



To  
The Additional Principal Chief Conservator of Forest,  
Regional Office (Eastern Central Zone)  
Ministry of Environment, Forests and Climate Change, Govt. of India  
Bungalow No. A-2, Shyamali Colony,  
Ranchi – 834002, Jharkhand.

Ref No. - JMB/ENV/MSBSL/61/ 866 /2022

November 24, 2022

Ref.: Environmental Clearance letter No.-J-11015/162/2008-IA.II (M), Dated-19<sup>th</sup> January 2012.

**SUB: Half Yearly Compliance Status Report of Environment Clearance conditions issued by MoEFCC, New Delhi to Mahal Saharjuri Bagula Sand Lease, Tata Steel Limited, Dhanbad for the period April'22 to September'22.**


Dear Sir,

We are enclosing herewith compliance report for the period **April'22 to September'22** for the EC granted vide letter no.-J-11015/162/2008-IA.II (M), Dated-19<sup>th</sup> January 2012 issued by Ministry of Environment, Forest and Climate Change, New Delhi.

Copy of the compliance report is also being sent in soft format through email at [ro.ranchi-mef@gov.in](mailto:ro.ranchi-mef@gov.in) for your kind perusal. We trust the information furnished is in line with your requirement.

Thanking you,

Yours faithfully,

  
**Head (Planning)**  
**Jharia Division, Tata Steel Ltd.**

Encl: As above.

Copy to: Member Secretary, CPCB, Eastern Zonal Office, Southend Conclave, 502, 5<sup>th</sup> Floor  
1582, Rajdanga Main Road, Kolkata -700107.

Copy to: Member Secretary, JSPCB, T.A. Division Building (Ground Floor), H.E.C, Dhurwa,  
Ranchi - 834004.

Copy to: Sr. Manager (Environment)

**HALF YEARLY COMPLIANCE REPORT**  
**(PERIOD: APRIL'22 – SEPTEMBER'22)**

**MAHAL SAHARJURI BAGULA SAND**  
**LEASE**

**(CAPACITY: 0.1 MTPA RIVER BED SAND)**  
**VILLAGE: MAHAL, SAHARJURI & BAGULA, DIST:**  
**BOKARO, JHARKHAND**



**TATA STEEL LIMITED, JHARIA DIVISION**  
**P.O. - JAMADOBA, DIST. - DHANBAD,**  
**STATE- JHARKHAND, PIN CODE – 828112**

**ENVIRONMENTAL CLEARANCE GRANTED VIDE LETTER NO. - J-  
11015/162/2008-IA.II(M) DATED- 19.01.2012 ISSUED BY GOVT. OF INDIA,  
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE, NEW  
DELHI.**

**Compliance status of Environmental Clearance of Mahal, Saharjuri, Bagula Sand Lease Mining project of M/s Tata Steel Ltd., Village Lagla and Mahal dist. Bokaro, Jharkhand vide MoEFCC Letter no J-11015/162/2008-IA.II (M) dated January 12, 2012**

S. No.	Condition	Compliance Status
<b>Specific Condition</b>		
(i)	The project proponent shall obtain Consent to Establish and Consent to Operate from the Jharkhand State Pollution Control Board, and effectively implement all the conditions stipulated therein.	The Consent to Establish has been granted by JSPCB vide letter no. JSPCB/RO/DHN/CTO-9250363/2021/36 dated 25.03.2021. The current CTO is valid till 31.03.2026. All the conditions as stipulated in the consent are being complied with.
(ii)	The project proponent shall comply with section 3 of the Mines Act.	It is being complied.
(iii)	The Company shall submit within 3 months their policy towards Corporate Environment Responsibility which should inter-alia provide for (i) Standard operating process / process to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions, (ii) Hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the EC conditions and (iii) System of reporting of non-compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders.	The Company already has an Environment Policy approved by the Managing Director and it addresses all the issues mentioned.  The status of adherence to the policy and compliance to Environmental laws and regulations is regularly discussed at higher levels. Any non-compliance noticed is corrected at divisional level. If any issue is beyond our control, it is brought to the notice of higher management. The environment management cell directly reports to General Manager and it is reviewed on weekly basis. We have an online system to monitor the statutory requirements and compliance in time. This is reviewed by Board of Directors at company's level.
(iv)	Sand collection shall be done at the middle/ main stream and not at the bank of the river to avoid any change of the river course due to the project.	Sand excavation is done by leaving 1/5th of the width of the river intact for maintaining the embankment. It will be ensured that no change in the river course takes place.
(v)	Particulate level (PM2.5) shall be monitored regularly and the result placed in the public domain.	Monitoring of PM2.5 has been carried out in this period. The report is given as <b>Annexure-I</b> .
(vi)	The project proponent shall identify the degraded area within the mine lease and undertake plantation/afforestation in the area identified by planting the native species.	The mine lease area is a riverbed. Hence, we approach the villagers and assist them in planting the native species as well as fruit plants in the villages. Some of the native species are Pipal, Ber, Jamun, Alostromia, Palash, Karanj, Kadamb etc.
(vii)	Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water	It is being complied. Water spraying is done on the transportation roads on regular basis. The ambient air quality is regularly monitored and analyzed by own as well as NABL & JSPCB recognized lab and

