Additional Principal Chief Conservator of Forests (C)
Ministry of Environment, Forests & Climate Change,
Govt. of India
Bungalow No. A-2, Shyamali Colony
Ranchi-834002, Jharkhand
Tel: 0651-2410007, 2410002, Email: ro.ranchi-mef@gov.in

MD/ENV/ 354 /101/18
Date: 27.11.2018

Ref: Environmental Clearance letter no. J-11015/104/2011.IA.II (M) dated: 10.06.2013.

Sub: Half-yearly compliance status report of Environmental Clearance conditions for the period April'18 - September'18 in respect of Noamundi Iron Mine, TATA Steel Ltd.

Dear Sir,

Kindly find attached herewith submitting the six monthly compliance report as on date in respect of the stipulated Environmental Clearance conditions of Noamundi Iron Mine, TATA Steel Ltd. for the period from **April'18 - September'18** as per EIA Notification, 2006. Also for the same period vide office memorandum no. Z-11013/57/2014-IA.II (M), dated 29.10.2014, is attached herewith as Annexure -1. The same is also attached in soft copy of the report to your good office on email: ro.ranchi-mef@gov.in for your ready reference.

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

Thanking you,
Yours faithfully,

f: TATA Steel Limited

Head (Planning), OMQ

Encl. : As above

Copy to : The Chairman, Central Pollution Control Board, Southernd Conclave, Block 502, 5th & 6th Floors, 1582 Rajdanga Main Road, Kolkata - 700107 (W. B.)
: The Member Secretary, State Pollution Control Board, T.A. Division (Ground Floor), H.E.C. Dhurva, Ranchi - 834004 (Jharkhand)
: The Regional Officer, State Pollution Control Board, College Road, MB/12, New Housing Colony, Adityapur, Jamshedpur – 834004 (Jharkhand)

TATA STEEL LIMITED
Mines Division Noamundi 833 217 India
Tel 91 9234301340 Fax 91 6596 290737
Registered Office Bombay House 24 Homi Mody Street Fort Mumbai 400 001 India
Tel 91 22 66658282 Fax 91 22 66657724
Corporate Identity Number L27100MH1907PLC000260 Website www.tatasteel.com

TATA

TATA STEEL

Compliance
to
Environmental Clearance Conditions
of

Noamundi Iron Ore Mine
M/s. Tata Steel Limited

(For the period: April'18 – September'18)

(Environmental Clearance letter no. J-11015/104/2011.IA.II (M) dated: 10.06.2013)

ENVIRONMENTAL CLEARANCE
OF
NOAMUNDI IRON MINE OF TATA STEEL LIMITED

(Apr 2018 to Sept. 2018)

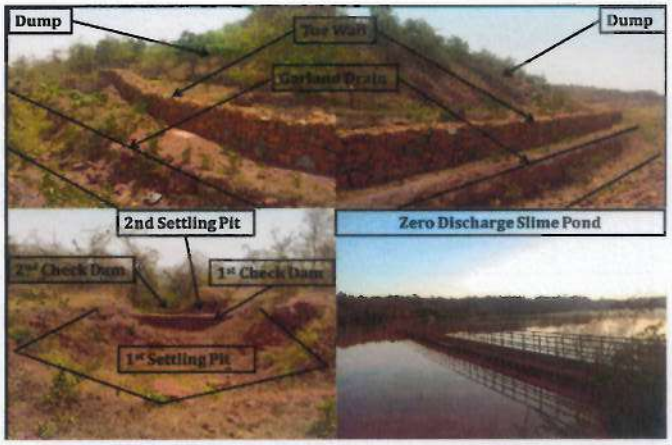
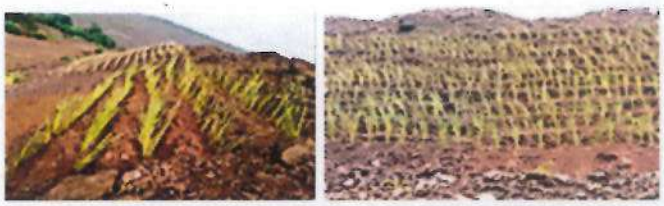
(MoEF & CC Letter No. J-11015/104/2011-IA.II (M), DATED: 10/06/2013)
FOR PRODUCTION OF 10 MTPA (ROM) &
BENEFICIATION OF 18 MTPA (THROUGHPUT) OF IRON ORE

Sl. No.	EC Conditions	Compliance
Specific Conditions		
1.	No mining activities will be allowed in forest area for which the Forest Clearance is not available.	Being complied with. Noamundi Iron Mine of TATA Steel has 1160.06 ha lease area, out of which 762.43 ha is a forest land & rest is non-forest. Out of 762.43 ha, forest land diverted for mining is 370.92 ha vide letter no. 8-279, 1985 FC (Pt) dated 4th Sept., 2014 & for rest 383.37 ha including safety zone of 8.14 ha, forest diversion proposal has already been applied & at advanced stage of clearance.
2.	The project proponent will seek and obtain approval under the FC Act, 1980 for diversion of the entire forest land located within the mining lease within a period of two years from 01.02.2013 i.e. the date of issue of guidelines by FC vide there letter F. No. 11-362/ 2012- FC, failing which the mining lease area will be reduced to the non-forest area plus the forest area for which the project proponent has been able to obtain the FC at the end of this time period. In the case of reduction in mine lease area, the project proponent will need to get a revised mining plan approved from the competent authority for reduced area and enter into a new mining lease as per reduced lease area. The EC will be construed to be available for the mining lease area as per the revised mining lease deed.	New Guidelines for Forest Diversion Proposal by FC vide letter F. No. 11-599/2014-FC dated: 01.04.2015 has been issued by MoEF &CC regarding this matter which supressed the previous guidelines issued vide letter F. No. 11-362/2012-FC dated: 01.02.2013. None of the forest land has been reduced. The mine has already obtained Forest Clearance for 370.92 ha and for balance forest land 383.37 ha forest diversion already applied and is well advance stage before MoEF&CC Govt of India of clearance as per law. Noamundi mine lease is extended as per the amendment of MMDR Act on 2015 till 31.03.2030 and the mine plan is already approved till 31.03.2022 by Indian Bureau of Mines, Govt. of India.
3.	Environmental clearance is subject to obtaining clearance under the Wildlife (Protection) Act, 1972 from the Competent authority, as may be applicable to this project.	Not applicable. As no specific clearance under the Wildlife (Protection) Act, 1972 is required for the project. However, we have submitted details of Protection & Conservation of Wild Life measures to MoEF & CC good office vide our letter No. MD/ENV/204/101/15 dated: 20.04.2015.
4.	Prior environmental clearance from the Standing Committee of the National Board for Wildlife shall be obtained if applicable, due to location of the mine within the core zone of Singhbhum Elephant Reserve, before starting any activity relating to the project at site. All the conditions stipulated by the Standing Committee shall be effectively implemented in the project. It shall be noted that this clearance does not	Not applicable. Prior Environmental Clearance is not required from the Standing Committee of the National Board for Wildlife as per letter no. Vanya Prani-19/2012/1310, dated. 19.03.2013 of State Govt.

Sl. No.	EC Conditions	Compliance
Specific Conditions		
	necessarily imply that wildlife clearance shall be granted to the project and that your proposal for wildlife clearance shall be considered by the competent authorities on its merit and decision taken. The investment made in the project, if any based on environmental clearance granted to the project, in anticipation of the clearance from wildlife clearance shall be entirely at the cost and risk of the project proponent and ministry of Environment & Forests shall not be responsible in this regard in any manner.	
5.	The project proponent shall obtain Consent to Establish and Consent to Operate from the State Pollution Control Board, Jharkhand and effectively implement all the conditions stipulated therein.	Being complied with. Consent to Establish has been obtained from the Jharkhand State Pollution Control Board vide letter no. PC/NOC/JSR/26/12/B-1848, dated: 09.06.2015. Consent to Operate has also been obtained from State Pollution Control Board, Jharkhand vide letter No. JSPCB/HO/RNC/CTO-1162982/2017/779, dated: 13.06.2017, which is valid till 31.12.2020. All the conditions are being effectively implemented & complied. The compliance report is also regularly been submitted to JSPCB.
6.	Environmental Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No. 460 of 2004, as may be applicable to this project.	Noted down. However, there is no National Park, Sanctuaries, Elephant corridor and tiger reserves within 10 Km radius of the core zone.
7.	As part of Ambient Air Quality Monitoring during operational phase of the project, the air samples shall also be analysed for their mineralogical composition and records maintained.	Being Complied with. As a part of regular Ambient Air Quality Monitoring, mineralogical composition of air samples are being analysed on monthly basis and being submitted to regulatory agency. All the records are adequately maintained. The mineralogical composition report of ambient air for last six months is attached herewith **(Annexure-1)**.
8.	The beneficiated ore shall be transported to railway sidings only through closed conveyor.	Being Complied with. The beneficiated ore from processing plant is being transported to railway siding for transportation through covered conveyors.   *Closed conveyor used in mineral transport*
9.	Effective safeguard measures such as conditioning of ore with water, regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as around crushing and screening plant, loading and unloading point and transfer points. It should be ensured that the Ambient Air Quality parameters conform to the	Being complied with. The effective safeguard measures such as conditioning of ore before transportation by wet process is regularly being done. Fixed and mobile water sprinklers are installed and used in the area. Regular water sprinkling is also being done on the haul roads. Mist sprays are also installed in the area along in high dust generated

Sl. No.	EC Conditions	Compliance
Specific Conditions		
	norms prescribed by the Central Pollution Control Board in this regard	areas. Fog based dust separators also installed and used.  *Mobile & Fixed water sprinklers in Noamundi mines* In last year two new 50KL water tanker with spray mist are installed in mines for effective dust control. Apart from above, the area is adequately covered with mass plantation. Thus dust generation has been controlled and eliminated.  *Mist type dust suppression measures*  *Water jet with mist water spray in Noamundi*
10.	The project authority shall implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.	The rain water collected in the mine pits and allowed to be collected in the lowest level sumps to augment the ground water resources gradually. Rain water harvesting ponds and ground water recharge structures have been constructed and approved by the Ground Water Directorate, Jharkhand, Ranchi.  *RWH structure for ground water augmentation in the area* The unit has rain water harvesting approval from Hon. Director, Ground Water Directorate, Water Resources Dept. Jharkhand vide letter no. GWD 317/Ranchi, dated 14th Jun, 2012. At Noamundi area the various RWH structures in the form of Check Dams, Saucer ponds, Gabion Structures, Trenches and contour are made based on recommendation in available area.  *RWH structure for ground water augmentation in the area*

