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/BAC/39/ 695 /2019

November 22, 2019

Ref.: Environmental Clearance letter no. - J-11015/29/2012-IA.II(M) dated- April 28, 2017.

SUB: Half Yearly Compliance Status Report of Environment Clearance conditions issued by MoEFCC, New Delhi to Bhelatand A. Colliery & Bhelatand Coal Washery, Tata Steel Limited, Dhanbad for the period April'19 to September'19.

Dear Sir,

We are enclosing herewith compliance report for the period **April'19 to September'19** for the EC granted vide letter no.- J-11015/29/2012-IA.II(M) dated- April 28, 2017 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 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, 5th 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

HALF YEARLY COMPLIANCE REPORT

(PERIOD: APRIL'19 – SEPTEMBER'19)

BHELATAND A. COLLIERY

(EXPANSION FROM 0.38 MTPA TO 0.41 MTPA OF RAW COAL PRODUCTION)

AND

BHELATAND COAL WASHERY

(EXPANSION FROM 0.96 MTPA TO 1.5 MTPA RAW COAL THROUGHPUT)

P.O.: BHELATAND, DIST: DHANBAD, JHARKHAND

TATA STEEL LIMITED, JHARIA DIVISION

P.O.- JAMADOBA, DIST. - DHANBAD,
STATE- JHARKHAND, PIN CODE – 828112.

Compliance status of Environmental Clearance of Expansion of Bhelatand A. Colliery (0.38 MTPA to 0.41 MTPA of raw coal production) and Bhelatand Coal Washery (Expansion from 0.96 MTPA to 1.5 MTPA raw coal throughput) of M/s Tata Steel Ltd., District- Dhanbad, Jharkhand vide MoEFCC Letter no J-11015/29/2012-IA.II (M) dated April 28, 2017

<table>
<tr><th>S. No.</th><th>Condition</th><th>Compliance Status</th></tr>
<tr><td colspan="3">Specific Condition</td></tr>
<tr><td>(i)</td><td>The maximum production from the mine at any given time shall not exceed the limit as prescribed in the EC.</td><td>It is being strictly followed. The EC capacity of Bhelatand A. Colliery is for 0.41 MTPA raw coal production is well within the limit. The EC capacity of Bhelatand Coal Washery is for 1.5 MTPA raw coal throughput which is also being maintained within the limit. The production details of last five years are as follow-
<table>
<tr><th>Year</th><th>Bhelatand A. Colliery- Raw Coal Production (MTPA)</th><th>Bhelatand Coal Washery- Raw Coal Throughput (MTPA)</th></tr>
<tr><td>FY15</td><td>0.323</td><td>0.937</td></tr>
<tr><td>FY16</td><td>0.336</td><td>0.869</td></tr>
<tr><td>FY17</td><td>0.270</td><td>0.685</td></tr>
<tr><td>FY18</td><td>0.207</td><td>0.625</td></tr>
<tr><td>FY19</td><td>0.295</td><td>0.899</td></tr>
</table></td></tr>
<tr><td>(ii)</td><td>The washery shall be as per the project report submitted and presented to EAC.</td><td>It is being strictly complied with.</td></tr>
<tr><td>(iii)</td><td>The validity of the EC is for the life of mine or as specified in the EIA Notification, 2006, whichever is earlier.</td><td>The mining lease of Bhelatand A. Colliery is valid for 999 years i.e. 20.01.2903 and life of mine as per approved mining plan is 25 years (Base year is FY13-14). However, the validity of EC for mines as per EIA Notification amendment dt. 14.09.2016 is kept as 30 years. Therefore, the EC is valid till 31.03.2038.</td></tr>
<tr><td>(iv)</td><td>Transportation of coal should be carried out by covered conveyor belts. Mitigative measures to be undertaken to control dust and other fugitive emission all along the roads by providing sufficient numbers of water sprinklers.</td><td>• The transportation of coal from underground colliery to coal handling plant (CHP) is through covered conveyor belt networks.
• Dry-fog system has been already installed to suppress the dust generated at CHP and transfer points of belt conveyor systems.
• Fixed-type water sprinklers are also installed on the internal roads of the washery. These are operated effectively at all times to check the fugitive emissions.
• Fugitive dust emission monitoring is done on half-yearly basis. The values are within the stipulated norms.</td></tr>
</table>

(v)	Continuous monitoring of occupational safety and other health hazards, and the corrective action need to be ensured.	The periodic health checkup of the workers is done regularly by our Occupational Health Department, Tata Central Hospital, Jamadoba. We have a PME (Periodic Medical Examination) centre approved by DGMS where 20 % of the workers identified from workforce engaged in active mining operations and washery plant are subjected to full medical checkup every year including hearing impairment checkup, etc. These results are regularly submitted to DGMS as per mines rules.
(vi)	Modern practices for agriculture to be encouraged with promotion of organic farming through training and demonstration (where ever feasible)	Total 413 farmers have been effectively trained in SRI (Systems of root intensification) in FY19 which helps in more production of quality grains with lesser seed requirement. This helps farmers to produce grains at lesser cost. Matka Khad, etc. promotes organic farming which helps farmers to use less chemicals (pesticides, insecticides etc.). In last two years, total 14 villages have been covered under this training program where farmers received hands on demonstration and training on organic farming.    
(vii)	Special emphasis should be on training and demonstration on conservation of crops and foods and food processing (Wherever feasible)	For the conservation of crops and foods, the following training programs are being through our CSR wing, TSRDS (Tata Steel Rural Development Society)- • SRI • Second crops (Rabi crops) • Dry land farming • Fisheries training Pisciculture • Animal Husbandry (goat farming)

<table>
<tr><td></td><td></td><td>The CSR report with photographs are provided in Annexure VI</td></tr>
<tr><td>(viii)</td><td>CCTV cameras to be installed at washery gate to check compliance of covering of trucks.</td><td>CCTV cameras at washery entrance gate and near weigh bridge gate have been provided. The details along with photographs is provided in Annexure-VII. It is to be mentioned here that no truck is allowed into the premises which are not covered by tarpaulin sheets.</td></tr>
<tr><td>(ix)</td><td>This is an underground mine. Afforestation /green belt development takes place every year on the open surface within leasehold areas. Massive plantation shall be carried out in open spaces in and around the mine and a 3-tier avenue plantation along the main approach road to the mine.</td><td>• Tree plantation activities are carried out every year on the barren/ degraded areas, areas along road-side, infrastructure, etc of the colliery leasehold. Apart from these, fruit plants are distributed to employees and also to villagers, schools, institutions, etc.
• Avenue plantation is done in residential colony and along the road side every year.
• In last two years approx. 79157 saplings have been planted in whole leasehold area.
We have covered around 39 Nos of species under tree plantation jobs this year:
<table>
<tr><td>Babul</td><td>Mango</td><td>Areca palm</td><td>Semal</td></tr>
<tr><td>Bael</td><td>Mahaneem</td><td>Bargad</td><td>Palash</td></tr>
<tr><td>Kala siris</td><td>Imli</td><td>Guler/ Dumar</td><td>Ammda</td></tr>
<tr><td>Alostromia</td><td>Karipatta</td><td>Shisham</td><td>Mahua</td></tr>
<tr><td>Kaju</td><td>Karma</td><td>Gulmohar</td><td>Bija</td></tr>
<tr><td>Sitaphal</td><td>Kadam</td><td>Sal</td><td>Togger</td></tr>
<tr><td>Kathal</td><td>Teak/ Sagwan</td><td>Lagerstroemia</td><td>Jamun</td></tr>
<tr><td>Neem</td><td>Radhachuda</td><td>Pipal</td><td>Arjun</td></tr>
<tr><td>Kachnar</td><td>Phoenix palm</td><td>Guava</td><td>Ber</td></tr>
<tr><td>Jungle Jalebi</td><td>Amla</td><td>Ashoka</td><td></td></tr>
</table>
• Greenbelt development done with photographs is provided in Annexure I.</td></tr>
<tr><td>(x)</td><td>There will be no external /internal OB dumps</td><td>Since this is an underground mine, it is not applicable.</td></tr>
<tr><td>(xi)</td><td>Wastewater shall be effectively treated and recycled completely either for washery or maintenance of green belt around the plant.</td><td>Washery is already operating on a zero-discharge principle. No wastewater is discharged into the drains/ natural water systems. The recycled water is again used for plant operations and green-belt development.</td></tr>
<tr><td>(xii)</td><td>The assurances given during the Public Hearing and as per the Action plan developed by the proponent should be implemented.</td><td>The assurances given during the public hearing with respect to environment and CSR are already being executed. The detailed status report of implementation provided in Annexure-VIII.</td></tr>
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Compliance status of Environmental Clearance of Expansion of Bhelatand A. Colliery (0.38 MTPA to 0.41 MTPA of raw coal production) and Bhelatand Coal Washery (Expansion from 0.96 MTPA to 1.5 MTPA raw coal throughput) of M/s Tata Steel Ltd., District- Dhanbad, Jharkhand vide MoEFCC Letter no J-11015/29/2012-IA.II (M) dated April 28, 2017

(xiii)	Hoppers of the coal crushing unit and washer unit shall be fitted with high efficiency bag filters or mist spray water sprinkling system and operated effectively at all times of operation to check fugitive emissions from crushing operations , transfer points of closed belt conveyor systems and from transportation roads.	• Dry-fog system has been installed to suppress the dust generated at CHP and transfer points of belt conveyor systems. • Fixed-type water sprinklers are also installed on the internal roads of the washery. • The Dust Extraction system (Bag filters) is installed at Coal Handling Plant. Extracted dust is mixed in water and then fed into the Tailing Thickener. These are operated effectively at all times to check the fugitive emissions.
(xiv)	All approach roads shall be black topped and internal roads shall be concreted. The roads shall be regularly cleaned with mechanical sweepers.	All the internal roads have been concreted while the approach roads are black-topped. There is a facility for parking of trucks within the unit. We are in process for installation of Mechanical sweepers (Bob Kat machine with vacuum cleaning mechanism) for internal roads. Purchase order for the same has been done. Status will be provided in next compliance report.
(xv)	Records of quantum and ash contain of raw coal being washed and clean coal and coal rejects produced from every batch of washing shall be maintained and details thereof be made available to Ministry whenever directed.	Proper records of quantity and ash content of raw coal being washed, clean/washed coal, and other by-products are being maintained regularly.
(xvi)	No ground water shall be used for the plant operations. Any additional water requirement envisaged shall be obtained by recycle/reuse of treated effluent and from rainwater harvesting measure.	No ground water is used for washery plant operations. Since, washery is operating on Zero Liquid Discharge Principle; all processed water is recycled back and reused for operations. The make- up water requirement is met by mine water from adjoining Bhelatand Colliery and Katri river. There are total 8 ponds (Capacity- 20622 m3) for tailing management which also act as surface runoff and rainwater storage ponds. In addition to that, Rooftop rainwater harvesting structure has been constructed in office premises of Bhelatand washery is being extended to colliery office. 

