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Email: ro.ranchi-mef@gov.in

MD/ENV/ 883 / 103 / 2023

Date: 22.11.2023

Ref: I. Environmental Clearance letter no. J-11015/104/2011. IA. II (M) dated: 06.09.2021. II. Environmental Clearance letter no. J-11015/104/2011. IA. II (M) dated: 29.10.2021.

Sub: Half-yearly compliance status report of Environmental Clearance conditions for the period April 2023 – September 2023 in respect of Noamundi Iron Mine, M/s Tata Steel Limited.

Dear Sir,

Kindly find attached herewith the half-yearly compliance status report in respect of the stipulated Environmental Clearance conditions of Noamundi Iron Mine, M/s Tata Steel Limited for the period from April 2023 – September 2023.

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: M/s Tata Steel Limited

Dungmond

Chief (Mine planning & Projects), OMO

Encl. : As above

Copy to : The Chairman, Central Pollution Control Board, Southern 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. Dhurwa, Ranchi - 834004 (Jharkhand)

#### TATA STEEL LIMITED

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# ENVIRONMENTAL CLEARANCE NO. J-11015/104/2011-IA. II (M) DATED 06.09.2021 & 29.10.2021 (Period of Compliance: April 2023 to September 2023)

Sl. No.	Conditions	Compliance
	ecific conditions	
1.	Implementation of the revised remediation plan, natural resource augmentation plan (NRAP) and community resource augmentation plan (CRAP) which was submitted by PP after the EAC meeting.	Implementation of the revised remediation plan, natural resource augmentation plan (NRAP) and community resource augmentation plan (CRAP) has been initiated. Various activities such as development of safety zone plantation, Miyawaki plot, fruit bearing plots in village area and rainwater harvesting ponds are in progress. Detailed status is shared (Annexure-I)
2.	Implementation of the environmental monitoring plan with emphasis on air quality, noise and vibration, water quality as well as soil degradation to be submitted.	The implementation of the environmental monitoring plan with emphasis on air quality, noise and vibration, water quality as well as soil degradation is enclosed (Annexure-II)
3.	Wildlife conservation plan be augmented with additional points revised in the light of guidance given by EAC during the meeting with more emphasis on wildlife conservation rather than creating infrastructure which cannot be controlled by project proponent.	Noted.  It will be done accordingly in consultation with forest department officials.
4.	Public hearing concerns must be addressed as committed.	All the concerns raised in Public Hearing are being addressed. The implementation of action plan has been initiated. Detailed status is enclosed (Annexure-III)
5.	The EMP cost should include plantation within the mine lease area whereas plantation outside the mine lease area will be given to NRAP cost.	Noted. All the cost involved for plantation within mine lease area has been included in EMP cost and plantation outside the mine lease area has already been included in NRAP cost.
6.	No mining activities will be allowed in the forest area for which forest clearance is not available.	Noted and shall be abided.
7.	As the public hearing has been carried out for the entire project area and PP has paid the NPV for entire forest land involved in the project area, PP after taking stage- II Forest Clearance for remaining area i.e. 391.51 Ha; may again approach the Ministry for undertaking mining in the remaining area with the proper mining plan.	After the grant of stage II FC for remaining area of 391.51 Ha, we shall approach the Ministry with proper mining plan for undertaking mining in the remaining area.
	eneral Conditions	
	tutory Compliance	N-4-4
(1)	This Environmental Clearance (EC) is subject to orders/ judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.	Noted.
(2)	The Project proponent complies with all the statutory requirements and judgment of Hon'ble	A payment of Rs 56,96,51,093.00/- is made as per demand notice no. 1986/M dated 12.09.2017. The Project

	Supreme Court dated 2nd August,2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Others before commencing the mining operations.	Proponent is complying with all the statutory requirements and judgements of Hon. Supreme Court dated the 2nd August 2017 in writ petition (civil) no. 114 of 2014 in the matter of common cause vs union of India and Others.
(3)	The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of Judgment of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Others.	A payment of Rs 56,96,51,093.00/- is made as per demand notice no. 1986/M dated 12.09.2017. The Project Proponent is complying with all the statutory requirements and judgements of Hon. Supreme Court dated the 2nd August 2017 in writ petition (civil) no. 114 of 2014 in the matter of common cause vs union of India and Others.
(4)	This Environmental Clearance shall become operational only after receiving formal NBWL Clearance from MoEF&CC subsequent to the recommendations of the Standing Committee of National Board for Wildlife, if applicable to the Project.	Not applicable. There are no protected areas/ ecosensitive zones within 10 km of the mine lease area.
(5)	This Environmental Clearance shall become operational only after receiving formal Forest Clearance (FC) under the provision of Forest Conservation Act, 1980, if applicable to the Project.	Noamundi Iron Mine of TATA Steel has restricted its operations in diverted forest and non-forest area as per approvals obtained. The mine has 1160.06 ha lease area, out of which 762.42 ha is forest land & rest is non-forest land. Out of 762.42 ha, forest land diverted for mining is 370.92 ha vide letter no. 8-279, 1985 FC (Pt) dated 4th Sept., 2014 & for rest 391.51 ha (including safety zone), forest diversion proposal has already been applied & is at advanced stage of clearance.
(6)	Project Proponent (PP) shall obtain Consent to Operate after grant of EC and effectively implement all the conditions stipulated therein. The mining activity shall not commence prior to obtaining Consent to Establish / Consent to Operate from the concerned State Pollution Control Board/Committee.	Noamundi Iron Mine of TATA Steel has restricted its operations in diverted forest and non-forest area as per approvals obtained. The mine has 1160.06 ha lease area, out of which 762.42 ha isforest land & rest is non forest land. Out of 762.42 ha, forest land diverted for mining is 370.92 ha vide letter no. 8-279, 1985 FC (Pt) dated 4 <sup>th</sup> Sept., 2014 & for rest 391.51 ha (including safety zone), forest diversion proposal has already been applied & is at advanced stage of clearance. Complied Attachment: NA
(7)	The PP shall adhere to the provision of the Mines Act, 1952, Mines and Mineral (Development & Regulation), Act, 2015 and rules & regulations made there under. PP shall adhere to various circulars issued by Directorate General Mines Safety (DGMS) and Indian Bureau of Mines from time to time.	Noted and shall be abided.

(8)	The Project Proponent shall obtain consents from all the concerned landowners, before start of mining operations, as per the provisions of MMDR Act, 1957 and rules made there under in respect of lands which are not owned by it.	Since it is an old mine, this is not applicable. Further the expansion is proposed within the mine lease area.
(9)	The Project Proponent shall follow the mitigation measures provided in MoEFCC's Office Memorandum No. Z-11013/57 /2014-IA.II (M), dated 29th October, 2014, titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area".	All the conditions mentioned in the MoEFCC's Office Memorandum No. Z-11013/57/2014-IA.II (M), dated 29th October, 2014 are being followed. The compliance is indicated later against other standard EC conditions.
(10)	The Project Proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and from CGWA for withdrawal of ground water for the project.	Only Surface water from Baitarani river is being used for mining and allied activities. No ground water withdrawal is required for this project.  Approval for drawing 10.6 MCM water on annual basis (~29000 KLD) from Baitarini river vide letter no: -1/PMC/VIVIDH/975/2020-514 dated 24.08.2021 has been granted by Water Resources Department, GoJ. Subsequently an agreement was signed on 20.10.2021 with the Executive Engineer, Water ways Division Chaibasa.
(11)	A copy of EC letter will be marked to concerned Panchayat / local NGO etc. if any, from whom suggestion / representation has been received while processing the proposal.	A copy of EC letter was submitted to local panchayats i.e Noamundi, Balijore, Diriburu, Kadajamda and Mahudi panchayat. (Annexure-IV)
(12)	State Pollution Control Board/Committee shall be responsible for display of this EC letter at its Regional office, District Industries Centre and Collector's office/ Tehsildar'sOffice for 30 days	Noted.
(13)	The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board/Committee and web site of the Ministry of Environment, Forest and Climate Change (www.parivesh.nic.in). A copy of the advertisement may be forwarded to the concerned MoEFCC Regional Office for compliance and record.	Details of Environment Clearance with regard to Noamundi Iron Mine were published both in English (Avenue Mail) and Hindi (Prabhat Khabar) in local newspapers on 12.09.2021. The copy of the newspaper advertisement was sent to the Regional Office, MoEF&CC, Ranchi with letter no: MD/ENV/210/97/2021 dated 13.09.2021 (Annexure-V)
(14)	The Project Proponent shall inform the MoEF&CC for any change in ownership of the mining lease. In case there is any change in ownership or mining lease is transferred than mining operation shall	Noted.

only be carried out after transfer of EC as per provisions of the para 11 of EIA Notification, 2006 as amended from time to time.

#### II. Air quality monitoring and preservation

The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Monitoring Stations with 1 (one) in upwind and 2 (two) in downwind direction based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical parameters, relevant for mining operations, of air pollution viz. PM10, PM2.5, NO2, CO and SO2 etc. as per the methodology mentioned in NAAQS Notification No. 29016/20/90/PCI/I, dated 18.11.2009 covering the aspects of transportation and use of heavy machinery in the impact zone. The ambient air quality shall also be monitored at prominent places likeoffice building, canteen etc. as per the site condition to ascertain the exposure characteristics at specific places. The above data shall be digitally displayed within 03 months in front of the main Gate of the mine site

Three continuous ambient air quality monitoring stations are installed in the core zone (two nos.) and buffer zone (one no.) of mine lease area. Various parameters such as PM10, PM2.5, SOx, NOx & CO are being monitored as per guidelines.

Manual ambient air quality stations are installed at prominent places such as Hospital, Mega Centre, Bottom bin, etc. and monitoring of the NAAQS parameters is done on regular basis.

Monitored data is being displayed using electronic display board in front of the main gate of mines site as well as public domain.

Average air quality data is enclosed as (Annexure VI)





CAAQMS station & Display board at Noamundi Mine

Effective safeguard measures for prevention of (16)dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from all sources shall be regularly controlled by installation of required equipments/ machineries preventive and maintenance. Use of suitable water- soluble chemical dust suppressing agents may be explored for better effectiveness of dust control system. It shall be ensured that air pollution level conform to the standards prescribed by the MoEFCC/ Central Pollution Control Board

Fugitive dust emissions from all the sources are being controlled regularly on daily basis.

A network of fixed water sprinklers has been laid on permanent haul roads. Two mobile water tankers of large capacity namely 50 KL which can cover the entire width of the haul road has been commissioned.

All feed hoppers where ore is unloaded and all transfer chutes have been provided with dry-fog dust suppression system.

Mist cannons have placed at strategic points to prevent and control of fugitive dust emission.

Ambient air quality conforms to the CPCB norms.





Dust control measures at Noamundi Iron Mine

III. V	Vater quality monitoring and preservation	
(17)	In case, immediate mining scheme envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case, mining operation involves intersection of ground water table at a later stage, then PP shall ensure that prior approval from CGWA and MoEFCC is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydro-geological study of the area	As per approved mining plan, the mining operations are restricted above the ground water table. The ultimate working depth is 480 mRL while the Ground water table is at 478 mRL. Hence, the mine workings will never intersect ground water during the entire life of the mine. However, in case of working below ground water table prior approval for CGWA shall be taken.
(18)	Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintain. The natural water bodies and or streams which are flowing in an around the village, should not be disturbed. The Water Table should be nurtured so as not to go down below the premining period. In case of any water scarcity in the area, the Project Proponent has to provide water to the villagers for their use. A provision for regular monitoring of water table in open dug wall located in village should be incorporated to ascertain the impact of mining over ground water table. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department/ State Pollution Control Board.	Regular monitoring of flow rate of springs and nallahs is carried out and records are maintained.  Streams (Balijhore nallah and Jojo nallah) which are present in and around the mine lease area shall not be disturbed.  Ground water quality and Ground water level are being monitored periodically in and around the lease area through a network of dug wells and piezometric borewells. Dug wells are located in villages adjacent to the mine lease area while piezometric borewells are located within the mine lease area.  All the monitored data is being submitted to various agencies on six monthly basis along with half yearly EC compliance reports.
(19)	Project Proponent shall regularly monitor and maintain records w.r.t. ground water level and quality in and around the mine lease by establishing a network of existing wells as well as new piezo-meter installations during the mining operation in consultation with Central Ground Water Authority/ State Ground Water Department. The Report on changes in Ground water level and quality shall be submitted on six- monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department/ State Pollution Control Board.	Ground water quality and Ground water level are being monitored periodically in and around the lease area through network of dug wells and piezometric borewells.  All the monitored data is being submitted on six monthly basis along with Half yearly EC compliance reports to the Regional Office of the Ministry, CGWA/CGWB and Jharkhand State Pollution Control Board (Annexure VII)
(20)	The Project Proponent shall undertake regular monitoring of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease and maintain its records. The project proponent shall undertake regular monitoring of water quality upstream and downstream of water bodies passing within and nearby/ adjacent to the mine lease and	Water quality monitoring of perennial nallahs (upstream and downstream) present inside and outside the mine lease area is done regularly (Annexure VIII)  All the water parameters are within the stipulated limits. No obstruction or alteration will be made to water bodies during mining operations.

maintain its records. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. PP shall carryout regular monitoring w.r.t. pH and included the same in monitoring plan. The parameters to be monitored shall include their water quality vis-avis suitability for usage as per CPCB criteria and flow rate. It shall be ensured that no obstruction and/ or alteration be made to water bodies during mining operations without justification and prior approval of MoEF&CC. The monitoring of water courses/bodies existing in lease area shall be carried out four times in a year viz. pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the record of monitored data 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, State Pollution Control Board and Central Pollution Control Board. Clearly showing the trend analysis on sixmonthly basis.

The monitoring is carried out four times in a year and monitoring reports are submitted to Regional Office of Ministry of Environment, Forest and Climate Change, Central Ground Water Authority and Regional Director, Central Ground Water Board, Jharkhand State Pollution Control Board and Central Pollution Control Board as part of EC compliance reports.

Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run-off; acid mine drainage and metal contamination in runoff shall be monitored along with Total Suspended Solids (TDS), Dissolved Oxygen (DO), pH and Total Suspended Solids (TSS). The monitored data shall be uploaded on the website of the company as well as displayed at the project site in public domain, on a display board, at a suitable location near the main gate of the Company. The circular No. J-20012/1/2006-IA.II (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change may also be referred in this regard.

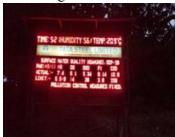
There is no wastewater discharge from the mine and mineral processing plant, i.e entire unit is "Zero Discharge Unit".

After mineral processing (wet plant) the water is collected in slime pond, where decanted water from the slime dam is completely recycled & reused in the beneficiation plant and slime is recovered and stored for future use. Thus no water is being discharged to environment.

The environmental monitoring data is regularly uploaded on the company website as a part of six-monthly EC compliance reports. The link for the same is attached here (<a href="https://www.tatasteel.com/corporate/our-organisation/environment/environment-compliance-reports/">https://www.tatasteel.com/corporate/our-organisation/environment/environment-compliance-reports/</a>).

In addition to this all the monitored data is shown in display board present at the entrance gate.





(22) Project Proponent shall plan, develop and implement rainwater harvesting measures on long term basis to augment ground water resources in the area in consultation with Central Ground Water Board/ State Groundwater Department. A report on amount of water recharged needs to be submitted to Regional Office MoEFCC annually.

Rainwater harvesting (RWH) ponds and ground water recharge structures have been constructed and approved by the Ground Water Directorate, Jharkhand, Ranchi. The capacity of RWH ponds is 19,785 cum. The catchment area of the RWH pond complex is approx. 117 Ha hence it has been calculated that the rainwater harvesting potential of the RWH pond structure is approx. 12,50,000 cum/annum.



RWH structure for ground water augmentation in the area

Approval from Ground Water Directorate, Water Resources Dept. Jharkhand for RWH pond structure was received vide letter no. GWD 317/Ranchi, dated 14<sup>th</sup> Jun, 2012.

Further, the rainwater collected in the mine pits are allowed to be collected in the lowest level sumps to augment the ground water resources gradually. Various RWH structures in the form of Check Dams, Saucer ponds, Gabion Structures, Trenches and contour are also made based on recommendation in available area.







RWH structure for ground water augmentation in the area

To augment the ground water level of surrounding village areas new additional ponds are constructed in buffer zone of Noamundi mine leases.

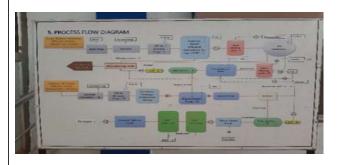




Newly constructed ponds in surrounding villages

(23) Industrial waste water (workshop and waste water from the mine) should be properly collected and treated so as to conform to the notified standards prescribed from time to time. The standards shall be prescribed through Consent to Operate (CTO) issued by concerned State Pollution Control Board (SPCB). The workshop effluent shall be treated after its initial passage through Oil and grease trap.

A 30 KLD CETP along with Oil & grease pit with collection system has been installed at HEMM maintenance area. Oil is separated by gravitational technique and solids settle by sedimentation. Clear water flows to next chamber after passing through baffle wall. Clear water is again re-used. Water quality analysis is done on regular basis.



Flow sheet of 30KLD CETP

Two Effluent Treatment Plant (ETP) of 10 KLD each are also installed & working smoothly in mine lease area of Noamundi. Copy of monitoring reports are enclosed as (Annexure-IX)



Sewage & Effluent Treatment Plant at Noamundi

The water balance/ water auditing shall be carried out and measure for reducing the consumption of water shall be taken up and reported to the Regional Office of the MoEF&CC and State Pollution Control Board/Committee.

(24)

Noted. Evaluation of water consumption is being carried out and suitable measures for reducing water consumption have been identified such as commissioning of paste thickener etc.

There is zero waste-water discharge by the mine and it will be maintained in the future as well.

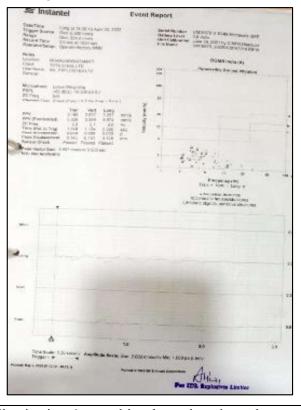
Optimization of the water consumption will be done to reduce the specific water consumption year-on-year.

#### IV. Noise and vibration monitoring and prevention

(25) The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.

Monitoring of peak particle velocity (ppv) is done after every blast as per DGMS guidelines and the reports are being maintained.

The sample report of vibration monitoring done at Noamundi is given herewith:



(26) 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 for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day/night hours

The illumination & sound has been done in such a way that the villagers are not disturbed.

In addition to this we are planning to install noise barriers around the railway siding boundary to significantly reduce the noise propagation outside the mine premises.

(27) The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The workers engaged in operations of HEMM, etc. should be provided with ear plugs /muffs. All personnel including laborers working in dusty areas shall be provided with protective respiratory devices along with adequate training, awareness and information on safety and health

Adequate measures are taken for control of work noise levels such as all HEMMs have acoustic cabins with air conditioners and the exhaust manifold have silencers. Noisy operations have been identified and persons engaged in such operations are provided with ear plugs/muffs.

All persons working in dusty areas are provided with protective dust masks.

	aspects. The PP shall be held responsible in case it has been found that workers/ personals/ laborers are working without personal protective	Adequate training, awareness and information on safety and health aspects are provided on regular basis.
	equipment.	
V. Mi	ining plan	
(28)	The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form to Short Term Permit (STP), Query license or any other name.	Total excavation (quantum of mineral, waste, over burden, inter burden and top soil etc.); mining technology; lease area; scope of working (method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining, concurrent reclamation and reclamation at mine closure, etc. shall be adhered as per the approved mining plan.
(29)	The Project Proponent shall get the Final Mine Closure Plan along with Financial Assurance approved from Indian Bureau of Mines/Department of Mining & Geology as required under the Provision of the MMDR Act, 1957 and Rules/ Guidelines made there under. A copy of approved final mine closure plan shall be submitted within 2 months of the approval of the same from the competent authority to the concerned Regional Office of the Ministry of Environment, Forest and Climate Change for record and verification.	This is not applicable in this financial year as it is an operational mine.
(30)	The land-use of the mine lease area at various stages of mining scheme as well as at the end-of-life shall be governed as per the approved Mining Plan. The excavation vis- a-vis backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area shall be governed as per approved mining plan. PP shall ensure the monitoring and management of rehabilitated areas until the vegetation becomes self-sustaining. The compliance status shall be submitted half-yearly to the MoEF&CC and its concerned Regional Office.	Noted. Land-use of the mine lease area shall be governed as per the approved mining plan.  Excavation, backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area are governed as per approved mining plan. Report on plantation activities is being submitted regularly to the Board along with monthly reports.
	and reclamation	
(31)	The Overburden (O.B.) generated during the mining operations shall be stacked at earmarked OB dump site(s) only and it should not be kept	Over burden is stacked at the earmarked places only. The slopes of the OB dumps are terraced, and the overall height width and slope angle is maintained as per

active for a long period of time. The physical parameters of the OB dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by D.G.M.S w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of top soil/OB dumps. The topsoil shall be used for land reclamation and plantation.

approved Mining Plan.

Generation of topsoil is very minimal because no fresh area is being broken for mining and the top soil generated, is being kept at the earmarked site(s) only inside the mining lease area and is being subsequently used for plantation & other vegetation & grassing activities.

The inactive dump slopes are vegetated with native species, vetiver grass and coir matting is done for better slope stabilization.





Vetiver grass

Coir matting

(32) The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.

Reject/waste is stacked at the earmarked places only. The slopes of the dumps are terraced, and the overall height width and slope angle is maintained as per approved Mining Plan.

(33) The reclamation of waste dump sites shall be done in scientific manner as per the Approved Mining Plan cum Progressive Mine Closure Plan.

Currently two Over Burden (OB) dumps are made as per plan at earmarked area which are progressively stabilized by native species plantation and grass vegetation as per direction of MoEF&CC.



Plantation on Waste dump D2





Local grass plantation on bunds of haul roads at mine.

The slope of dumps shall be vegetated in scientific manner with suitable native species to maintain the slope stability, prevent erosion and surface run off. The selection of local species regulates local climatic parameters and help in adaptation of plant species to the microclimate. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps. The dump mass should be consolidated with the help of dozer/ compactors thereby ensuring proper filling/ leveling of dump mass. In critical areas, use of geo textiles/ geo-membranes / clay liners/ Bentonite etc. shall be undertaken for stabilization of the dump.

The inactive dump slopes are vegetated with native species, vetiver grass and coir matting is done for better slope stabilization.

The dump mass is consolidated with the help of dozer/compactors thereby ensuring proper filling/leveling of dump mass. In critical areas, laying of coir mat along with grass seeding is practiced.





(35) The Project Proponent shall carry out slope stability study in case the dump height is more than 30 meters. The slope stability report shall be submitted to concerned regional office of

MoEF&CC.

Slope stability study has been done for dumps at Noamundi Iron Mine by CSIR-Central Institute of Mining and Fuel Research, Dhanbad. The report has been submitted to Regional Office of MoEF&CC vide letter no: MD/ENV/303/103/2021 dated 19.11.2021.

(36) Catch drains, settling tanks and siltation ponds of appropriate size shall be constructed around the mine working, mineral yards and Top Soil/OB/Waste dumps to prevent run off of water and flow of sediments directly into the water bodies (Nallah/ River/ Pond etc.). The collected water should be utilized for watering the mine area, roads, green belt development, plantation etc. The drains/ sedimentation sumps etc. shall be desilted regularly, particularly after monsoon season, and maintained properly

Garland drains with settling pits have been constructed all along the OB dumps. Settling pits have also been provided to arrest the silt flow from area. The desiltation of these check dams settling pits are done regularly and properly 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).





garland drains, Settling pits at mine





De-siltation of slime & check dams before monsoon.

(37) Check dams of appropriate size, gradient and length shall be constructed around mine pit and OB dumps to prevent storm run-off and sediment flow into adjoining water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall (based on 50 years data) and maximum discharge in the mine and its adjoining area which shall also help in providing adequate retention time period thereby allowing proper settling of sediments/ silt material. The sedimentation pits/ sumps shall be constructed at the corners of the garland drains.

Check dams of appropriate size, gradient and length are constructed along with sedimentation pits as per progressive mine closure plan.

(38) The top soil, if any, shall temporarily be stored at earmarked sile(s) within the mine lease only and should not be kept unutilized for long. The physical parameters of the top soil dumps like height, width and angle of slope shall be governed as per the approved Mining Plan and as per the guidelines framed by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of dumps. The topsoil shall be used for land reclamation and plantation purpose

Generation of topsoil is very minimal because no fresh area is being broken for mining and the top soil generated, is being kept at the earmarked site(s) only inside the mining lease area and is being subsequently used for plantation & other vegetation & grassing activities.

#### VII. Miscellaneous

No Transportation of the minerals shall be allowed in case of roads passing through villages/ habitations. In such cases, PP shall construct a 'bypass' road for the purpose of transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.

All the finished iron ore product is transported to endusers through Noamundi captive railway siding.

As an interim arrangement, it is proposed to additionally use the public railway sidings (Bokaro siding and Line no.5 Siding) for dispatch to end users. Therefore the road between Bottom bin and public railway sidings will be used for transporting the material through trucks. This is as per approval granted by MoEFCC.

Pollution Under Control (PUC) certificate has been obtained for all the vehicles from authorized pollution testing centers.



The Main haulage road within the mine lease should be provided with a permanent water sprinkling arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipment's like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt-conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions

A network of fixed water sprinklers has been laid on permanent haul roads. Mobile water tankers of large capacity namely 50 KL which can cover the entire the entire width of the haul road has been commissioned.





Mobile & Fixed water sprinklers in Noamundi mines





Mist type dust suppression measures





Closed conveyor used in mineral transport

Dust Extraction system is present at Primary crusher.



#### VIII. Green Belt

(41) The Project Proponent shall develop greenbelt in 7.5m wide safety zone all along the mine lease boundary as per the guidelines of CPCB in order to arrest pollution emanating from mining operations within the lease. The whole Green belt shall be developed within first 5 years starting from windward side of the active mining area. The development of greenbelt shall be governed as per the EC granted by the Ministry irrespective of the stipulation made in approved mine plan.

All feed hoppers where ore is unloaded and all transfer chutes have been provided with dryfog dust suppression system. Mist cannons have placed at strategic points to prevent and control of fugitive dust emission. The beneficiated ore from processing plant to railway sidings being transported through covered conveyors only.

The Project Proponent shall carryout plantation/ afforestation in backfilled and reclaimed area of mining lease, around water body, along the roadsides, in community areas etc. by planting the native species in consultation with the State Forest Agriculture Department/ Department/ Rural development department/ Tribal Welfare Department/ Gram Panchayat such that only those species be selected which are of use to the local people. The CPCB guidelines in this respect shall also be adhered. The density of the trees should be around 2500 saplings per Hectare. Adequate budgetary provision shall be made for protection and care of trees.

(43) The Project Proponent shall make necessary alternative arrangements for livestock feed by developing grazing land with a view to compensate those areas which are coming within the mine lease. The development of such grazing land shall be done in consultation with the State Government. In this regard, Project Proponent should essentially implement the directions of the Hon'ble Supreme Court with regard to acquisition of grazing land. The sparse trees on such grazing ground, which provide mid-day shelter from the scorching sun, should be scrupulously guarded/ protected against felling and plantation of such trees should be

promoted.

Safety zone of 7.5 meters all along the mine lease boundary is maintained with plantation of saplings.



Plantation of saplings on waste dumps, backfilled area is done as per approved mine plan.

Plantation of about saplings is done on Waste dump D2, Kurtha dump. In addition to this Avenue plantation outside the mine lease is also carried out.





Plantation on dumps



Avenue Plantation outside the mine

(44) The Project Proponent shall undertake all precautionary measures for conservation and protection of endangered flora and fauna and Schedule-I species during mining operation. A Wildlife Conservation Plan shall be prepared for the same clearly delineating action to be taken for conservation of flora and fauna. The Plan shall be approved by Chief Wild Life Warden of the State Govt. and implemented in consultation with the State Forest and Wildlife Department. A copy of Wildlife Conservation Plan and its implementation

The site specific wildlife conservation plan (SSWLCP) has been approved by Chief Wildlife Warden on 28.08.2020. The impact of mining project on wildlife of the study area and detailed mitigative measures are part of this plan. The total approved cost for implementation of SSWLCP is Rs.25.26 crores (to be spent over a 10-year period).

Site specific wild life conservation plan and its approval has been submitted to the Ministry and its Regional Office.

status (annual) shall be submitted to the Regional Office of the Ministry.

#### IX. Human Health Environment & Public Hearing

Project Proponent (45)The shall appoint Occupational Health Specialist for Regular as well as Periodical medical examination of the workers engaged in the mining activities, as per the DGMS guidelines. The records shall be maintained properly. PP shall also carryout Occupational health check-ups in respect of workers which are having ailments like BP, diabetes, habitual smoking, etc. The check-ups shall be undertaken once in six months and necessary remedial/ preventive measures be taken. A status report on the same may be sent to MoEFCC Regional Office and DGMS on half-yearly basis.

Noamundi hospital is well-equipped with an Occupational Health Center OHS center employs a full-time occupational health specialist. Health of the employees through audiometry, x-ray, pathology, ophthalmology, lung-function test, etc monitored.

Some of the best practices related to occupational health adopted in mine are:

- Employees' health check-up under Wellness @ workplace program
- Health awareness classes on weekly basis for shop floor employees
- Officers' health check-up on yearly basis for lifestyle disease
- Counseling to high blood pressure, sugar cholesterol, hypertension employees through medical board

The Project Proponent must (46)demonstrate commitment to work towards 'Zero Harm' from their mining activities and carry out Health Risk Assessment (HRA) for identification workplace hazards and assess their potential risks to health and determine appropriate control measures to protect the health and wellbeing of workers and nearby community. The proponent shall maintain accurate and systematic records of the HRA. The HRA for neighborhood has to focus on Public Health Problems like Malaria, Tuberculosis, HIV, Anaemia, Diarrhoea in children under five, respiratory infections due to bio mass cooking. The proponent shall also create awareness and educate the nearby community and workers for Sanitation, Personal Hygiene, Hand washing, not to defecate in open, Women Health and Hygiene (Providing Sanitary Napkins), hazard of tobacco and alcohol use. The Proponent shall carryout base line HRA for all the category of workers and thereafter every five years.

The company's commitment in the area of Health & Safety is well supported by implementation of: Safety Principles & Occupational Health Policy Occupational Health & Safety Management System (ISO 45001:2018). Hazards in work place are identified as a part of occupational health policy and appropriate control measures are in place to protect the health and well being of workers.

Various awareness programs regarding health, sanitation etc. have been conducted with the help of Tata Steel Rural Development Society(TSRDS).

The health related initiatives in place are-

- Mega health camps, Malaria parasite control programme, Cataract surgery camp, Prenatal care
- MANSI project: Reducing infant and maternal mortality
- Providing financial assistance and waivers for needy patients, on a case-to-case basis
- Preventing and treating communicable diseases like malaria, tuberculosis and HIV / AIDS
- Treating and rehabilitating persons with disabilities
- RISHTA project: working on adolescent and reproductive sexual health issues





The Proponent shall carry out Occupational health (47)surveillance which be a part of HRA and include Biological Monitoring where practical and feasible, and the tests and investigations relevant to the exposure (e.g. for Dust a X-Ray chest; For Noise Audiometric; for Lead Exposure Blood Lead. For Welders Full Ophthalmologic Assessment; for Manganese Miners a complete Neurological Assessment by Certified Neurologist, and Manganese (Mn) Estimation in Blood; For Inorganic Chromium- Fortnightly skin inspection of hands and forearms by a responsible person. Except routine tests all tests would be carried out in a Lab accredited by NABH. Records of Health Surveillance must be kept for 30 years, including the results of and the records of Physical examination and tests. The record of exposure due to materials like Asbestos, Hard Rock Mining, Silica, Gold, Kaolin, Aluminum, Iron, Manganese, Chromium, Lead, Uranium need to be handed over to the Mining Department of the State in case the life of the mine is less than 30 years. It would be obligatory for the State Mines Departments to make arrangements for the safe and secure storage of the records including X-Ray. Only conventional X-Ray will be accepted for record purposes and not the digital one). X-Ray must meet ILO criteria (17 x14 inches and of good quality).





Noamundi hospital is well-equipped with an Occupational Health Center OHS center employs a full-time occupational health specialist. Health of the employees through audiometry, x-ray, pathology, ophthalmology, lung-function test, etc monitored.

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 45 years and once in 5 years for the employees of age less than 45 years.

Some of the best practices related to occupational health adopted in mine are:

- Employees' health check-up under Wellness @ workplace program
- Health awareness classes on weekly basis for shop floor employees
- Officers' health check-up on yearly basis for lifestyle disease
- Counseling to high blood pressure, sugar cholesterol, hypertension employees through medical board
- Observation of important health days like World No Tobacco day, AIDS day, Heart day, Diabetic day etc
- Display of calorie chart in canteens alongside the menu

No adverse cases have been found till date.





(48) The Proponent shall maintained a record of performance indicators for workers which includes (a) there should not be a significant decline in their Body Mass Index and it should stay between 18.5 - 24.9, (b) the Final Chest X-Ray compared with the base line X-Ray should not show any capacities ,{c) At the end of their leaving job there should be no Diminution in their Lung Functions Forced

All the performance indicators for workers during IME and PME are maintained. In addition to health check-ups, health awareness classes on weekly basis for shop floor employees, counselling to high blood pressure, sugar, cholesterol etc is done.

No adverse cases have been found till date.

	Expiratory Volume in one second (FEV1),Forced	
	Vital Capacity (FVC), and the ratio) unless they	
	are smokers which has to be adjusted, and the	
	effect of age, (d) their hearing should not be	
	affected. As a proof an Audiogram (first and last	
	need to be presented}, (e) they should not have	
	developed any Persistent Back Pain, Neck Pain,	
	and the movement of their Hip, Knee and other	
	joints should have normal range of movement, (f)	
	they should not have suffered loss of any body	
	part. The record of the same should be submitted to	
	the Regional Office, MoEF&CC annually along	
	with details of the relief and compensation paid to	
	workers having above indications.	
(40)		All the management recording in desert areas are marrieded
(49)	The Project Proponent shall ensure that Personnel	All the personnel working in dusty areas are provided
	working in dusty areas should wear protective	with protective respiratory devices such as masks and
	respiratory devices and they should also be	also provided adequate training and information on
	provided with adequate training and information	safety and health aspects.
(50)	on safety and health aspects.	Township has been devialed of for social with all its
(50)	Project Proponent shall make provision for the	Township has been developed for workers with all the
	housing for workers/labors or shall construct labor	adequate facilities such as hospital, schools, STP etc.
	camps within/outside (company owned land) with	
	necessary basic infrastructure/ facilities like fuel	
	for cooking, mobile toilets, mobile STP, safe	
	drinking water, medical health care, crèche for kids	
	etc. The housing may be provided in the form of	
	temporary structures which can be removed after	
	the completion of the project related infrastructure.	
	The domestic waste water should be treated with	
	STP in order to avoid contamination of	
(7.1)	underground water.	
(51)	The activities proposed in Action plan prepared for	Shall be complied.
	addressing the issues raised during the Public	
	Hearing shall be completed as per the budgetary	
	provisions mentioned in the Action Plan and	
	within the stipulated time frame. The Status report	
	on implementation of action plan shall be	
	submitted to the concerned Regional office of the	
	Ministry along with District Administration.	
	orporate Environment Responsibility (CER)	
(52)	The activities and budget earmarked for Corporate	All the activities proposed during Public Consultation are
	Environmental Responsibility (CER) as per	being implemented. The detailed status (Year-1
	Ministry's O.M No 22-65/2017-IA. II (M) dated	compliance) shall be shared in next compliance report.
	01.05.2018 or as proposed by EAC should be kept	
	in a separate bank account. The activities proposed	
	for CER shall be implemented in a time bound	
	manner and annual report of implementation of the	
	same along with documentary proof viz.	
i		l l
	photographs, purchase documents, latitude & longitude of infrastructure developed & road	

	constructed needs to be submitted to Regional Office MoEFCC annually along with audited statement.	
(53)	Project Proponent shall keep the funds earmarked for environmental protection measures in a separate account and refrain from diverting the same for other purposes. The Year wise expenditure of such funds should be reported to the MoEF&CC and its concerned Regional Office.	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 are reported to MoEF&CC and its Regional Office every year during half yearly compliance submission.
XI. N	<b>fiscellaneous</b>	
(54)	The Project Proponent shall prepare digital map (land use & land cover) of the entire lease area once in five years purpose of monitoring land use pattern and submit a report to concerned Regional Office of the MoEF&CC.	The digital processing of entire lease area is being carried out regularly. The current land use pattern is made by M/s Geo Consultants Pvt. Ltd. the authorized agency by ORSAC, Bhubaneshwar.
(55)	The Project Authorities should inform to the Regional Office 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.
(56)	The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MOEFCC & its concerned Regional Office, Central Pollution Control Board and State Pollution Control Board.	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, Central Pollution Control Board and Jharkhand State Pollution Control Board.
(57)	A separate 'Environmental Management Cell' with suitable qualified manpower should be set-up under the control of a Senior Executive. The Senior Executive shall directly report to Head of the Organization. Adequate number of qualified Environmental Scientists and Mining Engineers shall be appointed and submit a report to RO, MoEF&CC.	A separate environmental management cell is in place with people having relevant qualification on environmental science. Organization has adequate environmental reporting system for adequate decision making.
(58)	The concerned Regional Office of the MoEF&CC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEF&CC officer(s) by furnishing the requisite data/information/monitoring reports.	Full cooperation shall be extended to the officers in furnishing the requisite data/ information/ monitoring reports.
(59)	After this road is brought into utilization for transport, 6 monthly monitoring report as well as videography of the transportation undertaken to be submitted to Ministry.	It shall be complied after the road is brought into utilization. Currently all the finished iron ore product is transported to end-users through Noamundi captive railway siding.
(60)	The project proponent is advised to undertake a videography of 10.5 km road for those who are already using this road for transportation of the	Videography of the 10.5 km road has been completed. It is being shared herewith through One-drive link. It is requested to click on the link below to view the

	mineral other than M/s Tata Steel Limited from their respective mines to Jamda site and submit to the Ministry for information.	video. Access has been provided to- <u>ro.ranchi-mef@gov.in</u> Video Noamundi Jamda.mp4
(61)	It was also mentioned by the project proponent that they are willingly accepting not to use Jamda siding and this will stay till the information on Jamda transportation available with the Ministry and within 5 years 'project proponent must bring conveyer system till railway siding and stop using road.	Jamda siding shall not be used for transportation of mineral by Noamundi Iron Mine of Tata Steel Limited.



# Status of Remediation Plan: Noamundi Iron Mine

SI. No.	Description	Area/Department	Qty	Status
1	Wind-shield cum Noise barrier	Bottom Bin	1500 mtr	PO placement is in progress
2	Greenery	NIM	16 На	Continuous work and plantation is in progress. Nearly 12152 saplings were planted in FY:23. And 11276 Plantation is done in FY'24.
3	Miyawaki Plot	NIM	1 На	This is a continuous job. Plantation is done for an area of 0.25 ha in FY'24.
4	PIMCP measures	NIN	Lot	PMCP measures are routine jobs and are in progress

# Status of NRAP: NIM

SI. No	Description	Area/Department	Qty	Status
Π	Fruit-bearing trees plot	Hesapi, Dwarsahi	40 acres	<ol> <li>Land identification done and NOC received for 25 Acres.</li> <li>Agreement executed with Land owners at Dwarsahi.</li> <li>Work to begin in upcoming months.</li> </ol>
2	Avenue Plantation	Mahudi to Bhangaon Noamundi to Kutingta Noamundi to Jamda	15 km	1. It is a routine and work is in progress
ო	Construction & Maintenance of Rain- water harvesting pond structures	Noamundi Basti, Mahudi, Meralgara, Deogaon	8 nos	<ol> <li>Sites identified, and NOC received</li> <li>Work completed at 11 locations at Noamundi basti- 03,</li> <li>Meralagara- 01, Deogaon- 03 and Dudhvila-01, Padapahar -01,</li> <li>Kadajamda - 01&amp; Gundijor-01.</li> </ol>

# CRAP Status: NIM

SI. No.	Description	Area/Department	Qty	Status
1	Solar lighting	Mahudi, Sialjoda, Meralgara, Balijodi	23 nos	Meralgara-4, Sialjora-10, Sialjora-10, Mahudi-19, Sarbil-8 and Noamundi Basti-25 and others are in progress.
2	Solar-powered bore-well in schools	Mahudi, Sialjoda, Meralgara	3 nos	Sialjoda- 01, others work are in progress and will be executed soon.
8	Installation of RO plants in surrounding schools	Mahudi, Noamundi Basti, Sarbil, Bhangaon, Lepang, Jampani	7 nos	Mahudi- 02 and other works will be executed soon.
4	Sponsoring Eye-camps in collaboration with Shankar Netralaya	Jaganathpur, Sarbil	2 camps	Eye camp organised in Dec'22
5	Lift-irrigation	Kumirta	1 no	<ol> <li>Site identification done</li> <li>NOC is in progress</li> </ol>
9	Construction of check-dams along with feeder canals	Kutingta, Kotgarh	2 nos	<ol> <li>Site identification done</li> <li>NOC is in progress</li> </ol>
7	Construction of Munda /Manki Bhavan	Dukasai, Baljodi, Gundijoda, Meralgara	4 nos	Work completed in Meralgara Final finishing is under progress in Gundijoda and Baliodi





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#### Test Report

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Ambient Air Quality Monitoring Report-April-2023

Report No.: AN/AAQ	/TS-NIM/2023/3-1		Date	: 03/05/2023
Name and Address of	M/s Noamundi	Iron Mine	W. O. No.	4700098928/962
Industry:-	(M/s TATA Steel Limited)		W. O. date:	22.03.2022
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-		IV-84-1/NIM-CZ/AAQMS-1 ENV-84-2/NIM-CZ/AAQMS-2
Sample Drawn By:-	Anacon Representative (Mr. Sovan Giri)	Sample Inward Date:-	10, 17,24 April-2023 & 2-May-2023	
Test Started On:-	10, 17 ,24 April-2023 & 2- May-2023	Test Completed On:-	10, 17,24 April-2023	& 3-May-2023
Sampling Procedure	ANtd/7.2/Mon-01		F 10 1	

Sr. No.	LOCATION	Date of sampling	PM <sub>10</sub> μg/m <sup>3</sup>	PM <sub>2.5</sub> μg/m <sup>3</sup>	SO <sub>2</sub> μg/m <sup>3</sup>	NO <sub>2</sub> μg/m <sup>3</sup>	CO mg/m³
	Method Reference		IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	IS:5182 (Part-10)
,		04/04/2023	52.6	21.6	12.4	17.9	BDL (DL - 0.5)
		07/04/2023	54.1	23.8	11.6	16.3	BDL (DL - 0.5)
15		11/04/2023	48.7	16.9	8.7	15.7	BDL (DL - 0.5)
AAQMS-1	Near WTP	14/04/2023	52.8	21.4	12.1	21.6	BDL (DL - 0.5)
in Quio i	ivear vvii	18/04/2023	56.3	23.7	11.9	24.1	BDL (DL - 0.5)
-		21/04/2023	49.5	16.3	8.4	17.6	BDL (DL - 0.5)
50		25/04/2023	51.9	18.2	9.3	16.4	BDL (DL - 0.5)
		28/04/2023	53.6	21.8	9.7	17.1	BDL (DL - 0.5)
	Monthly Average V	alue	52.5	20.5	10.5	18.3	BDL (DL – 0.5)
4		04/04/2023	51.6	18.3	7.9	17.2	BDL (DL - 0.5)
*		07/04/2023	48.3	16.7	8.4	16.1	BDL (DL - 0.5)
	4	11/04/2023	53.8	21.6	11.3	18.7	BDL (DL - 0.5)
AAQMS-2	Near Hospital	14/04/2023	56.2	24.9	12.8	21.4	BDL (DL - 0.5)
	rvear rrospitar	18/04/2023	52.9	18.7	9.3	17.2	BDL (DL - 0.5)
		21/04/2023	48.1	16.2	7.6	15.7 21.6 24.1 17.6 16.4 17.1 18.3 17.2 16.1 18.7 21.4	BDL (DL - 0.5)
1		25/04/2023	51.3	17.1	8.4	17.3	BDL (DL - 0.5)
	P10105	28/04/2023	49.1	16.8	6.8	16.2	BDL (DL - 0.5)
	Monthly Average Va	lue	51.4	18.8	9.1	17.6	BDL (DL - 0.5)

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. • Test report shall not be reproduced except in full without prior written approval of Anacon Labs.

Remark: - All Results are within Limit as per CPCB Standards.

Verified by

Snehal Raut

Doputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway

Quality Manager



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#### Test Report

4.

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Ambient Air Quality Monitoring Report-April-2023

Report No.: AN/AAQ	/TS-NIM/2023/3-2		Date	: 03/05/2023
Name and Address of	M/s Noamundi Iron Mine		W. O. No.	4700098928/962
Industry:-	(M/s TATA Ste	el Limited)	W. O. date:	22.03.2022
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/21042023/ENV-84-3/NIM-CZ/AAQ-3 ALPL/21042023/ENV-84-4/NIM-CZ/AAQ	
Sample Drawn By:-	Anacon Representative (Mr. Sovan Giri)	Sample Inward Date:-	10, 17 ,24 April-2023 & 2-May-2023	
Test Started On:-	10, 17 ,24 April-2023 & 2- May-2023	Test Completed On:-	10, 17 ,24 April-2023 & 3-May-2023	
Sampling Procedure	ANtd/7.2/Mon-01		1.7	

Sr. No.	LOCATION	Date of sampling	PM <sub>10</sub> µg/m³	PM25 μg/m³	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> μg/m <sup>3</sup>	CO mg/m³
	Method Reference	ce	IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	IS:5182 (Part-10)
		04/04/2023	54.7	18.3	11.4	23.7	BDL (DL - 0.5)
		07/04/2023	56.3	21.6	12.7	26.1	BDL (DL - 0.5)
		11/04/2023	61.8	23.9	11.6	24.3	BDL (DL - 0.5)
AAQMS-3	MRSS	14/04/2023	58.2	19.3	9.4	18.7	BDL (DL - 0.5)
	1.11.00	18/04/2023	54.6	18.1	6.8	16.2	BDL (DL - 0.5)
		21/04/2023	63.9	23.6	11.7	21.8	BDL (DL - 0.5)
		25/04/2023	58.3	21.9	9.3	18.3	BDL (DL - 0.5)
		28/04/2023	61.7	19.2	8.4	16.8	BDL (DL - 0.5)
	Monthly Average	Value	58.7	20.7	10.2	20.7	BDL (DL - 0.5
- 1		04/04/2023	57.3	23.6	11.4	18.7	BDL (DL - 0.5)
- 1		07/04/2023	61.9	26.1	12.8	23.6	BDL (DL - 0.5)
-		11/04/2023	57.2	18.7	9.1	17.2	BDL (DL - 0.5)
AAQMS-4	Bottom Bin	14/04/2023	54.8	16.9	8.7	16.7	BDL (DL - 0.5)
mights 4	Dottom Din	18/04/2023	62.4	21.4	11.3	21.8	BDL (DL - 0.5)
1		21/04/2023	58,5	18.2	8.6	16.4	BDL (DL - 0.5)
		25/04/2023	57.1	17.8	7.2	15.9	BDL (DL - 0.5)
		28/04/2023	61.7	21.6	9.3	18.2	BDL (DL - 0.5)
	Monthly Average	Value	58.8	20.5	9.8	18.6	BDL (DL - 0.5)

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. • Test report shall not be reproduced except in full without prior written approval of Anacon Labs.

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Verified by

Snehal Raut

Deputy Technical Manager

**Authorized Signatory** 

Dr. (Mrs.) S. D. Garway

Quality Manager



#### Anacon Laboratories Pvt. Ltd. Nagpur Lab

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Ambient Air Quality Monitoring Report-May-2023

Report No.: AN/AA( Name and Address of			Date: 03/06/2023		
Industry:-	M/s Noamundi Iron Mine W. O. No. (M/s TATA Steel Limited)		4700098928/962		
		teel Limited)	W. O. date:	22.03.2022	
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/23052023/ENV-116-1/NIM-CZ/AAOM9		
Sample Drawn By:-	Anacon Representative (Mr. Sovan Giri)	Sample Inward Date:-	and ALPL/23052023/ENV-116-2/NIM-CZ/AAC 8, 15, 22 May-2023 & 2-June-2023		
Test Started On:-	8, 15, 22 May-2023 & 2-June-2023	Test Completed On:-	9, 16, 23 May-2023 &		
Sampling Procedure	ANtd/7.2/Mon-01	1.		- June 2020	

Sr. No.	LOCATION	Date of sampling	PM <sub>10</sub> μg/m <sup>3</sup>	PM <sub>2.5</sub> μg/m <sup>3</sup>	SO <sub>2</sub> µg/m³	NO <sub>2</sub> μg/m <sup>3</sup>	CO ma/m³
	Method Reference		IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	mg/m <sup>3</sup> IS:5182
		02/05/2023	56.2	24.9	11.8	18.3	(Part-10) BDL (DL – 0.5)
		05/05/2023	61.7	26.8	12.4	23.7	
		09/05/2023	54.9	18.3	9.2	17.1	BDL (DL - 0.5)
AAQMS-1	Near WTP	12/05/2023	56.8	19.6	11.7	21.8	BDL (DL - 0.5)
	)	16/05/2023	54.2	21.1	8.6	16.7	BDL (DL - 0.5)
		19/05/2023	52.9	16.9	7.2	16.4	BDL (DL - 0.5)
		23/05/2023	48.3	17.2	8.4	17.3	BDL (DL - 0.5)
1		26/05/2023	51.6	16.4	6.8	16.9	BDL (DL - 0.5)
Monthly Average Value			54.6	20.2	9.5	18.5	BDL (DL - 0.5) BDL (DL - 0.5
		02/05/2023	54.7	21.6	8.4	160	
	S	05/05/2023	61.4	23.8	11.6	16.9	BDL (DL - 0.5)
		09/05/2023	58.3	19.2	9.2	21.4	BDL (DL - 0.5)
AQMS-2	Near Hospital	12/05/2023	54.7	18.3	8.7	18.1	BDL (DL - 0.5)
2	real Hospital	16/05/2023	63.1	24.7	12.8	19.6	BDL (DL - 0.5)
		19/05/2023	58.3	21.6	11.4	23.9	BDL (DL - 0.5)
		23/05/2023	61.8	19.3	9.2	21.7	BDL (DL - 0.5)
		26/05/2023	54.7	18.7	8.4	18.2	BDL (DL - 0.5)
OTTO	Monthly Average Va	lue	58.4	20.9	10.0	17.1 19.6	BDL (DL – 0.5) BDL (DL – 0.5)

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. • Test report shall not be reproduced except in full without prior written approval of Anacon Labs.

Remark: - All Results are within Limit as per CPCB Standards.

Snehal Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway

Quality Manager

----End of Report----



#### Anacon Laboratories Pvt. Ltd. Nagpur Lab

#### Test Report

Page 1 of 1

Ambient Air Quality Monitoring Report-May-2023

Report No.: AN/AAQ	/TS-NIM/2023/3-2		Date: 03/06/2023		
Name and Address of	ame and Address of M/s Noamundi Iron Mine		W. O. No.	4700098928/962	
Industry:-	(M/s TATA S	teel Limited)	W. O. date:	22.03.2022	
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/23052023/ENV-116-3/NIM-CZ/AAQ-3 ALPL/23052023/ENV-116-4/NIM-CZ/AAQ		
Sample Drawn By:-	Anacon Representative (Mr. Sovan Giri)	Sample Inward Date:-	8, 15, 22 May-2023 & 2-June-2023		
Test Started On:-	8, 15, 22 May-2023 & 2-June-2023	Test Completed On:-	9, 16, 23 May-2023 & 3-June-2023		
Sampling Procedure	ANtd/7.2/Mon-01		- Total		

Sr. No.	LOCATION	Date of sampling	PM <sub>10</sub> μg/m <sup>3</sup>	PM <sub>2.5</sub> μg/m <sup>3</sup>	SO <sub>2</sub> μg/m <sup>3</sup>	NO <sub>2</sub> μg/m <sup>3</sup>	CO mg/m³
	Method Reference	e	IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	IS:5182 (Part-10)
		02/05/2023	61.7	24.8	13.9	26.1	BDL (DL - 0.5)
		05/05/2023	58.3	19.2	11.6	24.7	BDL (DL - 0.5)
1		09/05/2023	54.1	18.6	9.2	18.3	BDL (DL - 0.5)
AAQMS-3	MRSS	12/05/2023	49.7	16.1	8.7	16.8	BDL (DL - 0.5)
2	111100	16/05/2023	52.6	21.6	11.3	21.9	BDL (DL - 0.5)
		19/05/2023	56.3	23.8	12.1	μg/m³ IS:5182 (Part-6) 26.1 24.7 18.3 16.8	BDL (DL - 0.5)
		23/05/2023	48.1	19.2	9.7		BDL (DL - 0.5)
		26/05/2023	52.8	21.6	11.4	18.3	BDL (DL - 0.5)
Monthly Average Value		54.2	20.6	11.0	21.0	BDL (DL - 0.5	
		02/05/2023	54.7	21.6	12.8	17.9	BDL (DL - 0.5)
		05/05/2023	48.3	16.7	11.3		BDL (DL - 0.5)
		09/05/2023	56.1	24.6	13.8	19.2	BDL (DL - 0.5)
AAQMS-4	Bottom Bin	12/05/2023	52.8	18.3	9.2	16.7	BDL (DL - 0.5)
	Dottom bin	16/05/2023	48.3	19.7	8.4	15.3	BDL (DL - 0.5)
		19/05/2023	56.1	21.4	11.6	μg/m³ IS:5182 (Part-6) 26.1 24.7 18.3 16.8 21.9 24.7 16.8 18.3 21.0  17.9 16.1 19.2 16.7 15.3 18.2 16.7 16.4	BDL (DL - 0.5)
. ,		23/05/2023	54.2	18.3	9.1		BDL (DL - 0.5)
1		26/05/2023	56.7	19.6	8.4		BDL (DL - 0.5)
4	Monthly Average	Value	53.4	20.0	10.6	17.1	BDL (DL - 0.5)

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----End of Report----

Remark: - All Results are within Limit as per CPCB Standards.

