-3 Zinc Pot	83.7	87.2	86.3	86.4	88.5	86.2
		Colour Coating Line	SD	81.3	81.8	SD	84.3	86.3
		Mill-1	87	85.9	SD	87.2	86.7	83.9
		Mill-2	86.4	89.6	87.8	SD	85.3	SD
		Mill-3	SD	85.2	85.4	SD	85.1	86.5
		CRM Plant Office	63.1	59.2	58.7	59.3	60.4	84.9
		ECL	85.5	85.6	86.1	SD	85.4	61.7
		CRCA	SD	SD	SD	82.7	87.5	84.8
		SPM	88.9	88	87.5	85.1	84.5	SD
		RGM	80.2	83.2	79.7	81.5	82.7	85.3
15	Sinter Plant-1	Near Main ID Fan 1	89.9	90	91.8	91.4	90.1	SD
		Near Cooler Fan area 1	83.8	82.6	84.6	84.1	84.5	90.3
		Near Cooler Fan area 2	84.9	83.5	83.4	84.2	83.6	83.8
		Near Cooler Fan area 3	84.7	83.8	SD	84.8	84.8	82.7
		Near Cooler Fan area 4	85.5	84.8	85.4	85.8	85.6	83.9
		Near 85m2 ESP ID Fan	85.7	86.4	85.1	85.8	85.1	85.4
		Near 110m2 ESP ID Fan	86.5	86.8	87.3	86.7	86.4	85.7
		Near Pump House Building area	82.9	80.2	81.1	81.6	80.3	86.3
		Near bag filter ID Fan	88.7	86.9	86.4	86.9	86.8	80.2
		Product Screen	86.3	86.4	86.7	87.2	86.7	85.5
		Flux and Coke Crushing House	81.6	80.3	81.2	81.6	80.2	87.2
		Sinter Machine 15 mtr	85.4	84.9	85.3	85.5	84.5	81.6
		9 m office room	60.6	60.8	61.5	60	61.3	85.2
		15 m office	61.2	59.3	58.2	61.3	61.4	61.7
		19 m office	60.1	61.5	61	60.2	60.5	62
		Store area	79.3	78.4	77.2	63.7	78.9	62.3
		Electrical office	62	61.9	62.4	59.4	63.8	63.8
		Proportioning Building	79.5	79.2	78.6	81.3	81.2	61.6
		Mixing House	81.9	80.4	79.1	80.5	80.5	80.5
		Sinter machine 19 mtr	84.3	85.7	85.5	83.8	85.1	81
16	Coke Oven-1	Near Stone Cutter Building area	80.6	84.1	84.2	84.2	84.5	85
		Near M.H.S I.D Fan	85.4	SD	SD	SD	SD	84.2
		Near Coal Pushing & Charging I D Fan Area	SD	SD	SD	SD	SD	SD
		Near Battery-1 area	76.2	80.4	80.1	81.3	81.4	SD
		Near Battery-2 area	79.1	80.1	79.8	80.4	80.7	81.1