**Compliance status of Environmental Clearance of Mahal, Saharjuri, Bagula Sand Lease Mining project of M/s Tata Steel Ltd., Village Lagla and Mahal dist. Bokaro, Jharkhand vide MoEFCC Letter no J-11015/162/2008-IA.II (M) dated January 12, 2012**

	sprinkling shall be carried out of haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.	conform to the prescribed standards. Reports are enclosed as <b>Annexure-I</b> .
<b>(viii)</b>	The project proponent shall undertake adequate safeguard measures during extraction of river bed material and ensure that due to this activity the hydrogeological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area by establishing a network of existing well and installing new piezometers during the mining operation. The periodic monitoring [(at least four times in a year- pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January); once in each season)] shall be carried out in consultation with the State Ground Water Board/Central Ground Water Authority and the data thus collected may be sent regularly to the Ministry of Environment and Forests and its Regional Office Bhubaneswar, the Central Ground Water Authority and the Regional Director, Central Ground Water Board. If at any stage, it is observed that the groundwater table is getting depleted due to the mining activity, necessary corrective measures shall be carried out.	The extraction of sand is done with utmost care of the environment. There is no extraction of water as well as no change in river course involved hence there will be no impact on the hydrogeological regime. The monitoring report of the ground water level and quality is given as <b>Annexure-I</b> .
<b>(ix)</b>	The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite of water (surface water and groundwater), if any, required for the project.	No water is required for the operation of project. Drinking water required by the workers is arranged by the company.
<b>(x)</b>	Appropriate mitigative measures shall be taken to prevent pollution of the river in consultation with the State Pollution Control Board. It shall be ensured that there is no leakage of oil and grease in the river from the vehicles used for transportation.	Adequate monitoring of the health of the vehicles used for transportation of sand is ensured to avoid any oil & grease leakage. Higher capacity trucks have been deployed. Without valid fitness certificates and PUC, the vehicles are not allowed to ply and it is regularly checked.
<b>(xi)</b>	Vehicular emissions shall be kept under control and regularly monitored. The mineral transportation shall be carried out	The vehicles used are regularly checked and maintained. Only vehicles having PUC certificates can ply. Transportation of sand

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	through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.	is always done via tarpaulin-covered trucks which are optimally loaded. This is monitored whenever vehicles enter premises at weighbridge gate.
(xii)	No drilling and blasting operation shall be carried out.	Not applicable as it is a sand mining project.
(xiii)	Mineral handling area shall be provided with the adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.	Sand being coarse in nature and having high moisture content during gathering & transportation does not get air borne. Sand stored in the sand yards is transferred to underground voids through surface bunkers in a slurry form. However, dust control measures while transporting of sand is in place through water tanker, coverage of trucks and optimal loading.
(xiv)	Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly.	As per our policy, PME's (Periodical Medical Examination) are conducted at regular intervals.
(xv)	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	The workers are from the neighboring villages and hence new housing facilities are not required.
(xvi)	The critical parameters such as RSPM (Particulate matter with size less than 10 micron i.e., PM10) and NOx in the ambient air within the impact zone shall be monitored periodically. Further, quality of discharge water shall also be monitored [(TDS, DO, PH, Fecal Coliform and Total Suspended Solids (TSS)]. The monitored data shall be uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the company in public domain. The Circular No. J-20012/1/2006-IA.II(M) dated 27.05.2009 issued by Ministry of Environment and Forests, which is available on the website of the Ministry www.envfor.nic.in shall also be referred in this regard for its compliance.	The monitoring of the air parameters has been done in this period. There is no use of water for mining operation hence there is no discharge. Details of air analysis are given in <b>Annexure-I</b> . The monitoring reports are regularly uploaded on company's website along with half-yearly EC compliance reports.

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<b>B.</b>	<b>GENERAL CONDITIONS</b>	
<b>(i)</b>	No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment and forests.	It is being complied with.
<b>(ii)</b>	No change in the calendar plan including excavation, quantum of sand from river bed and waste should be made.	It is being complied with.
<b>(iii)</b>	Conservation measures for protection of flora and fauna in the core & buffer zone should be drawn up in consultation with the local forest and wildlife department and effectively implemented.	No rare species are found in the area.
<b>(iv)</b>	Atleast four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM (Particulate matter with size less than 10micron i.e., PM10) and NOx monitoring. Location of stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.	The monitoring stations have been established and monitoring jobs are being performed regularly. The ambient air quality analysis reports are attached as <b>Annexure-I</b> .
<b>(v)</b>	Data on ambient air quality [(RSPM(Particulate matter with size less than 10micron i.e., PM10) and NOx] should be regularly submitted to the Ministry including its regional office at Bhubaneswar and to the State Pollution Control Board/ Central Pollution Control Board once in six months.	It is being submitted as <b>Annexure-I</b> in this compliance report.
<b>(vi)</b>	Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.	Sand, being coarse in nature and having high moisture content, does not get air borne during gathering & transportation. However, dust control measures while transporting of sand is in place through water tanker, coverage of trucks and optimal loading.
<b>(vii)</b>	Measure should be taken for control of noise levels below 85 dBA in work Environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.	Proper PPE's are provided to all the workers.

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(viii)	Industrial waste water (Workshop and Waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422f(E) dated 19th May 1993 and 31st December 1993 or as amended from time to time. Oil and Grease trap should be installed before discharge of Workshop effluents.	No waste water generation will take place.
(ix)	Personnel working in dusty area should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspect. Occupational Health Surveillance programme of the worker should be undertaken periodically to observe any contraction due to exposure to dust and take corrective measures, if needed	It will be complied with.
(x)	A separate Environmental Management cell with suitable qualified personnel should be set-up under the control of a senior executive, who will report directly to the Head of the Organization.	We have a separate Environmental Management Cell with qualified personnel. The reporting of Environmental Cell is directly to General Manager of the Division.
(xi)	The funds earmarked for environmental protection measures should be kept in separate A/C and should not be diverted for other purposes. Year wise expenditure should be reported to this ministry and its regional office located at Bhubaneswar.	Expenditure on Environmental Protection measures is monitored separately. It is provided in the Environment Statement every year. The annual expenditure for the financial year 2021-22 is Rs. 0.56 lakhs for water spraying activities on transport road, plantation and environment monitoring.
(xii)	The project authorities should inform to the Regional Office located at Bhubaneswar regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	The CTE and CTO of the project have been granted by JSPCB. The permission for lifting of sand from the river bed has also been granted by District Mining Officer, Bokaro.
(xiii)	The regional office of this ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The project authorities should extend full co-operation to the officer (s) of the regional office by furnishing the requisite Data/ information/ Monitoring reports.	It will be complied with.
(xiv)	The project proponent shall submit six monthly reports on the status of compliance of the stipulated environment clearance conditions	It is being complied with. We are submitting the six-monthly compliance reports to MoEF&CC, its regional office, CPCB and SPCB twice a year. In adherence