Sl. No.	EC Conditions	Compliance
Specific Conditions		
11.	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 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	Ground water quality and Ground water level are being monitored periodically in and around the lease areas. All the monitoring results are being submitted to regulatory agencies. At few locations, new piezometers are also installed in this year. The monitoring details are attached as **annexure-II**.
12.	The mining operations shall be restricted to above ground water table and it should not intersect groundwater table. In case of working below ground water table, prior approval of the Ministry of Environment and Forests and Central Ground Water Authority shall be obtained, for which a detailed hydro-geological study shall be carried out.	Being complied with. The mining operations are being restricted to above the ground water table. The lowest working depth of our mine pits is at 552 mRL, whereas the presence of ground water table has been estimated to be at 478 mRL post-monsoon. A detailed hydrogeological study is under progress for the purpose.
13.	The project proponent shall ensure that no natural watercourse and/or water resources shall be obstructed due to any mining operations. The Balijore Nallah shall be left undisturbed and protected.	Being complied with
14.	The project proponent shall regularly monitor the flow rate of the Balijore Nallah flowing through the mine lease and maintain the records.	Being complied with. We are regularly monitoring the flow rate of the Balijore Nallah and the report is being sent to the JSPCB, Ranchi every month. Details of flow rate of Balijhor Nallah for last six months are attached as **annexure-III**.
15.	There shall be no external over burden dumps at the end of the mine life. The reclaimed and rehabilitated area shall be afforested. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office located at Bhubaneswar on six monthly basis.	Being complied. There shall not be any external over burden dumps at the end of mine life. The Over Burden (OB) is being dumped as per plan and within the earmarked area. Inactive portions of the OB dump are gradually stabilized and reclaimed by plantation & native species plantation. In this year; the slime (waste material after beneficiation) is recovered from Noamundi slime pond and stored in the dump form for future use. The same slime dump area has been stabilized by using jute mat with grass plantation over area.  *Jute mating & local grass plantation over slime dump*
16.	Catch drains and siltation ponds of appropriate size shall be constructed around the mine working, soil, mineral and temporary OB dump(s) to prevent run off of water and flow of sediments directly into Balijore	Garland drains with settling pits have been constructed all along the OB dumps. Check dams have also been provided for the settling of siltation. The de-siltation of these check dams are done regularly and properly

Sl. No.	EC Conditions	Compliance
Specific Conditions		
	Nallah, Kundra Nallah, Jojo Nallah, Mahadev Nallah, Baitarni 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 de-silted particularly after monsoon and maintained properly. Garland drains, settling tanks and check dams of appropriate size, gradient and length shall be constructed both around the mine pit and over burden dump(s) to prevent run off of water and flow of sediments directly into Balijore Nallah, Kundra Nallah, Jojo Nallah, Mahadev Nallah, Baitarni River and other water bodies and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits shall be constructed at the corners of the garland drains and de-silted at regular intervals.	maintained. Sedimentation pits have been constructed at the corners of the garland drains to take care of run off of water even during peak rain fall and they are being de-silted regularly before and after the monsoon. Garland drains, Settling tanks and Check dams had been constructed both around the mine pit and over burden dump(s).  *Toewall, garland drain, settling tanks*
17.	Dimension of the retaining wall at the toe of temporary over burden dumps and OB benches within the mine to check run-off and siltation shall be based on the rain fall data.	Retaining wall and Garland drains of appropriate size have been constructed around the OB dumps to check mine run-off.  *Toewall & garland drain in OB dumps*
18.	Plantation shall be raised in an area of 990.601ha including a 7.5m wide green belt in the safety zone around the mining lease, backfilled and reclaimed area, around the higher benches of excavated void to be converted in to water body, roads etc. by planting the native species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha.	Plantation over an area of 990.601 ha shall be achieved at the end of mine life. However, development of greenbelt over 7.5m in the safety zone is completed. Further, plantation is being carried out by native species on the inactive dump slopes. In the year 2018 the plantation of about 5762 saplings is done in an additional area of mine. In additional to above a patch of local grass 450sq feet has been made in area.  *Planation in Noamundi Mines*
19.	Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of SPM and RPM such as haul road, loading and unloading point and transfer points. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in	Being complied with. Fixed and mobile water sprinklers are installed and used in the area. Regular water sprinkling is also being done on the haul roads. Mist sprays are also installed in the area along in high dust generated areas such as loading unloading area. Fog based dust separators also installed at crushers and used along with dust extraction system.

Sl. No.	EC Conditions	Compliance
Specific Conditions		
	this regard.	 *Other dust control measures in area*
20.	Mine water discharge and/or any waste water shall be properly treated to meet the prescribed standards before reuse/discharge. The run off from temporary OB dumps and other surface run off shall be analysed for iron and in case its concentration is found higher than the permissible limit, the waste water should be treated before discharge/reuse.	There is no waste water discharge from the mine and our unit is "Zero Discharge Unit". The decanted water from the slime dam is completely recycled & reused to the beneficiation plant. No water is being discharged from it.
21.	The decanted water from the beneficiation plant and slime/tailing pond shall be re-circulated within the mine and there shall be zero discharge from the mine.	Being complied with
22.	Regular monitoring of the flow rate of the springs and perennial nallahs shall be carried out and records maintained.	Being regularly complied with details are attached as **annexure-III**.
23.	Regular monitoring of water quality upstream and downstream of Balijore Nallah, Kundra Nallah, Jojo Nallah, Mahadev Nallah shall be carried out and record of monitoring data should be maintained and submitted to Ministry of Environment and Forests, its Regional Office, Bhubneswar, Central Groundwater Authority, Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board.	Water quality monitoring of Balijore Nallah, Kundra Nallah, Jojo Nallah, Mahadev Nallah, are being carried out and record of monitoring data maintained. The results, so obtained are sent to Regional office, MoEF&CC, Jharkhand State Pollution Control Board, Ranchi and Central Pollution Control Board. Water Quality Analysis is attached as **annexure-IV**.
24.	Appropriate mitigate measures shall be taken to prevent pollution of Baitarni River, if any, in consultation with the State Pollution Control Board.	Baitarani River is flowing at a distance of about 12 Km from the mine and is not being polluted because of mining operations of Noamundi Iron Mine. However, different mitigation measures are being implemented for betterment of environment in and around the mine in consultation with the Jharkhand State Pollution Control Board.
25.	The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water for the project. Ground water shall not be used for the mining operations.	Being complied with. Only Surface water from Baitarani is being used for mining and processing purpose. At present, we have permission for drawl of 9786 KLD of surface water and our operation is being managed well within that quantity. Apart from this, we are recycling our slime dam water to meet basic water requirement of wet plant up to some extent. However, for increased requirement, we have applied for drawl of additional quantity of water to the regulatory agency.
26.	Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with Regional Director, Central Ground Water Board.	Being complied with. Three rain water harvesting ponds and several ground water recharge structures have been constructed at the mine site hiring the expertise of KRG Foundation, Chennai and they are

Sl. No.	EC Conditions	Compliance
Specific Conditions		
		now operational. Technical approval for design and Plan of Rain Water Harvesting (RWH) for Ground Water Recharge has already been approved by Hon. Director, Ground Water Directorate, Water Resources Dept. Jharkhand vide letter no. GWD 317/Ranchi, dated 14th Jun, 2012. At Noamundi area the various RWH structures in the form of Check Dams, Saucer ponds, Gabion Structures, Trenches and contour are made based on recommendation of Hon. Director, Ground Water Directorate, Water Resources Dept. Jharkhand and available land in the area.  *RWH structure for ground water augmentation in the area*
27.	Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral from mine face to the beneficiation plant. The vehicles shall be covered with a tarpaulin and shall not be overloaded.	Being complied with. The vehicular emission is kept under control by regular monitoring and optimal loading of materials. The entire vehicles are emission tested once in every six months. The vehicles those who do not meet the emission standard, are withdrawn from operation and maintained properly.
28.	Blasting operation shall be carried out only during the daytime. Controlled blasting shall be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.	Being complied with. Blasting is carried out only during day time. Controlled blasting is practiced with delay detonators for control of ground vibrations and to arrest fly rocks. Scientific studies are also being conducted from reputed agencies such as CIMFR, Dhanbad and all the recommendations followed for control of ground vibrations and fly rocks & boulders.
29.	Drills shall either be operated with dust extractors or equipped with water injection system.	Being complied with. All the drill are wet operated only.
30.	Mineral handling plant shall be provided with 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.	Being complied with. De-dusting unit are installed at crushing plant & is being regularly monitored. The last report is attached in **annexure-V.**  *Dust Extraction system at crusher Noamundi*
31.	Consent to operate shall be obtained from State Pollution Control Board prior to start of enhanced production from the mine.	Valid consent to operate is obtained from Jharkhand State Pollution Control Board, which is valid till 31st Dec., 2020.
32.	Sewage treatment plant shall be installed for the colony. ETP shall also be provided for workshop and wastewater generated during mining operation.	Being complied with. Two Sewage Treatment Plant (STP) of 50 KLD & 10 KLD and an Effluent Treatment Plant (ETP) of 10 KLD are already installed & working smoothly in colony area of Noamundi. In the last year