(xvii)	Socio – economic and welfare measures for the local communities for the adjoining villages shall be implemented under CSR. Activities to be undertaken for the adjoining villages shall be identified in consultation with the local authorities, the details of status of implementation of CSR and expenditure thereon which should be annually updated on the company website.	CSR activities are being carried out through our CSR wing, TSRDS, which is managed by a team of experts who are full time involved in providing benefits and improving standard of living in over 30 villages. The list of activities are developed in consultation with the village representatives and implemented in a time-bound manner. The annual expenditure on CSR is updated in Integrated Report of Tata Steel every year which is uploaded in company's website. A CSR report has been attached as Annexure-VI
(xviii)	Heavy metal content in raw coal, and washed coal shall be analysed once in a year and records maintained thereof.	Heavy metal content analysis in raw coal and washed coal was done by CIMFR, Dhanbad during EIA/EMP study. The analysis reports of the same is being submitted as Annexure-II.
General Conditions:		
A. Mining		
(i)	No change in mining technology and scope of work shall be made without prior approval of the Ministry of Environment Forest and climate Change. No change in the calendar plan including excavation, quantum of coal and waste should be made.	It is being strictly followed and complied with.
(ii)	Mining shall be carried out as per the approved mining plan, and also abiding by the relevant laws related to coal mining and the circulars issued by Directorate General Mines Safety (DGMS) An approved progressive Mine Closure Plan shall strictly be complied with and submitted.	It is being strictly followed. Mining is being carried out as per the approved mining plan in accordance with other mining rules, DGMS permissions etc. The mine closure plan was also approved along with mining plan by Ministry of Coal, Govt of India. The provisions of mine closure plan are being complied with. As per progressive closure activities, plantation for green cover in and around leasehold area is being done. Details on greenbelt development is provided in Annexure-I.
B. Land Reclamation		
(i)	Digital processing of the entire lease area using remote sensing technique shall be carried out regularly once in three years for	It shall be complied with and report shall be submitted once in three year. Since this is an underground mine, hence there is no proposed changes in existing land use pattern as per EIA/EMP. Though, we have engaged a consultant for the study of land use. Report of the same

	monitoring land use pattern and report submitted to Ministry of Environment, Forest and Climate Change its Regional Office.	will be submitted in next compliance report.
(ii)	Final mine void depth should not be more than 40m. The void area should be converted into water body. The remaining area should be back filled up to ground level and covered with thick top soil. The land after mining should be restored for agriculture or forestry purpose.	It is not applicable as this is an underground mine.

(iii)	The top soil, if any, shall temporarily be stored at earmarked site (s) only and it should not be kept unutilized for long .The topsoil shall be used for land reclamation and plantation. The overburden dumps should be vegetated with suitable native species to prevent erosion and surface run off. The entire excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self – sustaining Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office on six monthly basis.	There is no generation of top soil due to mining activities as this is an underground mine. Mining is being done by Board and Pillar method with sand stowing. The rehabilitation is also not applicable in this case as there is no change in land use pattern due to underground mining operation.
(iv)	Greenbelt shall be developed all along the mine lease area in a phased manner. The width of the green belt along forest area should not be less than 7.5 m, and the total area covered by 3 tier	• Greenery has been developed in many areas around the colliery and washery premises. There is no forest land in core and buffer zone. However, green belt is being developed in the leasehold area. • 3-Tier plantation along the roads shall be developed in

	green belt shall not be less than 100 ha. A 3-tier green belt comprising of a mix of native species shall be developed all along the major approach roads.	coming monsoon season. Around 52078 saplings have been planted in the whole leasehold area during this monsoon (FY20). Details are provided in Annexure-I.
C. Emissions, Effluents, and waste Disposal		
(i)	Transportation of coal by road should be carried out by covered trucks only. Effective measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of PM10 and PM 2.5 such as haul road, loading and unloading point and transfer points. Fugitive dust emission from all the sources shall be controlled regularly it shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board in this regard.	• Transportation of raw coal from Bhelatand A. Colliery to washery is done through underground belt conveyors. The washed coal from washery is sent to Jamshedpur or Haldia plant via rail network. The sand used for stowing is transported through Tarpaulin sheet covered trucks only. • Dry-fog system has been already installed to suppress the dust generated at CHP and transfer points of belt conveyor systems. Fixed-type water sprinklers are also installed on the internal roads of the washery. In addition to these, movable water sprinkler ply on regular intervals for dust suppression. The ambient air quality report is submitted to SPCB every quarter.
(ii)	Vehicular emission shall be kept under control and regularly. Project should obtain 'PUC' certificate for all the vehicles from authorized pollution testing centres.	Raw coal transportation is done through underground belt network. Only the vehicles having valid PUC certificates are being allowed to operate for sand transportation.
(iii)	Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM10 PM2.5 SO2 and NOX. Location of the stations shall be decided based on the meteorological data,	Based on meteorological data, total four ambient air quality stations are established in core zone and buffer zone. Monitoring and analysis of PM10, PM2.5, SO2, NO2 are done on monthly basis. The Air quality monitoring stations are: (i) Bhelatand Office Area (Core Zone) (ii) Russi Vihar Colony, Sijua (Buffer Zone) (iii) Malkera Colony (Buffer Zone) (iv) Bhelatand Colony (Buffer Zone)

	topographical features and environmentally and ecologically sensitive in consultation with the state pollution Control Board. Monitoring of heavy metals such as Hg,As,Ni,Cd,Cr,etc carried out at least once in six months.	Monitoring of heavy metals in ambient air is being performed by an independent laboratory (recognised by NABL/MoEFCC) once in six months. The results are enclosed as Annexure-II.
(iv)	Crusher / feeder and breaker material transfer points should invariably be provided with dust suppression system. Belt – Conveyors should be fully covered to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.	The following measures have been implemented: i) Dry-fog system at all transfers points of CHP. ii) Dust extraction system (Bag filters) in CHP ii) Enclosures around crushers. iii) Belts have been covered on top and both sides. These arrangements will protect the coal mass moving on belt from blowing wind. In this way, the dust getting air borne is being minimized. iv) Fixed water sprinklers on the haulage roads. v) In addition, movable water sprinklers are also being deployed on the roads for dust suppression.
(v)	The project proponent shall not alter the major channels around the site. Appropriate embankment should be provided along the side of the river/nallah flowing near or adjacent to the mine. The embankment constructed along the river/nallah boundary should be of suitable dimensions and critical patches should be strengthened by stone pitching on the river front side and stabilised with plantation so as to withstand the peak water flow and prevent mine inundation.	During the course of action, there is no proposed diversion or rechannelling of the water course is involved. The prominent stream in the region is Katri Nadi, a tributary of Damodar river. Appropriate embankment along the Katri river is already provided. Stone pitching has been provided on the embankment. The dense vegetation already exists between the river channel and lease which shall be strengthened further to check the peak water flow and prevent mine inundation.

(vi)	Rainwater harvesting shall be implemented for conservation and augmentation of ground water resource in the area in consultation with Central Ground Water Board.	In last nine years, total 38 Nos. of ponds (Total capacity-229150 m3) are either newly constructed or renovated/ deepened by removal of silts in and around Bhelatand lease area for conservation and augmentation of ground water. These ponds act as surface reservoir for rainwater. In addition to that, Rooftop rainwater harvesting structure has been constructed in office premises of Bhelatand washery is being extended to colliery office. 
(vii)	Catch drain and siltation ponds of appropriate size shall be constructed around the mine working coal heaps and OB dumps to prevent run off of water and flow of sediments directly into the river and other water bodies. The water so collected should be utilized for watering the mine area. Roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper setting of silt material. Dimension of the retaining wall to be constructed at the toe of the dump and OB benches within the mine to check run – off and siltation should be based on the rainfall.	• There are no soil or OB dumps in the colliery and washery premises. Only the by-products are stored in the stockyards located in the washery premises which are sold off within 10-15 days. • Garland drains of adequate size and gradient already exist around the washery area to channelize the surface runoff. The runoff is diverted to the tailing ponds and clear water after settle is re-utilized in the washery.
(viii)	Industrial waste water (CHP, workshop and waste water from the mine) should be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the	No waste-water is discharged outside the washery premises. 100% water is re-circulated back for re-use in the washery. There is a central workshop and garage in Jamadoba where Effluent Treatment Plant having oil and grease trap facility has been provided. Approx half of the mine water is sent back into underground and remaining water is used for dust suppression, washery make-up water, greenbelt

	Rules made there under, and as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.	development and drinking water supply to colonies and stakeholders. We have also commissioned an Effluent Treatment Plant for canteen wastewater in Colliery premises. Treated water of ETP is used in horticulture and greenbelt development.
D. Noise & Vibration Control		
(i)	Adequate measure shall be taken for control of noise levels below 85dBA in the work environment Workers engaged in blasting in drilling operation of HEMM, etc shall be provided with plugs/muffs.	Regular noise survey is being conducted in the underground work environment. Workers are provided with ear-plugs/ muffs in high noise areas. Since this is an underground mine where no HEMM is used. Coal preparation is done by drilling & solid blasting. The noise levels report is provided as Annexure- II.
(ii)	Controlled blasting techniques should be practiced with use of delay detonators to mitigate ground vibrations and fly rocks.	Not applicable as it is an underground mine. However, due to implementation of various mitigation measures, and use of delay detonators due to blasting in underground vibration does not cause damage to any structure on the surface.
E. Occupational Health & Safety		
(i)	Besides carrying out regular periodic health check – up of their workers, 20% of the workers identified from workforce engaged in active mining operation shall be subjected to health check – up for occupational diseases and hearing impairment ,if any, through an specialised agency / institution within the District/ State and the results reported to this Ministry and to DGMS.	The periodic health check-up of the workers is done regularly by our Occupational Health Department, Tata Central Hospital, Jamadoba. We have a PME (Periodic Medical Examination) centre approved by DGMS where 20 % of the workers identified from workforce engaged in active mining operations are subjected to full medical check-up every year including hearing impairment check-up, etc. These results are regularly submitted to DGMS as per mines rules.
(ii)	Personal working in dusty area should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Supervisory staff shall be held responsible for ensuring compulsory wearing of dust mask.	Persons working in dusty area have been provided with dust masks & have been given awareness training on safety & health aspects. Regular PME (Periodic Medical Examinations) are also being done.