Annexure-IV

Environment Management Laboratory

M/s. TATA Steel Limited, Meramandali, Odisha

		Control room office	62.9	58.4	58.3	61.4	61.3	80.3
		Laboratory	61.6	58	59	59.6	59.1	60.3
17	Sinter Plant-02	Near Main ESP ID	82.4	84.3	76.1	82.5	84.3	59.7
		Near PD ESP ID Fan	82.9	82.7	77.2	81.6	82.7	83.7
		Near Cooler Fan 1	85.1	84.8	86.3	81.2	83.8	82.7
		Near Cooler Fan 2	83.5	83.9	76.5	80.4	83.5	84.8
		Near Cooler Fan 3	85.3	85.3	73.3	82.7	84.2	85
		Control Room Area	61.8	59	63	58.7	58.8	84.4
		ESP Area	82	82.6	80	80.9	81.9	60
		Near M. N. D Area	81.3	80.1	79.8	81.8	80.6	82.1
18	Sinter Plant-03	Near Main ESP ID Fan	84.3	84.9	80.2	83.5	83.8	81.6
		Near PD ESP ID Fan	80.2	81.8	74.6	80.6	82.6	84.8
		Near Cooler Fan 1	86.1	85.4	80.1	83.8	85.1	80.2
		Near Cooler Fan 2	85.4	85.7	81.3	82.9	84.8	84.9
		Near Cooler Fan 3	85.9	87.1	83.4	84.1	83.7	85.8
		SP2,3RCPHTPM circle	89.9	90.2	90.4	91	90.5	83.9
		ESP Area	81.6	80.5	78.3	81.8	80.7	90.2
		Pumphouse Area	82.8	81	81.7	82.7	81.9	82.1
		Near M. N. D Area	80.4	80.2	80.1	81.6	81.2	81.5
		Control Room Area	60.4	58	59.1	60	59	81.7
		Infront of Entrance of DG 250 KVA SP2&SP3 (Door Close Condition)	83.5	83.7	80	83.5	82.5	61
19	BOF Shop	Near Secondary ID Fan 1	SD	94.1	94.2	91.4	90.7	83.8
		Near Secondary ID Fan 2	91.5	94.7	95.1	91.6	SD	93.3
		Near Secondary ID Fan area 3	92.5	94.5	92.8	SD	90.4	93.8
		Near Secondary ID Fan area 4	92.4	SD	SD	SD	90.8	90.9
		Near Cooling Tower area	82.8	84.3	83.0	82.6	82.7	SD
		Near Primary/ Secondary ID Fan area 1/2	82.1	83.6	83.5	83.6	83.8	83.4
		BOF Briquetting plant	80.3	82.8	82.6	82.5	83.2	84.6
		Bag House T44B ID Fan	84.8	86.1	85.1	84.9	84.6	81.5
		BOF office area	62.4	62.4	59.8	61.6	61.5	85.2
		Near Wage bridge area	79.3	75.6	81.5	81.7	81.3	61.5
20	SMS-2-FES-1&2	Near Motor ID Fan area-1 area	88	90.8	SD	88.9	89.4	81.7
		Near Motor ID Fan area-2 area	87.5	88.3	88.6	89	89.1	86.6
		Near Motor ID Fan area-4 area	89.4	90.5	88.8	89.7	88.5	87.1
		Near Motor ID Fan area-6 area	88	89.5	SD	89.4	87.8	87.4
		Booster House (ID Fan)	83.7	84.2	84.2	84.1	84.5	88.2
		Near Control room Area	66.5	68.3	58.4	59.4	59.1	84.5
21	HSM	Near COG Fan Area	SD	84.8	84.8	84.4	84.1	59.4
		Near RHF Office area (Pulpit)	72.8	70.8	68.3	80.2	83	85.2
		Near RM-2 area	85.2	85.7	85.4	85.3	88.2	80.4
		Near Roll Shop area	82.3	80.9	79.8	80.6	81.3	87.2
		Near HSM Quality Lab area	63.4	62.7	63.2	59.5	60	80
		Near B F G Motor Fan RHF area	84.8	81.5	83	81.3	83.9	59.2
		Near Combustion air blower - 1	SD	85.7	85.2	85.5	85.2	83.5
		Near Combustion air blower- 2	SD	86.2	85.7	85.2	85.7	85
		DC pulpit office area	82.7	75.1	69.4	83.9	61.2	86.4
		Near RM-1 area	85.5	87.4	86.8	85.4	87.8	59.4
		FM area	86.2	86	86.4	85.7	86.3	86.9
		Laminar area	86.1	85.9	85.6	84.8	87.1	84.2
		Near DC sampling Station	81.2	82.3	83.1	82.5	84.8	83.5
		Near Re-heating Furness area	80.8	81.6	80.9	81.4	84.1	82.8