Sl. No.	EC Conditions	Compliance
Specific Conditions		
		Fy-18; two additional treatment plants, one more STP of 50KLD in colony area & additional 10 KLD ETP for canteen in Bottom bin area are made.  *Sewage & Effluent Treatment Plant at Noamundi* For the workshops and all other areas and oil trap is installed with collection system. The entire water is reused in other activities such as gardening & dust suppressions. No wastewater is being generated from mining operations.
33.	Digital processing of the entire lease area using remote sensing technique shall be carried out regularly once in three years for monitoring land use pattern and report submitted to Ministry of Environment and Forests and its Regional Office, Bhubneswar.	The digital processing of entire lease area is being carried out regularly. The current land use pattern is made by M/s Digital Cartography & Services Pvt. Ltd. the authorized agency by ORSAC, Bhubaneshwar. The Resource SAT-II with multispectral bands LISS IV & Carto SAT –I with monochromatic band of year 2016 & 2017 respectively used based on clear vision. The land use land cover change map as on date is attached as **annexure-VI**.
34.	Regular monitoring of ambient air quality including free silica shall be carried out and records maintained.	Ambient air quality including free silica is regularly monitored and records maintained. All the monitoring details are attached as **annexure-VII**.
35.	Pre-placement medical examination and 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.	Pre-placement medical examination and periodical examination of the workers engaged is being conducted & record maintained. The schedule of Periodical Medical Examination is once in every 3 years for the employees of age more than 40 years and once in 5 years for the employees of age less than 45 years.
36.	The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna such as wolf, elephant, sloth bear, rhesus macaque etc. spotted in the core and buffer zone of the mine and contribute towards the cost of implementation of the plan and/or Regional Wildlife Management Plan for conservation of flora and fauna so prepared by the State Forest and Wildlife Department. The amount so contributed shall be included in the project cost. A copy of action plan shall be submitted to the Ministry and its Regional Office, Bhubaneswar within 3 months.	Tata Steel is taking all the precautionary measures towards conservation and protection of endangered flora and fauna. As per the demand of DFO, South Division, Chaibasa, within whose jurisdiction Noamundi Iron mine falls, the Steel Company has deposited Rs. 59,85,000/- towards implementation of the wildlife management plan in order to protect them within our mine and its periphery. Further, Company has submitted an undertaking to bear the proportionate cost towards the execution of comprehensive Wildlife Management plan in the area to be prepared by the state Govt. As required, a site specific wild life conservation plan has also been submitted to the Ministry and its Regional Office, Bhubaneswar vide letter No. MD/ENV/ 409A/101/2011, dated: 21.10.2013.
37.	A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests 5 years in advance of final	A progressive mine closure plan approved by IBM is in place. The final mine closure plan along with details of Corpus fund will be submitted to the Ministry of

Sl. No.	EC Conditions	Compliance
Specific Conditions		
	mine closure for approval.	Environment & Forests 5 years in advance of final mine closure for approval.

General Conditions		
1.	No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.	Being complied with. We are operating as per the approved mining technology and scope of working mentioned in Environmental Clearance granted to us and No change in mining technology and scope of working shall been made and adhered to the condition of MoEF&CC.
2.	No change in the calendar plan including excavation, quantum of mineral iron ore and waste should be made.	Being complied with. No change in calendar plan is made.
3.	At least four ambient air quality-monitoring should be established in the core zone as well as in the buffer zone for RSPM (Particulate matter with size less than 10 micron i.e., PM10) and NOX monitoring. Location of the stations should be decided based on the meteorological data, topographical features and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board. The data so recorded should be regularly submitted to the Ministry including its Regional office located at Bhubaneswar and the State Pollution Control Board /Central Pollution Control Board once in six months.	Ambient Air Quality monitoring is being regularly carried out at four different stations within the core zone and Buffer zone respectively, which were located in consultation with the visiting officers of State Pollution control Board, Jharkhand and reports are being submitted to Regional office, MoEF&CC, Ranchi half yearly and to JSPCB monthly. Ambient Air Quality report is attached as **Annexure-VIII**. Apart from above three numbers of continuous online ambient quality stations (CAAQMS) are also installed in the core buffer area of mine Various parameters such as PM_{10}, $PM_{2.5}$, SOx, NOx is being monitored for every 15 minutes and the date of same is continuously uploaded in Pollution Control Board server. The data is same is also been displayed using electronic display board in public domain.  *CAAQMS station of Noamundi*
4.	Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM etc. should be provided with ear plugs / muffs.	Adequate measures are being taken care. All the machines of high noise generated are covered with acoustic enclosure, in separate closed room. Noise generation is eliminated at source by regular maintenance of machines and proper enclosures. Apart from above for adequate PPE is also provided to all persons working in the area. All HEMM operator's cabins are made of soundproofs with air conditioning system. Noise monitoring of area is regularly being done the data of same is attached as **Annexure-IX**.
5.	There will be zero waste water discharge from the plant.	Being complied. No water is being discharged from plant. Entire process water is recycled and reused. The High Rate Thickener is installed for rapid recovery of

General Conditions		
		water from system in place of conventional thickeners.
6.	Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.	Adequate dust masks are provided to employees engaged in dusty areas. The employees are also given regular awareness training on safety and health aspects as part of implementation process of OHSAS– 18001 & SA 8000 systems.
7.	Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.	Periodical Medical Examination of employees and contractor workers are organized regularly to observe any contractions due to exposure to dust and other occupational hazards.
8.	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.	Complied with. A separate environmental management cell is in place with the people having relevant qualification on environmental science.
9.	The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional Office located at Bhubaneswar.	Funds allocated for environmental management are spent only for environment related purposes and not diverted to any other purpose. Expenditure details of environmental protection measures during 2017-18 at Noamundi Iron Mine are attached as **annexure-X**.
10.	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.	Not applicable. Noamundi is an operational Iron mine of TATA Steel Ltd from last several decades. Thus financial closure & it's approval is not applicable.
11.	The Regional Office of this Ministry located at Bhubaneswar 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.	Being complied with. We extend full co-operation to the officers of the Regional Office during their visit and furnish the required data, information and monitoring reports.
12.	The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental 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.	Complied with. Six monthly compliance reports are being submitted regularly on the status of implementation of the stipulated environmental safeguards to the MoEF&CC, its Regional Office Ranchi, Central Pollution Control Board Kolkata and State Pollution Control Board Jharkhand. Further, the six-monthly compliance reports along with the monitoring results is being uploaded on Tata Steel's website www.tatasteelindia.com and updated periodically.
13.	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/	Complied with

General Conditions		
	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.	
14.	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.	Complied with
15.	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 shall also be sent to the respective Regional Office of the Ministry of Environment and Forests, Bhubaneswar by email	The environmental statement for financial year 2017-18 has been submitted to the State Pollution Control Board on vide letter no. MD/ENV/275/120/18, dated: 25.09.2018 and the same has been hosted on Company's website www.tatasteelindia.com. Further, compliance status on environmental clearance conditions was also sent to the Regional Office of the Ministry of Environment and Forests, Ranchi by e-mail.
16.	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 web site of the Ministry of Environment and Forests at http://envfor.nic.in and a copy of the same should be forwarded to the Regional Office of this Ministry located at Bhubaneswar.	Details of Environment Clearance with regard to Noamundi Iron Mine were published both in English and Hindi in local newspapers named "The Hindustan Times" and "Dainik Jagran" respectively on 15th June, 2013. The copy of the newspaper advertisement was sent to the Regional Office, MoEF, Bhubaneswar vide our letter no. MD/ENV/245A/101/ 2013, dated. 19th June'2013, same is attached as **Annexure-XI**.

Annexure I – Mineralogical Composition
Noamundi Iron Mine

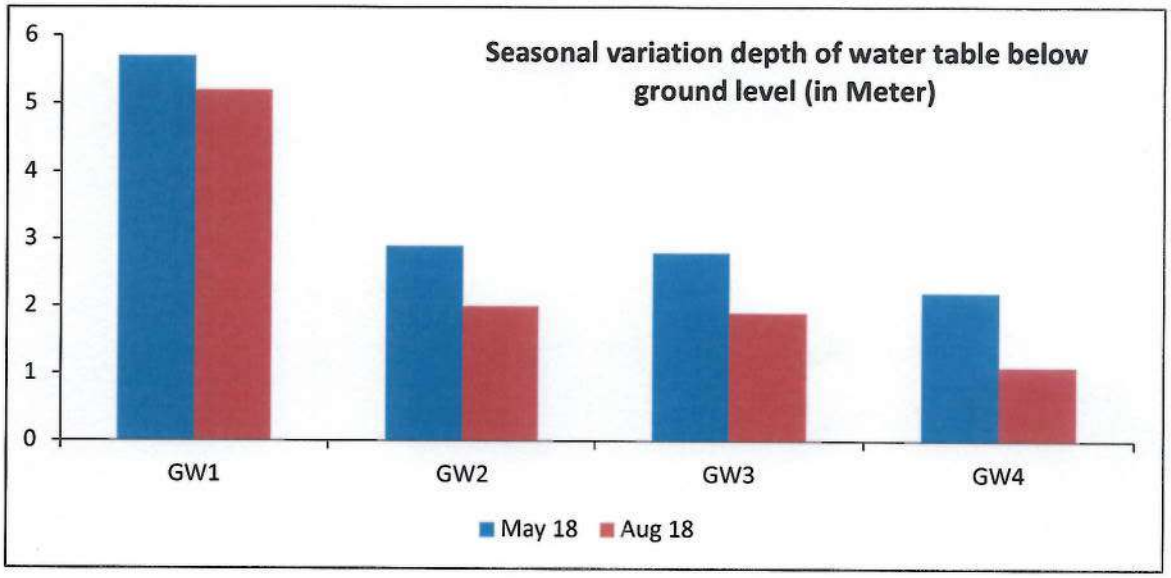
(April 2018 – September 2018)

Month	Silica(%)	FeO(%)	CaO(%)	Al_2O_3(%)
Apr-18	0.61	0.85	0.039	<0.01
May-18	0.61	0.72	0.038	<0.01
Jun-18	0.41	0.52	0.022	<0.01
Jul-18	0.46	0.51	0.018	<0.01
Aug-18	0.51	0.72	0.031	<0.01
Sep-18	0.41	0.56	0.041	<0.01

