



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/ 163 /2019

May 23, 2019

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 October'18 to March'19.**


Dear Sir,

We are enclosing herewith compliance report for the period **October'18 to March'19** 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.

**TATA STEEL LIMITED**

Jharia Collieries Jamadoba 828 112 Dhanbad India  
Tel 91 326 2320263/2320265/2320267 Fax 91 326 2320268  
Regd. Office Bombay House 24 Homi Mody Street Fort Mumbai 400 001  
Tel 91 22 66658282 Fax 91 22 66657724  
Corporate Identity Number L27100MH1907PLC000260 Website [www.tatasteel.com](http://www.tatasteel.com)

**HALF YEARLY COMPLIANCE REPORT  
(PERIOD: OCTOBER'18 – MARCH'19)**

**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>		
<b>(i)</b>	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. PC/NOC/DHN/155/2010-D-498(N) dated 31.03.2015 and the Consent to Operate (CTO) vide letter no. 1375 dated 07.04.2015 valid till 31.03.2016. The CTO has further been renewed on 23.02.2016 for a period of 5 years (till 31.03.2021). All the conditions as stipulated in the consent are being complied with.
<b>(ii)</b>	The project proponent shall comply with section 3 of the Mines Act.	It is being complied.
<b>(iii)</b>	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. Tata Steel Environmental Policy is attached as Annexure-IV.  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 (Legatrix) to monitor the statutory requirements and compliance in time. This is reviewed by Board of Directors at company's level.
<b>(iv)</b>	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.
<b>(v)</b>	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 Annexure-I.

**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**

<b>(vi)</b>	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.
<b>(vii)</b>	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 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.	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 MoEF recognized lab and conform the prescribed standards. Reports are enclosed as Annexure-I.
<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 annexure-II.

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<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 through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.	The vehicles used are regularly checked and maintained. Only vehicles having PUC certificates can ply. Transportation of sand is always done via tarpaulin-covered trucks which are optimally loaded. This is monitored whenever vehicles enter premises at weighbridge gate.
<b>(xii)</b>	No drilling and blasting operation shall be carried out.	Not applicable as it is a sand mining project.
<b>(xiii)</b>	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.
<b>(xiv)</b>	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.

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<b>(xv)</b>	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.
<b>(xvi)</b>	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 <a href="http://www.envfor.nic.in">www.envfor.nic.in</a> 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 Annexure-I. The monitoring reports are regularly uploaded on company's website along with half-yearly EC compliance reports. Screenshot has been provided as Annexure-III.

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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 will be 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 will be 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 Annexure-I.
<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 annexure-I 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.

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<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.
<b>(viii)</b>	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.
<b>(ix)</b>	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.
<b>(x)</b>	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 four qualified personnel (One Head and Two Senior Managers and One Manager). The reporting of Environmental Cell is directly to General Manager of the Division.
<b>(xi)</b>	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 2017-18 included Rs.10 lakhs for water spraying activities on transport road and Rs. 0.5 lakhs for green belt development in and around leasehold area.
<b>(xii)</b>	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.



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<b>(xiii)</b>	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.
<b>(xiv)</b>	The project proponent shall submit six monthly reports on the status of compliance of the stipulated environment clearance conditions 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.	It is being complied with. We are submitting the six-monthly compliance reports to MoEF, its regional office, CPCB and SPCB twice a year. In adherence with the guideline as per notification dt. 26.11.2018, from now onwards, we are sending only soft copy of the compliance status report over mail.
<b>(xv)</b>	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.
<b>(xvi)</b>	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.

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<p><b>(xvii)</b></p>	<p>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.</p>	<p>The environmental statement for financial year 2017-18 has been submitted to JSPCB on 25th September 2018 and it is also uploaded on the company website (Annexure- III). The soft copy of Environment Statement is also sent to MOEF by email at ro.ranchi-mef@gov.in.</p>
<p><b>(xviii)</b></p>	<p>The project authorities should advertise at least in two local newspapers of the 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>	<p>It has been complied with.</p>

**Head Planning  
Tata Steel Limited,  
Jharia Division**



**Annexure- I**

**Ambient Air Quality Analysis Report**

**Period-** October'18 to December'18

Name of Industry : Mahal Saharjuri Sand Mining Project

No. of sampling points : 4

Sampling Location	Date of Sampling/ Weather Condition		
	October'18	November'18	December'18
Mahal School Near Izri River	15.10.2018/ Clear	09.11.2018/ Clear	06.12.2018/ Clear
Lagla Gram Panchayat	15.10.2018/ Clear	09.11.2018/ Clear	06.12.2018/ Clear
Bagula School	16.10.2018/ Clear	10.11.2018/ Clear	07.12.2018/ Clear
Shahar Juri School	16.10.2018/ Clear	10.11.2018/ Clear	07.12.2018/ 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	15.10.2018	65.5	32.5	12.2	13.5
		09.11.2018	66.0	32.7	12.5	13.5
		06.12.2018	67.5	33.0	13.0	13.7
Lagla Gram Panchayat	23°37'21.3" N/ 86°23'35.3" E	15.10.2018	65.0	31.0	12.0	13.0
		09.11.2018	66.0	31.5	12.5	13.5
		06.12.2018	67.2	32.0	13.2	13.7
Bagula School	23°36'27.3" N/ 86°21'59.7" E	16.10.2018	65.0	31.0	12.2	13.2
		10.11.2018	66.0	32.0	13.0	13.5
		07.12.2018	66.5	32.2	13.2	13.5
Shahar Juri School	23°36'26.6" N/ 86°20'58.9" E	16.10.2018	66.0	33.0	13.2	13.5
		10.11.2018	66.7	33.3	13.5	13.5
		07.12.2018	67.5	33.5	13.8	14.0
Minimum			65.00	31.00	12.00	13.00
Maximum			67.50	33.50	13.80	14.00
Average			66.24	32.31	12.86	13.51