Verified by

Snehal Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway

Quality Manager





#### Anacon Laboratories Pvt. Ltd. Nagpur Lab

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#### Test Report

Page 1 of 1

Ambient Air Quality Monitoring Report-June-2023

Report No.: AN/AAQ	TS-NIM/2023/3-1		Date	: 03/07/2023	
	M/s Noamune	di Iron Mine	W. O. No.	4700098928/962	
Name and Address of Industry:-	(M/s TATA S		W. O. date:	22.03.2022	
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/22062023/ENV-142-1/NIM-CZ/AAQMS- and ALPL/22062023/ENV-142-2/NIM-CZ/AAQM 12, 19, 26 June-2023 & 3-July-2023 13, 19, 27 June-2023 & 3-July-2023		
Sample Drawn By:-	Anacon Representative (Mr. Sovan Giri)	Sample Inward Date:-			
Test Started On:-	12, 19, 26 June-2023 & 3-July-2023	Test Completed On:-			
Sampling Procedure	ANtd/7.2/Mon-01				

Sr. No.	LOCATION	Date of sampling	PM <sub>10</sub> μg/m <sup>3</sup>	PM <sub>2.5</sub> μg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> μg/m <sup>3</sup>	CO mg/m³
	Method Reference	Jamping	IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	IS:5182 (Part-10)
		02/06/2023	53.9	23.6	12.1	17.6	BDL (DL - 0.5)
		06/06/2023	57.2	24.9	11.6	18.3	BDL (DL - 0.5)
		09/06/2023	47.6	16.4	8.2	14.9	BDL (DL - 0.5)
	righted for all ones	13/06/2023	52.7	21.6	9.3	24.7	BDL (DL - 0.5)
AAQMS-1	Near WTP	16/06/2023	49.3	16.8	7.6	μg/m³ IS:5182 (Part-6) 17.6 18.3 14.9	BDL (DL - 0.5)
		20/06/2023		Cancelled due	to Rain Fall		BDL (DL - 0.5)
		23/06/2023	97	Cancelled due	to Rain Fall		BDL (DL - 0.5)
Maria NO		27/06/2023	51.7	17.9	8.4	19.7	BDL (DL - 0.5)
	Monthly Average V		52.1	20.2	9.5	19.4	BDL (DL - 0.5)
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	74.				
		02/06/2023	46.2	16.7	7.6	17.2	BDL (DL - 0.5)
	100 miles	06/06/2023	43.9	15.8	6.8	16.1	BDL (DL - 0.5)
117.4	A DE AL COM	09/06/2023	51.7	21.6	11.3	21.4	BDL (DL - 0.5)
Annual control of the second		13/06/2023	48.3	17.2	9.1	18.6	BDL (DL - 0.5)
AAQMS-2	Near Hospital	16/06/2023	52.8	21.9	11.7	23.1	BDL (DL - 0.5)
		20/06/2023		Cancelled due to Rain Fall			BDL (DL - 0.5)
-7.4	70	23/06/2023		Cancelled due	to Rain Fall		BDL (DL - 0.5)
	Arrest Auto San S	27/06/2023	53.6	21.4	11.3	21.7	BDL (DL - 0.5)
	Monthly Average Va	La constituent des	49.4	19.1	9.6	19.7	BDL (DL - 0.5)

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Remark: - All Results are within Limit as per CPCB Standards.

Verified by

Snehal Raut

Deputy Technical Manager

1 .

Authorized Signatory

Dr. (Mrs.) S. D. Garway Quality Manager

----End of Report----



#### Anacon Laboratories Pvt. Ltd. Nagpur Lab

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 MIDC Butibori, Nagpur, Maharashtra, India - 441 122
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Test Report
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Ambient Air Quality Monitoring Report-June-2023

Report No.: AN/AAQ	/TS-NIM/2023/3-2	/; ·	Date	: 03/07/2023
Name and Address of	M/s Noamun	di Iron Mine	W. O. No.	4700098928/962
Industry:-	A STATE AND A STAT	steel Limited)	W. O. date:	22.03.2022
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-		/-142-3/NIM-CZ/AAQ-3 and NV-142-4/NIM-CZ/AAQ-4
Sample Drawn By:-	Anacon Representative (Mr. Sovan Giri)	Sample Inward Date:-	12, 19, 26 June-2023	& 3-July-2023
Test Started On:-	12, 19, 26 June-2023 & 3-July-2023	Test Completed On:-	13, 19, 27 June-2023	& 3-July-2023
Sampling Procedure	ANtd/7.2/Mon-01		A	

Sr. No.	LOCATION	Date of sampling	PM <sub>10</sub> μg/m <sup>3</sup>	PM25 μg/m³	SO <sub>2</sub> μg/m <sup>3</sup>	NO <sub>2</sub> μg/m <sup>3</sup>	CO mg/m³
	Method Reference	ce	IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	IS:5182 (Part-10)
		02/06/2023	56.3	26.1	12.8	24.9	BDL (DL - 0.5)
		06/06/2023	61,7	31.6	11.9	26.8	BDL (DL - 0.5)
		09/06/2023	52.4	24.9	9.7	19.3	BDL (DL - 0.5)
1.101/6.0	MDCC	13/06/2023	47.6	18.3	8.4	17.1	BDL (DL - 0.5)
AAQMS-3	MRSS	16/06/2023	54.9	23.6	11.2	10-040	BDL (DL - 0.5)
20/06/2023 23/06/2023		Cancelled due	to Rain Fall		BDL (DL - 0.5)		
		23/06/2023		Cancelled due	to Rain Fall		BDL (DL - 0.5)
		27/06/2023	51.7	21.4	9.6	21.2	BDL (DL - 0.5)
1	Monthly Average	Value	54.1	24.3	10.6	21.8	BDL (DL – 0.5)
		02/06/2023	51.6	18.3	11.9	16.4	BDL (DL - 0.5)
		06/06/2023	47.2	16.1	9.2	18.6	BDL (DL - 0.5)
		09/06/2023	42.8	14.7	6.8	16.1	BDL (DL - 0.5)
		13/06/2023	48.7	16.9	9.1	21.7	BDL (DL - 0.5)
AAQMS-4,	Bottom Bin	16/06/2023	52.1	21.4	11.3	23.9	BDL (DL - 0.5)
		20/06/2023	Cancelled due to Rain Fall			BDL (DL - 0.5)	
		23/06/2023		Cancelled due	to Rain Fall		BDL (DL - 0.5)
		27/06/2023	52.8	21.9	9.2	19.1	BDL (DL - 0.5)
	Monthly Average	Value	49.2	18.2	9.6	19.3	BDL (DL – 0.5)

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----End of Report----

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Quality Manager



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#### Test Report

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Ambient Air Quality Monitoring Report-July-2023

Report No.: AN/AAQ	/TS-NIM/2023/3-1		Date	e: 03/08/2023	
Name and Address of	M/s Noamundi Ir	on Mine	W. O. No.	4700098928/962	
Industry:-	(M/s TATA Steel	Limited)	W. O. date: 22.03.2022		
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/20072023/ENV-180-1/NIM-CZ/AAQMS-1 and ALPL/20072023/ENV-180-2/NIM-CZ/AAQMS-2		
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	10,17,24 July-2023 & 2-August-2023		
Test Started On:-	10, 17, 24 July-2023 & 2-Aug-2023	Test Completed On:-	11,18,25 July-2023 & 3	3-August-2023	
Sampling Procedure	ANtd/7.2/Mon-01	their a constant of the			

C- N-	LOCATION	Date of	PM10	PM2.5	SO <sub>2</sub>	NO <sub>2</sub>	СО
Sr. No.	LOCATION	sampling	μg/m³	μg/m³	μg/m³	μg/m³	mg/m³
Method Reference		IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	IS:5182 (Part-10)	
	<b>一直到在第</b>	04/07/2023	48.7	21.7	11.9	16.4	BDL (DL - 0.5)
10.00	of no whitely from a	07/07/2023	53.6	23.9	12.6	21.3	BDL (DL - 0.5)
1000	matrix eric eri can	11/07/2023	46.2	15.7	9.2	18.1	BDL (DL - 0.5)
AAQMS-1	Near WTP	14/07/2023	51.7	21.6	11.3	19.7	BDL (DL - 0.5)
AAQIVI3-1	iveal vvii	18/07/2023	48.3	18.2	8.7	16.3	BDL (DL - 0.5)
16-91	ransight, bus pety to gribble bus tab	21/07/2023	51.7	19.3	9.2	17.1	BDL (DL - 0.5)
The Button		25/07/2023	47.6	16.7	7.6	16.4	BDL (DL - 0.5)
1,4	North Appropriately Street	28/07/2023	52.9	18.2	9.1	17.6	BDL (DL - 0.5)
	Monthly Average V	alue	50.1	19.4	10.0	17.9	BDL (DL - 0.5)
		04/07/2023	47.2	16.9	8.4	18,3	BDL (DL - 0.5)
	tion you down the	07/07/2023	53.6	24.7	11.6	21.6	BDL (DL = 0.5)
		11/07/2023	43.9	18.2	9.2	19.7	BDL (DL – 0.5)
AAQMS-2	Near Hospital	14/07/2023	46.1	21.6	8.7	18.2	BDL (DL - 0.5)
AAQIVIS-2	inear riospitar	18/07/2023	51.7	23.6	12.8	23.6	BDL (DL - 0.5)
160		21/07/2023	48.3	19.2	11.4	16.7	BDL (DL - 0.5)
and the	mileon son (so) la	25/07/2023	52.9	18.7	9.3	17.1	BDL (DL - 0.5)
		28/07/2023	47.2	16.4	8.1	16.3	BDL (DL - 0.5)
	Monthly Average Va	lue	48.9	19.9	9.9	18.9	BDL (DL - 0.5)

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Quality Manager



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#### Test Report

Page 1 of 1

Ambient Air Quality Monitoring Report-July-2023

Report No.: AN/AAQ	/TS-NIM/2023/3-2	Date: 03/07/2023			
Name and Address of	me and Address of M/s Noamundi Iron Mine		W. O. No.	4700098928/962	
Industry:-	(M/s TATA Steel	Limited)	W. O. date:	22.03.2022	
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/20072023/ENV-180-3/NIM-CZ/AAQ-3 an ALPL/20072023/ENV-180-4/NIM-CZ/AAQ-4		
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	10,17,24 July-2023 &	2-August-2023	
Test Started On:-	10, 17, 24 July-2023 & 2-Aug-2023	Test Completed On:-	11,18,25 July-2023 &	3-August-2023	
Sampling Procedure	ANtd/7.2/Mon-01			YES THE RESIDENCE OF THE PERSON OF THE PERSO	

Sr. No.	LOCATION	Date of sampling	PM <sub>10</sub> μg/m <sup>3</sup>	PM <sub>2.5</sub> μg/m <sup>3</sup>	SO <sub>2</sub> μg/m³	NO <sub>2</sub> μg/m <sup>3</sup>	CO mg/m³
Method Reference		IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	IS:5182 (Part-10)	
-		04/07/2023	52.8	24.7	9.3	21.6	BDL (DL - 0.5)
93		07/07/2023	56.3	28.6	11.7	24.9	BDL (DL - 0.5)
		11/07/2023	48.2	19.2	8.4	18.3	BDL (DL - 0.5)
AAQMS-3	MRSS	14/07/2023	52.7	21.7	9.1	17.6	BDL (DL - 0.5)
~		18/07/2023	56.3	24.9	12.8	23.1	BDL (DL - 0.5)
		21/07/2023	54.1	19.6	11.3	18.9	BDL (DL - 0.5)
		25/07/2023	47.6	16.4	9.1	17.2	BDL (DL - 0.5)
28/07/2023		52.8	18.3	8.7	16.4	BDL (DL - 0.5)	
	Monthly Average	Value	52.6	21.7	10.1	19.8	BDL (DL - 0.5
- 4	A. T. July Tilgano	04/07/2023	46.2	16.1	8.7	17.3	BDL (DL – 0.5)
		07/07/2023	53.7	18.3	9.4	16.8	BDL (DL - 0.5)
		11/07/2023	57.2	21.6	11.3	18.2	BDL (DL - 0.5)
AAQMS-4	Bottom Bin	14/07/2023	49.3	17.2	8.1	17.8	BDL (DL - 0.5)
~	20 Holli Dill	18/07/2023	52.6	19.3	9.4	16.4	BDL (DL - 0.5)
		21/07/2023	47.2	16.9	7.6	17.1	BDL (DL - 0.5)
13.1		25/07/2023	51.7	21.6	11.3	16.9	BDL (DL - 0.5)
		28/07/2023	53.1	18.3	9.1	17.6	BDL (DL - 0.5)
	Monthly Average	Value	51.4	18.7	9.4	17.3	BDL (DL - 0.5

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Verified by

Snehål Raut

Deputy Technical Manager

**Authorized Signatory** 

Dr. (Mrs.) S. D. Garway Quality Manager



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Ambient Air Quality Monitoring Report-August-2023

Report No.: AN/AAQ	/TS-NIM/2023/3-1		Date	: 04/09/2023	
Name and Address of	M/s Noamundi Ir	on Mine	W. O. No.	4700098928/962	
Industry:-	(M/s TATA Steel	Limited)	W. O. date: 22.03.2022		
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/24082023/ENV-200-1/NIM-CZ/AAQMS-1 and ALPL/24082023/ENV-200-2/NIM-CZ/AAQMS		
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	7,14,21,28 Aug-2023 8	& 2-Sept-2023	
Test Started On:-	7,14,21,28 Aug-2023 & 2-Sept-2023	Test Completed On:-	8,14,22,29 Aug-2023 8	& 4-Sept-2023	
Sampling Procedure	ANtd/7.2/Mon-01	***************************************			

Sr. No.	LOCATION	Date of sampling	PM10 μg/m³	PM <sub>2.5</sub> μg/m <sup>3</sup>	SO <sub>2</sub> μg/m³	NO <sub>2</sub> μg/m <sup>3</sup>	CO mg/m³
	Method Reference		IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	IS:5182 (Part-10)
		01/08/2023	53.6	23.9	12.4	17.6	BDL (DL - 0.5)
		04/08/2023	48.3	21.4	9.2	16.1	BDL (DL - 0.5)
		08/08/2023	56.1	26.3	13.9	21.7	BDL (DL - 0.5)
	N. WED	11/08/2023	54.7	23.7	12.4	18.3	BDL (DL - 0.5)
AAQMS-1	Near WTP	18/08/2023	46.3	16.9	9.2	17.6	BDL (DL - 0.5)
		22/08/2023	52.8	17.6	11.6	18.1	BDL (DL - 0.5)
		25/08/2023	56.3	21.9	12.8	23.7	BDL (DL - 0.5)
		29/08/2023	49.2	18.3	9.1	16.4	BDL (DL - 0.5)
7	Monthly Average V	alue	52.2	21.3	11.3	18.7	BDL (DL - 0.5
		01/08/2023	53.8	17.2	9.2	16.8	BDL (DL - 0.5)
		04/08/2023	49.3	16.1	7.6	15.4	BDL (DL - 0.5)
	[	08/08/2023	51.7	17.9	11.7	21.9	BDL (DL - 0.5)
1101160	Niam II amital	11/08/2023	53.6	21.6	12.9	23.4	BDL (DL - 0.5)
AAQMS-2	Near Hospital	18/08/2023	48.3	16.7	9.2	18.3	BDL (DL - 0.5)
		22/08/2023	47.1	16.2	8.4	16.7	BDL (DL - 0.5)
		25/08/2023	53.7	21.8	11.6	21.9	BDL (DL - 0.5)
	The state of the s	29/08/2023	56.2	23.4	12.8	24.1	BDL (DL - 0.5)
	Monthly Average Va	alue	51.7	18.9	10.4	19.8	BDL (DL - 0.5

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. • Test report shall not be reproduced except in full without prior written approval of Anacon Labs.

**Remark:** - All Results are within Limit as per CPCB Standards.

Verified by

Snehal Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway Quality Manager



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Ambient Air Quality Monitoring Report-August-2023

Report No.: AN/AAQ	2/TS-NIM/2023/3-2	Date: 04/09/2023			
Name and Address of M/s Noamundi Iron Mine			W. O. No.	4700098928/962	
Industry:-	(M/s TATA Steel	(M/s TATA Steel Limited)		22.03.2022	
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/24082023/ENV-200-3/NIM-CZ/AAQ-3 and ALPL/24082023/ENV-200-4/NIM-CZ/AAQ-4		
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	7,14,21,28 Aug-2023 & 2-Sept-2023		
Test Started On:-	7,14,21,28 Aug-2023 & 2-Sept-2023	Test Completed On:-	8,14,22,29 Aug-2023	& 4-Sept-2023	
Sampling Procedure	ANtd/7.2/Mon-01	- W	AND THE PERSON NAMED IN		

Sr. No.	LOCATION	Date of sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM25 µg/m³	SO <sub>2</sub> μg/m <sup>3</sup>	NO <sub>2</sub> μg/m <sup>3</sup>	CO mg/m³
	Method Reference	e	IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	IS:5182 (Part-10)
		01/08/2023	53.7	21.6	11.3	26.7	BDL (DL - 0.5)
		04/08/2023	54.9	23.7	12.8	27.1	BDL (DL - 0.5)
		08/08/2023	47.3	16.3	7.9	19.3	BDL (DL - 0.5)
AAQMS-3	MRSS	11/08/2023	52.8	18.4	8.4	21.9	BDL (DL - 0.5)
in Qivis s	MICOS	18/08/2023	56.2	24.7	11.3	23.6	BDL (DL - 0.5)
		22/08/2023	54.9	19.3	9.1	18.3	BDL (DL - 0.5)
		25/08/2023	49.2	18.6	8.4	16.7	BDL (DL - 0.5)
		29/08/2023	51.7	21.7	9.7	18.4	BDL (DL - 0.5)
1	Monthly Average	Value	52.6	20.5	9.9	21.5	BDL (DL – 0.5
		01/08/2023	47.3	18.3	9.2	16.9	BDL (DL - 0.5)
		04/08/2023	51.6	17.1	11.6	18.2	BDL (DL - 0.5)
		08/08/2023	48.1	21.6	12.9	23.8	BDL (DL - 0.5)
AAQMS-4	Bottom Bin	11/08/2023	56.3	24.7	11.3	24.9	BDL (DL - 0.5)
IIIQIIIO-4	bottom bin	18/08/2023	54.7	19.2	8.4	18.3	BDL (DL - 0.5)
		22/08/2023	49.3	16.7	7.3	17.2	BDL (DL - 0.5)
1		25/08/2023	52.8	21.9	9.2	21.6	BDL (DL - 0.5)
	MINTERSON SHIP	29/08/2023	51.6	18.2	8.4	18.3	BDL (DL - 0.5)
	Monthly Average	Value	51.5	19.7	9.8	19.9	BDL (DL - 0.5)

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Remark: - All Results are within Limit as per CPCB Standards.

Verified by

Snehal Raut Deputy Technical Manager Authorized Signatory

Dr. (Mrs.) S. D. Garway Quality Manager



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#### Test Report

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Ambient Air Quality Monitoring Report-September-2023

Report No.: AN/AAQ	/TS-NIM/2023/3-1		Date	e: 04/10/2023
Name and Address of M/s Noamund			W. O. No.	4700098928/962
Industry:-	(M/s TATA Steel	Limited)	W. O. date:	22.03.2022
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-		IV-228-1/NIM-CZ/AAQMS-1 ENV-228-2/NIM-CZ/AAQMS-2
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	11, 18, 25 Sept -2023 &	
Test Started On:-	11, 18, 25 Sept -2023 & 3-Oct-2023	Test Completed On:-	12, 19, 26 Sept -2023 & 4-October-2023	
Sampling Procedure	ANtd/7.2/Mon-01	and the second of the second o		1 000001 2020

Sr. No.	LOCATION	Date of sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> μg/m <sup>3</sup>	SO <sub>2</sub> µg/m³	NO <sub>2</sub> µg/m <sup>3</sup>	CO mg/m³
	Method Reference		IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	IS:5182 (Part-10)
		05/09/2023	56.2	21.9	11.6	18.4	BDL (DL - 0.5)
		08/09/2023	62.8	24.7	12.9	21.6	BDL (DL - 0.5)
		12/09/2023	58.3	18.3	9.2	16.2	BDL (DL - 0.5)
AAQMS-1	Near WTP	15/09/2023	52.7	16.9	8.4	17.3	BDL (DL – 0.5)
	real vill	19/09/2023	58.1	21.6	11.3	21.9	BDL (DL - 0.5)
		22/09/2023	61.7	23.4	12.9	19.2	BDL (DL - 0.5)
		26/09/2023	57.3	18.3	9.2	18.4	BDL (DL - 0.5)
		29/09/2023	52.8	17.1	8.4	16.7	BDL (DL - 0.5)
	Monthly Average V	alue	57.5	20.3	10.5	18.7	BDL (DL - 0.5)
		05/09/2023	54.7	16.9	8.4	17.2	BDL (DL - 0.5)
		08/09/2023	58.3	19.2	9.1	18.7	BDL (DL - 0.5)
1		12/09/2023	61.8	21.8	11.6	23.9	BDL (DL - 0.5)
AAQMS-2	Near Hospital	15/09/2023	58.2	19.1	7.4	19.2	BDL (DL - 0.5)
2.115	redi Hospitai	19/09/2023	54.7	16.9	8.2	18.7	BDL (DL - 0.5)
		22/09/2023	56.3	21.4	11.7	21.9	BDL (DL - 0.5)
		26/09/2023	61.8	23.6	12.4	24.1	BDL (DL - 0.5)
		29/09/2023	58.3	18.3	9.2	19.7	BDL (DL - 0.5)
	Monthly Average Va	lue	58.0	19.7	9.8	20.4	BDL (DL - 0.5)

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Remark: - All Results are within Limit as per CPCB Standards.

Verified by

Snehal Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway

Quality Manager



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#### Test Report

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Ambient Air Quality Monitoring Report- September-2023

Report No.: AN/AAQ	/TS-NIM/2023/3-2		Date: 04/10/2023		
Name and Address of Industry:-		M/s Noamundi Iron Mine (M/s TATA Steel Limited)		4700098928/962 22.03.2022	
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/25092023/ENV-228-3/NIM-CZ/AAQ-3 ar ALPL/25092023/ENV-228-4/NIM-CZ/AAO-4		
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	11, 18, 25 Sept -2023	& 3-October-2023	
Test Started On:-	11, 18, 25 Sept -2023 & 3-Oct-2023	Test Completed On:-	12, 19, 26 Sept -2023	& 4-October-2023	
Sampling Procedure	ANtd/7.2/Mon-01				

Sr. No.	LOCATION	Date of sampling	PM <sub>10</sub> μg/m <sup>3</sup>	PM <sub>2.5</sub> μg/ <b>m</b> <sup>3</sup>	SO <sub>2</sub> µg/m³	NO <sub>2</sub> μg/m <sup>3</sup>	CO mg/m³
	Method Reference	ce	IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	IS:5182 (Part-10)
		05/09/2023	51.6	18.3	9.2	21.8	BDL (DL - 0.5)
		08/09/2023	47.3	16.4	8.4	19.3	BDL (DL - 0.5)
		12/09/2023	56.1	21.6	11.8	23.6	BDL (DL - 0.5)
AAQMS-3	MRSS	15/09/2023	61.7	19.3	9.2	18.7	BDL (DL - 0.5)
in Qivis s	WINDS	19/09/2023	58.3	16.4	8.4	17.9	BDL (DL - 0.5)
		22/09/2023	54.6	17.6	9.1	21.6	BDL (DL - 0.5)
		26/09/2023	57.3	19.7	11.3	23.1	BDL (DL - 0.5)
		29/09/2023	61.7	21.4	12.8	24.9	BDL (DL - 0.5)
1	Monthly Average	Value	56.1	18.8	10.0	21.4	BDL (DL - 0.5
		05/09/2023	52.8	16.9	8.4	17.2	BDL (DL - 0.5)
		08/09/2023	53.6	21.4	9.3	19.1	BDL (DL - 0.5)
		12/09/2023	47.2	18.3	11.6	21.7	BDL (DL - 0.5)
AAQMS-4	Bottom Bin	15/09/2023	51.9	21.6	12.7	23.9	BDL (DL - 0.5)
AAQWIS-4	bottom bin	19/09/2023	48.3	19.2	9.3	18.1	BDL (DL - 0.5)
		22/09/2023	53.6	18.7	8.4	17.9	BDL (DL - 0.5)
		26/09/2023	47.1	17.6	9.1	16.4	BDL (DL - 0.5)
		29/09/2023	52.8	18.3	7.6	17.2	BDL (DL - 0.5)
	Monthly Average	Value	50.9	19.0	9.6	18.9	BDL (DL - 0.5

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Verified by

Snehal Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway

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Quality Manager



#### Anacon Laboratories Pvt. Ltd. Nagpur Lab

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#### Test Report

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Ambient Air Quality Monitoring Report-April-2023

Report No.: AN/AAQ	/TS-NIM/2023/3-1		Date	: 03/05/2023
Name and Address of M/s Noamund		Iron Mine	W. O. No.	4700098928/962
Industry:-	(M/s TATA Ste	eel Limited)	W. O. date:	22.03.2022
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/21042023/ENV-84-1/NIM-CZ/AAQMS-1 and ALPL/21042023/ENV-84-2/NIM-CZ/AAQMS	
Sample Drawn By:-	Anacon Representative (Mr. Sovan Giri)	Sample Inward Date:-	10, 17 ,24 April-2023	
Test Started On:-	10, 17 ,24 April-2023 & 2- May-2023	Test Completed On:-	10, 17,24 April-2023 & 3-May-2023	
Sampling Procedure	ANtd/7.2/Mon-01		F 10 1	

Sr. No.	LOCATION	Date of sampling	PM <sub>10</sub> μg/m <sup>3</sup>	PM <sub>2.5</sub> μg/m <sup>3</sup>	SO <sub>2</sub> μg/m <sup>3</sup>	NO <sub>2</sub> μg/m <sup>3</sup>	CO mg/m³
	Method Reference		IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	IS:5182 (Part-10)
,		04/04/2023	52.6	21.6	12.4	17.9	BDL (DL - 0.5)
		07/04/2023	54.1	23.8	11.6	16.3	BDL (DL - 0.5)
15		11/04/2023	48.7	16.9	8.7	15.7	BDL (DL - 0.5)
AAQMS-1	Near WTP	14/04/2023	52.8	21.4	12.1	21.6	BDL (DL - 0.5)
in Quio i	ivear vvii	18/04/2023	56.3	23.7	11.9	24.1	BDL (DL - 0.5)
-		21/04/2023	49.5	16.3	8.4	17.6	BDL (DL - 0.5)
50		25/04/2023	51.9	18.2	9.3	16.4	BDL (DL - 0.5)
		28/04/2023	53.6	21.8	9.7	17.1	BDL (DL - 0.5)
	Monthly Average V	alue	52.5	20.5	10.5	18.3	BDL (DL – 0.5)
4		04/04/2023	51.6	18.3	7.9	17.2	BDL (DL - 0.5)
*		07/04/2023	48.3	16.7	8.4	16.1	BDL (DL - 0.5)
	4	11/04/2023	53.8	21.6	11.3	18.7	BDL (DL - 0.5)
AAQMS-2	Near Hospital	14/04/2023	56.2	24.9	12.8	21.4	BDL (DL - 0.5)
	rvear rrospitar	18/04/2023	52.9	18.7	9.3	17.2	BDL (DL - 0.5)
		21/04/2023	48.1	16.2	7.6	16.9	BDL (DL - 0.5)
1		25/04/2023	51.3	17.1	8.4	17.3	BDL (DL - 0.5)
	P10105	28/04/2023	49.1	16.8	6.8	16.2	BDL (DL - 0.5)
	Monthly Average Va	lue	51.4	18.8	9.1	17.6	BDL (DL - 0.5)

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Verified by

Snehal Raut

Doputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway

Quality Manager



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#### Test Report

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Ambient Air Quality Monitoring Report-April-2023

Report No.: AN/AAQ	/TS-NIM/2023/3-2	¥	Date	: 03/05/2023
Name and Address of	M/s Noamundi	Iron Mine	W. O. No.	4700098928/962
Industry:-	(M/s TATA Ste	el Limited)	W. O. date:	22.03.2022
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/21042023/ENV-84-3/NIM-CZ/AAQ-3 ar ALPL/21042023/ENV-84-4/NIM-CZ/AAQ-4	
Sample Drawn By:-	Anacon Representative (Mr. Sovan Giri)	Sample Inward Date:-	10, 17 ,24 April-202	23 & 2-May-2023
Test Started On:-	10, 17 ,24 April-2023 & 2- May-2023	Test Completed On:-	10, 17 ,24 April-2023 & 3-May-2023	
Sampling Procedure	ANtd/7.2/Mon-01		1.7	

Sr. No.	LOCATION	Date of sampling	PM <sub>10</sub> µg/m³	PM25 μg/m³	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> μg/m <sup>3</sup>	CO mg/m³
	Method Reference	ce	IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	IS:5182 (Part-10)
		04/04/2023	54.7	18.3	11.4	23.7	BDL (DL - 0.5)
		07/04/2023	56.3	21.6	12.7	26.1	BDL (DL - 0.5)
		11/04/2023	61.8	23.9	11.6	24.3	BDL (DL - 0.5)
AAQMS-3	MRSS	14/04/2023	58.2	19.3	9.4	18.7	BDL (DL - 0.5)
	1.11.00	18/04/2023	54.6	18.1	6.8	16.2	BDL (DL - 0.5)
		21/04/2023	63.9	23.6	11.7	21.8	BDL (DL - 0.5)
		25/04/2023	58.3	21.9	9.3	18.3	BDL (DL - 0.5)
		28/04/2023	61.7	19.2	8.4	16.8	BDL (DL - 0.5)
	Monthly Average	Value	58.7	20.7	10.2	20.7	BDL (DL - 0.5
- 1		04/04/2023	57.3	23.6	11.4	18.7	BDL (DL - 0.5)
1		07/04/2023	61.9	26.1	12.8	23.6	BDL (DL - 0.5)
		11/04/2023	57.2	18.7	9.1	17.2	BDL (DL - 0.5)
AAQMS-4	Bottom Bin	14/04/2023	54.8	16.9	8.7	16.7	BDL (DL - 0.5)
mights 4	Dottom Din	18/04/2023	62.4	21.4	11.3	21.8	BDL (DL - 0.5)
		21/04/2023	58,5	18.2	8.6	16.4	BDL (DL - 0.5)
		25/04/2023	57.1	17.8	7.2	15.9	BDL (DL - 0.5)
		28/04/2023	61.7	21.6	9.3	18.2	BDL (DL - 0.5)
	Monthly Average	Value	58.8	20.5	9.8	18.6	BDL (DL - 0.5)

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Verified by

Snehal Raut

Deputy Technical Manager

**Authorized Signatory** 

Dr. (Mrs.) S. D. Garway

Quality Manager



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Ambient Air Quality Monitoring Report-May-2023

Report No.: AN/AA( Name and Address of			Date	: 03/06/2023
Industry:-	M/s Noamuno	li Iron Mine	W. O. No.	4700098928/962
	(M/s TATA S	teel Limited)	W. O. date:	22.03.2022
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	Sample Ref. No :- ALPL/23052023/ENV-116-1/NIM-CZ	
Sample Drawn By:-	Anacon Representative (Mr. Sovan Giri)	Sample Inward Date:-	8, 15, 22 May-2023 &	NV-116-2/NIM-CZ/AAQMS-2
Test Started On:-	8, 15, 22 May-2023 & 2-June-2023	Test Completed On:-	9, 16, 23 May-2023 & 3-June-2023	
Sampling Procedure	ANtd/7.2/Mon-01	1.		- June 2020

Sr. No.	LOCATION	Date of sampling	PM <sub>10</sub> μg/m <sup>3</sup>	PM <sub>2.5</sub> μg/m <sup>3</sup>	SO <sub>2</sub> µg/m³	NO <sub>2</sub> μg/m <sup>3</sup>	CO ma/m³
	Method Reference		IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	mg/m <sup>3</sup> IS:5182
		02/05/2023	56.2	24.9	11.8	18.3	(Part-10) BDL (DL – 0.5)
		05/05/2023	61.7	26.8	12.4	23.7	
		09/05/2023	54.9	18.3	9.2	17.1	BDL (DL - 0.5)
AAQMS-1	Near WTP	12/05/2023	56.8	19.6	11.7	21.8	BDL (DL - 0.5)
	)	16/05/2023	54.2	21.1	8.6	16.7	BDL (DL - 0.5)
		19/05/2023	52.9	16.9	7.2	16.4	BDL (DL - 0.5)
		23/05/2023	48.3	17.2	8.4	17.3	BDL (DL - 0.5)
1		26/05/2023	51.6	16.4	6.8	16.9	BDL (DL - 0.5)
	Monthly Average V	alue	54.6	20.2	9.5	18.5	BDL (DL - 0.5) BDL (DL - 0.5
		02/05/2023	54.7	21.6	8.4	160	
	S	05/05/2023	61.4	23.8	11.6	16.9	BDL (DL - 0.5)
		09/05/2023	58.3	19.2	9.2	21.4	BDL (DL - 0.5)
AQMS-2	Near Hospital	12/05/2023	54.7	18.3	8.7	18.1	BDL (DL - 0.5)
2	real Hospital	16/05/2023	63.1	24.7	12.8	19.6	BDL (DL - 0.5)
		19/05/2023	58.3	21.6	11.4	23.9	BDL (DL - 0.5)
		23/05/2023	61.8	19.3	9.2	21.7	BDL (DL - 0.5)
		26/05/2023	54.7	18.7	8.4	18.2	BDL (DL - 0.5)
OTTO	Monthly Average Va	lue	58.4	20.9	10.0	17.1 19.6	BDL (DL – 0.5) BDL (DL – 0.5)

NOTES: ● Please see watermark "Original Test Report" to confirm the authenticity of this report. ● Results shall be referred to tested sample(s) and applicable to tested parameters only. • Test report shall not be reproduced except in full without prior written approval of Anacon Labs.

Remark: - All Results are within Limit as per CPCB Standards.

Snehal Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway

Quality Manager

----End of Report----



#### Anacon Laboratories Pvt. Ltd. Nagpur Lab

#### Test Report

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Ambient Air Quality Monitoring Report-May-2023

Report No.: AN/AAQ	/TS-NIM/2023/3-2		Date: 03/06/2023		
Name and Address of	M/s Noamuno	di Iron Mine	W. O. No.	4700098928/962	
Industry:-	(M/s TATA S	teel Limited)	W. O. date:	22.03.2022	
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/23052023/ENV-116-3/NIM-CZ/AAQ-3 ar ALPL/23052023/ENV-116-4/NIM-CZ/AAQ-4		
Sample Drawn By:-	Anacon Representative (Mr. Sovan Giri)	Sample Inward Date:-	8, 15, 22 May-2023	& 2-June-2023	
Test Started On:-	8, 15, 22 May-2023 & 2-June-2023	Test Completed On:-	9, 16, 23 May-2023 & 3-June-2023		
Sampling Procedure	ANtd/7.2/Mon-01		- Total		

Sr. No.	LOCATION	Date of sampling	PM <sub>10</sub> μg/m <sup>3</sup>	PM <sub>2.5</sub> μg/m <sup>3</sup>	SO <sub>2</sub> μg/m <sup>3</sup>	NO <sub>2</sub> μg/m <sup>3</sup>	CO mg/m³
	Method Reference	e	IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	IS:5182 (Part-10)
		02/05/2023	61.7	24.8	13.9	26.1	BDL (DL - 0.5)
		05/05/2023	58.3	19.2	11.6	24.7	BDL (DL - 0.5)
1		09/05/2023	54.1	18.6	9.2	18.3	BDL (DL - 0.5)
AAQMS-3	MRSS	12/05/2023	49.7	16.1	8.7	16.8	BDL (DL - 0.5)
2	111100	16/05/2023	52.6	21.6	11.3	21.9	BDL (DL - 0.5)
		19/05/2023	56.3	23.8	12.1	24.7	BDL (DL - 0.5)
		23/05/2023	48.1	19.2	9.7	16.8	BDL (DL - 0.5)
		26/05/2023	52.8	21.6	11.4	18.3	BDL (DL - 0.5)
1	Monthly Average	Value	54.2	20.6	11.0	21.0	BDL (DL - 0.5
		02/05/2023	54.7	21.6	12.8	17.9	BDL (DL - 0.5)
		05/05/2023	48.3	16.7	11.3	16.1	BDL (DL - 0.5)
		09/05/2023	56.1	24.6	13.8	19.2	BDL (DL - 0.5)
AAQMS-4	Bottom Bin	12/05/2023	52.8	18.3	9.2	16.7	BDL (DL - 0.5)
	Dottom bin	16/05/2023	48.3	19.7	8.4	15.3	BDL (DL - 0.5)
		19/05/2023	56.1	21.4	11.6	18.2	BDL (DL - 0.5)
		23/05/2023	54.2	18.3	9.1	16.7	BDL (DL - 0.5)
1		26/05/2023	56.7	19.6	8.4	16.4	BDL (DL - 0.5)
4	Monthly Average	Value	53.4	20.0	10.6	17.1	BDL (DL - 0.5)

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----End of Report----

Remark: - All Results are within Limit as per CPCB Standards.

Verified by

Snehal Raut

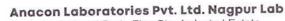
Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway

Quality Manager





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Test Report

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Ambient Air Quality Monitoring Report-June-2023

Report No.: AN/AAQ	/TS-NIM/2023/3-1	Date: 03/07/2023			
The second secon		li Iron Mine	W. O. No.	4700098928/962	
Name and Address of Industry:-	M/s Noamundi Iron Mine (M/s TATA Steel Limited)		W. O. date:	22.03.2022	
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/22062023/ENV-142-1/NIM-CZ/AAQMS-1 and ALPL/22062023/ENV-142-2/NIM-CZ/AAQMS-		
Sample Drawn By:-	Anacon Representative (Mr. Sovan Giri)	Sample Inward Date:-	12, 19, 26 June-2023 & 3-July-2023		
Test Started On:-	12, 19, 26 June-2023 & 3-July-2023	Test Completed On:-	13, 19, 27 June-2023 & 3-July-2023		
Sampling Procedure	ANtd/7.2/Mon-01				

Sr. No.	LOCATION	Date of sampling	PM <sub>10</sub> μg/m <sup>3</sup>	PM <sub>2.5</sub> μg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> μg/m <sup>3</sup>	CO mg/m³
	Method Reference	Sumpring	IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	IS:5182 (Part-10)
		02/06/2023	53.9	23.6	12.1	17.6	BDL (DL - 0.5)
		06/06/2023	57.2	24.9	11.6	18.3	BDL (DL - 0.5)
		09/06/2023	47.6	16.4	8.2	14.9	BDL (DL - 0.5)
	A STATE OF THE STA	13/06/2023	52.7	21.6	9.3	24.7	BDL (DL - 0.5)
AAQMS-1	Near WTP	16/06/2023	49.3	16.8	7.6	21.3	BDL (DL - 0.5)
,		20/06/2023	Cancelled due to Rain Fall			BDL (DL - 0.5)	
		23/06/2023	Cancelled due to Rain Fall			BDL (DL - 0.5)	
100		27/06/2023	51.7	17.9	8.4	19.7	BDL (DL - 0.5)
	Monthly Average V		52.1	20.2	9.5	19.4	BDL (DL – 0.5)
		W. W.	74.				
		02/06/2023	46.2	16.7	7.6	17.2	BDL (DL - 0.5)
	The second second	06/06/2023	43.9	15.8	6.8	16.1	BDL (DL - 0.5)
117.4	A red At 4 year	09/06/2023	51.7	21.6	11.3	21.4	BDL (DL - 0.5)
The second second second	A STATE OF THE STA	13/06/2023	48.3	17.2	9.1	18.6	BDL (DL - 0.5)
AAQMS-2	Near Hospital	16/06/2023	52.8	21.9	11.7	23.1	BDL (DL - 0.5)
		20/06/2023		Cancelled due	to Rain Fall		BDL (DL - 0.5)
	-70-	23/06/2023		Cancelled due	to Rain Fall		BDL (DL - 0.5)
	Angel State State	27/06/2023	53.6	21.4	11.3	21.7	BDL (DL - 0.5)
	Monthly Average Va	La constituent des	49.4	19.1	9.6	19.7	BDL (DL - 0.5)

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Remark: - All Results are within Limit as per CPCB Standards.

Verified by

Snehàl Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway Quality Manager

----End of Report----



#### Anacon Laboratories Pvt. Ltd. Nagpur Lab

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Test Report
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Ambient Air Quality Monitoring Report-June-2023

Report No.: AN/AAQ	/TS-NIM/2023/3-2	/; ·	Date	: 03/07/2023	
Name and Address of M/s Noamundi I		di Iron Mine	W. O. No.	4700098928/962	
Industry:-	A STATE AND A STAT	(M/s TATA Steel Limited)		22.03.2022	
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/22062023/ENV-142-3/NIM-CZ/AAQ-3 a ALPL/22062023/ENV-142-4/NIM-CZ/AAQ-		
Sample Drawn By:-	Anacon Representative (Mr. Sovan Giri)	Sample Inward Date:-	12, 19, 26 June-2023 & 3-July-2023		
Test Started On:-	12, 19, 26 June-2023 & 3-July-2023	Test Completed On:-	13, 19, 27 June-2023 & 3-July-2023		
Sampling Procedure	ANtd/7.2/Mon-01		A		

Sr. No.	LOCATION	Date of sampling	PM <sub>10</sub> μg/m <sup>3</sup>	PM25 μg/m³	SO <sub>2</sub> μg/m <sup>3</sup>	NO <sub>2</sub> μg/m <sup>3</sup>	CO mg/m³
	Method Reference	ce	IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	IS:5182 (Part-10)
		02/06/2023	56.3	26.1	12.8	24.9	BDL (DL - 0.5)
		06/06/2023	61,7	31.6	11.9	26.8	BDL (DL - 0.5)
		09/06/2023	52.4	24.9	9.7	19.3	BDL (DL - 0.5)
1.101/6.0	MDCC	13/06/2023	47.6	18.3	8.4	17.1	BDL (DL - 0.5)
AAQMS-3	MRSS	16/06/2023	54.9	23.6	11.2	21.7	BDL (DL - 0.5)
		20/06/2023	Cancelled due to Rain Fall			BDL (DL - 0.5)	
		23/06/2023	Cancelled due to Rain Fall			BDL (DL - 0.5)	
		27/06/2023	51.7	21.4	9.6	21.2	BDL (DL - 0.5)
1	Monthly Average	Value	54.1	24.3	10.6	21.8	BDL (DL – 0.5)
		02/06/2023	51.6	18.3	11.9	16.4	BDL (DL - 0.5)
		06/06/2023	47.2	16.1	9.2	18.6	BDL (DL - 0.5)
		09/06/2023	42.8	14.7	6.8	16.1	BDL (DL - 0.5)
		13/06/2023	48.7	16.9	9.1	21.7	BDL (DL - 0.5)
AAQMS-4,	Bottom Bin	16/06/2023	52.1	21.4	11.3	23.9	BDL (DL - 0.5)
		20/06/2023		Cancelled due	to Rain Fall		BDL (DL - 0.5)
		23/06/2023		Cancelled due	to Rain Fall		BDL (DL - 0.5)
		27/06/2023	52.8	21.9	9.2	19.1	BDL (DL - 0.5)
	Monthly Average	Value	49.2	18.2	9.6	19.3	BDL (DL - 0.5)

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----End of Report----

Remark: - All Results are within Limit as per CPCB Standards.

Verified by

Snehal Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway

Quality Manager



#### Anacon Laboratories Pvt. Ltd. Nagpur Lab

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#### Test Report

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Ambient Air Quality Monitoring Report-July-2023

Report No.: AN/AAQ/TS-NIM/2023/3-1			Date: 03/08/2023		
Name and Address of M/s Noamundi Iro		on Mine	W. O. No.	4700098928/962	
Industry:-	(M/s TATA Steel Limited)		W. O. date:	22.03.2022	
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/20072023/ENV-180-1/NIM-CZ/AAQMS-1 and ALPL/20072023/ENV-180-2/NIM-CZ/AAQMS		
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	10,17,24 July-2023 & 2	2-August-2023	
Test Started On:-	10, 17, 24 July-2023 & 2-Aug-2023	Test Completed On:-	11,18,25 July-2023 & 3-August-2023		
Sampling Procedure	ANtd/7.2/Mon-01				

Sr. No.	LOCATION	Date of sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> μg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> μg/m <sup>3</sup>	CO mg/m³
eyel	Method Reference		IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	IS:5182 (Part-10)
		04/07/2023	48.7	21.7	11.9	16.4	BDL (DL - 0.5)
Television to a	of to wilde in a g	07/07/2023	53.6	23.9	12.6	21.3	BDL (DL - 0.5)
reet.	amentus est es con	11/07/2023	46.2	15.7	9.2	18.1	BDL (DL - 0.5)
AAQMS-1	Near WTP	14/07/2023	51.7	21.6	11.3	19.7	BDL (DL - 0.5)
AAQIVI3-1	iveal vvii	18/07/2023	48.3	18.2	8.7	16.3	BDL (DL - 0.5)
16-6	narada terbi e petis. No griforie bile 145	21/07/2023	51.7	19.3	9.2	17.1	BDL (DL - 0.5)
The section		25/07/2023	47.6	16.7	7.6	16.4	BDL (DL - 0.5)
No.	Design the second second	28/07/2023	52.9	18.2	9.1	17.6	BDL (DL - 0.5)
	Monthly Average V	alue	50.1	19.4	10.0	17.9	BDL (DL - 0.5)
		04/07/2023	47.2	16.9	8.4	18.3	BDL (DL – 0.5)
	den wen dramma	07/07/2023	53.6	24.7	11.6	21.6	BDL (DL - 0.5)
	THE SECOND SECOND	11/07/2023	43.9	18.2	9.2	19.7	BDL (DL - 0.5)
AAQMS-2	Near Hospital	14/07/2023	46.1	21.6	8.7	18.2	BDL (DL - 0.5)
AAQIVIS-2	iveal Hospital	18/07/2023	51.7	23.6	12.8	23.6	BDL (DL - 0.5)
		21/07/2023	48.3	19.2	11.4	16.7	BDL (DL - 0.5)
	militer sould to be	25/07/2023	52.9	18.7	9.3	17.1	BDL (DL - 0.5)
		28/07/2023	47.2	16.4	8.1	16.3	BDL (DL - 0.5)
	Monthly Average Va	lue	48.9	19.9	9.9	18.9	BDL (DL - 0.5)

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Remark: - All Results are within Limit as per CPCB Standards.

Verified by

Snehal Raut

Deputy Technical Manager

**Authorized Signatory** 

Dr. (Mrs.) S. D. Garway

Stammer

Quality Manager



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#### Test Report

Page 1 of 1

Ambient Air Quality Monitoring Report-July-2023

Report No.: AN/AAQ	/TS-NIM/2023/3-2	Date: 03/07/2023			
Name and Address of	M/s Noamundi Ir	M/s Noamundi Iron Mine		4700098928/962	
Industry:-	(M/s TATA Steel Limited)		W. O. date:	22.03.2022	
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/20072023/ENV-180-3/NIM-CZ/AAQ-3 and ALPL/20072023/ENV-180-4/NIM-CZ/AAQ-4		
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	10,17,24 July-2023 & 2-August-2023		
Test Started On:-	10, 17, 24 July-2023 & 2-Aug-2023	Test Completed On:-	11,18,25 July-2023 & 3-August-2023		
Sampling Procedure	ANtd/7.2/Mon-01				

Sr. No.	LOCATION	Date of sampling	PM <sub>10</sub> μg/m <sup>3</sup>	PM <sub>2.5</sub> μg/m <sup>3</sup>	SO <sub>2</sub> μg/m³	NO <sub>2</sub> μg/m <sup>3</sup>	CO mg/m³
Method Reference		IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	IS:5182 (Part-10)	
1		04/07/2023	52.8	24.7	9.3	21.6	BDL (DL - 0.5)
153		07/07/2023	56.3	28.6	11.7	24.9	BDL (DL - 0.5)
A. Carrier		11/07/2023	48.2	19.2	8.4	18.3	BDL (DL - 0.5)
AAQMS-3	MRSS	14/07/2023	52.7	21.7	9.1	17.6	BDL (DL - 0.5)
~	1,11100	18/07/2023	56.3	24.9	12.8	23.1	BDL (DL - 0.5)
		21/07/2023	54.1	19.6	11.3	18.9	BDL (DL - 0.5)
		25/07/2023	47.6	16.4	9.1	17.2	BDL (DL - 0.5)
	28/07/2023		52.8	18.3	8.7	16.4	BDL (DL - 0.5)
]	Monthly Average	Value	52.6	21.7	10.1	19.8	BDL (DL - 0.5)
	duty you's programs	04/07/2023	46.2	16.1	8.7	17.3	BDL (DL - 0.5)
- 4.5		07/07/2023	53.7	18.3	9.4	16.8	BDL (DL - 0.5)
		11/07/2023	57.2	21.6	11.3	18.2	BDL (DL - 0.5)
AAQMS-4	Bottom Bin	14/07/2023	49.3	17.2	8.1	17.8	BDL (DL - 0.5)
1121101	Dottom DM	18/07/2023	52.6	19.3	9.4	16.4	BDL (DL - 0.5)
		21/07/2023	47.2	16.9	7.6	17.1	BDL (DL - 0.5)
		25/07/2023	51.7	21.6	11.3	16.9	BDL (DL - 0.5)
		28/07/2023	53.1	18.3	9.1	17.6	BDL (DL - 0.5)
	Monthly Average	Value	51.4	18.7	9.4	17.3	BDL (DL - 0.5)

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Remark: - All Results are within Limit as per CPCB Standards.

Verified by

Snehål Raut

Deputy Technical Manager

**Authorized Signatory** 

Dr. (Mrs.) S. D. Garway Quality Manager



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Ambient Air Quality Monitoring Report-August-2023

Report No.: AN/AAQ	/TS-NIM/2023/3-1	Date: 04/09/2023			
Name and Address of M/s Noamundi Iro		on Mine	W. O. No.	4700098928/962	
Industry:-	(M/s TATA Steel	(M/s TATA Steel Limited)		22.03.2022	
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/24082023/ENV-200-1/NIM-CZ/AAQMS- and ALPL/24082023/ENV-200-2/NIM-CZ/AAQN		
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	7,14,21,28 Aug-2023 8	& 2-Sept-2023	
Test Started On:-	7,14,21,28 Aug-2023 & 2-Sept-2023	Test Completed On:-	8,14,22,29 Aug-2023 & 4-Sept-2023		
Sampling Procedure	ANtd/7.2/Mon-01	***************************************			

Sr. No.	LOCATION	Date of sampling	PM10 μg/m³	PM <sub>2.5</sub> μg/m <sup>3</sup>	SO <sub>2</sub> μg/m³	NO <sub>2</sub> μg/m <sup>3</sup>	CO mg/m³
	Method Reference		IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	IS:5182 (Part-10)
		01/08/2023	53.6	23.9	12.4	17.6	BDL (DL - 0.5)
		04/08/2023	48.3	21.4	9.2	16.1	BDL (DL - 0.5)
		08/08/2023	56.1	26.3	13.9	21.7	BDL (DL - 0.5)
	N. WED	11/08/2023	54.7	23.7	12.4	18.3	BDL (DL - 0.5)
AAQMS-1	Near WTP	18/08/2023	46.3	16.9	9.2	17.6	BDL (DL - 0.5)
		22/08/2023	52.8	17.6	11.6	18.1	BDL (DL - 0.5)
		25/08/2023	56.3	21.9	12.8	23.7	BDL (DL - 0.5)
		29/08/2023	49.2	18.3	9.1	16.4	BDL (DL - 0.5)
The state of the s	Monthly Average V	alue	52.2	21.3	11.3	18.7	BDL (DL - 0.5
		01/08/2023	53.8	17.2	9.2	16.8	BDL (DL - 0.5)
	1	04/08/2023	49.3	16.1	7.6	15.4	BDL (DL - 0.5)
		08/08/2023	51.7	17.9	11.7	21.9	BDL (DL - 0.5)
1101160	Niam Hamital	11/08/2023	53.6	21.6	12.9	23.4	BDL (DL - 0.5)
AAQMS-2	Near Hospital	18/08/2023	48.3	16.7	9.2	18.3	BDL (DL - 0.5)
	- The Control of the	22/08/2023	47.1	16.2	8.4	16.7	BDL (DL - 0.5)
		25/08/2023	53.7	21.8	11.6	21.9	BDL (DL - 0.5)
	The same of the sa	29/08/2023	56.2	23.4	12.8	24.1	BDL (DL - 0.5)
	Monthly Average Va	ilue	51.7	18.9	10.4	19.8	BDL (DL - 0.5

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. • Test report shall not be reproduced except in full without prior written approval of Anacon Labs.

**Remark:** - All Results are within Limit as per CPCB Standards.

Verified by

Snehal Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway Quality Manager



#### Anacon Laboratories Pvt. Ltd. Nagpur Lab

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Page 1 of 1

Ambient Air Quality Monitoring Report-August-2023

Report No.: AN/AAQ	VTS-NIM/2023/3-2	Date: 04/09/2023			
Name and Address of	M/s Noamundi Ir	W. O. No.	4700098928/962		
Industry:-	(M/s TATA Steel	Limited)	W. O. date:	22.03.2022	
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/24082023/ENV-200-3/NIM-CZ/AAQ-3 and ALPL/24082023/ENV-200-4/NIM-CZ/AAQ-4		
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	7,14,21,28 Aug-2023	& 2-Sept-2023	
Test Started On:-	7,14,21,28 Aug-2023 & 2-Sept-2023	Test Completed On:-	8,14,22,29 Aug-2023 & 4-Sept-2023		
Sampling Procedure	ANtd/7.2/Mon-01	- W	AND THE PERSON NAMED IN		

Sr. No.	LOCATION	Date of sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM25 µg/m³	SO <sub>2</sub> μg/m <sup>3</sup>	NO <sub>2</sub> μg/m <sup>3</sup>	CO mg/m³
	Method Reference	e	IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	IS:5182 (Part-10)
		01/08/2023	53.7	21.6	11.3	26.7	BDL (DL - 0.5)
		04/08/2023	54.9	23.7	12.8	27.1	BDL (DL - 0.5)
		08/08/2023	47.3	16.3	7.9	19.3	BDL (DL - 0.5)
AAQMS-3	MRSS	11/08/2023	52.8	18.4	8.4	21.9	BDL (DL - 0.5)
in Qivis s	MICOS	18/08/2023	56.2	24.7	11.3	23.6	BDL (DL - 0.5)
		22/08/2023	54.9	19.3	9.1	18.3	BDL (DL - 0.5)
		25/08/2023	49.2	18.6	8.4	16.7	BDL (DL - 0.5)
		29/08/2023	51.7	21.7	9.7	18.4	BDL (DL - 0.5)
1	Monthly Average	Value	52.6	20.5	9.9	21.5	BDL (DL – 0.5
		01/08/2023	47.3	18.3	9.2	16.9	BDL (DL - 0.5)
		04/08/2023	51.6	17.1	11.6	18.2	BDL (DL - 0.5)
		08/08/2023	48.1	21.6	12.9	23.8	BDL (DL - 0.5)
AAQMS-4	Bottom Bin	11/08/2023	56.3	24.7	11.3	24.9	BDL (DL - 0.5)
TITQINIO-4	bottom bin	18/08/2023	54.7	19.2	8.4	18.3	BDL (DL - 0.5)
		22/08/2023	49.3	16.7	7.3	17.2	BDL (DL - 0.5)
1		25/08/2023	52.8	21.9	9.2	21.6	BDL (DL - 0.5)
		29/08/2023	51.6	18.2	8.4	18.3	BDL (DL - 0.5)
	Monthly Average	51.5	19.7	9.8	19.9	BDL (DL - 0.5)	

**NOTES:** • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. • Test report shall not be reproduced except in full without prior written approval of Anacon Labs.

Remark: - All Results are within Limit as per CPCB Standards.

Verified by

Snehal Raut Deputy Technical Manager Authorized Signatory

Dr. (Mrs.) S. D. Garway Quality Manager



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#### Test Report

Page 1 of 1

Ambient Air Quality Monitoring Report-September-2023

Report No.: AN/AAQ	/TS-NIM/2023/3-1	Date: 04/10/2023			
Name and Address of	M/s Noamundi I		W. O. No.	4700098928/962	
Industry:-	(M/s TATA Steel	Limited)	W. O. date:	22.03.2022	
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/25092023/ENV-228-1/NIM-CZ/AAQMS-1 and ALPL/25092023/ENV-228-2/NIM-CZ/AAQMS		
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	11, 18, 25 Sept -2023 &		
Test Started On:-	11, 18, 25 Sept -2023 & 3-Oct-2023	Test Completed On:-	12, 19, 26 Sept -2023 & 4-October-2023		
Sampling Procedure	ANtd/7.2/Mon-01	and the second of the second o		1 000001 2020	

Sr. No.	LOCATION	Date of sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> μg/m <sup>3</sup>	SO <sub>2</sub> µg/m³	NO <sub>2</sub> µg/m <sup>3</sup>	CO mg/m³
	Method Reference	IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	IS:5182 (Part-10)	
		05/09/2023	56.2	21.9	11.6	18.4	BDL (DL - 0.5)
		08/09/2023	62.8	24.7	12.9	21.6	BDL (DL - 0.5)
		12/09/2023	58.3	18.3	9.2	16.2	BDL (DL - 0.5)
AAQMS-1	Near WTP	15/09/2023	52.7	16.9	8.4	17.3	BDL (DL – 0.5)
	real vill	19/09/2023	58.1	21.6	11.3	21.9	BDL (DL - 0.5)
		22/09/2023	61.7	23.4	12.9	19.2	BDL (DL - 0.5)
		26/09/2023	57.3	18.3	9.2	18.4	BDL (DL - 0.5)
		29/09/2023	52.8	17.1	8.4	16.7	BDL (DL - 0.5)
	Monthly Average V	alue	57.5	20.3	10.5	18.7	BDL (DL - 0.5)
		05/09/2023	54.7	16.9	8.4	17.2	BDL (DL - 0.5)
		08/09/2023	58.3	19.2	9.1	18.7	BDL (DL - 0.5)
1		12/09/2023	61.8	21.8	11.6	23.9	BDL (DL - 0.5)
AAQMS-2	Near Hospital	15/09/2023	58.2	19.1	7.4	19.2	BDL (DL - 0.5)
2.115	redi Hospitai	19/09/2023	54.7	16.9	8.2	18.7	BDL (DL - 0.5)
		22/09/2023	56.3	21.4	11.7	21.9	BDL (DL - 0.5)
		26/09/2023	61.8	23.6	12.4	24.1	BDL (DL - 0.5)
		29/09/2023	58.3	18.3	9.2	19.7	BDL (DL - 0.5)
	Monthly Average Va	lue	58.0	19.7	9.8	20.4	BDL (DL - 0.5)

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Remark: - All Results are within Limit as per CPCB Standards.