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	including results of monitored data (both in hard copies as well as by e-mail) to the Ministry of Environment and Forests, its Regional Office Bhubaneswar , the respective zonal office of Central Pollution Control Board and the State Pollution Control Board. The proponent shall upload the status of compliance of the environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the Ministry of Environment and Forests, Bhubaneswar, the respective Zonal Officer of Central Pollution Control Board and the State Pollution Control Board.	with the guideline as per notification dt. 26.11.2018, we are sending only soft copy of the compliance status report over mail.
(xv)	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad / 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 website of the company by the proponent.	It has been complied with.
(xvi)	The State Pollution Control Board should display a copy of the clearance letter at the Regional Office, District Industry Centre and the Collector's Office / Tehsildar's Office for 30 days.	The copy of clearance letter has been sent to JSPCB office and its compliance report is also submitted to JSPCB.
(xvii)	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and also be sent to the respective Regional Office of the Ministry on Environment and Forests, Bhubaneswar by e-mail.	The environmental statement for financial year 2021-22 has been submitted to JSPCB on 28 <sup>th</sup> September 2022 vide letter no. JMB/ENV/ESSA/05/721/2022 and it is also uploaded on the company website. The soft copy of Environment Statement is also sent to MOEF by email at ro.ranchi-mef@gov.in.
(xviii)	The project authorities should advertise at least in two local newspapers of the	It has been complied with.



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	<p>District or State in which the project is located and widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at website of the Ministry of Environment and Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a> and a copy of the same should be forwarded to the Regional Office of this Ministry located at Bhubaneswar.</p>	
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### Ambient Air Quality Analysis Report

**Period-** April'22 to June'22

Name of Industry : Mahal Saharjuri Sand Mining Project

No. of sampling points : 4

Sampling Location	Date of Sampling/ Weather Condition		
	April'22	May'22	June'22
Mahal School Near Izri River	19.04.2022/ Clear	12.05.2022/ Clear	23.06.2022/ Clear
Lagla Gram Panchayat	19.04.2022/ Clear	12.05.2022/ Clear	23.06.2022/ Clear
Bagula School	20.04.2022/ Clear	13.05.2022/ Clear	24.06.2022/ Clear
Shahar Juri School	20.04.2022/ Clear	13.05.2022/ Clear	24.06.2022/ Clear

Location	Latitude/ Longitude	Date	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>x</sub>
			PM <sub>10</sub> Level : 24 Hourly Limit- 100µg/m <sup>3</sup>	PM <sub>2.5</sub> Level : 24 Hourly Limit-60µg/m <sup>3</sup>	SO <sub>x</sub> Level: 24 Hourly Limit- 80µg/m <sup>3</sup>	NO <sub>x</sub> Level: 24 Hourly Limit- 80µg/m <sup>3</sup>
Mahal School Near Izri River	23°38'06.1"N / 86°23'41.2" E	19.04.2022	63.7	33.5	12.8	13.2
		12.05.2022	64.8	34.3	13.2	14.2
		23.06.2022	65.2	35.8	12.4	12.7
Lagla Gram Panchayat	23°37'21.3" N/ 86°23'35.3" E	19.04.2022	62.5	34.5	13.2	13.6
		12.05.2022	65.4	36.4	13.3	13.7
		23.06.2022	63.4	33.5	12.5	13.2
Bagula School	23°36'27.3" N/ 86°21'59.7" E	20.04.2022	62.7	32.3	13.2	14.4
		13.05.2022	63.8	35.2	12.7	13.7
		24.06.2022	64.3	34.2	13.5	13.5
Shahar Juri School	23°36'26.6" N/ 86°20'58.9" E	20.04.2022	63.6	33.4	13.2	13.6
		13.05.2022	66.2	35.6	13.6	14.7
		24.06.2022	64.5	33.2	13.8	13.5
Minimum			62.5	32.3	12.4	12.7
Maximum			66.2	36.4	13.8	13.8
Average			64.17	34.32	13.11	13.66



**Sr. Manager (Environment)**

### Ambient Air Quality Analysis Report

**Period-** July'22 to September'22

Name of Industry : Mahal Saharjuri Sand Mining Project

No. of sampling points : 4

Sampling Location	Date of Sampling/ Weather Condition		
	July'22	August'22	September'22
Mahal School Near Izri River	21.07.2022/ Clear	25.08.2022/ Cloudy	15.09.2022/ Cloudy
Lagla Gram Panchayat	21.07.2022/ Clear	25.08.2022/ Cloudy	15.09.2022/ Cloudy
Bagula School	22.07.2022/ Cloudy	26.08.2022/ Clear	16.09.2022/ Clear
Shahar Juri School	22.07.2022/ Cloudy	26.08.2022/ Clear	16.09.2022/ Clear

Location	Latitude/ Longitude	Date	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>x</sub>
			PM <sub>10</sub> Level: 24 Hourly Limit-100µg/m <sup>3</sup>	PM <sub>2.5</sub> Level: 24 Hourly Limit- 60µg/m <sup>3</sup>	SO <sub>x</sub> Level: 24 Hourly Limit- 80µg/m <sup>3</sup>	NO <sub>x</sub> Level: 24 Hourly Limit- 80µg/m <sup>3</sup>
Mahal School Near Izri River	23°38'06.1"N / 86°23'41.2" E	21.07.2022	62.8	32.4	12.5	13.4
		25.08.2022	64.3	34.2	13.4	14.6
		15.09.2022	65.4	35.3	13.2	13.7
Lagla Gram Panchayat	23°37'21.3" N/ 86°23'35.3" E	21.07.2022	62.3	33.2	13.3	14.8
		25.08.2022	64.5	35.4	13.4	13.6
		15.09.2022	63.2	32.6	12.6	13.5
Bagula School	23°36'27.3" N/ 86°21'59.7" E	22.07.2022	62.7	32.4	13.3	14.6
		26.08.2022	63.5	35.3	12.8	14.3
		16.09.2022	62.6	33.5	13.6	13.6
Shahar Juri School	23°36'26.6" N/ 86°20'58.9" E	22.07.2022	64.7	32.7	13.2	13.8
		26.08.2022	65.8	35.8	13.5	14.7
		16.09.2022	63.5	33.5	13.8	13.4
Minimum			62.3	32.4	12.5	13.4
Maximum			65.8	35.8	13.8	14.7
Average			63.78	33.85	13.21	14.0