*[Signature]*  
Sr. Manager (Environment)



**Annexure- I Ambient Air Quality Analysis Report**

**Period-** January'19 to March'19

Name of Industry : Mahal Saharjuri Sand Mining Project

No. of sampling points : 4

Sampling Location	Date of Sampling/ Weather Condition		
	January'19	February'19	March'19
Mahal School Near Izri River	15.01.2019/ Clear	21.02.2019/ Clear	14.03.2019/ Clear
Lagla Gram Panchayat	15.01.2019/ Clear	21.02.2019/ Clear	14.03.2019/ Clear
Bagula School	16.01.2019/ Clear	22.02.2019/ Clear	15.03.2019/ Clear
Shahar Juri School	16.01.2019/ Clear	22.02.2019/ Clear	15.03.2019/ 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	15.01.2019	68.5	33.5	12.5	13.0
		21.02.2019	68.0	33.0	12.7	12.7
		14.03.2019	68.7	33.7	13.0	13.5
Lagla Gram Panchayat	23°37'21.3" N/ 86°23'35.3" E	15.01.2019	67.5	32.0	12.5	13.0
		21.02.2019	68.0	33.0	12.7	13.3
		14.03.2019	68.5	33.2	13.0	13.5
Bagula School	23°36'27.3" N/ 86°21'59.7" E	16.01.2019	67.0	32.5	12.7	13.0
		22.02.2019	66.7	32.3	12.5	13.0
		15.03.2019	67.5	33.0	13.0	13.5
Shahar Juri School	23°36'26.6" N/ 86°20'58.9" E	16.01.2019	68.0	33.5	13.0	13.5
		22.02.2019	68.2	33.5	13.2	13.7
		15.03.2019	68.5	34.0	13.5	14.0
Minimum			66.70	32.00	12.50	12.70
Maximum			68.70	34.00	13.50	14.00
Average			67.93	33.10	12.86	13.31

*(Signature)*  
Sr. Manager (Environment)



Annexure-II

Ground Water Quality Analysis

Ground water level fluctuation in and around Core & Buffer zone area of sand mining lease  
Post-Monsoon Season- November'18

S.No	Date	Location	Time	Sample Parameter			
				Depth in meter (m)	pH	Electrical Conductivity, $\mu\text{S/m}$	Total Hardness (as $\text{CaCO}_3$ ), mg/l
1	15.11.2018	Premsinghdih	10:00AM	1.45	7.2	684	444
2	15.11.2018	Lagla	11:40AM	1.45	7.0	544	368
3	15.11.2018	Alakdih	10:55AM	1.76	7.1	548	386
4	15.11.2018	Joradih	12:10PM	1.98	7.0	586	442
5	15.11.2018	SEB Quarters	10:30AM	1.74	7.0	748	368
6	15.11.2018	Kargali	01:55PM	2.48	7.1	564	378
7	15.11.2018	Kumargora	01:10PM	2.24	7.2	664	343
8	15.11.2018	Bhojudih	01:45PM	2.28	7.0	648	464
9	15.11.2018	Mahal	12:55PM	1.85	7.0	537	368
10	15.11.2018	Sudamdih	12:25PM	1.92	7.7	658	386

Winter Season- January'19

S.No	Date	Location	Time	Sample Parameter			
				Depth in meter (m)	pH	Electrical Conductivity, $\mu\text{S/m}$	Total Hardness (as $\text{CaCO}_3$ ), mg/l
1	10.01.2019	Premsinghdih	10:20AM	1.45	7.3	692	458
2	10.01.2019	Lagla	11:30AM	1.45	7.2	552	374
3	10.01.2019	Alakdih	10:35AM	1.76	7.2	561	398
4	10.01.2019	Joradih	12:40PM	1.98	7.3	598	458
5	10.01.2019	SEB Quarters	10:20AM	1.74	7.3	756	375
6	10.01.2019	Kargali	01:45PM	2.48	7.0	568	388
7	10.01.2019	Kumargora	01:25PM	2.24	7.0	674	356
8	10.01.2019	Bhojudih	01:55PM	2.28	7.2	656	474
9	10.01.2019	Mahal	12:50PM	1.85	7.3	543	371
10	10.01.2019	Sudamdih	12:30PM	1.92	7.2	668	393

Sr. Manager (Environment)



**Annexure-II**

**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	18.01.2019	10:35 AM	25.0	7.2	22	4.3	0.8
2.	River Damodar Down Stream	18.01.2019	10:45 AM	25.0	7.2	20	4.4	0.8
3.	Laghla (Pond)	18.01.2019	01:55 PM	26.0	7.4	20	2.4	0.1
4.	Alakhdi (Pond)	18.01.2019	01:45 PM	25.5	7.2	21	3.2	0.1
5.	Joradi (Pond)	18.01.2019	11:40 AM	25.5	7.3	22	3.4	0.1
6.	SEB Quarters (Pond)	18.01.2019	11:35 AM	26.5	7.2	23	2.8	0.2
7.	Kargali (Pond)	18.01.2019	12:25 PM	25.0	7.3	24	4.0	0.1
8.	Kumargora (Pond)	18.01.2019	12:45 PM	25.0	7.5	20	3.6	0.1
9.	Bhjudi (Pond)	18.01.2019	12:55 PM	26.0	7.3	22	4.0	0.1

  
Sr. Manager (Environment)

**ECOMEN LABORATORIES PVT. LTD.**

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**ecoMen**  
LABORATORIES PVT. LTD.**An approved Laboratory from Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi (Valid Upto 02.01.19)**

FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO Lab/AAQ-1/02/19

Test Report Issue date: 11.03.2019

**TEST REPORT OF AMBIENT AIR\***

Name of the Customer : Tata Steel Colliery (Sand Lease Area)  
 Address of the Customer : Jamadoba, Distt. Dhanbad  
 Jharkhand  
 Date of Sampling : 23.02.2019  
 Sample Collected By : Ecomen Teem  
 Sampling Method : IS: 5182  
 Instrument Used : RDS & FDS  
 Location : Lagla Gram Panchayat

Sl. No.	Tests Conducted	Method	Results	Detection Range	NAAQ Standards as per CPCB, New Delhi, Nov. 18 <sup>th</sup> , 2009
1.	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SOP NO. A -15, Issue No.1 date 26.07.2016 (Gravimetric Method)	37.49	12.5-1000	60
2.	PM <sub>10</sub> (µg/m <sup>3</sup> )	IS:5182 (Part-23)	79.93	12.5-1000	100
3.	SO <sub>2</sub> (µg/m <sup>3</sup> )	IS:5182 (Part-2)	12.61	9-200	80
4.	NO <sub>2</sub> (µg/m <sup>3</sup> )	IS:5182 (Part-6)	23.42	6-200	80
5.	NH <sub>3</sub> (µg/m <sup>3</sup> )	SOP NO. A -26, Issue No.1 date 26.07.2016 (Indophenol Method)	15.69	2-700	400
6.	O <sub>3</sub> (µg/m <sup>3</sup> )	IS:5182(Part-9)	21.39	2-200	180
7.	CO (mg/m <sup>3</sup> )	IS:5182 (Part-10)	0.38	0.2-500	04
8.	Pb (µg/m <sup>3</sup> )	IS:5182(Part-22)	BDL	1-100	1.0
9.	Cr (µg/m <sup>3</sup> )	SOP NO. A -23, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	-
10.	Cd (µg/m <sup>3</sup> )	SOP NO. A -24, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	-
11.	As (ng/m <sup>3</sup> )	SOP NO. A -22, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	06
12.	Ni (ng/m <sup>3</sup> )	SOP NO. A -21, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	20

\*The results is related only to tested item.

**Note:** Below Detection Limit
  
 Analyst

  
 Authorized Signatory  
 Ecomen Laboratories Pvt. Ltd.  
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 Quality Manager

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LABORATORIES PVT. LTD.**An approved Laboratory from Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi (Valid Upto 02.01.19)**

FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO Lab/AAQ-2/02/19

Test Report Issue date: 11.03.2019

**TEST REPORT OF AMBIENT AIR\***

Name of the Customer : Tata Steel Colliery (Sand Lease Area)  
 Address of the Customer : Jamadoba, Distt. Dhanbad  
 Jharkhand  
 Date of Sampling : 24.02.2019  
 Sample Collected By : Ecomen Teem  
 Sampling Method : IS: 5182  
 Instrument Used : RDS & FDS  
 Location : Saharjuri School

Sl. No.	Tests Conducted	Method	Results	Detection Range	NAAQ Standards as per CPCB, New Delhi, Nov. 18 <sup>th</sup> , 2009
1.	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SOP NO. A -15, Issue No.1 date 26.07.2016 (Gravimetric Method)	33.98	12.5-1000	60
2.	PM <sub>10</sub> (µg/m <sup>3</sup> )	IS:5182 (Part-23)	71.85	12.5-1000	100
3.	SO <sub>2</sub> (µg/m <sup>3</sup> )	IS:5182 (Part-2)	9.93	9-200	80
4.	NO <sub>2</sub> (µg/m <sup>3</sup> )	IS:5182 (Part-6)	19.77	6-200	80
5.	NH <sub>3</sub> (µg/m <sup>3</sup> )	SOP NO. A -26, Issue No.1 date 26.07.2016 (Indophenol Method)	14.22	2-700	400
6.	O <sub>3</sub> (µg/m <sup>3</sup> )	IS:5182(Part-9)	24.77	2-200	180
7.	CO (mg/m <sup>3</sup> )	IS:5182 (Part-10)	0.37	0.2-500	04
8.	Pb(µg/m <sup>3</sup> )	IS:5182(Part-22)	BDL	1-100	1.0
9.	Cr (µg/m <sup>3</sup> )	SOP NO. A -23, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	-
10.	Cd (µg/m <sup>3</sup> )	SOP NO. A -24, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	-
11.	As (ng/m <sup>3</sup> )	SOP NO. A -22, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	06
12.	Ni (ng/m <sup>3</sup> )	SOP NO. A -21, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	20

\*The results is related only to tested item.

**Note:** Below Detection Limit

*Abhishek Kumar*  
Analyst

*Ravi Bhargava*  
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*Reena*  
Quality Manager



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LABORATORIES PVT. LTD.**An approved Laboratory from Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi (Valid Upto 02.01.19)**

FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO Lab/AAQ-3/02/19

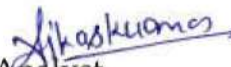
Test Report Issue date: 11.03.2019

**TEST REPORT OF AMBIENT AIR\***

Name of the Customer : Tata Steel Colliery (Sand Lease Area)  
 Address of the Customer : Jamadoba, Distt. Dhanbad  
 Jharkhand  
 Date of Sampling : 23.02.2019  
 Sample Collected By : Ecomen Teem  
 Sampling Method : IS: 5182  
 Instrument Used : RDS & FDS  
 Location : Icchar High School