Lab in Charge

Annexure II : Ground Water Level
Noamundi Iron Mine

April 2018 – September 2018



GW1 – Noamundi Basti

GW2 – Noamundi College

GW3 – Noamundi Market

GW4 – Mahudi Basti

Lab in Charge

Annexure II : Ground Water Quality
Noamundi Iron Mine

April 2018 – September 2018

Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)

ISO 9001 : 2008
ISO 14001 : 2004
OHSAS 18001 : 2007

Ref.: EnvLab/18/R-2432 *Date:* 1/06/2018

GROUND WATER QUALITY ANALYSIS REPORT FOR THE MONTH OF MAY-2018

1. Name of Industry : **Noamundi Iron Mines (M/s TATA Steel Limited).**
2. Sampling location : **GW-1: Nuamundi Basti-1**
   GW2: Nuamundi College
3. Date of sampling : 25.05.2018
4. Date of analysis : 26.05.2018 TO 31.05.2018
5. Sample collected by : VCSPL Representative in presence of TATA Representative

Sl. No	Parameter	Testing Methods	Unit	Standard as per IS - 10500:1991	Analysis Results	
					GW-1	GW-2
Essential Characteristics						
1	Colour	APHA 2120 B, C	Hazen	5	CL	CL
2	Odour	APHA 2150 B	--	U/O	U/O	U/O
3	Taste	APHA 2160 C	--	Agreeable	Agreeable	Agreeable
4	Turbidity	APHA 2130 B	NTU	5	Nil	Nil
5	pH Value	APHA 4500H+ B	--	6.5-8.5	7.28	7.36
6	Total Hardness (as $CaCO_3$)	APHA 2340 C	mg/l	300	146.0	140.0
7	Iron (as Fe)	APHA 3500Fe, B	mg/l	0.3	0.28	0.29
8	Chloride (as Cl)	APHA 4500Cl B	mg/l	250	39.0	36.0
9	Residual, free Chlorine	APHA 4500Cl, B	mg/l	0.2	ND	ND
Desirable Characteristics						
10	Dissolved Solids	APHA 2540 C	mg/l	500	270.0	216.0
11	Calcium (as Ca)	APHA 3500Ca B	mg/l	75	37.7	36.1
12	Magnesium (as Mg)	APHA 3500Mg B	mg/l	30	12.6	12.2
13	Copper (as Cu)	APHA 3111 B,C	mg/l	0.05	<0.05	<0.05
14	Manganese (as Mn)	APHA 3500Mn B	mg/l	0.1	<0.005	<0.005
15	Sulphate (as SO_4)	APHA 4500 SO_4^{2-} E	mg/l	200	6.9	6.2
16	Nitrate (as NO_3)	APHA 4500 NO_3^- E	mg/l	45	2.42	2.10
17	Fluoride (as F)	APHA 4500F- C	mg/l	1.0	0.016	0.024
18	Phenolic Compounds (as C_6H_5OH)	APHA 5530 B,D	mg/l	0.001	<0.001	<0.001
19	Mercury (as Hg)	APHA 3500 Hg	mg/l	0.001	<0.001	<0.001
20	Cadmium (as Cd)	APHA 3111 B,C	mg/l	0.01	<0.001	<0.001
21	Selenium (as Se)	APHA 3114 B	mg/l	0.01	<0.001	<0.001
22	Arsenic (as As)	APHA 3114 B	mg/l	0.05	<0.001	<0.001
23	Cyanide (as CN)	APHA 4500 CN- C,D	mg/l	0.05	ND	ND
24	Lead (as Pb)	APHA 3111 B,C	mg/l	0.05	<0.01	<0.01
25	Zinc (as Zn)	APHA 3111 B,C	mg/l	5	0.06	0.08
26	Anionic Detergents (as MBAS)	APHA 5540 C	mg/l	0.2	<0.2	<0.2
27	Chromium (as Cr^{+6})	APHA 3500Cr B	mg/l	0.05	<0.05	<0.05
28	Mineral Oil	APHA 5220 B	mg/l	0.01	<0.01	<0.01
29	Alkalinity	APHA 2320 B	mg/l	200	138.0	132.0
30	Aluminium as(Al)	APHA 3500Al B	mg/l	0.03	<0.001	<0.001
31	Boron (as B)	APHA 4500B, B	mg/l	1	<0.01	<0.01
32	Poly Aromatic Hydrocarbon as PAH	APHA 6440 B	µg/l	--	<0.0001	<0.0001
33	Pesticide	APHA 6630 B,C	mg/l	Absent	Absent	Absent

Note: CL : Colourless, AL: Agreeable. U/O : Unobjectionable. ND: Not Detected.

For Visiontek Consultancy Services Pvt. Ltd.

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Annexure II : Ground Water Quality……(contd..)
Noamundi Iron Mine

April 2018 – September 2018

Visiontek Consultancy Services Pvt. Ltd.
(An Enviro Engineering Consulting Cell)

ISO 9001 : 2008
ISO 14001 : 2004
OHSAS 18001 : 2007

Ref.: Envlab /18/ R-8679 Date: 05/09/18

GROUND WATER QUALITY ANALYSIS REPORT FOR THE MONTH OF AUGUST-2018

1. Name of Industry : **Noamundi Iron Mines (M/s TATA Steel Limited)**
2. Sampling location : **GW-1: Noamundi Basti;**
   GW-2: Noamundi Village Near Petrol Pump.
3. Date of sampling : 30.08.2018
4. Date of analysis : 31.08.2018 to 04.09.2018
5. Sample collected by : VCSPL Representative in presence of TATA Representative

Sl. No	Parameter	Testing Methods	Unit	Standard as per IS -10500:1991	Analysis Results	
					GW-1	GW-2
Essential Characteristics						
1	Colour	APHA 2120 B,C	Hazen	5	CL	CL
2	Odour	APHA 2150 B	--	U/O	U/O	U/O
3	Taste	APHA 2160 C	--	Agreeable	Agreeable	Agreeable
4	Turbidity	APHA 2130 B	NTU	5	Nil	Nil
5	pH Value	APHA 4500H+B	--	6.5-8.5	7.32	7.41
6	Total Hardness (as $CaCO_3$)	APHA 2340 C	mg/l	300	132.0	136.0
7	Iron (as Fe)	APHA 3500Fe, B	mg/l	0.3	0.21	0.18
8	Chloride (as Cl-)	APHA 4500Cl- B	mg/l	250	32.0	30.0
9	Residual, free Chlorine	APHA 4500Cl- B	mg/l	0.2	ND	ND
Desirable Characteristics						
10	Dissolved Solids	APHA 2540 C	mg/l	500	192.0	186.0
11	Calcium (as Ca++)	APHA 3500Ca B	mg/l	75	26.8	25.8
12	Magnesium (as Mg)	APHA 3500Mg B	mg/l	30	11.8	10.6
13	Copper (as Cu)	APHA 3111 B,C	mg/l	0.05	<0.05	<0.05
14	Manganese (as Mn)	APHA 3500Mn B	mg/l	0.1	<0.005	<0.005
15	Sulphate (as SO_4)	APHA 4500 SO_4^{--} E	mg/l	200	7.1	6.9
16	Nitrate (as NO_3)	APHA 4500 NO_3^- F	mg/l	45	2.36	2.20
17	Fluoride (as F)	APHA 4500F C	mg/l	1.0	0.041	0.018
18	Phenolic Compounds (as C_6H_5OH)	APHA 5530 B,D	mg/l	0.001	<0.001	<0.001
19	Mercury (as Hg)	APHA 3500 Hg	mg/l	0.001	<0.001	<0.001
20	Cadmium (as Cd)	APHA 3111 B,C	mg/l	0.01	<0.001	<0.001
21	Selenium (as Se)	APHA 3114 B	mg/l	0.01	<0.001	<0.001
22	Arsenic (as As)	APHA 3114 B	mg/l	0.05	<0.001	<0.001
23	Cyanide (as CN)	APHA 4500 CN- C,D	mg/l	0.05	ND	ND
24	Lead (as Pb)	APHA 3111 B,C	mg/l	0.05	<0.01	<0.01
25	Zinc (as Zn)	APHA 3111 B,C	mg/l	5	0.042	0.05
26	Anionic Detergents (as MBAS)	APHA 5540 C	mg/l	0.2	<0.2	<0.2
27	Chromium (as Cr^{+6})	APHA 3500Cr B	mg/l	0.05	<0.05	<0.05
28	Mineral Oil	APHA 5220 B	mg/l	0.01	<0.001	<0.001
29	Alkalinity	APHA 2320 B	mg/l	200	112.0	108.0
30	Aluminium as(Al)	APHA 3500Al B	mg/l	0.03	<0.001	<0.001
31	Boron (as B)	APHA 4500B. B	mg/l	1	<0.01	<0.01
32	Poly Aromatic Hydrocarbon as PAH	APHA 6440 B	µg/l	--	<0.0001	<0.0001
33	Pesticide	APHA 6630 B,C	mg/l	Absent	Absent	Absent
34	Total Coli form	APHA 9221 B	MPN/100	Not more than 10 MPN/100 ml	<1.8	<1.8

Note: CL : Colourless, AL: Agreeable, U/O : Unobjectionable, ND: Not Detected.

For Visiontek Consultancy Services Pvt. Ltd.

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Annexure III – Flow Rate of Balijhor Nalla
Noamundi Iron Mine

(April 2018 – September 2018)

Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Limit
BOD mg/l	1.20	1.15	1.30	1.25	1.50	1.40	20
TSS mg/l	11.20	10.90	34.60	59.40	68.20	60.70	100
Flow Rate m^3/hr	16.50	17.20	48.50	157.30	104.80	168.10	

There is no any andustrial effluents discharge from the mine.