Verified by

Snehal Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway

Quality Manager



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#### Test Report

Page 1 of 1

Ambient Air Quality Monitoring Report- September-2023

Report No.: AN/AAQ	/TS-NIM/2023/3-2	Date: 04/10/2023				
Name and Address of Industry:-		M/s Noamundi Iron Mine (M/s TATA Steel Limited)		4700098928/962 22.03.2022		
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/25092023/ENV-228-3/NIM-CZ/AAQ-3 at ALPL/25092023/ENV-228-4/NIM-CZ/AAO-4			
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	11, 18, 25 Sept -2023	& 3-October-2023		
Test Started On:-	11, 18, 25 Sept -2023 & 3-Oct-2023	Test Completed On:-	12, 19, 26 Sept -2023 & 4-October-2023			
Sampling Procedure	ANtd/7.2/Mon-01	01				

Sr. No.	LOCATION	Date of sampling	PM <sub>10</sub> μg/m <sup>3</sup>	PM <sub>2.5</sub> μg/ <b>m</b> <sup>3</sup>	SO <sub>2</sub> µg/m³	NO <sub>2</sub> μg/m <sup>3</sup>	CO mg/m³
Method Reference		IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	IS:5182 (Part-10)	
		05/09/2023	51.6	18.3	9.2	21.8	BDL (DL - 0.5)
		08/09/2023	47.3	16.4	8.4	19.3	BDL (DL - 0.5)
		12/09/2023	56.1	21.6	11.8	23.6	BDL (DL - 0.5)
AAQMS-3	MRSS	15/09/2023	61.7	19.3	9.2	18.7	BDL (DL - 0.5)
in Qivis s	WINDS	19/09/2023	58.3	16.4	8.4	17.9	BDL (DL - 0.5)
		22/09/2023	54.6	17.6	9.1	21.6	BDL (DL - 0.5)
		26/09/2023	57.3	19.7	11.3	23.1	BDL (DL - 0.5)
		29/09/2023	61.7	21.4	12.8	24.9	BDL (DL - 0.5)
1	Monthly Average	Value	56.1	18.8	10.0	21.4	BDL (DL - 0.5
		05/09/2023	52.8	16.9	8.4	17.2	BDL (DL - 0.5)
		08/09/2023	53.6	21.4	9.3	19.1	BDL (DL - 0.5)
		12/09/2023	47.2	18.3	11.6	21.7	BDL (DL - 0.5)
AAQMS-4	Bottom Bin	15/09/2023	51.9	21.6	12.7	23.9	BDL (DL - 0.5)
AAQWIS-4	bottom bin	19/09/2023	48.3	19.2	9.3	18.1	BDL (DL - 0.5)
		22/09/2023	53.6	18.7	8.4	17.9	BDL (DL - 0.5)
		26/09/2023	47.1	17.6	9.1	16.4	BDL (DL - 0.5)
		29/09/2023	52.8	18.3	7.6	17.2	BDL (DL - 0.5)
	Monthly Average	Value	50.9	19.0	9.6	18.9	BDL (DL - 0.5

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Remark: - All Results are within Limit as per CPCB Standards.

Verified by

Snehal Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway

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Quality Manager







TC 5458

#### Test Report

ULR No.- TC545823000001289F

Test Report No.: ALPL/31052023/3-13A dated 31/05/2023 Issued To: Sample Inward No.

Page 1 of 3

ALPL/23052023/Mon-3/60-GW13 **Analysis Start** 24/05/2023 M/s Noamundi Iron Mines **Inward Date** 23/03/2023 Analysis End 30/05/2023 (M/s TATA Steel Limited) Reference W.O.- 4700098928/962 Report Issue Date Noamundi, Jharkhand 31/05/2023 Postal Code: 833217 Reference Date Sample Category 22.03.2022 Water

Sample Name Sample Source Sample Particulars Location Co-ordinates Quantity Received Ground Water Dugwell Sample Code-GW-13 Lat: 22°9'30.46"N, Long: 85°28'53.38"E 5.0 Ltr & 250 ml Sample Collected By Sampling Date Sampling Time Sampling Location Anacon Representative Mr. Sovan Giri 18/05/2023 11.20 am to 4.10 pm Noamundi Basti (Nr. Play Ground)

S.N.	Test Parameter	Measurement Unit	t Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result
	i			Acceptable Limit	Permissible Limit #	
I	Biological Testing 1. Water					
1	Escherichia coli	Per 100 ml	IS 15185 : 2016	Absent	Absent	Absent
II	Chemical Testing 1. Water		50.4	The state of the s	- TOUCH	riosent
2	Alkalinity (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 23): 1986	200	600	178.57
3	Anionic surface active agents (as MBAS)	mg/l	IS 13428 : (Annex K): 2005	0.2	1.0	BDL (DL - 0.01)
4	Colour	Hazen units	IS 3025 (Part 4): 2021	5	15	1
5	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.05	No relaxation	BDL (DL - 0.005)
6	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :1988	250	1000	34.59
7	Calcium (as Ca)	mg/l	IS 3025 (Part 40): 1991	75	200	43.62
8	Free residual chlorine	mg/l	IS 3025 (Part 26): 2021	Min. 0.2	1	BDL (DL – 0.1)
9	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	1.0	1.5	0.26
10	Magnesium (as Mg)	mg/l	IS 3025 (Part 46): 1994	30	100	12.57
11	Nitrate (as NO <sub>3</sub> )	mg/l	APHA method 23rd edition: 2017	45	No relaxation	8.19
12	Odour		IS 3025 (Part 5): 2018	Agreeable	Agreeable	Agreeable
13	pH		IS 3025 (Part 11): 2022	6.5 to 8.5	No relaxation	6.87 at 25°C
14	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	0.001	0.002	BDL (DL – 0.001)
15	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24): 2022	200	400	16.32
16	Taste ,	_	IS 3025 (Part 8): 1984	Agreeable	Agreeable	
17	Total dissolved solids	mg/l	IS 3025 (Part 16): 1984	500	2000	Agreeable 482
18	Turbidity	NTU	IS 3025 (Part 10) : 1984	1	5	1,0,0,000
19	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21) : 2009	200	600	0.4 160.65

☐ Please refer last Page for Note and Remarks.

Verified By

Snehal Raut Deputy Technical Manager **Authorized Signatories** 

Technical Manager

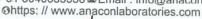
Dr. (Mrs.) S.D. Garway Quality Manager

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Anacon Laboratories Pvt. Ltd. Nagpur Lab

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TC 5458

#### Test Report

ULR No.- TC545823000001289F

Test Report No.: ALPL/31052023/3-13A Issued To:

Anacon Representative Mr. Sovan Giri

dated 31/05/2023

Page 2 of 3

M/s Noamundi Iron Mines (M/s TATA Steel Limited) Noamundi, Jharkhand

Sample Inward No. **Inward Date** 

ALPL/23052023/Mon-3/60-GW13 23/05/2023

**Analysis Start** 24/05/2023

Postal Code: 833217

Reference

18/05/2023

Reference Date

W.O.- 4700098928/962

Analysis End Report Issue Date 30/05/2023 31/05/2023

Sample Source

22.03.2022

Sample Category Location Co-ordinates

Water

Quantity Received

Sample Name Sample Particulars Ground Water Dugwell Sample Code-GW-13 Sample Collected By Sampling Date

Lat: 22°9'30.46"N, Long: 85°28'53.38"E Sampling Time

5.0 Ltr & 250 ml Sampling Location

11.20 am to 4.10 pm

Noamundi Basti (Nr. Play Ground)

TEST RESULTS	ì
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S.N.	Test Parameter	Measurement Unit	Test Method	Requiren IS 1050 (Drinking Wate Including Am	Test Result	
				Acceptable Limit	Permissible Limit #	
II	Chemical Testing 2. Residues In Water			1		
20	Arsenic (as As)	mg/l	IS 3025 (Part 37): 2022	0.01	No relaxation	BDL (DL - 0.01)
21	Aluminium (as Al)	mg/l	IS 3025 (Part 2): 2019	0.03	0.2	BDL (DL - 0.01)
22	Barium (as Ba)	mg/l	IS 3025 (Part 2): 2019	0.7	No relaxation	BDL (DL - 0.01)
23	Boron (as B)	mg/l	IS 3025 (Part 2): 2019	0.5	2.4	BDL (DL - 0.1)
24	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	0.05	1.5	BDL (DL - 0.03)
25	Cadmium (as Cd)	mg/l	IS 3025 (Part 2): 2019	0.003	No relaxation	BDL (DL - 0.001
26	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	1.0	No relaxation	0.09
27	Lead (as Pb)	mg/l	IS 3025 (Part 2): 2019	0.01	No relaxation	BDL (DL - 0.001)
28	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	0.1	0.3	BDL (DL - 0.05)
29	Mercury (as Hg)	mg/l	IS 3025 (Part 48): 1994	0.001	No relaxation	BDL (DL - 0.0005
30	Selenium (as Se)	mg/l	IS 3025 (Part 56): 2003	0.01	No relaxation	BDL (DL- 0.001)
31	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2): 2019	0.05	No relaxation	BDL (DL - 0.03)
32	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5	15	BDL (DL - 0.1)
33	Polynuclear aromatic hydrocarbon (PAH) ase refer last Page for Note and	μg/l	ANtr/7.2/RES/06: 2018	0.1	No relaxation	BDL(DL-0.03)

Verified By

Mangesh Fande Technical Manager

Yogesh Kombe Deputy Technical Manager

S. Kombe

**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager

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TC 5458

#### Test Report

ULR No.- TC545823000001289F

Test Report No.: ALPL/31052023/3-13A dated 31/05/2023 Page 3 of 3 Issued To: Sample Inward No. ALPL/23052023/Mon-3/60-GW13 **Analysis Start** 24/05/2023 M/s Noamundi Iron Mines **Inward Date** 23/05/2023 Analysis End 30/05/2023 (M/s TATA Steel Limited) Reference W.Or 4700098928/962 Report Issue Date Noamundi, Jharkhand 31/05/2023 22.03.2022 Sample Category Postal Code: 833217 Reference Date Water

Sample Name Ground Water  Sample Collected By Anacon Representative Mr. Sovan Giri		Sample Particulars Sample Code-GW-13	Location Co-ordina Lat: 22°9'30.46"N, Long: 85	Quantity Received 5.0 Ltr & 250 ml	
		Sampling Date 18/05/2023	Sampling Time 11.20 am to 4.10 pm	Sampling Location Noamundi Basti (Nr. Play Grou	
		TEST R	ESHLTS		Date (111.1 lay Ground)

S.N.	Test Parameter	Measurement Unit	Test Method	IS 105 (Drinking Wat Including An	ment as per 00 : 2012 er Specifications) nendment No. 4	Test Result
34	Pesticide Residues Organochi	loring		Acceptable Limit	Permissible Limit #	
i	Alpha-HCH		ANt-/7 2/DEC/01: 20	10 000	1	
ii	Beta HCH	μg/l	ANtr/7.2/RES/01: 20		No relaxation	BDL (DL - 0.01)
iii	Gamma - HCH (Lindane)	μg/l	ANtr/7.2/RES/01: 20		No relaxation	BDL (DL - 0.03)
iv	Delta- HCH	μg/l	ANtr/7.2/RES/01: 20		No relaxation	BDL (DL - 0.03)
v	Alachlor	μg/l	ANtr/7.2/RES/01: 20		No relaxation	BDL (DL - 0.03)
vi	Aldrin	μg/l	ANtr/7.2/RES/01: 20		No relaxation	BDL (DL - 0.03)
vii	Dieldrin	μg/l	ANtr/7.2/RES/01: 20		No relaxation	BDL (DL - 0.03)
viii		μg/l	ANtr/7.2/RES/01: 20		No relaxation	BDL (DL - 0.03)
	Butachlor	μg/l	ANtr/7.2/RES/01: 20	18 125	No relaxation	BDL (DL - 0.03)
ix	p.p'-DDE	μg/l	ANtr/7.2/RES/01: 201	18 1	No relaxation	BDL (DL - 0.03)
X	o,p'-DDE	μg/l	ANtr/7.2/RES/01: 201	18 1	No relaxation	BDL (DL - 0.03)
xi	p,p'-DDD	μg/l	ANtr/7.2/RES/01: 201	18 1	No relaxation	BDL (DL - 0.03)
xii	o,p'-DDD	μg/l	ANtr/7.2/RES/01: 201	18 1	No relaxation	BDL (DL - 0.03)
xiii	o,p'- DDT		ANtr/7.2/RES/01: 201		No relaxation	BDL (DL - 0.03)
xiv	p,p'- DDT		ANtr/7.2/RES/01: 201		No relaxation	
XV	Monocrotophos		ANtr/7.2/RES/01: 201		No relaxation	BDL (DL - 0.03)
xvi	Atrazine		ANtr/7.2/RES/01: 201		No relaxation	BDL (DL - 0.03)
xvii	Parathion methyl		ANtr/7.2/RES/01: 201			BDL (DL - 0.03)
xviii	Paraoxon methyl		ANtr/7.2/RES/01: 201		No relaxation	BDL (DL - 0.03)
xix	Malathion		ANtr/7.2/RES/01: 201			BDL (DL - 0.03)
XX	Malaoxon		ANtr/7.2/RES/01: 201	0	No relaxation	BDL (DL - 0.03)
xxi	Ethion				•	BDL (DL - 0.03)
xxii	Chlorpyrifos		ANtr/7.2/RES/01: 201		No relaxation	BDL (DL - 0.03)
		μg/l	ANtr/7.2/RES/01: 201	8 30	No relaxation	BDL (DL - 0.03)

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REMARKS: As requested by the client, sample was tested for above parameters only. Sample complies with IS:10500:2012, for tests conducted, indicating that it is fit for drinking purpose with respect to tested parameters.

Verified By

Yogesh Kombe

13.1combe

Authorized Signatory

Dr. (Mrs.) S.D. Garway

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Anacon Laboratories Pvt. Ltd. Nagpur Lab

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# Test Report

Test Report No. : A	LPL/310520	23/3-13E	3 da	ated 31/0	05/2023	_	Page 1 of 1
Issued To: M/s Noamundi Iro (M/s TATA Steel L Noamundi, Jharkha Postal Code: 83321	imited) nd	Inwa Refer	le Inward No. rd Date ence ence Date	23/05 W.O.	/23052023/Mon-3/60-GW13 /2023 - 4700098928/962 .2022	Analysis Start Analysis End Report Issue Da Sample Categor	24/05/2023 30/05/2023 ate 31/05/2023
Sample Name Ground Water	. Sample Tarticulars			Location Co-ore Lat: 22°9'30.46"N, Long		Quantity Received 5.0 Ltr & 250 ml	
Sample Co Anacon Representat		Giri	Sampling D 18/05/202		Sampling Time 11.20 am to 4.10 pm	Sar	npling Location  Basti (Nr. Play Ground)

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	IS 105 (Drinking Wat	ment as per 00 : 2012 er Specifications) nendment No. 4	Test Result	
			14.	Acceptable Limit	Permissible Limit #	1	
1	Mineral Oil	mg/l	ANtr/7.2/RES/06: 2018	1	No relaxation	BDL (DL - 0.001)	
					No relaxation	BDL (DL - 0.001)	

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• Test report shall not be reproduced except in full without prior written approval of Anacon Labs. • Liability of Anacon Labs is limited to invoiced amount only. • Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. • #Permissible limit in absence of an alternate source for drinking water. • 'mg/l' is equivalent to 'ppm'. • 'µg/l' is equivalent to 'ppb'. • BDL- Below detection limit. • DL- DL Indicates detection limit of instrument/method and shall be considered as 'absent'. • Result for test no. 8 is not relevant. • ANT/7.2/RES -01,06;: Inhouse validated method. • NT indicates not Tested as sample failed to establish safety concerns.

REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

B-Icomba

Yogesh Kombe

Deputy Technical Manager

Authorized Signatory

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Dr. (Mrs.) S.D. Garway Quality Manager







TC 5458

#### Test Report

ULR No.- TC545823000001289F

Test Report No.: ALPL/31052023/3-14A Issued To: Sample Inward No.

Anacon Representative Mr. Sovan Giri

dated 31/05/2023

Page 1 of 3

M/s Noamundi Iron Mines

**Inward Date** 

ALPL/23052023/Mon-3/60-GW14 23/05/2023

**Analysis Start** 

24/05/2023 30/05/2023

(M/s TATA Steel Limited) Noamundi, Jharkhand Postal Code: 833217

Reference

W.O.- 4700098928/962

Analysis End Report Issue Date

Reference Date

22.03.2022

Sample Category

31/05/2023 Water

Sample Name Ground Water

Sample Source Dugwell Sample Collected By

Sample Particulars Sample Code-GW-14 Sampling Date

18/05/2023

Lat: 22°9'25.41"N, Long: 85°30'21.34"E Sampling Time

**Location Co-ordinates** 

Quantity Received 5.0 Ltr & 250 ml

11.20 am to 4.10 pm

Sampling Location Noamundi Bazar (Nr. Petrol Pump)

T	ES	TR	ES	UL	TS
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S.N.	Test Parameter	Measurement Unit	nt Test Method	IS 1050 (Drinking Wate Including Am	nent as per 0 : 2012 r Specifications) endment No. 4	1 est Result
	Pieled alm of a visit			Acceptable Limit	Permissible Limit #	
I	Biological Testing 1. Water			TIP		
1	Escherichia coli	Per 100 ml	IS 15185 : 2016	Absent	Absent	Absent
II	Chemical Testing 1. Water				11000111	1 Trosein
2 .	Alkalinity (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 23): 1986	200	600	168.29
3	Anionic surface active agents (as MBAS)	mg/l	IS 13428 : (Annex K): 2005	0.2	1.0	BDL (DL - 0.01)
4	Colour	Hazen units	IS 3025 (Part 4): 2021	5	15	y - control to the control
5	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.05	No relaxation	DDI (DI 0.005)
6	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :1988	250	1000	BDL (DL - 0.005) 28.47
7	Calcium (as Ca)	mg/l	IS 3025 (Part 40): 1991	75	200	
8	Free residual chlorine	mg/l	IS 3025 (Part 26): 2021	Min. 0.2	1	52.91
9	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	1.0	1.5	BDL (DL - 0.1)
10	Magnesium (as Mg)	mg/l	IS 3025 (Part 46): 1994	30	100	0.26
11	Nitrate (as NO <sub>3</sub> )		APHA method 23rd edition: 2017	45	No relaxation	13.47
12	Odour	- 10	IS 3025 (Part 5) : 2018	Agreeable	Agreeable	8.16
13	pH		IS 3025 (Part 11) : 2022	6.5 to 8.5	No relaxation	Agreeable
14	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	0.001	0.002	7.31 at 25°C
15	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24) : 2022	200	400	BDL (DL - 0.001)
16	Taste	-	IS 3025 (Part 8) : 1984	Agreeable		17.24
17	Total dissolved solids	mg/l	IS 3025 (Part 16) : 1984	500	Agreeable	Agreeable
18	Turbidity	NTU	IS 3025 (Part 10): 1984	1	2000	309
19	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21) : 2009	200	600	0.4 187.57

☐ Please refer last Page for Note and Remarks.

Verified By

Snehal Raut

Deputy Technical Manager

**Authorized Signatories** 

Technical Manager

Dr. (Mrs.) S.D. Garway Quality Manager

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TC 5458

#### Test Report

ULR No.- TC545823000001289F Test Report No.: ALPL/31052023/3-14A

dated 31/05/2023 ALPL/23052023/Mon-3/60-GW14

Page 2 of 3

Issued To: M/s Noamundi Iron Mines (M/s TATA Steel Limited) Noamundi, Jharkhand

Sample Inward No. Inward Date

23/05/2023

**Analysis Start** Analysis End

24/05/2023 30/05/2023

Postal Code: 833217

Reference Reference Date

W.O.- 4700098928/962 22.03.2022

Report Issue Date Sample Category

31/05/2023 Water

Quantity Received

Sample Name Sample Source Ground Water Dugwell Sample Collected By

Anacon Representative Mr. Sovan Giri

Sample Particulars Sample Code-GW-14 Sampling Date 18/05/2023

Lat: 22°9'25.41"N, Long: 85°30'21.34"E Sampling Time 11.20 am to 4.10 pm

Location Co-ordinates

5.0 Ltr & 250 ml Sampling Location

TEST DESILITE

Noamundi Bazar (Nr. Petrol Pump)

S.N.	Test Parameter	Test Parameter Measurement Unit		IS 105 (Drinking Wat	ment as per 500 : 2012 ter Specifications) mendment No. 4	Test Result
				Acceptable Limit	Permissible Limit #	
п	Chemical Testing 2. Residues In Water		~4' .	AND THE		
20	Arsenic (as As)	mg/l	IS 3025 (Part 37): 2022	0.01	No relaxation	BDL (DL - 0.01)
21	Aluminium (as Al)	mg/l	IS 3025 (Part 2): 2019	0.03	0.2	BDL (DL - 0.01)
22	Barium (as Ba)	mg/l	IS 3025 (Part 2): 2019	0.7	No relaxation	BDL (DL - 0.01)
23	Boron (as B)	mg/l	IS 3025 (Part 2): 2019	0.5	2.4	BDL (DL - 0.1)
24	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	0.05	1.5	BDL (DL - 0.03)
25	Cadmium (as Cd)	mg/l	IS 3025 (Part 2): 2019	0.003	No relaxation	BDL (DL - 0.001)
26	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	1.0	No relaxation	0.02
27	Lead (as Pb)	mg/l	IS 3025 (Part 2): 2019	0.01	No relaxation	BDL (DL - 0.001)
28	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	0.1	0.3	BDL (DL = 0.001)
29	Mercury (as Hg)	mg/l	IS 3025 (Part 48): 1994	0.001	No relaxation	BDL (DL = 0.0005)
30	Selenium (as Se)	mg/l	IS 3025 (Part 56): 2003	0.01	No relaxation	BDL (DL-0.0003)
31	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2): 2019	0.05	No relaxation	
32	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5	15	BDL (DL - 0.03)
33	Polynticlear aromatic hydrocarbon (PAH)	μg/l	ANtr/7.2/RES/06: 2018	0.1	No relaxation	BDL (DL - 0.1) BDL(DL-0.03)

Please refer last Page for Note and Remarks.

Verified By

Mangesh Fande Technical Manager

Yogesh Kombe Deputy Technical Manager

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**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager











Noamundi Bazar (Nr. Petrol Pump)



TC 5458

#### Test Report

ULR No.- TC545823000001289F

M/s Noamundi Iron Mines

(M/s TATA Steel Limited)

Noamundi, Jharkhand

Test Report No.: ALPL/31052023/3-14A dated 31/05/2023 Issued To:

Page 3 of 3

Sample Inward No. ALPL/23052023/Mon-3/60-GW14 Analysis Start 24/05/2023 **Inward Date** 23/05/2023 Analysis End 30/05/2023 Reference W.O.- 4700098928/962 Report Issue Date 31/05/2023 Sample Category Reference Date 22.03.2022 Water

11.20 am to 4.10 pm

Postal Code: 833217 Sample Name Sample Source Sample Particulars Location Co-ordinates Quantity Received Ground Water Dugwell Sample Code-GW-14 Lat: 22°9'25.41"N, Long: 85°30'21.34"E 5.0 Ltr & 250 ml Sample Collected By Sampling Date Sampling Time Sampling Location Anacon Representative Mr. Sovan Giri

18/05/2023

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4  Acceptable Limit   Permissible Limit #		00 : 2012 er Specifications) tendment No. 4	Test Result
34	Pesticide Residues Organoch	lawin a				Permissible Limit #	
i	Alpha-HCH		131: /7.0/DEG/01.0				
ii	Beta HCH	μg/l	ANtr/7.2/RES/01: 2		0.01	No relaxation	BDL (DL - 0.01)
iii		μg/l	ANtr/7.2/RES/01: 2		0.04	No relaxation	BDL (DL - 0.03)
iv	Gamma - HCH (Lindane)	μg/l	ANtr/7.2/RES/01: 2		2	No relaxation	BDL (DL - 0.03)
	Delta- HCH	μg/l	ANtr/7.2/RES/01: 2		0.04	No relaxation	BDL (DL - 0.03)
	Alachlor	μg/l	ANtr/7.2/RES/01: 2		20	No relaxation	BDL (DL - 0.03)
vi	Aldrin	μg/l	ANtr/7.2/RES/01: 2	018	0.03	No relaxation	BDL (DL - 0.03)
vii	Dieldrin	μg/l	ANtr/7.2/RES/01: 2	018	0.03	No relaxation	BDL (DL - 0.03)
viii	Butachlor	μg/l	ANtr/7.2/RES/01: 2	018	125	No relaxation	BDL (DL - 0.03)
ix	p.p'-DDE	μg/l	ANtr/7.2/RES/01: 2	018	1	No relaxation	BDL (DL - 0.03)
X	o,p'-DDE	μg/l	ANtr/7.2/RES/01: 2	018	1	No relaxation	BDL (DL - 0.03)
xi	p,p'-DDD	μg/l	ANtr/7.2/RES/01: 2	018	1	No relaxation	BDL (DL - 0.03)
xii	o,p'-DDD		ANtr/7.2/RES/01: 2	018	1	No relaxation	BDL (DL - 0.03)
xiii	o,p'- DDT		ANtr/7.2/RES/01: 20		1	No relaxation	BDL (DL - 0.03)
xiv	p,p'- DDT		ANtr/7.2/RES/01: 20		i	No relaxation	BDL (DL - 0.03)
xv	Monocrotophos		ANtr/7.2/RES/01: 20		i	No relaxation	BDL (DL - 0.03)
xvi	Atrazine		ANtr/7.2/RES/01: 20		2	No relaxation	
xvii	Parathion methyl		ANtr/7.2/RES/01: 20		0.3	No relaxation	BDL (DL - 0.03)
xviii	Paraoxon methyl		ANtr/7.2/RES/01: 20		-	100 relaxation	BDL (DL - 0.03)
xix	Malathion		ANtr/7.2/RES/01: 20		190	No aslounting	BDL (DL - 0.03)
XX	Malaoxon		ANtr/7.2/RES/01: 20			No relaxation	BDL (DL - 0.03)
xxi	Ethion		ANtr/7.2/RES/01: 20		-		BDL (DL - 0.03)
xxii	Chlorpyrifos		ANtr/7.2/RES/01: 20		3	No relaxation	BDL (DL - 0.03)
		194	ANU/ /.2/RES/01: 20	010	30	No relaxation	BDL (DL - 0.03)

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REMARKS: As requested by the client, sample was tested for above parameters only. Sample complies with IS:10500:2012, for tests conducted, indicating that it is fit for drinking purpose with respect to tested parameters.

Verified By

JS. Combe

**Authorized Signatory** 

Yogesh Kombe

Dr. (Mrs.) S.D. Garway

Deputy Technical Manager
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#### Test Report

Test Report No. : A	LPL/31052023/3	3-14B	dat	ed 31/0	5/2023		Page 1 of 1
Issued To: M/s Noamundi Iro (M/s TATA Steel L Noamundi, Jharkhan Postal Code: 83321	imited) nd	Inw Refe	aple Inward No. ard Date erence erence Date	23/05	- 4700098928/962	Analysis Start Analysis End Report Issue D Sample Catego	24/05/2023 30/05/2023 ate 31/05/2023
Sample Name Ground Water	Sample Sour Dugwell	ce	Sample Partic Sample Code-G		Location Co-or Lat: 22°9'25.41"N, Long	Quantity Received	
Sample Co Anacon Representat		ri	Sampling Da 18/05/2023		Sampling Time 11.20 am to 4.10 pm	Sa	mpling Location  Bazar (Nr. Petrol Pump)

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirer IS 105 (Drinking Wat Including An	Test Result	
-	,			Acceptable Limit	Permissible Limit #	1
1	Mineral Oil	mg/l	ANtr/7.2/RES/06: 2018	1	No relaxation	BDL (DL - 0.001
eren kanton	•		-			

NOTE: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only.
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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Silcombi

Yogesh Kombe Deputy Technical Manager

----End of Report----

**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager







TC 5458

# Test Report

ULR No.- TC545823000001289F

Test Report No.: ALPL/31052023/3-15A

dated 31/05/2023

Page 1 of 3

Issued To: M/s Noamundi Iron Mines (M/s TATA Steel Limited) Noamundi, Jharkhand

Sample Inward No. **Inward Date** 

ALPL/23052023/Mon-3/60-GW15 23/05/2023

**Analysis Start** Analysis End

24/05/2023 30/05/2023

Postal Code: 833217

Reference Reference Date

W.O.- 4700098928/962 22.03.2022

Report Issue Date Sample Category

31/05/2023 Water

Sample Name Sample Source Ground Water Dugwell Sample Collected By

Sample Particulars Sample Code-GW-15 Sampling Date

Location Co-ordinates Lat: 22°8'54.89"N, Long: 85°31'8.03"E Sampling Time

Quantity Received 5.0 Ltr & 250 ml

Anacon Representative Mr. Sovan Giri

18/05/2023

11.20 am to 4.10 pm

Sampling Location Mahudi Village (Railway Station Road)

TEST DESILITS

S.N.	Test Parameter	Measurement Unit	t Test Method	IS 1050 (Drinking Wate	ent as per 0 : 2012 r Specifications) endment No. 4	Test Result	
				Acceptable Limit	Permissible Limit #	3	
I	Biological Testing 1. Water			Ale.			
1	Escherichia coli	Per 100 ml	IS 15185 : 2016	Absent	Absent	Absent	
II	Chemical Testing 1. Water		n-			1100011	
2	Alkalinity (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 23): 1986	200	600	163.43	
3	Anionic surface active agents (as MBAS)	mg/l	IS 13428 : (Annex K): 2005	0.2	1.0	BDL (DL - 0.01)	
4	Colour	Hazen units	IS 3025 (Part 4): 2021	5	15	1	
5	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.05	No relaxation	BDL (DL - 0.005)	
6	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :1988	250	1000	32.68	
7	Calcium (as Ca)	mg/l	IS 3025 (Part 40): 1991	75	200	51.29	
8	Free residual chlorine	mg/l	IS 3025 (Part 26): 2021	Min. 0.2	1	BDL (DL - 0.1)	
9	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	1.0	1.5	0.16	
10	Magnesium (as Mg)	mg/l	IS 3025 (Part 46): 1994	30	100	12.67	
11	Nitrate (as NO <sub>3</sub> )	mg/l	APHA method 23rd edition: 2017	45	No relaxation	5.26	
12	Odour	47.4	IS 3025 (Part 5): 2018	Agreeable	Agreeable	Agreeable	
13	рН		IS 3025 (Part 11): 2022	6.5 to 8.5	No relaxation	6.87 at 25°C	
14	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	0.001	0.002	BDL (DL - 0.001)	
15	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24): 2022	200	400	21.43	
16	Taste		IS 3025 (Part 8): 1984	Agreeable	Agreeable	Agreeable	
17	Total dissolved solids	mg/l	IS 3025 (Part 16): 1984	500	2000	297	
18	Turbidity	NTU	IS 3025 (Part 10): 1984	1	5	0.4	
19	Total hardness (as CaCO <sub>3</sub> ) ease refer last Page for Note and R	mg/l	IS 3025 (Part 21): 2009	200	600	180.24	

Verified By

Snehal Raut

Deputy Technical Manager

**Authorized Signatories** 

Pooja Kathane Technical Manager

Dr. (Mrs.) S.D. Garway Quality Manager

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(Railway Station Road)



TC 5458

#### Test Report

ULR No.- TC545823000001289F

Test Report No.: ALPL/31052023/3-15A dated 31/05/2023 Page 2 of 3 Issued To: Sample Inward No. ALPL/23052023/Mon-3/60-GW15 **Analysis Start** 24/05/2023 M/s Noamundi Iron Mines **Inward Date** 23/05/2023 Analysis End 30/05/2023 (M/s TATA Steel Limited) Reference W.O.- 4700098928/962 Report Issue Date 31/05/2023 Noamundi, Jharkhand Sample Category Water Reference Date 22.03.2022 Postal Code: 833217 Sample Name Sample Particulars Sample Source **Location Co-ordinates** Quantity Received Ground Water Dugwell Sample Code-GW-15 Lat: 22°8'54.89"N, Long: 85°31'8.03"E 5.0 Ltr & 250 ml Sample Collected By Sampling Date Sampling Time Sampling Location Anacon Representative Mr. Sovan Giri Mahudi Village 18/05/2023 11.20 am to 4.10 pm

			TEST RESULTS			
S.N.	Test Parameter	Measurement Unit	Test Method	IS 105 (Drinking Wa	ment as per 500 : 2012 ter Specifications) mendment No. 4	Test Result
				Acceptable Limit	Permissible Limit #	
II	Chemical Testing 2. Residues In Water	•	4			
20	Arsenic (as As)	mg/l	IS 3025 (Part 37): 2022	0.01	No relaxation	BDL (DL - 0.01)
21	Aluminium (as Al)	mg/l	IS 3025 (Part 2): 2019	0.03	0.2	BDL (DL - 0.01)
22	Barium (as Ba)	mg/l	IS 3025 (Part 2): 2019	0.7	No relaxation	BDL (DL - 0.01)
23	Boron (as B)	mg/l	IS 3025 (Part 2): 2019	0.5	2.4	BDL (DL - 0.1)
24	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	0.05	1.5	BDL (DL - 0.03)
25	Cadmium (as Cd)	mg/l	IS 3025 (Part 2): 2019	0.003	No relaxation	BDL (DL - 0,001)
26	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	1.0	No relaxation	0.05
27	Lead (as Pb)	mg/l	IS 3025 (Part 2): 2019	0.01	No relaxation	BDL (DL - 0.001)
28	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	0.1	0.3	BDL (DL - 0.05)
29	Mercury (as Hg)	mg/l	IS 3025 (Part 48): 1994	0.001	No relaxation	BDL (DL - 0.0005)
30	Selenium (as Se)	mg/l	IS 3025 (Part 56): 2003	0.01	No relaxation	BDL (DL- 0.001)
31	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2): 2019	0.05	No relaxation	BDL (DL - 0.03)
32	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5	15	BDL (DL - 0.1)
33	Polynuclear aromatic hydrocarbon (PAH)	μg/l	ANtr/7.2/RES/06: 2018	0.1	No relaxation	BDL(DL-0.03)

☐ Please refer last Page for Note and Remarks.

Verified By

Mangesh Fande Technical Manager Yogesh Kombe

Deputy Technical Manager

· (combe

**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager



Thanks For putting in your faith and trust in our services, We at Anacon Laboratories cherish our relationship. We put in a lot of hard work to ensure that you have a seamless experience at every step of our relationship. in order to ensure that your next experience will be significantly better, we welcome your feedback over email on feedback@anacon.in

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TC 5458

#### Test Report

ULR No.- TC545823000001289F

Test Report No.: ALPL/31052023/3-15A

Sample Source

Page 3 of 3

Issued To: M/s Noamundi Iron Mines (M/s TATA Steel Limited) Noamundi, Jharkhand

Sample Inward No. **Inward Date** Reference

ALPL/23052023/Mon-3/60-GW15 23/05/2023

Analysis Start Analysis End

24/05/2023 30/05/2023

Postal Code: 833217

Sample Name

Reference Date

W.O.- 4700098928/962 22.03.2022

Report Issue Date Sample Category

31/05/2023 Water

Ground Water Dugwell Sample Collected By Anacon Representative Mr. Sovan Giri

Sample Code-GW-15 Sampling Date 18/05/2023

Sample Particulars

Lat: 22°8'54.89"N, Long: 85°31'8.03"E Sampling Time

Location Co-ordinates

Quantity Received 5.0 Ltr & 250 ml Sampling Location

11.20 am to 4.10 pm

Mahudi Village (Railway Station Road)

TEST	RESI	ILTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result	
34	Posticido Posidos O			Accep	otable Limit	Permissible Limit #	
:	Pesticide Residues Organochl Alpha-HCH				4 14		
ii		μg/l	ANtr/7.2/RES/01: 2		0.01	No relaxation	BDL (DL - 0.01)
iii	Beta HCH	μg/l	ANtr/7.2/RES/01: 2		0.04	No relaxation	BDL (DL - 0.03)
iv	Gamma - HCH (Lindane)	μg/l	ANtr/7.2/RES/01: 2	T-1176	2	No relaxation	BDL (DL - 0.03)
	Delta- HCH	μg/l	ANtr/7.2/RES/01: 2		0.04	No relaxation	BDL (DL - 0.03)
v	Alachlor	μg/l	ANtr/7.2/RES/01: 2	018	20	No relaxation	BDL (DL - 0.03)
vi	Aldrin	μg/l	ANtr/7.2/RES/01: 20	018	0.03	No relaxation	BDL (DL - 0.03)
vii	Dieldrin	μg/l	ANtr/7.2/RES/01: 20	018	0.03	No relaxation	BDL (DL - 0.03)
viii	Butachlor	μg/l	ANtr/7.2/RES/01: 20	018	125	No relaxation	BDL (DL - 0.03)
ix	p,p'-DDE	μg/l	ANtr/7.2/RES/01: 20	018	1	No relaxation	BDL (DL - 0.03)
X	o,p'-DDE	μg/l	ANtr/7.2/RES/01: 20	018	1	No relaxation	BDL (DL - 0.03)
xi	p,p'-DDD	μg/l	ANtr/7.2/RES/01: 20	018	1	No relaxation	BDL (DL - 0.03)
xii	o,p'-DDD		ANtr/7.2/RES/01: 20		i	No relaxation	BDL (DL - 0.03)
xiii	o,p'- DDT		ANtr/7.2/RES/01: 20		1	No relaxation	
xiv	p,p'- DDT		ANtr/7.2/RES/01: 20		1	No relaxation	BDL (DL - 0.03)
XV.	Monocrotophos		ANtr/7.2/RES/01: 20		1	No relaxation	BDL (DL - 0.03)
xvi	Atrazine	The state of the s	ANtr/7.2/RES/01: 20		2		BDL (DL - 0.03)
xvii	Parathion methyl		ANtr/7.2/RES/01: 20		0.3	No relaxation	BDL (DL - 0.03)
xviii	Paraoxon methyl		ANtr/7.2/RES/01: 20		- 0.3	No relaxation	BDL (DL - 0.03)
xix	Malathion		ANtr/7.2/RES/01: 20		190	No selection	BDL (DL - 0.03)
XX	Malaoxon		ANtr/7.2/RES/01: 20			No relaxation	BDL (DL - 0.03)
xxi	Ethion		ANtr/7.2/RES/01: 20		3	N	BDL (DL - 0.03)
xxii	Chlorpyrifos		ANtr/7.2/RES/01: 20		30	No relaxation	BDL (DL - 0.03)
		12.	mui/1.2/RES/01: 20	/10	30	No relaxation	BDL (DL - 0.03)

NOTE: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. Test report shall not be reproduced except in full without prior written approval of Anacon Labs. 
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 Non-perishable and The state of the

REMARKS: As requested by the client, sample was tested for above parameters only. Sample complies with IS:10500:2012, for tests conducted, indicating that it is fit for drinking purpose with respect to tested parameters.

Verified By

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**Authorized Signatory** 

Yogesh Kombe

Thanks For Detiting Technical and an argument of the services in order to ensure that your next experience wilk a significantly better, we welcome your feedback over email on feedback@anacon.in

Anacon Laboratories Pvt. Ltd. Nagpur Lab

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#### Test Report

Test Report No. : A	LPL/310520:	_		lated 31/0	5/2023		Page 1 of 1
Issued To: M/s Noamundi Iro (M/s TATA Steel L Noamundi, Jharkha Postal Code: 83321	imited) nd	Inwa Refer	le Inward No. rd Date ence ence Date	23/05/2	700098928/962	Analysis Start Analysis End Report Issue D Sample Catego	24/05/2023 30/05/2023 ate 31/05/2023
Sample Name Ground Water	Sample S Dugw	500	Sample Part Sample Code-		Location Co-or Lat: 22°8'54.89"N, Lon		Quantity Received 5.0 Ltr & 250 ml
Sample Collected By Anacon Representative Mr. Sovan G		n Giri	Sampling 18/05/20		Sampling Time 11.20 am to 4.10 pm	Sar N	npling Location  Mahudi Village way Station Road)

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
1	Mineral Oil	mg/l	ANtr/7.2/RES/06: 2018	1	No relaxation	BDL (DL - 0.001

NOTE: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only.

• Test report shall not be reproduced except in full without prior written approval of Anacon Labs. • Liability of Anacon Labs is limited to invoiced amount only. • Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. • #Permissible limit in absence of an alternate source for drinking water. • 'mg/l' is equivalent to 'pph'. • BDL- Below detection limit. • DL- DL Indicates detection limit of instrument/method and shall be considered as 'absent', • Result for test no. 8 is not relevant. • ANtr/7.2/RES-01.06;: Inhouse validated method. • NT indicates not Tested as sample failed to establish safety concerns.

REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Yogesh Kombe

Deputy Technical Manager

----End of Report----

**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager







Bottom Bin (Nr. Barrack)



TC 5458

#### Test Report

ULR No.- TC545823000001289F

Anacon Representative Mr. Sovan Giri

Test Report No.: ALPL/31052023/3-16A dated 31/05/2023 Page 1 of 3 Issued To: Sample Inward No. ALPL/23052023/Mon-3/60-GW16 **Analysis Start** 24/05/2023 M/s Noamundi Iron Mines **Inward Date** 23/05/2023 Analysis End 30/05/2023 (M/s TATA Steel Limited) Reference W.O. 4700098928/962 Report Issue Date 31/05/2023 Noamundi, Jharkhand Sample Category Water Reference Date 22.03.2022 Postal Code: 833217 Sample Name Sample Source Sample Particulars Location Co-ordinates Quantity Received Ground Water Dugwell Sample Code-GW-16 Lat: 22°8'52.58"N, Long: 85°30'28.50"E 5.0 Ltr & 250 ml Sample Collected By Sampling Date Sampling Time Sampling Location

TE	ST	D	CC	TIT	TC

11.20 am to 4.10 pm

18/05/2023

S.N.	Test Parameter	Measurement Unit	Test Method	IS 1050 (Drinking Wate	ent as per 0:2012 r Specifications) endment No. 4	Test Result
				Acceptable Limit	Permissible Limit #	
I	Biological Testing 1. Water		*	E. L. To		
1	Escherichia coli	Per 100 ml	IS 15185 : 2016	Absent	Absent	Absent
II	Chemical Testing 1. Water					
2	Alkalinity (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 23): 1986	200	600	182.67
3	Anionic surface active agents (as MBAS)	mg/l	IS 13428 : (Annex K): 2005	0.2	1.0	BDL (DL - 0.01)
4	Colour	Hazen units	IS 3025 (Part 4): 2021	5	15	1
5	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.05	No relaxation	BDL (DL - 0.005)
6	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :1988	250	1000	23.67
7	Calcium (as Ca)	mg/l	IS 3025 (Part 40): 1991	75	200	56.31
8	Free residual chlorine	mg/l	IS 3025 (Part 26): 2021	Min. 0.2	1	BDL (DL - 0.1)
9	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	1.0	1.5	0.28
10	Magnesium (as Mg)	mg/l	IS 3025 (Part 46): 1994	30	100	11.24
11	Nitrate (as NO <sub>3</sub> )	mg/l	APHA method 23rd edition: 2017	45	No relaxation	8.37
12	Odour	300	IS 3025 (Part 5): 2018	Agreeable	Agreeable	Agreeable
13	pH		IS 3025 (Part 11): 2022	6.5 to 8.5	No relaxation	6.71 at 25°C
14	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	0.001	0.002	BDL (DL - 0.001)
15	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24): 2022	200	400	23.63
16	Taste		IS 3025 (Part 8): 1984	Agreeable	Agreeable	Agreeable
17	Total dissolved solids	mg/l	IS 3025 (Part 16): 1984	500	2000	463
18	Turbidity	NTU	IS 3025 (Part 10): 1984	1	5	0.3
19	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21): 2009	200	600	186.92

☐ Please refer last Page for Note and Remarks.

Verified By

Deputy Technical Manager

4.

**Authorized Signatories** 

Pooja Kathane Technical Manager

Dr. (Mrs.) S.D. Garway Quality Manager

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Anacon Laboratories Pvt. Ltd. Nagpur Lab









TC 5458

# Test Report

ULR No.- TC545823000001289F

Test Report No.: ALPL/31052023/3-16A dated 31/05/2023 Page 2 of 3 Issued To: Sample Inward No. ALPL/23052023/Mon-3/60-GW16 **Analysis Start** 24/05/2023 M/s Noamundi Iron Mines **Inward Date** 23/05/2023 **Analysis End** 30/05/2023 (M/s TATA Steel Limited) Reference W.O.- 4700098928/962 Report Issue Date 31/05/2023 Noamundi, Jharkhand Sample Category Water Reference Date 22.03.2022 Postal Code: 833217 Sample Name Sample Source Sample Particulars Location Co-ordinates Quantity Received Ground Water Dugwell Sample Code-GW-16 Lat: 22°8'52.58"N, Long: 85°30'28.50"E 5.0 Ltr & 250 ml Sample Collected By Sampling Time Sampling Date Sampling Location Anacon Representative Mr. Sovan Giri 18/05/2023 11.20 am to 4.10 pm Bottom Bin (Nr. Barrack)

	10		TEST RESULTS		APRIL .	
S.N.	Test Parameter	Measurement Unit	Test Method	Require IS 105 (Drinking Wat Including At	Test Result	
				Acceptable Limit	Permissible Limit #	
П	Chemical Testing 2. Residues In Water			AV		
20	Arsenic (as As)	mg/l	IS 3025 (Part 37): 1988	0.01	No relaxation	BDL (DL - 0.01)
21	Aluminium (as Al)	mg/l	IS 3025 (Part 2): 2019	0.03	0.2	BDL (DL - 0.01)
22	Barium (as Ba)	mg/l	IS 3025 (Part 2): 2019	0.7	No relaxation	BDL (DL - 0.01)
23	Boron (as B)	mg/l	IS 3025 (Part 2): 2019	0.5	2.4	BDL (DL - 0.1)
24	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	0.05	1.5	BDL (DL - 0.03)
25	Cadmium (as Cd)	mg/l	IS 3025 (Part 2): 2019	0.003	No relaxation	BDL (DL - 0.001)
26	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	1.0	No relaxation	0.10
27	Lead (as Pb)	mg/l	IS 3025 (Part 2): 2019	0.01	No relaxation	BDL (DL - 0.001)
28	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	0.1	0.3	BDL (DL - 0.05)
29	Mercury (as Hg)	mg/l	IS 3025 (Part 48): 1994	0.001	No relaxation	BDL (DL - 0.0005)
30	Selenium (as Se)	mg/l	IS 3025 (Part 56): 2003	0.01	No relaxation	BDL (DL- 0.001)
31	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2): 2019	0.05	No relaxation	BDL (DL - 0.03)
32	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5	15	BDL (DL - 0.1)
33	Polynuclear aromatic hydrocarbon (PAH)	μg/l	ANtr/7.2/RES/06: 2018	0.1	No relaxation	BDL(DL-0.03)

☐ Please refer last Page for Note and Remarks.

Verified By

Mangesh Fande Technical Manager

Yogesh Kombe Deputy Technical Manager **Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager













TC 5458

#### Test Report

ULR No.- TC545823000001289F

Test Report No.: ALPL/31052023/3-16A dated 31/05/2023 Page 3 of 3 Issued To: Sample Inward No. ALPL/23052023/Mon-3/60-GW16 **Analysis Start** 24/05/2023 M/s Noamundi Iron Mines **Inward Date** 23/05/2023 Analysis End 30/05/2023 (M/s TATA/Steel Limited) Reference W.O.- 4700098928/962 Report Issue Date 31/05/2023 Noamundi, Jharkhand Sample Category Reference Date 22.03.2022 Water Postal Code: 833217 Sample Name Sample Source Sample Particulars Location Co-ordinates Quantity Received Ground Water Dugwell Sample Code-GW-16 Lat: 22°8'52.58"N, Long: 85°30'28.50"E 5.0 Ltr & 250 ml Sample Collected By Sampling Date Sampling Time Sampling Location Anacon Representative Mr. Sovan Giri 18/05/2023 11.20 am to 4.10 pm

An	acon Representative Mr. Sovan Giri	Bottom Bill (N		(Nr. Barrack)				
			TEST RE					(
S.N.	Test Parameter	Measurement Unit	Test Meth	od	(Drinkin	S 10500 g Water	ent as per 0 : 2012 r Specifications) endment No. 4	Test Result
2.1	D # 11 D 11			A	cceptable L		Permissible Limit #	
34	Pesticide Residues Organochloria							
i	Alpha-HCH	μg/l	ANtr/7.2/RES	/01: 2018	8 0.0	)1	No relaxation	BDL (DL - 0.01
ii	Beta HCH	μg/l	ANtr/7.2/RES	/01: 2018	8 0.0	)4	No relaxation	BDL (DL - 0.03)
iii	Gamma - HCH (Lindane)	μg/l	ANtr/7.2/RES	/01: 2018	3 2		No relaxation	BDL (DL - 0.03)
iv	Delta- HCH	μg/l	ANtr/7.2/RES	/01: 2018	0.0	)4	No relaxation	BDL (DL - 0.03)
V	Alachlor	μg/l	ANtr/7.2/RES	/01: 2018	3 20	)	No relaxation	BDL (DL - 0.03)
vi	Aldrin'	μg/l	ANtr/7.2/RES	/01: 2018	0.0	13	No relaxation	BDL (DL - 0.03)
vii	Dieldrin	μg/l	ANtr/7.2/RES	/01: 2018	3 0.0	3	No relaxation	BDL (DL - 0.03)
viii	Butachlor	μg/l	ANtr/7.2/RES	/01: 2018	3 12	5	No relaxation	BDL (DL - 0.03)
ix	p,p'-DDE	μg/l	ANtr/7.2/RES	/01: 2018	3 1		No relaxation	BDL (DL - 0.03)
X	o,p'-DDE	μg/l	ANtr/7.2/RES	/01: 2018	3 1		No relaxation	BDL (DL - 0.03)
xi	p,p'-DDD	μg/l	ANtr/7.2/RES				No relaxation	BDL (DL - 0.03)
xii	o,p'-DDD	μg/l	ANtr/7.2/RES				No relaxation	BDL (DL - 0.03)
xiii	o,p'- DDT	μg/l	ANtr/7.2/RES	/01: 2018	1		No relaxation	BDL (DL - 0.03)
xiv	p,p'- DDT	μg/l	ANtr/7.2/RES/				No relaxation	BDL (DL - 0.03)
XV	Monocrotophos	μg/l	ANtr/7.2/RES/				No relaxation	BDL (DL - 0.03)
xvi	Atrazine	μg/l	ANtr/7.2/RES/				No relaxation	BDL (DL - 0.03)
xvii	Parathion methyl	μg/l	ANtr/7.2/RES/				No relaxation	BDL (DL - 0.03)
xviii	Paraoxon methyl		ANtr/7.2/RES/		0.0		. No relaxation	
xix	Malathion		ANtr/7.2/RES/			)	No relaxation	BDL (DL - 0.03) BDL (DL - 0.03)
XX	Malaoxon		ANtr/7.2/RES/				. vo retaxation	BDL (DL - 0.03)
xxi	Ethion		ANtr/7.2/RES/				No relaxation	
xxii	Chlorpyrifos		ANtr/7.2/RES/				No relaxation	BDL (DL - 0.03) BDL (DL - 0.03)
	and the same of th						rorcidxation	DUL (UL = 0.03)

NOTE: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. Test report shall not be reproduced except in full without prior written approval of Anacon Labs. 
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 Non-perishable and erishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. ● #Permissible limit in absence of an alternate source for drinking water. ● 'mg/l' is equivalent to 'ppm'. ● 'µg/l' is equivalent to 'ppb'. ● BDL- Below detection limit. ● DL- DL Indicates detection limit of instrument /method and shall be considered as 'absent'. ● Result for test no. 8 is not relevant. ● ANtr/7.2/RES -01,06;: Inhouse validated method. ● NT' indicates not Tested as sample failed to

REMARKS: As requested by the client, sample was tested for above parameters only. Sample complies with IS:10500:2012, for tests conducted, indicating that it is fit for drinking purpose with respect to tested parameters.

Verified By

Authorized Signatory

Yogesh Kombe

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Deputy Technical Manager

Deputy Technical Manager

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#### Test Report

Test Report No.: A	LPL/310520	23/3-16E	d d	lated 31/0	5/2023			Page 1 of 1
Issued To:		Samp	le Inward No.	ALPL/2	3052023/Mon-3/60-GW16	An	alysis Start	24/05/2023
M/s Noamundi Iron Mines (M/s TATA Steel Limited)		Inwar	rd Date 23/05/2023		An	alysis End	30/05/2023	
Noamundi, Jharkhai Postal Code: 83321	nd	Refer Refer	ence ence Date	W.O 4 22.03.2	1700098928/962 022	Report Issue Date Sample Category		
Sample Name Ground Water	Sample S Dugw	September 1	Sample Part Sample Code		Location Co-or Lat: 22°8'52.58"N, Lon			Quantity Received 5.0 Ltr & 250 ml
Sample Co Anacon Representat		n Giri	Sampling 18/05/20		Sampling Time 11.20 am to 4.10 pm		San	npling Location

TEST RESULTS

S.N.	Test Parameter	Test Parameter Measurement Unit Test Method		Requirer IS 105 (Drinking Wat Including An	Test Result	
				Acceptable Limit	Permissible Limit #	
1	Mineral Oil	mg/l	ANtr/7.2/RES/06: 2018	1	No relaxation	BDL (DL - 0.001)

NOTE: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results hall be referred to tested sample(s) and applicable to tested parameters only.