(iii)	In case of outsourcing of work through MDO, the project proponent shall ensure the strict enforcement of above condition.	Not applicable
F. Biodiversity		
(i)	The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna, if any, spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the state Forest and Wildlife Department. A copy of action plan shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office.	Tata Steel has engaged a global organisation viz. IUCN (International Union for Conservation of Nature) which work in the field of faunal and floral conservation. We have prepared a Biodiversity Management Plan (BMP) and thereafter prepared BMP action plan (BAP) in association with IUCN for enhancement of biodiversity. We have already started to implement the BAP in our area for conservation and enhancement of flora and fauna. The progress report with action plan is provided in Annexure-I. Some key initiatives for biodiversity enhancement are medicinal garden development, Native species plantation and Butterfly park development, artificial niche nesting etc.
G. Implementation of Action Plan as per public Hearing And CSR Activities		
(i)	Implementation of Action Plan on the issues raised during the Public Hearing shall be ensured. The Project proponent shall complete all the tasks as per Action plan submitted with budgetary provisions during the public Hearing. Land oustees should be compensated as per the norms laid out R&R Policy of the Company or the National R&R Policy of the State Government, whichever is higher.	The implementation of action plan on the issues raised during public hearing is already in progress. The status of actions along is provided in Annexure-VIII. R&R is not applicable in this project.
(ii)	The Board of every company, shall ensure that the company spends in every financial year, at least two per cent. of the average net profits of the company made during the three immediately preceding financial year, in pursuance of its corporate Social Responsibility policy under	The proposed CSR expenditure for the entire company is decided as per the new Company Rules. Once the CSR budget for company is fixed, a share of that amount is dedicated and utilized for implementing the CSR activities at our Jharia Division level. The CSR expenditure of Tata Steel in FY19 was Rs.5.65crores. A CSR report is attached as Annexure-VI

	Section 135 of the Companies Act,2013, for the socio economic development of the neighbourhood.	
H. Corporate Environment Responsibility		
(i)	The Company should have a well laid down Environment Policy approved by the Board of Directors.	The Company already has an Environment Policy approved by the Managing Director. It is enclosed as Annexure- IV
(ii)	To have proper checks and balances, the Company should a well laid down system of reporting of non – compliances / violations of environmental norms to the Board of Directors of the Company and / or shareholders or stakeholders at large.	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.
(iii)	A separate environment 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) and four employees. The reporting of Environmental Cell is directly to General Manager of the Division.
(iv)	The funds earmarked for environment protection measures should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional Office.	The Environment Cell has a separate fund for Environmental protection measures and for complying with legal requirements. The year-wise expenditure is being already submitted to JSPCB as Environment Statement in Form-V. The total annual environmental expenditure for the financial year 2018-19 is Rs. 1230.97 lakhs. The details are given as Annexure- IX.
I. Statutory Obligations		
(i)	Environment clearance is granted subject to final outcome of Hon'ble Supreme Court of India, High Court, NGT and any other Court of Law, if any, as may be applicable to the project.	It shall be strictly followed.
(ii)	This Environmental Clearance is subject to obtaining requisite	Not applicable.

	NBWL Clearance from the Standing Committee of National Board for Wildlife , if any , applicable to the project	
(iii)	The project proponent shall obtain Consent to Establish and Consent to Operate from the concerned State Pollution Control Board prior to increase in capacity of washery and effectively implement all the conditions stipulated therein.	The consent to establish has been granted by JSPCB (Ref no.- JSPCB/HO/RNC/CTE-342731/2017/686 dt. 20.11.2017). The Consent to Operate has been granted by JSPCB (Ref no.- JSPCB/HO/RNC/CTO-1581391/2018/1733 dt. 01.11.2018) valid till 31.03.2023 The conditions of CTE and CTO are being complied with and submitted to JSPCB.
(iv)	Project proponent shall obtain the necessary prior permission from the Central Ground Water Authority (CGWA) for drawl of water (surface and ground water).	No Objection Certificate for withdrawal of mine water has already been applied for to Central Ground Water Board in March'17 and it is under consideration at CGWA, Delhi.
J. Monitoring of Project		
(i)	Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring shall be carried out four times in a year pre – monsoon (April-May) , monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground water Authority and Regional Director , Central Ground Water Board.	The monitoring of groundwater level and quality is done four times a year. The groundwater quality report & groundwater level for the Pre-Monsoon (May) and Monsoon (August) are provided in Annexure-II.
(ii)	The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment, Forest and Climate	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.

	Change, its Regional Office, central Pollution Control Board and State Pollution Control Board.	
(iii)	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.	It shall be complied with.
(iv)	The activities pertaining to development of green belt/horticulture shall be reported to concern Regional Office of MoEF&CC on six monthly basis from the data of commencement of mining operation.	In our leasehold area, every year 5000 Nos of sapling plantation is being done. ₹40/per sapling is incurred as cost of sapling, pit digging, manure mixing and plantation. Total cost of sapling plantation is ₹2 lakh/year. Cost incurred for maintenance of sapling is ₹1 lakh/year. Around 2000 saplings are distributed every year at cost of 1.4 lakhs outside the leasehold area. In addition to above, we have a budget of Rs. 25 lakhs per year which includes maintenance of old saplings (converted into plants) and developing green area of the region. The greenbelt development plan has been submitted to MoEFCC earlier. Greenbelt development done so far is provided in Annexure-I
(v)	For half yearly monitoring reports. The data should be monitored for period of April to September and October to March of the financial years and submitted to the concerned authorities Within 2 months of the completion of periodicity of monitoring.	The cycle of April to September and October to March of every financial year is being followed for submission of compliance and monitoring reports.
K. Miscellaneous		
(i)	A copy of clearance letter will be marked to concerned panchayat/local NGO, if any, from whom suggestion / representation has been received while processing the proposal.	The copy of Clearance letter has been sent to District Commissioner, Municipal Commissioner and other government offices on 11th May, 2017.

(ii)	An electronic copy of the EC letter shall be marked to the concerned State Pollution Control Board, Regional office , District Industry Sector and Collector's Office / Tehsildar Office for information in public domain within 30 days.	The electronic copy of EC letter has been forwarded to DC office, JSPCB Dhanbad office, JSPCB Ranchi office via mail on 11th May, 2017. Details are provided in Annexure-V
(iii)	The EC letter shall be uploaded on the company's website. The compliance status of the stipulated EC conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in public domain. The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant such as PM10, PM2.5, SO2 and Nox (ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on company's website.	The EC letter is already uploaded in company's website. The compliance reports shall also be uploaded once in six months in company's website with all monitoring reports. Details are provided in Annexure III. The display board at entrance of mine and washery covers all environment quality parameters and applicable statutory requirements as per the guidelines.
(iv)	The project authorities should advertise at least in two local newspapers 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 SPCB and also at web site of the Ministry of Environment, Forest and Climate Change at www.environmentclearance.nic.in and a copy of the same should be forwarded to the Regional Office	The Notice has been advertised in two local newspapers viz. Prabhat Khabar (Hindi) and Hindustan (Hindi) on May 05, 2017. Details are provided in Annexure- V.

	the Ministry of Environment, Forest and Climate Change at www.environmentclearance.nic.in and a copy of the same should be forwarded to the Regional Office .	
(v)	The Environmental Statement for each financial year ending 31 March in From-V is mandated to be submitted by the PP for the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently ,shall also be uploaded on the Company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Office of the MoEF&CC by e-mail.	The environmental statement for financial year 2018-19 has been submitted to JSPCB on 23rd September 2019 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.

Head Planning
Tata Steel Limited,
Jharia Division

Statement showing measures taken for increasing tree and forest cover

AFFORESTATION: Plantation activities are carried out in the barren land of the colliery leasehold area to increase the green cover as well as in the washery premises. Care is taken to plant only the native species so that native ecosystem is preserved. Following are the details of mass plantation in our leasehold area of Jharia Division for greenery development.

Year	No. of trees planted
FY14	10195
FY15	15800
FY16	10000
FY17	10900
FY18	8500
FY19	10000

BIODIVERSITY ENHANCEMENT INITIATIVES:

Three projects are taken up in FY18 to enhance the biodiversity of the region in consultation with IUCN viz. Artificial Niche Nesting, Development of Butterfly park and Herbal park development.

Herbal Park Development:

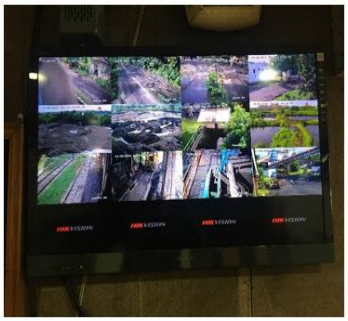
As part of afforestation & tree plantation a herbal garden was developed in June'17 with more than fifteen varieties of medicinal plants viz. Ficus Compecta (Harit Kumari), Ficus black Japan (Golmirch), Phonexfam (Jaiphal), Caladinum Attala (Har singar) etc.

DEVELOPMENT OF MEDICINAL & HIBISCUS GARDEN

Around 46 variety of medicinal and 49 variety of Hibiscus species were identified to be planted in the park. Signage board were installed indicating the species name along with its medicinal uses.