Lab in Charge

Annexure IV – Surface Water Quality of Balijhor Nalla
Noamundi Iron Mine

(April 2018 – September 2018)

Visiontek Consultancy Services Pvt. Ltd.
(An Enviro Engineering Consulting Cell)

ISO 9001 : 2008
ISO 14001 : 2004
OHSAS 18001 : 2007

Ref.: Envlab/18/R-2431 Date: 1/06/2018

SURFACE WATER QUALITY ANALYSIS REPORT FOR THE MONTH OF MAY-2018

1. Name of Industry : **Noamundi Iron Mines (M/s TATA Steel Limited).**
2. Sampling location : **SW-1: Balijharana Nallah U/S;**
   SW-2: Balijharana Nallah D/S.
3. Date of sampling : 21.05.2018
4. Date of analysis : 22.05.2018 TO 29.05.2018
5. Sample collected by : VCSPL Representative in presence of TATA Representative

Sl. No.	Parameter	Testing Methods	Unit	Standards as per IS-2296:1992 Class–'C'	Analysis Results	
					SW-1	SW-2
1	Dissolved Oxygen (minimum)	APHA 2540 C	mg/l	4	6.3	6.2
2	Total Suspended Solids as TSS	APHA 2540 D	mg/l	--	38.0	44.0
3	BOD (3) days at 27°C (max)	APHA 5210 B	mg/l	3	<1.8	<1.8
4	Chemical Oxygen Demand as COD	APHA 5220-C	mg/l	--	24.0	30.0
5	Total Coli form	APHA 9221 B	MPN/ 100 ml	5000	410.0	500.0
6	pH Value	APHA 4500H+ B	--	6.0-9.0	7.28	7.32
7	Colour (max)	APHA 2120 B, C	Hazen	300	1.0	1.0
8	Total Dissolved Solids	APHA 2540 C	mg/l	1500	128.0	135.0
9	Copper as Cu (max)	APHA 3111 B,C	mg/l	1.5	<0.05	<0.05
10	Iron as Fe (max)	APHA 3500Fe. B	mg/l	0.5	0.46	0.48
11	Chloride (max)	APHA 4500Cl- B	mg/l	600	29.0	32.0
12	Sulphates (SO_4) (max)	APHA 4500 SO_4^{2-} E	mg/l	400	4.9	5.1
13	Nitrate as NO_3 (max)	APHA 4500 NO_3^- E	mg/l	50	1.7	1.84
14	Fluoride as F (max)	APHA 4500F- C	mg/l	1.5	0.022	0.029
15	Phenolic Compounds as C_6H_5OH (max)	APHA 5530 B,D	mg/l	0.005	<0.001	<0.001
16	Cadmium as Cd (max)	APHA 3111 B,C	mg/l	0.01	<0.001	<0.001
17	Selenium as Se (max)	APHA 3114 B	mg/l	0.05	<0.001	<0.001
18	Arsenic as As	APHA 3114 B	mg/l	0.2	<0.001	<0.001
19	Cyanide as CN (max)	APHA 4500 CN- C,D	mg/l	0.05	ND	ND
20	Lead as Pb(max)	APHA 3111 B,C	mg/l	0.1	<0.01	<0.01
21	Zinc as Zn(max)	APHA 3111 B,C	mg/l	15	<0.05	<0.05
22	Hexa Chromium as Cr^{+6}	APHA 3500Cr B	mg/l	0.05	<0.05	<0.05
23	Anionic Detergents (max)	APHA 5540 C	mg/l	1.0	<0.2	<0.2
24	Mercury as Hg	APHA 3500 Hg	mg/l	--	<0.001	<0.001
25	Manganese as Mn	APHA 3500 Mn B	mg/l	--	<0.005	<0.005

Note:CL: Colourless, ND: Not Detected.

For Visiontek Consultancy Services Pvt. Ltd.

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Annexure IV – Surface Water Quality of Balijhor Nalla
Noamundi Iron Mine

(April 2018 – September 2018)

Visiontek Consultancy Services Pvt. Ltd.
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ISO 9001 : 2008
ISO 14001 : 2004
OHSAS 18001 : 2007

Ref.: Envlab/18/R-868/1 Date: 05/09/18

SURFACE WATER QUALITY ANALYSIS REPORT FOR THE MONTH OF AUGUST-2018

1. Name of Industry : Noamundi Iron Mines (M/s TATA Steel Limited)
2. Sampling location : SW-1: Balijharan Upstream; SW-2: Balijharan Downstream.
3. Date of sampling : 13.08.2018
4. Date of analysis : 14.08.2018 to 21.08.2018
5. Sample collected by : VCSPL Representative in presence of TATA Representative

Sl. No.	Parameter	Testing Methods	Unit	Standards as per IS-2296:1992 Class "C"	Analysis Results	
					SW-1	SW-2
1	Dissolved Oxygen (minimum)	APHA 4500 A	mg/l	4	5.2	5.6
2	Total Suspended Solids as TSS	APHA 2540 D	mg/l	--	32.0	36.0
3	BOD (3) days at 27°C (max)	APHA 5210 B	mg/l	3	<1.8	<1.8
4	Chemical Oxygen Demand as COD	APHA 5220-C	mg/l	--	14.0	18.0
5	Total Coli form	APHA 9221 B	MPN/ 100 ml	5000	220	280
6	pH Value	APHA 4500H+ B	--	6.0-9.0	7.46	7.51
7	Colour (max)	APHA 2120 B, C	Hazen	300	1	2
8	Total Dissolved Solids	APHA 2540 C	mg/l	1500	122.0	130.0
9	Copper as Cu (max)	APHA 3111 B,C	mg/l	1.5	<0.05	<0.05
10	Iron as Fe (max)	APHA 3500Fe, B	mg/l	0.5	0.32	0.38
11	Chloride (max)	APHA 4500Cl- B	mg/l	600	21.0	24.0
12	Sulphates (SO_4) (max)	APHA 4500 SO_4^{2-} E	mg/l	400	3.2	3.8
13	Nitrate as NO_3 (max)	APHA 4500 NO_3 E	mg/l	50	1.1	1.24
14	Fluoride as F (max)	APHA 4500F- C	mg/l	1.5	0.011	0.016
15	Phenolic Compounds as C_6H_5OH (max)	APHA 5530 B,D	mg/l	0.005	<0.001	<0.001
16	Cadmium as Cd (max)	APHA 3111 B,C	mg/l	0.01	<0.001	<0.001
17	Selenium as Se (max)	APHA 3114 B	mg/l	0.05	<0.001	<0.001
18	Arsenic as As	APHA 3114 B	mg/l	0.2	<0.001	<0.001
19	Cyanide as CN (max)	APHA 4500 CN C,D	mg/l	0.05	ND	ND
20	Lead as Pb(max)	APHA 3111 B,C	mg/l	0.1	<0.01	<0.01
21	Zinc as Zn(max)	APHA 3111 B,C	mg/l	15	<0.05	<0.05
22	Hexa Chromium as Cr^{+6}	APHA 3500Cr B	mg/l	0.05	<0.05	<0.05
23	Anionic Detergents (max)	APHA 5540 C	mg/l	1.0	<0.2	<0.2
24	Mercury as Hg	APHA 3500 Hg	mg/l	--	<0.001	<0.001
25	Manganese as Mn	APHA 3500 Mn B	mg/l		<0.005	<0.005

Note:CL: Colourless, ND: Not Detected

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Annexure V : Analysis Report – DE System
Noamundi Iron Mine

(April 2018 – September 2018)

Visiontek Consultancy Services Pvt. Ltd.
(An Enviro Engineering Consulting Cell)

ISO 9001 : 2008
ISO 14001 : 2004
OHSAS 18001 : 2007

Ref.: Envlab/18/R-2430 Date: 1/06/2018

ANALYSIS REPORT OF FLUE GAS

1. Name of Industry : **Noamundi Iron Mines (M/s TATA Steel Limited)**

	Date of Sampling	:	**28.05.2018 at 10.15am**	
A	**General Information about Stack**	-	-	-
1	Stack Connected to	:	**Dust Extracter System**	
2	Emission due to	:	Process Activities	
3	Material of Construction of stack	:	MS	
4	Shape of stack	:	Circular	
5	Whether stack is provided with permanent platform & ladder	:	Yes	
6	Generation capacity	:	---	
B	**Physical Characteristics of Stack:**	-	-	-
1	Height of the stack from ground level	:	15.0m (approx)	
2	Diameter of the stack at sampling point	:	0.46m	
3	Height of the sampling point from GL	:	9.5m (approx)	
4	Area of Stack	:	0.166 m^2	
C	**Analysis / Characteristic of Stack:**	-	-	-
1	Fuel Used	:	---	
2	Fuel consumption	:	---	
D	**Results of Sampling & Analysis of Gaseous Emission**	-	**Analysis Results**	**CPCB Limit**
1	Temperature of emission (°C)	:	38.0	
2	Barometric pressure (mm of Hg)	:	714	
3	Velocity of gas (m/sec.)	:	20.48	
4	Quantity of gas flow ($Nm^3/hr.$)	:	6178.0	
5	Concentration of particulate Matters (mg/Nm^3)	:	10.6	**100**
E	**Pollution control Device**			
	Details of pollution control Device attached with the stack	:	Pulse jet bag filter	
F	**Remarks**			

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Visiontek Consultancy Services Pvt. Ltd.
(An Enviro Engineering Consulting Cell)
ISO 9001 : 2008
ISO 14001 : 2004
OHSAS 18001 : 2007

Ref.: Envlab/18/R-8675 (II) Date: 05/09/18

ANALYSIS REPORT OF FLUE GAS

1. Name of Industry : **Noamundi Iron Mines (M/s TATA Steel Limited)**

	Date of Sampling	:	**13.08.2018 11.30 AM**	
A	**General Information about Stack**	:	-	
1	Stack Connected to	:	**Dust Extracter System**	
2	Emission due to	:	Process Activities	
3	Material of Construction of stack	:	MS	
4	Shape of stack	:	Circular	
5	Whether stack is provided with permanent platform & ladder	:	Yes	
6	Generation capacity	:	---	
B	**Physical Characteristics of Stack:**	:	-	
1	Height of the stack from ground level	:	15.0m (approx)	
2	Diameter of the stack at sampling point	:	0.46m	
3	Height of the sampling point from GL	:	9.5m (approx)	
4	Area of Stack	:	0.166 m^2	
C	**Analysis / Characteristic of Stack:**	:	-	
1	Fuel Used	:	---	
2	Fuel consumption	:	---	
D	**Results of Sampling & Analysis of Gaseous Emission**	:	**Analysis Results**	**CPCB Limit**
1	Temperature of emission (°C)	:	44	
2	Barometric pressure (mm of Hg)	:	714	
3	Velocity of gas (m/sec.)	:	24.2	
4	Quantity of gas flow (Nm^3/hr.)	:	6478	
5	Concentration of particulate Matters (mg/Nm^3)	:	46	100
E	**Pollution control Device**			
	Details of pollution control Device attached with the stack	:	Pulse jet bag filter	
F	**Remarks**			

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For Visiontek Consultancy Services Pvt. Ltd.