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Yogesh Kombe
Deputy Technical Manager

----End of Report----

**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager







TC 5458

Noamundi Basti (Nr. Play Ground)

#### Test Report

ULR No.- TC545823000002497F

Anacon Representative

Page 1 of 3 Test Report No.: ALPL/31082023/3-13A dated 31/08/2023 24/08/2023 Sample Inward No. ALPL/24082023/Mon-2/60-GW13 **Analysis Start** Issued To: M/s Noamundi Iron Mines 31/08/2023 **Inward Date** 24/08/2023 Analysis End (M/s TATA Steel Limited) 31/08/2023 W.O.- 4700098928/962 Report Issue Date Reference Noamundi, Jharkhand Water Sample Category Reference Date 22.03.2022 Postal Code: 833217 Location Co-ordinates Quantity Received Sample Name Sample Source Sample Particulars Lat: 22°9'30.46"N, Long: 85°28'53.38"E 5.0 Ltr & 250 ml Sample Code-GW-13 Ground Water Dugwell Sample Collected By Sampling Date Sampling Time Sampling Location

TEST		

11.40 am to 4.25 pm

18/08/2023

s.n.	Test Parameter	Measurement Unit	TEST RESULTS  Test Method	IS 1050	r Specifications)	Test Result
				Acceptable Limit	Permissible Limit #	
I	Biological Testing 1. Water	2.0				
1	Escherichia coli	Per 100 ml	IS 15185 : 2016	Absent	Absent	Absent
II	Chemical Testing 1. Water					
2	Alkalinity (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 23): 1986	200	600	164.28
3	Anionic surface active agents (as MBAS)	mg/l	IS 13428 : (Annex K): 2005	0.2	1.0	BDL (DL - 0.01)
4	Colour	Hazen units	IS 3025 (Part 4): 2021	5	15	1
5	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.05	No relaxation	BDL (DL - 0.005)
6	Chloride (as Cl)	mg/l	IS 3025 (Part 32):1988	250	1000	28.75
7	Calcium (as Ca)	mg/l	IS 3025 (Part 40): 1991	75	200	47.53
8	Free residual chlorine	mg/l	IS 3025 (Part 26): 2021	Min. 0.2	1	BDL (DL - 0.1)
9	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	1.0	1.5	0.31
10	Magnesium (as Mg)	mg/l	IS 3025 (Part 46): 1994	30	100	11.96
11	Nitrate (as NO <sub>3</sub> )	mg/l	APHA method 23rd edition: 2017	45	No relaxation	7.53
12	Odour	-	IS 3025 (Part 5): 2018	Agreeable	Agreeable	Agreeable
13	pH		IS 3025 (Part 11): 2022	6.5 to 8.5	No relaxation	6.91 at 25°C
14	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	0.001	0.002	BDL (DL - 0.001
15	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24): 2022	200	400	21.43
16	Taste	•	IS 3025 (Part 8): 1984	Agreeable	. Agreeable	Agreeable
17	Total dissolved solids	mg/l	IS 3025 (Part 16): 2023	500	2000	472
18	Turbidity	NTU	IS 3025 (Part 10): 1984	1	5	0.3
19	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21): 2009	200	600	167.92

☐ Please refer last Page for Note and Remarks.

Verified By

Snehal Raut Deputy Technical Manager **Authorized Signatories** 

Pooja Kathane

Technical Manager

Dr. (Mrs.) S.D. Garway Quality Manager

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Anacon Laboratories Pvt. Ltd. Nagpur Lab







TC 5458

#### Test Report

ULR No.- TC545823000002497F

Test Report No.: ALPL/31082023/3-13A dated 31/08/2023 Page 2 of 3

Sample Inward No.	ALPL/24082023/Mon-2/60-GW13	Analysis Start	24/08/2023
Inward Date	24/08/2023	Analysis End	31/08/2023
Reference	W.O 4700098928/962	Report Issue Date	31/08/2023
Reference Date	22.03.2022	Sample Category	Water
	Inward Date Reference	Inward Date 24/08/2023 Reference W.O 4700098928/962	Inward Date 24/08/2023 Analysis End Reference W.O 4700098928/962 Report Issue Date Sample Cetegory

Sample Name Ground Water			Location Co-ordina Lat: 22°9'30.46"N, Long: 85		Quantity Received 5.0 Ltr & 250 ml
Sample Coll Anacon Repr		Sampling Date 18/08/2023	Sampling Time 11.40 am to 4.25 pm	United the same of the same	mpling Location Basti (Nr. Play Ground)

#### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requiren IS 1050 (Drinking Wate Including Am	Test Result	
				Acceptable Limit	Permissible Limit #	
II	Chemical Testing 2. Residues In Water					
20	Arsenic (as As)	mg/l	IS 3025 (Part 37): 2022	0.01	No relaxation	BDL (DL - 0.01)
21	Aluminium (as Al)	mg/l	IS 3025 (Part 2): 2019	0.03	0.2	BDL (DL - 0.01)
22	Barium (as Ba)	mg/l	IS 3025 (Part 2): 2019	0.7	No relaxation	BDL (DL - 0.01)
23	Boron (as B)	mg/l	IS 3025 (Part 2): 2019	0.5	2.4	BDL (DL - 0.1)
24	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	0.05	1.5	BDL (DL - 0.03)
25	Cadmium (as Cd)	mg/l	IS 3025 (Part 2): 2019	0.003	No relaxation	BDL (DL - 0.001)
26	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	1.0	No relaxation	0.15
27	Lead (as Pb)	mg/l	IS 3025 (Part 2): 2019	0.01	No relaxation	BDL (DL - 0.001)
28	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	0.1	0.3	BDL (DL - 0.05)
29	Mercury (as Hg)	mg/l	IS 3025 (Part 48): 1994	0.001	No relaxation	BDL (DL - 0.0005)
30	Selenium (as Se)	mg/l	IS 3025 (Part 56): 2003	0.01	No relaxation	BDL (DL- 0.001)
31	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2): 2019	0.05	No relaxation	BDL (DL - 0.03)
32	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5	15	BDL (DL - 0.1)
33	Polynuclear aromatic hydrocarbon (PAH)	μg/l	ANtr/7.2/RES/06: 2018	0.1	No relaxation	BDL(DL-0.03)
34	Mineral Oil	mg/l	ANtr/7.2/RES/06	1	No relaxation	BDL (DL - 0.1)

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Verified By

Mangesh Fande Technical Manager

Radha Pawar Chemist **Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager

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Requirement as per

2

0.3

190

3

30



TC 5458

BDL (DL - 0.03)

#### Test Report

ULR No.- TC545823000002497F

Monocrotophos

Parathion methyl

Paraoxon methyl

Atrazine

Malathion

Malaoxon

Chlorpyrifos

Ethion

xvi

xvii

xviii

xix

xxi xxi

xxii

Test Report No.: ALPL/31082023/3-13A dated 31/08/2023 Page 3 of 3

Issued To: M/s Noamundi Iron Mines (M/s TATA Steel Limited) Noamundi, Jharkhand Postal Code: 833217		Inwar Refer	d Date 24/08/2023 ence W.O 4700098928/962 ence Date 22.03.2022		7/2023 - 4700098928/962	Analysis Start Analysis End Report Issue Dat Sample Category	
Sample Name Sample S Ground Water Dugw			Sample Parti Sample Code-0		Location Co-or Lat: 22°9'30.46"N, Long	and the same of th	Quantity Received 5.0 Ltr & 250 ml

Sample Name Ground Water Dugwell Sample Code-GW-13 Location Co-ordinates Quantity Received Lat: 22°9'30.46"N, Long: 85°28'53.38"E 5.0 Ltr & 250 ml

Sample Collected By Sampling Date Sampling Time Sampling Location
Anacon Representative 18/08/2023 11.40 am to 4.25 pm Noamundi Basti (Nr. Play Ground)

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4			Test Result	
				Acce	ptable Limit	Permissible Limit #		
35	Pesticide Residues Organoch	lorine		- 10		No.		
i	Alpha-HCH	μg/l	ANtr/7.2/RES/01: 2	2018	0.01	No relaxation	BDL (DL - 0.01)	
íi	Beta HCH	μg/l	ANtr/7.2/RES/01: 2	2018	0.04	No relaxation	BDL (DL - 0.03)	
iii	Gamma - HCH (Lindane)	μg/l	ANtr/7.2/RES/01: 2	2018	2	No relaxation	BDL (DL - 0.03)	
iv	Delta- HCH	μg/l	ANtr/7.2/RES/01: 2	2018	0.04	No relaxation	BDL (DL - 0.03)	
V	Alachlor	μg/l	ANtr/7.2/RES/01: 2	2018	20	No relaxation	BDL (DL - 0.03)	
vi	Aldrin	μg/l	ANtr/7.2/RES/01: 2	2018	0.03	No relaxation	BDL (DL - 0.03)	
vii	Dieldrin	μg/l	ANtr/7.2/RES/01: 2	2018	0.03	No relaxation	BDL (DL - 0.03)	
viii	Butachlor	μg/l	ANtr/7.2/RES/01: 2	2018	125	No relaxation	BDL (DL - 0.03)	
ix	p,p'-DDE	μg/l	ANtr/7.2/RES/01: 2	018	1	No relaxation	BDL (DL - 0.03)	
X	o,p'-DDE	μg/l	ANtr/7.2/RES/01: 2	018	1	No relaxation	BDL (DL - 0.03)	
xi	p,p'-DDD	μg/l	ANtr/7.2/RES/01: 2	2018	1	No relaxation	BDL (DL - 0.03)	
xii	o,p'-DDD	μg/l	ANtr/7.2/RES/01: 2	018	1	No relaxation	BDL (DL - 0.03)	
xiii	o,p'- DDT	μg/l	ANtr/7.2/RES/01: 2	018	1	No relaxation	BDL (DL - 0.03)	
xiv	p,p'- DDT	μg/l	ANtr/7.2/RES/01: 2	2018	1	No relaxation	BDL (DL - 0.03)	

ANtr/7.2/RES/01: 2018

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REMARKS: As requested by the client, sample was tested for above parameters only. Sample complies with IS:10500:2012, for tests conducted, indicating that it is fit for drinking purpose with respect to tested parameters.

Verified By

µg/l

 $\mu g/l$ 

µg/l

µg/l

µg/l

µg/I

µg/l

µg/l

Radha Pawar Chemist **Authorized Signatory** 

No relaxation

No relaxation

No relaxation

No relaxation

No relaxation

No relaxation

Dr. (Mrs.) S.D. Garway Quality Manager

lan

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TC 5458

#### Test Report

ULR No.- TC545823000002497F

Page 1 of 3 Test Report No.: ALPL/31082023/3-14A dated 31/08/2023 24/08/2023 ALPL/24082023/Mon-2/60-GW14 **Analysis Start** Sample Inward No. Issued To: M/s Noamundi Iron Mines 31/08/2023 Analysis End **Inward Date** 24/08/2023 (M/s TATA Steel Limited) W.O.- 4700098928/962 Report Issue Date 31/08/2023 Reference Noamundi, Jharkhand Water Sample Category Reference Date 22.03.2022 Postal Code: 833217 Sample Source Sample Particulars Location Co-ordinates Quantity Received C N

Ground Water			Lat: 22°9'25.41"N, Long: 85	5.0 Ltr & 250 ml	
Sample Co	Sample Collected By		Sampling Time	Sa	mpling Location
Anacon Rep	presentative	18/08/2023	11.40 am to 4.25 pm	Noamundi	Bazar (Nr. Petrol Pump)

#### TEST RESULTS

s.n.	Test Parameter	Measurement Unit	Test Method	Requirem IS 1050 (Drinking Water Including Amo	Test Result	
				Acceptable Limit	Permissible Limit #	
I	Biological Testing 1. Water					
1	Escherichia coli	Per 100 ml	IS 15185 : 2016	Absent	Absent	Absent
II	Chemical Testing 1. Water					
2	Alkalinity (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 23): 1986	200	600	183.76
3	Anionic surface active agents (as MBAS)	mg/l	IS 13428 : (Annex K): 2005	0.2	1.0	BDL (DL - 0.01)
4	Colour	Hazen units	IS 3025 (Part 4): 2021	5	15	1
5	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.05	No relaxation	BDL (DL - 0.005)
6	Chloride (as Cl)	mg/l	IS 3025 (Part 32):1988	250	1000	27.43
7	Calcium (as Ca)	mg/l	IS 3025 (Part 40): 1991	75	200	51.64
8	Free residual chlorine	mg/l	IS 3025 (Part 26): 2021	Min. 0.2	1	BDL (DL - 0.1)
9	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	1.0	1.5	0.31
10	Magnesium (as Mg)	mg/l	IS 3025 (Part 46): 1994	30	100	12.58
11	Nitrate (as NO <sub>3</sub> )	mg/l	APHA method 23rd edition: 2017	45	No relaxation	9.36
12	Odour		IS 3025 (Part 5): 2018	Agreeable	Agreeable	Agreeable
13	pH	Latery -	IS 3025 (Part 11): 2022	6.5 to 8.5	No relaxation	6.81 at 25°C
14	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	0.001	0.002	BDL (DL - 0.001)
15	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24): 2022	200	400	18.43
16	Taste	-	IS 3025 (Part 8): 1984	Agreeable	Agreeable	Agreeable
17	Total dissolved solids	mg/l	IS 3025 (Part 16): 2023	500	2000	428
18	Turbidity	NTU	IS 3025 (Part 10): 1984	1	5	0.6
19	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21): 2009	200	600	180.74

☐ Please refer last Page for Note and Remarks.

Verified By

Snehal Raut Deputy Technical Manager **Authorized Signatories** 

Pooja Kathane Technical Manager Dr. (Mrs.) S.D. Garway Quality Manager

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TC 5458

Noamundi Bazar (Nr. Petrol Pump)

#### Test Report

ULR No.- TC545823000002497F

Anacon Representative

Test Report No.: ALPL/31082023/3-14A dated 31/08/2023 Page 2 of 3 ALPL/24082023/Mon-2/60-GW14 24/08/2023 Issued To: Sample Inward No. **Analysis Start** M/s Noamundi Iron Mines 31/08/2023 **Analysis End Inward Date** 24/08/2023 (M/s TATA Steel Limited) W.O.- 4700098928/962 Report Issue Date 31/08/2023 Reference Noamundi, Jharkhand Sample Category Water 22.03.2022 Reference Date Postal Code: 833217 Quantity Received Sample Source Sample Particulars Location Co-ordinates Sample Name Dugwell Sample Code-GW-14 Lat: 22°9'25.41"N, Long: 85°30'21.34"E 5.0 Ltr & 250 ml Ground Water Sample Collected By Sampling Date Sampling Time Sampling Location

ST			

11.40 am to 4.25 pm

18/08/2023

s.n.	Test Parameter	Measurement Unit	Test Method	Require IS 105 (Drinking Wat Including Ar	Test Result	
				Acceptable Limit	Permissible Limit #	
П	Chemical Testing 2. Residues In Water					
20	Arsenic (as As)	mg/l	IS 3025 (Part 37): 2022	0.01	No relaxation	BDL (DL - 0.01)
21	Aluminium (as Al)	mg/l	IS 3025 (Part 2): 2019	0.03	0.2	BDL (DL - 0.01)
22	Barium (as Ba)	mg/l	IS 3025 (Part 2): 2019	0.7	No relaxation	BDL (DL - 0.01)
23	Boron (as B)	mg/l	IS 3025 (Part 2): 2019	0.5	2.4	BDL (DL - 0.1)
24	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	0.05	1.5	BDL (DL - 0.03)
25	Cadmium (as Cd)	mg/l	IS 3025 (Part 2): 2019	0.003	No relaxation	BDL (DL - 0.001)
26	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	1.0	No relaxation	0.06
27	Lead (as Pb)	mg/l	IS 3025 (Part 2): 2019	0.01	No relaxation	BDL (DL - 0.001)
28	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	0.1	. 0.3	BDL (DL - 0.05)
29	Mercury (as Hg)	mg/l	IS 3025 (Part 48): 1994	0.001	No relaxation	BDL (DL - 0.0005)
30	Selenium (as Se)	mg/l	IS 3025 (Part 56): 2003	0.01	No relaxation	BDL (DL- 0.001)
31	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2): 2019	0.05	No relaxation	BDL (DL - 0.03)
32	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5	15	BDL (DL - 0.1)
33	Polynuclear aromatic hydrocarbon (PAH)	μg/I	ANtr/7.2/RES/06: 2018	0.1	No relaxation	BDL(DL-0.03)
34	Mineral Oil	mg/l	ANtr/7.2/RES/06	1	No relaxation	BDL (DL - 0.1)

☐ Please refer last Page for Note and Remarks.

Verified By

Mangesh Fande Technical Manager

Radha Pawar Chemist Authorized Signatory

Dr. (Mrs.) S.D. Garway Quality Manager

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TC 5458

#### Test Report

ULR No.- TC545823000002497F

Test Report No.: ALPL/31082023/3-14A dated 31/08/2023 Page 3 of 3 **Analysis Start** 24/08/2023 Sample Inward No. ALPL/24082023/Mon-2/60-GW14 Issued To: M/s Noamundi Iron Mines 31/08/2023 Analysis End **Inward Date** 24/08/2023 (M/s TATA Steel Limited) W.O.- 4700098928/962 Report Issue Date 31/08/2023 Reference Noamundi, Jharkhand Sample Category Water 22.03.2022 Reference Date Postal Code: 833217

Sample Name Sample Source Ground Water Dugwell		Sample Particulars	Location Co-ordinates		Quantity Received
		Sample Code-GW-14	Lat: 22°9'25.41"N, Long: 85°30'21.34"E		5.0 Ltr & 250 ml
	Sample Collected By Anacon Representative		Sampling Time 11.40 am to 4.25 pm		mpling Location  Bazar (Nr. Petrol Pump)

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requiren IS 1050 (Drinking Wate Including Am	Test Result	
				Acceptable Limit	Permissible Limit #	
35	Pesticide Residues Organoch	lorine				1
i	Alpha-HCH	μg/l	ANtr/7.2/RES/01: 20		No relaxation	BDL (DL - 0.01)
ii	Beta HCH	μg/l	ANtr/7.2/RES/01: 20	18 0.04	No relaxation	BDL (DL - 0.03)
iii	Gamma - HCH (Lindane)	μg/l	ANtr/7.2/RES/01: 20	18 2	No relaxation	BDL (DL - 0.03)
iv	Delta- HCH	μg/l	ANtr/7.2/RES/01: 20	18 0.04	No relaxation	BDL (DL - 0.03)
v	Alachlor	μg/l	ANtr/7.2/RES/01: 20	18 20	No relaxation	BDL (DL - 0.03)
vi	Aldrin	μg/l	ANtr/7.2/RES/01: 20	18 0.03	No relaxation	BDL (DL - 0.03)
vii	Dieldrin	μg/l	ANtr/7.2/RES/01: 20	18 0.03	No relaxation	BDL (DL - 0.03)
viii	Butachlor	μg/l	ANtr/7.2/RES/01: 20	18 125	No relaxation	BDL (DL - 0.03)
ix	p,p'-DDE	μg/l	ANtr/7.2/RES/01: 20	18 1	No relaxation	BDL (DL - 0.03)
X	o,p'-DDE	μg/l	ANtr/7.2/RES/01: 20	18 1	No relaxation	BDL (DL - 0.03)
xi	p,p'-DDD	μg/l	ANtr/7.2/RES/01: 20	18 1	No relaxation	BDL (DL - 0.03)
xii	o,p'-DDD	μg/l	ANtr/7.2/RES/01: 20	18 1	No relaxation	BDL (DL - 0.03)
xiii	o,p'- DDT	μg/l	ANtr/7.2/RES/01: 20	18 1	No relaxation	BDL (DL - 0.03)
xiv	p,p'- DDT	μg/l	ANtr/7.2/RES/01: 20	18 1	No relaxation	BDL (DL - 0.03)
XV	Monocrotophos	μg/l	ANtr/7.2/RES/01: 20	18 1	No relaxation	BDL (DL - 0.03)
xvi	Atrazine	μg/l	ANtr/7.2/RES/01: 20	18 2	No relaxation	BDL (DL - 0.03)
xvii	Parathion methyl	μg/l	ANtr/7.2/RES/01: 20	18 0.3	No relaxation	BDL (DL - 0.03)
xviii	Paraoxon methyl	μg/l	ANtr/7.2/RES/01: 20	18 -		BDL (DL - 0.03)
xix	Malathion	μg/l	ANtr/7.2/RES/01: 20	18 190	No relaxation	BDL (DL - 0.03)
XX	Malaoxon	μg/l	ANtr/7.2/RES/01: 20	18 -		BDL (DL - 0.03)
xxi	Ethion	μg/l	ANtr/7.2/RES/01: 20	18 3	No relaxation	BDL (DL - 0.03)
xxii	Chlorpyrifos	μg/l	ANtr/7.2/RES/01: 20	18 30	No relaxation	BDL (DL - 0.03)

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REMARKS: As requested by the client, sample was tested for above parameters only. Sample complies with IS:10500:2012, for tests conducted, indicating that it is fit for drinking purpose with respect to tested parameters.

Verified By

Radha Pawar

Authorized Signatory

Dr. (Mrs.) S.D. Garway

Chemist

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TC 5458

#### Test Report

ULR No.- TC545823000002497F

Page 1 of 3 Test Report No.: ALPL/31082023/3-15A dated 31/08/2023 24/08/2023 ALPL/24082023/Mon-2/60-GW15 **Analysis Start** Sample Inward No. Issued To: M/s Noamundi Iron Mines 31/08/2023 24/08/2023 Analysis End **Inward Date** (M/s TATA Steel Limited) 31/08/2023 Report Issue Date Reference W.O.- 4700098928/962 Noamundi, Jharkhand Water Sample Category 22.03.2022 Reference Date

Postal Code: 833217 Quantity Received Location Co-ordinates Sample Particulars Sample Name Sample Source 5.0 Ltr & 250 ml Lat: 22°8'54.89"N, Long: 85°31'8.03"E Sample Code-GW-15 Ground Water Dugwell Sampling Location Sample Collected By Sampling Time Sampling Date Mahudi Village Anacon Representative 11.40 am to 4.25 pm 18/08/2023 (Railway Station Road)

TEST RESULTS

s.n.	Test Parameter	Measurement Unit	t Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Biological Testing 1. Water					
1	Escherichia coli	Per 100 ml	IS 15185 : 2016	Absent	Absent	Absent
11	Chemical Testing 1. Water					
2	Alkalinity (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 23): 1986	200	600	176.28
3	Anionic surface active agents (as MBAS)	mg/l	IS 13428 : (Annex K): 2005	0.2	1.0	BDL (DL - 0.01)
4	Colour	Hazen units	IS 3025 (Part 4): 2021	5	15	1
5	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.05	No relaxation	BDL (DL - 0.005)
6	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :1988	250	1000	28.46
7	Calcium (as Ca)	mg/l	IS 3025 (Part 40): 1991	75	200	53.91
8	Free residual chlorine	mg/l	IS 3025 (Part 26): 2021	Min. 0.2	1	BDL (DL - 0.1)
9	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	1.0	1.5	0.21
10	Magnesium (as Mg)	mg/l	IS 3025 (Part 46): 1994	30	100	13.42
11	Nitrate (as NO <sub>3</sub> )	mg/l	APHA method 23rd edition: 2017	45	No relaxation	5.76
12	Odour		IS 3025 (Part 5): 2018	Agreeable	Agreeable	Agreeable
13	pH		IS 3025 (Part 11): 2022	6.5 to 8.5	No relaxation	7.13 at 25°C
14	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	0.001	0.002	BDL (DL - 0.001)
15	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24): 2022	200	400	18.46
16	Taste	•	IS 3025 (Part 8): 1984	Agreeable	Agreeable	Agreeable
17	Total dissolved solids	mg/l	IS 3025 (Part 16): 2023	500	2000	452
18	Turbidity	NTU	IS 3025 (Part 10): 1984	1	5	0.3
19	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21): 2009	200	600	189.87

☐ Please refer last Page for Note and Remarks.

Verified By

Snéhal Raut Deputy Technical Manager **Authorized Signatories** 

Pooja Kathane Technical Manager Dr. (Mrs.) S.D. Garway Quality Manager

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavor towards ensuring that your next experienced will be significantly better than the current one, we welcome your feedback on <a href="mailto:feedback@anacon.in">feedback@anacon.in</a>







TC 5458

#### Test Report

ULR No.- TC545823000002497F

Page 2 of 3 dated 31/08/2023 Test Report No.: ALPL/31082023/3-15A

Issued To:	Sample Inward No.	ALPL/24082023/Mon-2/60-GW15	Analysis Start	24/08/2023
M/s Noamundi Iron Mines	Inward Date	24/08/2023	Analysis End	31/08/2023
(M/s TATA Steel Limited)	Reference	W.O 4700098928/962	Report Issue Date	31/08/2023
Noamundi, Jharkhand Postal Code: 833217	Reference Date	22.03.2022	Sample Category	Water

Sample Name Ground Water	Sample Source Dugwell	Sample Particulars Sample Code-GW-15	Location Co-ordinates Lat: 22°8'54.89"N, Long: 85°3	Quantity Received 5.0 Ltr & 250 ml	
Sample Co	Sample Collected By Anacon Representative  Sampling Date 18/08/2023		Sampling Time	Sampling Location	
Anacon Rep			11.40 am to 4.25 pm		Mahudi Village ailway Station Road)

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result
	*			Acceptable Limit	Permissible Limit #	
П	Chemical Testing 2. Residues In Water					
20	Arsenic (as As)	mg/l	IS 3025 (Part 37): 2022	0.01	No relaxation	BDL (DL - 0.01)
21	Aluminium (as Al)	mg/l	IS 3025 (Part 2): 2019	0.03	0.2	BDL (DL - 0.01)
22	Barium (as Ba)	mg/l	IS 3025 (Part 2): 2019	0.7	No relaxation	BDL (DL - 0.01)
23	Boron (as B)	mg/l	IS 3025 (Part 2): 2019	0.5	2.4	BDL (DL - 0.1)
24	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	0.05	1.5	BDL (DL - 0.03)
25	Cadmium (as Cd)	mg/l	1S 3025 (Part 2): 2019	0.003	No relaxation	BDL (DL - 0.001)
26	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	1.0	No relaxation	0.20
27	Lead (as Pb)	mg/l	IS 3025 (Part 2): 2019	0.01	No relaxation	BDL (DL - 0.001)
28	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	0.1	0.3	BDL (DL - 0.05)
29	Mercury (as Hg)	mg/l	IS 3025 (Part 48): 1994	0.001	No relaxation	BDL (DL - 0.0005)
30	Selenium (as Se)	mg/l	IS 3025 (Part 56): 2003	0.01	No relaxation	BDL (DL- 0.001)
31	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2): 2019	0.05	No relaxation	BDL (DL - 0.03)
32	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5	15	BDL (DL - 0.1)
33	Polynuclear aromatic hydrocarbon (PAH)	μg/I	ANtr/7.2/RES/06: 2018	0.1	No relaxation	BDL(DL-0.03)
34	Mineral Oil	mg/l	ANtr/7.2/RES/06	1	No relaxation	BDL (DL - 0.1)

☐ Please refer last Page for Note and Remarks.

Verified By

Mangesh Fande

Technical Manager

Radha Pawar Chemist

**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager

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TC 5458

#### Test Report

ULR No.- TC545823000002497F

 Test Report No.: ALPL/31082023/3-15A
 dated 31/08/2023
 Page 3 of 3

 Issued To:
 Sample Inward No.
 ALPL/24082023/Mon-2/60-GW15
 Analysis Start
 24/08/2023

 M/s Noamundi Iron Mines
 Inward Pote
 24/08/2023
 Analysis Fnd
 31/08/2023

M/s Noamundi Iron Mines 31/08/2023 **Inward Date** 24/08/2023 Analysis End (M/s TATA Steel Limited) Reference W.O.- 4700098928/962 Report Issue Date 31/08/2023 Noamundi, Jharkhand Sample Category Water Reference Date 22.03.2022 Postal Code: 833217

Sample Name Ground Water	Sample Source Dugwell	Sample Particulars Sample Code-GW-15	Location Co-ordinate Lat: 22°8'54.89"N, Long: 85°3		Quantity Received 5.0 Ltr & 250 ml
Sample Co	Sample Collected By Sampling Date		Sampling Time	Sampling Location	
Anacon Rep	presentative	18/08/2023	11.40 am to 4.25 pm	25	Aahudi Village way Station Road)

**TEST RESULTS** 

S.N.	Test Parameter	Measurement Unit	Test Method	IS 105 (Drinking Wat	nent as per 00 : 2012 er Specifications) nendment No. 4	Test Result
				Acceptable Limit	Permissible Limit #	
35	Pesticide Residues Organoch	lorine		AT LONG		
i	Alpha-HCH	μg/l	ANtr/7.2/RES/01: 20		No relaxation	BDL (DL - 0.01)
ii	Beta HCH	μg/l	ANtr/7.2/RES/01: 20	18 0.04	No relaxation	BDL (DL - 0.03)
iii	Gamma - HCH (Lindane)	μg/l	ANtr/7.2/RES/01: 20	18 2	No relaxation	BDL (DL - 0.03)
iv	Delta- HCH	μg/l	ANtr/7.2/RES/01: 20	18 0.04	No relaxation	BDL (DL - 0.03)
v	Alachlor	μg/l	ANtr/7.2/RES/01: 20	18 20	No relaxation	BDL (DL - 0.03)
vi	Aldrin	μg/l	ANtr/7.2/RES/01: 20	18 0.03	No relaxation	BDL (DL - 0.03)
vii	Dieldrin	μg/l	ANtr/7.2/RES/01: 20	18 0.03	No relaxation	BDL (DL - 0.03)
viii	Butachlor	μg/l	ANtr/7.2/RES/01: 20	18 125	No relaxation	BDL (DL - 0.03)
ix	p,p'-DDE	μg/l	ANtr/7.2/RES/01: 20	18 1	No relaxation	BDL (DL - 0.03)
X	o,p'-DDE	μg/l	ANtr/7.2/RES/01: 20	18 1	No relaxation	BDL (DL - 0.03)
xi	p,p'-DDD	μg/l	ANtr/7.2/RES/01: 20	18 1	No relaxation	BDL (DL - 0.03)
xii	o,p'-DDD	μg/l	ANtr/7.2/RES/01: 20	18 1	No relaxation	BDL (DL - 0.03)
xiii	o,p'- DDT	µg/1	ANtr/7.2/RES/01: 20	18 1	No relaxation	BDL (DL - 0.03)
xiv	p,p'- DDT	μg/l	ANtr/7.2/RES/01: 20	18 1	No relaxation	BDL (DL - 0.03)
XV	Monocrotophos	μg/l	ANtr/7.2/RES/01: 20	18 1	No relaxation	BDL (DL - 0.03)
xvi	Atrazine	μg/l	ANtr/7.2/RES/01: 20	18 2	No relaxation	BDL (DL - 0.03)
xvii	Parathion methyl	μg/l	ANtr/7.2/RES/01: 20	18 0.3	No relaxation	BDL (DL - 0.03)
xviii	Paraoxon methyl	μg/l	ANtr/7.2/RES/01: 20	18 -	-	BDL (DL - 0.03)
xix	Malathion	μg/l	ANtr/7.2/RES/01: 20	18 190	No relaxation	BDL (DL - 0.03)
XX	Malaoxon	μg/l	ANtr/7.2/RES/01: 20	18 -	•	BDL (DL - 0.03)
xxi	Ethion	μg/l	ANtr/7.2/RES/01: 20	18 3	No relaxation	BDL (DL - 0.03)
xxii	Chlorpyrifos	μg/l	ANtr/7.2/RES/01: 20	18 30	No relaxation	BDL (DL - 0.03)

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REMARKS: As requested by the client, sample was tested for above parameters only. Sample complies with IS:10500:2012, for tests conducted, indicating that it is fit for drinking purpose with respect to tested parameters.

Verified By

**Authorized Signatory** 

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TC 5458

### Test Report

ULR No.- TC545823000002497F

Test Report No.: ALPL/31082023/3-16A dated 31/08/2023 Page 1 of 3

Issued To:	Sample Inward No.	ALPL/24082023/Mon-2/60-GW16	Analysis Start	24/08/2023
M/s Noamundi Iron Mines	Inward Date	24/08/2023	Analysis End	31/08/2023
(M/s TATA Steel Limited)	Reference	W.O 4700098928/962	Report Issue Date	31/08/2023
Noamundi, Jharkhand Postal Code: 833217	Reference Date	22.03.2022	Sample Category	Water

Sample Name Ground Water	Sample Source Dugwell	Sample Particulars Sample Code-GW-16	Location Co-ordinates Lat: 22°8'52.58"N, Long: 85°30'28.50"	Quantity Received 5.0 Ltr & 250 ml
Sample Co	ollected By	Sampling Date 18/08/2023		Sampling Location ottom Bin (Nr. Barrack)

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Biological Testing 1. Water					
1	Escherichia coli	Per 100 ml	IS 15185 : 2016	Absent	Absent	Absent
II	Chemical Testing 1. Water					
2	Alkalinity (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 23): 1986	200	600	192.36
3	Anionic surface active agents (as MBAS)	mg/l	IS 13428 : (Annex K): 2005	0.2	1.0	BDL (DL - 0.01)
4	Colour	Hazen units	IS 3025 (Part 4): 2021	5	15	1
5	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.05	No relaxation	BDL (DL - 0.005)
6	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :1988	250	1000	26.17
7	Calcium (as Ca)	mg/l	IS 3025 (Part 40): 1991	75	200	51.29
8	Free residual chlorine	mg/l	IS 3025 (Part 26): 2021	Min. 0.2	1	BDL (DL - 0.1)
9	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	1.0	1.5	0.24
10	Magnesium (as Mg)	mg/l	IS 3025 (Part 46): 1994	30	100	12.68
11	Nitrate (as NO <sub>3</sub> )	mg/l	APHA method 23rd edition: 2017	45	No relaxation	9.17
12	Odour	-	IS 3025 (Part 5): 2018	Agreeable	Agreeable	Agreeable
13	рН	-	IS 3025 (Part 11): 2022	6.5 to 8.5	No relaxation	6.82 at 25°C
14	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	0.001	0.002	BDL (DL - 0.001)
15	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24): 2022	200	400	24.73
16	Taste	-	IS 3025 (Part 8): 1984	Agreeable	Agreeable	Agreeable
17	Total dissolved solids	mg/l	IS 3025 (Part 16): 2023	500	2000	472
18	Turbidity	NTU	IS 3025 (Part 10): 1984	1	5	0.6
19	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21): 2009	200	600	180.28

☐ Please refer last Page for Note and Remarks.

Verified By

Snehal Raut Deputy Technical Manager **Authorized Signatories** 

Pooja Kathane Technical Manager Dr. (Mrs.) S.D. Garway Quality Manager

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Anacon Laboratories Pvt. Ltd. Nagpur Lab







TC 5458

#### Test Report

ULR No.- TC545823000002497F

dated 31/08/2023 Test Report No.: ALPL/31082023/3-16A ALPL/24082023/Mon-2/60-GW16 **Analysis Start** Sample Inward No. Issued To: M/s Noamundi Iron Mines **Analysis End** 24/08/2023

Inward Date (M/s TATA Steel Limited) Reference Noamundi, Jharkhand

W.O.- 4700098928/962

22.03.2022 Reference Date

Page 2 of 3 24/08/2023

31/08/2023

31/08/2023 Report Issue Date Water Sample Category

Postal Code: 833217	7,750,7				
Sample Name	Sample Source	Sample Particulars	Location Co-ordinate		Quantity Received
Ground Water	Dugwell	Sample Code-GW-16	Lat: 22°8'52.58"N, Long: 85°3		5.0 Ltr & 250 ml
Sample Collected By		Sampling Date	Sampling Time	1	mpling Location
Anacon Representative		18/08/2023	11.40 am to 4.25 pm		m Bin (Nr. Barrack)

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
П	Chemical Testing 2. Residues In Water					
20	Arsenic (as As)	mg/l	IS 3025 (Part 37): 1988	0.01	No relaxation	BDL (DL - 0.01)
21	Aluminium (as Al)	mg/l	IS 3025 (Part 2): 2019	0.03	0.2	BDL (DL - 0.01)
22	Barium (as Ba)	mg/l	IS 3025 (Part 2): 2019	0.7	No relaxation	BDL (DL - 0.01)
23	Boron (as B)	mg/l	IS 3025 (Part 2): 2019	0.5	2.4	BDL (DL - 0.1)
24	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	0.05	1.5	BDL (DL - 0.03)
25	Cadmium (as Cd)	mg/l	IS 3025 (Part 2): 2019	0.003	No relaxation	BDL (DL - 0.001)
26	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	1.0	No relaxation	0.16
27	Lead (as Pb)	mg/l	IS 3025 (Part 2): 2019	0.01	No relaxation	BDL (DL - 0.001)
28	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	0.1	0.3	BDL (DL - 0.05)
29	Mercury (as Hg)	mg/l	IS 3025 (Part 48): 1994	0.001	No relaxation	BDL (DL - 0.0005)
30	Selenium (as Se)	mg/l	IS 3025 (Part 56): 2003	0.01	No relaxation	BDL (DL- 0.001)
31	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2): 2019	0.05	No relaxation	BDL (DL - 0.03)
32	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5	15	BDL (DL - 0.1)
33	Polynuclear aromatic hydrocarbon (PAH)	μg/l	ANtr/7.2/RES/06: 2018	0.1	No relaxation	BDL(DL-0.03)
34	Mineral Oil	mg/l	ANtr/7.2/RES/06	1	No relaxation	BDL (DL – 0.1)

Please refer last Page for Note and Remarks.

Verified By

Mangesh Fande

Technical Manager

Radha Pawar Chemist

**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager



xxi

xxii

Ethion

Chlorpyrifos

#### Anacon Laboratories





TC 5458

#### Test Report

ULR No.- TC545823000002497F

Test Report No.: ALPL/31082023/3-16A dated 31/08/2023 Page 3 of 3 Issued To: Sample Inward No. ALPL/24082023/Mon-2/60-GW16 **Analysis Start** 24/08/2023 M/s Noamundi Iron Mines **Inward Date** 24/08/2023 Analysis End 31/08/2023 (M/s TATA Steel Limited) Reference W.O.- 4700098928/962 Report Issue Date 31/08/2023 Noamundi, Jharkhand Sample Category Water Reference Date 22.03.2022 Postal Code: 833217 Sample Name Sample Source Sample Particulars Location Co-ordinates Quantity Received Ground Water Dugwell Sample Code-GW-16 Lat: 22°8'52.58"N, Long: 85°30'28.50"E 5.0 Ltr & 250 ml Sample Collected By Sampling Date Sampling Time Sampling Location Anacon Representative 18/08/2023 11.40 am to 4.25 pm Bottom Bin (Nr. Barrack)

TEST RESULTS

	Requirement as per
-	IS 10500 : 2012
Test Method	(Drinking Water Specifications)
	I - 1 - 1 - 1 - 1 - 1 - 1

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30

Measurement S.N. Test Parameter Test Result Unit Including Amendment No. 4 Acceptable Limit | Permissible Limit # Pesticide Residues Organochlorine i Alpha-HCH ANtr/7.2/RES/01: 2018 µg/I 0.01 No relaxation BDL (DL - 0.01) Beta HCH ii ANtr/7.2/RES/01: 2018 µg/l 0.04 No relaxation BDL (DL - 0.03) iii Gamma - HCH (Lindane) ANtr/7.2/RES/01: 2018 μg/l BDL (DL - 0.03) 2 No relaxation Delta- HCH iv μg/I ANtr/7.2/RES/01: 2018 0.04 No relaxation BDL (DL - 0.03) v Alachlor ANtr/7.2/RES/01: 2018 µg/l 20 No relaxation BDL (DL - 0.03) vi Aldrin ANtr/7.2/RES/01: 2018 μg/l 0.03 No relaxation BDL (DL - 0.03) Dieldrin ANtr/7.2/RES/01: 2018 vii  $\mu g/l$ 0.03 No relaxation BDL (DL - 0.03) Butachlor ANtr/7.2/RES/01: 2018 µg/l 125 No relaxation BDL (DL - 0.03) p,p'-DDE ix  $\mu g/l$ ANtr/7.2/RES/01: 2018 1 No relaxation BDL (DL - 0.03) o,p'-DDE X  $\mu g/1$ ANtr/7.2/RES/01: 2018 1 No relaxation BDL (DL - 0.03) p,p'-DDD xi µg/l ANtr/7.2/RES/01: 2018 1 No relaxation BDL (DL - 0.03) o,p'-DDD xii ANtr/7.2/RES/01: 2018  $\mu g/l$ 1 BDL (DL - 0.03) No relaxation o,p'- DDT xiii ANtr/7.2/RES/01: 2018 µg/I 1 No relaxation BDL (DL - 0.03) p,p'- DDT xiv  $\mu g/l$ ANtr/7.2/RES/01: 2018 1 BDL (DL - 0.03) No relaxation XV Monocrotophos ANtr/7.2/RES/01: 2018  $\mu g/1$ 1 No relaxation BDL (DL - 0.03) Atrazine xvi µg/l ANtr/7.2/RES/01: 2018 BDL (DL - 0.03) 2 No relaxation xvii Parathion methyl µg/l ANtr/7.2/RES/01: 2018 0.3 No relaxation BDL (DL - 0.03) xviii Paraoxon methyl µg/l ANtr/7.2/RES/01: 2018 BDL (DL - 0.03) Malathion xix µg/l ANtr/7.2/RES/01: 2018 190 No relaxation BDL (DL - 0.03) Malaoxon XX µg/l ANtr/7.2/RES/01: 2018 BDL (DL - 0.03)

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 Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. • #Permissible limit in absence of an alternate source for drinking water. • 'mg/l' is equivalent to 'ppm'. • 'µg/l' is equivalent to 'ppb'. • BDL- Below detection limit. • DL- DL Indicates detection limit of instrument /method and shall be considered as 'absent'. • Result for test no. 8 is not relevant. • ANtr/7.2/RES -01,06; Inhouse validated method. • NT' indicates not Tested as sample failed to

ANtr/7.2/RES/01: 2018

ANtr/7.2/RES/01: 2018

REMARKS: As requested by the client, sample was tested for above parameters only. Sample complies with IS:10500:2012, for tests conducted, indicating that it is fit for drinking purpose with respect to tested parameters.

Verified By

µg/l

µg/l

**Authorized Signatory** 

No relaxation

No relaxation

BDL (DL - 0.03)

BDL (DL - 0.03)

Radha Pawar

Dr. (Mrs.) S.D. Garway

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Anacon Laboratories Pvt. Ltd. Nagpur Lab



#### Anacon Laboratories Pvt. Ltd. Nagpur Lab

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#### Test Report

Issued To:	ALPL/310520	Sample Inward No.	ALPL/23052023/ENV-116- SW-1 & 2		nalysis Start	24/05/2023	
	M/s Noamundi Iron Mines In		23/05/2023 W.O 4700098928/962 22.03.2022		nalysis End	30/05/2023	
Noamunut, Jilai Khanu		Reference			eport Issue ate	31/05/2023	
		Reference Date			Sample Category Water		
Sample Name	S	ample Source	Sample Particulars	Sample Condition		Quantity Received .0 Ltr & 250 ml each	
Surface Water		allah Upstream (SW-15) allah Downstream (SW-16)	Sample Code-SW-1 & 2 Sealed &		reserved 2.		
Sample Collected By Sampling Date		Sampling Time	Sampling Location  1.Balijhore Nallah Upstream (SW-1)  2. Downstream (SW-2)				
Anacon Representative Mr. Sovan Giri 18/05/2023						12.40 & 1.20 pm	

TEST RESULTS

	Test Parameter			Standards as	Test F	lesult
S.N.		Unit	Test Method	per IS 2296:1992 Class C	SW-1	SW-2
I	Biological Testing 1.Water					
1	Total Colifor	MPN/100ml	IS 1622: 1981	5000	BDL(DL-2)	BDL(DL-2)
II	Chemical Testing 1.Water					
2	pH value		IS 3025 (Part 11): 1983	6.0 to 9.0	8.14 at 25°C	7.98 at 25°C
3	Colour	Hazen units	IS 3025 (Part 4): 2021	300	6	4
4	Dissolved Oxygen	mg/l	IS 3025 (Part 38):1989	4.0	6.8	6.2
5	Total Suspended Solid (as TSS)	mg/l	IS 3025 (Part 17):1984		BDL(DL-10)	BDL(DL-10)
6.	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44):1993	3.0	BDL(DL-2)	BDL(DL-2)
7	Chemical oxygen demand	mg/l	IS 3025 (Part 58) :2006		13.6	12.4
8	Total Dissolved Solids (TDS)	mg/l	IS 3025 (Part 16): 1984	1500	417	392
9	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	1.5	BDL(DL-0.03)	BDL(DL-0.03)
10	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :1988	600	48.26	43.81
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24): 1986	400	18.24	16.52
12	Nitrate (as NO <sub>3</sub> )	mg/l	IS 3025 (Part 34): 1988	50	9.27	7.64
13	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	1.5	0.31	0.28
14	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.05	BDL(DL-0.005)	BDL(DL-0.005)
15	Phenolic compounds (as C6H5OH)	mg/l	IS 3025 (Part 43) :1001	0.005	BDL(DL-0.001)	BDL(DL-0.001)
16	Anionic Detergent	mg/l	IS 13428 : 2005 Annex K	1.0	BDL(DL-0.01)	BDL(DL-0.01)
	Chemical Testing 2. Residues	In Water				
17	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	0.5	0.37	0.26
18	Cadmium (as Cd)	mg/l	IS 3025 (Part 41): 1992	0.01	BDL(DL-0.001)	BDL(DL-0.001)
19	Selenium (as Se)	mg/l	IS 3025 (Part 2): 2019	0.05	BDL(DL-0.001)	BDL(DL-0.001)
20	Arsenic (as As)	mg/l	IS 3025 (Part 37): 1988	0.2	BDL(DL-0.001)	BDL(DL-0.001)
21	Lead (as Pb)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.05)	BDL(DL-0.05)
22	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	15	BDL(DL-0.05)	BDL(DL-0.05)
23	Hexa Chromium (as Cr+6)	mg/l	IS 3025 (Part 52) :2003	1.0	BDL(DL-0.001)	BDL(DL-0.001)
24	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994		BDL(DL-0.005)	BDL(DL-0.005)
25	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019		BDL(DL-0.05)	BDL(DL-0.05)

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Snehal Technical Manager Deputy Tec

Deputy Technical Manager

Authorized Signatories

Pooja Kathane Technical Manager Dr. (Mrs.) S.D. Garway Quality Manager

----End of Report----

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#### Anacon Laboratories Pvt. Ltd. Nagpur Lab

MIDC Butibori, Nagpur, Maharashtra, India - 441 122 

https://www.anaconlaboratories.com

#### Test Report

Test Report No. :	ALPL/31082	023/3-17 dated 31/08	/2023			Page 1 of 1	
Issued To:		Sample Inward No.			Analysis Star	rt 24/08/2023	
M/s Noamundi l	Iron Mines	Inward Date			Analysis End	31/08/2023	
(M/s TATA Steel Limited) Noamundi, Jharkhand		Reference	W () - 4700098978/967		Report Issue Date	31/08/2023	
Postal Code: 833	217	Reference Date	22.03.2022	Sample Category Water			
Sample Name		Sample Source	Sample Particulars	Sample 0	Condition	Quantity Received	
Surface Water 1.Balijhore Nallah Upstream (SW-1: 2.Balijhore Nallah Downstream (SW			Sample Code-SW-1 & 2	Sample Code-SW-1 & 2 Sealed & Ice Pres		ved 2.0 Ltr & 250 ml each	
Sample Collected By Sampling Date Anacon Representative 18/08/2023		Sampling Time	Sampling Location  1.Balijhore Nallah Upstream (SW-1)  2. Downstream (SW-2)				
		12.10 & 12.50 pm					

TEST RESULTS

		-5		Standards as	Test Result		
s.n.	Test Parameter	Measurement Unit	Test Method	per IS 2296:1992 Class C	SW-1	SW-2	
I	Biological Testing 1.Water			4 W			
1	Coliforn	MPN/100ml	IS 1622: 1981	5000	BDL(DL-2)	BDL(DL-2)	
П	Chemical Testing 1.Water		_	Pa 70.5			
2	pH value	J=0	IS 3025 (Part 11): 1983	6.0 to 9.0	8.21 at 25°C	7.94 at 25°C	
3	Colour	Hazen units	IS 3025 (Part 4): 2021	300	16	12	
4	Dissolved Oxygen	mg/l	IS 3025 (Part 38) :1989	4.0	6.7	6.3	
5	Total Suspended Solid (as TSS)	mg/l	IS 3025 (Part 17):1984		BDL(DL-10)	BDL(DL-10)	
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44):1993	3.0	BDL(DL-2)	BDL(DL-2)	
7	Chemical oxygen demand	mg/l	IS 3025 (Part 58) :2006	-	14.6	11.9	
8	Total Dissolved Solids (TDS)	mg/l	IS 3025 (Part 16): 2023	1500	1194	953	
9	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	1.5	BDL(DL-0.03)	BDL(DL-0.03)	
10	Chloride (as Cl)	mg/l	IS 3025 (Part 32):1988	600	56.27	48.19	
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24): 1986	400	23.58	19.57	
12	Nitrate (as NO <sub>1</sub> )	mg/l	IS 3025 (Part 34): 1988	50	12.64	9.26	
13	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	1.5	0.57	0.48	
14	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.05	BDL(DL-0.005)	BDL(DL-0.005)	
15	Phenolic compounds (as C6H5OH)	mg/l	IS 3025 (Part 43):1001	0.005	BDL(DL-0.001)	BDL(DL-0.001)	
16	Anionic Detergent	mg/l	1S 13428 : 2005 Annex K	1.0	BDL(DL-0.01)	BDL(DL-0.01)	
	Chemical Testing 2. Residues	In Water					
17	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	0.5	0.42	0.36	
18	Cadmium (as Cd)	mg/l	IS 3025 (Part 41): 1992	0.01	BDL(DL-0.001)	BDL(DL-0.001)	
19	Selenium (as Se)	mg/l	IS 3025 (Part 2): 2019	0.05	BDL(DL-0.001)	BDL(DL-0.001)	
20	Arsenic (as As)	mg/l	IS 3025 (Part 37): 1988	0.2	BDL(DL-0.001)	BDL(DL-0.001)	
21	Lead (as Pb)	mg/l '	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.05)	BDL(DL-0.05)	
22	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	15	BDL(DL-0.05)	BDL(DL-0.05)	
23	Hexa Chromium (as Cr <sup>+6</sup> )	mg/l	IS 3025 (Part 52) :2003	1.0	BDL(DL-0.001)	BDL(DL-0.001)	
24	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994		BDL(DL-0.005)	BDL(DL-0.005)	
25	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019		BDL(DL-0.05)	BDL(DL-0.05)	

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager Snehal Raut

Deputy Technical Manager

**Authorized Signatories** 

Pooja Kathane Technical Manager Dr. (Mrs.) S.D. Garway Quality Manager

----End of Report----







TC 5458

Test Report

ULR No TC545	8230000000929	OF	10st Acpo	11			10 3430
Test Report No.			dated 29/04/202	23		Pag	ge 1 of 2
Issued To: M/s Noamundi Iron Mine (M/s TATA Steel Limited) Noamundi, Jharkhand Postal Code: 833217		Sample Inward No. Inward Date Reference Reference Date	ALPL/21042023/MON-2/24-11&12 21/04/2023 W.O 4700098928/962 22.03.2022		Analysis End 29 Report Issue Date 29		21/04/2023 29/04/2023 29/04/2023 Water
Sample Name Sewage Water  Sewage Water  Sample Collected By Anacon Representative Mr. Sovan Giri		Ship STP 50 KLD	Sample Part Sample Code-W		2000 March	Condition ce Preserved	Quantity Received 5.0 Ltr & 250 ml
		Sampling Dafe - 14/04/2023	Sampling T		New Tow	pling Location n Ship STP 50 KLD let & Outlet	

#### TEST RESULTS

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test Result	
O		Unit	Test Method	Water)	Inlet	Outlet
I	Chemical Testing Pollution & Environment			.0		
1	pH value	-	IS 3025 (Part 11): 2022	5.5 to 9.0	6.76 at 25°C	6.82 at 25°C
2	Oil & Grease	mg/l	IS 3025 (Part 39): 1991	10	BDL(DL-4)	BDL(DL-4)
3	Total Suspended Solid (TSS)	mg/l	IS 3025 (Part 17): 1984	100	87	42
4	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) :1988	50	16.3	12.8
5	Total Kjeldahl Nitrogen (as N)	mg/l	IS 3025 (Part 34): 1988	100	21.9	14.3
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44):1993	30	26	18
7	Chemical Oxygen Demand	mg/l	IS 3025 (Part 58) :2006	250	78	43
8	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.2	BDL(DL-0.1)	BDL(DL-0.1)
9	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	1.0	BDL(DL-0.1)	BDL(DL-0.1)

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Verified by

Snehal Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway

Quality Manager

----End of Report----

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Anacon Laboratories Pvt. Ltd. Nagpur Lab









TC 5458

Test Report

Test Report No. : ALPL/	29042023/3-9A	dated 29/04/2023		Page 2 o
Issued To .	Comple Insured No.	AT DI /01040003/14/03/16/24 11/04/2	1	1 450 2 0

			dated 27/01/2023	r dy	ge 2 01 2
Issued To:		Sample Inward No.	ALPL/21042023/MON-2/24-11&12	Analysis Start	21/04/2023
M/s Noamundi Iron Mine (M/s TATA Steel Limited) Noamundi, Jharkhand		Inward Date	21/04/2023	Analysis End	29/04/2023
		Reference	W.O 4700098928/962	Report Issue Date	29/04/2023
Postal Code: 833	Compression (Compression Compression Compr	Reference Date	22.03.2022	Sample Category	Water
Sample Name	STATE OF THE PARTY	ple Source	Sample Particulars	Sample Condition	Quantity Received
Sewage Water		Ship STP 50 KLD et & Outlet	Sample Code-WW-11 & 12	Sealed & Ice Preserved	5.0 Ltr & 250 ml

Sample Collected By Sampling Date Sampling Time Sampling Location Anacon Representative Mr. Sovan Giri New Town Ship STP 50 KLD 14/04/2023 10.30 am to 4.20 pm Inlet & Outlet

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Standards (In Land	Test Result	
			rest Wethod	Surface Water)	Inlet	Outlet
II	Chemical Testing 2. Residues In Water			1-16-0		
10	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	3.0	1.16	0.37
11	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-5)	BDL(DL-5)
12	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
13	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994	0.01	BDL(DL-0.01)	BDL(DL-0.01
14	Cadmium (as Cd)	mg/l	IS: 3025 (Part 41): 1992	2.0	BDL(DL-0.1)	BDL(DL-0.1)
15	Selenium (as Se)	mg/l	IS: 3025 (Part 56): 2003	0.05	BDL(DL-0.1)	BDL(DL-0.1)
16	Lead (as Pb)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)
17	Arsenic (as As)	mg/l	IS: 3025 (Part 37): 2022	0.2	BDL(DL-0.05)	BDL(DL-0.05)
18	Nickel (as Ni)	mg/l	IS:13428 : 2005(Annexure L)	3.0	BDL(DL-0.1)	BDL(DL-0.1)
19	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5.0	BDL(DL-0.1)	BDL(DL-0.1)
20	Total Chromium	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
21	Vanadium (as V)	mg/l	IS 3025 (Part 2): 2019	0.2	BDL(DL-0.1)	BDL(DL-0.1)

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager

----End of Report----

**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager

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Anacon Laboratories Pvt. Ltd. Nagpur Lab







#### Anacon Laboratories Pvt. Ltd. Nagpur Lab

◆ FP-34, 35,Food Park, Five Star Industral Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122 4 + 91 8045685558 ■ Email : info@anacon.in

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Test Report No.		The state of the s	dated 29/04/20	<u> 25t</u>		Pas	ge 1 of 1	
Issued To: M/s Noamundi (M/s TATA Stee Noamundi, Jharl Postal Code: 833	el Limited) chand	Sample Inward No. Inward Date Reference Reference Date	ALPL/21042023 21/04/2023 W.O 47000989 22.03.2022	/MON-2/24-11&1: 28/962	Analys	sis Start	21/04/2023 29/04/2023 29/04/2023 Water	
Sample Name Sewage Water	New Town Ship STD 50 VID		Sample Particulars Sample Code-WW-11 & 12		25-225-225-45-0000	Condition ce Preserved	Quantity Received 5.0 Ltr & 250 ml	
<sup>'</sup> Sample Collected By Anacon Representative Mr.Sovan Giri			Sampling Date 14/04/2023			New Tow	pling Location  n Ship STP 50 KLD  let & Outlet	