Sl. No.	Tests Conducted	Method	Results	Detection Range	NAAQ Standards as per CPCB, New Delhi, Nov. 18 <sup>th</sup> , 2009
1.	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SOP NO. A -15, Issue No.1 date 26.07.2016 (Gravimetric Method)	42.66	12.5-1000	60
2.	PM <sub>10</sub> (µg/m <sup>3</sup> )	IS:5182 (Part-23)	81.81	12.5-1000	100
3.	SO <sub>2</sub> (µg/m <sup>3</sup> )	IS:5182 (Part-2)	10.19	9-200	80
4.	NO <sub>2</sub> (µg/m <sup>3</sup> )	IS:5182 (Part-6)	19.29	6-200	80
5.	NH <sub>3</sub> (µg/m <sup>3</sup> )	SOP NO. A -26, Issue No.1 date 26.07.2016 (Indophenol Method)	15.25	2-700	400
6.	O <sub>3</sub> (µg/m <sup>3</sup> )	IS:5182(Part-9)	23.13	2-200	180
7.	CO (mg/m <sup>3</sup> )	IS:5182 (Part-10)	1.59	0.2-500	04
8.	Pb (µg/m <sup>3</sup> )	IS:5182(Part-22)	BDL	1-100	1.0
9.	Cr (µg/m <sup>3</sup> )	SOP NO. A -23, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	-
10.	Cd (µg/m <sup>3</sup> )	SOP NO. A -24, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	-
11.	As (ng/m <sup>3</sup> )	SOP NO. A -22, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	06
12.	Ni (ng/m <sup>3</sup> )	SOP NO. A -21, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	20

\*The results is related only to tested item.

**Note:** Below Detection Limit
  
 Analyst

  
 Authorized Signatory  
 Ecomen Laboratories Pvt. Ltd.  
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 Ph:-2746282, Fax:2745726

  
 Quality Manager

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LABORATORIES PVT. LTD.**An approved Laboratory from Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi (Valid Upto 02.01.19)**

FORMAT NO. ECO/QS/FORMAT/10

TEST REPORT NO: ECO Lab/AAQ-4/02/19

Test Report Issue date: 11.03.2019

**TEST REPORT OF AMBIENT AIR\***

Name of the Customer : Tata Steel Colliery (Sand Lease Area)  
 Address of the Customer : Jamadoba, Distt. Dhanbad  
 Jharkhand  
 Date of Sampling : 22.02.2019  
 Sample Collected By : Ecomen Teem  
 Sampling Method : IS: 5182  
 Instrument Used : RDS & FDS  
 Location : Railway Colony Bhojudih

Sl. No.	Tests Conducted	Method	Results	Detection Range	NAAQ Standards as per CPCB, New Delhi, Nov. 18 <sup>th</sup> , 2009
1.	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SOP NO. A -15, Issue No.1 date 26.07.2016 (Gravimetric Method)	47.15	12.5-1000	60
2.	PM <sub>10</sub> (µg/m <sup>3</sup> )	IS:5182 (Part-23)	86.27	12.5-1000	100
3.	SO <sub>2</sub> (µg/m <sup>3</sup> )	IS:5182 (Part-2)	12.93	9-200	80
4.	NO <sub>2</sub> (µg/m <sup>3</sup> )	IS:5182 (Part-6)	25.77	6-200	80
5.	NH <sub>3</sub> (µg/m <sup>3</sup> )	SOP NO. A -26, Issue No.1 date 26.07.2016 (Indophenol Method)	16.31	2-700	400
6.	O <sub>3</sub> (µg/m <sup>3</sup> )	IS:5182(Part-9)	26.71	2-200	180
7.	CO (mg/m <sup>3</sup> )	IS:5182 (Part-10)	0.95	0.2-500	04
8.	Pb (µg/m <sup>3</sup> )	IS:5182(Part-22)	BDL	1-100	1.0
9.	Cr (µg/m <sup>3</sup> )	SOP NO. A -23, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	-
10.	Cd (µg/m <sup>3</sup> )	SOP NO. A -24, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	-
11.	As (ng/m <sup>3</sup> )	SOP NO. A -22, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	06
12.	Ni (ng/m <sup>3</sup> )	SOP NO. A -21, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	20

\*The results is related only to tested item.

Note: Below Detection Limit

*Akash Kumar*  
Analyst

*[Signature]*  
Authorized Signatory  
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Sector-H, Aliganj, Lucknow-226024  
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*[Signature]*  
Quality Manager

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LABORATORIES PVT. LTD.

An approved Laboratory from Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi (Valid Upto 02.01.19)

FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ-1/03/19

TEST REPORT ISSUE DATE: 11.03.2019

## TEST REPORT OF AMBIENT NOISE LEVEL

Name of the Customer : Tata Steel Colliery (Sand Lease Area)  
Address of the Customer : Jamadoba, Distt. Dhanbad  
Jharkhand  
Sample Collected By : Ecomen Team  
Instrument Used : Noise Meter (HTC)

Sl. No.	Locations	Date of Monitoring	Day Time			Night Time		
			Max.	Min.	Leq.	Max.	Min.	Leq.
1.	Lagla Grampanchayat	23-24.02.2019	61.2	55.7	57.3	55.4	49.7	48.9
2.	Saharjuri School	25-26.02.2019	65.5	56.9	58.9	58.7	51.9	51.7
3.	Ichhar High School	23-24.02.2019	62.6	53.1.7	54.7	43.9	40.3	41.3
4.	Railway Colony, Bhojudih	22-23.02.2019	67.2	59.4	60.5	57.3	53.2	52.6

### Noise (Ambient Standard)

Area Code	Category of area	Limit in dB (A) Leq	
		Day Time	Night Time
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

**Note:**

1. Day time is reckoned in between 6:00 AM and 10:00 PM.
2. Night time is reckoned in between 10:00 PM and 6:00 AM
3. Silence zone is defined as area up to 100m around such premises as hospitals, Educational institutions & courts. The silence zones are to be declared by a competent authority.
4. Mixed categories of areas should be declared as one of the four above-mentioned Categories by the competent authority and the corresponding standard shall apply.