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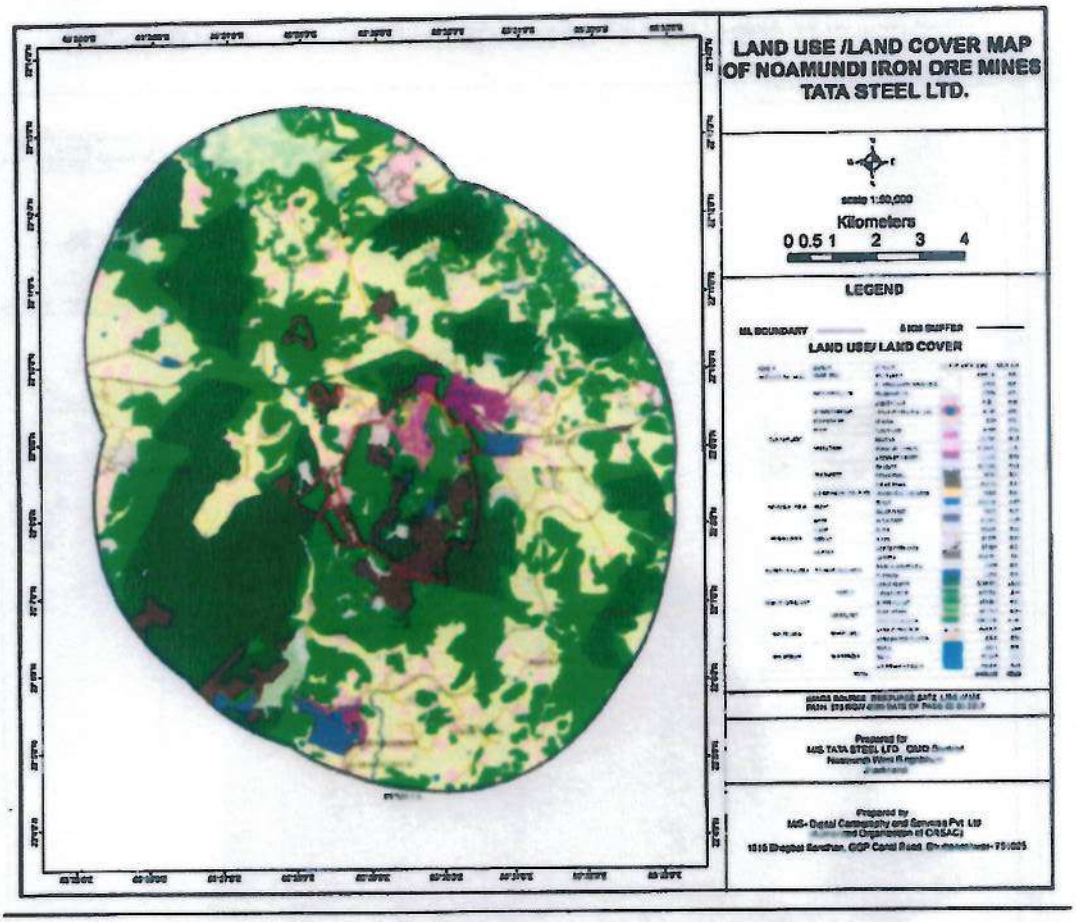
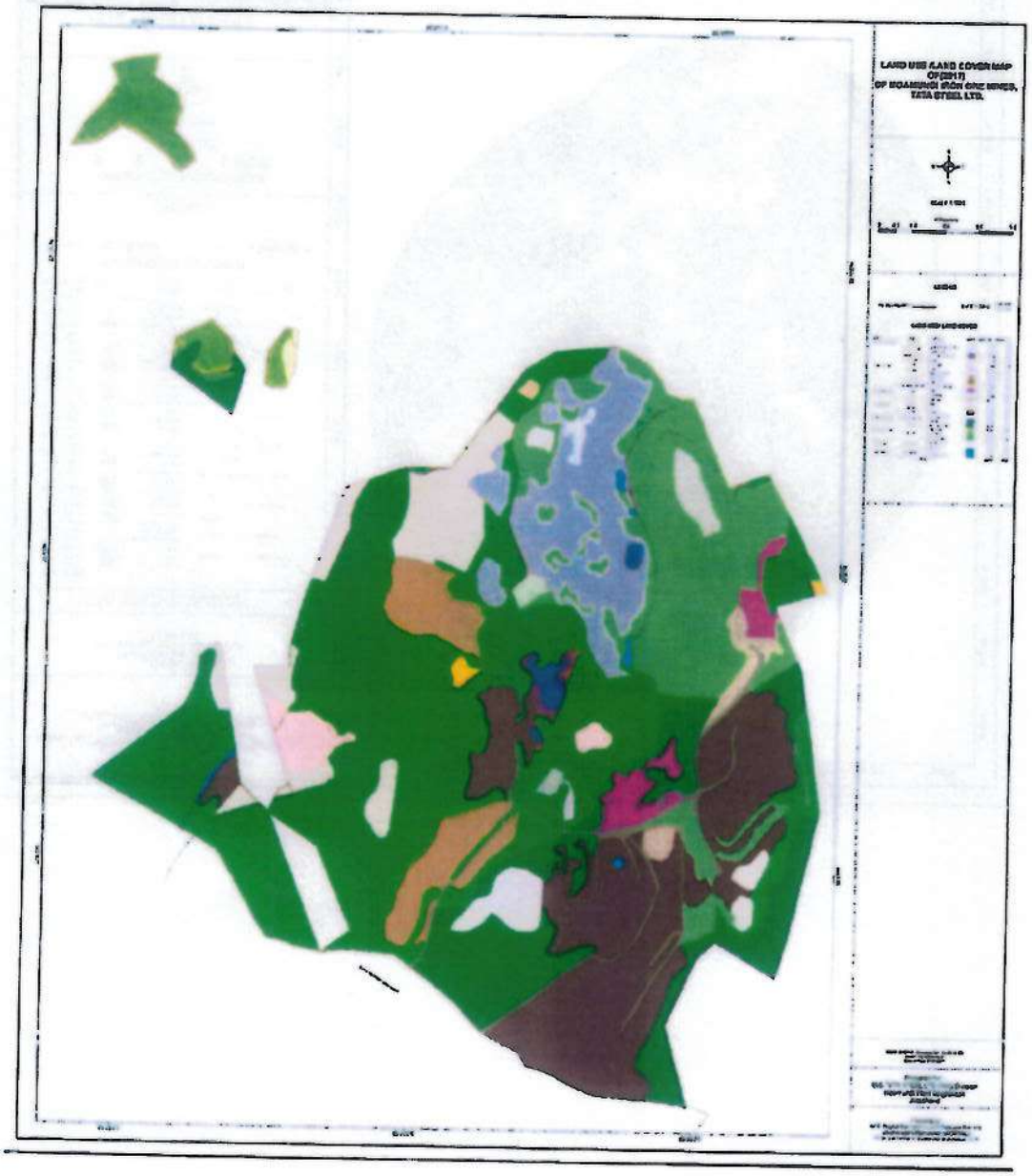
Annexure-VI: Land Use/Land Cover (Buffer Zone)– Noamundi Iron Mine



Annexure-VI: Land Use/Land Cover (Core Zone)– Noamundi Iron Mine



Annexure VII : Analysis Report of Free Silica
Noamundi Iron Mine

(April'18 – September'18)

Visiontek Consultancy Services Pvt. Ltd.
(An Enviro Engineering Consulting Cell)
ISO 9001 : 2008
ISO 14001 : 2004
OHSAS 18001 : 2007

Ref. Lontab/18/R-640(I) Date: 03/05/18

MINERALOGICAL COMPOSITION REPORT FOR APRIL-2018

1. Name of Industry : **M/s Noamundi Iron Mines (M/s TATA Steel Limited)**
2. Sampling Location : **A-1: Near Mining Area**
3. Monitoring Instruments : RDS(APM 460 BL)
4. Sample Collected by : VCSPL representative in presence of TATA representative.

Monitoring Date	Parameters	Analysis Results
		A-1
19.04.2018	Silica(%)	0.46
	FeO (%)	0.58
	CaO (%)	0.027
	Al_2O_3(%)	<0.01

For Visiontek Consultancy Services Pvt. Ltd.

Plot No.-M-22&23, Chandka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel. : 91-674-6451781, 7752017905
E-mail : visiontekin@yahoo.co.in, visiontekin.@gmail.com, Visit us at: www.vcspl.org
Committed For Better Environment

Annexure VII : Analysis Report of Free Silica
Noamundi Iron Mine

(April'18 – September'18)

Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)

ISO 9001 : 2008
ISO 14001 : 2004
OHSAS 18001 : 2007

Ref.: Envlab/18/R-2422 *Date:* 1/06/2018

MINERALOGICAL COMPOSITION REPORT FOR MAY-2018

1. Name of Industry : **Noamundi Iron Mines (M/s TATA Steel Limited)**
2. Sampling Location : **A-1: Mines Area**
3. Monitoring Instruments : RDS(APM 460 BL)
4. Sample Collected by : VCSPL Representative in presence of TATA Representative.

Monitoring Date	Parameters	Analysis Results
		A-1
12.05.2018	Silica(%)	0.61
	FeO (%)	0.72
	CaO (%)	0.038
	Al_2O_3(%)	<0.01

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

For Visiontek Consultancy Services Pvt. Ltd.