				- 3	Inlet &	& Outlet
	T .		TEST RESULTS			
S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test	Result
		Unit		Water)	Inlet	Outlet
I	Biological Testing 1.Water					
1	Faecal coliform	MPN/100 ml	IS 1622: 1981		109	26
П	Chemical Testing Pollution & Environment			40		- CONTE
2	Colour	Hazen units	IS 3025 (Part 4): 1983	Colourless	2	0 (Colourless)
3	Odour	-	IS 3025 (Part 5): 2018	Odourless	Disagreeable	Agreeable
4	Temperature	°C	APHA Method	Shall not exceed 5°C above the receiving water temperature	25°C	25°C
5	Free residual chlorine	mg/l	IS 3025 (Part 26): 1986	1.0	BDL(DL-0.1)	BDL(DL-0.1)
6	Particulate size of SS		Gravimetric Method	Shall pass 850 micron IS Sieve	<850	<850
7	Free Ammonia (as NH <sub>3</sub> )	mg/l	APHA Method	5	BDL(DL-0.1)	BDL(DL-0.1)
8	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	2.0	0.16	BDL(DL-0.1)
9	Sulphide (as S)	mg/l	IS 3025 (Part 29): 1986	2.0	BDL(DL-0.03)	BDL(DL-0.03)
10	Nitrate Nitrogen	mg/l	APHA Method	10	4.8	BDL(DL-2)
11	Bio Assay Test	%	APHA 22nd Edition	90% Survival of fish after 96 hours in 100% effluent	74%	92%
12	Hexavalent Chromium (as Cr <sup>+6</sup> )	mg/l	IS 3025 (Part 2): 2019	0.1	BDL(DL-0.01)	BDL(DL-0.01)
12	D' I I DI I I I	- 44				1

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IS 3025 (Part 31): 1988

Verified By

Dissolved Phosphate (as P)

Mangesh Fande Technical Manager

13

Deputy Technical Manager

mg/l

Pooja Kathane Technical Manager

5.0

**Authorized Signatories** 

Dr. (Mrs.) S.D. Garway Quality Manager

BDL(DL-0.1)

BDL(DL-0.1)

End of Report---



Sample Name

Sewage Water

#### Anacon Laboratories





TC 5458

ULR No.- TC545823000000929F

Page 1 of 2 dated 29/04/2023 Test Report No.: ALPL/29042023/3-11A 21/04/2023 Sample Inward No. ALPL/21042023/MON-2/24-15&16 **Analysis Start** Issued To: 29/04/2023 M/s Noamundi Iron Mine Analysis End 21/04/2023 **Inward Date** (M/s TATA Steel Limited) 29/04/2023 Report Issue Date Reference W.O.- 4700098928/962

Noamundi, Jharkhand 22.03.2022 Reference Date Postal Code: 833217

Sample Category Water Quantity Received Sample Condition Sample Particulars Sample Source New Town Ship STP 50 KLD 5.0 Ltr & 250 ml Sealed & Ice Preserved Sample Code-WW-15 & 16

Inlet & Outlet Sampling Location Sampling Time Sampling Date Sample Collected By Central Camp STP 50 KLD Anacon Representative Mr. Sovan Giri 10.30 am to 4.20 pm 14/04/2023 Inlet & Outlet

#### TEST RESULTS

		Measurement		Standards (In Land Surface	Test Result		
S.N.	Test Parameter	Unit	l est Viethod		Inlet	Outlet	
I	Chemical Testing Pollution & Environment		~\tau.				
1	pH value	-	IS 3025 (Part 11): 2022	5.5 to 9.0	6.46 at 25°C	6.97 at 25°C	
2	Oil & Grease	mg/l	IS 3025 (Part 39): 1991	10	BDL(DL-4)	BDL(DL-4)	
3	Total Suspended Solid (TSS)	mg/l	IS 3025 (Part 17): 1984	100	76	32	
4	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) :1988	50	13.6	9.1	
5	Total Kjeldahl Nitrogen (as N)	mg/l	IS 3025 (Part 34): 1988	100	18.4	13.9	
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44) :1993	30	26	14	
7	Chemical Oxygen Demand	mg/l	IS 3025 (Part 58) :2006	250	72	38	
8	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.2	BDL(DL-0.1)	BDL(DL-0.1)	
9	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	1.0	BDL(DL-0.1)	BDL(DL-0.1)	

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Verified by

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway Quality Manager

----End of Report----

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Anacon Laboratories Pvt. Ltd. Nagpur Lab











TC 5458

Test Report

Test Report No.	: ALPL/2904	2023/3-11A	dated 29/04/202	23			Page 2 of 2
Issued To: M/s Noamundi (M/s TATA Stee Noamundi, Jharl Postal Code: 83	el Limited) khand	Sample Inward No. Inward Date Reference Reference Date	ALPL/21042023/ 21/04/2023 W.O 470009892 22.03.2022	/MON-2/24-15&16 28/962	Analys	is Start is End Issue Date Category	21/04/2023 29/04/2023 29/04/2023 Water
Sample Name Sewage Water	New Town	ple Source Ship STP 50 KLD et & Outlet	Sample Part Sample Code-W		Sample Condition Sealed & Ice Preserved		Quantity Received 5.0 Ltr & 250 ml
Sample Collected By Anacon Representative Mr.Sovan Giri		Sampling Date	Sampling T		Central C	pling Location Camp STP 50 KLD let & Outlet	

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land	Test Result		
	Test Turameter	Unit	rest Method	Surface Water)	Inlet	Outlet	
П	Chemical Testing 2. Residues In Water						
10	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	3.0	1.67	0.53	
11	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-5)	BDL(DL-5)	
12	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
13	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994	0.01	BDL(DL-0.01)	BDL(DL-0.01)	
14	Cadmium (as Cd)	mg/l	IS: 3025 (Part 41): 1992	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
15	Selenium (as Se)	mg/l	IS: 3025 (Part 56): 2003	0.05	BDL(DL-0.1)	BDL(DL-0.1)	
16	Lead (as Pb)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)	
17	Arsenic (as As)	mg/l	IS: 3025 (Part 37): 2022	0.2	BDL(DL-0.05)	BDL(DL-0.05)	
18	Nickel (as Ni)	mg/l	IS:13428 : 2005(Annexure L)	3.0	BDL(DL-0.1)	BDL(DL-0.03)	
19	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5.0	BDL(DL-0.1)	BDL(DL-0.1)	
20	Total Chromium	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
21	Vanadium (as V)	mg/l	IS 3025 (Part 2): 2019	0.2	BDL(DL-0.1)	BDL(DL-0.1)	

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. • Test report shall not be reproduced except in full without prior written approval of Anacon Labs. • Liability of Anacon Labs is limited to invoiced amount only. • Non-perishable and Below detection limit • DL- Indicates detection limit of instrument/method and shall be considered as 'absent'. REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager

---End of Report----

Authorized Signatory

Dr. (Mrs.) S.D. Garway Quality Manager



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Test Report No.: ALPL/29042023/3-11B Page 1 of 1 Issued To: Sample Inward No. ALPL/21042023/MON-2/24-15&16 **Analysis Start** 21/04/2023 M/s Noamundi Iron Mine **Inward Date** 21/04/2023 **Analysis End** 29/04/2023 (M/s TATA Steel Limited) Reference W.O.- 4700098928/962 Report Issue Date 29/04/2023 Noamundi, Jharkhand Sample Category Water 22.03.2032 Reference Date Postal Code: 833217 Sample Name Sample Source Quantity Received Sample Particulars Sample Condition New Town Ship STP 50 KLD Sewage Water Sample Code-WW-15 & 16 Sealed & Ice Preserved 5.0 Ltr & 250 ml Inlet & Outlet Sample Collected By Sampling Date Sampling Time Sampling Location Anacon Representative Mr. Sovan Giri Central Camp STP 50 KLD 14/04/2023 10.30 am to 4.20 pm Inlet & Outlet

TEST RESULTS

			TEST RESULTS		Name of the last o	
S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test Result	
0.11.	rest rarameter	Unit	rest Method	Water)	Inlet	Outlet
I	Biological Testing 1.Water				b	
1	Faecal coliform	MPN/100 ml	IS 1622 : 1981	-	84	21
п	Chemical Testing Pollution & Environment			40		
2	Colour	Hazen units	IS 3025 (Part 4): 1983	Colourless	2	0 (Colourless)
3	Odour	-	IS 3025 (Part 5): 2018	Odourless	Disagreeable	Agreeable
4	Temperature	°C	APHA Method	Shall not exceed 5°C above the receiving water temperature	25°C	25°C
5	Free residual chlorine	mg/l	IS 3025 (Part 26): 1986	1.0	BDL(DL-0.1)	BDL(DL-0.1)
6	Particulate size of SS		Gravimetric Method	Shall pass 850 micron IS Sieve	<850	<850
7	Free Ammonia (as NH <sub>3</sub> )	mg/l	APHA Method	5	BDL(DL-0.1)	BDL(DL-0.1)
8	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	2.0	BDL(DL-0.1)	BDL(DL-0.1)
9	Sulphide (as S)	mg/l	IS 3025 (Part 29): 1986	2.0	BDL(DL-0.03)	BDL(DL-0.03)
10	Nitrate Nitrogen	mg/l	APHA Method	10	2.94	BDL(DL-2)
11	Bio Assay Test			90% Survival of fish after 96 hours in 100% effluent	84%	96%
12	Hexavalent Chromium (as Cr <sup>+6</sup> )	mg/l	IS 3025 (Part 2): 2019	0.1	BDL(DL-0.01)	BDL(DL-0.01)
13	Dissolved Phosphate (as P)	mg/l	IS 3025 (Part 31): 1988	5.0	BDL(DL-0.1)	BDL(DL-0.1)

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager Snehal Raut Deputy Technical Manager Authorized Signatories

Technical Manager

Dr. (Mrs.) S.D. Garway Quality Manager

End of Report-







TC 5458

#### Test Report

III.R	No -	TC545823000000929F	

: ALPL/2904	2023/3-10A	dated 29/04/202	23			Page 1 of 2
	Sample Inward No.	ALPL/21042023/	MON-2/24-13&14	Analys	sis Start	21/04/2023
M/s Noamundi Iron Mine (M/s TATA Steel Limited) Noamundi, Jharkhand Postal Code: 833217 Inward Date Reference Date		21/04/2023 W.O 4700098928/962 22.03.2022		Analys	sis End	29/04/2023
				Repor	t Issue Date	29/04/2023
				Sampl	e Category	Water
Sam	ple Source	Sample Particulars		Sample	Condition	Quantity Received
		Sample Code-W	W-13 & 14	Sealed & Ice Preserved		5.0 Ltr & 250 ml
Sample Collected By Anacon Representative Mr.Sovan Giri		Sampling Date 14/04/2023				pling Location ETP 10 KLD Inlet & Outlet
	Iron Mine Il Limited) chand 217 Sam New Town Inle	Iron Mine Il Limited) Chand 217  Sample Source New Town Ship STP 50 KLD Inlet & Outlet Inple Collected By	Sample Inward No. ALPL/21042023, Iron Mine I Limited) Chand (217) Reference Date  Sample Source New Town Ship STP 50 KLD Inlet & Outlet  Inple Collected By  Sample Inward No. ALPL/21042023, W.O 470009892 22.03.2022 Sample Part Sample Code-W Sample Code-W Sample Code-W Sample Code-W	Sample Inward No. ALPL/21042023/MON-2/24-13&14 Inward Date	Sample Inward No. ALPL/21042023/MON-2/24-13&14 Analyst Inward Date Reference W.O 4700098928/962 Report Sample Source New Town Ship STP 50 KLD Inlet & Outlet Sample Code-WW-13 & 14 Sealed & Ingle Collected By Sampling Date Sampling Time	Sample Inward No. ALPL/21042023/MON-2/24-13&14 Analysis Start Invard Date 21/04/2023, Analysis End Reference W.O 4700098928/962 Reference Date 22.03.2022 Sample Category  Sample Source Sample Particulars Sample Condition New Town Ship STP 50 KLD Inlet & Outlet Sample Code-WW-13 & 14 Sealed & Ice Preserved Sample Collected By Sampling Date Sampling Time Sam Rottom Big

#### TEST RESULTS

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test Result		
S.IN.	rest rarameter	Unit	1 est Method	Water)	Inlet	Outlet	
I	Chemical Testing Pollution & Environment		4	1			
1	pH value	-	IS 3025 (Part 11): 2022	5.5 to 9.0	6.51 at 25°C	6.86 at 25°C	
2	Oil & Grease	mg/l	IS 3025 (Part 39): 1991	10	BDL(DL-4)	BDL(DL-4)	
3	Total Suspended Solid (TSS)	mg/l	IS 3025 (Part 17): 1984	100	92	38	
4	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) :1988	50	14.93	11.76	
5	Total Kjeldahl Nitrogen (as N)	mg/l	IS 3025 (Part 34): 1988	100	26.43	13.82	
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44) :1993	30	26	12	
7	Chemical Oxygen Demand	mg/l	IS 3025 (Part 58) :2006	250	74	34	
8	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.2	BDL(DL-0.1)	BDL(DL-0.1)	
9	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	1.0	BDL(DL-0.1)	BDL(DL-0.1)	

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Verified by

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway Quality Manager

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TC 5458

# Test Report

Test Report No.	: ALPL/2904	2023/3-10A	dated 29/04/20	23	040-00-0		Page 2 of 2	
Issued To:		Sample Inward No.	ALPL/21042023	ALPL/21042023/MON-2/24-13&14		is Start	21/04/2023	
	M/s Noamundi Iron Mine Inward Date		21/04/2023		Analys	is End	29/04/2023	
(M/s TATA Steel Limited) Noamundi, Jharkhand Postal Code: 833217  Reference Reference Date		W.O 4700098928/962 22.03.2022			Issue Date Category	29/04/2023 Water		
Sample Name Sewage Water	New Town	ple Source Ship STP 50 KLD et & Outlet	Sample Particulars Sample Code-WW-13 & 14		Sample Condition Sealed & Ice Preserved		Quantity Received 5.0 Ltr & 250 ml	
Sample Collected By Anacon Representative Mr. Sovan Giri		Sampling Date 14/04/2023	Sampling T 10.30 am to 4		200000000000000000000000000000000000000	pling Location ETP 10 KLD Inlet & Outlet		

TEST RESULTS

	Test Payameter	Measurement		Standards (In Land	Test Result	
S.N.	Test Parameter	Unit	Test Method	Surface Water)	Inlet	Outlet
П	Chemical Testing 2. Residues In Water			04		
10	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	3.0	1.11	0.16
11	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-5)	BDL(DL-5)
12	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
13	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994	0.01	BDL(DL-0.01)	BDL(DL-0.01)
14	Cadmium (as Cd)	mg/l	IS: 3025 (Part 41): 1992	2.0	BDL(DL-0.1)	BDL(DL-0.1)
15	Selenium (as Se)	mg/l	IS: 3025 (Part 56): 2003	0.05	BDL(DL-0.1)	BDL(DL-0.1)
16	Lead (as Pb)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)
17	Arsenic (as As)	mg/l	IS: 3025 (Part 37): 2022	0.2	BDL(DL-0.05)	BDL(DL-0.05)
18	Nickel (as Ni)	mg/l	IS:13428 : 2005(Annexure L)	3.0	BDL(DL-0.1)	BDL(DL-0.1)
19	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5.0	BDL(DL-0.1)	BDL(DL-0.1)
20	Total Chromium	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
21	Vanadium (as V)	mg/l	IS 3025 (Part 2): 2019	0.2	BDL(DL-0.1)	BDL(DL-0.1)

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Technical Manager

**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager

Gain

----End of Report----

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Test Report No.: ALPL/29042023/3-10B Page 1 of 1 Issued To: Sample Inward No. ALPL/21042023/MON-2/24-13&14 **Analysis Start** 21/04/2023 M/s Noamundi Iron Mine **Inward Date** 21/04/2023 Analysis End 29/04/2023 (M/s TATA Steel Limited) Reference W.O.- 4700098928/962 Report Issue Date 29/04/2023 Noamundi, Jharkhand Reference Date Sample Category Postal Code: 833217 22.03.2022 Water Sample Name Sample Source Sample Particulars Sample Condition Quantity Received New Town Ship STP 50 KLD Sewage Water Sample Code-WW-13 & 14 Sealed & Ice Preserved Inlet & Outlet 5.0 Ltr & 250 ml Sample Collected By Sampling Date Sampling Time Sampling Location Anacon Representative Mr. Sovan Giri Bottom Bin ETP 10 KLD Inlet & 14/04/2023 10.30 am to 4.20 pm Outlet

TEST RESULTS

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test Result	
		Unit	T ost Matthou	Water)	Inlet	Outlet
I	Biological Testing 1.Water				0	
1	Faecal coliform	MPN/100 ml	IS 1622 : 1981		120	34
П	Chemical Testing Pollution & Environment	1	36	40		
2	Colour	Hazen units	IS 3025 (Part 4): 1983	Colourless	2	0 (Colourless)
3	Odour		IS 3025 (Part 5): 2018	Odourless	Disagreeable	Agreeable
4	Temperature	°C	APHA Method	Shall not exceed 5°C above the receiving water temperature	25°C	25°C
5	Free residual chlorine	mg/l	IS 3025 (Part 26): 1986	1.0	BDL(DL-0.1)	BDL(DL-0.1)
6	Particulate size of SS		Gravimetric Method	Shall pass 850 micron IS Sieve	<850	<850
7	Free Ammonia (as NH <sub>3</sub> )	mg/l	APHA Method	5	BDL(DL-0.1)	BDL(DL-0.1)
8	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	2.0	0.27	BDL(DL-0.1)
9	Sulphide (as S)	mg/l	IS 3025 (Part 29): 1986	2.0	BDL(DL-0.03)	
10	Nitrate Nitrogen	mg/l	APHA Method	10	6.52	BDL(DL-0.03)
11	Bio Assay Test	%	APHA 22nd Edition	90% Survival of fish after 96 hours in 100% effluent	64%	92%
12	Hexavalent Chromium (as Cr <sup>+6</sup> )	mg/l	IS 3025 (Part 2): 2019	0.1	BDL(DL-0.01)	BDL(DL-0.01)
13	Dissolved Phosphate (as P)	mg/l	IS 3025 (Part 31): 1988	5.0	BDL(DL-0.1)	BDL(DL-0.01) BDL(DL-0.1)

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Verified By

Mangesh Fande Technical Manager

Snehal Raut Deputy Technical Manager Authorized Signatories

Pooja Kathane Technical Manager Dr. (Mrs.) S.D. Garway Quality Manager

---End of Report----







TC 5458

#### Test Report

ULR No TC5458230000009	929F
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Test Report No.			dated 29/04/202	23			Page 1 of 2
Issued To:			ALPL/21042023/	/MON-2/24-17&18	Analysis	s Start	21/04/2023
M/s Noamundi Iron Mine (M/s TATA Steel Limited) Noamundi, Jharkhand  Inward Da Reference		Inward Date	21/04/2023	21/04/2023		s End	29/04/2023 29/04/2023
		Reference	W.O 4700098928/962 22.03.2022			Issue Date	
		Reference Date			Sample Category		Water
Sample Name		ple Source	Sample Part	ticulars	Sample C	Condition	Quantity Received
Sewage Water		Ship STP 50 KLD et & Outlet	Sample Code-W	W-17 & 18	Sealed & Ic	e Preserved	5.0 Ltr & 250 ml
		Sampling Date Sampling Ti				pling Location	
Anacon Re	presentative N	fr.Sovan Giri	14/04/2023	10.30 am to 4.20 pm			tal ETP 10 KLD let & Outlet

TEST DESILITS

			1EST KESULIS				
		Measurement	Test Method	Standards (In	Test Result		
S.N.	Test Parameter	Unit	Test Method	Land Surface Water)	Inlet	Outlet	
I	Chemical Testing Pollution & Environment						
1	pH value	-	IS 3025 (Part 11): 2022	5.5 to 9.0	6.87 at 25°C	7.31 at 25°C	
2	Oil & Grease	mg/l	IS 3025 (Part 39): 1991	10	BDL(DL-4)	BDL(DL-4)	
3	Total Suspended Solid (TSS)	mg/l	IS 3025 (Part 17): 1984	100	87	26	
4	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) :1988	50	24	18	
5	Total Kjeldahl Nitrogen (as N)	mg/l	IS 3025 (Part 34): 1988	100	32	16	
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44) :1993	30	28	14	
7	Chemical Oxygen Demand	mg/l	IS 3025 (Part 58) :2006	250	74	42	
8	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.2	BDL(DL-0.1)	BDL(DL-0.1)	
9	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)		IS 3025 (Part 43): 2022	1.0	BDL(DL-0.1)	BDL(DL-0.1)	

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Verified by

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway

Quality Manager

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TC 5458

Test	Re	port

Test Report No.			dated 29/04/202	23			Page 2 of 2
Issued To:	The second section of the second section is a second section of the second section is a second section of the second section of the second section is a second section of the second section of the second section is a second section of the second section of the second section is a second section of the section of the second section of the section of the second section of the		ALPL/21042023/	MON-2/24-17&18	Analysi	s Start	21/04/2023
M/s Noamundi Iron Mine (M/s TATA Steel Limited) Noamundi, Jharkhand Refer		Inward Date	21/04/2023 W.O 4700098928/962 22.03.2022		Analysi	s End	29/04/2023
		Reference Reference Date			5.7	Issue Date Category	29/04/2023 Water
Sample Name Sewage Water	New Town	ple Source Ship STP 50 KLD et & Outlet	Sample Part Sample Code-W			Condition ce Preserved	Quantity Received 5.0 Ltr & 250 ml
Sample Collected By Anacon Representative Mr. Sovan Giri		Sampling Date 14/04/2023	Sampling 7		Hospi	pling Location tal ETP 10 KLD let & Outlet	

TEST	RESULTS

		Measurement	m . 14 / 1	Standards	Test I	Test Result		
S.N.	Test Parameter	Unit	Test Method	(In Land Surface Water)	Inlet	Outlet		
II	Chemical Testing 2. Residues In Water		A	AW				
10	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	3.0	0.52	0.12		
11	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-5)	BDL(DL-5)		
12	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)		
13	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994	0.01	BDL(DL-0.01)	BDL(DL-0.01)		
14	Cadmium (as Cd)	mg/l	IS: 3025 (Part 41): 1992	2.0	BDL(DL-0.1)	BDL(DL-0.1)		
15	Selenium (as Se)	mg/l	IS: 3025 (Part 56): 2003	0.05	BDL(DL-0.1)	BDL(DL-0.1)		
16	Lead (as Pb)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)		
17	Arsenic (as As)	mg/l	IS: 3025 (Part 37): 2022	0.2	BDL(DL-0.05)	BDL(DL-0.05)		
18	Nickel (as Ni)	mg/l	IS:13428 : 2005(Annexure L)	3.0	BDL(DL-0.1)	BDL(DL-0.1)		
19	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5.0	BDL(DL-0.1)	BDL(DL-0.1)		
20	Total Chromium	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)		
21	Vanadium (as V)	mg/l	IS 3025 (Part 2): 2019	0.2	BDL(DL-0.1)	BDL(DL-0.1)		

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Verified By

Mangesh Fande Technical Manager

----End of Report----

**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager

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Test Report No.: ALPL/29042023/3-12B Page 1 of 1 Issued To: Sample Inward No. ALPL/21042023/MON-2/24-17&18 **Analysis Start** 21/04/2023 M/s Noamundi Iron Mine **Inward Date** 21/04/2023 Analysis End 29/04/2023 (M/s TATA Steel Limited) Reference W.O.- 4700098928/962 Report Issue Date 29/04/2023 Noamundi, Jharkhand Sample Category Water Reference Date 22.03.2022 Postal Code: 833217 Sample Name Sample Source Sample Particulars Sample Condition Quantity Received New Town Ship STP 50 KLD Sewage Water Sample Code-WW-17 & 18 Sealed & Ice Preserved 5.0 Ltr & 250 ml Inlet & Outlet Sample Collected By Sampling Date Sampling Time Sampling Location Anacon Representative Mr. Sovan Giri Hospital ETP 10 KLD 14/04/2023 10.30 am to 4.20 pm Inlet & Outlet

TEST RESULTS

			TEST RESULTS			
S.N.	, Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test	Result
	1 2200 2000	Unit	restriction	Water)	Inlet	Outlet
I	Biological Testing 1.Water			1		
1	Faecal coliform	MPN/100 ml	IS 1622 : 1981	-	94	33
П	Chemical Testing Pollution & Environment		14.	(C)		
2	Colour	Hazen units	IS 3025 (Part 4): 1983	Colourless	2	0 (Colourless)
3	Odour		IS 3025 (Part 5): 2018	Odourless	Disagreeable	Agreeable
4	Temperature	°C	°C APHA Method 5°C above the receiving water	Shall not exceed 5°C above the receiving water temperature	25°C	25°C
5	Free residual chlorine	mg/l	IS 3025 (Part 26): 1986	1.0	BDL(DL-0.1)	BDL(DL-0.1)
6	Particulate size of SS	0	Gravimetric Method	Shall pass 850 micron IS Sieve	<850	<850
7	Free Ammonia (as NH <sub>3</sub> )	mg/l	APHA Method	5	BDL(DL-0.1)	BDL(DL-0.1)
8	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	2.0	0.21	BDL(DL-0.1)
9	Sulphide (as S)	mg/l	IS 3025 (Part 29): 1986	2.0	BDL(DL-0.03)	BDL(DL-0.03)
10	Nitrate Nitrogen	. mg/l	APHA Method	10	6.82	BDL(DL-2)
11	Bio Assay Test	%	APHA 22nd Edition	90% Survival of fish after 96 hours in 100% effluent		94%
12	Hexavalent Chromium (as Cr <sup>+6</sup> )	mg/l	IS 3025 (Part 2): 2019	0.1	BDL(DL-0.01)	BDL(DL-0.01)
13	Dissolved Phosphate (as P)	mg/l	IS 3025 (Part 31): 1988	5.0	BDL(DL-0.1)	BDL(DL-0.1)

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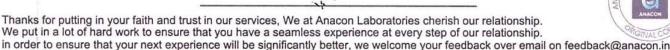
Veri	fied	By
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Mangesh Fande Technical Manager Snehal Raut Deputy Technical Manager Authorized Signatories

Pooja Kathane Technical Manager

Dr. (Mrs.) S.D. Garway Quality Manager

End of Report









TC 5458

#### Test Report

ULR No.- TC545823000001289F

Test Report No.	: ALPL/3105	2023/3-9A	dated 31/05/202	23		Pag	ge 1 of 2	
Issued To:		Sample Inward No.	ALPL/23052023	/MON-3/60-11&12	12 Analysis Start		24/05/2023	
M/s Noamundi Iron Mine (M/s TATA Steel Limited) Noamundi, Jharkhand Postal Code: 833217		Inward Date   23/05/2023   Reference   W.O 4700098928/962   Reference Date   22.03.2022		28/962	Analysis End Report Issue Date Sample Category		30/05/2023 31/05/2023 Water	
Sample Name Sewage Water	New Town	ple Source Ship STP 50 KLD t & Outlet	Sample Part Sample Code-W	NASASIO (NEXESTO )	San	Condition ce Preserved	Quantity Received 5.0 Ltr & 250 ml	
Sample Collected By Anacon Representative Mr.Sovan Giri		Sampling Date 18/05/2023	Sampling T		New Tow	pling Location n Ship STP 50 KLD let & Outlet		

#### TEST RESULTS

S.N.	Test Parameter	Measurement	ent Test Method	Standards (In Land Surface	Test Result		
	Test I all ameter	Unit	Water)	Inlet	Outlet		
ľ	Chemical Testing Pollution & Environment			<b>6</b> %			
1	pH value	-	IS 3025 (Part 11): 2022	5.5 to 9.0	6.81 at 25°C	6.93 at 25°C	
2	Oil & Grease	mg/l	IS 3025 (Part 39): 1991	10	BDL(DL-4)	BDL(DL-4)	
3	Total Suspended Solid (TSS)	mg/l	IS 3025 (Part 17): 1984	100	82	24	
4	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34):1988	50	17.6	13.9	
5	Total Kjeldahl Nitrogen (as N)	mg/l	IS 3025 (Part 34): 1988	100	23.8	16.4	
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44) :1993	30	28	16	
7	Chemical Oxygen Demand	mg/l	IS 3025 (Part 58) :2006	250	84	46	
8	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.2	BDL(DL-0.1)	BDL(DL-0.1)	
9	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	1.0	BDL(DL-0.1)	BDL(DL-0.1)	

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Verified by

Snehal Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway Quality Manager

----End of Report----

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Anacon Laboratories Pvt. Ltd. Nagpur Lab









TC 5/158

# Test Report

ULR No.- TC545823000001289F

Test Report No. : ALPL/31052023/3-9A			dated 31/05/202	23		Pag	ge 2 of 2
Issued To:	ssued To: Sample Inward No		o. ALPL/23052023/MON-3/60-11&12		Analys	is Start	24/05/2023
(M/s TATA Steel Limited) Noamundi, Jharkhand Reference		Inward Date	23/05/2023 W.O 4700098928/962		Analys	is End	30/05/2023
		Reference			Report	Issue Date	31/05/2023
		Reference Date	22.03.2022		Sample	Category	Water
Sample Name	Sam	ple Source	Sample Part	iculars	Sample	Condition	Quantity Received
Sewage Water		Ship STP 50 KLD et & Outlet	Sample Code-W	W-11 & 12	Sealed & Id	ce Preserved	5.0 Ltr & 250 ml
' Sample Collected By Anacon Representative Mr.Sovan Giri		Sampling Date 18/05/2023	Sampling T		New Town	pling Location n Ship STP 50 KLD let & Outlet	

TEST RESULTS

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land	Test Result		
S.14.		Surface Water)	Surface Water)	Inlet	Outlet		
II	Chemical Testing 2. Residues In Water			43			
10	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	3.0	1.41	0.11	
11	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-5)	BDL(DL-5)	
12	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
13	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994	0.01	BDL(DL-0.01)	BDL(DL-0.01)	
14	Cadmium (as Cd)	mg/l	IS: 3025 (Part 41): 1992	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
15	Selenium (as Se)	mg/l	IS: 3025 (Part 56): 2003	0.05	BDL(DL-0.1)	BDL(DL-0.1)	
16	Lead (as Pb)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)	
17	Arsenic (as As)	mg/l	IS: 3025 (Part 37): 2022	0.2	BDL(DL-0.05)	BDL(DL-0.05)	
18	Nickel (as Ni)	mg/l	IS:13428 : 2005(Annexure L)	3.0	BDL(DL-0.1)	BDL(DL-0.1)	
19	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5.0	BDL(DL-0.1)	BDL(DL-0.1)	
20	Total Chromium	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
21	Vanadium (as V)	mg/l	IS 3025 (Part 2): 2019	0.2	BDL(DL-0.1)	BDL(DL-0.1)	

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager

----End of Report----

**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager

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Anacon Laboratories Pvt. Ltd. Nagpur Lab





#### Anacon Laboratories Pvt. Ltd. Nagpur Lab

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#### Test Report

n Mine	Sample Inward No.	AT PL /23052023				ge 1 of 1	
n Mine		ALI L/23032023/	/MON-3/60-11&12	Analys	is Start	24/05/2023	
	Inward Date	23/05/2023		Analys		30/05/2023	
(M/s TATA Steel Limited) Noamundi, Jharkhand Postal Code: 833217  Reference Reference I		W.O 4700098928/962		Report	Issue Date	31/05/2023 Water	
7	Reference Date	22.03.2022		Sample	category	water	
New Town S	Ship STP 50 KLD		MADE 1444 - 2010 1044 - 2010 -			Quantity Received 5.0 Ltr & 250 ml	
Sample Collected By Anacon Representative Mr. Sovan Giri		Sampling Date 18/05/2023			New Town	pling Location In Ship STP 50 KLD Iet & Outlet	
1	nd 7 Samplew Town S Inle	Reference Reference Date  Sample Source New Town Ship STP 50 KLD Inlet & Outlet  Collected By	Reference Date 22.03.2022  Sample Source Sample Part Sample Code-Willer Collected By entative Mr. Sovan Giri W.O 47000989.  Sample Source Sample Part Sample Code-Willer Cod	Reference Date 22.03.2022  Sample Source Sample Particulars lew Town Ship STP 50 KLD Inlet & Outlet Sample Code-WW-11 & 12  e Collected By Sampling Date Sampling Ti	Reference W.O 4700098928/962 Report Sample 7 Reference Date 22.03.2022 Report Sample Sample Source Sample Particulars Sample Code-WW-11 & 12 Scaled & Idea Collected By Sampling Date Sampling Time entative Mr. Sovan Giri 18/05/2023 10.40 am to 4.50 pm	Reference Date  Reference Date  22.03.2022  Sample Source Sew Town Ship STP 50 KLD Inlet & Outlet  Collected By Sent Issue Date Sample Particulars Sample Code-WW-11 & 12  Scaled & Ice Preserved	

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test	Result
		Unit		Water)	Inlet	Outlet
I	Biological Testing 1.Water			A		
1	Faecal coliform	MPN/100 ml	IS 1622 : 1981	7.20	48	26
II.	Chemical Testing Pollution & Environment			A.Y		
2	Colour	Hazen units	IS 3025 (Part 4): 1983	Colourless	2	0 (Colourless)
3	Odour		IS 3025 (Part 5): 2018	Odourless	Disagreeable	Agreeable
4	Temperature	°C	APHA Method 5°C above the receiving water		25°C	25°C
5	Free residual chlorine	mg/l	IS 3025 (Part 26): 1986	1.0	BDL(DL-0.1)	BDL(DL-0.1)
6	Particulate size of SS		Gravimetric Method	Shall pass 850 micron IS Sieve	<850	<850
7	Free Ammonia (as NH <sub>3</sub> )	mg/l	APHA Method	5	BDL(DL-0.1)	BDL(DL-0.1)
8	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	2.0	0.17	BDL(DL-0.1)
9	Sulphide (as S)	mg/l	IS 3025 (Part 29): 1986	2.0	BDL(DL-0.03)	BDL(DL-0.03)
10	Nitrate Nitrogen	mg/l	APHA Method	10	4.2	BDL(DL-2)
11	Bio Assay Test	%	APHA 22nd Edition	90% Survival of fish after 96 hours in 100% effluent	76%	92%
12	Hexavalent Chromium (as Cr <sup>+6</sup> )	mg/l	IS 3025 (Part 52): 2003	0.1	BDL(DL-0.01)	BDL(DL-0.01)
13	Dissolved Phosphate (as P)	mg/l	IS 3025 (Part 31): 1988	5.0	BDL(DL-0.1)	BDL(DL-0.1)

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande

Technical Manager

Deputy Technical Manager

**Authorized Signatories** 

Pooja Kathane Technical Manager Dr. (Mrs.) S.D. Garway Quality Manager

----End of Report----

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TC 5458

### Test Report

TIT D M.	TOFICE	200000012001	٩
ULK NO	1 ( 54582	3000001289F	r

Test Report No.	: ALPL/3105	2023/3-11A	dated 31/05/20	dated 31/05/2023		Page 1 of 2		
Issued To:		Sample Inward No.	ALPL/23052023	/MON-3/60-15&16	Analys	is Start	24/05/2023	
(M/s TATA Steel Limited) Noamundi, Jharkhand		Inward Date	23/05/2023 W.O 4700098928/962 22.03.2022		Analys	is End	30/05/2023	
		Reference			100000000000000000000000000000000000000	Issue Date	31/05/2023 Water	
		Reference Date			Sample	e Category		
Sample Name Sewage Water	Central Ca	ple Source mp STP 50 KLD t & Outlet	Sample Par Sample Code-W	200100-2001260	ARCOENGA CONTO	Condition ce Preserved	Quantity Received 5.0 Ltr & 250 ml	
Sample Collected By Anacon Representative Mr.Sovan Giri			Sampling Date 18/05/2023	Sampling T		Central (	pling Location Camp STP 50 KLD let & Outlet	

#### TEST RESULTS

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test Result		
J.,	Test I al ameter	Unit	rest intelliou	Water)	Inlet	Outlet	
I	Chemical Testing Pollution & Environment		1				
1	pH value		IS 3025 (Part 11): 2022	5.5 to 9.0	6.53 at 25°C	6.82 at 25°C	
2	Oil & Grease	mg/l	IS 3025 (Part 39): 1991	10	BDL(DL-4)	BDL(DL-4)	
3	Total Suspended Solid (TSS)	mg/l	IS 3025 (Part 17): 1984	100	84	36	
4	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) :1988	50	14.7	9.8	
5	Total Kjeldahl Nitrogen (as N)	mg/l	IS 3025 (Part 34): 1988	100	16.3	12.4	
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44) :1993	30	24	12	
7	Chemical Oxygen Demand	mg/l	IS 3025 (Part 58) :2006	250	76	38	
8	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.2	BDL(DL-0.1)	BDL(DL-0.1)	
9	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	1.0	BDL(DL-0.1)	BDL(DL-0.1)	

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Verified by

Snehal Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway

Quality Manager

----End of Report----

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TC 5458

# Test Report

ULR No.- TC545823000001289F

Test Report No.: ALPL/31052023/3-11A dated 31/05/2023 Page 2 of 2 Issued To: Sample Inward No. ALPL/23052023/MON-3/60-15&16 **Analysis Start** 24/05/2023 M/s Noamundi Iron Mine **Inward Date** 23/05/2023 Analysis End 30/05/2023 (M/s TATA Steel Limited) Reference W.O.- 4700098928/962 Report Issue Date 31/05/2023 Noamundi, Jharkhand Sample Category Water Reference Date 22.03.2022, Postal Code: 833217 Sample Name Sample Source Sample Particulars Sample Condition Quantity Received Central Camp STP 50 KLD Sewage Water Sample Code-WW-15 & 16 Sealed & Ice Preserved 5.0 Ltr & 250 ml Inlet & Outlet Sample Collected By Sampling Date Sampling Time Sampling Location Anacon Representative Mr. Sovan Giri Central Camp STP 50 KLD 18/05/2023 10.40 am to 4.50 pm Inlet & Outlet

TEST RESULTS

S.N.	Test Parameter	Measurement	T Mdl	Standards (In Land	Test Result		
5.14.	Test Farameter	Unit	Unit Test Method		Inlet	Outlet	
П	Chemical Testing 2. Residues In Water						
10	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	3.0	0.57	0.24	
11	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-5)	BDL(DL-5)	
12	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
13	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994	0.01	BDL(DL-0.01)	BDL(DL-0.01)	
14	Cadmium (as Cd)	mg/l	IS: 3025 (Part 41): 1992	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
15	Selenium (as Se)	mg/l	IS: 3025, (Part 56): 2003	0.05	BDL(DL-0.1)	BDL(DL-0.1)	
16	Lead (as Pb)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)	
17	Arsenic (as As)	mg/l	IS: 3025 (Part 37): 2022	0.2	BDL(DL-0.05)	BDL(DL-0.05)	
18	Nickel (as Ni)	mg/l	IS:13428 : 2005(Annexure L)	3.0	BDL(DL-0.1)	BDL(DL-0.1)	
19	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5.0	BDL(DL-0.1)	BDL(DL-0.1)	
20	Total Chromium	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
21	Vanadium (as V)	mg/l	IS 3025 (Part 2): 2019	0.2	BDL(DL-0.1)	BDL(DL-0.1)	

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager

----End of Report----

**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager

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#### Test Report

2023/3-11B	dated 31/05/202	23		Pag	ge 1 of 1	
	ALPL/23052023/	ALPL/23052023/MON-3/60-15&16		s Start	24/05/2023	
Inward Date	23/05/2023 W.O 4700098928/962 22.03.2022		Analysi	s End	30/05/2023	
Reference Reference Date			1000		31/05/2023 Water	
ample Name Sample Source		Sample Particulars		Condition	Quantity Received	
	Sample Code-W	W-15 & 16	Sealed & Ice Pro		5.0 Ltr & 250 ml	
Sample Collected By Anacon Representative Mr.Sovan Giri		W-11-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	73373.500.00	Central C	pling Location Camp STP 50 KLD	
	Inward Date Reference Reference Date  ple Source amp STP 50 KLD at & Outlet d By	Sample Inward No.   ALPL/23052023/   Inward Date   23/05/2023   Reference   W.O 47000989/   Reference Date   22.03.2022	Sample Inward No.   ALPL/23052023/MON-3/60-15&16     Inward Date   23/05/2023     Reference   W.O 4700098928/962     Reference Date   22.03.2022     Ple Source   Sample Particulars     Imp STP 50 KLD   Sample Code-WW-15 & 16     Imp STP 50 KLD   Sampling Date   Sampling Telephone     Imp STP 50 KLD   Sampling Date   Sampling Date   Sampling Date   Sampling Dat	Sample Inward No.   ALPL/23052023/MON-3/60-15&16   Analysi     Inward Date   23/05/2023   Analysi     Reference   W.O 4700098928/962   Report     Reference Date   22.03.2022   Sample     Ple Source   Sample Particulars   Sample     Imp STP 50 KLD   Sample Code-WW-15 & 16   Sealed & Ice     In By   Sampling Date   Sampling Time     In Sovan Giri	Sample Inward No.   ALPL/23052023/MON-3/60-15&16   Analysis Start	

(4)	,		TEST RESULTS			
S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test Result	
S.IN.	Test rarameter	Unit	Test Method	Water)	Inlet	Outlet
I	Biological Testing 1.Water		, t .			
1	Faecal coliform	MPN/100 ml	IS 1622 : 1981	67.	39	26
II	Chemical Testing Pollution & Environment		_ <	A.Y		
2	Colour	Hazen units	IS 3025 (Part 4): 1983	Colourless	2	0 (Colourless)
3	Odour	1 3	IS 3025 (Part 5): 2018	Odourless	Disagreeable	Agreeable
4	Temperature	°C	APHA Method	Shall not exceed 5°C above the receiving water temperature	25°C	25°C
5	Free residual chlorine	mg/l	IS 3025 (Part 26): 1986	1.0	BDL(DL-0.1)	BDL(DL-0.1)
6	Particulate size of SS		Gravimetric Method	Shall pass 850 micron IS Sieve	<850	<850
7	Free Ammonia (as NH <sub>3</sub> )	mg/l	APHA Method	5	BDL(DL-0.1)	BDL(DL-0.1)
8 -	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	2.0	BDL(DL-0.1)	BDL(DL-0.1)
9	Sulphide (as S)	mg/l	IS 3025 (Part 29): 1986	2.0	BDL(DL-0.03)	BDL(DL-0.03)
10	Nitrate Nitrogen	mg/l	APHA Method	10	3.17	BDL(DL-2)
11	Bio Assay Test	% APHA 22nd Edition 90% Survival of fish after 96 hours in 100% effluent		86%	94%	
12	Hexavalent Chromium (as Cr <sup>+6</sup> )	mg/l	IS 3025 (Part 52): 2003	0.1	BDL(DL-0.01)	BDL(DL-0.01)
13	Dissolved Phosphate (as P)	mg/l	IS 3025 (Part 31): 1988	5.0	BDL(DL-0.1)	BDL(DL-0.1)

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only.
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**REMARKS**: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager Snehal Raut Deputy Technical Manager **Authorized Signatories** 

Pooja Kathane Technical Manager Dr. (Mrs.) S.D. Garway Quality Manager

----End of Report----

1

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TC 5458

ULR No.- TC545823000001289F

Test Report No.	: ALPL/3105	2023/3-10A	dated 31/05/202	23		Pag	ge 1 of 2	
Issued To:		Sample Inward No.	ALPL/23052023	/MON-3/60-13&14	Analys	sis Start	24/05/2023	
	M/s Noamundi Iron Mine		23/05/2023 W.O 4700098928/962 22.03.2022		Analys	sis End	30/05/2023	
Noamundi, Jharkhand		Reference			Report	t Issue Date	31/05/2023	
		Reference Date			Sampl	e Category	Water	
Sample Name	Sam	ple Source	Sample Part	Sample Particulars		Condition	Quantity Received	
Sewage Water	ewage Water Bottom Bin ETP 10 KL & Outlet		Sample Code-WW-13 & 14		Sealed & I	ce Preserved	5.0 Ltr & 250 ml	
Sample Collected By			Sampling Date	Sampling T	`ime	Sam	pling Location	
Anacon Representative Mr.Sovan Giri		18/05/2023	10.40 am to 4.	.50 pm	Bottom Bin	ETP 10 KLD Inlet &		

#### TEST RESULTS

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test Result		
	T COL T III III III CLE	Unit	Unit		Inlet	Outlet	
I	Chemical Testing Pollution & Environment		74	10			
1	pH value	2011	IS 3025 (Part 11): 2022	5.5 to 9.0	6.57 at 25°C	6.98 at 25°C	
2	Oil & Grease	mg/l	IS 3025 (Part 39): 1991	10	BDL(DL-4)	BDL(DL-4)	
3	Total Suspended Solid (TSS)	mg/l	IS 3025 (Part 17): 1984	100	94	42	
4	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) :1988	50	16.21	12.58	
5	Total Kjeldahl Nitrogen (as N)	mg/l	IS 3025 (Part 34): 1988	100	24.73	11.67	
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44) :1993	30	28	14	
7	Chemical Oxygen Demand	mg/l	IS 3025 (Part 58) :2006	250	73	21	
8	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.2	BDL(DL-0.1)	BDL(DL-0.1)	
9	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	1.0	BDL(DL-0.1)	BDL(DL-0.1)	

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Verified by

Deputy Technical Manager

Authorized Signatory

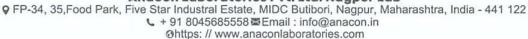
Dr. (Mrs.) S. D. Garway

Quality Manager

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Anacon Laboratories Pvt. Ltd. Nagpur Lab









Outlet



TC 5458

#### Test Report

ULR No.- TC545823000001289F

Test Report No.: ALPL/31052023/3-10A dated 31/05/2023 Page 2 of 2 Issued To: Sample Inward No. ALPL/23052023/MON-3/60-13&14 **Analysis Start** 24/05/2023 M/s Noamundi Iron Mine **Inward Date** 23/05/2023 Analysis End 30/05/2023 (M/s TATA Steel Limited) Reference W.O.- 4700098928/962 Report Issue Date 31/05/2023 Noamundi, Jharkhand Sample Category Water Reference Date 22.03.2022 Postal Code! 833217 Sample Name Sample Source Sample Particulars Sample Condition Quantity Received Bottom Bin ETP 10 KLD Inlet Sewage Water Sample Code-WW-13 & 14 Sealed & Ice Preserved 5.0 Ltr & 250 ml & Outlet Sample Collected By Sampling Date Sampling Time Sampling Location Anacon Representative Mr. Sovan Giri Bottom Bin ETP 10 KLD Inlet & 18/05/2023 10.40 am to 4.50 pm

TEST RESULTS

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land	Test Result		
		Unit	rest Method	Surface Water)	Inlet	Outlet	
П	Chemical Testing 2. Residues In Water						
10	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	3.0	0.79	0.14	
11	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-5)	BDL(DL-5)	
12	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
13	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994	0.01	BDL(DL-0.01)	BDL(DL-0.01	
14	Cadmium (as Cd)	mg/l	IS: 3025 (Part 41): 1992	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
15	Selenium (as Se)	mg/l	IS: 3025 (Part 56): 2003	0.05	BDL(DL-0.1)	BDL(DL-0.1)	
16	Lead (as Pb)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)	
17	Arsenic (as As)	mg/l	IS: 3025 (Part 37): 2022	0.2	BDL(DL-0.05)	BDL(DL-0.05)	
18	Nickel (as Ni)	mg/l	IS:13428 : 2005(Annexure L)	3.0	BDL(DL-0.1)	BDL(DL-0.1)	
19	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5.0	BDL(DL-0.1)	BDL(DL-0.1)	
20	Total Chromium	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
21	Vanadium (as V)	mg/l	IS 3025 (Part 2): 2019	0.2	BDL(DL-0.1)	BDL(DL-0.1)	

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager

----End of Report----

**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager

4

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Anacon Laboratories Pvt. Ltd. Nagpur Lab

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### Test Report

Test Report No.	: ALPL/3105	2023/3-10B	dated 31/05/202	23		Page 1 of 1		
Issued To:			o. ALPL/23052023/MON-3/60-13&14 23/05/2023 .		Analys	sis Start	24/05/2023	
M/s Noamundi Iron Mine (M/s TATA Steel Limited) Noamundi, Jharkhand Postal Code: 833217		Inward Date			Analys	sis End	30/05/2023	
		Reference W.O 4700098928/962 Reference Date 22.03.2022			t Issue Date e Category	31/05/2023 Water		
Sample Name	Sam	ple Source	Sample Part	ticulars	Sample	Condition	Quantity Received	
Sewage Water		ETP 10 KLD Inlet & Outlet	Sample Code-W	W-13 & 14	Sealed & Ice Prese		5.0 Ltr & 250 ml	
Sample Collected By Anacon Representative Mr.Sovan Giri			Sampling Date 18/05/2023	Sampling 7			pling Location ETP 10 KLD Inlet & Outlet	
			TEST RESU	I TS				

CN	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test Result		
S.N.	Test Parameter	Unit	l'est Method	Water)	Inlet	Outlet	
I	Biological Testing 1.Water			43			
1	Faecal coliform	MPN/100 ml	IS 1622: 1981	-	40	21	
П	Chemical Testing Pollution & Environment						
2	Colour	Hazen units	IS 3025 (Part 4): 1983	Colourless	2	0 (Colourless)	
3	Odour		IS 3025 (Part 5): 2018	Odourless	Disagreeable	Agreeable	
4	Temperature	°C APHA Method Shall not exceed 5°C above the receiving water		Shall not exceed 5°C above the receiving water temperature	25°C	25°C	
5	Free residual chlorine	mg/l	IS 3025 (Part 26): 1986	1.0	BDL(DL-0.1)	BDL(DL-0.1)	
6	Particulate size of SS	6	Gravimetric Method	Shall pass 850 micron IS Sieve	<850	<850	
7	Free Ammonia (as NH <sub>3</sub> )	mg/l	APHA Method	5	BDL(DL-0.1)	BDL(DL-0.1)	
8	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	2.0	0.26	BDL(DL-0.1)	
9	Sulphide (as S)	mg/l	IS 3025 (Part 29): 1986	2.0	BDL(DL-0.03)	BDL(DL-0.03)	
10	Nitrate Nitrogen	mg/l	APHA Method	10	7.13	BDL(DL-2)	
11-	Bio Assay Test			90% Survival of fish after 96 hours in 100% effluent	68%	92%	
12	Hexavalent Chromium (as Cr <sup>+6</sup> )	mg/l	IS 3025 (Part 52): 2003	0.1	BDL(DL-0.01)	BDL(DL-0.01)	
13	Dissolved Phosphate (as P)	mg/l	IS 3025 (Part 31): 1988	5.0	BDL(DL-0.1)	BDL(DL-0.1)	

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager

Snehal Raut Deputy Technical Manager **Authorized Signatories** 

Pooja Kathane Technical Manager Dr. (Mrs.) S.D. Garway Quality Manager

----End of Report----

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TC 5458

#### Test Report

ULR No.- TC545823000001289F

Test Report No. :	ALPL/3105	2023/3-12A	dated 31/05/202	23		Page 1 of 2		
Issued To:		Sample Inward No.	ALPL/23052023/	MON-3/60-17&18	Analysi	is Start	24/05/2023	
(M/s TATA Steel Limited) Noamundi, Jharkhand Refer		Inward Date	W.O 4700098928/962		Analysi	is End	30/05/2023	
		Reference Reference Date			30,000	Issue Date Category	31/05/2023 Water	
Sample Name Sewage Water	Sam Hospita	ple Source I ETP 10 KLD et & Outlet	Sample Part	200-0000 (200-000)	/100.000 900 <b>3</b> 00.000 0	Condition ce Preserved	Quantity Received 5.0 Ltr & 250 ml	
Sample Collected By Anacon Representative Mr. Sovan Giri			Sampling Date 18/05/2023	Sampling T 10.40 am to 4.	50 pm Hospi		pling Location ital ETP 10 KLD alet & Outlet	

#### TEST RESULTS

S.N.	Test Parameter	Measurement Test Method		Standards (In Land Surface	Test Result		
O.,	Test Farameter	Unit	Test Method	Water)	Inlet	Outlet	
I	Chemical Testing Pollution & Environment		<				
1	pH value	-	IS 3025 (Part 11): 2022	5.5 to 9.0	6.71 at 25°C	7.14 at 25°C	
2	Oil & Grease	mg/l	IS 3025 (Part 39): 1991	10	BDL(DL-4)	BDL(DL-4)	
3	Total Suspended Solid (TSS)	mg/l	IS 3025 (Part 17): 1984	100	84	34	
4	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) :1988	50	28	16	
5	Total Kjeldahl Nitrogen (as N)	mg/l	IS 3025 (Part 34): 1988	100	36	18	
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44) :1993	30	24	12	
7	Chemical Oxygen Demand	mg/l	IS 3025 (Part 58) :2006	250	76	38	
8	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.2	BDL(DL-0.1)	BDL(DL-0.1)	
9	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	1.0	BDL(DL-0.1)	BDL(DL-0.1)	

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Verified by

Snehal Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway

Quality Manager

----End of Report----



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TC 5458

#### Test Report

III.R No -	TC545823000001289F
ULK NO	1 C3430230000012091

Test Report No.:	ALPL/3105	2023/3-12A	dated 31/05/202	23		Pag	ge 2 of 2	
Issued To:		Sample Inward No.	ALPL/23052023	ALPL/23052023/MON-3/60-17&18		is Start	24/05/2023	
		Inward Date	23/05/2023		Analys	is End	30/05/2023	
(M/s TATA Steel Noamundi, Jharkh Postal Code: 8332	and	Reference Reference Date	W.O 470009893 22.03.2022	28/962		Issue Date Category	31/05/2023 Water	
Sample Name Sewage Water	Hospita	ple Source 1 ETP 10 KLD et & Outlet	Sample Part Sample Code-W	PROMOBERACIONO		Condition ce Preserved	Quantity Received 5.0 Ltr & 250 ml	
	ple Collected esentative M	l By r.Sovan Giri	Sampling Date 18/05/2023	Sampling T		Hospi	pling Location tal ETP 10 KLD let & Outlet	

TEST RESULTS

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land	Test Result		
		Unit	Table 17 Telliou	Surface Water)	Inlet	Outlet	
п	Chemical Testing 2. Residues In Water			18			
10	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	3.0	0.85	0.47	
11	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-5)	BDL(DL-5)	
12	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
13	Mercury (as Hg)	mg/l	IS: 3025 (Rart 48): 1994	0.01	BDL(DL-0.01)	BDL(DL-0.01)	
14	Cadmium (as Cd)	mg/l	IS: 3025 (Part 41): 1992	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
15	Selenium (as Se)	mg/l	IS: 3025 (Part 56): 2003	0.05	BDL(DL-0.1)	BDL(DL-0.1)	
16	Lead (as Pb)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)	
17	Arsenic (as As)	mg/l	IS: 3025 (Part 37): 2022	0.2	BDL(DL-0.05)	BDL(DL-0.05)	
18	Nickel (as Ni)	mg/l	IS:13428 : 2005(Annexure L)	3.0	BDL(DL-0.1)	BDL(DL-0.1)	
19	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5.0	BDL(DL-0.1)	BDL(DL-0.1)	
20	Total Chromium	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
21	Vanadium (as V)	mg/l	IS 3025 (Part 2): 2019	0.2	BDL(DL-0.1)	BDL(DL-0.1)	