Compliance to Specific Condition no. (viii)

Installation of high resolution revolving cameras at BCPP



AIR QUALITY REPORT

Core zone & Buffer zone

Period- July'19 to September'19 **No. of sampling points:** 4

Core zone (as per Air quality standards for coal mines in EPA Notification, 1988)							
Location	**Latitude/ Longitude**	**Date**	**Weather Condition**	**SPM 24 Hourly Limit- 700 µg/m³**	**RSPM 24 Hourly Limit- 300 µg/m³**	**SO_2 24 Hourly Limit- 120 µg/m³**	**NOx 24 Hourly Limit- 120 µg/m³**
Sijua Mine Office Area	23°46'33.2" N/ 86°19'51" E	10.07.19	Rainy	143.7	62.3	11.4	11.2
		14.08.19	Rainy	142.8	64.7	10.8	12.3
		18.09.19	Rainy	149.3	70.6	15.7	13.4
Bhelatand Office Area	23°46' 11" N/ 86°18'51" E	18.07.19	Clear	168.4	65.3	13.3	14.0
		05.08.19	Rainy	144.8	62.6	11.4	13.2
		04.09.19	Rainy	131.7	64.2	14.8	13.7
Buffer zone (as per NAAQS 2009 for ambient air quality standards)							
Location	**Latitude/ Longitude**	**Date**	**Weather Condition**	**PM10 24 Hourly Limit- 100µg/m³**	**PM2.5 24 Hourly Limit- 60µg/m³**	**SO_2 24 Hourly Limit- 80µg/m³**	**NO_2 24 Hourly Limit- 80µg/m³**
Sijua Russi Vihar Colony	23°46'45.8" N/ 86°20'18.6" E	26.07.19	Rainy	77.9	35.1	6.8	7.6
		13.08.19	Rainy	74.6	32.8	6.4	7.2
		29.09.19	Rainy	80.6	44.8	12.0	8.6
Malkera Colony	23°47'10" N/ 86°17'39" E	17.07.19	Rainy	87.4	39.0	5.6	6.3
		27.08.19	Rainy	86.4	38.7	6.6	7.0
		11.09.19	Rainy	75.3	28.9	9.2	8.2
Bhelatand Colony	23°46'10.7" N/ 86°18'49"E	11.07.19	Clear	87.6	37.2	8.8	8.8
		09.08.19	Clear	88.4	42.7	8.4	9.6
		20.09.19	Clear	64.7	34.2	8.0	6.8

Manager (Environment)

AIR QUALITY REPORT

Core zone & Buffer zone

Period- April'19 to June'19

No. of sampling points: 4

Core zone (as per Air quality standards for coal mines in EPA Notification, 1988)							
Location	**Latitude/ Longitude**	**Date**	**Weather Condition**	**SPM 24 Hourly Limit- 700 µg/m³**	**RSPM 24 Hourly Limit- 300 µg/m³**	**SO_2 24 Hourly Limit- 120 µg/m³**	**NOx 24 Hourly Limit- 120 µg/m³**
Sijua Mine Office Area	23°46'33.2" N/ 86°19'51" E	16.04.19	Clear	146.8	68.2	13.4	11.8
		13.05.19	Rainy	148.0	71.0	12.0	11.2
		12.06.19	Clear	153.2	68.4	13.0	11.0
Bhelatand Office Area	23°46' 11" N/ 86°18'51" E	22.04.19	Clear	162.1	81.0	12.2	11.1
		02.05.19	Clear	158.5	78.2	13.4	11.0
		07.06.19	Clear	171.3	75.3	15.3	14.3
Buffer zone (as per NAAQS 2009 for ambient air quality standards)							
Location	**Latitude/ Longitude**	**Date**	**Weather Condition**	**PM10 24 Hourly Limit- 100µg/m³**	**PM2.5 24 Hourly Limit- 60µg/m³**	**SO_2 24 Hourly Limit- 80µg/m³**	**NO_2 24 Hourly Limit- 80µg/m³**
Sijua Russi Vihar Colony	23°46'45.8" N/ 86°20'18.6" E	23.04.19	Rainy	78.3	41.1	8.9	11.0
		06.05.19	Clear	84.4	45.0	9.1	10.1
		28.06.19	Rainy	87.0	43.1	8.0	9.5
Malkera Colony	23°47'10" N/ 86°17'39" E	10.04.19	Clear	84.4	44.2	7.8	12.2
		14.05.19	Rainy	91.2	45.8	8.1	10.2
		18.06.19	Clear	94.6	49.3	7.7	11.3
Bhelatand Colony	23°46'10.7" N/ 86°18'49"E	04.04.19	Clear	83.0	42.2	10.8	11.2
		23.05.19	Clear	87.7	45.4	9.0	10.3
		05.06.19	Clear	92.2	43.2	11.2	10.3

Manager (Environment)

Ground Water Quality Analysis (Hand Pump & Dugwell)
Pre - Monsoon Season- May'2019

S.No	Date	Location	Time	Sample Parameter			
				Depth in meter (m)	pH	Electrical Conductivity, µS/m	Total Hardness (as $CaCO_3$), mg/l
1	22.05.19	Ruddi Basti	10:05AM	4.26	7.5	824	588
2	22.05.19	Rampur Basti	11:25AM	10.12	7.3	564	512
3	22.05.19	Malkera Trigunait Basti	12:05PM	4.12	7.2	1064	876
4	22.05.19	Sijua 6 No	12:40PM	5.29	7.4	932	646
5	22.05.19	Sijua 12 No	01:10PM	3.86	7.5	744	584
6	22.05.19	Rampur Basti, (Road Side)	10:45AM	9.13	7.8	812	596
7	22.05.19	Bansh Kapuria	10:30AM	4.28	7.9	1070	866
8	22.05.19	Pasitand Basti	11:00AM	5.14	7.4	1140	876
9	22.05.19	Bhelatand 500 Qtr.(Back Side)	01:35PM	2.18	7.6	1040	798

Manager (Environment)

Ground Water Quality Analysis (Hand Pump & Dugwell)
Monsoon Season- August'2019

S.No	Date	Location	Time	Sample Parameter			
				Depth in meter (m)	pH	Electrical Conductivity, µS/m	Total Hardness (as $CaCO_3$), mg/l
1	02.08.19	Ruddi Basti	12:10PM	1.26	7.2	610	502
2	02.08.19	Rampur Basti	12:20PM	4.80	7.0	512	436
3	02.08.19	Malkera Trigunait Basti	10:20AM	1.85	7.3	652	624
4	05.08.19	Sijua 6 No	11:35AM	1.48	7.1	520	488
5	05.08.19	Sijua 12 No	11:50AM	1.73	7.1	635	444
6	02.08.19	Rampur Basti, (Road Side)	12:30PM	4.50	7.2	728	436
7	05.08.19	Bansh Kapuria	11:15AM	2.10	7.3	925	612
8	05.08.19	Pasitand Basti	10:45AM	1.95	7.2	840	584
9	05.08.19	Bhelatand 500 Qtr.(Back Side)	11:00AM	0.98	7.4	863	572

Manager (Environment)

Annexure- II

Ambient Air Quality and Groundwater Quality Report (Period- **April'19 to September'19**)

NOISE SURVEY REPORT- Bhelatand A. Colliery

Date- 23.07.2019

S.No.	Unit / Place	**Equipment / Location**	Distance (meter)	Leq (dB 'A')	Exposure Hours
1	**14 seam (E)**	Pit Bottom, (14 Seam , 2 Pit)		65.7	8 hrs./shift
2		Switch Room ,1st L / '0'D (W)	-	65.3	8 hrs./shift
3		Switch Room ,1st L / '0'D (E)	-	66.5	8 hrs./shift
4		Compressor Room, 1st L / '0'D	-	71.5	8 hrs./shift
5		Pump 75HP, 1st D (E) / 'B'L	-	72.8	6 hrs./shift
6		Transformer Room, 'B'(WL) 6th – 7th R	--	64.7	8 hrs./shift
7		Miner Station 'B' (E) L / 8th R	-	65.2	8 hrs./shift
8		Transformer Room, 'B'L / 9th D	-	66.4	8 hrs./shift
9		Auxiliary Fan	-	82.7	8 hrs./shift
10	Surface	Pit Top	-	68.5	8 hrs./shift
11		Surface Compressor Room	-	73.4	8 hrs./shift
12		MMV Fan at operator's Seat	-	76.2	8 hrs./shift

NOISE SURVEY REPORT- Bhelatand Coal Washery

Date-12.08.2019

S.No.	Unit / Place	**Equipment / Location**	Distance (meter)	Leq (dB 'A')	Exposure Hours
1		Control Room	-	53.6	8 hrs./shift
2	Main Plant	Office Room	-	63.6	8 hrs./A shift
3		Primary Pump House Floor	-	74.2	8 hrs./shift
4		Secondary Pump House Floor	-	75.1	8 hrs./shift
5		SCBC Floor	-	69.3	8 hrs./shift
6		Screen Floor	-	67.3	8 hrs./shift
7		Cyclone Floor	-	71.2	8 hrs./shift
8		Compressors Room	-	80.5	8 hrs./shift
9		Common Bridge way of Main Building Thro' Main Plant	-	75.4	8 hrs./shift
10		Radial Blending Control Room	-	61.3	8 hrs./shift
11		Redial Blender	-	75.2	8 hrs./shift
12		Flocculent dosing station	2	77.1	8 hrs./shift
13		Conveyor Belt 301 discharge 306 conveyor	2	76.9	8 hrs./shift
14	Electrical Room	Sub Station	-	57.3	8 hrs./shift
15		MCC - I	-	59.8	8 hrs./shift
16		MCC - II	-	58.7	8 hrs./shift
17		MCC - III	-	60.1	8 hrs./shift
18	NRD	NRD Laboratory Room	-	62.6	8 hrs./shift

The warning limit is 85dB "A" and the danger limit is 90 dB "A" for 8 (Eight) hours of working. All the values are within permissible limit.