**Sr. Manager (Environment)**

### Ground Water Quality Analysis

#### Ground water level fluctuation in and around Core & Buffer zone area of sand mining lease Pre- Monsoon Season- May'22

S.No	Date	Location	Time	Sample Parameter		
				Depth in meter (m)	pH	Electrical Conductivity, $\mu\text{S/m}$
1	15.05.2022	Prem Singhdih	10:20AM	7.5	7.2	586
2	15.05.2022	Lagla	11:35AM	7.4	7.3	615
3	15.05.2022	Alakdih	11:10AM	7.2	7.2	652
4	15.05.2022	Joradih	12:45PM	7.4	7.0	595
5	15.05.2022	SEB Quarters	11:55AM	7.3	7.1	630
6	15.05.2022	Kargali	02:50PM	6.8	7.2	610
7	15.05.2022	Kumargora	01:40PM	7.2	7.0	624
8	15.05.2022	Bhjudih	01:30PM	6.9	7.1	579
9	15.05.2022	Mahal	12:15PM	7.4	7.0	605
10	15.05.2022	Sudamdih	01:52PM	7.3	7.2	592

#### Monsoon Season - August'22

S.No	Date	Location	Time	Sample Parameter		
				Depth in meter (m)	pH	Electrical Conductivity, $\mu\text{S/m}$
1	24.08.2022	Prem Singhdih	10:15AM	2.62	7.1	612
2	24.08.2022	Lagla	11:40AM	2.14	7.2	625
3	24.08.2022	Alakdih	10:55AM	2.30	7.0	664
4	24.08.2022	Joradih	01:50PM	2.74	7.2	604
5	24.08.2022	SEB Quarters	11:20AM	2.23	7.1	635
6	24.08.2022	Kargali	01:45PM	2.10	7.0	634
7	24.08.2022	Kumargora	11:50PM	2.05	7.1	646
8	24.08.2022	Bhjudih	12:55PM	2.12	7.2	590
9	24.08.2022	Mahal	12:18PM	1.75	7.0	621
10	24.08.2022	Sudamdih	12:05PM	2.25	7.1	638



Sr. Manager (Environment)

## Surface Water Quality Analysis

Sl. No.	Location	Sampling Date	Sampling Time	Temp	pH	TSS	BOD	Oil & Grease
				< 40°C	5.5 - 9.0	100 mg/l	30 mg/l	10 mg/l
1.	River Gowai Up Stream	23.09.2022	10:40 AM	25.4	7.6	24	3.4	0.7
2.	River Damodar Down Stream	23.09.2022	10:55 AM	24.6	7.3	23	3.2	0.5
3.	Lagla (Pond)	23.09.2022	01:40 PM	24.3	7.4	22	2.8	0.2
4.	Alakhdi (Pond)	23.09.2022	01:50 PM	24.5	7.3	23	3.5	0.2
5.	Joradi (Pond)	23.09.2022	11:54 AM	23.8	7.5	22	3.2	0.1
6.	SEB Quarters (Pond)	23.09.2022	11:20 AM	25.2	7.4	25	2.6	0.2
7.	Kargali (Pond)	23.09.2022	12:25 PM	24.5	7.3	24	2.5	0.1
8.	Kumargora (Pond)	23.09.2022	12:57 PM	24.7	7.4	23	3.4	0.2
9.	Bhojudi (Pond)	23.09.2022	12:48 PM	25.2	7.3	22	2.5	0.1



Sr. Manager (Environment)



# ADITI R&D SERVICES

Testing Laboratory

NABL ACCREDITED

(A Constituent Board of Quality Council of India)

ISO/IEC 17025:2017, ISO 9001:2015, ISO (OHSAS) 45001:2018 Certified

Plot No. - I-B-17 (P)  
Sindri, Industrial Area,  
P.O. - Domgarh, Dist. - Dhanbad  
Jharkhand - 828107  
Email ID: sindriaditi@gmail.com  
Website: aditimdservices.com  
Phone: 0326-2952377 (O)  
Mobile: 09471358492, 09431512608

Ref. No.: - ARDS/22-23/447

Date: 18.05.2022

## TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY  
(SAND LEASE AREA, BHOJUDIH)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 12.05.2022 to 13.05.2022
- Date of Testing : 16.05.2022 – 17.05.2022
- Test Procedure : As per IS-5182

### TEST RESULTS

LOCATION – ICCHAR HIGH SCHOOL					
Avg. Ambient Temperature		33 <sup>o</sup> C	Avg. Humidity		49%
Sl No.	Particulars	Value	CPCB STANDARD		
1.	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	69.48	100 µg/m <sup>3</sup>		
2.	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	39.21	60 µg/m <sup>3</sup>		
3.	SO <sub>2</sub> , µg/m <sup>3</sup>	12.29	80 µg/m <sup>3</sup>		
4.	NO <sub>2</sub> , µg/m <sup>3</sup>	27.36	80 µg/m <sup>3</sup>		
5.	Ozone, µg/m <sup>3</sup>	15.12	180 µg/m <sup>3</sup>		
6.	NH <sub>3</sub> , µg/m <sup>3</sup>	20.86	400 µg/m <sup>3</sup>		
7.	CO, mg/m <sup>3</sup>	0.66	4 mg/m <sup>3</sup>		
8.	Pb, µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>		
9.	As, ng/m <sup>3</sup>	BDL	6 ng/m <sup>3</sup>		
10.	Ni, ng/m <sup>3</sup>	BDL	20 ng/m <sup>3</sup>		
11.	Benzene, µg/m <sup>3</sup>	BDL	5 µg/m <sup>3</sup>		
12.	Benzoapyrene ng/m <sup>3</sup>	BDL	1 ng/m <sup>3</sup>		