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager

----End of Report----

**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager

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#### Test Report

052023/3-12B	dated 31/05/202	23			Page 1 of 1
Inward Date	23/05/2023		Analysis I Report Iss	End sue Date	24/05/2023 30/05/2023 31/05/2023 Water
tal ETP 10 KLD					Quantity Received 5.0 Ltr & 250 ml
	Sampling Date 18/05/2023		50 pm Hospita		pling Location tal ETP 10 KLD let & Outlet
1	Inward Date Reference	Sample Inward No. ALPL/23052023 Inward Date 23/05/2023 Reference W.O 47000989 Reference Date 22.03.2022 Imple Source Sample Part ital ETP 10 KLD nlet & Outlet Sample Code-W ted By Sampling Date Mr. Sovan Giri	Sample Inward No. ALPL/23052023/MON-3/60-17&18 Inward Date 23/05/2023 Reference W.O 4700098928/962 Reference Date 22.03.2022 Imple Source Sample Particulars Sample & Outlet Sample Code-WW-17 & 18 Ited By Sampling Date Sampling To	Sample Inward No. ALPL/23052023/MON-3/60-17&18 Analysis Sample Date 23/05/2023 Analysis I Reference W.O 4700098928/962 Report Iss Sample Comple Source Sample Particulars Sample Code WW-17 & 18 Sealed & Ice I Sealed & Ice I Sted By Sampling Date Sampling Time	Sample Inward No. ALPL/23052023/MON-3/60-17&18   Analysis Start   Inward Date   23/05/2023   Analysis End   Reference   W.O 4700098928/962   Report Issue Date   Sample Category   Imple Source   Sample Particulars   Sample Condition   Sample Code-WW-17 & 18   Sealed & Ice Preserved   Ited By   Sampling Date   Sampling Time   Sample Mr. Sovan Giri   Ited By   Sampling Date   Sampling Time   Sample Mr. Sovan Giri   Ited By   Sampling Date   Sampling Time   Sample Mr. Sovan Giri   Ited By   Sampling Date   Sampling Time   Sampling Time   Sampling Mr. Sovan Giri   Ited By   Sampling Date   Sampling Time   Sampling Mr. Sovan Giri   Ited By   Sampling Date   Sampling Time   Sampling Mr. Sovan Giri   Ited By   Sampling Date   Sampling Time   Sampling Mr. Sovan Giri   Ited By   Sampling Date   Sampling Time   Sampling Mr. Sovan Giri   Ited By   Sampling Date   Sampling Time   Sampling Mr. Sovan Giri   Ited By   Sampling Date   Sampling Time   Sampling Mr. Sovan Giri   Ited By   Sampling Date   Sampling Time   Sampling Mr. Sovan Giri   Ited By   Sampling Date   Sampling Time   Sampling Mr. Sovan Giri   Ited By   Sampling Date   Sampling Time   Sampling Mr. Sovan Giri   Ited By   Sampling Date   Sampling Time   Sampling Mr. Sovan Giri   Ited By   Sampling Date   Sampling Time   Sampling Mr. Sovan Giri   Ited By   Sampling Date   Sampling Time   Sampling Mr. Sovan Giri   Ited By   Sampling Date   Sampling Time   Sampling Mr. Sovan Giri   Ited By   Sampling Date   Sampling Time   Sampling Mr. Sovan Giri   Ited By   Sampling Date   Sampling Time   Sampling Mr. Sovan Giri   Ited By   Sampling Date   Sampling Time   Sampling Mr. Sovan Giri   Ited By   Sampling Date   Sampling Time   Sampling Mr. Sovan Giri   Ited By   Sampling Date   Sampling Mr. Sovan Giri   Ited By

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test	Result	
		Unit	Unit		Inlet	Outlet	
I	Biological Testing 1.Water			A STATE OF THE PARTY OF THE PAR			
1	Faecal coliform	MPN/100 ml	IS 1622 : 1981	2 -	33	22	
II	Chemical Testing Pollution & Environment			27	Application (		
2	Colour	Hazen units	IS 3025 (Part 4): 1983	Colourless	2	0 (Colourless)	
3	Odour		IS 3025 (Part 5): 2018	Odourless	Disagreeable	Agreeable	
4	Temperature	°C	APHA Method	Shall not exceed 5°C above the receiving water temperature	25°C	25°C	
5	Free residual chlorine	mg/l	IS 3025 (Part 26): 1986	1.0	BDL(DL-0.1)	BDL(DL-0.1)	
6.	Particulate size of SS		Gravimetric Method	Shall pass 850 micron IS Sieve	<850	<850	
7	Free Ammonia (as NH <sub>3</sub> )	mg/l	APHA Method	5	BDL(DL-0.1)	BDL(DL-0.1)	
8	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	2.0	0.18	BDL(DL-0.1)	
9	Sulphide (as S)	mg/l	IS 3025 (Part 29): 1986	2.0	BDL(DL-0.03)	BDL(DL-0.03)	
10	Nitrate Nitrogen	mg/l	APHA Method	10	7.24	BDL(DL-2)	
11	Bio Assay Test	%	APHA 22nd Edition	90% Survival of fish after 96 hours in 100% effluent	82%	94%	
12	Hexavalent Chromium (as Cr <sup>+6</sup> )	mg/l	IS 3025 (Part 52): 2003	0.1	BDL(DL-0.01)	BDL(DL-0.01)	
13	Dissolved Phosphate (as P)	mg/l	IS 3025 (Part 31): 1988	5.0	BDL(DL-0.1)	BDL(DL-0.1)	

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Technical Manager

Snehal Raut Deputy Technical Manager Authorized Signatories

Pooja Kathane Technical Manager Dr. (Mrs.) S.D. Garway Quality Manager

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in order to ensure that your next experience will be significantly better, we welcome your feedback over email on feedback@anacon.in







TC 5458

#### Test Report

ULR	No	TC545823000001716F	
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Test Report No. Issued To:	: ALPL/3006			dated 30/06/2023				
M/s Noamundi (M/s TATA Ster Noamundi, Jhar Postal Code: 83	el Limited) khand	Sample Inward No Inward Date Reference Reference Date	ALPL/22062023/MON-4/24-11&12 22/06/2023 W.O 4700098928/962 22.03.2022		Analy: Repor	Page 1 of 2 sis Start sis End t Issue Date e Category	23/06/2023 30/06/2023 30/06/2023 Water	
Sample Name Sewage Water	New Town	ple Source Ship STP 50 KLD t & Outlet	Sample Part Sample Code-W			Condition ce Preserved	Quantity Received 5.0 Ltr & 250 ml	
Sample Collected By Anacon Representative Mr.Sovan Giri		Sampling Date 17/06/2023	Sampling Time 11.20 am to 4.55 pm		New Town	pling Location  n Ship STP 50 KLD  let & Outlet		

#### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Standards (In Land Surface	Test	Result
		Cint		Water)	Inlet	Outlet
I	Chemical Testing Pollution & Environment			18 V.		
1.	pH value		IS 3025 (Part 11): 2022	5.5 to 9.0	676 .0500	
2	Oil & Grease	mg/l	IS 3025 (Part 39): 1991		6.76 at 25°C	6.82 at 25°C
3	Total Suspended Solid (TSS)	mg/l	IS 3025 (Part 17): 1984	10	BDL(DL-4)	BDL(DL-4)
4	Ammonical Nitrogen (as N)			100	87	26
5	Total Kjeldahl Nitrogen (as N)	mg/l	IS 3025 (Part 34) :1988	50	19.2	14.7
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 34): 1988	100	26.1	18.4
7		mg/l	IS 3025 (Part 44):1993	30	26	18
1	Chemical Oxygen Demand	mg/l	IS 3025 (Part 58) :2006	250	78	
8	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.2		47
9	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022		BDL(DL-0.1)	BDL(DL-0.1)
	(11 08:13011)	mg i	15 5025 (Fait 43): 2022	1.0	BDL(DL-0.1)	BDL(DL-0.1)

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Verified by

Snehal Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway Quality Manager

----End of Report----

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Anacon Laboratories Pvt. Ltd. Nagpur Lab









TC 5458

New Town Ship STP 50 KLD

Inlet & Outlet

# Test Report

ULR No.- TC545823000001716F

Issued To:	: ALPL/3006			dated 30/06/2023			ge 2 of 2	
M/s Noamundi (M/s TATA Stee Noamundi, Jhar Postal Code: 83	el Limited) khand	Sample Inward No. Inward Date Reference Reference Date	22/06/2023 W.O 470009893 22.03.2022	/MON-4/24-11&12 28/962	Analysi Report	is Start	23/06/2023 30/06/2023 30/06/2023 Water	
Sample Name Sewage Water	New Town	ple Source Ship STP 50 KLD t & Outlet	Sample Part	- 1	Sample C		Quantity Received 5.0 Ltr & 250 ml	
Sample Collected By Anacon Representative Mr.Sovan Giri		Sampling Date	Sampling T	Time	Samp	pling Location		

TEST RESULTS

11.20 am to 4.55 pm

17/06/2023

			TEST RESULTS		A THE RESERVE OF THE PERSON OF	
S.N.	Test Parameter	Measurement	Took Madball		Test Result	
		Unit		Surface Water)	Inlet	Outlet
II	Chemical Testing 2. Residues In Water		14.	water)		
10	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	3.0	0.00	
11	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019		0.98	0.32
12	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-5)	BDL(DL-5)
13	Mercury (as Hg)	mg/l		2.0	BDL(DL-0.1)	BDL(DL-0.1)
14	Cadmium (as Cd)		IS: 3025 (Part 48): 1994	0.01	BDL(DL-0.01)	BDL(DL-0.01)
15	Selenium (as Se)	mg/l	IS: 3025 (Part 41): 1992	2.0	BDL(DL-0.1)	BDL(DL-0.1)
16	Lead (as Pb)	mg/l	IS: 3025 (Part 56): 2003	0.05	BDL(DL-0.1)	BDL(DL-0.1)
17	Arsenic (as As)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)
18		mg/l	IS: 3025 (Part 37): 2022	0.2	BDL(DL-0.05)	BDL(DL-0.05)
	Nickel (as Ni)	mg/l	IS 3025 (Part 2): 2019	- 3.0	BDL(DL-0.1)	
19	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5.0		BDL(DL-0.1)
20	Total Chromium	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
21	Vanadium (as V)	mg/l	IS 3025 (Part 2) : 2019	0.2	BDL(DL-0.1)	BDL(DL-0.1)
-		- Table 3"	(======================================	0.2	BDL(DL-0.1)	BDL(DL-0.1)

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• Test report shall not be reproduced except in full without prior written approval of Anacon Labs. • Liability of Anacon Labs is limited to invoiced amount only. • Non-perishable and Below detection limit • DL- Indicates detection limit of instrument/method and shall be considered as 'absent'.

REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager

----End of Report----

**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager

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Anacon Laboratories Pvt. Ltd. Nagpur Lab

♥ FP-34, 35,Food Park, Five Star Industral Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122 + 91 8045685558 ■ Email: info@anacon.ln ⊕https://www.anaconlaboratories.com





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#### Test Report

Test Report No.	: ALPL/3006	2023/3-20B	dated 30/06/202	23		Pag	ge 1 of 1	
Issued To:		Sample Inward No.	ALPL/22062023/	MON-4/24-11&12	Analys	sis Start	23/06/2023	
(M/s TATA Steel Limited)		Inward Date	22/06/2023		- No.	sis End	30/06/2023	
Noamundi, Jharl Postal Code! 833	chand	Reference Reference Date	W.O 470009892 22.03.2022	28/962	10000	t Issue Date e Category	30/06/2023 Water	
Sample Name Sewage Water	New Town	ple Source Ship STP 50 KLD at & Outlet	Sample Parti	and the same of th		Condition ce Preserved	Quantity Received 5.0 Ltr & 250 ml	
	nple Collected presentative M	I By r.Sovan Giri	Sampling Date	Sampling T 11.20 am to 4.	55 pm New Town		pling Location  n Ship STP 50 KLD  let & Outlet	
71.07			mnom n novi	F 800 (%)		III	ict c	

#### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Standards (In Land Surface Water)	Test Result	
					Inlet	Outlet
I	Biological Testing 1.Water			.0		
1	Faecal coliform	MPN/100 ml	IS 1622 : 1981	407-	39	32
П	Chemical Testing Pollution & Environment		4.00 1,5	1		
2	Colour	Hazen units	IS 3025 (Part 4): 1983	Colourless	2	0 (Colourless)
3	Odour		IS 3025 (Part 5): 2018	Odourless	Disagreeable	Agreeable
4	Temperature	°C	APHA Method	Shall not exceed 5°C above the receiving water temperature	25°C	25°C
5	Free residual chlorine	mg/l	IS 3025 (Part 26): 1986	1.0	BDL(DL-0.1)	BDL(DL-0.1)
6	Particulate size of SS	1	Gravimetric Method	Shall pass 850 micron IS Sieve	<850	<850
7	Free Ammonia (as NH <sub>3</sub> )	mg/l	APHA Method	5	BDL(DL-0.1)	BDL(DL-0.1)
8	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	2.0	0.38	BDL(DL-0.1)
9	Sulphide (as S)	mg/l	IS 3025 (Part 29): 1986	2.0	BDL(DL-0.03)	BDL(DL-0.03)
10	Nitrate Nitrogen	mg/l	APHA Method	10	4.6	BDL(DL-2)
11	Bio Assay Test	%	APHA 22nd Edition	90% Survival of fish after 96 hours in 100% effluent	82%	94%
12	Hexavalent Chromium (as Cr <sup>+6</sup> )	mg/l	IS 3025 (Part 2): 2019	0.1	BDL(DL-0.01)	BDL(DL-0.01)
13	Dissolved Phosphate (as P)	mg/l	IS 3025 (Part 31): 1988	5.0	BDL(DL-0.1)	BDL(DL-0.1)

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager Snehal Raut Deputy Technical Manager 14 .

Pooja-Kathane Technical Manager Dem

**Authorized Signatories** 

Dr. (Mrs.) S.D. Garway Quality Manager

----End of Report----







TC 5458

# Test Report

ULR No.- TC545823000001716F

Test Report No.: ALPL/30062023/3-22A dated 30/06/2023 Page 1 of 2 Issued To: Sample Inward No. ALPL/22062023/MON-4/24-15&16 23/06/2023 **Analysis Start** M/s Noamundi Iron Mine **Inward Date** 22/06/2023 **Analysis End** 30/06/2023 (M/s TATA Steel Limited) Reference W.O.- 4700098928/962 Report Issue Date 30/06/2023 Noamundi, Jharkhand Sample Category Water Reference Date 22.03.2022 Postal Code: 833217 Sample Name Sample Source Sample Particulars Sample Condition Quantity Received Central Camp STP 50 KLD Sewage Water Sample Code-WW-15 & 16 Sealed & Ice Preserved 5.0 Ltr & 250 ml Inlet & Outlet Sample Collected By Sampling Date Sampling Time Sampling Location Anacon Representative Mr. Sovan Giri Central Camp STP 50 KLD 17/06/2023 11.20 am to 4.55 pm Inlet & Outlet

#### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Standards (In Land Surface Water)	Test Result				
					Inlet	Outlet			
I	Chemical Testing Pollution & Environment								
1	pH value	-	IS 3025 (Part 11): 2022	5.5 to 9.0	6.72 at 25°C	6.91 at 25°C			
2	Oil & Grease	mg/l	IS 3025 (Part 39): 1991	10	BDL(DL-4)	BDL(DL-4)			
3	Total Suspended Solid (TSS)	mg/l	IS 3025 (Part 17): 1984	100	86	42			
4	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) :1988	50	16.3	11.4			
5	Total Kjeldahl Nitrogen (as N)	mg/l	IS 3025 (Part 34): 1988	100	21.9	16.7			
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44) :1993	30	26	14			
7	Chemical Oxygen Demand	mg/l	IS 3025 (Part 58) :2006	250	78	36			
8	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.2	BDL(DL-0.1)	BDL(DL-0.1)			
9	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	1.0	BDL(DL-0.1)	BDL(DL-0.1)			

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Verified by

Deputy Technical Manager

Authorized Signatory

Toamp

Dr. (Mrs.) S. D. Garway Quality Manager

----End of Report----

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TC 5458

### Test Report

ULR No.- TC545823000001716F

Test Report No.: ALPL/30062023/3-22A dated 30/06/2023 Page 2 of 2 Issued To: Sample Inward No. ALPL/22062023/MON-4/24-15&16 **Analysis Start** 23/06/2023 M/s Noamundi Iron Mine **Inward Date** 22/06/2023 Analysis End 30/06/2023 (M/s TATA Steel Limited) 30/06/2023 W.O.- 4700098928/962 Report Issue Date Reference Noamundi, Jharkhand Sample Category Water Reference Date 22.03.2022 Postal Code: 833217 Sample Name Sample Source Sample Particulars Sample Condition Quantity Received Central Camp STP 50 KLD Sample Cqde-WW-15 & 16 Sewage Water Sealed & Ice Preserved 5.0 Ltr & 250 ml Inlet & Outlet Sampling Date Sampling Time Sample Collected By Sampling Location Central Camp STP 50 KLD Anacon Representative Mr. Sovan Giri 17/06/2023 11.20 am to 4.55 pm Inlet & Outlet

#### TEST RESULTS

	TAB	Measurement		Standards (In Land	Test Result	
S.N.	Test Parameter	Unit	Test Method	Surface Water)	Inlet	Outlet
П	Chemical Testing 2. Residues In Water		4			
10	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	3.0	2.81	0.89
11	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-5)	BDL(DL-5)
12	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
13	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994	0.01	BDL(DL-0.01)	BDL(DL-0.01)
14	Cadmium (as Cd)	mg/l	IS: 3025 (Part 41): 1992	2.0	BDL(DL-0.1)	BDL(DL-0.1)
15	Selenium (as Se)	mg/l	IS: 3025 (Part 56): 2003	0.05	BDL(DL-0.1)	BDL(DL-0.1)
16	Lead (as Pb)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)
17	Arsenic (as As)	mg/l	IS: 3025 (Part 37): 2022	0.2	BDL(DL-0.05)	BDL(DL-0.05
18	Nickel (as Ni)	mg/l	IS 3025, (Part 2): 2019	3.0	BDL(DL-0.1)	BDL(DL-0.1)
19	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5.0	BDL(DL-0.1)	BDL(DL-0.1)
20	Total Chromium	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
21	Vanadium (as V)	mg/l	IS 3025 (Part 2): 2019	0.2	BDL(DL-0.1)	BDL(DL-0.1)

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only.
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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangest Fande Technical Manager **Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager

---End of Report----

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Anacon Laboratories Pvt. Ltd. Nagpur Lab

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### Anacon Laboratories Pvt. Ltd. Nagpur Lab

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### Test Report

Test Report No.	: ALPL/3006		dated 30/06/202	23		Page 1 of 1	
Issued To: M/s Noamundi I (M/s TATA Stee Noamundi, Jhark Postal Code: 833	Limited) hand	Sample Inward No. Inward Date Reference Reference Date	ALPL/22062023 22/06/2023 W.O 47000989 22.03.2022	/MON-4/24-15&16 28/962	Analys	sis Start sis End t Issue Date e Category	23/06/2023 30/06/2023 30/06/2023 Water
Sample Name Sewage Water	Central Ca	amp STP 50 KLD et & Outlet Sample Particulars  Sample Particulars  Sample Code-WW-15 & 16			Sample Condition Sealed & Ice Preserved		Quantity Received 5.0 Ltr & 250 ml
Sample Collected By Anacon Representative Mr.Sovan Giri		Sampling Date 17/06/2023	Sampling T	Central Camp STP 5			

			TEST RESULTS			
S.N.	Test Parameter	Measurement Unit	Test Method	Standards (In Land Surface	Test Result	
		Cint		Water)	Inlet	Outlet
I	Biological Testing 1.Water			0	•	
1	Faecal coliform	MPN/100 ml	IS 1622 : 1981	6/2-	84	34
II	Chemical Testing Pollution & Environment			A. T.		
2	Colour	Hazen units	IS 3025 (Part 4): 1983	Colourless	2	0 (Colourless)
3	Odour	-	IS 3025 (Part 5): 2018	Odourless	Disagreeable	Agreeable
4	Temperature	°C	APHA Method	Shall not exceed 5°C above the receiving water temperature	25°C	25°C
5	Free residual chlorine	mg/l	IS 3025 (Part 26): 1986	1.0	BDL(DL-0.1)	BDL(DL-0.1)
6	Particulate size of SS		Gravimetric Method	Shall pass 850 micron IS Sieve	<850	<850
7	Free Ammonia (as NH <sub>3</sub> )	mg/l	APHA Method	5	BDL(DL-0.1)	BDL(DL-0.1)
8	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	2.0	0.14	BDL(DL-0.1)
9	Sulphide (as S)	mg/l	IS 3025 (Part 29): 1986	2.0	BDL(DL-0.03)	BDL(DL-0.03)
10	Nitrate Nitrogen	mg/l	APHA Method	10	2.93	BDL(DL-2)
11	Bio Assay Test	%	APHA 22nd Edition	90% Survival of fish after 96 hours in 100% effluent	86%	92%
12	Hexavalent Chromium (as Cr <sup>+6</sup> )	mg/l	IS 3025 (Part 2): 2019	0.1	BDL(DL-0.01)	BDL(DL-0.01)
13	Dissolved Phosphate (as P)	mg/l	IS 3025 (Part 31): 1988	5.0	BDL(DL-0.1)	BDL(DL-0.1)

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only.
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Verified By

Mangesh Fande Technical Manager

Snehal Raut Deputy Technical Manager Authorized Signatories

Pooja Kathane Technical Manager

Dr. (Mrs.) S.D. Garway Quality Manager







TC 5458

### Test Report

ULR No T	C545823000001716F
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Test Report No.: ALPL/30062023/3-21A			dated 30/06/202	23		Page 1 of 2	
Issued To:  M/s Noamundi Iron Mine (M/s TATA Steel Limited) Noamundi, Jharkhand  Samp Inwa Refer		Sample Inward No Inward Date Reference Reference Date	22/06/2023 W.O 4700098928/962		Analys	Analysis Start 23/06 Analysis End 30/06 Report Issue Date 30/06 Sample Category Water	
Sample Name Sewage Water	Bottom Bin	Ple Source ETP 10 KLD Inlet & Outlet	Sample Part Sample Code-W	Electronic and a second a second and a second a second and a second an	5077	Condition (ce Preserved	Quantity Received 5.0 Ltr & 250 ml
Sample Collected By Anacon Representative Mr.Sovan Giri		Sampling Date 17/06/2023	Sampling 7			pling Location ETP 10 KLD Inlet & Outlet	

S.N.	/ Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test Result	
		Unit		Water)	Inlet	Outlet
I	Chemical Testing Pollution & Environment			47		
1	pH value	-	IS 3025 (Part 11): 2022	5.5 to 9.0	6.43 at 25°C	6.71 at 25°C
2	Oil & Grease	mg/l	IS 3025 (Part 39): 1991	10	BDL(DL-4)	
3	Total Suspended Solid (TSS)	mg/l	IS 3025 (Part 17): 1984	100	87	BDL(DL-4)
4	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) :1988	50	26.58	38
5	Total Kjeldahl Nitrogen (as N)	mg/l	IS 3025 (Part 34): 1988	100	21.67	14.93
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44) :1993	30	0.000	12.31
7	Chemical Oxygen Demand	mg/l	IS 3025 (Part 58) :2006		24	18
8	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	250	72	43
9	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	0.2 1.0	BDL(DL-0.1) BDL(DL-0.1)	BDL(DL-0.1) BDL(DL-0.1)

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Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway Quality Manager

----End of Report----

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TC 5458

### Test Report

ULR No TC545823000001716F
Test Report No + AI DI /20062022/2 21 A

Test Report No.	: ALPL/3000		dated 30/06/202			Page 2 of 2	
Issued To:		Sample Inward No.	ALPL/22062023	/MON-4/24-13&14	Analys	sis Start	23/06/2023
M/s Noamundi		Inward Date	22/06/2023		Analys	sis End	30/06/2023
(M/s TATA Steel Limited) Noamundi, Jharkhand		Reference	W.O 4700098928/962 22.03.2022		Repor	t Issue Date	30/06/2023
					Sample Category V		Water
Sample Name		ple Source	Sample Particulars		Sample	Condition	Quantity Received
Sewage Water	Sewage Water Bottom Bin ETP 10 KLD Inlet & Outlet		Sample Code-W	W-13 & 14	Sealed & I	ce Preserved	5.0 Ltr & 250 ml
Sample Collected By Anacon Representative Mr. Sovan Giri			Sampling Date Sampling Ti		Гime		
Table of Representative Mr. Sovan Gill		17/06/2023	17/06/2023 11.20 am to 4.5		Bottom Bin	ETP 10 KLD Inlet & Outlet	

#### TEST RESULTS

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land	Test Result	
		Unit	rest Method	Surface Water)	Inlet	Outlet
II	Chemical Testing 2. Residues In Water			N. C.	-	
10	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	3.0	1.65	0.45
11	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-5)	BDL(DL-5)
12	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
13	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994	0.01	BDL(DL-0.01)	BDL(DL-0.01)
14	Cadmium (as Cd)	mg/l	IS: 3025 (Part 41): 1992	2.0	BDL(DL-0.1)	BDL(DL-0.1)
15	Selenium (as Se)	mg/l	IS: 3025 (Part 56): 2003	0.05	BDL(DL-0.1)	BDL(DL-0.1)
16	Lead (as Pb)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)
17	Arsenic (as As)	mg/l	IS: 3025 (Part 37): 2022	0.2	BDL(DL-0.05)	BDL(DL-0.05)
18	Nickel (as Ni)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-0.1)	BDL(DL-0.1)
19	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5.0	BDL(DL-0.1)	BDL(DL-0.1)
20	Total Chromium	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
21	Vanadium (as V)	mg/l	IS 3025 (Part 2): 2019	0.2	BDL(DL-0.1)	BDL(DL-0.1)

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager

---End of Report----

**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager

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Anacon Laboratories Pvt. Ltd. Nagpur Lab





### Anacon Laboratories Pvt. Ltd. Nagpur Lab

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### Test Report

L/30062023/3-21B	dated 30/06/202	23		Page 1 of 1	
Mine ited) Sample Inward No Inward Date Reference Reference Date	22/06/2023		Analy	vsis Start vsis End rt Issue Date	23/06/2023 30/06/2023 30/06/2023 Water
Sample Name Sewage Water Sewage Water Sample Source Bottom Bin ETP 10 KLD Inlet & Outlet		Sample Particulars Sample Code-WW-13 & 14			Quantity Received 5.0 Ltr & 250 ml
Sample Collected By Anacon Representative Mr.Sovan Giri					pling Location ETP 10 KLD Inlet & Outlet
	Sample Inward No Inward Date Reference Reference Date  Sample Source om Bin ETP 10 KLD Inlet & Outlet ollected By	Mine ited)  Sample Inward No. ALPL/22062023  Inward Date 22/06/2023  Reference W.O 47000989  Reference Date 22.03.2022  Sample Source Sample Part & Outlet Sample Code-W  Ollected By Sampling Date	Mine ited)  Sample Inward No. ALPL/22062023/MON-4/24-13&14  Inward Date 22/06/2023  Reference W.O 4700098928/962  Reference Date 22.03.2022  Sample Source Sample Particulars Sample Code-WW-13 & 14  ollected By Sampling Date Sampling Tative Mr. Sovan Giri	Mine ited)  Sample Inward No. ALPL/22062023/MON-4/24-13&14 Analy 22/06/2023  Reference W.O 4700098928/962 Report Sample Source Sample Particulars Sample ETP 10 KLD Inlet & Outlet Sample Code-WW-13 & 14 Sealed & Ollected By Sampling Date Sampling Time	Mine ited)  Sample Inward No. ALPL/22062023/MON-4/24-13&14

			TEST RESULTS			
S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test Result	
	THE RESERVE OF STREET	Unit		Water)	Inlet	Outlet
I	Biological Testing 1.Water			43		
1	Faecal coliform	MPN/100 ml	IS 1622 : 1981	E	27	21
11.	Chemical Testing Pollution & Environment			a.y		
2	Colour	Hazen units	IS 3025 (Part 4): 1983	Colourless	2	0 (Colourless)
3	Odour		IS 3025 (Part 5): 2018	Odourless	Disagreeable	Agreeable
4	Temperature	°C	APHA Method	Shall not exceed 5°C above the receiving water temperature	25°C	25°C
5	Free residual chlorine	mg/l	IS 3025 (Part 26): 1986	1.0	BDL(DL-0.1)	BDL(DL-0.1)
6	Particulate size of SS		Gravimetric Method	Shall pass 850 micron IS Sieve	<850	<850
7	Free Ammonia (as NH <sub>3</sub> )	mg/l	APHA Method	5	BDL(DL-0.1)	BDL(DL-0.1)
8	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	2.0	0.37	BDL(DL-0.1)
9	Sulphide (as S)	mg/l	IS 3025 (Part 29): 1986	2.0	BDL(DL-0.03)	BDL(DL-0.03)
10	Nitrate Nitrogen	mg/l	APHA Method	10	6.94	BDL(DL-2)
11	Bio Assay Test	%	APHA 22nd Edition	90% Survival of fish after 96 hours in 100% effluent	74%	92%
12	Hexavalent Chromium (as Cr <sup>+6</sup> )	mg/l	IS 3025 (Part 2): 2019	0.1	BDL(DL-0.01)	BDL(DL-0.01)
13	Dissolved Phosphate (as P)	mg/l	IS 3025 (Part 31): 1988	5.0	BDL(DL-0.1)	BDL(DL-0.01)

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Verified By

Mangesh Fande

Technical Manager

Deputy Technical Manager

**Authorized Signatories** 

Pooja Kathane Technical Manager

Dr. (Mrs.) S.D. Garway Quality Manager

BDL(DL-0.1)

----End of Report--

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TC 5458

### Test Report

Sample Name Sample Source		ple Source	Sample Particulars	Sample Condition	Quantity Received
Noamundi, Jharkhand Postal Code: 833217		Reference Date	22.03.2022	Participal Control of the Control of	
	(M/s TATA Steel Limited) Reference		W.O 4700098928/962	Report Issue Date Sample Category	30/06/2023 Water
M/s Noamundi		Inward Date	22/06/2023	Analysis End	30/06/2023
Issued To:		Sample Inward No.	ALPL/22062023/MON-4/24-17&18	Analysis Start	23/06/2023
ULR No TC5458 Test Report No.	323000001716 : ALPL/3006	F 2023/3-23A	dated 30/06/2023	Page 1 of 2	

Sample Name Sewage Water	Hospital ETP 10 KLD Inlet & Outlet	Sample Code-WV	Sealed & Ice Preserved		5.0 Ltr & 250 ml	
CONTROL OF	ple Collected By resentative Mr.Sovan Giri	Sampling Date	Samplin		Hospit	pling Location tal ETP 10 KLD let & Outlet

#### TEST RESULTS

		Measurement		Standards (In Land Surface	Test Result		
S.N.	Test Parameter	Unit	l est Method		Inlet	Outlet	
I	Chemical Testing Pollution & Environment			- 1	2500	7.16 at 25°C	
1	pH value	W = = = =	IS 3025 (Part 11): 2022	5.5 to 9.0	6.87 at 25°C		
2	Oil & Grease	mg/l	IS 3025 (Part 39): 1991	10	BDL(DL-4)	BDL(DL-4)	
3	Total Suspended Solid (TSS)	mg/l	IS 3025 (Part 17): 1984	100	82	36	
-	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) :1988	50	32	21	
4	Total Kjeldahl Nitrogen (as N)	mg/l	IS 3025 (Part 34): 1988	100	46	28	
5		mg/l	IS 3025 (Part 44) :1993	30	28	16	
6.	BOD (3 days at 27°C)		IS 3025 (Part 58) :2006	250	81	42	
7	Chemical Oxygen Demand	mg/l			BDL(DL-0.1)	BDL(DL-0.1)	
8	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.2			
9	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	1.0	BDL(DL-0.1)	BDL(DL-0.1)	

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Verified by

Snehal Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway

Quality Manager

----End of Report----



Anacon Laboratories Pvt. Ltd. Nagpur Lab









TC 5458

### Test Report

ULR No.- TC545823000001716F

Test Report No.: ALPL/30062023/3-23A dated 30/06/2023 Page 2 of 2 Sample Inward No. Issued To: ALPL/22062023/MON-4/24-17&18 **Analysis Start** 23/06/2023 M/s Noamundi Iron Mine **Inward Date** 22/06/2023 **Analysis End** 30/06/2023 (M/s TATA Steel Limited) W.O.- 4700098928/962 Reference Report Issue Date 30/06/2023 Noamundi, Jharkhand Sample Category Water Reference Date 22.03.2022 Postal Code: 833217 Sample Name Sample Source Sample Particulars Sample Condition Quantity Received Hospital ETP 10 KLD Sewage Water Sample Code-WW-17 & 18 Sealed & Ice Preserved 5.0 Ltr & 250 ml Inlet & Outlet Sample Collected By Sampling Date Sampling Time Sampling Location Anacon Representative Mr. Sovan Giri Hospital ETP 10 KLD 17/06/2023 11.20 am to 4.55 pm Inlet & Outlet

#### TEST RESULTS

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land	Test	Result
		Unit	AN ORGANIA MARKAMANA	Surface Water)	Inlet	Outlet
П.	Chemical Testing 2. Residues In Water			2.%		
10	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	3.0	1.82	0.54
11	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-5)	BDL(DL-5)
12	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
13	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994	0.01	BDL(DL-0.01)	BDL(DL-0.01)
14	Cadmium (as Cd)	mg/l	IS: 3025 (Part 41): 1992	2.0	BDL(DL-0.1)	BDL(DL-0.1)
15	Selenium (as Se)	mg/l	IS: 3025 (Part 56): 2003	0.05	BDL(DL-0.1)	BDL(DL-0.1)
16	Lead (as Pb)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)
17	Arsenic (as As)	mg/l	IS: 3025 (Part 37): 2022	0.2	BDL(DL-0.05)	BDL(DL-0.05)
18	Nickel (as Ni)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-0.1)	BDL(DL-0.1)
19	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5.0	BDL(DL-0.1)	BDL(DL-0.1)
20	Total Chromium	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
21	Vanadium (as V)	mg/l	IS 3025 (Part 2): 2019	0.2	BDL(DL-0.1)	BDL(DL-0.1)

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager

----End of Report----

**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager

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### Test Report

Test Report No.:	ALPL/3006	2023/3-23B	dated 30/06/202	23	I	Page 1 of 1		
Issued To:		Sample Inward No.	ALPL/22062023/	ALPL/22062023/MON-4/24-17&18		Start	23/06/2023	
(M/s TATA Steel Limited) Noamundi, Jharkhand Reference		Inward Date	22/06/2023 W.O 4700098928/962 22.03.2022		Analysis	End	30/06/2023	
		Reference Reference Date				ssue Date Category	30/06/2023 Water	
Sample Name Sewage Water	Hospita	ple Source 1 ETP 10 KLD et & Outlet	Sample Part		Sample Condition Sealed & Ice Preserved		Quantity Received 5.0 Ltr & 250 ml	
Anacon Representative Mr. Sovan Giri			Sampling Date 17/06/2023	11 20 am to 4 55 pm Hos		Hospi	pling Location tal ETP 10 KLD let & Outlet	
			mnom p port				Charles and the season	

#### TEST RESULTS

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test	Result
5.14.	Test I ar ameter	Unit	Unit		Inlet	Outlet
I	Biological Testing 1.Water			0		
1	Faecal coliform	aecal coliform MPN/100 ml IS 1622 : 1981		( ) L	43	40
П	Chemical Testing Pollution & Environment	-		-		
2	Colour	Time in the To Board (Furt 1) 1 1705 Colouriess		2	0 (Colourless)	
3	Odour	-	IS 3025 (Part 5): 2018	Odourless	Disagreeable	Agreeable
4	Temperature	°C	APHA Method	Shall not exceed 5°C above the receiving water temperature	25°C	25°C
5	Free residual chlorine	mg/l	IS 3025 (Part 26): 1986	1.0	BDL(DL-0.1)	BDL(DL-0.1)
6	Particulate size of SS	1	Gravimetric Method	Shall pass 850 micron IS Sieve	<850	<850
7	Free Ammonia (as NH <sub>3</sub> )	mg/l	APHA Method	5	BDL(DL-0.1)	BDL(DL-0.1)
8	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	2.0	0.28	BDL(DL-0.1)
9	Sulphide (as S)	mg/l	IS 3025 (Part 29): 1986	2.0	BDL(DL-0.03)	BDL(DL-0.03)
10	Nitrate Nitrogen	mg/l	APHA Method	10	7.93	BDL(DL-2)
11	Bio Assay Test	%	APHA 22nd Edition	90% Survival of fish after 96 hours in 100% effluent		92%
12	Hexavalent Chromium (as Cr <sup>+6</sup> )	mg/l	IS 3025 (Part 2): 2019	0.1	BDL(DL-0.01)	BDL(DL-0.01)
13	Dissolved Phosphate (as P)	mg/l	IS 3025 (Part 31): 1988	5.0	BDL(DL-0.1)	BDL(DL-0.1)

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager Snehal Raut Deputy Technical Manager Authorized Signatories

Pooja Kathane Technical Manager Dr. (Mrs.) S.D. Garway Quality Manager

----End of Report----

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III.R No.- TC545823000002079F

# Anacon Laboratories





TC 5458

### Test Report

CLICITO. I COAL	30230000020	71			
Test Report No.	: ALPL/3107	2023/3-9A	dated 31/07/2023	Page 1 of 2	
Issued To:		Sample Inward No.	ALPL/25072023/MON-1/24-11&12	Analysis Start	25/07/2023
M/s Noamundi Iron Mine (M/s TATA Steel Limited) Noamundi, Jharkhand Postal Code: 833217		Inward Date	25/07/2023 Analysis End		31/07/2023
		Reference	W.O 4700098928/962 Report Issue Date		31/07/2023
		Reference Date	22.03.2022	Sample Category	Water
Sample Name	Sample Source		Sample Particulars	Sample Condition	Quantity Received
		Ship STP 50 KLD t & Outlet	Sample Code-WW-11 & 12	Sealed & Ice Preserved	5.0 Ltr & 250 ml

Sample Collected By
Anacon Representative

Sampling Date
Sampling Time
Sampling Location
New Town Ship STP 50 KLD
Inlet & Outlet

**TEST RESULTS** 

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test F	Result
	2000 2 111 11110000	Unit	Unit 1 est Method		Inlet	Outlet
I	Chemical Testing Pollution & Environment					
1	pH value	-	IS 3025 (Part 11): 2022	5.5 to 9.0	6.87 at 25°C	7.13 at 25°C
2	Oil & Grease	mg/l	IS 3025 (Part 39): 1991	10	BDL(DL-4)	BDL(DL-4)
3	Total Suspended Solid (TSS)	mg/l	IS 3025 (Part 17): 1984	100	76	28
4	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34):1988	50	18.4	13.9
5	Total Kjeldahl Nitrogen (as N)	mg/l	IS 3025 (Part 34): 1988	100	24.1	17.6
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44):1993	30	24	16
7	Chemical Oxygen Demand	mg/l	IS 3025 (Part 58) :2006	250	73	42
8	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.2	BDL(DL-0.1)	BDL(DL-0.1)
9	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	1.0	BDL(DL-0.1)	BDL(DL-0.1)

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Verified by

Snehal Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway Quality Manager







TC 5458

### Test Report

ULR	No	TC545823000002079F	
CALA	1100	1 00 100200000000171	

Test Report No.	: ALPL/3107	2023/3 <b>-</b> 9A	dated 31/07/20	)23		Page 2 of 2		
Issued To:		Sample Inward No	. ALPL/2507202	ALPL/25072023/MON-1/24-11&12		is Start	25/07/2023	
(M/s TATA Steel Limited) Noamundi, Jharkhand		Inward Date	25/07/2023 W.O 4700098928/962 22.03.2022		Analys	is End	31/07/2023	
		Reference			Report	Issue Date	31/07/2023	
		Reference Date			Sample	Category	Water	
Sample Name	Sam	ple Source	Sample Par			Condition	Quantity Received	
Sewage Water		Ship STP 50 KLD t & Outlet	Sample Code-V			e Preserved	5.0 Ltr & 250 ml	
San	Sample Collected By			Sampling Time San		Sam	pling Location	
Anacon Representative		21/07/2023	11.50 am to 4.20 pm		New Town Ship STP 50 KLD Inlet & Outlet			

#### TEST RESULTS

S.N.	Test Parameter	Measurement	T-4 M-41 - 1	Standards (In Land	Test	Result
Dir.		Unit	Test Method	Surface Water)	Inlet	Outlet
II	Chemical Testing 2. Residues In Water		/	77		
10	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	3.0	0.46	0.34
11	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-5)	BDL(DL-5)
12	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
13	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994	0.01	BDL(DL-0.01)	BDL(DL-0.01)
14	Cadmium (as Cd)	mg/l	IS: 3025 (Part 41): 1992	2.0	BDL(DL-0.1)	BDL(DL-0.1)
15	Selenium (as Se)	mg/l	IS: 3025 (Part 56): 2003	0.05	BDL(DL-0.1)	BDL(DL-0.1)
16	Lead (as Pb)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)
17	Arsenic (as As)	mg/l	IS: 3025 (Part 37): 2022	0.2	BDL(DL-0.05)	BDL(DL-0.05)
18	Nickel (as Ni)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-0.1)	BDL(DL-0.1)
19	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5.0	BDL(DL-0.1)	BDL(DL-0.1)
20	Total Chromium	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
21	Vanadium (as V)	mg/l	IS 3025 (Part 2): 2019	0.2	BDL(DL-0.1)	BDL(DL-0.1)

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. • Test report shall not be reproduced except in full without prior written approval of Anacon Labs. • Liability of Anacon Labs is limited to invoiced amount only. • Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. • 'mg/l' is equivalent to 'ppm'. • BDL-Below detection limit • DL- Indicates detection limit of instrument/method and shall be considered as 'absent'.

REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager

---End of Report---

**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager



### Anacon Laboratories Pvt. Ltd. Nagpur Lab

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### Test Report

Test Report No.	: ALPL/31072	2023/3-9B	dated 31/07/202	23		Page 1 of 1		
Issued To:		Sample Inward No.	ALPL/25072023	/MON-1/24-11&12	2 Analysi	is Start	25/07/2023	
M/s Noamundi Iron Mine (M/s TATA Steel Limited) Noamundi, Jharkhand Postal Code: 833217		Inward Date	25/07/2023 W.O 4700098928/962		Analysi	s End	31/07/2023	
		Reference			Report	Issue Date	31/07/2023	
		Reference Date	22.03.2022		Sample	Category	Water	
Sample Name	Sam	ple Source	Sample Particulars Sample Code-WW-11 & 12		Sample (	Condition	Quantity Received	
Sewage Water		Ship STP 50 KLD t & Outlet			Sealed & Id	e Preserved	5.0 Ltr & 250 ml	
	ple Collected		Sampling Date	Sampling '	Γime	Sampling Location		
Anacon Representative			21/07/2023	21/07/2023 11.50 am to 4.20 pm		om New Town Ship STP 50 KLD Inlet & Outlet		
			TEST RESU	LTS		Ø		

			TEST RESULTS			
S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test	Result
	o ijes ka desi dir muder	Unit		Water)	Inlet	Outlet
I	Biological Testing 1.Water					
1	Faecal coliform MPN/100 ml		IS 1622 : 1981	/// <del>-</del>	40	21
П	Chemical Testing Pollution & Environment	antico e de	karasa Hali ta ka	• Name (Same)		
2	Colour Hazen units IS 3025 (Part 4): 1983 Colourless		2	0 (Colourless)		
3	Odour	-	IS 3025 (Part 5): 2018	Odourless	Disagreeable	Agreeable
4	Temperature	°C	APHA Method	Shall not exceed 5°C above the receiving water temperature	25°C	25°C
5	Free residual chlorine	mg/l	IS 3025 (Part 26): 1986	1.0	BDL(DL-0.1)	BDL(DL-0.1)
6	Particulate size of SS		Gravimetric Method	Shall pass 850 micron IS Sieve	<850	<850
7	Free Ammonia (as NH <sub>3</sub> )	mg/l	APHA Method	5	BDL(DL-0.1)	BDL(DL-0.1)
8	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	2.0	0.26	BDL(DL-0.1)
9	Sulphide (as S)	mg/l	IS 3025 (Part 29): 1986	2.0	BDL(DL-0.03)	BDL(DL-0.03)
10	Nitrate Nitrogen	mg/l	APHA Method	10	4.3	BDL(DL-2)
11	Bio Assay Test	%	APHA 22nd Edition	90% Survival of fish after 96 hours 84% in 100% effluent		94%
12	Hexavalent Chromium (as Cr <sup>+6</sup> )	mg/l	IS 3025 (Part 52): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)
13	Dissolved Phosphate (as P)	mg/l	IS 3025 (Part 31): 1988	5.0	BDL(DL-0.1)	BDL(DL-0.1)

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only.
• Test report shall not be reproduced except in full without prior written approval of Anacon Labs. • Liability of Anacon Labs is limited to invoiced amount only. • Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. • 'mg/l' is equivalent to 'ppm'. • Result for test no. 5 is not relevant. • BDL- Below detection limit • DL- Indicates detection limit of instrument/method and shall be considered as 'absent'.

REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager Shehal Raut
Deputy Technical Manager

Pooja Kathane Technical Manager

**Authorized Signatories** 

Dr. (Mrs.) S.D. Garway Quality Manager







TC 5458

### Test Report

ULR	NO	C545	82300	0002079F	

Test Report No.	: ALPL/31072	2023/3-11A	dated 31/07/20	dated 31/07/2023		Page 1 of 2		
Issued To:		Sample Inward No	. ALPL/25072023	ALPL/25072023/MON-1/24-15&16		s Start	25/07/2023	
M/s Noamundi Iron Mine		Inward Date	25/07/2023		Analysi	s End	31/07/2023	
Noamundi, Jharkhand		Reference	W.O 4700098928/962		Report	Issue Date	31/07/2023	
		Reference Date	22.03.2022	Sample	Category	Water		
Sample Name	Sam	ple Source	Sample Par	ticulars	Sample (	Condition	Quantity Received	
Sewage Water		mp STP 50 KLD t & Outlet	Sample Code-W	/W-15 & 16	Sealed & Io	e Preserved	5.0 Ltr & 250 ml	
San	Sample Collected By			Sampling Time		Sam	Sampling Location	
Ana	Anacon Representative		21/07/2023	11.50 am to 4.20 pm		Central Camp STP 50 KLD Inlet & Outlet		

#### TEST RESULTS

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test Result		
S.1V.	Test rarameter	Unit	Unit		Inlet	Outlet	
T	Chemical Testing			N/4			
1	Pollution & Environment						
1	pH value	-	IS 3025 (Part 11): 2022	5.5 to 9.0	6.92 at 25°C	7.13 at 25°C	
2	Oil & Grease	mg/l	IS 3025 (Part 39): 1991	10	BDL(DL-4)	BDL(DL-4)	
3	Total Suspended Solid (TSS)	mg/l	IS 3025 (Part 17): 1984	100	87	46	
4	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) :1988	50	18.2	12.7	
5	Total Kjeldahl Nitrogen (as N)	mg/l	IS 3025 (Part 34): 1988	100	23.6	18.2	
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44) :1993	30	21	12	
7	Chemical Oxygen Demand	mg/l	IS 3025 (Part 58) :2006	250	68	34	
8	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.2	BDL(DL-0.1)	BDL(DL-0.1)	
9	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	1.0	BDL(DL-0.1)	BDL(DL-0.1)	

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Verified by

Snehal Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway Quality Manager







TC 5458

### Test Report

ULR No.- TC545823000002079F

Test Report No.	: ALPL/3107		dated 31/07/20			Page 2 of 2	
Issued To:		Sample Inward No	. ALPL/2507202	3/MON-1/24-15&1	6 Analys		25/07/2023
(M/s TATA Steel Limited) Noamundi, Jharkhand		Inward Date 25/07/2023			Analys		31/07/2023
		Reference	W.O 4700098928/962 22.03.2022		Report	Issue Date	31/07/2023
		Reference Date			Sample	Category	Water
Sample Name		ple Source	Sample Par	ticulars	Sample (	Condition	Quantity Received
Sewage Water		mp STP 50 KLD t & Outlet	Sample Code-V	VW-15 & 16	Sealed & Io	ce Preserved	5.0 Ltr & 250 ml
	Sample Collected By		Sampling Date	Sampling Time		Sampling Location	
Anacon Representative		21/07/2023	11.50 am to 4.20 pm		C-+ 1 C CODD 50 YEV		

TEST RESULTS

S.N.	Test Parameter	Test Parameter Measurement		Standards (In Land	Test	Result
		Unit	Test Method	Surface Water)	Inlet	Outlet
П	Chemical Testing 2. Residues In Water			, , , , , , , , , , , , , , , , , , ,		
10	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	3.0	0.52	0.22
11	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-5)	BDL(DL-5)
12	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
13	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994	0.01	BDL(DL-0.01)	BDL(DL-0.01)
14	Cadmium (as Cd)	mg/l	IS: 3025 (Part 41): 1992	2.0	BDL(DL-0.1)	BDL(DL-0.01
15	Selenium (as Se)	mg/l	IS: 3025 (Part 56): 2003	0.05	BDL(DL-0.1)	
16	Lead (as Pb)	mg/I	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)
17	Arsenic (as As)	mg/l	IS: 3025 (Part 37): 2022	0.2	BDL(DL-0.05)	BDL(DL-0.1)
18	Nickel (as Ni)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-0.03)	BDL(DL-0.05)
19	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5.0		BDL(DL-0.1)
20	Total Chromium	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
21	Vanadium (as V)	mg/l	IS 3025 (Part 2): 2019	0.2	BDL(DL-0.1) BDL(DL-0.1)	BDL(DL-0.1) BDL(DL-0.1)

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager

----End of Report----

**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager



### Anacon Laboratories Pvt. Ltd. Nagpur Lab

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### Test Report

Test Report No.	: ALPL/3107	2023/3-11B	dated 31/07/202	23		Page 1 of 1	
Issued To:		Sample Inward No.	ALPL/25072023	/MON-1/24-15&16	Analys	is Start	25/07/2023
M/s Noamundi Iron Mine (M/s TATA Steel Limited) Noamundi, Jharkhand Postal Code: 833217		Inward Date	25/07/2023 W.O 4700098928/962 22.03.2022		Analys	is End	31/07/2023
		Reference			Report	Issue Date	31/07/2023
		Reference Date			Sample	Category	Water
Sample Name	Sam	ple Source	Sample Part	ticulars	Sample	Condition	Quantity Received
Sewage Water		mp STP 50 KLD t & Outlet	Sample Code-W	W-15 & 16	Sealed & Io	ce Preserved	5.0 Ltr & 250 ml
	ple Collected		Sampling Date	Sampling Time		Sampling Location	
Anacon Representative		21/07/2023	21/07/2023 11.50 am to 4.20			Camp STP 50 KLD let & Outlet	
1000		Complete and the	TEST RESU	LTS		A. Carlotte	
			1EST RESU	LIS			

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test Result	
	The Made of the	Unit		Water)	Inlet	Outlet
I	Biological Testing 1.Water	Paguidales etc.	SAR COMPANIES AND			
1	Faecal coliform	MPN/100 ml	IS 1622 : 1981	20X-	41	21
П	Chemical Testing Pollution & Environment	arkay uz zestek			MT SEC. A	
2	Colour	Hazen units	IS 3025 (Part 4): 1983	Colourless	2	0 (Colourless)
3	Odour		IS 3025 (Part 5): 2018	Odourless	Disagreeable	Agreeable
4	Temperature	°C	APHA Method	Shall not exceed 5°C above the receiving water temperature	25°C	25°C
5	Free residual chlorine	mg/l	IS 3025 (Part 26): 1986	1.0	BDL(DL-0.1)	BDL(DL-0.1)
6	Particulate size of SS		Gravimetric Method	Shall pass 850 micron IS Sieve	<850	<850
7	Free Ammonia (as NH <sub>3</sub> )	mg/l	APHA Method	5	BDL(DL-0.1)	BDL(DL-0.1)
8	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	2.0	0.17	BDL(DL-0.1)
9	Sulphide (as S)	mg/l	IS 3025 (Part 29): 1986	2.0	BDL(DL-0.03)	BDL(DL-0.03)
10	Nitrate Nitrogen	mg/l	APHA Method	10	3.16	BDL(DL-2)
11	Bio Assay Test	%	APHA 22nd Edition	90% Survival of fish after 96 hours in 100% effluent	82%	94%
12	Hexavalent Chromium (as Cr <sup>+6</sup> )	mg/l	IS 3025 (Part 52): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)
13	Dissolved Phosphate (as P)	mg/l	IS 3025 (Part 31): 1988	5.0	BDL(DL-0.1)	BDL(DL-0.1)

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager Snehal Raut Deputy Technical Manager

Technical Manager

**Authorized Signatories** 

Dr. (Mrs.) S.D. Garway Quality Manager







TC 5458

### Test Report

ULR No.- TC545823000002079F

Test Report No.	: ALPL/3107	2023/3 <b>-</b> 10A	dated 31/07/20	123			Page 1 of 2	
Issued To:		Sample Inward No	. ALPL/2507202	3/MON-1/24-13&14	Analys	is Start	25/07/2023	
(M/s TATA Steel Limited) Noamundi, Jharkhand		Inward Date	25/07/2023	25/07/2023		is End	31/07/2023	
		Reference	W.O 4700098928/962		Report	Issue Date	31/07/2023	
		Reference Date			Category	Water		
Sample Name	Sam	ple Source	Sample Par	ticulars	Sample (	Condition	Quantity Received	
Sewage Water		ETP 10 KLD Inlet COutlet	Sample Code-W	VW-13 & 14	Sealed & Ice Preserved		5.0 Ltr & 250 ml	
Sar	Sample Collected By		Sampling Date	Sampling Time		Sam	Sampling Location	
Anacon Representative		21/07/2023	11.50 am to 4.20 pm		Bottom Bin	ottom Bin ETP 10 KLD Inlet & Outlet		

### TEST RESULTS

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test Result		
D.14.	1 est 1 at ameter	Unit	Unit lest Method		Inlet	Outlet	
I	Chemical Testing Pollution & Environment			<b>1</b>			
1	pH value	- T	IS 3025 (Part 11): 2022	5.5 to 9.0	6.52 at 25°C	6.83 at 25°C	
2	Oil & Grease	mg/l	IS 3025 (Part 39): 1991	10	BDL(DL-4)	BDL(DL-4)	
3	Total Suspended Solid (TSS)	mg/l	IS 3025 (Part 17): 1984	100	84	32	
4	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) :1988	50	21.92	16.18	
5	Total Kjeldahl Nitrogen (as N)	mg/l	IS 3025 (Part 34): 1988	100	17.38	14.94	
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44) :1993	30	26	16	
7	Chemical Oxygen Demand	mg/l	IS 3025 (Part 58) :2006	250	78	43	
8	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.2	BDL(DL-0.1)	BDL(DL-0.1)	
9	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	1.0	BDL(DL-0.1)	BDL(DL-0.1)	

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only.
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Verified by

Snehal Raut

Deputy Technical Manager

Authorized Signatory

Daniel

Dr. (Mrs.) S. D. Garway Quality Manager







TC 5458

Outlet

### Test Report

ULR No.- TC545823000002079F

Test Report No.: ALPL/31072023/3-10A dated 31/07/2023 Page 2 of 2 Issued To: Sample Inward No. ALPL/25072023/MON-1/24-13&14 **Analysis Start** 25/07/2023 M/s Noamundi Iron Mine **Inward Date** 25/07/2023 **Analysis End** 31/07/2023 (M/s TATA Steel Limited) Reference W.O.- 4700098928/962 Report Issue Date 31/07/2023 Noamundi, Jharkhand Sample Category Reference Date Water Postal Code: 833217 22.03.2022 Sample Name Sample Source Sample Particulars Sample Condition Quantity Received Bottom Bin ETP 10 KLD Inlet Sewage Water Sample Code-WW-13 & 14 Sealed & Ice Preserved 5.0 Ltr & 250 ml & Outlet Sample Collected By Sampling Date Sampling Time Sampling Location Anacon Representative Bottom Bin ETP 10 KLD Inlet & 21/07/2023 11.50 am to 4.20 pm

	Th	ma	WIW	mo
TEST	к	1.0		

S.N.	Test Parameter	Measurement Measurement	Test Method	Standards (In Land	Test	Result
		Unit	1 est Method	Surface Water)	Inlet	Outlet
П	Chemical Testing 2. Residues In Water					
10	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	3.0	0.67	0.27
11	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-5)	BDL(DL-5)
12	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
13	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994	0.01	BDL(DL-0.01)	BDL(DL-0.01
14	Cadmium (as Cd)	mg/l	IS: 3025 (Part 41): 1992	2.0	BDL(DL-0.1)	BDL(DL-0.1)
15	Selenium (as Se)	mg/l	IS: 3025 (Part 56): 2003	0.05	BDL(DL-0.1)	BDL(DL-0.1)
16	Lead (as Pb)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)
17	Arsenic (as As)	mg/l	IS: 3025 (Part 37): 2022	0.2	BDL(DL-0.05)	BDL(DL-0.1)
18	Nickel (as Ni)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-0.1)	BDL(DL-0.1)
19	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5.0	BDL(DL-0.1)	BDL(DL-0.1)
20	Total Chromium	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
21	Vanadium (as V)	mg/l	IS 3025 (Part 2): 2019	0.2	BDL(DL-0.1)	BDL(DL-0.1)

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only.
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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager

---End of Report----

**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager



### Anacon Laboratories Pvt. Ltd. Nagpur Lab

### Test Report

2023/3-10B	dated 31/07/20	dated 31/07/2023			Page 1 of 1		
Sample Inward No.	ALPL/25072023	3/MON-1/24-13&14	Analys	is Start	25/07/2023		
Inward Date	W.O 4700098928/962		Analys	is End	31/07/2023		
Reference					31/07/2023		
Reference Date			Sample	Category	Water		
ple Source	Sample Par	ticulars	Sample	Condition	Quantity Received		
	Sample Code-W	/W-13 & 14	Sealed & Id	ce Preserved	5.0 Ltr & 250 ml		
Ву	Sampling Date	Sampling T	ime	Sam	Sampling Location		
Anacon Representative		11.50 am to 4.20 pm		Bottom Bin ETP 10 KLD Inlet & Outlet			
	TEST RESU	LTS		2			
	Inward Date Reference Reference Date  ple Source ETP 10 KLD Inlet C Outlet	Sample Inward No.   ALPL/25072023     Inward Date   25/07/2023     Reference   W.O 47000989     Reference Date   22.03.2022     Ple Source   Sample Par     ETP 10 KLD Inlet c Outlet   Sampling Date     I By   Sampling Date     attive   21/07/2023	Sample Inward No. ALPL/25072023/MON-1/24-13&14 Inward Date 25/07/2023 Reference W.O 4700098928/962 Reference Date 22.03.2022  ple Source Sample Particulars ETP 10 KLD Inlet Outlet Sample Code-WW-13 & 14  I By Sampling Date Sampling Tailing	Sample Inward No.   ALPL/25072023/MON-1/24-13&14   Analys     Inward Date   25/07/2023   Analys     Reference   W.O 4700098928/962   Report     Reference Date   22.03.2022   Sample     Pole Source   Sample Particulars   Sample     ETP 10 KLD Inlet   Coutlet   Sample Code-WW-13 & 14   Sealed & Id     I By   Sampling Date   Sampling Time     ative   21/07/2023   11.50 am to 4.20 pm	Sample Inward No.   ALPL/25072023/MON-1/24-13&14   Analysis Start		

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test Result	
	Augh lini or s	Unit	T CSC IVICEIOU	Water)	Inlet	Outlet
I	Biological Testing 1.Water					
1	Faecal coliform	MPN/100 ml	IS 1622 : 1981	-	43	27
The state of the state of	61 1 1 = 1	THE RESERVE OF THE PARTY OF THE				

#### **Chemical Testing** Pollution & Environment 2 Colour Hazen units IS 3025 (Part 4): 1983 0 (Colourless) Colourless 3 Odour IS 3025 (Part 5): 2018 Odourless Disagreeable Agreeable Shall not exceed 5°C above the 4 Temperature °C APHA Method 25°C 25°C receiving water temperature 5 Free residual chlorine IS 3025 (Part 26): 1986 mg/l BDL(DL-0.1) 1.0 BDL(DL-0.1) Shall pass 850 6 Particulate size of SS Gravimetric Method <850 <850 micron IS Sieve 7 Free Ammonia (as NH<sub>3</sub>) APHA Method mg/l BDL(DL-0.1) BDL(DL-0.1) 5 8 Fluoride (as F) IS 3025 (Part 60): 2008 mg/l 2.0 0.38 BDL(DL-0.1) 9 Sulphide (as S) IS 3025 (Part 29): 1986 mg/l 2.0 BDL(DL-0.03) BDL(DL-0.03) 10 Nitrate Nitrogen APHA Method mg/l 10 5.87 BDL(DL-2) 90% Survival of 11 Bio Assay Test % APHA 22nd Edition fish after 96 hours 78% 92% in 100% effluent 12 Hexavalent Chromium (as Cr<sup>+6</sup>) mg/l IS 3025 (Part 52): 2003 0.1 BDL(DL-0.1) BDL(DL-0.1) 13 Dissolved Phosphate (as P) mg/1IS 3025 (Part 31): 1988 5.0 BDL(DL-0.1) BDL(DL-0.1)

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only.