Manager (Environment)

ECOMEN LABORATORIES PVT. LTD.
Flat No. 8, 2nd Floor, Arif Chamber-V, Sector H, Aliganj, Lucknow - 226 024
Phone No. : (91-522) 2746282, 2745726 Telefax No.: (91 - 522) 2745726
E-mail: ravi.bhargava@gmail.com, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1ZI

FORMAT NO. ECO/QS/FORMAT/10 TEST REPORT NO: ECO Lab/AAQ-1/08/19
Test Report Issue date: 30.08.2019

TEST REPORT OF AMBIENT AIR*

Name of the Customer : Tata Steel Colliery (Sijua Grup)
Address of the Customer : Jamadoba, Distt. Dhanbad Jharkhand
Date of Sampling : 16.08.2019
Sample Collected By : Mr.R K Pandey& Mr. Aman Dixit
Sampling Method : IS: 5182
Instrument Used : RDS & FDS
Location : Bhelatand Officer's Club

Sl. No.	Tests Conducted	Method	Results	Detection Range	NAAQ Standards as per CPCB, New Delhi, Nov. 18th, 2009
1.	$PM_{2.5}$ ($\mu g/m^3$)	SOP NO. A -15, Issue No.1 date 26.07.2016 (Gravimetric Method)	29.30	12.5-1000	60
2.	PM_{10} ($\mu g/m^3$)	IS:5182 (Part-23)	82.30	12.5-1000	100
3.	SO_2($\mu g/m^3$)	IS:5182 (Part-2)	13.70	9-200	80
4.	NO_2($\mu g/m^3$)	IS:5182 (Part-6)	20.60	6-200	80
5.	NH_3($\mu g/m^3$)	SOP NO. A -26, Issue No.1 date 26.07.2016 (Indophenol Method)	14.20	2-700	400
6.	O_3 ($\mu g/m^3$)	IS:5182(Part-9)	19.30	2-200	180
7.	CO (mg/m^3)	IS:5182 (Part-10)	0.58	0.2-500	04
8.	Pb($\mu g/m^3$)	IS:5182(Part-22)	BDL	1-100	1.0
9.	Cr ($\mu g/m^3$)	SOP NO. A -23, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	-
10.	Cd ($\mu g/m^3$)	SOP NO. A -24, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	-
11.	As (ng/m^3)	SOP NO. A -22, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	06
12.	Ni (ng/m^3)	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.
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
Phone No. : (91-522) 2746282, 2745726 Telefax No.: (91 - 522) 2745726
E-mail: ravi.bhargava@gmail.com, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1ZI

FORMAT NO. ECO/QS/FORMAT/10 TEST REPORT NO: ECO Lab/AAQ-2/08/19
Test Report Issue date: 30.08.2019

TEST REPORT OF AMBIENT AIR*

Name of the Customer : Tata Steel Colliery (Sijua Grup)
Address of the Customer : Jamadoba, Distt. Dhanbad Jharkhand
Date of Sampling : 12.08.2019
Sample Collected By : Mr.R K Pandey& Mr. Aman Dixit
Sampling Method : IS: 5182
Instrument Used : RDS & FDS
Location : WTP Malkera

Sl. No.	Tests Conducted	Method	Results	Detection Range	NAAQ Standards as per CPCB, New Delhi, Nov. 18th, 2009
1.	$PM_{2.5}$ ($\mu g/m^3$)	SOP NO. A -15, Issue No.1 date 26.07.2016 (Gravimetric Method)	37.23	12.5-1000	60
2.	PM_{10} ($\mu g/m^3$)	IS:5182 (Part-23)	71.60	12.5-1000	100
3.	SO_2($\mu g/m^3$)	IS:5182 (Part-2)	16.80	9-200	80
4.	NO_2($\mu g/m^3$)	IS:5182 (Part-6)	26.60	6-200	80
5.	NH_3($\mu g/m^3$)	SOP NO. A -26, Issue No.1 date 26.07.2016 (Indophenol Method)	15.80	2-700	400
6.	O_3 ($\mu g/m^3$)	IS:5182(Part-9)	18.40	2-200	180
7.	CO (mg/m^3)	IS:5182 (Part-10)	1.15	0.2-500	04
8.	Pb($\mu g/m^3$)	IS:5182(Part-22)	BDL	1-100	1.0
9.	Cr ($\mu g/m^3$)	SOP NO. A -23, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	-
10.	Cd ($\mu g/m^3$)	SOP NO. A -24, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	-
11.	As (ng/m^3)	SOP NO. A -22, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	06
12.	Ni (ng/m^3)	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.
Flat No.-8 2nd Floor, Arif Chamber-V
Sector-H, Aliganj, Lucknow-226024

Quality Manager

ECOMEN LABORATORIES PVT. LTD.
Flat No. 8, 2nd Floor, Arif Chamber-V, Sector H, Aliganj, Lucknow - 226 024
Phone No. : (91-522) 2746282, 2745726 Telefax No.: (91 - 522) 2745726
E-mail: ravi.bhargava@gmail.com, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1ZI

FORMAT NO. ECO/QS/FORMAT/10 TEST REPORT NO: ECO Lab/AAQ-3/08/19
Test Report Issue date: 30.08.2019

TEST REPORT OF AMBIENT AIR*

Name of the Customer : Tata Steel Colliery (Sijua Grup)
Address of the Customer : Jamadoba, Distt. Dhanbad Jharkhand
Date of Sampling : 12.08.2019
Sample Collected By : Mr.R K Pandey& Mr. Aman Dixit
Sampling Method : IS: 5182
Instrument Used : RDS & FDS
Location : Sijua Colliery 15 Pit

Sl. No.	Tests Conducted	Method	Results	Detection Range	NAAQ Standards as per CPCB, New Delhi, Nov. 18th, 2009
1.	$PM_{2.5}$ (µg/m³)	SOP NO. A -15, Issue No.1 date 26.07.2016 (Gravimetric Method)	38.60	12.5-1000	60
2.	PM_{10} (µg/m³)	IS:5182 (Part-23)	64.30	12.5-1000	100
3.	SO_2(µg/m³)	IS:5182 (Part-2)	18.87	9-200	80
4.	NO_2(µg/m³)	IS:5182 (Part-6)	33.30	6-200	80
5.	NH_3(µg/m³)	SOP NO. A -26, Issue No.1 date 26.07.2016 (Indophenol Method)	15.70	2-700	400
6.	O_3 (µg/m³)	IS:5182(Part-9)	23.83	2-200	180
7.	CO (mg/m³)	IS:5182 (Part-10)	1.85	0.2-500	04
8.	Pb(µg/m³)	IS:5182(Part-22)	BDL	1-100	1.0
9.	Cr (µg/m³)	SOP NO. A -23, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	-
10.	Cd (µg/m³)	SOP NO. A -24, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	-
11.	As (ng/m³)	SOP NO. A -22, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	06
12.	Ni (ng/m³)	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

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Sector-H, Aliganj, Lucknow-226024

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Phone No. : (91-522) 2746282, 2745726 Telefax No.: (91 - 522) 2745726
E-mail: ravi.bhargava@gmail.com, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1ZI

FORMAT NO. ECO/QS/FORMAT/10 TEST REPORT NO: ECO Lab/AAQ-4/08/19
Test Report Issue date: 30.08.2019

TEST REPORT OF AMBIENT AIR*

Name of the Customer : Tata Steel Colliery (Sijua Grup)
Address of the Customer : Jamadoba, Distt. Dhanbad Jharkhand
Date of Sampling : 07.08.2019
Sample Collected By : Mr.R K Pandey& Mr. Aman Dixit
Sampling Method : IS: 5182
Instrument Used : RDS & FDS
Location : Russi Vihar Colony

Sl. No.	Tests Conducted	Method	Results	Detection Range	NAAQ Standards as per CPCB, New Delhi, Nov. 18th, 2009
1.	$PM_{2.5}$ (µg/m³)	SOP NO. A -15, Issue No.1 date 26.07.2016 (Gravimetric Method)	32.20	12.5-1000	60
2.	PM_{10} (µg/m³)	IS:5182 (Part-23)	65.10	12.5-1000	100
3.	SO_2(µg/m³)	IS:5182 (Part-2)	20.10	9-200	80
4.	NO_2(µg/m³)	IS:5182 (Part-6)	33.80	6-200	80
5.	NH_3(µg/m³)	SOP NO. A -26, Issue No.1 date 26.07.2016 (Indophenol Method)	16.80	2-700	400
6.	O_3 (µg/m³)	IS:5182(Part-9)	24.45	2-200	180
7.	CO (mg/m³)	IS:5182 (Part-10)	1.06	0.2-500	04
8.	Pb(µg/m³)	IS:5182(Part-22)	BDL	1-100	1.0
9.	Cr (µg/m³)	SOP NO. A -23, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	-
10.	Cd (µg/m³)	SOP NO. A -24, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	-
11.	As (ng/m³)	SOP NO. A -22, Issue No.1 date 26.07.2016 (CPCB-NAAQM Guideline)	BDL	1-100	06
12.	Ni (ng/m³)	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.
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
Phone No. : (91-522) 2746282, 2745726 Telefax No.: (91 - 522) 2745726
E-mail: ravi.bhargava@gmail.com, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1ZI

FORMAT NO. ECO/QS/FORMAT/10 TEST REPORT NO: ECO LAB/AN/08/19
TEST REPORT ISSUE DATE: 30.08.2019

TEST REPORT OF AMBIENT NOISE LEVEL

Name of the Customer : Tata Steel Colliery (Sijua Group)
Address of the Customer : Jamadoba, Distt. Dhanbad Jharkhand
Sample Collected By : Mr.R K Pandey& Mr. Aman Dixit
Instrument Used : Noise Meter (HTC)

Sl. No.	Locations	Date of Monitoring	Day Time			Night Time		
			Max.	Min.	Leq.	Max.	Min.	Leq
1.	Bhelatand Officer's Colony	16.08.2019	53.5	44.8	49.5	45.5	38.5	41.5
2.	WTP Malkera	12.08.2019	65.8	62.5	63.8	43.5	34.8	40.2
3.	Sijua Colliery 15 Pit	12.08.2019	72.3	64.7	67.6	44.5	33.5	37.5
4.	Russi Vihar Colony	07.08.2019	53.5	48.3	50.3	37.7	34.5	35.5

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

ECOMEN LABORATORIES PVT. LTD.
Flat No. 8, 2nd Floor, Arif Chamber-V, Sector H, Aliganj, Lucknow - 226 024
Phone No. : (91-522) 2746282, 2745726 Telefax No.: (91 - 522) 2745726
E-mail: ravi.bhargava@gmail.com, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1ZI

FORMAT NO. ECO/QS/FORMAT/10 TEST REPORT NO: ECO LAB/MCPM/08/19
TEST REPORT ISSUE DATE: 30.08.2019

MINERALOGICAL COMPOSITION OF PARTICULATE MATTER

Name of the Customer : Tata Steel Colliery (Sijua Group)
Address of the Customer : Jamadoba, Distt. Dhanbad Jharkhand
Month : August, 2019

S.NO.	Locations	Date of Sampling	Mineralogical Composition (in %)			
			Silica (SiO_2)	Ferrous oxide (FeO)	Alumina (Al_2O_3)	Calcium Oxide CaO
1	WTP Malkera	12.08.2019	2.10	0.23	1.45	3.19
2	Bhelatand Officer's Club	16.08.2019	2.36	0.17	1.39	3.26

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
Phone No. : (91-522) 2746282, 2745726 Telefax No.: (91 - 522) 2745726
E-mail: ravi.bhargava@gmail.com, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1ZI