Annexure-IV

Environment Management Laboratory

M/s. TATA Steel Limited, Meramandali, Odisha

22	Coke Oven-2	Near Exhauster house area	85.9	85.7	86.5	86.3	87.1	82.5
		Near Chemical Dosing E.T.P room area	80.5	80	80	80.9	80	86.5
		Near Pusher car Emission control system ID Fan	79.7	82	81.7	80.7	82	81.3
		Near Guide car emission I D Fan	80.9	81.7	81.5	82.4	82.5	82.2
		Near Water pumphouse area	86.4	86.8	85.8	85.4	85.8	81.1
		Near Battery cellar ventilation blower	SD	SD	SD	SD	SD	86.2
		Near Battery coke oven gas de-graphitizing blower	SD	SD	SD	SD	SD	SD
		Pushing emission control system ID Fan	82.3	81.9	81.2	80.2	80.4	SD
		Control Room Office	57.2	59.4	58.7	60.9	59.4	81.9
23	BFPP-2 Boiler-2	Near I.D. Fan 1	SD	SD	82.5	82.8	82.6	60.3
		Near I.D. Fan 2	SD	SD	83.1	82.5	83	82.4
		Near P.A. Fan	SD	SD	89.2	89.3	89.7	83
		Near S.A. Fan	SD	SD	90	89.6	89.8	89.2
		Near Boiler -2 area	SD	SD	84.8	83.6	83.9	89.8
		Near cooling tower-area	84.7	84.5	84.9	84.3	84.8	84.8
24	BFPP-2 Boiler-3	Near I.D. Fan 1	83.2	83.6	SD	SD	SD	84.9
		Near I.D. Fan 2	83.5	83.9	SD	SD	SD	SD
		Near P.A. Fan	89.9	90.1	SD	SD	SD	SD
		Near S.A. Fan	89.3	90.2	SD	SD	SD	SD
		Near TG floor	89.3	88.6	88.3	87.2	87.5	SD
		Near Blower	90	89.8	89.7	88.4	87.8	86.3
		Control room	61.4	61	64.2	60.7	61.5	87.5
		Near Boiler -3 area	83.9	84.8	SD	SD	SD	60.5
25	Oxygen Plant-02	Near Nitrogen compressor House-1	103	106.2	107.6	106.5	105.1	SD
		Near Nitrogen compressor House-2	103.8	105.2	105.9	105.3	104.5	105.9
		Near Nitrogen compressor House-3	105.1	SD	SD	SD	SD	104.7
		Near Air compressor House area 1	109.9	105.6	108.2	107.2	106.8	104.3
		Near Control room office outside area	95.3	91.5	94.8	94.7	92.3	105.1
		Control Room Office	62.8	60.5	63.3	57.4	60.5	92.8
		Near A/ C Package room area	83.2	80	80.3	81.2	81.7	62.8
		Near Argon cold box area	82.6	80.1	78.8	80.7	81.5	82.4
		Near cooling tower	81.7	81.6	79.6	80.1	82.2	81.3
		Near 340 TPD new compressor House exit	89.8	85.1	SD	89.7	90.7	80.2
		Near 340 TPD new compressor House Entrance	88.9	89.6	SD	90.2	87.2	85
		Near 1120 TPD air compressor house	SD	103.5	99.3	98.4	98.6	90.4
		Pump House area	85.9	85.8	84.6	85.6	84.8	98.4
		Near Turbine-1 area	84	84.9	81.8	83.5	85	85.7
26	BB Plant	Near BB Plant Bunker ID Fan 1	82.4	80.9	81.2	81.1	81.4	84.8
		Near BB Plant flux building ID Fan 2	83.7	82.3	SD	83.3	82.7	82.4
		Near BB Plant crushing & screening building	80.2	80	SD	81.4	80	83.6
		Near BB Plant coke screening building	80.5	SD	SD	80.8	80.3	82.7
		Near BB Plant compressor house 1 &2	SD	SD	SD	SD	SD	SD
		BB Plant Office	58.9	58.7	59.3	58.9	59.7	SD
27	RMPP	Near CSB-1 I D Fan	SD	83.2	83.5	83.5	84.2	59.5
		Near CSB-2 I D Fan	SD	86.8	85.1	85.7	87.7	82.7
		Near BB plant site office	80.9	81.2	80	80.2	80	85.4
		Near P.C.S building	SD	80.4	80.6	80	80.4	79.2
		Near T.C.S building	SD	83.6	81.8	81.2	81.2	80.1