Annexure VII : Analysis Report of Free Silica
Noamundi Iron Mine

(April'18 – September'18)

Visiontek Consultancy Services Pvt. Ltd.
(An Enviro Engineering Consulting Cell)

ISO 9001 : 2008
ISO 14001 : 2004
OHSAS 18001 : 2007

Ref.: Envlab/18/R-3478

Date: 04/07/18

MINERALOGICAL COMPOSITION REPORT FOR JUNE-2018

1. Name of Industry : **M/s Noamundi Iron Mines (M/s TATA Steel Limited)**
2. Sampling Location : **A-1: Near Mining Area**
3. Monitoring Instruments : RDS(APM 460 BL)
4. Sample Collected by : VCSPL representative in presence of TATA representative.

Monitoring Date	Parameters	Analysis Results
		A-1
24.06.2018	Silica(%)	0.41
	FeO (%)	0.52
	CaO (%)	0.022
	Al_2O_3(%)	<0.01

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

For Visiontek Consultancy Services Pvt. Ltd.

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E-mail : visiontekin@yahoo.co.in, visiontekin@gmail.com, Visit us at: www.vcspl.org

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Annexure VII : Analysis Report of Free Silica
Noamundi Iron Mine

(April'18 – September'18)

Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)

ISO 9001 : 2008
ISO 14001 : 2004
OHSAS 18001 : 2007

Ref.: Env/ab/PB/R-7932.

Date: 05.08.18

MINERALOGICAL COMPOSITION REPORT FOR JULY-2018

1. Name of Industry : **M/s Noamundi Iron Mines (M/s TATA Steel Limited)**
2. Sampling Location : **A-1: Near Mining Area**
3. Monitoring Instruments : RDS(APM 460 BL)
4. Sample Collected by : VCSPL representative in presence of TATA representative.

Monitoring Date	Parameters	Analysis Results
		A-1
19.07.2018	Silica(%)	0.36
	FeO (%)	0.46
	CaO (%)	0.021
	Al_2O_3(%)	<0.01

For *Visiontek Consultancy Services Pvt. Ltd.*

VISIONTEK CONSULTANCY SERVICES PVT LTD

Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel. : 91-674-6451781
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Annexure VII : Analysis Report of Free Silica
Noamundi Iron Mine

(April'18 – September'18)

Visiontek Consultancy Services Pvt. Ltd.
(An Enviro Engineering Consulting Cell)
ISO 9001 : 2008
ISO 14001 : 2004
OHSAS 18001 : 2007

Ref.: Envlab/18/R-8671 Date: 05/09/18

MINERALOGICAL COMPOSITION REPORT FOR AUGUST-2018

1. Name of Industry : **Noamundi Iron Mines (M/s TATA Steel Limited)**
2. Sampling Location : **A-1: Mines Area**
3. Monitoring Instruments : RDS(APM 460 BL)
4. Sample Collected by VCSPL Representative in presence of TATA Representative.

Monitoring Date	Parameters	Analysis Results
		A-1
13.08.2018	Silica(%)	0.51
	FeO (%)	0.72
	CaO (%)	0.031
	Al_2O_3(%)	<0.01

For Visiontek Consultancy Services Pvt. Ltd.

Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel. : 91-674-6451781
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Annexure VII : Analysis Report of Free Silica
Noamundi Iron Mine

(April'18 – September'18)

Visiontek Consultancy Services Pvt. Ltd.
(An Enviro Engineering Consulting Cell)
ISO 9001 : 2008
ISO 14001 : 2004
OHSAS 18001 : 2007

Ref.: Envfab/18/R-8229 *Date:* 02/10/18

MINERALOGICAL COMPOSITION REPORT FOR SEPTEMBER-2018

1. Name of Industry : **Noamundi Iron Mines (M/s TATA Steel Limited)**
2. Sampling Location : **A-1: Mines Area**
3. Monitoring Instruments : RDS(APM 460 BL)
4. Sample Collected by : VCSPL Representative in presence of TATA Representative.

Monitoring Date	Parameters	Analysis Results
		A-1
13.09.2018	Silica(%)	0.41
	FeO (%)	0.56
	CaO (%)	0.041
	Al_2O_3(%)	<0.01

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

For Visiontek Consultancy Services Pvt. Ltd.

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E-mail : visiontekin@yahoo.co.in, visiontek@gmail.com, Visit us at: www.vcspl.org

Annexure - VIII

NOAMUNDI IRON MINE
AVERAGE AIR QUALITY REPORT (CORE ZONE)

Month	Industrial area										Residential area									
	MRSS Building					Bottom Bin					G.M's Office					Near Hospital				
	PM_{10}	$PM_{2.5}$	SO_2	NO_X	CO	PM_{10}	$PM_{2.5}$	SO_2	NO_X	CO	PM_1	$PM_{2.5}$	SO_2	NO_X	CO	PM_{10}	$PM_{2.5}$	SO_2	NO_X	CO
Apr 18	54.16	26.01	4.39	11.63	0.35	61.39	30.27	4.84	13.60	0.40	51.99	25.46	4.48	11.1	0.30	50.90	24.69	4.43	11.1	0.31
May 18	45.77	21.37	4.35	10.53	0.29	48.03	22.20	4.41	11.03	0.33	44.89	21.36	4.29	10.5	0.36	41.07	19.27	4.21	9.81	0.32
Jun 18	48.77	23.59	4.23	11.26	0.29	53.83	25.96	4.41	11.99	0.34	45.41	21.97	4.22	10.4	0.28	45.24	21.30	4.26	10.9	0.27
Jul 18	53.80	27.06	4.47	11.87	0.28	55.64	28.81	4.66	12.24	0.31	43.87	21.33	4.09	10.4	0.23	46.77	22.30	4.17	10.9	0.28
Aug 18	36.75	18.85	4.50	10.24	0.24	38.65	18.66	4.49	10.24	0.22	33.65	16.20	4.75	10.6	0.24	31.73	15.39	4.35	10.1	0.22
Sep 18	56.91	28.91	5.36	13.51	0.32	60.64	28.66	6.01	13.33	0.31	50.51	25.35	4.53	11.7	0.30	49.30	24.41	4.46	11.4	0.29

AVERAGE AIR QUALITY REPORT (BUFFER ZONE)

Month	Kankura					Kitabeda					Mirelbera					Balita				
	PM_{10}	$PM_{2.5}$	SO_2	NO_X	CO	PM_{10}	$PM_{2.5}$	SO_2	NO_X	CO	PM_1	$PM_{2.5}$	SO_2	NO_X	CO	PM_{10}	$PM_{2.5}$	SO_2	NO_X	CO
Apr 18	40.70	18.90	4.00	9.00	0.15	40.70	18.95	4.00	9.00	0.13	39.35	17.95	4.00	9.00	0.15	42.65	19.15	4.00	9.00	0.14
May 18	40.55	18.55	4.00	9.00	0.16	41.60	19.28	4.00	9.00	0.15	30.88	20.18	4.00	9.00	0.18	43.18	19.73	4.00	9.00	0.16
Jun 18	39.40	19.80	4.00	9.00	0.16	40.50	18.50	4.00	9.00	0.11	38.50	18.45	4.00	9.00	0.17	41.70	20.70	4.00	9.00	0.12
Jul 18	32.50	19.75	4.00	9.00	0.17	40.45	19.75	4.00	10.60	0.21	36.70	21.00	4.00	9.00	0.21	42.95	21.25	4.00	9.00	0.22
Aug 18	31.00	14.35	4.15	9.15	0.12	48.30	21.78	4.00	9.00	0.23	37.93	23.85	4.00	9.00	0.23	47.33	23.93	4.00	9.00	0.22
Sep 18	33.00	18.50	4.00	9.00	0.20	33.85	18.90	4.00	9.00	0.17	37.40	20.20	4.00	9.00	0.20	36.00	17.80	4.00	9.00	0.22

Unit of measurement for all parameters except CO is µg/m³. Co is in mg/m³

Lab-in-charge

Annexure – IX

AMBIENT NOISE QUALITY AT NOAMUNDI
AVERAGE APR 18 TO SEP 18

	Location	Day Time 8.00 am to 10.00 pm	Limits in dB(A) Leq	Night Time 8.00 am to 10.00 pm	Limits in dB(A) Leq
Residential area	Hospital Premises	51.17	55.00	38.23	45.00
	Training Centre	51.52		38.45	
	GM's Office	50.45		37.13	
	Township	51.75		39.57	
Industrial area	Mining area	65.20	75.00	62.10	70.00
	Plant area	65.32		61.93	

Lab-in-charge

Annexure X - ENVIRONMENTAL EXPENDITURE ON ENVIRONMENT SAFEGUARDS (2017-18)

S. no.	Heads	Expenditure (in lakhs)	
		Capital	Recurring
1	Operation of Mobile Water Sprinkling	0	144
2	Permanent Water Sprinkling	0	29.73
3	Vibration Studies	0	8
4	Optimising of blasting parameter to reduce Sp. Explosive Consumption	30	0
5	Maintenance of Capacity enhancement of tailing dam	0	20
6	Cleaning of Settling pit & Garland Drain	0	15
7	Water Cooling System replaed with air cooling system in HP300	5	0
8	Channel lubrication syste implemented to reduce oil spillage	0.1	0
9	Hood provided in crusher appar at secondary	0.5	0
10	Three cabins provided for perators	2	0
11	Operation & Maintenance fif water mist gun	0	3
12	Muck Cleaning from Chec Dam and Water Tank & other sources	0	50
13	Water recycling Operation from HRT	0	306.75
14	Water recycling Operation from slime dam and check dam	0	48.8
15	Water recycling Operation from mine	0	52.08
16	Use of releaser and binder or water recovery for recycling	0	50
17	Modification of wire meshes Rinse Screen with PU screen mat to reduce noise.	50	0
18	Installation of on-line proc ss water filtration system at Slime dam.	21	0
19	Study for Iron Ore recover, from Slime	100	0
20	Primary Scraper at belt co veyors	14	0
21	Rubber liner in Scrubber "B"	40	0
22	Replacement of screw classifier by high frequency screen at hydro-cyclone plant to reduce slime loss	50	0
23	Replacement of Oil type transformers to Air Type transformers	23	0
24	Installation of capacitor banks at fig and NDCMP to reduce power loss	35	0
25	Installation of transformers oil filtration unit to reduce Used Oil generation	31	0
26	Fixing of flow meter to monitor and reduce water consumption	42.5	0
27	Water Supply distribution network maintenance	0	5
28	Operation & Maintenance of Dry fog system	0	136.6
29	Spillage material recover from conveyor belt and inside plant	0	80
30	Upkeep of dry fog system at 1000 TPH Plant	0	3.98
31	Water sprinkling job at B/BIN	9.65	0
32	Mechanised up keeping o B/BIN area	0	7.46
33	Monthly filtration of oil	0	1.99
34	AMC for centralised lube Oil system.	0	14.26
35	Housekeeping of RLS Stacker & Drains.	0	46.27
36	Three cabins provided for operators	2	0
37	Covering of Product Fine	0	7.64
38	AMC for conveyor belt maintenance	0	68.85
39	Housekeeping of OLCS area	0	38.55
40	2 rest shelter with septic tank and soak pit	26	0