FORMAT NO. ECO/QS/FORMAT/07 TEST REPORT NO: ECO LAB/GW/08/19
TEST REPORT ISSUE DATE: 03.09.2019

TEST REPORT OF GROUND WATER*

Name of the Customer : **M/s Tata Steel Ltd. (Sijua Group)**
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 : 09.08.2019
Date of Sample Receiving : 19.08.2019
Date of Analysis : 19.08.2019 to 02.09.2019
Source of Sample : Ruddi Basti
Sample ID Code : ELW-10017

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Temperature (0C)	APHA,23rd Ed.2017, (2550 A+B)	26.3	10-100	-	-
3.	Electrical Conductivity (µmhos/cm)	APHA,23rd Ed.2017, 2510-A+B	876.0	1-2000	-	-
4.	Dissolved Solids (mg/l)	APHA,23rd Ed.2017 (2540B)	443.0	5-10000	-	-
5.	pH	APHA, 23rd Ed. 2017, 4500H+ A+B	7.65	2-12	6.5-8.5	No Relax.
6.	Alkalinity (mg/l)	APHA, 23rd Ed. 2017, 2320 A+ B	208.0	5-1500	200	600
7.	Total Hardness as $CaCO_3$ (mg/l)	APHA, 23rd Ed. 2017, 2340 A+C	216.0	5-1500	200.0	600.0
8.	Calcium as Ca (mg/l)	APHA, 23rd Ed. 2017, 3500 Ca A+B	54.4	5-1000	75.0	200.0
9.	Magnesium as Mg (mg/l)	APHA, 23rd Ed. 2017, 3500 Mg A+B	19.44	5-1000	30.0	100.0
10.	Copper as Cu (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.05-5	0.05	1.5
11.	Iron as Fe (mg/l)	APHA, 23rd Ed. 2017, 3500 Fe B	0.13	0.02-50	0.3	No Relax.
12.	Chloride as Cl (mg/l)	APHA, 23rd Ed. 2017, 4500 Cl A+B	40.0	5-1000	250.0	1000.0
13.	Sulfate as SO_4 (mg/l)	APHA, 23rd Ed. 2017, 4500-SO42- E	43.2	1.0-250	200.0	400.0
14.	Nitrate Nitrogen as NO_3 (mg/l)	APHA, 23rd Ed. 2017, 4500-NO3- B	9.33	5-100	45.0	No Relax.
15.	Fluorides as F (mg/l)	APHA, 23rd Ed. 2017, 4500-C	0.57	0.05-10	1.0	1.5
16.	Mercury as Hg (mg/l)	APHA, 23rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax.
17.	Cadmium as Cd (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.002-2	0.003	No Relax
18.	Nickel as Ni (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.02-2	0.02	No Relax
19.	Arsenic as As (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.01-2.0	0.01	No Relax
20.	Lead as Pb (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.01-1.0	0.01	No Relax.
21.	Zinc as Zn (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	0.16	0.02-50	5	15
22.	Total Chromium as Cr (mg/l)	APHA, 23rd Ed. 2017,3111 A+B	BDL	0.05-50	0.05	No Relax
23.	Cyanide as CN (mg/l)	APHA, 23rd Ed. 2017, 4500CN , A+D	BDL	0.02-10	0.05	No Relax.

*The result are related only to item tested.
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
Phone No. : (91-522) 2746282, 2745726 Telefax No.: (91 - 522) 2745726
E-mail: ravi.bhargava@gmail.com, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1ZI

FORMAT NO. ECO/QS/FORMAT/07 TEST REPORT NO: ECO LAB/GW/08/19
TEST REPORT ISSUE DATE: 03.09.2019

TEST REPORT OF GROUND WATER*

Name of the Customer : M/s Tata Steel Ltd. (Sijua Group)
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 : 09.08.2019
Date of Sample Receiving : 19.08.2019
Date of Analysis : 19.08.2019 to 02.09.2019
Source of Sample : Rampur Basti, Well
Sample ID Code : ELW-10018

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Temperature (0C)	APHA,23rd Ed.2017, (2550 A+B)	26.3	10-100	-	-
3.	Electrical Conductivity (µmhos/cm)	APHA,23rd Ed.2017, 2510-A+B	984.0	1-2000	-	-
4.	Dissolved Solids (mg/l)	APHA,23rd Ed.2017 (2540B)	513.0	5-10000	-	-
5.	pH	APHA, 23rd Ed. 2017, 4500H+ A+B	7.60	2-12	6.5-8.5	No Relax.
6.	Alkalinity (mg/l)	APHA, 23rd Ed. 2017, 2320 A+ B	244.0	5-1500	200	600
7.	Total Hardness as $CaCO_3$ (mg/l)	APHA, 23rd Ed. 2017, 2340 A+C	260.0	5-1500	200.0	600.0
8.	Calcium as Ca (mg/l)	APHA, 23rd Ed. 2017, 3500 Ca A+B	68.8	5-1000	75.0	200.0
9.	Magnesium as Mg (mg/l)	APHA, 23rd Ed. 2017, 3500 Mg A+B	21.38	5-1000	30.0	100.0
10.	Copper as Cu (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.05-5	0.05	1.5
11.	Iron as Fe (mg/l)	APHA, 23rd Ed. 2017, 3500 Fe B	0.27	0.02-50	0.3	No Relax.
12.	Chloride as Cl (mg/l)	APHA, 23rd Ed. 2017, 4500 Cl A+B	78.0	5-1000	250.0	1000.0
13.	Sulfate as SO_4 (mg/l)	APHA, 23rd Ed. 2017, 4500-SO42- E	49.1	1.0-250	200.0	400.0
14.	Nitrate Nitrogen as NO_3 (mg/l)	APHA, 23rd Ed. 2017, 4500-NO3- B	15.55	5-100	45.0	No Relax.
15.	Fluorides as F (mg/l)	APHA, 23rd Ed. 2017, 4500-C	0.59	0.05-10	1.0	1.5
16.	Mercury as Hg (mg/l)	APHA, 23rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax.
17.	Cadmium as Cd (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.002-2	0.003	No Relax
18.	Nickel as Ni (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.02-2	0.02	No Relax
19.	Arsenic as As (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.01-2.0	0.01	No Relax
20.	Lead as Pb (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.01-1.0	0.01	No Relax.
21.	Zinc as Zn (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	0.17	0.02-50	5	15
22.	Total Chromium as Cr (mg/l)	APHA, 23rd Ed. 2017,3111 A+B	BDL	0.05-50	0.05	No Relax
23.	Cyanide as CN (mg/l)	APHA, 23rd Ed. 2017, 4500CN , A+D	BDL	0.02-10	0.05	No Relax.

*The result are related only to item tested.
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
Phone No. : (91-522) 2746282, 2745726 Telefax No.: (91 - 522) 2745726
E-mail: ravi.bhargava@gmail.com, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1ZI

FORMAT NO. ECO/QS/FORMAT/07 TEST REPORT NO: ECO LAB/GW/08/19
TEST REPORT ISSUE DATE: 03.09.2019

TEST REPORT OF GROUND WATER*

Name of the Customer : **M/s Tata Steel Ltd. (Sijua Group)**
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 : 09.08.2019
Date of Sample Receiving : 19.08.2019
Date of Analysis : 19.08.2019 to 02.09.2019
Source of Sample : Sijua 6 No.,Hand Pump
Sample ID Code : ELW-10019

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Temperature (0C)	APHA,23rd Ed.2017, (2550 A+B)	27.2	10-100	-	-
3.	Electrical Conductivity (µmhos/cm)	APHA,23rd Ed.2017, 2510-A+B	789.0	1-2000	-	-
4.	Dissolved Solids (mg/l)	APHA,23rd Ed.2017 (2540B)	472.0	5-10000	-	-
5.	pH	APHA, 23rd Ed. 2017, 4500H+ A+B	7.52	2-12	6.5-8.5	No Relax.
6.	Alkalinity (mg/l)	APHA, 23rd Ed. 2017, 2320 A+ B	186.0	5-1500	200	600
7.	Total Hardness as $CaCO_3$ (mg/l)	APHA, 23rd Ed. 2017, 2340 A+C	272.0	5-1500	200.0	600.0
8.	Calcium as Ca (mg/l)	APHA, 23rd Ed. 2017, 3500 Ca A+B	76.8	5-1000	75.0	200.0
9.	Magnesium as Mg (mg/l)	APHA, 23rd Ed. 2017, 3500 Mg A+B	19.44	5-1000	30.0	100.0
10.	Copper as Cu (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.05-5	0.05	1.5
11.	Iron as Fe (mg/l)	APHA, 23rd Ed. 2017, 3500 Fe B	0.22	0.02-50	0.3	No Relax.
12.	Chloride as Cl (mg/l)	APHA, 23rd Ed. 2017, 4500 Cl A+B	62.0	5-1000	250.0	1000.0
13.	Sulfate as SO_4 (mg/l)	APHA, 23rd Ed. 2017, 4500-SO42- E	37.4	1.0-250	200.0	400.0
14.	Nitrate Nitrogen as NO_3 (mg/l)	APHA, 23rd Ed. 2017, 4500-NO3- B	12.5	5-100	45.0	No Relax.
15.	Fluorides as F (mg/l)	APHA, 23rd Ed. 2017, 4500-C	0.38	0.05-10	1.0	1.5
16.	Mercury as Hg (mg/l)	APHA, 23rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax.
17.	Cadmium as Cd (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.002-2	0.003	No Relax
18.	Nickel as Ni (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.02-2	0.02	No Relax
19.	Arsenic as As (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.01-2.0	0.01	No Relax
20.	Lead as Pb (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.01-1.0	0.01	No Relax.
21.	Zinc as Zn (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	0.20	0.02-50	5	15
22.	Total Chromium as Cr (mg/l)	APHA, 23rd Ed. 2017,3111 A+B	BDL	0.05-50	0.05	No Relax
23.	Cyanide as CN (mg/l)	APHA, 23rd Ed. 2017, 4500CN , A+D	BDL	0.02-10	0.05	No Relax.