  
Analyst

  
Authorized Signatory Ltd.  
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Quality Manager

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An approved Laboratory from Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi (Valid Upto 02.01.19)

FORMAT NO. ECO/QS/FORMAT/07

TEST REPORT NO: ECO LAB/SW/02/19

TEST REPORT ISSUE DATE: 09.03.2019

## TEST REPORT OF SURFACE WATER

Name of the Customer : M/s Tata Steel Ltd. (Sand Lease Area)  
Address of the Customer : Jamadoba,  
Distt. Dhanbad – 828 112  
Sampling Method : APHA, 23rd Ed. 2017  
Sample Collected by : Mr.R. K. Pandey  
Sample Quantity : As per requirement  
Date of Sampling : 23.02.2019  
Date of Sample Receiving : 02.02.2019  
Date of Analysis : 02.02.2019 to 09.03.2019  
Source of Sample : Gowai River, Up Stream

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	IS:2296 Class-C
1.	pH	APHA, 23 <sup>rd</sup> Ed. 2017, 4500H+A+B,	7.68	2-12	8.5
2.	Turbidity as (NTU)	APHA, 23 <sup>rd</sup> Ed. 2017, 2130-A+B	BDL	1-100	-
3.	Total Dissolved Solids as TDS (mg/l)	APHA, 23 <sup>rd</sup> Ed. 2017 (2540C)	271.0	5-10000	1500
4.	Dissolved Oxygen as DO (mg/l)	APHA, 23 <sup>rd</sup> Ed. 2017 (4500 A+C)	5.6	2-10	4.0
5.	Biochemical Oxygen Demand as BOD (mg/l)	APHA, 23 <sup>rd</sup> Ed. 2017 (5210A+ B)	BDL	5-10000	3.0
6.	Chloride as Cl (mg/l)	APHA, 23 <sup>rd</sup> Ed. 2017, 4500 Cl A+B	40.0	5-1000	-
7.	Fluorides as F (mg/l)	APHA, 23 <sup>rd</sup> Ed. 2017 (4500 -C)	0.40	0.05-10	1.5
8.	Sulfate as SO <sub>4</sub> (mg/l)	APHA, 23 <sup>rd</sup> Ed. 2017 (4500 -SO <sub>4</sub> <sup>2-</sup> E)	28.3	1.0-250	400.0

\*The result are related only to item tested - The parameters are not included in IS: 2296 Class-C  
BDL – Below Detection Limit

  
Analyst

  
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Quality Manager

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An approved Laboratory from Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi (Valid Upto 02.01.19)

FORMAT NO. ECO/QS/FORMAT/07

TEST REPORT NO: ECO LAB/SW/02/19

TEST REPORT ISSUE DATE: 09.03.2019

## TEST REPORT OF SURFACE WATER

Name of the Customer : M/s Tata Steel Ltd. (Sand Lease Area)  
Address of the Customer : Jamadoba,  
Distt. Dhanbad - 828 112  
Sampling Method : APHA, 23rd Ed. 2017  
Sample Collected by : Mr.R. K. Pandey  
Sample Quantity : As per requirement  
Date of Sampling : 23.02.2019  
Date of Sample Receiving : 02.02.2019  
Date of Analysis : 02.02.2019 to 09.03.2019  
Source of Sample : Gowai River, Down Stream

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	IS:2296 Class-C
1.	pH	APHA, 23 <sup>rd</sup> Ed. 2017, 4500H+A+B,	7.81	2-12	8.5
2.	Turbidity as (NTU)	APHA, 23 <sup>rd</sup> Ed. 2017, 2130-A+B	BDL	1-100	-
3.	Total Dissolved Solids as TDS (mg/l)	APHA, 23 <sup>rd</sup> Ed. 2017 (2540C)	334.0	5-10000	1500
4.	Dissolved Oxygen as DO (mg/l)	APHA, 23 <sup>rd</sup> Ed. 2017 (4500 A+C)	6.0	2-10	4.0
5.	Biochemical Oxygen Demand as BOD (mg/l)	APHA, 23 <sup>rd</sup> Ed. 2017 (5210A+ B)	BDL	5-10000	3.0
6.	Chloride as Cl (mg/l)	APHA, 23 <sup>rd</sup> Ed. 2017, 4500 Cl A+B	36.0	5-1000	-
7.	Fluorides as F (mg/l)	APHA, 23 <sup>rd</sup> Ed. 2017 (4500 - C)	0.45	0.05-10	1.5
8.	Sulfate as SO <sub>4</sub> (mg/l)	APHA, 23 <sup>rd</sup> Ed. 2017 (4500 -SO <sub>4</sub> <sup>2-</sup> E)	37.5	1.0-250	400.0

\*The result are related only to item tested - The parameters are not included in IS: 2296 Class-C

BDL - Below Detection Limit

  
Analyst

  
Authorized Signatory Ltd,  
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Quality Manager

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An approved Laboratory from Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi (Valid Upto 02.01.19)

FORMAT NO. ECO/QS/FORMAT/07

TEST REPORT NO: ECO LAB/SW/02/19

TEST REPORT ISSUE DATE: 09.03.2019

## TEST REPORT OF SURFACE WATER

Name of the Customer : M/s Tata Steel Ltd. (Sand Lease Area)  
Address of the Customer : Jamadoba,  
Distt. Dhanbad - 828 112  
Sampling Method : APHA, 23rd Ed. 2017  
Sample Collected by : Mr.R. K. Pandey  
Sample Quantity : As per requirement  
Date of Sampling : 23.02.2019  
Date of Sample Receiving : 02.02.2019  
Date of Analysis : 02.02.2019 to 09.03.2019  
Source of Sample : Izri River, Up Stream