NOTE: BDL - Below Detection Limit

*S. R. G. G.*  
Sr. Chemist  
Aditi R&D Services



*P. L. L. L.*  
18.05.22  
Quality Manager  
Aditi R&D Services, Sindri

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Testing Laboratory

NABL ACCREDITED

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Email ID: sindriaditi@gmail.com  
Website: aditirndservices.com  
Phone: 0326-2952377 (O)  
Mobile: 09471358492, 09431512608

Ref. No.: - ARDS/22-23/448

Date: 18.05.2022

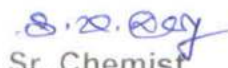
## TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY  
(SAND LEASE AREA, BHOJUDIH)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 12.05.2022 to 13.05.2022
- Date of Testing : 16.05.2022 – 17.05.2022
- Test Procedure : As per IS-5182

### TEST RESULTS

LOCATION – LAGLA GRAM PANCHYAT				
	Avg. Ambient Temperature	33°C	Avg. Humidity	49%
Sl No.	Particulars	Value	CPCB STANDARD	
1.	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	67.28	100 µg/m <sup>3</sup>	
2.	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	41.65	60 µg/m <sup>3</sup>	
3.	SO <sub>2</sub> , µg/m <sup>3</sup>	15.24	80 µg/m <sup>3</sup>	
4.	NO <sub>2</sub> , µg/m <sup>3</sup>	26.84	80 µg/m <sup>3</sup>	
5.	Ozone, µg/m <sup>3</sup>	16.96	180 µg/m <sup>3</sup>	
6.	NH <sub>3</sub> , µg/m <sup>3</sup>	20.56	400 µg/m <sup>3</sup>	
7.	CO, mg/m <sup>3</sup>	0.68	4 mg/m <sup>3</sup>	
8.	Pb, µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>	
9.	As, ng/m <sup>3</sup>	BDL	6 ng/m <sup>3</sup>	
10.	Ni, ng/m <sup>3</sup>	BDL	20 ng/m <sup>3</sup>	
11.	Benzene, µg/m <sup>3</sup>	BDL	5 µg/m <sup>3</sup>	
12.	Benzoapyrene ng/m <sup>3</sup>	BDL	1 ng/m <sup>3</sup>	

NOTE: BDL - Below Detection Limit

  
Sr. Chemist  
Aditi R&D Services



  
Quality Manager  
Aditi R&D Services, Sindri

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Phone: 0326-2952377 (O)  
Mobile: 09471358492, 09431512608

Ref. No.: - ARDS/22-23/449

Date: 18.05.2022

### TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY  
(SAND LEASE AREA, BHOJUDIH)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO. : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 12.05.2022 to 13.05.2022
- Date of Testing : 16.05.2022 – 17.05.2022
- Test Procedure : As per IS-5182

### TEST RESULTS

LOCATION – SAHARJURI SCHOOL				
	Avg. Ambient Temperature	33 <sup>0</sup> C	Avg. Humidity	49%
Sl No.	Particulars	Value	CPCB STANDARD	
1.	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	68.14	100 µg/m <sup>3</sup>	
2.	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	39.39	60 µg/m <sup>3</sup>	
3.	SO <sub>2</sub> , µg/m <sup>3</sup>	14.21	80 µg/m <sup>3</sup>	
4.	NO <sub>2</sub> , µg/m <sup>3</sup>	23.26	80 µg/m <sup>3</sup>	
5.	Ozone, µg/m <sup>3</sup>	17.84	180 µg/m <sup>3</sup>	
6.	NH <sub>3</sub> , µg/m <sup>3</sup>	15.92	400 µg/m <sup>3</sup>	
7.	CO, mg/m <sup>3</sup>	0.73	4 mg/m <sup>3</sup>	
8.	Pb, µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>	
9.	As, ng/m <sup>3</sup>	BDL	6 ng/m <sup>3</sup>	
10.	Ni, ng/m <sup>3</sup>	BDL	20 ng/m <sup>3</sup>	
11.	Benzene, µg/m <sup>3</sup>	BDL	5 µg/m <sup>3</sup>	
12.	Benzoapyrene ng/m <sup>3</sup>	BDL	1 ng/m <sup>3</sup>	

NOTE: BDL - Below Detection Limit

*S. D. Ray*  
Sr. Chemist  
Aditi R&D Services



*P. Prasad*  
18.05.22  
Quality Manager  
Aditi R&D Services, Sindri

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Mobile: 09471358492, 09431512608

Ref. No.: - ARDS/22-23/450

Date: 18.05.2022

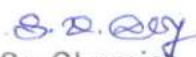
## TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY  
(SAND LEASE AREA, BHOJUDIHI)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 12.05.2022 to 13.05.2022
- Date of Testing : 16.05.2022 – 17.05.2022
- Test Procedure : As per IS-5182

### TEST RESULTS

LOCATION – RAILWAY COLONY , BHOJUDIHI				
	Avg. Ambient Temperature	33°C	Avg. Humidity	48%
Sl No.	Particulars	Value	CPCB STANDARD	
1.	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	76.14	100 µg/m <sup>3</sup>	
2.	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	41.39	60 µg/m <sup>3</sup>	
3.	SO <sub>2</sub> , µg/m <sup>3</sup>	17.65	80 µg/m <sup>3</sup>	
4.	NO <sub>2</sub> , µg/m <sup>3</sup>	29.67	80 µg/m <sup>3</sup>	
5.	Ozone, µg/m <sup>3</sup>	17.81	180 µg/m <sup>3</sup>	
6.	NH <sub>3</sub> , µg/m <sup>3</sup>	16.46	400 µg/m <sup>3</sup>	
7.	CO, mg/m <sup>3</sup>	0.69	4 mg/m <sup>3</sup>	
8.	Pb, µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>	
9.	As, µg/m <sup>3</sup>	BDL	6 µg/m <sup>3</sup>	
10.	Ni, µg/m <sup>3</sup>	BDL	20 µg/m <sup>3</sup>	
11.	Benzene, µg/m <sup>3</sup>	BDL	5 µg/m <sup>3</sup>	
12.	Benzoapyrene µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>	