Annexure-IV

Environment Management Laboratory

M/s. TATA Steel Limited, Meramandali, Odisha

		Near S.C.S building	SD	81.5	81.7	83.1	78.8	80.5
		Control Room Office	59.3	58.5	59.6	59.3	59.3	79.7
		Near Pumphouse Area	85.2	80.4	82	81.4	80.9	58.4
		Near O.P.S building	80.4	79.5	81.4	SD	SD	81.3
		Near O.S.C building	79.9	82.2	82.5	81.5	81.7	80.4
		Near O.T.C building	80.2	82.7	83.7	SD	SD	82
28	Coal Washery	Hammer Building Area	80.2	80.4	80.6	80	80.5	70.4
		Screening Building	80.1	80	80.8	79.6	79.3	80.4
		Power Plant Feeding Silo	82.4	84.6	84.5	83.5	83.8	80.1
		Lab & Office Area	58.7	59.2	58.8	58.4	59.7	83.6
29	RMHS	Yard No-1 to 4	79.9	80.5	80.1	80.7	80.5	58
		Yard No-5 to 6	80	80.1	80.3	80.4	80.3	80
		Near 3 EP-2 RMHS-III Electrical Building	59.3	81.3	58.5	58.3	59.2	79.6
		RMHS Office	60.1	58.3	58	59.8	58.8	58.9
		Wagon Tippler -1	SD	SD	83.2	SD	81.4	59.1
		Wagon Tippler -4	SD	81.6	SD	SD	SD	SD
		Wagon Tippler -3	SD	SD	SD	SD	SD	SD
		Wagon Tippler -2	SD	SD	SD	82.5	SD	SD
		Tunnel area	SD	82.4	82.7	83.2	83.8	81.3
		RMHS-2 offline crusher Screen area	84.8	80.2	SD	SD	84.7	83.5
		RMHS-2 offline crusher area	81.3	84.4	82.7	SD	81.3	SD
30	CCH 2	Entrance of air compressor house gate 1	82.4	82.6	81.2	82.1	80.2	SD
		Entrance of air compressor gate 2	83	80.1	80.9	81.8	80.8	85.4
		Inside store cum rest house	80.7	80	80	80.3	79.1	82.3
		Inside compressor house	90.2	90.9	92.1	91.8	90.9	80.7
		Near air compressor	91.7	93.4	93.4	95.7	95	88
		Inside office area	60	60	68.3	63.2	62.1	93.6
		Inside compressor operator cabin	80.2	80.5	80.3	81.1	80.5	61.5
31	BFPP2 ash conveying compressor house	Entrance of air compressor house	83.8	82.5	82.7	82.9	82.6	82.5
		Inside compressor house	84.9	84.9	85.3	85.7	85.3	82.2
		Near air compressor	86.2	85.6	86.2	86.5	86.4	86.7
32	IBMD	Crusher Tata office (container)	58.3	59.1	58	58.8	58.5	85
		Entrance of Weigh Bridge	80	80	80	80	80	60.1
		Scraped Yard	80.4	80.5	80.3	81.3	81.7	80.2
		New Sarpa MRP-II (Operator Cabin)	SD	61.4	59.2	56.7	58	81.5
		New MRP Screen-II-New MRP	SD	SD	SD	SD	SD	58.5
		New MRP Screen-I-New MRP	SD	SD	SD	SD	SD	SD
		New MRP-Loading Point Area	SD	SD	SD	SD	SD	SD
		Office & Operator Cabin (Old MRP)	58.5	61.1	58.3	59	60.7	SD
		Old MRP Screen-I&II-New MRP	78.5	SD	80.1	SD	80.1	58.8
		Old MRP Screen-III-New MRP	79.6	SD	80.6	81.8	81.3	80.3
		Old MRP-Loading Point	81.7	SD	81.4	82.6	82.6	80.5

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