SL No.	TESTS	PROTOCOL	RESULT	Detection Range	IS:2296 Class-C
1.	pH	APHA, 23 <sup>rd</sup> Ed.2017, 4500H+A+B,	8.02	2-12	8.5
2.	Turbidity as (NTU)	APHA, 23 <sup>rd</sup> Ed. 2017, 2130-A+B	BDL	1-100	-
3.	Total Dissolved Solids as TDS (mg/l)	APHA, 23 <sup>rd</sup> Ed.2017 (2540C)	246.0	5-10000	1500
4.	Dissolved Oxygen as DO (mg/l)	APHA, 23 <sup>rd</sup> Ed.2017 (4500 A+C)	5.9	2-10	4.0
5.	Biochemical Oxygen Demand as BOD (mg/l)	APHA, 23 <sup>rd</sup> Ed.2017 (5210A+ B)	BDL	5-10000	3.0
6.	Chloride as Cl (mg/l)	APHA, 23 <sup>rd</sup> Ed. 2017, 4500 Cl A+B	44.0	5-1000	-
7.	Fluorides as F (mg/l)	APHA, 23 <sup>rd</sup> Ed.2017 (4500 - C)	0.48	0.05-10	1.5
8.	Sulfate as SO <sub>4</sub> (mg/l)	APHA, 23 <sup>rd</sup> Ed.2017 (4500 -SO <sub>4</sub> <sup>2-</sup> E)	35.3	1.0-250	400.0

\*The result are related only to item tested - The parameters are not included in IS: 2296 Class-C

BDL - Below Detection Limit

  
Analyst

  
Authorized Signatory  
Ecomen Laboratories Pvt. Ltd.  
Flat No. 8, 2nd Floor, Arif Chamber-V  
Sector-H, Aliganj, Lucknow-226024  
Ph.-2746282, Fax:2745726

  
Quality Manager

# ECOMEN LABORATORIES PVT. LTD.

Flat No. 8, 2nd Floor, Arif Chamber-V, Sector H, Aliganj, Lucknow - 226 024

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**ecoMen**  
LABORATORIES PVT. LTD.

An approved Laboratory from Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi (Valid Upto 02.01.19)

FORMAT NO. ECO/QS/FORMAT/07

TEST REPORT NO: ECO LAB/SW/02/19

TEST REPORT ISSUE DATE: 09.03.2019

## TEST REPORT OF SURFACE WATER

Name of the Customer : M/s Tata Steel Ltd. (Sand Lease Area)  
Address of the Customer : Jamadoba,  
Distt. Dhanbad - 828 112  
Sampling Method : APHA, 23rd Ed. 2017  
Sample Collected by : Mr.R. K. Pandey  
Sample Quantity : As per requirement  
Date of Sampling : 23.02.2019  
Date of Sample Receiving : 02.02.2019  
Date of Analysis : 02.02.2019 to 09.03.2019  
Source of Sample : Izri River, Down Stream

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	IS:2296 Class-C
1.	pH	APHA, 23 <sup>rd</sup> Ed.2017, 4500H+A+B,	8.20	2-12	8.5
2.	Turbidity as (NTU)	APHA, 23 <sup>rd</sup> Ed. 2017, 2130-A+B	BDL	1-100	-
3.	Total Dissolved Solids as TDS (mg/l)	APHA, 23 <sup>rd</sup> Ed.2017 (2540C)	246.0	5-10000	1500
4.	Dissolved Oxygen as DO (mg/l)	APHA, 23 <sup>rd</sup> Ed.2017 (4500 A+C)	6.0	2-10	4.0
5.	Biochemical Oxygen Demand as BOD (mg/l)	APHA, 23 <sup>rd</sup> Ed.2017 (5210A+ B)	BDL	5-10000	3.0
6.	Chloride as Cl (mg/l)	APHA, 23 <sup>rd</sup> Ed. 2017, 4500 Cl A+B	38.0	5-1000	-
7.	Fluorides as F (mg/l)	APHA, 23 <sup>rd</sup> Ed.2017 (4500 - C)	0.43	0.05-10	1.5
8.	Sulfate as SO <sub>4</sub> (mg/l)	APHA, 23 <sup>rd</sup> Ed.2017 (4500 -SO <sub>4</sub> <sup>2-</sup> E)	40.01	1.0-250	400.0

\*The result are related only to item tested - The parameters are not included in IS: 2296 Class-C