• Test report shall not be reproduced except in full without prior written approval of Anacon Labs. • Liability of Anacon Labs is limited to invoiced amount only. • Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. • 'mg/l' is equivalent to 'ppm'. • Result for test no. 5 is not relevant. • BDL- Below detection limit • DL- Indicates detection limit of instrument/method and shall be considered as 'absent'.

REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager

Snehal Raut
Deputy Technical Manager

**Authorized Signatories** 

Pooja Kathare Technical Manager

Dr. (Mrs.) S.D. Garway Quality Manager







TC 5458

### Test Report

ULR No.- TC545823000002079F

Test Report No.	: ALPL/3107	2023/3-12A	dated 31/07/20	)23	Page 1 of	f 2		
Issued To:	Issued To: Sample		. ALPL/2507202	ALPL/25072023/MON-1/24-17&18		is Start	25/07/2023	
M/s Noamundi Iron Mine (M/s TATA Steel Limited) Noamundi, Jharkhand Postal Code: 833217  Inward Date Reference Reference Date		Inward Date	25/07/2023		Analysi	is End	31/07/2023	
		Reference	W.O 47000989	H 보고 있는데 10 H H H H H H H H H H H H H H H H H H		Issue Date	31/07/2023	
		Reference Date	22.03.2022			Category	Water	
Sample Name		ple Source	Sample Par	Sample Particulars		Condition	Quantity Received	
Sewage Water	Sewage Water Hospital ETP 10 KLD Inlet & Outlet		Sample Code-WW-17 & 18		Sealed & Id	ce Preserved	5.0 Ltr & 250 ml	
Sample Collected By			Sampling Date	Sampling	Гіте	Sam	pling Location	
Anacon Representative			21/07/2023	11.50 am to 4.20 pm		Hospital ETP 10 KLD Inlet & Outlet		

TEST RESULTS

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test Result	
	X OSC X WI WINGEON	Unit	Unit Test Method		Inlet	Outlet
I	Chemical Testing Pollution & Environment					
1	pH value	10 mg - 10 mg	IS 3025 (Part 11): 2022	5.5 to 9.0	6.72 at 25°C	6.97 at 25°C
2	Oil & Grease	mg/l	IS 3025 (Part 39): 1991	10	BDL(DL-4)	BDL(DL-4)
3	Total Suspended Solid (TSS)	mg/l	IS 3025 (Part 17): 1984	100	92	38
4	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) :1988	50	31	24
5	Total Kjeldahl Nitrogen (as N)	mg/l	IS 3025 (Part 34): 1988	100	53	26
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44):1993	30	24	18
7	Chemical Oxygen Demand	mg/l	IS 3025 (Part 58) :2006	250	78	46
8	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.2	BDL(DL-0.1)	BDL(DL-0.1)
9	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	1.0	BDL(DL-0.1)	BDL(DL-0.1)

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only.
• Test report shall not be reproduced except in full without prior written approval of Anacon Labs. • Liability of Anacon Labs is limited to invoiced amount only. • Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. • 'mg/l' is equivalent to 'ppm'. • BDL-Below detection limit • DL- Indicates detection limit of instrument/method and shall be considered as 'absent'.

Verified by

Snehal Raut

Deputy Technical Manager

**Authorized Signatory** 

Dr. (Mrs.) S. D. Garway Quality Manager







TC 5458

### Test Report

ULR No TC545823000002079F	
Test Report No . AI PI /31072023/3	124

Test Report No.	: ALPL/3107	2023/3-12A	dated 31/07/20	)23			Page 2 of 2	
Issued To:		Sample Inward No.	ALPL/2507202:	3/MON-1/24-17&18	Analys	is Start	25/07/2023	
(M/s TATA Steel Limited) Noamundi, Jharkhand		Inward Date	25/07/2023		Analys		31/07/2023	
		Reference	W.O 4700098928/962		Report	Issue Date	31/07/2023	
		Reference Date	22.03.2022		Sample	Category	Water	
Sample Name	Sample Name Samp		Sample Particulars		Sample	Condition	Quantity Received	
Sewage Water		ETP 10 KLD t & Outlet	Sample Code-WW-17 & 18		Sealed & Id	ce Preserved	5.0 Ltr & 250 ml	
Sample Collected By Anacon Representative			Sampling Date	11.50 am to 4.20 pm Hosp		Sam	Sampling Location	
			21/07/2023				tal ETP 10 KLD let & Outlet	

### **TEST RESULTS**

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land	Test Result		
		Unit		Surface Water)	Inlet	Outlet	
П	Chemical Testing 2. Residues In Water						
10	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	3.0	1.19	0.47	
11	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-5)	BDL(DL-5)	
12	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
13	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994	0.01	BDL(DL-0.01)	BDL(DL-0.01)	
14	Cadmium (as Cd)	mg/l	IS: 3025 (Part 41): 1992	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
15	Selenium (as Se)	mg/l	IS: 3025 (Part 56): 2003	0.05	BDL(DL-0.1)	BDL(DL-0.1)	
16	Lead (as Ph)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)	
17	Arsenic (as As)	mg/l	IS: 3025 (Part 37): 2022	0.2	BDL(DL-0.05)	BDL(DL-0.05)	
18	Nickel (as Ni)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-0.1)	BDL(DL-0.1)	
19	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5.0	BDL(DL-0.1)	BDL(DL-0.1)	
20	Total Chromium	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
21	Vanadium (as V)	mg/l	IS 3025 (Part 2): 2019	0.2	BDL(DL-0.1)	BDL(DL-0.1)	

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only.
• Test report shall not be reproduced except in full without prior written approval of Anacon Labs. • Liability of Anacon Labs is limited to invoiced amount only. • Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. • 'mg/l' is equivalent to 'ppm'. • BDL-Below detection limit • DL- Indicates detection limit of instrument/method and shall be considered as 'absent'.

REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager

---End of Report---

**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager



### Anacon Laboratories Pvt. Ltd. Nagpur Lab

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### Test Report

Test Report No.	: ALPL/3107	2023/3-12B	dated 31/07/202	23			Page 1 of 1
Issued To:	Issued To: Sample Inward I		ALPL/25072023	ALPL/25072023/MON-1/24-17&18		s Start	25/07/2023
M/s Noamundi Iron Mine (M/s TATA Steel Limited) Noamundi, Jharkhand Postal Code: 833217		Inward Date	25/07/2023 Analysis End W.O 4700098928/962 Report Issue Date 22.03.2022 Sample Category		Analysi	s End	31/07/2023
		Reference			Report	Issue Date	31/07/2023
		Reference Date			Category	Water	
Sample Name		ple Source	Sample Particulars Sample Code-WW-17 & 18		Sample C	Condition	Quantity Received
Sewage Water		ETP 10 KLD t & Outlet			Sealed & Ice Preserved		5.0 Ltr & 250 ml
	ple Collected	The same of the sa	Sampling Date	Sampling T	'ime	Sam	pling Location
Anac	con Representa	ative	21/07/2023	11.50 am to 4.	20 pm		tal ETP 10 KLD let & Outlet
		and the second	TEST RESU	LTS		R	

	Total Control	and income to	TEST RESULTS		<u> Kananaan</u>	
S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test Result	
	the state of the second	Unit	Test Method	Water)	Inlet	Outlet
I	Biological Testing 1.Water	A special all				
1	Faecal coliform MPN/100 ml IS 1622 : 1981		48	26		
П	Chemical Testing Pollution & Environment	ali e e o oli	Citomas in Cito - 24	Nava and		
2	Colour	Hazen units	IS 3025 (Part 4): 1983	Colourless	2	0 (Colourless)
3	Odour	The salesand	IS 3025 (Part 5): 2018	Odourless	Disagreeable	Agreeable
4	Temperature	°C	APHA Method	Shall not exceed 5°C above the receiving water temperature	25°C	25°C
5	Free residual chlorine	mg/l	IS 3025 (Part 26): 1986	1.0	BDL(DL-0.1)	BDL(DL-0.1)
6	Particulate size of SS		Gravimetric Method	Shall pass 850 micron IS Sieve	<850	<850
7	Free Ammonia (as NH <sub>3</sub> )	mg/l	APHA Method	5	BDL(DL-0.1)	BDL(DL-0.1)
8	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	2.0	0.21	BDL(DL-0.1)
9	Sulphide (as S)	mg/l	IS 3025 (Part 29): 1986	2.0	BDL(DL-0.03)	BDL(DL-0.03)
10	Nitrate Nitrogen	mg/l	APHA Method	10	6.53	BDL(DL-2)
11	Bio Assay Test	in 100% effluent		72%	92%	
12	Hexavalent Chromium (as Cr <sup>+6</sup> )	mg/l	IS 3025 (Part 52): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)
13	Dissolved Phosphate (as P)	mg/l	IS 3025 (Part 31): 1988	5.0	BDL(DL-0.1)	BDL(DL-0.1)

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only.
• Test report shall not be reproduced except in full without prior written approval of Anacon Labs. • Liability of Anacon Labs is limited to invoiced amount only. • Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. • 'mg/l' is equivalent to 'ppm'. • Result results not relevant. • BDL- Below detection limit • DL- Indicates detection limit of instrument/method and shall be considered as 'absent'.

Verified By

Mangesh Fande Technical Manager Snehal Raut
Deputy Technical Manager

**Authorized Signatories** 

Pooja Kathane Technical Manager Dr. (Mrs.) S.D. Garway Quality Manager







C 5458

### Test Report

ULR No.- TC545823000002497F

Test Report No.	: ALPL/3108	2023/3-9A	dated 31/08/202	23		Page 1 of 2		
M/s Noamundi Iron Mine (M/s TATA Steel Limited) Noamundi, Jharkhand		Sample Inward No. Inward Date Reference Reference Date	ALPL/24082023/MON-2/60-11&12 24/08/2023 W.O 4700098928/962 22.03.2022		Analysi Report		24/08/2023 31/08/2023 31/08/2023 Water	
Sample Name Sewage Water Sewage Water Sample Source New Town Ship STP 50 KLD Inlet & Outlet				enemotive enemotic	Sample Condition Quantity Ro Sealed & Ice Preserved 5.0 Ltr & 2			
Sample Collected By Anacon Representative			Sampling Date 18/08/2023	Sampling T 11.40am to 5.		New Tow	pling Location in Ship STP 50 KLD let & Outlet	

#### TEST RESULTS

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test Result	
		Unit	Unit		Inlet	Outlet
I	Chemical Testing Pollution & Environment				h.	
1	pH value		IS 3025 (Part 11): 2022	5.5 to 9.0	6.72 at 25°C	6.94 at 25°C
2	Oil & Grease	mg/l	IS 3025 (Part 39): 1991	10	BDL(DL-4)	BDL(DL-4)
3	Total Suspended Solid (TSS)	mg/l	IS 3025 (Part 17): 1984	100	82	34
4	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34):1988	50	16.24	14.28
5	Total Kjeldahl Nitrogen (as N)	mg/l	IS 3025 (Part 34): 1988	100	21.59	18.73
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44) :1993	30	26	18
7	Chemical Oxygen Demand	mg/l	IS 3025 (Part 58) :2006	250	76	52
8	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.2	BDL(DL-0.1)	BDL(DL-0.1)
9	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	1.0	BDL(DL-0.1)	BDL(DL-0.1)

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. • Test report shall not be reproduced except in full without prior written approval of Anacon Labs. • Liability of Anacon Labs is limited to invoiced amount only. • Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. • 'mg/l' is equivalent to 'ppm'. • BDL-Below detection limit • DL- Indicates detection limit of instrument/method and shall be considered as 'absent'.

Verified by

Snehal Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway

Quality Manager







C 5458

### Test Report

ULR No.- TC545823000002497F

Test Report No.	: ALPL/3108	2023/3-9A	dated 31/08/202	23		Page 2 of 2		
M/s Noamundi Iron Mine (M/s TATA Steel Limited) Noamundi, Jharkhand Inward Date Reference			24/08/2023 W.O 4700098928/962 22.03.2022		Analys Repor	sis Start sis End t Issue Date e Category	24/08/2023 31/08/2023 31/08/2023 Water	
Sample Name Sewage Water Sewage Water Sample Source New Town Ship STP 50 KLD Inlet & Outlet		Sample Particulars Sample Code-WW-11 & 12 S		A CONTRACTOR	Sample Condition Quantity R Scaled & Ice Preserved 5.0 Ltr & 2			
Sample Collected By Anacon Representative			Sampling Date         Sampling Tim           18/08/2023         11.40am to 5.10			Name Tarray Chile GED 50		

TEST RESULTS

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land	Test Result	
		Unit	rest Method	Surface Water)	Inlet	Outlet
II	Chemical Testing 2. Residues In Water					
10	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	3.0	0.59	0.19
11	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-5)	BDL(DL-5)
12	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
13	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994	0.01	BDL(DL-0.01)	BDL(DL-0.01)
14	Cadmium (as Cd)	mg/l	IS: 3025 (Part 41): 1992	2.0	BDL(DL-0.1)	BDL(DL-0.1)
15	Selenium (as Se)	mg/l	IS: 3025 (Part 56): 2003	0.05	BDL(DL-0.1)	BDL(DL-0.1)
16	Lead (as Pb)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)
17	Arsenic (as As)	mg/l	IS: 3025 (Part 37): 2022	0.2	BDL(DL-0.05)	BDL(DL-0.05)
18	Nickel (as Ni)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-0.1)	BDL(DL-0.1)
19	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5.0	BDL(DL-0.1)	BDL(DL-0.1)
20	Total Chromium	mg/I	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
21	Vanadium (as V)	mg/l	IS 3025 (Part 2): 2019	0.2	BDL(DL-0.1)	BDL(DL-0.1)

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. • Test report shall not be reproduced except in full without prior written approval of Anacon Labs. • Liability of Anacon Labs is limited to invoiced amount only. • Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. • 'mg/l' is equivalent to 'ppm'. • BDL-Below detection limit • DL- Indicates detection limit of instrument/method and shall be considered as 'absent'.

REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager

---End of Report----

Authorized Signatory

Dr. (Mrs.) S.D. Garway Quality Manager



### Anacon Laboratories Pvt. Ltd. Nagpur Lab

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### Test Report

082023/3-9B Sample Inward No.	AT DL /24082023/	dated 31/08/2023		Page 1 of 1		
	No. ALPL/24082023/MON-2/60-11&12		Analysis S	tart	24/08/2023	
Inward Date	24/08/2023 W.O 4700098928/962 22.03.2022		Analysis End Report Issue Date Sample Category		31/08/2023	
Reference Reference Date					31/08/2023 Water	
vn Ship STP 50 KLD		CALCOLOUR DE CANADO	New Town		Quantity Received 5.0 Ltr & 250 ml  pling Location n Ship STP 50 KLD let & Outlet	
	Sampling Date 18/08/2023					
Sawaga Water New Tow	Reference Date Sample Source wn Ship STP 50 KLD Inlet & Outlet cted By	Reference Date  Reference Date  22.03.2022  Sample Source wn Ship STP 50 KLD Inlet & Outlet cted By sentative  Sampling Date 18/08/2023	Reference Date  22.03.2022  Sample Source wn Ship STP 50 KLD Inlet & Outlet  Cted By Sampling Date Sampling Tile Sampling Date Sampling Tile	Reference Date  Reference Date  22.03.2022  Sample Sample Company Ship STP 50 KLD Inlet & Outlet  Ceted By Sentative  Sampling Date  18/08/2023  Sampling Time  18/08/2023  Sampling Time  11.40am to 5.10pm	Reference Date  Reference Date  22.03.2022  Sample Sample Category  Sample Source Wn Ship STP 50 KLD Inlet & Outlet  Cted By Sentative  Sampling Date  18/08/2023  Sampling Time Sample Category  Sample Condition Sealed & Ice Preserved  New Tow In	

CN	T A D	Measurement	Test Method	Standards (In Land Surface	Test I	Result		
S.N.	Test Parameter	Unit	Unit Test Method		Inlet	Outlet		
I	Biological Testing 1.Water			0				
1	Faecal coliform	MPN/100 ml	IS 1622 : 1981		40	26		
II	Chemical Testing Pollution & Environment							
2	Colour	Hazen units	IS 3025 (Part 4): 1983	Colourless	2	0 (Colourless)		
3	Odour	-	IS 3025 (Part 5): 2018	Odourless	Disagreeable	Agreeable		
4	Temperature	°C	APHA Method	Shall not exceed 5°C above the receiving water temperature	. 25°C	25°C		
5	Free residual chlorine	mg/l	IS 3025 (Part 26): 1986	1.0	BDL(DL-0.1)	BDL(DL-0.1)		
6	Particulate size of SS	9	Gravimetric Method	Shall pass 850 micron IS Sieve	<850	<850		
7	Free Ammonia (as NH <sub>3</sub> )	mg/l	APHA Method	5	BDL(DL-0.1)	BDL(DL-0.1)		
8	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	2.0	0.42	BDL(DL-0.1)		
9	Sulphide (as S)	mg/l	IS 3025 (Part 29): 1986	2.0	BDL(DL-0.03)	BDL(DL-0.03)		
10	Nitrate Nitrogen	mg/l	APHA Method	10	5.6	BDL(DL-2)		
11	Bio Assay Test	%	APHA 22nd Edition	90% Survival of fish after 96 hours in 100% effluent	86%	92%		
12	Hexavalent Chromium (as Cr <sup>+6</sup> )	mg/l	IS 3025 (Part 52): 2003	0.1	BDL(DL-0.01)	BDL(DL-0.01)		
13	Dissolved Phosphate (as P)	mg/l	IS 3025 (Part 31): 1988	5.0	BDL(DL-0.1)	BDL(DL-0.1)		

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. • Test report shall not be reproduced except in full without prior written approval of Anacon Labs. • Liability of Anacon Labs is limited to invoiced amount only. • Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. • 'mg/l' is equivalent to 'ppm'. • Result for test no. 5 is not relevant. • BDL- Below detection limit • DL- Indicates detection limit of instrument/method and shall be considered as 'absent'.

REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Technical Manager

Deputy Technical Manager

**Authorized Signatories** 

Dr. (Mrs.) S.D. Garway Technical Manager Quality Manager







TC 5458

# Test Report

ULR No.- TC545823000002497F

Test Report No.	: ALPL/3108	2023/3-11A	dated 31/08/202	.3		Page 1 of 2		
Issued To:		Sample Inward No.	ALPL/24082023/	MON-2/60-15&16	Analys	sis Start	24/08/2023	
M/s Noamundi l		Inward Date	24/08/2023		Analys	sis End	31/08/2023	
	M/s TATA Steel Limited) Joamundi, Jharkhand		W.O 470009892	28/962	Report	t Issue Date	31/08/2023	
		Reference Date	22.03.2022		Sampl	e Category	Water	
Sample Name			Sample Particulars		Sample Condition		Quantity Received	
Sewage Water		amp STP 50 KLD et & Outlet	Sample Code-W	W-15 & 16	Sealed & I	ce Preserved	5.0 Ltr & 250 ml	
	Sample Collected By Anacon Representative		Sampling Date Sampling Tir		ime Sampling Location		pling Location	
Anac			18/08/2023				Camp STP 50 KLD let & Outlet	

### TEST RESULTS

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test Result		
5.14.	rest rarameter	Unit	Test Method	Water)	Inlet	Outlet	
I	Chemical Testing Pollution & Environment						
1	pH value	¥.	IS 3025 (Part 11): 2022	5.5 to 9.0	6.87 at 25°C	6.98 at 25°C	
2	Oil & Grease	mg/l	IS 3025 (Part 39): 1991	10	BDL(DL-4)	BDL(DL-4)	
3	Total Suspended Solid (TSS)	mg/l	IS 3025 (Part 17): 1984	100	86	52	
4	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) :1988	50	17.24	16.48	
5	Total Kjeldahl Nitrogen (as N)	mg/l	IS 3025 (Part 34): 1988	100	26.58	21.93	
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44):1993	30	24	16	
7	Chemical Oxygen Demand	mg/l	IS 3025 (Part 58) :2006	250	72	48	
8	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.2	BDL(DL-0.1)	BDL(DL-0.1)	
9	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	1.0	BDL(DL-0.1)	BDL(DL-0.1)	

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only.
• Test report shall not be reproduced except in full without prior written approval of Anacon Labs. • Liability of Anacon Labs is limited to invoiced amount only. • Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. • 'mg/l' is equivalent to 'ppm'. • BDL-Below detection limit • DL- Indicates detection limit of instrument/method and shall be considered as 'absent'.

Verified by

Snehal Raut

Deputy Technical Manager

**Authorized Signatory** 

Dr. (Mrs.) S. D. Garway Quality Manager

----End of Report----







TC 5458

### Test Report

ULR No.- TC545823000002497F

Page 2 of 2 dated 31/08/2023 Test Report No.: ALPL/31082023/3-11A ALPL/24082023/MON-2/60-15&16 24/08/2023 **Analysis Start** Sample Inward No. Issued To: M/s Noamundi Iron Mine 31/08/2023 **Analysis End Inward Date** 24/08/2023 (M/s TATA Steel Limited) 31/08/2023 W.O.- 4700098928/962 Report Issue Date Reference Noamundi, Jharkhand Sample Category Water Reference Date 22.03.2022 Postal Code: 833217 Sample Condition Quantity Received Sample Particulars Sample Name Sample Source Central Camp STP 50 KLD 5.0 Ltr & 250 ml Sample Code-WW-15 & 16 Sealed & Ice Preserved Sewage Water Inlet & Outlet Sampling Time

Sample Collected By Anacon Representative Sampling Date 18/08/2023

11.40am to 5.10pm

Sampling Location Central Camp STP 50 KLD Inlet & Outlet

TEST RESULTS

		Measurement		Standards (In Land	Test Result	
S.N.	Test Parameter	Unit	Test Method	Surface Water)	Inlet	Outlet
II	Chemical Testing 2. Residues In Water					
10	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	3.0	1.19	1.06
11	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-5)	BDL(DL-5)
12	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
13	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994	0.01	BDL(DL-0.01)	BDL(DL-0.01)
14	Cadmium (as Cd)	mg/l	IS: 3025 (Part 41): 1992	2.0	BDL(DL-0.1)	BDL(DL-0.1)
15	Selenium (as Se)	mg/l	IS: 3025 (Part 56): 2003	0.05	BDL(DL-0.1)	BDL(DL-0.1)
16	Lead (as Pb)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)
17	Arsenic (as As)	mg/l	IS: 3025 (Part 37): 2022	0.2	BDL(DL-0.05)	BDL(DL-0.05)
18	Nickel (as Ni)	mg/l	IS 3025 (Part 2): 2019	3.0	. BDL(DL-0.1)	BDL(DL-0.1)
19	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5.0	BDL(DL-0.1)	BDL(DL-0.1)
20	Total Chromium	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
21	Vanadium (as V)	mg/l	IS 3025 (Part 2): 2019	0.2	BDL(DL-0.1)	BDL(DL-0.1)

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. • Test report shall not be reproduced except in full without prior written approval of Anacon Labs. • Liability of Anacon Labs is limited to invoiced amount only. • Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. • 'mg/l' is equivalent to 'ppm'. • BDL-Below detection limit • DL- Indicates detection limit of instrument/method and shall be considered as 'absent'.

REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager

---End of Report----

Authorized Signatory

Dr. (Mrs.) S.D. Garway Quality Manager



### Anacon Laboratories Pvt. Ltd. Nagpur Lab

♥ FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122 https://www.anaconlaboratories.com

### Test Report

Test Report No.	ALPL/3108	2023/3-11B	dated 31/08/202	3	1	Page 1 of 1		
Issued To:		Sample Inward No.	ALPL/24082023/	MON-2/60-15&16	Analysis	s Start	24/08/2023	
M/s Noamundi l		Inward Date	24/08/2023		Analysis End		31/08/2023	
(M/s TATA Steel Limited) Noamundi, Jharkhand Postal Code: 833217  Reference D		Reference Reference Date	W.O 4700098928/962 22.03.2022		Report Issue Date Sample Category		31/08/2023 Water	
Sample Name Sewage Water	Central Ca	aple Source amp STP 50 KLD et & Outlet	Sample Part		Sample Condition Sealed & Ice Preserved		Quantity Received 5.0 Ltr & 250 ml	
Sample Collected By Anacon Representative			Sampling Date 18/08/2023	Sampling T 11.40am to 5.	10pm Central C		pling Location Camp STP 50 KLD let & Outlet	
		10	TECT DECID	TC				

CN	T-4 D	Measurement	Tot Mathed	Standards (In	Test	Result
S.N.	Test Parameter	Unit	Test Method	Land Surface Water)	Inlet	Outlet
I	Biological Testing 1.Water			00		
1	Faecal coliform	MPN/100 ml	IS 1622: 1981		43	21
П	Chemical Testing Pollution & Environment					
2	Colour	Hazen units	IS 3025 (Part 4): 1983	Colourless	2	0 (Colourless)
3	Odour	-	IS 3025 (Part 5): 2018	Odourless	Disagreeable	Agreeable
4	Temperature	°C	APHA Method	Shall not exceed 5°C above the receiving water temperature	25°C	25°C
5	Free residual chlorine	mg/l	IS 3025 (Part 26): 1986	1.0	BDL(DL-0.1)	BDL(DL-0.1)
6	Particulate size of SS		Gravimetric Method	Shall pass 850 micron IS Sieve	<850	<850
7	Free Ammonia (as NH <sub>3</sub> )	mg/l	APHA Method	5	BDL(DL-0.1)	BDL(DL-0.1)
8	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	2.0	0.31	BDL(DL-0.1)
9	Sulphide (as S)	mg/l	IS 3025 (Part 29): 1986	2.0	BDL(DL-0.03)	BDL(DL-0.03)
10	Nitrate Nitrogen	mg/l	APHA Method	10	4.57	BDL(DL-2)
11	Bio Assay Test		APHA 22nd Edition	90% Survival of fish after 96 hours in 100% effluent	84%	92%
12	Hexavalent Chromium (as Cr <sup>+6</sup> )	mg/l	IS 3025 (Part 52): 2003	0.1	BDL(DL-0.01)	BDL(DL-0.01)
13	Dissolved Phosphate (as P)	mg/l	IS 3025 (Part 31): 1988	5.0	BDL(DL-0.1)	BDL(DL-0.1)

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BDL-Below detection limit 

DL-Indicates detection limit of instrument/method and shall be considered as 'absent'.

REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Technical Manager

Deputy Technical Manager

Authorized Signatories

Technical Manager

Dr. (Mrs.) S.D. Garway Quality Manager







TC 5458

### Test Report

ULR No.- TC545823000002497F

Test Report No.	: ALPL/3108	2023/3-10A	dated 31/08/202	3		Page 1 of 2	True and the
Issued To:		Sample Inward No.	ALPL/24082023/	MON-2/60-13&14	Analys	is Start ,	24/08/2023
M/s Noamundi	and the same of th	Inward Date	24/08/2023		Analys	sis End	31/08/2023
	M/s TATA Steel Limited) Noamundi, Jharkhand		W.O 470009892	)98928/962 Re		Issue Date	31/08/2023
Noamundi, Jharkhand Postal Code: 833217		Reference Date	22.03.2022		Sample Category		Water
Sample Name		ple Source	Sample Particulars Sample Code-WW-13 & 14		Sample Condition Sealed & Ice Preserved		Quantity Received
Sewage Water		ETP 10 KLD Inlet & Outlet					5.0 Ltr & 250 ml
Sample Collected By		Sampling Date	Sampling Date Sampling Ti		Time Sampling Locatio		
Ana	Anacon Representative		18/08/2023 11.40am to 5.10		10pm	Bottom Bin	ETP 10 KLD Inlet & Outlet

#### TEST RESULTS

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test Result		
S.IV.	rest rarameter	Unit	rest Method	Water)	Inlet	Outlet	
I	Chemical Testing Pollution & Environment						
1	pH value	-	IS 3025 (Part 11): 2022	5.5 to 9.0	6.82 at 25°C	7.13 at 25°C	
2	Oil & Grease	mg/l	IS 3025 (Part 39): 1991	10	BDL(DL-4)	BDL(DL-4)	
3	Total Suspended Solid (TSS)	mg/l	IS 3025 (Part 17): 1984	100	92	46	
4	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) :1988	50	26.57	21.52	
5	Total Kjeldahl Nitrogen (as N)	mg/l	IS 3025 (Part 34): 1988	100	38.16	24.93	
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44) :1993	30	28	21	
7	Chemical Oxygen Demand	mg/l	IS 3025 (Part 58) :2006	250	81	64	
8	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.2	BDL(DL-0.1)	BDL(DL-0.1)	
9	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	1.0	BDL(DL-0.1)	BDL(DL-0.1)	

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only.
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Verified by

Snehal Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway Quality Manager







TC 5458

### Test Report

ULR No.- TC545823000002497F

 Test Report No.: ALPL/31082023/3-10A
 dated 31/08/2023
 Page 2 of 2

 Issued To:
 Sample Inward No.
 ALPL/24082023/MON-2/60-13&14
 Analysis Start
 24/08/2023

 M/s Noamundi Iron Mine
 Inward Date
 24/08/2023
 Analysis End
 31/08/2023

**Inward Date Analysis End** 31/08/2023 (M/s TATA Steel Limited) Reference W.O.- 4700098928/962 Report Issue Date 31/08/2023 Noamundi, Jharkhand Sample Category Water Reference Date 22.03.2022 Postal Code: 833217 Sample Name Sample Source Sample Particulars Sample Condition Quantity Received

Sewage Water Bottom Bin ETP 10 KLD Inlet & Outlet Sample Code-WW-13 & 14 Sealed & Ice Preserved 5.0 Ltr & 250 ml

Sample Collected By
Anacon Representative

Sampling Date

Sampling Time

18/08/2023

Sampling Time

Sampling Location

Bottom Bin ETP 10 KLD Inlet & Outlet

#### TEST RESULTS

		Measurement		Standards (In Land	Test Result	
S.N.	Test Parameter	Unit	Test Method	Surface Water)	Inlet	Outlet
П	Chemical Testing 2. Residues In Water					
10	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	3.0	2.88	0.37
11	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-5)	BDL(DL-5)
12	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
13	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994	0.01	BDL(DL-0.01)	BDL(DL-0.01)
14	Cadmium (as Cd)	mg/l	IS: 3025 (Part 41): 1992	2.0	BDL(DL-0.1)	BDL(DL-0.1)
15	Selenium (as Se)	mg/l	IS: 3025 (Part 56): 2003	0.05	BDL(DL-0.1)	BDL(DL-0.1)
16	Lead (as Pb)	mg/l -	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)
17	Arsenic (as As)	mg/l	IS: 3025 (Part 37): 2022	0.2	-BDL(DL-0.05)	BDL(DL-0.05)
18	Nickel (as Ni)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-0.1)	BDL(DL-0.1)
19	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5.0	BDL(DL-0.1)	BDL(DL-0.1)
20	Total Chromium	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
21	Vanadium (as V)	mg/l	IS 3025 (Part 2): 2019	0.2	BDL(DL-0.1)	BDL(DL-0.1)

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. • Test report shall not be reproduced except in full without prior written approval of Anacon Labs. • Liability of Anacon Labs is limited to invoiced amount only. • Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. • 'mg/l' is equivalent to 'ppm'. • BDL-Below detection limit • DL- Indicates detection limit of instrument/method and shall be considered as 'absent'.

REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager

----End of Report----

**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager



### Anacon Laboratories Pvt. Ltd. Nagpur Lab

PF-34, 35, Food Park, Five Star Industrial Estate,
 MIDC Butibori, Nagpur, Maharashtra, India - 441 122
 + 91 8045685558 ➤ Email: info@anacon.in
 https://www.anaconlaboratories.com

### Test Report

Test Report No.	: ALPL/3108	2023/3-10B	dated 31/08/202	3		Pag	ge 1 of 1	
Issued To: M/s Noamundi Iron Mine (M/s TATA Steel Limited) Noamundi, Jharkhand Postal Code: 833217		Sample Inward No. Inward Date Reference Reference Date	24/08/2023 W.O 4700098928/962 22.03.2022		Analysis Start Analysis End Report Issue Date Sample Category		24/08/2023 31/08/2023 31/08/2023 Water	
Sample Name Sewage Water	Bottom Bin	ple Source ETP 10 KLD Inlet & Outlet	Sample Parti		Sample Condition Sealed & Ice Preserved		Quantity Received 5.0 Ltr & 250 ml	
Sample Collected By Anacon Representative			Sampling Date 18/08/2023				pling Location ETP 10 KLD Inlet & Outlet	
			TEST RESU	LTS	B	4		

			TEST RESULTS	A		
		Measurement	Test Method	Standards (In Land Surface	Test I	Result
S.N.	Test Parameter	Unit	1 est Method	Water)	Inlet	Outlet
I	Biological Testing 1.Water			04		
1	Faecal coliform	MPN/100 ml	IS 1622 : 1981		34	17
П	Chemical Testing Pollution & Environment					
2	Colour	Hazen units	IS 3025 (Part 4): 1983	Colourless	2	0 (Colourless)
3	Odour		IS 3025 (Part 5): 2018	Odourless	Disagreeable	Agreeable
4	Temperature	°C	APHA Method	Shall not exceed 5°C above the receiving water temperature	25°C	25°C
5	Free residual chlorine	mg/l	IS 3025 (Part 26): 1986	1.0	BDL(DL-0.1)	BDL(DL-0.1)
6	Particulate size of SS		Gravimetric Method	Shall pass 850 micron IS Sieve	<850	<850
7	Free Ammonia (as NH <sub>3</sub> )	mg/l	APHA Method	5	BDL(DL-0.1)	BDL(DL-0.1)
8	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	2.0	0.41	BDL(DL-0.1)
9	Sulphide (as S)	mg/l	IS 3025 (Part 29): 1986	2.0	BDL(DL-0.03)	BDL(DL-0.03)
10	Nitrate Nitrogen	mg/l	APHA Method	10	5.29	BDL(DL-2)
11	Bio Assay Test	%	APHA 22nd Edition	90% Survival of fish after 96 hours in 100% effluent	72%	92%
12	Hexavalent Chromium (as Cr <sup>+6</sup> )	mg/l	IS 3025 (Part 52): 2003	0.1	BDL(DL-0.01)	BDL(DL-0.01)
13	Dissolved Phosphate (as P)			5.0	BDL(DL-0.1)	BDL(DL-0.1)

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only.
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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager Snehal Raut Deputy Technical Manager Authorized Signatories

Pooja Kathane Technical Manager

Dr. (Mrs.) S.D. Garway Quality Manager







TC 5458

### Test Report

ULR No.- TC545823000002497F

ALPL/3108	2023/3-12A	dated 31/08/202	3			Page 1 of 2
	Sample Inward No.	ALPL/24082023/	ALPL/24082023/MON-2/60-17&18 Analysis Start			24/08/2023
on Mine	Inward Date	24/08/2023		Analys	is End	31/08/2023
(M/s TATA Steel Limited) Noamundi, Jharkhand Postal Code: 833217  Reference Reference Date		W.O 4700098928/962 22.03.2022		Report	Issue Date	31/08/2023
				Sample	Category	Water
		Sample Particulars				Quantity Received 5.0 Ltr & 250 ml
		Sample Code-W	W-17 & 18	Sealed & Id	Sealed & Ice Preserved 5.0 Ltr	
Sample Collected By Anacon Representative		18/08/2023 11 40am to 5 10pm Hosp		Hospi	pling Location tal ETP 10 KLD let & Outlet	
	con Mine Limited) and 17 Sam Hospita Inle	ron Mine Limited) land Reference Reference Date  Sample Source Hospital ETP 10 KLD Inlet & Outlet  Ple Collected By	Sample Inward No. ALPL/24082023/ Inward Date 24/08/2023 Reference W.O 470009892 Reference Date 22.03.2022  Sample Source Sample Particular Sample Code-Willing Code-Willing Code Collected By Sampling Date	Sample Inward No. ALPL/24082023/MON-2/60-17&18 Limited) land land Reference W.O 4700098928/962 Reference Date 22.03.2022  Sample Source Hospital ETP 10 KLD Inlet & Outlet  Ple Collected By Sampling Date Sampling Top Representative	Sample Inward No. ALPL/24082023/MON-2/60-17&18 Analysi Inward Date 24/08/2023 Analysi Reference W.O 4700098928/962 Report Sample 17  Sample Source Hospital ETP 10 KLD Inlet & Outlet Inlet & Outlet Sampling Date Sampling Date Sampling Time	Sample Inward No. ALPL/24082023/MON-2/60-17&18 Inward Date Limited) Inward Date Reference W.O 4700098928/962 Reference Date Sample Category  Sample Source Hospital ETP 10 KLD Inlet & Outlet Sample Code-WW-17 & 18 Sealed & Ice Preserved Pole Collected By Sampling Date Sampling Time Sample Conference Sample Company Sample Code-WW-17 & 18 Sampling Time Sample Conference Sampling Time Sample Code-WW-17 & 18 Sampling Time

#### TEST RESULTS

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test Result		
0.11.	rest rarameter	Unit	Test Method	Water)	Inlet	Outlet	
I	Chemical Testing Pollution & Environment						
1	pH value	-	IS 3025 (Part 11): 2022	5.5 to 9.0	6.93 at 25°C	7.16 at 25°C	
2	Oil & Grease	mg/l	IS 3025 (Part 39): 1991	10	BDL(DL-4)	BDL(DL-4)	
3	Total Suspended Solid (TSS)	mg/l	IS 3025 (Part 17): 1984	100	94	46	
4	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) :1988	50	36	28	
5	Total Kjeldahl Nitrogen (as N)	mg/l	IS 3025 (Part 34): 1988	100	47	32	
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44) :1993	30	28	24	
7	Chemical Oxygen Demand	mg/l	IS 3025 (Part 58) :2006	250	87	72	
8	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.2	BDL(DL-0.1)	BDL(DL-0.1)	
9	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	1.0	BDL(DL-0.1)	BDL(DL-0.1)	

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only.
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Verified by

Snehal Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway Quality Manager







TC 5458

### Test Report

ULR No.- TC545823000002497F

Test Report No.:	ALPL/3108	2023/3-12A	dated 31/08/202	3		Pag	ge 2 of 2
Issued To:		Sample Inward, No.	ALPL/24082023/MON-2/60-17&18		Analysis	Start	24/08/2023
(M/s TATA Steel Limited) Noamundi, Jharkhand Reference		Inward Date	24/08/2023 W.O 4700098928/962 22.03.2022		Analysis	End	31/08/2023
		Reference			100 100 100 100 100 100 100 100 100 100	Report Issue Date 31/08/20	
		Reference Date			Sample Category Water		
Sample Name		ple Source	Sample Parti	culars	Sample Condition Quantity		Quantity Received
Sewage Water		d ETP 10 KLD et & Outlet	Sample Code-WV	V-17 & 18	Sealed & Ico	e Preserved	5.0 Ltr & 250 ml
Sample Collected By Anacon Representative		Sampling Date	Sampling T	fime Sampling		pling Location	
		18/08/2023	11.40am to 5.1		Hospital ETP 10 KLD		

TEST RESULTS

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land	Test Result	
J.14.		Unit	Test Method	Surface Water)	Inlet	Outlet
п	Chemical Testing 2. Residues In Water				2	
10	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	3.0	1.41	0.37
11	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-5)	BDL(DL-5)
12	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
13	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994	0.01	BDL(DL-0.01)	BDL(DL-0.01)
14	Cadmium (as Cd)	mg/l	IS: 3025 (Part'41): 1992	2.0	BDL(DL-0.1)	BDL(DL-0.1)
15	Selenium (as Se)	mg/l	IS: 3025 (Part 56): 2003	0.05	BDL(DL-0.1)	BDL(DL-0.1)
16	Lead (as Pb)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)
17	Arsenic (as As)	mg/l	IS: 3025 (Part 37): 2022	0.2	BDL(DL-0.05)	BDL(DL-0.05)
18	Nickel (as Ni)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-0.1)	BDL(DL-0.1)
19	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5.0	BDL(DL-0.1)	BDL(DL-0.1)
20	Total Chromium	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
21	Vanadium (as V)	mg/l	IS 3025 (Part 2): 2019	0.2	BDL(DL-0.1)	BDL(DL-0.1)

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Verified By

REMARKS: As requested by the client, sample was tested for above parameters only.

Mangesh Fande Technical Manager Authorized Signatory

Dr. (Mrs.) S.D. Garway Quality Manager

----End of Report----



### Anacon Laboratories Pvt. Ltd. Nagpur Lab

### Test Report

		23	Pa	ge 1 of 1
Inward Date	24/08/2023 W.O 4700098928/962		Analysis Start Analysis End Report Issue Date	24/08/2023 31/08/2023 31/08/2023
Reference Date	22.03.2022		Sample Category	Water
tal ETP 10 KLD	112-112-11	PARAMETER STATE OF THE STATE OF	Sample Condition Sealed & Ice Preserved	Quantity Received 5.0 Ltr & 250 ml
Sample Collected By Anacon Representative		100 mm	10pm Hospi	pling Location tal ETP 10 KLD tlet & Outlet
1	Inward Date Reference Reference Date  Imple Source ital ETP 10 KLD ilet & Outlet ited By	Sample Inward No. ALPL/24082023/ Inward Date 24/08/2023 Reference W.O 470009892 Reference Date 22.03.2022 Imple Source Sample Part Sample Code-Willed By Sampling Date	Sample Inward No. ALPL/24082023/MON-2/60-17&18 Inward Date 24/08/2023 Reference W.O 4700098928/962 Reference Date 22.03.2022 Imple Source Sample Particulars Ital ETP 10 KLD Sample Code-WW-17 & 18 Red By Sampling Date Sampling Totality	Sample Inward No. ALPL/24082023/MON-2/60-17&18   Analysis Start   Inward Date

			TEST RESULTS	-	THICK C	Counci		
S.N.	Test Parameter	Measurement	surement Star		Test Result			
		Unit		Land Surface Water)	Inlet	Outlet		
I	Biological Testing 1.Water							
1	Faecal coliform	MPN/100 ml	IS 1622: 1981	<	46	22		
п	Chemical Testing Pollution & Environment			1				
2	Colour	Hazen units	IS 3025 (Part 4): 1983	Colourless	2	0 (Colourless)		
3	Odour	-	IS 3025 (Part 5): 2018	Odourless	Disagreeable	Agreeable		
4	Temperature	°C	APHA Method	Shall not exceed 5°C above the receiving water temperature	25°C	25°C		
5	Free residual chlorine	mg/l	IS 3025 (Part 26): 1986	1.0	BDL(DL-0.1)	BDL(DL-0.1)		
6	Particulate size of SS	9	Gravimetric Method	Shall pass 850 micron IS Sieve	<850	<850		
7	Free Ammonia (as NH <sub>3</sub> )	mg/l	APHA Method	5	BDL(DL-0.1)	BDL(DL-0.1)		
8	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	2.0	0.26	BDL(DL-0.1)		
9	Sulphide (as S)	mg/l	IS 3025 (Part 29): 1986	2.0	BDL(DL-0.03)	BDL(DL-0.03)		
10	Nitrate Nitrogen	mg/l	APHA Method	10	7.14	BDL(DL-2)		
11_	Bio Assay Test	%	APHA 22nd Edition	90% Survival of fish after 96 hours in 100% effluent	86%	94%		
12	Hexavalent Chromium (as Cr <sup>+6</sup> )	mg/l	IS 3025 (Part 52): 2003	0.1	BDL(DL-0.01)	BDL(DL-0.01)		
13	Dissolved Phosphate (as P)	mg/l	IS 3025 (Part 31): 1988	5.0	BDL(DL-0.1)	BDL(DL-0.1)		

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Verified By

Mangesh Fande Technical Manager

Snehal Raut Deputy Technical Manager **Authorized Signatories** 

Pooja Kathane Technical Manager Dr. (Mrs.) S.D. Garway Quality Manager







TC 5458

### Test Report

ULR No	TC545823000003000F
	TOTOTOTOTOTOTOTO

Test Report No.	: ALPL/3009		dated 30/09/202	23		Page 1 of 2	
Issued To:		Sample Inward No.	ALPL/25092023	MON-2/24-11&12	Analy	sis Start	26/09/2023
M/s Noamundi Iron Mine (M/s TATA Steel Limited) Noamundi, Jharkhand  Inward Date Reference		Inward Date	e 25/09/2023 W.O 4700098928/962		Analy	sis End	30/09/2023
		Reference			Repor	t Issue Date	30/09/2023
Postal Code: 833		Reference Date	22.03.2022			le Category	Water
Sample Name	Sample Name Sample Source		Sample Part	iculars	Sample	Sample Condition Quantity Re	
Sewage Water		Ship STP 50 KLD et & Outlet	Sample Code-W	W-11 & 12	Sealed & Ice Preserved		5.0 Ltr & 250 ml
Sample Collected By Anacon Representative		Sampling Date	pling Date Sampling Ti		Sampling Location		
		22/09/2023	11.35 am to 4.	.20 pm New Town Ship STP 5 Inlet & Outlet			

#### TEST RESULTS

S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test Result	
	(9.500), 59(6.50)	Unit	a cot method	Water)	Inlet	Outlet
I	Chemical Testing Pollution & Environment		1			
1	pH value	-	IS 3025 (Part 11): 2022	5.5 to 9.0	6.63 at 25°C	6.87 at 25°C
2	Oil & Grease	mg/l	IS 3025 (Part 39): 1991	10	BDL(DL-4)	BDL(DL-4)
3	Total Suspended Solid (TSS)	mg/l	IS 3025 (Part 17): 1984	100	76	32
4	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34):1988	50	18.24	13.91
5	Total Kjeldahl Nitrogen (as N)	mg/l	IS 3025 (Part 34): 1988	100	22.86	16.32
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44) :1993	30	28	16.52
7	Chemical Oxygen Demand	mg/l	IS 3025 (Part 58) :2006	250	72	48
8	Cyanide (as CN)	mg/l	IS 3025 (Part 27) : 1986	0.2	BDL(DL-0.1)	BDL(DL-0.1
9	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	1.0	BDL(DL-0.1)	BDL(DL-0.1

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Verified by

Snehal Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway Quality Manager

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavor towards ensuring that your next experienced will be significantly better than the current one, we welcome your feedback on <a href="mailto:feedback@anacon.in">feedback@anacon.in</a>

Anacon Laboratories Pvt. Ltd. Nagpur Lab







TC 5458

### Test Report

ULR No.- TC545823000003000F

Page 2 of 2 Test Report No.: ALPL/30092023/3-20A dated 30/09/2023 ALPL/25092023/MON-2/24-11&12 26/09/2023 **Analysis Start** Sample Inward No. Issued To: 30/09/2023 M/s Noamundi Iron Mine Analysis End 25/09/2023 **Inward Date** (M/s TATA Steel Limited) 30/09/2023 Report Issue Date W.O.- 4700098928/962 Reference Noamundi, Jharkhand Water Sample Category

Postal Code: 833217 Reference Date 22.03.2022 Sample Category Water

Sample Name Sample Source Sample Particulars Sample Condition Quantity Received

Sewage Water New Town Ship STP 50 KLD Sample Code-WW-11 & 12 Sealed & Ice Preserved 5.0 Ltr & 250 ml

Sample Collected By
Anacon Representative

Sampling Date

Sampling Time

Sampling Location

New Town Ship STP 50 KLD

Inlet & Outlet

TEST RESULTS

		Measurement		Standards (In Land	Test Result	
S.N.	Test Parameter	Unit	Test Method	Surface Water)	Inlet	Outlet
II	Chemical Testing 2. Residues In Water					
10	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	3.0	2.42	1.09
11	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
12	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994	0.01	BDL(DL-0.01)	BDL(DL-0.01
13	Cadmium (as Cd)	mg/l	IS: 3025 (Part 41): 1992	2.0	BDL(DL-0.1)	BDL(DL-0.1)
14	Selenium (as Se)	mg/l	IS: 3025 (Part 56): 2003	0.05	BDL(DL-0.1)	BDL(DL-0.1)
15	Lead (as Pb)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)
16	Arsenic (as As)	mg/l	IS: 3025 (Part 37): 2022	0.2	BDL(DL-0.05)	BDL(DL-0.05
17	Nickel (as Ni)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-0.1)	BDL(DL-0.1)
18	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5.0	BDL(DL-0.1)	BDL(DL-0.1)
19	Total Chromium	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)
20	Vanadium (as V)	mg/l	IS 3025 (Part 2): 2019	0.2	BDL(DL-0.1)	BDL(DL-0.1)

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager Authorized Signatory

Dr. (Mrs.) S.D. Garway Quality Manager



### Anacon Laboratories Pvt. Ltd. Nagpur Lab

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### Test Report

Test Report No.	: ALPL/3009	2023/3-20B	dated 30/09/202	23		Pag	ge 1 of 1
Issued To:			ALPL/25092023/	MON-2/24-11&12	Analysis	s Start	26/09/2023
(M/s TATA Steel Limited)		Inward Date	25/09/2023		Analysis	s End	30/09/2023
		Reference		28/962	Report	Report Issue Date 30	
Noamundi, Jharl Postal Code: 833		Reference Date	22.03.2022		Sample Category		Water
Sample Name	Sam	ple Source	Sample Part	iculars	Sample C	Condition	Quantity Received
Sewage Water		Ship STP 50 KLD et & Outlet	Sample Code-W	W-11 & 12	Sealed & Ic	e Preserved	5.0 Ltr & 250 ml
Sample Collected By Anacon Representative		Sampling Date 22/09/2023	Sampling T	New Town Ship STP 50			
			TEST RESU	LTS	7	7	

			I EST RESULTS			
C N	T at Daniel and	Measurement	Test Method	Standards (In Land Surface	Test Result	
S.N.	Test Parameter	Unit	rest Method	Water)	Inlet	Outlet
I	Biological Testing 1.Water			N		
1	Faecal coliform	MPN/100 ml IS 1622 : 1981		~X-	43	22
II	Chemical Testing Pollution & Environment	7.N.				
2	Colour	Hazen units	IS 3025 (Part 4): 1983	Colourless	2	0 (Colourless)
3	Odour	-	IS 3025 (Part 5): 2018	Odourless	Disagreeable	Agreeable
4	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-5)	BDL(DL-5)
5	Temperature	°C	APHA Method	Shall not exceed 5°C above the receiving water temperature	25°C	25°C
6	Free residual chlorine	mg/l	IS 3025 (Part 26): 1986	1.0	BDL(DL-0.1)	BDL(DL-0.1)
7	Particulate size of SS		Gravimetric Method	Shall pass 850 micron IS Sieve	<850	<850
8	Free Ammonia (as NH <sub>3</sub> )	mg/l	APHA Method	5	BDL(DL-0.1)	BDL(DL-0.1)
9	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	2.0	0.36	BDL(DL-0.1)
10	Sulphide (as S)	mg/l	IS 3025 (Part 29): 1986	2.0	BDL(DL-0.03)	BDL(DL-0.03)
11	Nitrate Nitrogen	mg/l	APHA Method	10	5.2	BDL(DL-2)
12	Bio Assay Test %		APHA 22nd Edition	90% Survival of fish after 96 hours in 100% effluent	84%	92%
13	Hexavalent Chromium (as Cr+6)	mg/l	IS 3025 (Part 52): 2003	0.1	BDL(DL-0.01)	BDL(DL-0.01)
14	Dissolved Phosphate (as P)	mg/l	IS 3025 (Part 31): 1988	5.0	BDL(DL-0.1)	BDL(DL-0.1)

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager Snehal Raut
Deputy Technical Manager