NOTE: BDL - Below Detection Limit

  
Sr. Chemist  
Aditi R&D Services



  
Quality Manager  
Aditi R&D Services, Sindri

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Website: aditimdservices.com  
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Mobile: 09471358492, 09431512608

### TEST REPORT OF NOISE (AMBIENT) LEVEL MONITORING

Ref. No. & Date		NAME AND ADDRESS OF THE CLIENT			
ARDS/22-23/411      Date: 14.05.2022		TATA STEEL JHARIA DIVISION			
Date of Monitoring		TATA STEEL COLLIERY (SAND LEASE AREA, BHOJUDIH) DIST. - DHANBAD (JHARKHAND)			
12.05.2022 - 13.05.2022		Avg. Ambient Temperature (°C)	Average Humidity (%)	Weather Condition	Status of the plant
Work Order 4700092573/932 Dt. 20.07.2021		34	48	Clear	Not in Operational

#### MONITORING RESULTS

Sl. No	Place of Monitoring	Day Time (6 AM to 10 PM) Avg. dB(A)			Night Time (10 PM to 6 AM) Avg. dB(A)			Noise level (Ambient standard) for Industrial Area as per CPCB Noise Pollution (Regulation and Control) (Amendment) Rules, 2000 notified vide S.O. 1046(E), Dt. 22.11.2020 Limit in dB(A) Leq	
		MAX	MIN	AVG. dB(A) Leq	MAX	MIN	AVERAGE dB(A) Leq	Day Time	Night Time
LOCATION								Residential Area	Residential Area
SAND LEASE AREA									
1.	Saharjuri School	53.4	50.8	52.29	41.6	36.1	39.67	65.00	55.00
2.	Lagla Gram Panchyat	54.1	51.2	52.89	42.9	32.7	40.29		
3.	Ichchar High School	50.9	49.6	50.30	39.3	32.8	37.17		
4.	Railway Colony Bhojidih	54.6	48.1	52.47	40.8	34.3	38.67		

S. D. Das  
Sr. Chemist  
Aditi R&D Services



Phocaltary  
14.05.22  
Quality Manager  
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/457

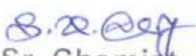
Date: 19.05.2022

## TEST REPORT OF MINERALOGICAL COMPOSITION OF PARTICULATE MATTER

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY  
(SAND LEASE AREA, BHOJUDIH)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO. : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 13.05.2022
- Date of Testing : 16.05.2022 – 18.05.2022

### TEST RESULTS

Sl No.	Particulars	Mineralogical Composition (%)			
		SiO <sub>2</sub>	FeO	Al <sub>2</sub> O <sub>3</sub>	CaO
1.	Lagla Gram Panchayat	1.23	0.04	1.13	2.1
2.	Saharjuri School	1.91	0.11	0.98	2.76

  
Sr. Chemist  
Aditi R&D Services



  
Quality Manager  
Aditi R&D Services, Sindri

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Jharkhand - 828107  
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Phone: 0326-2952377 (O)  
Mobile: 09471358492, 09431512608

Ref. No.: - ARDS/22-23/500


Date: 23.05.2022

## TEST REPORT OF SURFACE WATER

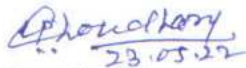
- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY  
(SAND LEASE AREA, BHOJUDIH)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO. : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. Gowai River (Up Stream)  
2. Gowai River (Dn. Stream)  
3. Izri River (Up Stream)  
4. Izri River (Dn. Stream)
- Date of Sample Collection: 12.05.2022 to 13.05.2022
- Date of Testing : 16.05.2022 to 21.05.2022
- Test : pH, TDS, Turbidity, DO, BOD, C I, F, SO<sub>4</sub>

### TEST RESULT

Sl. No.	PARAMETERS OF TEST	VALUE				Limit as per IS 2296 Class - C	Test Method
		Gowai River (Up Stream)	Gowai River Dn. Stream	Izri River (Up Stream)	Izri River (Dn. Stream)		
1.	pH,	8.4	8.8	8.2	8.3	8.5	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	462	475	398	405	1500 (Max.)	IS-3025 (P-16): 1984
3.	Turbidity, NTU	10.2	11.2	10.1	12.4	-	IS-3025 (P-10):1984
4.	Dissolved Oxygen, mg/l	6.4	6.8	6.2	6.4	4.0 (Min)	IS-3025 (P-38):1989
5.	Bio chemical Oxygen Demand, mg/l	1.2	8.1	1.9	8.3	3.0	IS-3025 (P-44):1994
6.	Chloride as Cl, mg/l	47.6	67.4	43.6	47.6	-	IS-3025 (P-32):1988
7.	Fluoride as F, mg/l	0.60	0.58	0.58	0.62	1.5	IS-3025 (P-60):2008
8.	Sulphate as SO <sub>4</sub> , mg/l	47.5	42.7	43.7	40.1	400	IS-3025 (P-24):1986

  
Sr. Chemist  
Aditi R&D Services



  
Quality Manager  
Aditi R&D Services, Sindri

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Phone: 0326-2952377 (O)  
Mobile: 09471358492, 09431512608

Ref. No.: - ARDS/22-23/1411

Date: 24.08.2022

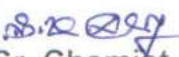
## TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY  
(SAND LEASE AREA, BHOJUDIH)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 19.08.2022 to 20.08.2022
- Date of Testing : 22.08.2022 – 23.08.2022
- Test Procedure : As per IS-5182