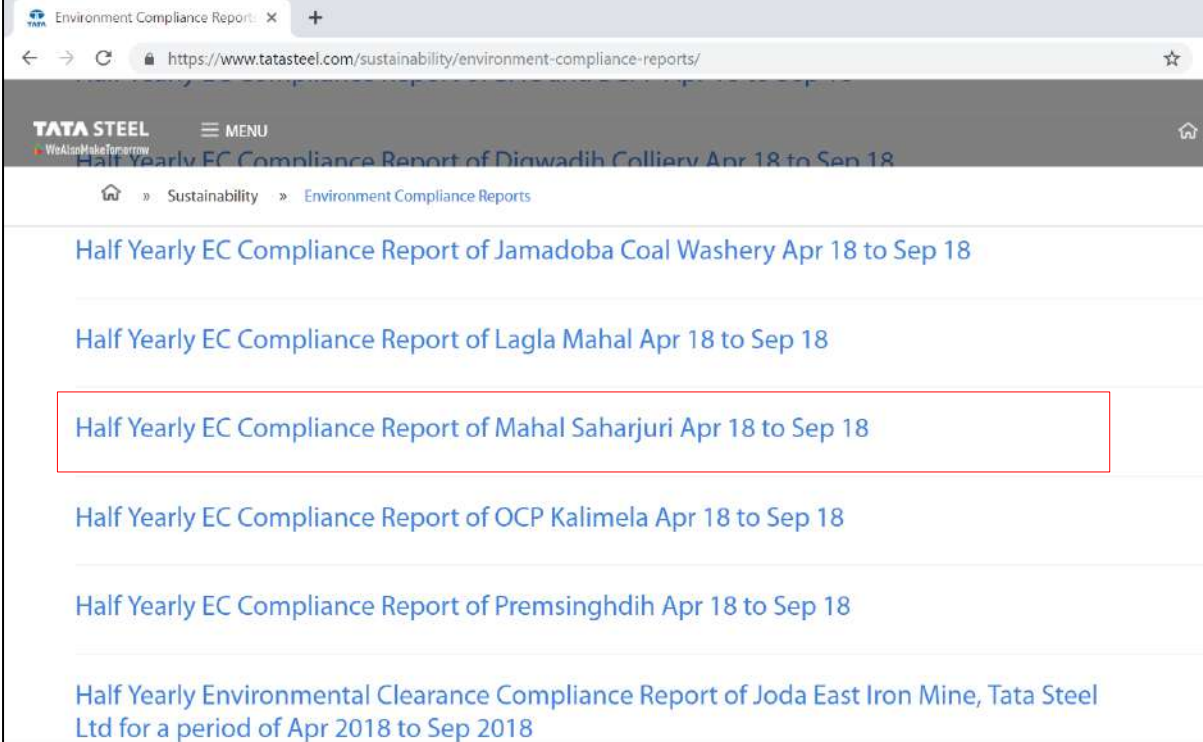
BDL - Below Detection Limit

  
Analyst

  
Authorized Signatory  
Flat No. 8, 2nd Floor, Arif Chamber-V  
Sector-H, Aliganj, Lucknow-226024  
Ph.-2746282, Fax:2745726

  
Quality Manager

## Upload of compliance report on company's website



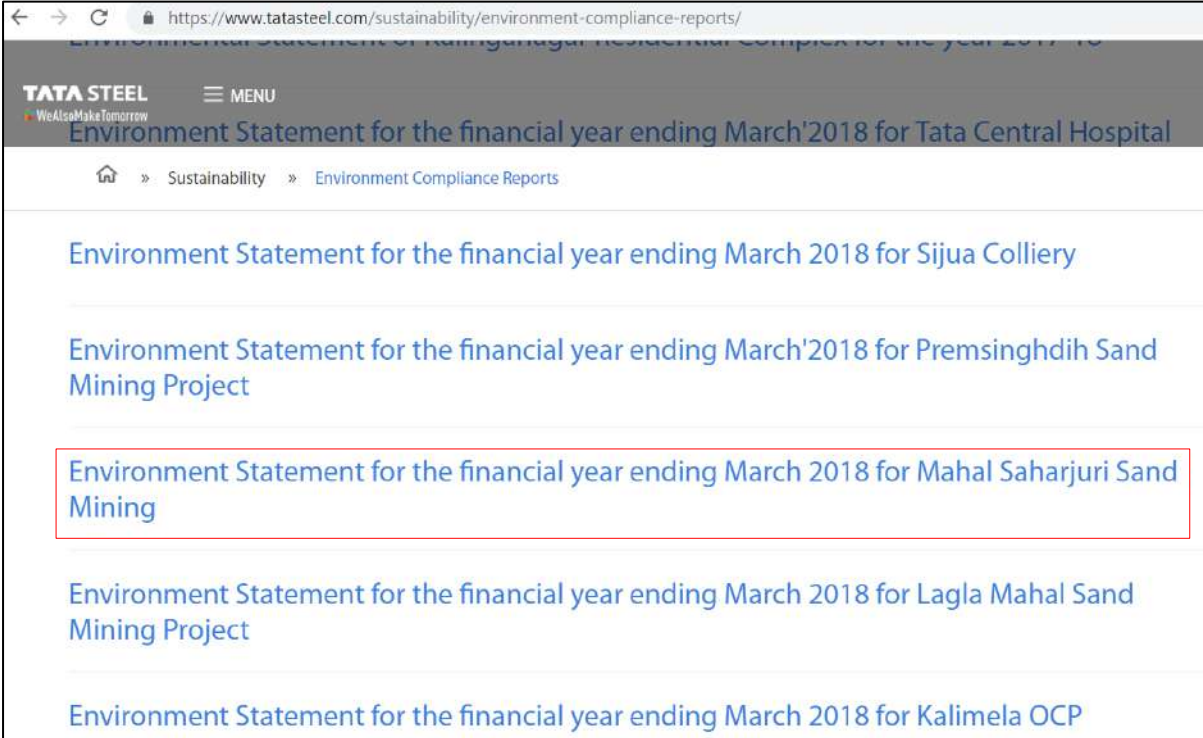
The screenshot shows the Tata Steel website's 'Environment Compliance Reports' page. The URL is <https://www.tatasteel.com/sustainability/environment-compliance-reports/>. The page lists several reports, with the one for Mahal Saharjuri highlighted by a red box.

Environment Compliance Report: x +  
← → ↻ 🔒 <https://www.tatasteel.com/sustainability/environment-compliance-reports/> ☆

**TATA STEEL** MENU WeAlsoMakeTomorrow

Home » Sustainability » Environment Compliance Reports

- Half Yearly EC Compliance Report of Jamadoba Coal Washery Apr 18 to Sep 18
- Half Yearly EC Compliance Report of Lagla Mahal Apr 18 to Sep 18
- Half Yearly EC Compliance Report of Mahal Saharjuri Apr 18 to Sep 18**
- Half Yearly EC Compliance Report of OCP Kalimela Apr 18 to Sep 18
- Half Yearly EC Compliance Report of Preamsinghdih Apr 18 to Sep 18
- Half Yearly Environmental Clearance Compliance Report of Joda East Iron Mine, Tata Steel Ltd for a period of Apr 2018 to Sep 2018



The screenshot shows the Tata Steel website's 'Environment Statements' page. The URL is <https://www.tatasteel.com/sustainability/environment-compliance-reports/>. The page lists several statements, with the one for Mahal Saharjuri Sand Mining highlighted by a red box.