41	One rest shelter with Septic tank and soak pit	13	0
42	Bio-toilets at various locations	6.15	0
43	Septic tank at Ladies rest shelter	0	0.5
44	Garbage dump at Bottom Bin canteen	1	0.15
45	Parking Lot paver block	0	1
46	One ladies Toilet at UMPS	0	2.5
47	MCC area concreting	0	8
48	NDCMP screen house concreting	0	2
49	Noamundi Hill 5 Toe wall	0	25
50	Lease line fencing NIM	0	6
51	Lease Pillar NIM	0	1.5
52	Sewer cleaning in Operational area	0	15
53	Waste oil pit at Equipment Maintenance	0	3.5
54	Shed for storing Oil drum	0	2
55	Waste oil pit at Old DB swimming pool	0	9
56	Maintenance of Solid Waste Management Township	0	73
57	Providing PCC road in camp area	0	6
58	Solid Waste management	0	16.6
59	Operation of Incineration	0	2.37
60	Environmental Monitoring (Visiontek)	0	6.8
61	Display Board AMC	0	1.52
62	Plantation	0	112.56
63	CAAQMS Maintenance	2	0
64	Water Supply distribution network maintenance (including pipeline maintenance, camp maintenance & overhead tank cleaning)	0	35
65	Operation & maintenance of water treatment plant (including cost of chemicals quality testing by third party & stamping of flow meters)	0	35.9
66	Operation & maintenance of sewage treatment plant	0	20.6
67	Mobile Water Sprinkling Maintenance	0	37.75
68	100% Change over from DG set power to OSEB Power at Katamati	0	10
69	Replacement of 250W HPSV Light with 120W LED Light (100 Nos.)	0	12.1
70	Replacement Of Conventional Light Fittings By Led Lights	0	24.41
71	Undergrounding Of Oh Lines	0	48.65
72	Replacement Of Bare Oh Conductor By Ab Cable	0	3
73	Provision Of Solar Lights (2nos)	0	2
74	Provision Of Timers To Control Outdoor Light Timing	0	0.6
75	Fixing ofEnergy meter to monitor in houses & Control Energy	0	8.11
76	Installation of Dry Type Transformer in place of Oil Cooled Transformer	0	0.65
77	Environmental Awnareness Events	0	25
78	Mobile Water Sprinkling Maintenance/AMC	0	13.5
79	Electricity Cost/year In Water Pump Motor	0	1.25
80	Electricity Cost/year in Air Compressor Motor	0	3
81	Operation & Annual Maintenance of Dry fog system	0	9.6
	Total	503.9	1523.48

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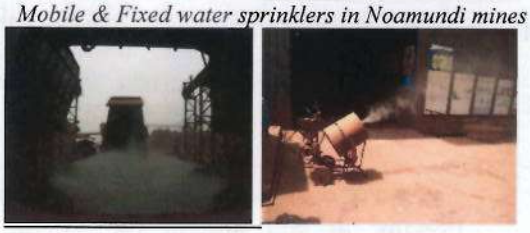
Compliance status
on
Impact of Mining on Habitations-Issue ..related

Noamundi Iron Mine, TATA Steel Ltd.

(April 2018 to Sept 2018)

Conditions based on OM dated 29th Oct., 2014 vide no. Z-11013/57/2014-IA.II(M)

S. No.	Condition	Compliance Status
A	The Project Authority shall adopt Best Mining Practice for the given mining conditions. In the mining area, adequate number of check dams, retaining walls/structures, garland drains and settling ponds should be provided to arrest the wash – off with rain water in catchment area.	Being complied. Adequate no. of check dams, retaining walls / structures, garland drains and settling ponds are made in mine to arrest the rain water. In addition to that various rain water harvesting structures are also made in and around mine.
B	The natural water bodies and or streams which are flowing in and around the village should not be disturbed. The Water Table should be nurtured so as not to go down below the pre-mining period. In case of any water scarcity in the area, the Project Authorities have to provide water to the villagers for their use. A provision for regular monitoring of water table in open dug well located in village should be incorporated to ascertain the impact of mining over ground water table.	Complied with. The water level in open dug well are regularly been monitored at desired frequency of various villages in & around mine of Noamundi. Various rain water harvesting structures are also made in and around mine.
C	The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right to darkness and minimal noise levels at night. The Project Proponents (PPs) must ensure that the biological clock of the villagers is not disturbed by orienting the floodlights/ masks away from the noise levels well within the prescribed limit's for day/night hours.	Being complied. The mine is being operated in hill top of iron ore deposit & the habitation is far away from mining operations. However, various technologies are used to reduce the noise level from mining & processing operations. Thick green vegetation cover is also being maintained to absorb noise from the area apart from various other measures.
D	The Project Authority shall make necessary alternative arrangements, where required, in consultation with the State Government to provide alternate areas for livestock grazing. In this context, Project Authority should implement the directions of the Hon'ble Supreme Court with regard to acquiring grazing land. The sparse trees on such grazing ground, which provide mid- which provide mid – day shelter from the scorching sun should be scrupulously guarded against felling lest the cattle abandon the grazing ground or return home by noon.	Complied with.
E	Where ever blasting is undertaken as part of mining activity, the Project Authority shall carry out vibration studies well before approaching any such habitats or other buildings to evaluate the Zone of influence and impact of blasting on the neighbourhood. Within 500 meters of such sites vulnerable to blasting vibrations,	Vibration study for scientific blasting is regularly been done from CSIR recognized agency. And as per recommendations the blasting is been done only in day time with electronic delay detonators for adequate blast and fragmentation. The data for each

S. No.	Condition	Compliance Status
	avoidance of use of explosives and adoption of alternative means of mineral extraction, such as ripper/dozer combination/rock breakers/ surface miners etc. should be seriously considered and practiced wherever practicable.	blast is been maintained and no mining is being done within 50m of public works.
F	Main haulage road in the mine should be provided with permanent water sprinklers and other roads should be regularly wetted with water tankers fitted with sprinklers. Crusher and material transfer points should invariably be provided with Bag filters and or dry logging system. Belt- conveyors should be fully covered to avoid air borne dust.	The main haulage road in the mine is provided with permanent water sprinklers. Apart from above, mobile and spray mist type sprinklers are also used in mine.  *Mobile & Fixed water sprinklers in Noamundi mines*  *Mist type dust suppression measures*
G	The Project Authority shall ensure that the productivity of agricultural crops is not affected due to mining operations. Crop Liability Insurance Policy has to be taken by the PP as a precaution to compensate for any crop loss. The impact zone shall be 5km from the boundary of mine lease-area for such insurance policy. In case, several mines are located in a cluster, the Associations of owners of the cluster mines, formed inter-alia, to sub-serve such an objective, shall take responsibility for securing such Crop Liability Policy.	Not applicable Noamundi Iron mine is an operational mine since last several decades, and scientific & sustainable mining practices are been adopted.
H	In case any village is located within the mining leasehold which is not likely to be affected due to mining activities during the life of mine, the Expert. Appraisal Committee (EAC) should consider the proposal of Environmental Clearance (EC) for reduced mining area. The Mining lease may be executed for the area for which EC is accorded. The mining plan may also be accordingly revised and required stipulations under the MMDR Act, 1957 rind MCR, 1960 met.	Noted. However, no village is located within mine lease area and all mining lease area are mineralized.
I	Transportation of the minerals by road passing through the village shall not be allowed. A 'bypass' road should be constructed (say, leaving a gap of at least 200 meters) for the purpose of transportation of the minerals so that the impact of sound, dust and accidents could be mitigated. The PP shall bear the cost towards the widening and strengthening of existing public road network in case the same is proposed to be used for the Project. No road movement should be allowed on existing village road network without appropriately increasing the carrying capacity of such roads.	No road transportation is done from mine in public road. All the material is transferred by railways.

S. No.	Condition	Compliance Status
J	Likewise, alteration or re-routing of foot paths, pagdandies, cart roads, and village infrastructure/public utilities or roads (for purposes of land acquisition for mining) shall be avoided to the extent possible rind in case such acquisition is inevitable, alternative arrangements shall be made first and then only the area acquired. In these types of cases, Inspection Reports by site visit by experts may be insisted upon which should be done through reputed Institutes.	Not applicable
K	As CSR activities by Companies including the Mining Establishments has become mandatory up to 2% of their financial turn-over, Socio Economic Development. of the neighborhood Habitats could also be planned and executed by the PPs more systematically based on the 'Need based door to door survey' by established Social Institutes/Workers on the lines as required under TOR. "R&R Plan/compensation details for the Project affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SC's /ST's and other weaker sections of the society in the study area, a need based sample survey, family wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village located in the mine lease area will be shifted or not. The issues related to shifting of village including their R&R and socio-economic aspects should be discussed in the EIA Report."	Complied. As Noamundi Iron Mine is an operational mine from several decades the PAP is not applicable. However, various surveys are been done as per requirement for social beneficiation.