*The result are related only to item tested.
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
Phone No. : (91-522) 2746282, 2745726 Telefax No.: (91 - 522) 2745726
E-mail: ravi.bhargava@gmail.com, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1ZI

FORMAT NO. ECO/QS/FORMAT/07 TEST REPORT NO: ECO LAB/GW/08/19
TEST REPORT ISSUE DATE: 03.09.2019

TEST REPORT OF GROUND WATER*

Name of the Customer : **M/s Tata Steel Ltd. (Sijua Group)**
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 : 09.08.2019
Date of Sample Receiving : 19.08.2019
Date of Analysis : 19.08.2019 to 02.09.2019
Source of Sample : Bansh Kapuria
Sample ID Code : ELW-10020

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Temperature (0C)	APHA,23rd Ed.2017, (2550 A+B)	26.2	10-100	-	-
3.	Electrical Conductivity (µmhos/cm)	APHA,23rd Ed.2017, 2510-A+B	722.0	1-2000	-	-
4.	Dissolved Solids (mg/l)	APHA,23rd Ed.2017 (2540B)	390.0	5-10000	-	-
5.	pH	APHA, 23rd Ed. 2017, 4500H+ A+B	7.54	2-12	6.5-8.5	No Relax.
6.	Alkalinity (mg/l)	APHA, 23rd Ed. 2017, 2320 A+ B	172.0	5-1500	200	600
7.	Total Hardness as $CaCO_3$ (mg/l)	APHA, 23rd Ed. 2017, 2340 A+C	190.0	5-1500	200.0	600.0
8.	Calcium as Ca (mg/l)	APHA, 23rd Ed. 2017, 3500 Ca A+B	48.0	5-1000	75.0	200.0
9.	Magnesium as Mg (mg/l)	APHA, 23rd Ed. 2017, 3500 Mg A+B	17.01	5-1000	30.0	100.0
10.	Copper as Cu (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.05-5	0.05	1.5
11.	Iron as Fe (mg/l)	APHA, 23rd Ed. 2017, 3500 Fe B	0.08	0.02-50	0.3	No Relax.
12.	Chloride as Cl (mg/l)	APHA, 23rd Ed. 2017, 4500 Cl A+B	34.0	5-1000	250.0	1000.0
13.	Sulfate as SO_4 (mg/l)	APHA, 23rd Ed. 2017, 4500-SO42- E	47.5	1.0-250	200.0	400.0
14.	Nitrate Nitrogen as NO_3 (mg/l)	APHA, 23rd Ed. 2017, 4500-NO3- B	14.1	5-100	45.0	No Relax.
15.	Fluorides as F (mg/l)	APHA, 23rd Ed. 2017, 4500-C	0.39	0.05-10	1.0	1.5
16.	Mercury as Hg (mg/l)	APHA, 23rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax.
17.	Cadmium as Cd (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.002-2	0.003	No Relax
18.	Nickel as Ni (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.02-2	0.02	No Relax
19.	Arsenic as As (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.01-2.0	0.01	No Relax
20.	Lead as Pb (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.01-1.0	0.01	No Relax.
21.	Zinc as Zn (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	0.20	0.02-50	5	15
22.	Total Chromium as Cr (mg/l)	APHA, 23rd Ed. 2017,3111 A+B	BDL	0.05-50	0.05	No Relax
23.	Cyanide as CN (mg/l)	APHA, 23rd Ed. 2017, 4500CN , A+D	BDL	0.02-10	0.05	No Relax.

*The result are related only to item tested.
BDL = Below Detection Limit

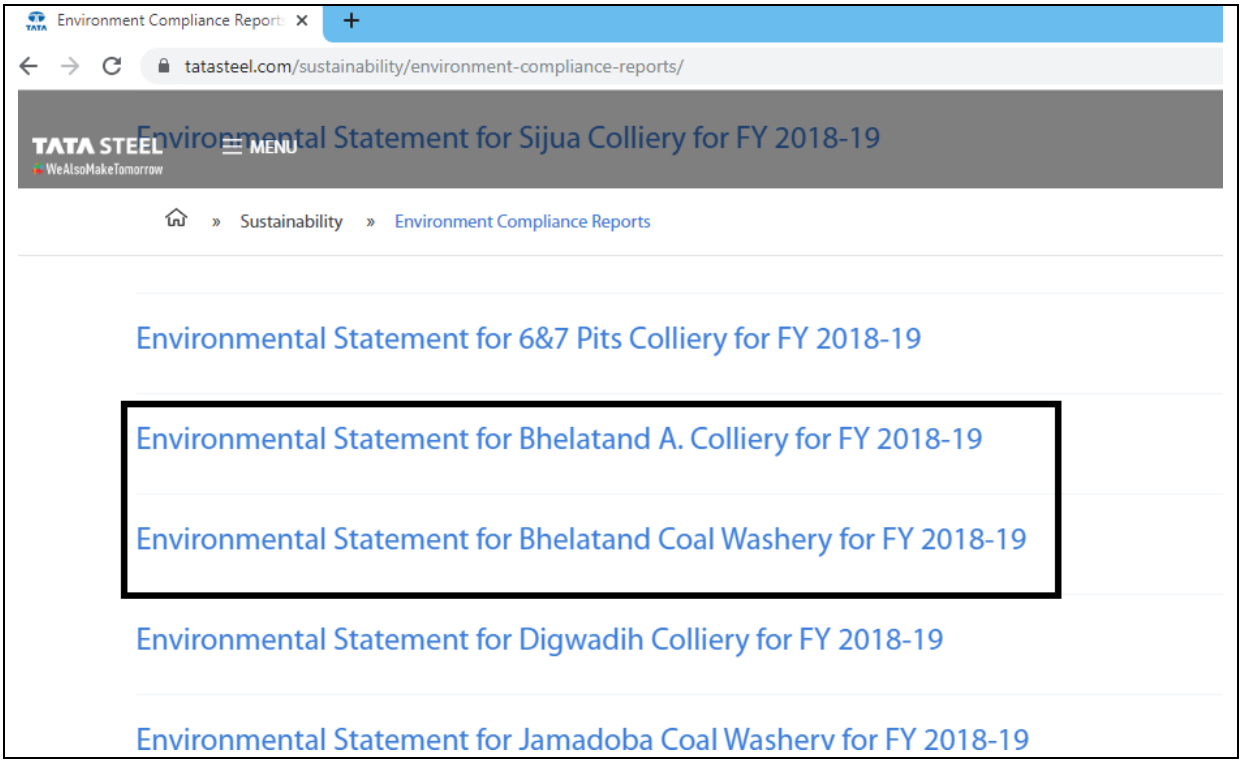
Analyst

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

Annexure-III

Upload of compliance report on company's website



Annexure-VII ----Installation of high resolution revolving cameras at BCPP

TATA STEEL

TATA

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- IX Expenditure on Environment Management in FY 2018-19

Bhelatand A. Colliery-

S. No.	Environment Management Activity	Expenditure in Lakhs
1	Stowing activities i.e filling of U/G voids for surface protection and prevention of subsidence	1003.8
2	Fire Control measures (Fire/Isolation Stopping and Nitrogen plant)	10.08
3	Goaf Filling activities, drain repairing and maintenance, settling tank maintenance jobs	6.10
4	Making potable water in Water Treatment Plant & Supply to colonies	14.77
5	Horticultural activities including green belt development and regular lawn and garden maintenance	52.33
6	Plantation of saplings and maintenance	7.68
	Total Cost incurred	0.94
		1095.7

Bhelatand Coal Washery-

S.No.	Environment Management Activity	Expenditure in Lakhs
1	Tailings Management System including recycling	45
2	Dust suppression system (Dry fog system)	12
3	Dust extraction system	0.5
4	Housekeeping measures includes removing spillage, improvement of roads	38
5	Mechanical dewatering system	5
6	Fixing of Hosch Scraper and tru track idler for spillage control of conveyor belt	17
7	Water spraying on roads for dust control	5.85
8	Horticultural activities including green belt development and regular lawn and garden maintenance	7.68
9	Plantation of saplings and maintenance	0.94
10	Replacement of reciprocating type air compressor by screw compressor for noise reduction	1.5
11	Any additional expenditure incurred such as constructing the rainwater harvesting structure	1.8
	Total Cost incurred	**135.27**

Total annual expenditure incurred towards environmental protection is **Rs. 1230.97 lakhs**.

Coverage of Environment Clearance in newspapers

Environment Clearance coverage in Prabhat Khabar- Hindi Dainik, Dhanbad on 5th May'2017

प्रभात खबर

सिटी फर्स्ट

5.05.2017 03

बीसीसीएल.पब्लिक इंटरप्राइजेज सेलेक्शन बोर्ड ने जारी की तिथि

सीएमडी के लिए साक्षात्कार 18 को

कोल इंडिया की छह व बाहरी कंपनियों के चार महाप्रबंधक देंगे साक्षात्कार

रेलवे लाइन शिफ्टिंग पर आज हो सकता है फैसला

रणधीर वर्मा स्मृति भवन में रेस्तरां खोलने का विरोध

हवाई सेवा के लिए अभियान चलायेगा चैंबर

महिला को सांप ने डंसा, अस्पताल में भरती

तीसरी बार निकली प्रोफेसर, एसोसिएट व असिस्टेंट की बहाली

TATA STEEL

सूचना

सर्वसाधारण को एतद् द्वारा सूचित किया जाता है कि मे0 टाटा स्टील लिमिटेड, झरिया डीवीजन के भेलाटांड अमलगमेटेड कोलियरी को 0.38 MTPA से 0.41 MTPA के विस्तारीकरण (521.68 Ha क्षेत्र में) तथा भेलाटांड वाशरी को 0.96 MTPA से 1.5 MTPA के विस्तारीकरण (8 Ha क्षेत्र में) हेतु पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, नई दिल्ली से दिनांक 28.04.2017 के पत्रांक J-11015/29/2012-IA.II(M) के द्वारा पर्यावरण स्वीकृति प्रदान की गई है। जिसकी प्रतिलिपि राज्य प्रदूषण नियंत्रण बोर्ड तथा पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय के वेबसाईट : www.environmentclearance.nic.in. पर भी उपलब्ध है।

महाप्रबंधक (झरिया), टाटा स्टील जामाडोबा (धनबाद)

Environment Clearance coverage in Hindustan- Hindi Dainik, Dhanbad on 5th May'2017