← → ↻ 🔒 <https://www.tatasteel.com/sustainability/environment-compliance-reports/>

**TATA STEEL** MENU WeAlsoMakeTomorrow

Environment Statement for the financial year ending March 2017 for Tata Central Hospital

Home » Sustainability » Environment Compliance Reports

- Environment Statement for the financial year ending March 2018 for Sijua Colliery
- Environment Statement for the financial year ending March'2018 for Preamsinghdih Sand Mining Project
- Environment Statement for the financial year ending March 2018 for Mahal Saharjuri Sand Mining**
- Environment Statement for the financial year ending March 2018 for Lagla Mahal Sand Mining Project
- Environment Statement for the financial year ending March 2018 for Kalimela OCP



## ENVIRONMENTAL POLICY

Tata Steel's environmental responsibilities are driven by our commitment to preserve the environment and are integral to the way we do business.

1. We are committed to deal proactively with Climate Change issue by efficient use of natural resources & energy; reducing and preventing pollution; promoting waste avoidance and recycling measures; and product stewardship.
  - We shall identify, assess and manage our environment impact.
  - We shall regularly monitor, review and report publicly our environmental performance.
  - We shall develop & rehabilitate abandoned sites through afforestation and landscaping and shall protect and preserve the biodiversity in the areas of our operations.
  - We shall enhance awareness, skill and competence of our employees and contractors so as to enable them to demonstrate their involvement, responsibility and accountability for sound environmental performance.
2. We are committed to continual improvement in our environmental performance.
  - We shall set objective-targets, develop, implement and maintain management standards and systems, and go beyond compliance of the relevant industry standards, legal and other requirements.
3. We will truly succeed when we sustain our environmental achievement and are valued by the communities in which we work.

**Date :** November 1, 2017



**T V Narendran**  
CEO & Managing Director



## Annexure

### FOOD BASKET SURVEY

Food basket survey was conducted for 181 respondents of the neighbouring villages of Jamadoba and Bhelatand Group. The survey was conducted across 24 hamlets and wards nearby our operations area with the following objectives:-

1. To know the living conditions of the people.
2. To know the minimum wage of the people.
3. Develop an action plan to improve the living conditions by identifying gaps.

The following hamlets and municipal wards (24 villages) were surveyed:-

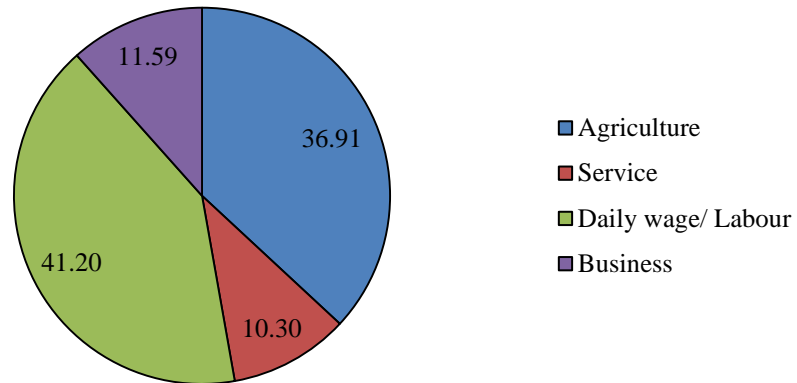
Baidnawadih, Banskapuria, Belubakhar, Bhelatand, Birajdih, Bustar, Chhatand, Debogram, Digwadidh-10 no., Dukhidih, Dumri-4 no., Jahajand, Jorapokhar, Kalimela, Kasiatand, Kushtand, Lalbungalow, Noonudih, Patia, Purnadidh, Suyakanali, Tata Sijua-12 no, Tata Sijua 6 no., Upper Dungri.

#### Observations: -

- It was observed that there was a great skewedness in economic well among the population. The average income per Family is Rs. 8823.00 (181 beneficiaries).
- Out of 181 Households, 295 were earning members.
- The minimum earnings per day in unorganised sector and casual workers is approx. Rs208.00 ( Total earning / total no. of earning members)
- No. of members per family is  $991/181 = 5.47$
- Average Working persons per family is  $295/181 = 1.63$
- The major demands that have come up is ameliorating unemployment and Drinking water and combating social evils like Alcoholism, Dowry and Domestic Violence. Unemployment is especially to the new generation who may not be having adequate number of jobs.
- The major livelihood is wage labour and also a substantial number of Population is engaged in Agriculture. Only a few are unemployed.

Livelihood	Numbers	Percentage (%)
Agriculture	86	36.90
Service	24	10.30
Daily wage/ Labour	96	41.20
Business	27	11.59
TOTAL	233	100%

## LIVELIHOOD PATTERN %



### Expenditure in (Rs) Per Family Per Month

S.No.	Expenditure Item	Expenditure in Rupees	Expenditure per family per month in Rupees
1	Transportation	49376	272
2	House	0	0
3	Electricity	24005	132.62
4	Water	3003	17.00
5	Education	65426	361.46
6	Medical	84259	465.37
7	Clothing	88034	486.37
8	Soc. Oblg.	25581.31	141.33
9	Food	3598.16	3598.16
10	Fuel	37851	209.12
	<b>Total</b>	<b>381133.5</b>	<b>5683.43</b>

- Total Expenditure per month- Rs 3,81,133.5
- Average expenditure per family per month- Rs 5683.58
- Average expenditure per member- (5683.58/5.4)= Rs 1052.4
- Income per family- Rs 8823
- Income per month per individual Earning member= Rs 208.00 x 26= Rs 5,408.00
- Expenditure Per person on food per month= Rs 3598.16/5.4= Rs 719.63
- % of Expenditure Spent on food by per person per month= 719.63/1052.40\*100=68.37%

### **BASIC NEED WAGE:**

Basic food expense per person X 100/% expense on food X 1/Avg working persons per family X Avg Family Size X 1.1

$$=719.63 \times 100/68.37 \times 1/1.63 \times 5.4 \times 1.1 = \text{Rs}3835.68$$

**So, The Basic Need Wage is Rs 3835.68**