### TEST RESULTS

LOCATION – ICCHAR HIGH SCHOOL				
	Avg. Ambient Temperature	34°C	Avg. Humidity	67%
Sl No.	Particulars	Value	CPCB STANDARD	
1.	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	64.84	100 µg/m <sup>3</sup>	
2.	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	35.36	60 µg/m <sup>3</sup>	
3.	SO <sub>2</sub> , µg/m <sup>3</sup>	10.92	80 µg/m <sup>3</sup>	
4.	NO <sub>2</sub> , µg/m <sup>3</sup>	25.63	80 µg/m <sup>3</sup>	
5.	Ozone, µg/m <sup>3</sup>	13.21	180 µg/m <sup>3</sup>	
6.	NH <sub>3</sub> , µg/m <sup>3</sup>	19.68	400 µg/m <sup>3</sup>	
7.	CO, mg/m <sup>3</sup>	0.61	4 mg/m <sup>3</sup>	
8.	Pb, µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>	
9.	As, ng/m <sup>3</sup>	BDL	6 ng/m <sup>3</sup>	
10.	Ni, ng/m <sup>3</sup>	BDL	20 ng/m <sup>3</sup>	
11.	Benzene, µg/m <sup>3</sup>	BDL	5 µg/m <sup>3</sup>	
12.	Benzoapyrene ng/m <sup>3</sup>	BDL	1 ng/m <sup>3</sup>	

NOTE: BDL - Below Detection Limit

  
Sr. Chemist  
Aditi R&D Services



  
Technical Manager  
Aditi R&D Services, Sindri

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Phone: 0326-2952377 (O)  
Mobile: 09471358492, 09431512608

Ref. No.: - ARDS/22-23/1412

Date: 24.08.2022

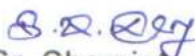
## TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY  
(SAND LEASE AREA, BHOJUDIH)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 19.08.2022 to 20.08.2022
- Date of Testing : 22.08.2022 – 23.08.2022
- Test Procedure : As per IS-5182

### TEST RESULTS

LOCATION – LAGLA GRAM PANCHYAT				
	Avg. Ambient Temperature	34 <sup>0</sup> C	Avg. Humidity	71%
Sl No.	Particulars	Value	CPCB STANDARD	
1.	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	62.78	100 µg/m <sup>3</sup>	
2.	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	34.56	60 µg/m <sup>3</sup>	
3.	SO <sub>2</sub> , µg/m <sup>3</sup>	13.46	80 µg/m <sup>3</sup>	
4.	NO <sub>2</sub> , µg/m <sup>3</sup>	24.48	80 µg/m <sup>3</sup>	
5.	Ozone, µg/m <sup>3</sup>	15.76	180 µg/m <sup>3</sup>	
6.	NH <sub>3</sub> , µg/m <sup>3</sup>	19.65	400 µg/m <sup>3</sup>	
7.	CO, mg/m <sup>3</sup>	0.61	4 mg/m <sup>3</sup>	
8.	Pb, µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>	
9.	As, ng/m <sup>3</sup>	BDL	6 ng/m <sup>3</sup>	
10.	Ni, ng/m <sup>3</sup>	BDL	20 ng/m <sup>3</sup>	
11.	Benzene, µg/m <sup>3</sup>	BDL	5 µg/m <sup>3</sup>	
12.	Benzoapyrene ng/m <sup>3</sup>	BDL	1 ng/m <sup>3</sup>	

NOTE: BDL - Below Detection Limit

  
Sr. Chemist  
Aditi R&D Services



  
Technical Manager  
Aditi R&D Services, Sindri

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Mobile: 09471358492, 09431512608

Ref. No.: - ARDS/22-23/1413

Date: 24.08.2022

## TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY  
(SAND LEASE AREA, BHOJUDIH)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO. : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 19.08.2022 to 20.08.2022
- Date of Testing : 22.08.2022 – 23.08.2022
- Test Procedure : As per IS-5182

### TEST RESULTS

LOCATION – SAHARJURI SCHOOL			
	Avg. Ambient Temperature	34 <sup>o</sup> C	Avg. Humidity
SI No.	Particulars	Value	71%
			CPCB STANDARD
1.	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	55.41	100 µg/m <sup>3</sup>
2.	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	31.94	60 µg/m <sup>3</sup>
3.	SO <sub>2</sub> , µg/m <sup>3</sup>	12.28	80 µg/m <sup>3</sup>
4.	NO <sub>2</sub> , µg/m <sup>3</sup>	21.63	80 µg/m <sup>3</sup>
5.	Ozone, µg/m <sup>3</sup>	16.41	180 µg/m <sup>3</sup>
6.	NH <sub>3</sub> , µg/m <sup>3</sup>	14.29	400 µg/m <sup>3</sup>
7.	CO, mg/m <sup>3</sup>	0.69	4 mg/m <sup>3</sup>
8.	Pb, µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>
9.	As, ng/m <sup>3</sup>	BDL	6 ng/m <sup>3</sup>
10.	Ni, ng/m <sup>3</sup>	BDL	20 ng/m <sup>3</sup>
11.	Benzene, µg/m <sup>3</sup>	BDL	5 µg/m <sup>3</sup>
12.	Benzoapyrene ng/m <sup>3</sup>	BDL	1 ng/m <sup>3</sup>

NOTE: BDL - Below Detection Limit

*S. D. Roy*

Sr. Chemist  
Aditi R&D Services



*[Signature]*  
Technical Manager  
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/1414

Date: 24.08.2022


## TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY  
(SAND LEASE AREA, BHOJUDI H)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 19.08.2022 to 20.08.2022
- Date of Testing : 22.08.2022 – 23.08.2022
- Test Procedure : As per IS-5182