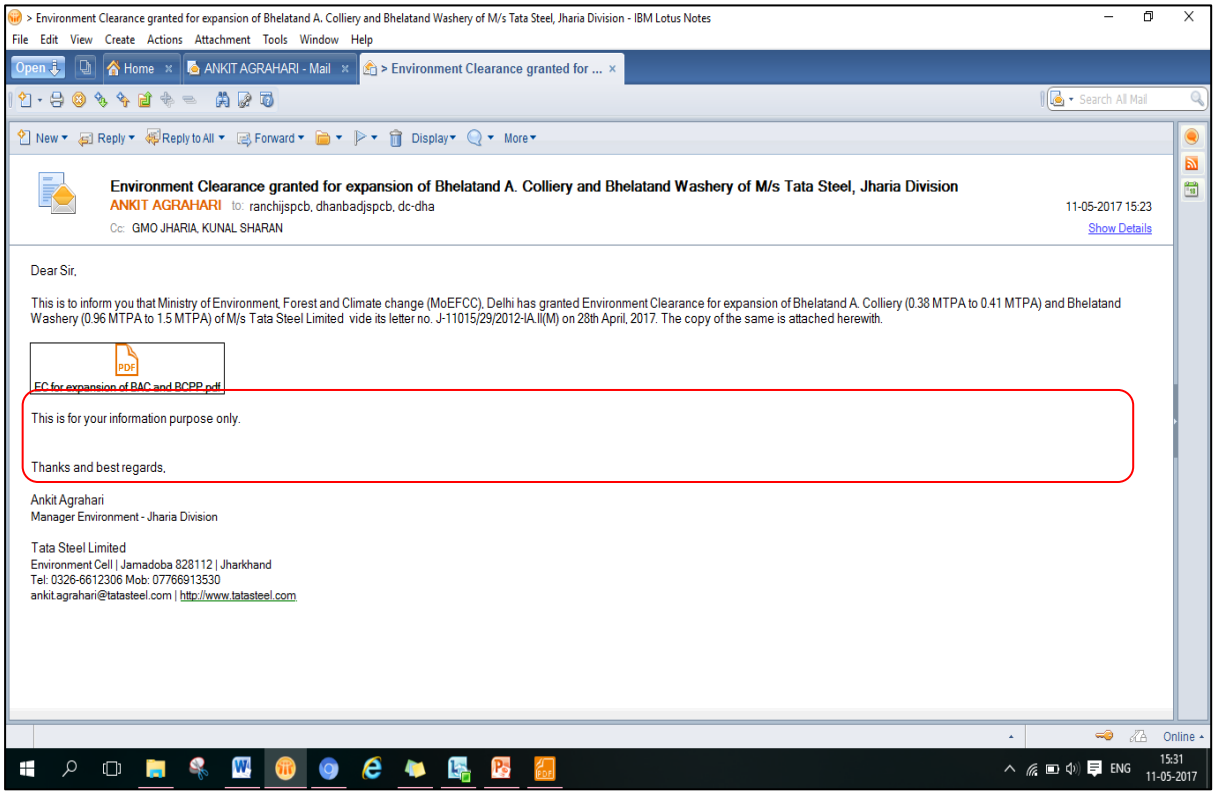
TATA STEEL

सूचना

सर्वसाधारण को एतद् द्वारा सूचित किया जाता है कि मे0 टाटा स्टील लिमिटेड, झरिया डीवीजन के भेलाटांड अमलगमेटेड कोलियरी को 0.38 MTPA से 0.41 MTPA के विस्तारीकरण (521.68 Ha क्षेत्र में) तथा भेलाटांड वाशरी को 0.96 MTPA से 1.5 MTPA के विस्तारीकरण (8 Ha क्षेत्र में) हेतु पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, नई दिल्ली से दिनांक 28.04.2017 के पत्रांक J-11015/29/2012-IA.II(M) के द्वारा पर्यावरण स्वीकृति प्रदान की गई है। जिसकी प्रतिलिपि राज्य प्रदूषण नियंत्रण बोर्ड तथा पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय के वेबसाईट : www.environmentclearance.nic.in. पर भी उपलब्ध है।

महाप्रबंधक (झरिया), टाटा स्टील जामाडोबा (धनबाद)

Communication to government offices regarding grant of EC



> Environment Clearance granted for expansion of Bhelatand A. Colliery and Bhelatand Washery of M/s Tata Steel, Jharia Division - IBM Lotus Notes

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Environment Clearance granted for expansion of Bhelatand A. Colliery and Bhelatand Washery of M/s Tata Steel, Jharia Division

ANKIT AGRAHARI to: ranchijspcb, dhanbadjspcb, dc-dha

11-05-2017 15:23

Cc: GMO JHARIA, KUNAL SHARAN

Show Details

Dear Sir,

This is to inform you that Ministry of Environment, Forest and Climate change (MoEFCC), Delhi has granted Environment Clearance for expansion of Bhelatand A. Colliery (0.38 MTPA to 0.41 MTPA) and Bhelatand Washery (0.96 MTPA to 1.5 MTPA) of M/s Tata Steel Limited vide its letter no. J-11015/29/2012-IA.II(M) on 28th April, 2017. The copy of the same is attached herewith.

EC for expansion of BAC and BCPP.pdf

This is for your information purpose only.

Thanks and best regards,

Ankit Agrahari
Manager Environment - Jharia Division

Tata Steel Limited
Environment Cell | Jamadoba 828112 | Jharkhand
Tel: 0326-6612306 Mob: 07766913530
ankit.agrahari@tatasteel.com | http://www.tatasteel.com

Online

ENG 15:31 11-05-2017

Activities under Corporate Social Responsibility-

Training

- Training on System of Rice Intensification (SRI)- 211 farmers adopted SRI cultivation out of 278 trained in FY16
- Training on Second Cropping, Field based training on 2nd Cropping, Pisciculture Promotion (Expenditure around Rs 0.87 Laks out of which total income by the farmers were raised by Rs16Laks)

New Enterprise by SHGs

- Candle making unit by Pragya Mahila Samiti, Sarguja
- Mushroom Cultivation by Gramin Mahila Shayog Samiti, a SHG of Sokohkulih village
- Duck Rearing by Pragya Mahila Swayam Sahayata Samiti "SHG" of Sirguja Village and Shiv Guru Mahila samiti, Upper Dungri village, Harijan Tola
- Tailoring Shop by Jai Maa Gramin Mahila Samity in Bhelatand
- Total Savings by SHGs is Rs11.90 Laks by 35 SHGs

Employability Training

- 13 students are supported in ITC Tamar
- 14 students in House Keeping Training in Kolabera
- 50 people trained in driving training

Health

- 4 multi specialty health camps organized in which 2797 cases were treated

Education

- 225 students received Jyoti Fellowship out of which 54 were new.
- In the reporting period 2668 students received support in 15 PMC
- 60 students received support through our Asha Ki Kiran center

Infrastructure Development

- PCC road, Sewage drains, construction of new Community Halls/ Sheds, Renovation of comm. Halls and sheds, Renovation of old Ponds, Construction of new Ponds, Construction of sitting Platforms

Monthly inspection and monitoring of sand lease by Monitoring committee comprises of executives from Environment, Survey, Local Villagers, Transporters, Mining


Multi Specialised Health Camp organised at Ichhar High School, Raghunathpur

Multi Specialized health camp was held on 29th June '17 at Ichhar High School, Raghunathpur Block -2 at Purulia . Around 897 patients benefitted from the camp; 442 females and 455 males were attended by a special team of Specialist Doctors from Tata Central Hospital, Jamadoba. Free consultations and Health check-ups were provided in Medicine, Gynaecology, E.N.T., Paediatrics, Homeopathy, Dermatology, Dental, Orthopaedics and Pathology. A day long Specialized health camp was conducted where free medicines were also provided.



Annexure-VIII ---STATUS OF POINTS RAISED IN PUBLIC HEARING

Issues raised by Public	Status (Apr'19- Sept'19)
Tree Plantation and its maintenance to be improved and extended outside the leasehold area.	• During this monsoon (FY20), total 52078 Nos of saplings of 35 Nos of species have been planted in and around leasehold area. The survival rate of plants as on Sept'19 is more than 76%. • Around 3000 Nos of fruit bearing saplings have been distributed among employees and local villagers. • In addition to above, approx Rs. 20 lakhs has been incurred for maintenance of old saplings (converted into plants) and developing green area of the region.
Measures expected to be taken for the increased dust levels due to increase in production.	• All precautionary as well as control measures are in place to control the fugitive dust emissions.
Noise generated due to plying of trucks near old weigh bridge. Ensure the proper covering of trucks.	• We have built a new weigh bridge as well as parking arrangement inside the washery premises for all the trucks and the old weigh bridge is being dismantled.
During expansion of washery, effluent discharge to Katri river may also increase so what will management do to stop this pollution?	• Zero discharge of effluents is being maintained which will also continue in future. Further installation of mechanical tailing dewatering system has been strengthened to maintain ZLD system in future too.
The waste discharge from the colonies pollutes the agricultural fields as well as the ponds. What steps will be taken to stop this?	We have already installed one STP of 200 KLD capacity which is operating successfully since July'15. Similarly, one more STP is being installed at Railway Colony, Jamadoba since Oct'19. We have also commissioned one waste water treatment plant (based on MBBR technology) at Bhelatand Canteen.

STATUS OF POINTS RAISED IN PUBLIC HEARING

Issues raised by Public	Status (Apr'19- Sept'19)
Programmes run by TSRDS like Computer Hardware training, MRA camps, etc and Scholarship programmes for students undertaking ITI training to be provided in future also.	• The students are trained in various skill programs as follows: a) House keeping and F&B b) Panchyat Bandhu c) Fire & Safety d) SAHI exports
Provision of community toilets, dustbins and bathing place for women.	➢ Bathing Place constructed in Fy 16-17 and 17-18:- at Khatri river, Jahajtand, Kanchanpur, pasitand, Rampur Rajwar tola, Khatri river (Rampur-1), Lalubandh (Sijua 12 no.),;Chotki sher(Sijua No-12); Guard wall near Water reservoir at Chaitudih Basti; Water reservoir at Malkera Das Tola; Water reservoir at Barughutu ➢ Fy16-18: School toilets- Kapuria School, Bhowra school, Kendua school, SSNM School Sijua, Swami Vivekananda School Rampur-1; Sarthi Devi High school,Kapuria ; Adarsh High aschol; BBM School toilet renovation,
Increase in CSR budget of the company	Expenditure FY 17 : 3.51crores FY18: 3.94 crores + Coll. Fund Rs. 14.04Laks FY19: 5.65 crores
Repair and cleaning of drains and roads, water logging issues and removal of garbage regularly.	FY16-18 Sewage Drain constructed in Bhelatand, Patia, Dungri No. 3 and Alam Nagar
Construction of parks in the villages	Triangular park (Medicinal Garden, Hibiscus Park and Children Park) constructed by Tata Steel in Jamadoba