### TEST RESULTS

LOCATION – RAILWAY COLONY , BHOJUDI H				
	Avg. Ambient Temperature	34 <sup>0</sup> C	Avg. Humidity	71%
Sl No.	Particulars	Value	CPCB STANDARD	
1.	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	66.49	100 µg/m <sup>3</sup>	
2.	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	38.93	60 µg/m <sup>3</sup>	
3.	SO <sub>2</sub> , µg/m <sup>3</sup>	15.52	80 µg/m <sup>3</sup>	
4.	NO <sub>2</sub> , µg/m <sup>3</sup>	24.76	80 µg/m <sup>3</sup>	
5.	Ozone, µg/m <sup>3</sup>	14.83	180 µg/m <sup>3</sup>	
6.	NH <sub>3</sub> , µg/m <sup>3</sup>	12.88	400 µg/m <sup>3</sup>	
7.	CO, mg/m <sup>3</sup>	0.66	4 mg/m <sup>3</sup>	
8.	Pb, µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>	
9.	As, µg/m <sup>3</sup>	BDL	6 µg/m <sup>3</sup>	
10.	Ni, µg/m <sup>3</sup>	BDL	20 µg/m <sup>3</sup>	
11.	Benzene, µg/m <sup>3</sup>	BDL	5 µg/m <sup>3</sup>	
12.	Benzoapyrene µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>	

NOTE: BDL - Below Detection Limit

  
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Aditi R&D Services



  
Technical Manager  
Aditi R&D Services, Sindri

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## TEST REPORT OF NOISE (AMBIENT) LEVEL MONITORING

Ref. No. & Date		NAME AND ADDRESS OF THE CLIENT							
ARDS/22-23/1393 Date: 22.08.2022		TATA STEEL JHARIA DIVISION							
Date of Monitoring		TATA STEEL COLLIERY (SAND LEASE AREA, BHOJUDIH) DIST. - DHANBAD (JHARKHAND)							
19.08.2022 - 20.08.2022		Avg. Ambient Temperature (°C)		Average Humidity (%)		Weather Condition		Status of the plant	
Work Order 4700092573/932 Dt. 20.07.2021		34		71		Clear		Not in Operational	
MONITORING RESULTS									
Sl. No	Place of Monitoring	Day Time (6 AM to 10 PM) Avg. dB(A)			Night Time (10 PM to 6 AM) Avg. dB(A)			Noise level (Ambient standard) for Industrial Area as per CPCB Noise Pollution (Regulation and Control) (Amendment) Rules, 2000 notified vide S.O. 1046(E) Dt. 22.11.2020 Limit in dB(A) Leq	
		MAX	MIN	AVG. dB(A) Leq	MAX	MIN	AVERAGE dB(A) Leq	Day Time Residential Area	Night Time Residential Area
LOCATION		MAX	MIN	AVG. dB(A) Leq	MAX	MIN	AVERAGE dB(A) Leq	Residential Area	Residential Area
SAND LEASE AREA									
1.	Saharjuri School	50.3	43.6	48.13	38.7	33.6	36.86	65.00	55.00
2.	Lagla Gram Panchyat	51.6	46.2	49.69	39.9	32.1	37.56		
3.	Icchar High School	48.6	47.3	48.0	38.6	33.0	36.65		
4.	Railway Colony Bhojidih	52.2	47.9	50.56	39.4	33.9	37.47		

  
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Ref. No.: - ARDS/22-23/1415


Date: 24.08.2022

## TEST REPORT OF MINERALOGICAL COMPOSITION OF PARTICULATE MATTER

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY  
(SAND LEASE AREA, BHOJUDIH)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO. : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 20.08.2022
- Date of Testing : 22.08.2022 – 23.08.2022

### TEST RESULTS

Sl No.	Particulars	Mineralogical Composition (%)			
		SiO <sub>2</sub>	FeO	Al <sub>2</sub> O <sub>3</sub>	CaO
1.	Icchar High School	1.16	0.03	1.14	1.99
2.	Railway Colony Bhojudih	1.84	0.08	0.99	2.44

  
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Ref. No.: - ARDS/22-23/1508

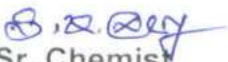
Date: 04.09.2022

## TEST REPORT OF SURFACE WATER

- Name of the industry : TATA STEEL JHARIA DIVISION  
TATA STEEL COLLIERY  
(SAND LEASE AREA, BHOJUDIHI)  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO. : 4700092573/932 Dt. 20.07.2021
- Sample Code :  
1. Gowai River (Up Stream)  
2. Gowai River (Dn. Stream)  
3. Izri River (Up Stream)  
4. Izri River (Dn. Stream)
- Date of Sample Collection: 19.08.2022 to 20.08.2022
- Date of Testing : 22.08.2022 to 02.09.2022
- Test : pH, TDS, Turbidity, DO, BOD, C I, F, SO<sub>4</sub>

### TEST RESULT

Sl. No.	PARAMETERS OF TEST	VALUE				Limit as per IS 2296 Class - C	Test Method
		Gowai River (Up Stream)	Gowai River Dn. Stream	Izri River (Up Stream)	Izri River (Dn. Stream)		
1.	pH,	8.0	7.9	7.7	7.8	8.5	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	133	139	146	155	1500 (Max.)	IS-3025 (P-16): 1984
3.	Turbidity, NTU	12	12	13	14	-	IS-3025 (P-10):1984
4.	Dissolved Oxygen, mg/l	5.6	5.0	5.6	5.4	4.0 (Min)	IS-3025 (P-38):1989
5.	Bio chemical Oxygen Demand, mg/l	0.5	0.5	1.4	1.0	3.0	IS-3025 (P-44):1994
6.	Chloride as Cl, mg/l	11	12	16	10	-	IS-3025 (P-32):1988
7.	Fluoride as F, mg/l	0.56	0.54	0.52	0.56	1.5	IS-3025 (P-60):2008
8.	Sulphate as SO <sub>4</sub> , mg/l	19.1	34.0	20.4	13	400	IS-3025 (P-24):1986

  
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Aditi R&D Services, Sindri

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