I period

**Authorized Signatories** 

Pooja Kathane Technical Manager Dr. (Mrs.) S.D. Garway Quality Manager







TC 5458

### Test Report

ULR No.- TC545823000003000F

Test Report No.	: ALPL/3009	2023/3-22A	dated 30/09/2023			Page 1 of 2		
Issued To: M/s Noamundi Iron Mine (M/s TATA Steel Limited) Noamundi, Jharkhand Postal Code: 833217		Sample Inward No.	ALPL/25092023/MON-2/24-15&16 25/09/2023 W.O 4700098928/962 22.03.2022		Analysi	is Start	26/09/2023	
		Inward Date			Analysis End		30/09/2023	
		Reference Reference Date			2000	Issue Date Category	30/09/2023 Water	
Sample Name Sewage Water	Central Ca	aple Source amp STP 50 KLD et & Outlet	Sample Particulars Sample Code-WW-15 & 16		Sample Condition Sealed & Ice Preserved		Quantity Received 5.0 Ltr & 250 ml	
Sample Collected By Anacon Representative			Sampling Date 22/09/2023	11 35 am to 4 20 pm Central C		pling Location Camp STP 50 KLD		

#### TEST RESULTS

S.N.	T. A.D.	Measurement	T-4 M-4b-4	Standards (In Land Surface	Test Result	
	Test Parameter	Unit	Test Method	Water)	Inlet	Outlet
I	Chemical Testing Pollution & Environment			t/		
1	pH value	-	IS 3025 (Part 11): 2022	5.5 to 9.0	6.82 at 25°C	7.16 at 25°C
2	Oil & Grease	mg/l	IS 3025 (Part 39): 1991	10	BDL(DL-4)	BDL(DL-4)
3	Total Suspended Solid (TSS)	mg/l	IS 3025 (Part 17): 1984	100	84	46
4	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) :1988	50	16.43	13.91
5	Total Kjeldahl Nitrogen (as N)	mg/l	IS 3025 (Part 34): 1988	100	23.51	18.74
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44) :1993	30	21	16
7	Chemical Oxygen Demand	mg/l	IS 3025 (Part 58) :2006	250	64	47
8	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.2	BDL(DL-0.1)	BDL(DL-0.1)
9	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	1.0	BDL(DL-0.1)	BDL(DL-0.1)

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Verified by

Snehål Raut

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway Quality Manager







TC 5458

# Test Report

ULR No.- TC545823000003000F

Test Report No.: ALPL/30092023/3-22A dated 30/09/2023 Page 2 of 2 Issued To: Sample Inward No. ALPL/25092023/MON-2/24-15&16 **Analysis Start** 26/09/2023 M/s Noamundi Iron Mine **Inward Date** 25/09/2023 Analysis End 30/09/2023 (M/s TATA Steel Limited) Reference W.O.- 4700098928/962 Report Issue Date 30/09/2023 Noamundi, Jharkhand Sample Category Water Reference Date 22.03.2022 Postal Code: 833217 Sample Name Sample Source Sample Particulars Sample Condition Quantity Received Central Camp STP 50 KLD Sewage Water Sample Code-WW-15 & 16 Sealed & Ice Preserved 5.0 Ltr & 250 ml Inlet & Outlet Sample Collected By Sampling Date Sampling Time Sampling Location Anacon Representative Central Camp STP 50 KLD 22/09/2023 11.35 am to 4.20 pm Inlet & Outlet

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	TANA	Standards (In Land	Test Result		
S.14.			Test Method	Surface Water)	Inlet	Outlet	
П	Chemical Testing 2. Residues In Water						
10	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	3.0	2.38	0.78	
11	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
12	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994	0.01	BDL(DL-0.01)	BDL(DL-0.01)	
13	Cadmium (as Cd)	mg/l	IS: 3025 (Part 41): 1992	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
14	Selenium (as Se)	mg/l	IS: 3025 (Part 56): 2003	0.05	BDL(DL-0.1)	BDL(DL-0.1)	
15	Lead (as Pb)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)	
16	Arsenic (as As)	mg/l	IS: 3025 (Part 37): 2022	0.2	BDL(DL-0.05)	BDL(DL-0.05)	
17	Nickel (as Ni)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-0.1)	BDL(DL-0.1)	
18	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5.0	BDL(DL-0.1)	BDL(DL-0.1)	
19	Total Chromium	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
20	Vanadium (as V)	mg/l	IS 3025 (Part 2): 2019	0.2	· BDL(DL-0.1)	BDL(DL-0.1)	

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager

----End of Report----

**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavor towards ensuring that your next experienced will be significantly better than the current one, we welcome your feedback on <a href="mailto:feedback@anacon.in">feedback@anacon.in</a>



#### Anacon Laboratories Pvt. Ltd. Nagpur Lab

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# Test Report

Test Report No.	: ALPL/3009	2023/3-22B	dated 30/09/202	23		Page 1 of 1	
Issued To:		Sample Inward No.	ALPL/25092023/	MON-2/24-15&16	Analysi	is Start	26/09/2023
M/s Noamundi l		Inward Date	25/09/2023		Analysi	is End	30/09/2023
The state of the s	M/s TATA Steel Limited) Real Real Real Real Real Real Real Real		W.O 4700098928/962 22.03.2022		Report	Issue Date	30/09/2023
		Reference Date			Sample	Category	Water
Sample Name	Sam	ple Source	Sample Part	iculars	Sample (	Condition	Quantity Received
Sewage Water		imp STP 50 KLD et & Outlet	Sample Code-WW-15 & 16 Sealed & Ice Preserved		ce Preserved	5.0 Ltr & 250 ml	
San	ple Collected	і Ву	Sampling Date	Sampling T	ime	e Sampling Locat	
Anacon Representative			22/09/2023	2023 11.35 am to 4.20 p		O pm Central Camp STP	
				202000		4	

TEST RESULTS

			I EST KESULTS			
S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test Result	
		Unit		Water)	Inlet	Outlet
I	Biological Testing 1.Water					
1	Faecal coliform MPN/100 ml IS 1622 : 1981		2 -	27	17	
н	Chemical Testing Pollution & Environment		<	27		
2	Colour Hazen units IS 3025 (Part 4): 1983 Colourless		2	0 (Colourless)		
3	Odour		IS 3025 (Part 5): 2018	Odourless	Disagreeable	Agreeable
4	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-5)	BDL(DL-5)
5	Temperature	°C	APHA Method	Shall not exceed 5°C above the receiving water temperature	25°C	25°C
6	Free residual chlorine	mg/l	IS 3025 (Part 26): 1986	1.0	BDL(DL-0.1)	BDL(DL-0.1)
7	Particulate size of SS		Gravimetric Method	Shall pass 850 micron IS Sieve	<850	<850
8	Free Ammonia (as NH <sub>3</sub> )	mg/l	APHA Method	5	BDL(DL-0.1)	BDL(DL-0.1)
9	Fluoride (as F)	mg/I	IS 3025 (Part 60): 2008	2.0	0.27	BDL(DL-0.1)
10	Sulphide (as S)	mg/l	IS 3025 (Part 29): 1986	2.0	BDL(DL-0.03)	BDL(DL-0.03)
11	Nitrate Nitrogen	mg/l	APHA Method	10	3.94	BDL(DL-2)
12	Bio Assay Test	%	APHA 22nd Edition	90% Survival of fish after 96 hours in 100% effluent	86%	94%
13	Hexavalent Chromium (as Cr+6)	mg/l	IS 3025 (Part 52): 2003	0.1	BDL(DL-0.01)	BDL(DL-0.01)
14	Dissolved Phosphate (as P)	mg/l	IS 3025 (Part 31): 1988	5.0	BDL(DL-0.1)	BDL(DL-0.1)

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager Snehål Raut Deputy Technical Manager **Authorized Signatories** 

Pooja Kathane

Technical Manager

Dr. (Mrs.) S.D. Garway Quality Manager

----End of Report----







TC 5458

# Test Report

ULR No.- TC545823000003000F

Test Report No.	: ALPL/3009	2023/3-21A	dated 30/09/202	13		Pag	Page 1 of 2	
Issued To:		Sample Inward No.	ALPL/25092023/	MON-2/24-13&14	Analys	sis Start	26/09/2023	
M/s Noamundi	M/s Noamundi Iron Mine Inward		25/09/2023		Analys	sis End	30/09/2023	
Noamundi, Jharkhand		Reference			Report	t Issue Date	30/09/2023 Water	
		Reference Date			Sampl	e Category		
Sample Name		ple Source	Sample Particulars Sample Code-WW-13 & 14		Sample	Condition	Quantity Received	
Sewage Water	and the same	& Outlet			Sealed & I	ce Preserved	5.0 Ltr & 250 ml	
Sample Collected By		Sampling Date	Sampling T	ime				
Ana	Anacon Representative			11.35 am to 4.20 pm Bottom I		Bottom Bin	in ETP 10 KLD Inlet & Outlet	

TEST RESULTS

NAT-HEN		Measurement	Total Market	Standards (In	Test Result		
S.N.	Test Parameter	Unit	Test Method	Land Surface Water)	Inlet	Outlet	
I	Chemical Testing Pollution & Environment		- 12-				
1	pH value	-	IS 3025 (Part 11): 2022	5.5 to 9.0	6.61 at 25°C	6.93 at 25°C	
2	Oil & Grease	mg/l	IS 3025 (Part 39): 1991	10	BDL(DL-4)	BDL(DL-4)	
3	Total Suspended Solid (TSS)	mg/l	IS 3025 (Part 17): 1984	100	86	53	
4	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34):1988	50	23.37	18.34	
5	Total Kjeldahl Nitrogen (as N)	mg/l	IS 3025 (Part 34): 1988	100	28.19	21.46	
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44):1993	30	26	16	
7	Chemical Oxygen Demand	mg/l	IS 3025 (Part 58) :2006	250	74	48	
8	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.2	BDL(DL-0.1)	BDL(DL-0.1)	
9	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	-	IS 3025 (Part 43): 2022	1.0	BDL(DL-0.1)	BDL(DL-0.1)	

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Verified by

Shehal Raut

Deputy Technical Manager

**Authorized Signatory** 

Can

Dr. (Mrs.) S. D. Garway Quality Manager

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavor towards ensuring that your next experienced will be significantly better than the current one, we welcome your feedback on <a href="mailto:feedback@anacon.in">feedback@anacon.in</a>







TC 5458

# Test Report

ULR No.- TC545823000003000F

	26/09/2023
-	
End 30	0/09/2023
ssue Date 3	30/09/2023 Water
Category W	
	antity Received
Preserved 5.0	0 Ltr & 250 ml
Sampling Lo Bottom Bin ETP 10	
0	ondition Qu Preserved 5.

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Total Mathed	Standards (In Land	Test Result		
			Test Method	Surface Water)	Inlet	Outlet	
п	Chemical Testing 2. Residues In Water						
10	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	3.0	0.98	0.26	
11	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
12	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994	0.01	BDL(DL-0.01)	BDL(DL-0.01)	
13	Cadmium (as Cd)	mg/l	IS: 3025 (Part 41): 1992	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
14	Selenium (as Se)	mg/l	IS: 3025 (Part 56): 2003	0.05	BDL(DL-0.1)	BDL(DL-0.1)	
15	Lead (as Pb)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)	
16	Arsenic (as As)	mg/l	IS: 3025 (Part 37): 2022	0.2	BDL(DL-0.05)	BDL(DL-0.05)	
17	Nickel (as Ni)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-0.1)	BDL(DL-0.1)	
18	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5.0	BDL(DL-0.1)	BDL(DL-0.1)	
19	Total Chromium	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
20	Vanadium (as V)	mg/l	IS 3025 (Part 2): 2019	0.2	BDL(DL-0.1)	BDL(DL-0.1)	

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager

---End of Report----

**Authorized Signatory** 

Dr. (Mrs.) S.D. Garway Quality Manager

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#### Anacon Laboratories Pvt. Ltd. Nagpur Lab

MIDC Butibori, Nagpur, Maharashtra, India - 441 122 4 + 91 8045685558 ■ Email : info@anacon.in

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# Test Report

Test Report No.	: ALPL/3009	2023/3-21B	dated 30/09/202	23		Page 1 of 1		
Issued To: M/s Noamundi Iron Mine (M/s TATA Steel Limited) Noamundi, Jharkhand Postal Code: 833217		Sample Inward No. Inward Date Reference Reference Date	ALPL/25092023/MON-2/24-13&14 25/09/2023 W.O 4700098928/962 22.03.2022		Analys Report	is Start is End Issue Date e Category	26/09/2023 30/09/2023 30/09/2023 Water	
Sample Name Sewage Water	Sam Bottom Bin	ple Source ETP 10 KLD Inlet	Sample Part Sample Code-W	AND THE RESERVE TO STATE OF THE		Condition ce Preserved	Quantity Received 5.0 Ltr & 250 ml	
Sample Collected By Anacon Representative			Sampling Date 22/09/2023	Sampling T 11.35 am to 4.	Bottom Bin ETP 10 1		pling Location ETP 10 KLD Inlet & Outlet	
			TEST RESU	LTS		4		

		Measurement	20 100 200 2	Standards (In Land Surface	Test Result	
S.N.	Test Parameter	Unit	Unit Test Method		Inlet	Outlet
I	Biological Testing 1.Water					
I	Faecal coliform	MPN/100 ml	IS 1622 : 1981	<b>4</b> \ \ -	43	21
П	Chemical Testing Pollution & Environment		<			
2	Colour	Hazen units	IS 3025 (Part 4): 1983	Colourless	2	0 (Colourless)
3	Odour	-	IS 3025 (Part 5): 2018	Odourless	Disagreeable	Agreeable
4	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-5)	BDL(DL-5)
5	Temperature	°C	APHA Method	Shall not exceed 5°C above the receiving water temperature	25°C	25°C
6	Free residual chlorine	mg/l	IS 3025 (Part 26): 1986	1.0	BDL(DL-0.1)	BDL(DL-0.1)
7	Particulate size of SS		Gravimetric Method	Shall pass 850 micron IS Sieve	<850	<850
8	Free Ammonia (as NH <sub>3</sub> )	mg/l	APHA Method	5	BDL(DL-0.1)	BDL(DL-0.1)
9	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	2.0	0.43	BDL(DL-0.1)
10	Sulphide (as S)	mg/l	IS 3025 (Part 29): 1986	2.0	BDL(DL-0.03)	BDL(DL-0.03)
11	Nitrate Nitrogen	mg/l	APHA Method	10	4.97	BDL(DL-2)
12			APHA 22nd Edition	90% Survival of fish after 96 hours in 100% effluent	82%	94%
13	Hexavalent Chromium (as Cr <sup>+6</sup> )	mg/l	IS 3025 (Part 52): 2003	0.1	BDL(DL-0.01)	BDL(DL-0.01)
14	Dissolved Phosphate (as P)	mg/l	IS 3025 (Part 31): 1988	5.0	BDL(DL-0.1)	BDL(DL-0.1)

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Technical Manager

Deputy Technical Manager

**Authorized Signatories** 

Kathane Technical Manager

Dr. (Mrs.) S.D. Garway Quality Manager

----End of Report----







TC 5458

# Test Report

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Test Report No.:	ALPL/3009	2023/3-23A	dated 30/09/202	23			Page 1 of 2
Issued To:		Sample Inward No.	ALPL/25092023/	MON-2/24-17&18	Analysis	s Start	26/09/2023
M/s Noamundi I		Inward Date	25/09/2023		Analysis	s End	30/09/2023
Noamundi, Jharkhand		Reference			Report	Issue Date	30/09/2023
		Reference Date			Sample	Category	Water
Sample Name		ple Source	Sample Particulars Sample Condition Sample Code-WW-17 & 18 Sealed & Ice Preserved		Condition	Quantity Receiv	
Sewage Water		al ETP 10 KLD et & Outlet			Sealed & Ice Preserved		5.0 Ltr & 250 ml
Sam	Sample Collected By Anacon Representative		Sampling Date	Sampling T	lime	ne Sampling Location	
Anac			22/09/2023	/09/2023   11 35 am to 4 20 pm		tal ETP 10 KLD let & Outlet	

#### TEST RESULTS

CN	Test Barameter	Measurement	Test Method	Standards (In Land Surface	Test Result		
S.N.	Test Parameter	Unit	Test Method	Water)	Inlet	Outlet	
I	Chemical Testing Pollution & Environment	,					
1	pH value 4	-	IS 3025 (Part 11): 2022	5.5 to 9.0	6.71 at 25°C	6.87 at 25°C	
2	Oil & Grease	mg/l	IS 3025 (Part 39): 1991	10	BDL(DL-4)	BDL(DL-4)	
3	Total Suspended Solid (TSS)	mg/l	IS 3025 (Part 17): 1984	100	86	52	
4	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) :1988	50	34	26	
5	Total Kjeldahl Nitrogen (as N)	mg/l	IS 3025 (Part 34): 1988	100	52	41	
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44) :1993	30	26	16	
7	Chemical Oxygen Demand	mg/l	IS 3025 (Part 58) :2006	250	82	54	
8	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.2	BDL(DL-0.1)	BDL(DL-0.1)	
9	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	IS 3025 (Part 43): 2022	1.0	BDL(DL-0.1)	BDL(DL-0.1)	

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Verified by

Deputy Technical Manager

Authorized Signatory

Dr. (Mrs.) S. D. Garway Quality Manager

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TC 5458

# Test Report

ULR No.- TC545823000003000F

Page 2 of 2 dated 30/09/2023 Test Report No.: ALPL/30092023/3-23A 26/09/2023 ALPL/25092023/MON-2/24-17&18 **Analysis Start** Issued To: Sample Inward No. M/s Noamundi Iron Mine 30/09/2023 25/09/2023 Analysis End **Inward Date** (M/s TATA Steel Limited) 30/09/2023 W.O.- 4700098928/962 Report Issue Date Reference Noamundi, Jharkhand Water Sample Category 22.03.2022 Reference Date Postal Code: 833217 Quantity Received Sample Condition Sample Particulars Sample Name Sample Source Hospital ETP 10 KLD Sealed & Ice Preserved 5.0 Ltr & 250 ml Sample Code-WW-17 & 18 Sewage Water Inlet & Outlet Sampling Location Sampling Date Sampling Time Sample Collected By Hospital ETP 10 KLD Anacon Representative 22/09/2023 11.35 am to 4.20 pm Inlet & Outlet

TEST RESULTS

~ **	Test Parameter	Measurement	m	Standards	Test Result		
S.N.		Unit	Test Method	(In Land Surface Water)	Inlet	Outlet	
п	Chemical Testing 2. Residues In Water						
10	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	3.0	1.27	0.41	
11	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
12	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994	0.01	BDL(DL-0.01)	BDL(DL-0.01)	
13	Cadmium (as Cd)	mg/l	IS: 3025 (Part 41): 1992	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
14	Selenium (as Se)	mg/l	IS: 3025 (Part 56): 2003	0.05	BDL(DL-0.1)	BDL(DL-0.1)	
15	Lead (as Pb)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.1)	BDL(DL-0.1)	
16	Arsenic (as As)	mg/l	IS: 3025 (Part 37): 2022	0.2	BDL(DL-0.05)	BDL(DL-0.05	
17	Nickel (as Ni)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-0.1)	BDL(DL-0.1)	
18	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	5.0	BDL(DL-0.1)	BDL(DL-0.1)	
19	Total Chromium	mg/l	IS 3025 (Part 2): 2019	2.0	BDL(DL-0.1)	BDL(DL-0.1)	
20	Vanadium (as V)	mg/l	IS 3025 (Part 2): 2019	0.2	BDL(DL-0.1)	BDL(DL-0.1)	

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager Authorized Signatory

Dr. (Mrs.) S.D. Garway Quality Manager

---End of Report---



#### Anacon Laboratories Pvt. Ltd. Nagpur Lab

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# Test Report

Test Report No. :	Test Report No.: ALPL/30092023/3-23B			dated 30/09/2023		ge 1 of 1
Issued To:  M/s Noamundi Iron Mine (M/s TATA Steel Limited)  Sample Inward No. Inward Date Reference		ALPL/25092023/MON-2/24-17&18 25/09/2023		Analysis Start	26/09/2023	
				Analysis End	30/09/2023	
		Reference	W.O 4700098928/962		Report Issue Date	30/09/2023
Noamundi, Jharkh Postal Code: 8332		Reference Date	22.03.2022		Sample Category	Water
Sample Name	Sam	ple Source	Sample Particulars		Sample Condition	Quantity Received
Sewage Water Hospital ETP 10 KLD Inlet & Outlet  Sample Collected By Anacon Representative		Sample Code-WW-17 & 18		Sealed & Ice Preserved	5.0 Ltr & 250 ml	
		Sampling Date 22/09/2023	Sampling T 11.35 am to 4.	20 pm Hosp	Hospital ETP 10 KLD	

			TEST RESULTS			
S.N.	Test Parameter	Measurement	Test Method	Standards (In Land Surface	Test Result	
5.IV.		Unit	rest Method	Water)	Inlet	Outlet
I	Biological Testing 1.Water		100			
1	Faecal coliform	MPN/100 ml	IS 1622 : 1981	<u> </u>	46	17
11	Chemical Testing Pollution & Environment		, <	Y		
2	Colour	Hazen units	IS 3025 (Part 4): 1983	Colourless	2	0 (Colourless)
3	Odour		IS 3025 (Part 5): 2018	Odourless	Disagreeable	Agreeable
4	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	3.0	BDL(DL-5)	BDL(DL-5)
5	Temperature	°C	APHA Method	Shall not exceed 5°C above the receiving water temperature	25°C	25°C
6	Free residual chlorine	mg/l	IS 3025 (Part 26): 1986	1.0	BDL(DL-0.1)	BDL(DL-0.1)
7	Particulate size of SS		Gravimetric Method	Shall pass 850 micron IS Sieve	<850	<850
8	Free Ammonia (as NH <sub>3</sub> )	mg/I	APHA Method	5	BDL(DL-0.1)	BDL(DL-0.1)
9	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	2.0	0.31	BDL(DL-0.1)
10	Sulphide (as S)	mg/l	IS 3025 (Part 29): 1986	2.0	BDL(DL-0.03)	BDL(DL-0.03)
11	Nitrate Nitrogen	mg/l	APHA Method	10	6.92	BDL(DL-2)
12	Bio Assay Test	%	APHA 22nd Edition	90% Survival of fish after 96 hours in 100% effluent	84%	92%
13	Hexavalent Chromium (as Cr <sup>+6</sup> )	mg/l	IS 3025 (Part 52): 2003	0.1	BDL(DL-0.01)	BDL(DL-0.01)
14	Dissolved Phosphate (as P)	mg/l	IS 3025 (Part 31): 1988	5.0	BDL(DL-0.1)	BDL(DL-0.1)

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REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager Snehal Raut Deputy Technical Manager .

Authorized Signatories

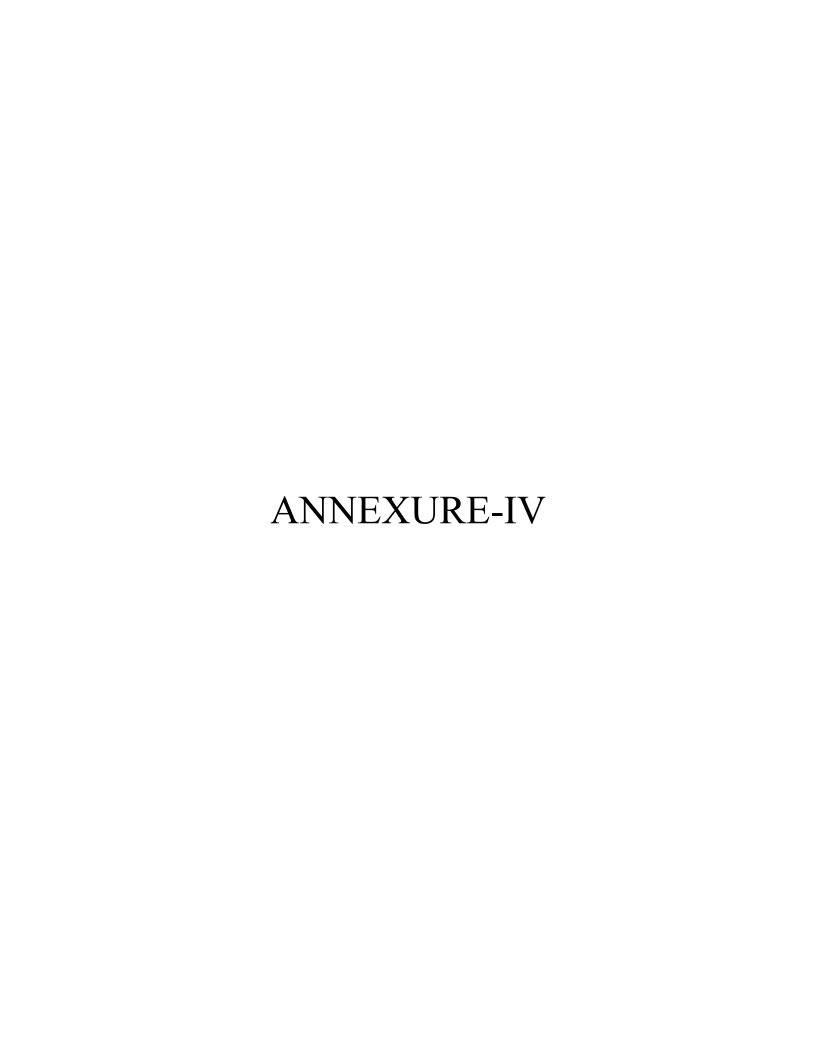
Pooja Kathane Technical Manager Dr. (Mrs.) S.D. Garway Quality Manager

----End of Report----

# **Annexure-III**

**Naomundi PH Implementation Status** 

SL.No	Particulars/ PH Requirements	Quantity	Status
1	Road Maintenance in village area- (Road from Mohudi village	8 Km	Work Completed
	to Sarbil Road from Bobonga petrol pump to Dondiya sahi)		
2	Provision of drinking water with pipeline (Noamundi, Mahudi)	2 Areas	NOC work is in process
3	Providing toilets in schools (5 schools in surrounding villages)	5 Nos.	Finishing work under progress in Mahudi, Jampani, Bara Baljodi.
			Sialjora and Pachaisai(Mahudi) under progress.
4	Solar-powered micro lift irrigation (Surrounding villages)	5 Nos.	Work in progress
5	Provision of toilet facility (Noamundi Bazaar, DVC Gate Bus Stand)	2 Nos.	Work Completed. Toilet facility provided at two locations
6	Provision of critical care ambulance (Surrounding villages)	2 Nos.	Work completed. 2 numbers of critical care ambulances provided
7	Provision of community toilet and bathing complex (Azad Basti, Lakhansaahi)	2 Nos.	NOC work is in progress
8	Augmentation of solid waste management facility (Noamundi Bazar, Kotgarh)	2 Units	Work completed
9	Installation of electric crematorium for ensuring cleaner ghats (Dukasai)		Yet to start
10	Provision of school bus (Baitarini route)	1 Bus	Work Completed. School bus provided
11	Provision of lab-on-wheels (Noamundi Block)	1 No.	Work Completed. Modification done in existing vehicle. Handed over to Jagannathpur ITI Principal.
12	Construction of Science Lab (Kothghar, Sialjoda)	2 No.	Completed.
13	Construction of rooms, hostel, computer lab and auditorium (Noamundi)	1 Unit	Finishing work on progress
14	Increase in capacity of ITI College, construction & equipping	1 Unit	200 mtrs Boundary wall completed.
	of related infrastructure (Jagannath)		Entrance gate work is on progress.
15	Development of playgrounds for promoting sport activities	3 Nos.	NOC is awaited for Mahudi, Sarbil. Bhangaon work is under progress
	(Mahudi, Sarbil, Bhangaon)		
16	Construction of haat (market sheds) (Bhangaon, Kotgarh, Jetia)	3 Nos.	NOC is awaited
17	Infrastructure support for Mushroom cultivation (Surrounding villages)	100 Nos.	Beneficiary identified. Work to start
18	Provision of Goatery sheds (Surrounding villages)	100 Nos.	Beneficiary identified. Work to start





Mukhiya, Diriburu Panchayat, AT/Po Noamundi, Dist:West Singhbhum, Jharkhand, Pin-833218

Ref: MD/ENV/ 215 / 97 /2021

Dated: 08.09.2021

Sub: Environmental Clearance for Expansion of Noamundi Iron Ore Mine from 10 MTPA To 19 MTPA (ROM) with total excavation of 27 MTPA (ML Area 1160.06 Ha) along with increase of Iron Ore Beneficiation Plant Capacity (feed to plant) from 18 MTPA To 27 MTPA in total project area 1230.42 Ha located at Mahudi, Balijore, Korta, Noamundi, Sarbil and Barabalijori Villages, West Singhbhum District, Jharkhand of M/s Tata Steel Limited (File No. J-11015/104/2011-IA.II (M))

Ref: Vide letter ref no. J-11015/104/2011-IA.II (M) Dated 06.09.2021.

Dear Sir,

This is to inform you that Environment Clearance has been granted for expansion of Noamundi Iron Ore Mine from 10 MTPA To 19 MTPA (ROM) with total excavation of 27 MTPA (ML Area 1160.06 Ha) along with increase of Iron Ore Beneficiation Plant Capacity (feed to plant) from 18 MTPA To 27 MTPA in total project area 1230.42 Ha located at Mahudi, Balijore, Korta, Noamundi, Sarbil and Barabalijori Villages, West Singhbhum District, Jharkhand of M/s Tata Steel Limited. A copy of EC is enclosed for reference.

Thanking you,

Yours sincerely, f: Tata Steel Limited

Chief (Mine Planning & Projects) OMQ

Encl: EC of Noamundi Iron Mine

December of the state of the st



Mukhiya, Kadajamda Panchayat, AT/Po Noamundi, Dist: West Singhbhum, Jharkhand, Pin-833218

Ref: MD/ENV/ 216 / 97 /2021

Dated: 08.09.2021

Sub: Environmental Clearance for Expansion of Noamundi Iron Ore Mine from 10 MTPA To 19 MTPA (ROM) with total excavation of 27 MTPA (ML Area 1160.06 Ha) along with increase of Iron Ore Beneficiation Plant Capacity (feed to plant) from 18 MTPA To 27 MTPA in total project area 1230.42 Ha located at Mahudi, Balijore, Korta, Noamundi, Sarbil and Barabalijori Villages, West Singhbhum District, Jharkhand of M/s Tata Steel Limited (File No. J-11015/104/2011-IA.II (M))

Ref: Vide letter ref no. J-11015/104/2011-IA.II (M) Dated 06.09.2021.

Dear Sir,

This is to inform you that Environment Clearance has been granted for expansion of Noamundi Iron Ore Mine from 10 MTPA To 19 MTPA (ROM) with total excavation of 27 MTPA (ML Area 1160.06 Ha) along with increase of Iron Ore Beneficiation Plant Capacity (feed to plant) from 18 MTPA To 27 MTPA in total project area 1230.42 Ha located at Mahudi, Balijore, Korta, Noamundi, Sarbil and Barabalijori Villages, West Singhbhum District, Jharkhand of M/s Tata Steel Limited. A copy of EC is enclosed for reference.

Thanking you,

Yours sincerely, f: Tata Steel Limited

Chief (Mine Planning & Projects) OMQ

EC of Noamundi Iron Mine



Mukhiya, Mohudi Panchayat, AT/Po Noamundi, Dist: West Singhbhum, Jharkhand, Pin-833218

Ref: MD/ENV/ 217 / 97 /2021

Dated: 08.09.2021

Sub: Environmental Clearance for Expansion of Noamundi Iron Ore Mine from 10 MTPA To 19 MTPA (ROM) with total excavation of 27 MTPA (ML Area 1160.06 Ha) along with increase of Iron Ore Beneficiation Plant Capacity (feed to plant) from 18 MTPA To 27 MTPA in total project area 1230.42 Ha located at Mahudi, Balijore, Korta, Noamundi, Sarbil and Barabalijori Villages, West Singhbhum District, Jharkhand of M/s Tata Steel Limited (File No. J-11015/104/2011-IA.II (M))

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Thanking you,

Yours sincerely, f: Tata Steel Limited

Chief (Mine Planning & Projects) OMQ

Encl: EC of Noamundi Iron Mine



Mukhiya, Noamundi Panchayat, AT/Po Noamundi, Dist:West Singhbhum, Jharkhand, Pin-833218

Ref: MD/ENV/ 213 /97/2021

Dated: 08.09.2021

Sub: Environmental Clearance for Expansion of Noamundi Iron Ore Mine from 10 MTPA To 19 MTPA (ROM) with total excavation of 27 MTPA (ML Area 1160.06 Ha) along with increase of Iron Ore Beneficiation Plant Capacity (feed to plant) from 18 MTPA To 27 MTPA in total project area 1230.42 Ha located at Mahudi, Balijore, Korta, Noamundi, Sarbil and Barabalijori Villages, West Singhbhum District, Jharkhand of M/s Tata Steel Limited (File No. J-11015/104/2011-IA.II (M))

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Thanking you,

Yours sincerely, f: Tata Steel Limited

Chief (Mine Planning & Projects) OMO

Encl: EC of Noamundi Iron Mine

गम परायत नावमण्डी बस्त



Mukhiya, Balijhore Panchayat, AT/Po Noamundi, Dist:West Singhbhum, Jharkhand, Pin-833218

Ref: MD/ENV/ 214 / 97 /2021

Dated: 08.09.2021

Sub: Environmental Clearance for Expansion of Noamundi Iron Ore Mine from 10 MTPA To 19 MTPA (ROM) with total excavation of 27 MTPA (ML Area 1160.06 Ha) along with increase of Iron Ore Beneficiation Plant Capacity (feed to plant) from 18 MTPA To 27 MTPA in total project area 1230.42 Ha located at Mahudi, Balijore, Korta, Noamundi, Sarbil and Barabalijori Villages, West Singhbhum District, Jharkhand of M/s Tata Steel Limited (File No. J-11015/104/2011-IA.II (M))

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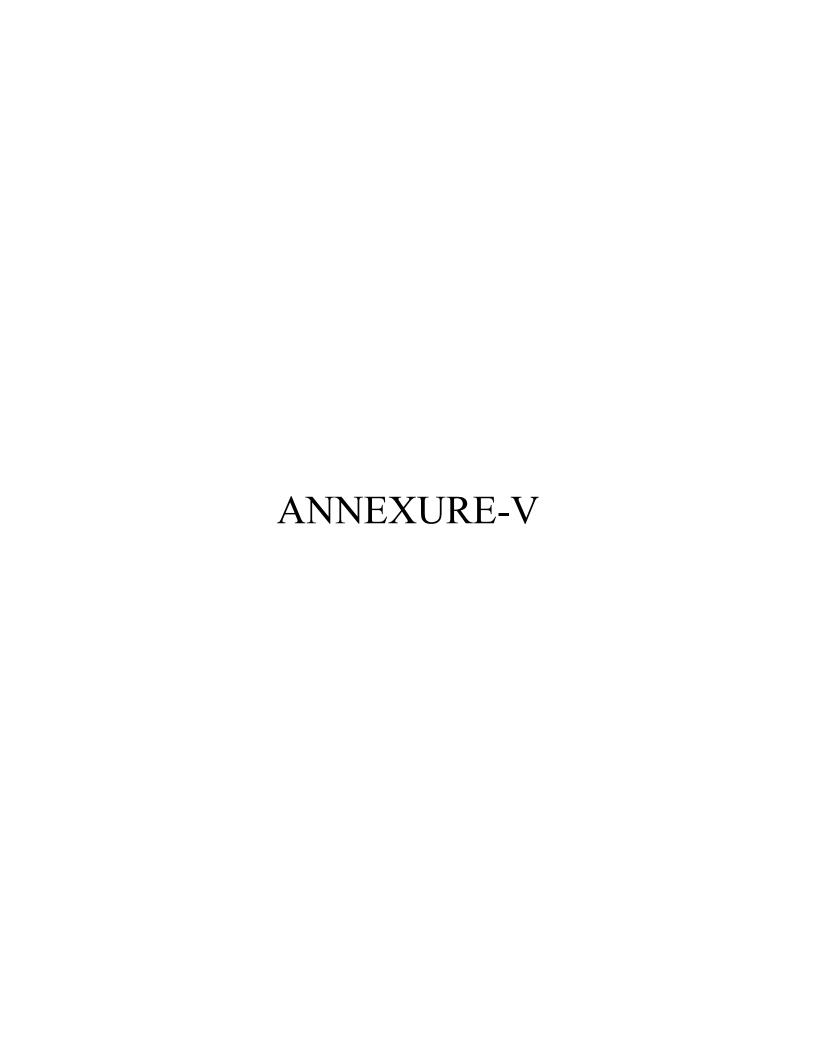
Thanking you,

Yours sincerely, f: Tata Steel Limited

Chief (Mine Planning & Projects) OMQ

Encl: EC of Noamundi Iron Mine

अविस्ति प्रवायत





Regional Office Ministry of Environment, Forest & Climate Change Regional Office (ECZ), Bunglow No. A-2 Shyamali Colony Ranchi – 834002

MD/ENV/ 210 / 97 /2021

Date: 13.09.2021

Sub: Advertisement regarding grant of Environmental Clearance for expansion of Noamundi

Iron Mine of M/s Tata Steel Limited.

Ref: Environmental Clearance letter no. J-11015/104/2011-IA.II (M) dated: 06.09.2021.

Dear Sir,

In compliance to the standard condition no. 13 in EC granted with vide letter no. J-11015/104/2011-IA.II (M) dated: 06.09.2021 which states that "The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of clearance letter mentioning that the instant project has been accorded EC and copy of EC letter is available with the State Pollution Control Board/Committee and website of Ministry of Environment, Forest and Climate Change(www.parivesh.nic.in). A copy of the advertisement may be forwarded to the concerned MoEFCC Regional office for compliance and record" we hereby advertised in two newspapers i.e Avenue Mail(English) and Prabhat Khabar(Hindi) on 12.09.2021. A copy is enclosed as annexure.

Thanking you,

Yours faithfully, f: Tata Steel Limited

hief (Mine Planning & Projects), OMQ

Encl: As above

## Work for people, not position, Kejriwal's golden advice to AAP cadre

New Delki, Sep 11 clans; Asm Asimi Para (AAF) convener Arvind cAAF) convener Arvind Regional on Saturday advised bin cuter to work for people and not for some party positions or election tacket on he does not want masses to point fingers and masses to point fingers and



#### Congress announces new chief in pollbound Manipur Implied, Sep. 13 (LANS)

NATION

# Could've averted 9/11 if world had accepted Vivekananda's message: President Kovind

come naverent or Mittediay cited the manings of pence, particle and conspectation by Swami Vivekananda at the 1985. Chacago World Continuous of Religions, saying that had the exessage green or September 11, 1893 horse accepted by the world, the horselfs events of the 1911 server attacks in the 1912 could have been accepted by the world, the horselfs events of the 1912 could have been accepted to the remaining of the country in Physiques to ley foundation toma for the opposing United Technologies, and University. "On this day 128 years ago, Swami Vivekanandia.



#### NCW takes cognizance of Sakinaka rape case

Sakinaka rape case

Mambai, Sep 11
(LNS) A Deprace of the same appeal and beneficial with radar ground and emission of the sake of the

officials, while Lender of Opposition Decembro Fadacon-sold be well-blocked? were the development. Terraing the incubers as "and and shocking", Home Minister Disp Wales-Park and that the attented account sould be given the read straight possibilities. Manthus Majore Kashari Padastar and that "the vacuum remains unconscious, and in heigh restolf" at the BMC's Rapicala Hospital in Obalisages. Khee Sana Mil.C. De Manthu Kayande vacuud the hospital and influence that the vaction has undergone on suggery and is still surface. "As per information, the viction in married and has two kids. Whether the act is committed by once protous, or more to not known and it is a souther of interningation," she told translapersons have

# Pending cases will be resolved soon: Minorities' panel chief

By Mohammad South

New Bellii, Sep. 11 New Delhi, Sep 13 (EANS) Soon after former 195 oillors lighal Singh Latjury trock over the charge of National Communication of Mineralysis



#### 'Blot on humanity,' says Thackeray as Mumbai rape-assault victim dies in hospital

Manshai Sep H (LANS) A M-year old woman, who we appel and breathered with a red by a time would not treated a mile of the partial description of the set of the partial description of the analysms area distributes, policies and. The came which hore a childing simulating to the 20 Marbinety gange cape care of Dalli task place in the wildows of Festey. The suspect who had been created within Key bears of the meadent has been now charged with made. While the city policie formed a Special brevitaginary law to task to probe the translated, respectively. Eff demandals cape granulation of the security of the second and questioned if wemen we can't in the accuracy and a questioned of wemen we can't in the accuracy and approximate the terminates, respectively.

# Vijay Rupani: Fourth BJP CM to quit in 6 months

Both Guarat and manifold will very for Distributed will core for two generalization newly year. HIS Variety transparent to the property of the proper

avorted so Uttae Pradash author that years with Charl Minister Vege Addressed facing expected as the second solution over the authorized and MI As, and his pro-trainers's poor beautiful poor the Covid particles.

A solution III Sounds among the second participation of the Covid participation of the Covid participation.

and Radha Mohan Singh to take (polhack and carry out take further and carry out a review, after which the party stressed that it was not looking at replacing Admands, who is one of the BEPs most high profile and popular force but would rough the leadership art up.

Rupani made a scapegoat to hide failures of remotecontrolled BJP govt:



Gandhingur, Sep 11 (IANS) Soon after Coparat Chief Manister Vijay Rupurs submitted his

Replacing Rupani might help BJP beat

New Delhi, Sep. 11 (LASS) firms

politics," he used.

A party moder classical flow Reposit lock the quality of fire brand backer on Congress and Associated two sixt backer to the desired to Andron Party (AAP) which is all set to content state politics in the content state politics in the content state. The Obsqueez was good in executing the govern works of assignments, but lacked the quality we moded in our chord mentioned and four chord mentioned and confidents to take on Congress and AAP in

#### Karnal standoff ends: Haryana govt orders probe into Aug 28 incident, farmers call off sit-in



Karnal, Sep H (LANS). The Haryana green

# India, Sudan navies carry out maritime drill in Red Sea

New Delhi, Nep 11 (IANS) bidio and Sadan navies control out to bidiocal marries curves in the Red Sea off the Sadanese court, the Indian

adanese count, the Indom-incy used on Saturday. Indian Naval Slop Tahar indurensk a marrisone indurensk a marrisone



# TATA STEEL



environmental clearance for its expansion in production of Iron Cire from 10 Hall along with increase of lene Ose Beneficiation Plant Capacity Reed to plant: roes 18 MTPA To 27 MTPA in total project area 1230:42 Ha located at Mahiati Baljore, Korta, Noamundi, Serbil and Barabalijori Villages, West Singhlihur District, sharkhand. The copy of EC tester is available with sharkhand State

TATA STEEL



# NOTICE

पर्यावरण, वन व जलवायु परिवर्तन अंजालय पत्र संख्या : I A-J&11015/104/2011&IA-II (M) दिनांक 06 सितंबर, 2021 के द्वारा मेसर्स टाटा स्टील लिमिटेड के नीआमुंडी आयरन माइन को 10 एम टी पी ए से 19 एम टी पी ए (आर ओ एम) तक लौह अयस्क उत्पादन विस्तार के लिए पर्यावरण मंजूरी दी गई है, जिसमें 27 एम टी पी ए (एम एल एरिया 1160.06 हेक्टेयर) के कुल उत्खानन के साथ-साथ महुदी, बालिजोर, कोरटा, बोआमुंडी, सरबिल और बाराबालिजोरी गांव, परिचमी सिंहभूम जिला, झारखंड में रियत 1230.42 हेक्टेयर के कुल परियोजना क्षेत्र में आयरन और बेनेफिसिएशन प्लांट (फीड टू प्लांट) की 18 एम टी पी ए से 27 एम टी पी ए तक क्षमता बढ़ोतरी भी शामिल है। ईसी पत्र की प्रतिलिपि झारखंड राज्य प्रदूषण नियंत्रण बोर्ड और पर्यावरण, वन व जलवायू परिवर्तन मंत्रालय की वेबसाइट (www.parivesh.nic.in) पर भी उपलब्ध है।

Registered Office: Bombay House, 24, Homi Mody Street, Fort, Mumbai 400 001, India Tel.: 022 66658282 Fax: 022 66657724 (CIN) - L27100MH1907PLC000260 Website: www.tatasteel.com



Sun, 12 September 2021 प्रभात खबर https://epaper.prabhatkhabar.com/c/63060346







The Member Secretary
Jharkhand State Pollution Control Board
T A Division Building,
HEC Campus, Dhurwa
Ranchi – 834004

Sub: Environmental monitoring report for the month of May 2023 of Noamundi Iron Mine, M/s Tata Steel Limited.

MD/ ENV/ 646 /140 - A/2023

Date: 06.06.2023

Dear Sir

In compliance to the conditions stated in the consent order no. JSPCB/HO/RNC/CTO-13904751/2022/1713, dated: 06.12.2022, we are submitting the following reports for Noamundi Iron Mine for your kind perusal.

- 1. Ambient Air Quality Monitoring Report of Core & Buffer Zone
- 2. Fugitive Emission Report
- 3. Drinking Water Quality Report
- 4. Domestic Effluent Quality Report
- 5. Ground Water Level
- 6. Ground water Quality Report
- 7. Surface water Quality Report
- 8. Noise Survey Report
- 9. Meteorological Report
- 10. Plantation Data

Thanking you,

Yours faithfully f: Tata Steel Limited

Sr Manager (Environment), OMO

Encl: As above

Copy to: The Regional Officer, Jharkhand State Pollution Control Board, MB/12 New Housing Colony, Adityapur, Jamshedpur - 831013, 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



The Member Secretary
Jharkhand State Pollution Control Board
T A Division Building,
HEC Campus, Dhurwa
Ranchi – 834004

Sub: Environmental monitoring report for the month of August 2023 of Noamundi Iron Mine, M/s Tata Steel Limited.

MD/ ENV/ 801 /140 - A/2023

Date: 07.09.2023

Dear Sir

In compliance to the conditions stated in the consent order no. JSPCB/HO/RNC/CTO-13904751/2022/1713, dated: 06.12.2022, we are submitting the following reports for Noamundi Iron Mine for your kind perusal.

- 1. Ambient Air Quality Monitoring Report of Core & Buffer Zone
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- 8. Meteorological Report
- 9. Plantation Data

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Yours faithfully f: Tata Steel Limited

Head (Planning), OMQ

Encl: As above

Copy to: The Regional Officer, Jharkhand State Pollution Control Board, MB/12 New Housing Colony, Adityapur, Jamshedpur - 831013, 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





#### Anacon Laboratories Pvt. Ltd. Nagpur Lab

FP-34, 35,Food Park, Five Star Industral Estate,
 MIDC Butibori, Nagpur, Maharashtra, India - 441 122
 + 91 8045685558 Email : info@anacon.in

→ https://www.anaconlaboratories.com

# Test Report

Test Report No. :	ALPL/310520	23/3-17 dated 31/05	/2023			Page 1 of 1
Issued To:		Sample Inward No.	ALPL/23052023/ENV-116- SW	-1 & 2	Analysis Star	t 24/05/2023
M/s Noamundi I		Inward Date	23/05/2023		Analysis End	30/05/2023
(M/s TATA Steel Noamundi, Jhark		Reference	W O = 4700098978/967		Report Issue Date	31/05/2023
Postal Code: 833	217	Reference Date	22.03.2022	Sample Category Water		
Sample Name	S	ample Source	Sample Particulars	Sample Condition Q		Quantity Received
Surface Water	1 Baliihore Nallah Unstrean		Sample Code-SW-1 & 2	Sealed & Id	ce Preserved	2.0 Ltr & 250 ml each
Sample Collected By Sampling Date Anacon Representative Mr.Sovan Giri 18/05/2023			Sampling Time	Sampling Location		ocation
			12.40 & 1.20 pm	1.Balijhore Nallah Upstream (SW-1) 2. Downstream (SW-2)		

#### TEST RESULTS

	Test Parameter	Measurement Unit	Test Method	Standards as	Test Result		
S.N.				per IS 2296:1992 Class C	SW-1	SW-2	
I	Biological Testing 1.Water			- Q.J			
1	Total Colifom	MPN/100ml	IS 1622: 1981	5000	BDL(DL-2)	BDL(DL-2)	
II	Chemical Testing 1.Water						
2	pH value	-	IS 3025 (Part 11): 1983	6.0 to 9.0	8.14 at 25°C	7.98 at 25°C	
3	Colour	Hazen units	IS 3025 (Part 4): 2021	300	6	4	
4	Dissolved Oxygen	mg/l	IS 3025 (Part 38):1989	4.0	6.8	6.2	
5	Total Suspended Solid (as TSS)	mg/l	IS 3025 (Part 17):1984		BDL(DL-10)	BDL(DL-10)	
6.	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44) :1993	3.0	BDL(DL-2)	BDL(DL-2)	
7	Chemical oxygen demand	mg/l	IS 3025 (Part 58) :2006	-	13.6	12.4	
8	Total Dissolved Solids (TDS)	mg/l	IS 3025 (Part 16): 1984	1500	417	392	
9	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	1.5	BDL(DL-0.03)	BDL(DL-0.03)	
10	Chloride (as Cl)	mg/l	IS 3025 (Part 32):1988	600	48.26	43.81	
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24): 1986	400	18.24	16.52	
12	Nitrate (as NO <sub>3</sub> )	mg/l	IS 3025 (Part 34): 1988	50	9.27	7.64	
13	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	1.5	0.31	0.28	
14	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.05	BDL(DL-0.005)	BDL(DL-0.005)	
15	Phenolic compounds (as C6H5OH)	mg/l	IS 3025 (Part 43) :1001	0.005	BDL(DL-0.001)	BDL(DL-0.001)	
16	Anionic Detergent	mg/l	IS 13428 : 2005 Annex K	1.0	BDL(DL-0.01)	BDL(DL-0.01)	
	Chemical Testing 2. Residues						
17	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	0.5	0.37	0.26	
18	Cadmium (as Cd)	mg/l	IS 3025 (Part 41): 1992	0.01	BDL(DL-0.001)	BDL(DL-0.001)	
19	Selenium (as Se)	mg/l	IS 3025 (Part 2): 2019	0.05	BDL(DL-0.001)	BDL(DL-0.001)	
20	Arsenic (as As)	mg/l	IS 3025 (Part 37): 1988	0.2	BDL(DL-0.001)	BDL(DL-0.001)	
21	Lead (as Pb)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.05)	BDL(DL-0.05)	
22	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	15	BDL(DL-0.05)	BDL(DL-0.05)	
23	Hexa Chromium (as Cr <sup>+6</sup> )	mg/l	IS 3025 (Part 52) :2003	1.0	BDL(DL-0.001)	BDL(DL-0.001)	
24	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994		BDL(DL-0.005)	BDL(DL-0.005)	
25	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019	-	BDL(DL-0.05)	BDL(DL-0.05)	

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only.
• Test report shall not be reproduced except in full without prior written approval of Anacon Labs. • Liability of Anacon Labs is limited to invoiced amount only. • Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. • 'mg/l' is equivalent to 'ppm'. • BDL-Below detection limit • DL- Indicates detection limit of instrument/method and shall be considered as 'absent'.

REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande

Technical Manager

C. L.

Deputy Technical Manager

Authorized Signatories

Pooja Kathane

ne Dr. (Mrs.) S.D. Garway Dr. Quality Manager

Technical Manager Q

----End of Report----

Thanks for putting in your faith and trust in our services, We at Anacon Laboratories cherish our relationship.

We put in a lot of hard work to ensure that you have a seamless experience at every step of our relationship.

in order to ensure that your next experience will be significantly better, we welcome your feedback over email on feedback@anacon.in



## Anacon Laboratories Pvt. Ltd. Nagpur Lab

Ç FP-34, 35, Food Park, Five Star Industrial Estate,
 MIDC Butibori, Nagpur, Maharashtra, India - 441 122
 ► + 91 8045685558 Email : info@anacon.in

https://www.anaconlaboratories.com

# Test Report

Test Report No. :	ALPL/31082	023/3-17 dated 31/08	/2023			Page 1 of 1
Issued To:  M/s Noamundi Iron Mines (M/s TATA Steel Limited) Noamundi, Jharkhand  Reference		Sample Inward No.	ALPL/24082023/ENV-200- SW	-1 & 2	Analysis Star	t 24/08/2023
		Inward Date	24/08/2023 W.O 4700098928/962 22.03.2022		Analysis End	31/08/2023
		Reference			Report Issue Date	31/08/2023
		Reference Date			Sample Category Water	
Sample Name	6	Sample Source	Sample Particulars	Sample Condition Q		Quantity Received
Surface Water  1.Balijhore Nallah Upstream (SW-15) 2.Balijhore Nallah Downstream (SW-16)		Sample Code-SW-1 & 2 Sealed &		& Ice Preserved 2.0 Ltr & 250 m		
Sample Collected By Sampling Date			Sampling Time	Sampling Location		_ocation
		18/08/2023	12.10 & 12.50 pm	1.Balijhore Nallah Upstream (SW-1) 2. Downstream (SW-2)		m (SW-1)

TEST RESULTS

	Test Parameter			Standards as	Test Result		
S.N.		Measurement Unit	Test Method	per IS 2296:1992 Class C	SW-1	SW-2	
I	Biological Testing 1.Water			10 Mel			
1	Colifor	MPN/100ml	IS 1622 : 1981	5000	BDL(DL-2)	BDL(DL-2)	
П	Chemical Testing 1.Water	11		10 10 ST			
2	pH value	-	IS 3025 (Part 11): 1983	6.0 to 9.0	8.21 at 25°C	7.94 at 25°C	
3	Colour	Hazen units	IS 3025 (Part·4): 2021	300	16	12	
4	Dissolved Oxygen	mg/l	IS 3025 (Part 38) :1989	4.0	6.7	6.3	
5	Total Suspended Solid (as TSS)	mg/l	IS 3025 (Part 17):1984		BDL(DL-10)	BDL(DL-10)	
6	BOD (3 days at 27°C)	mg/l	IS 3025 (Part 44) :1993	3.0	BDL(DL-2)	BDL(DL-2)	
7	Chemical oxygen demand	mg/l	IS 3025 (Part 58) :2006	-	14.6	11.9	
8	Total Dissolved Solids (TDS)	mg/l	IS 3025 (Part 16): 2023	1500	1194	953	
9	Copper (as Cu)	mg/l	IS 3025 (Part 2): 2019	1.5	BDL(DL-0.03)	BDL(DL-0.03)	
10	Chloride (as Cl)	mg/l	IS 3025 (Part 32):1988	600	56.27	48.19	
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24): 1986	400	23.58	19.57	
12	Nitrate (as NO <sub>3</sub> )	mg/l	IS 3025 (Part 34): 1988	50	12.64	9.26	
13	Fluoride (as F)	mg/l	IS 3025 (Part 60): 2008	1.5	0.57	0.48	
14	Cyanide (as CN)	mg/l	IS 3025 (Part 27): 1986	0.05	BDL(DL-0.005)	BDL(DL-0.005	
15	Phenolic compounds (as C6H5OH)	mg/l	IS 3025 (Part 43) :1001	0.005	BDL(DL-0.001)	BDL(DL-0.001)	
16	Anionic Detergent	mg/l	IS 13428 : 2005 Annex K	1.0	BDL(DL-0.01)	BDL(DL-0.01)	
	Chemical Testing 2. Residues	In Water					
17	Iron (as Fe)	mg/l	IS 3025 (Part 2): 2019	0.5	0.42	0.36	
18	Cadmium (as Cd)	mg/l	IS 3025 (Part 41): 1992	0.01	BDL(DL-0.001)	BDL(DL-0.001)	
19	Selenium (as Se)	mg/l	IS 3025 (Part 2): 2019	0.05	BDL(DL-0.001)	BDL(DL-0.001)	
20	Arsenic (as As)	mg/l	IS 3025 (Part 37): 1988	0.2	BDL(DL-0.001)	BDL(DL-0.001)	
21	Lead (as Pb)	mg/l	IS 3025 (Part 47): 2003	0.1	BDL(DL-0.05)	BDL(DL-0.05)	
22	Zinc (as Zn)	mg/l	IS 3025 (Part 2): 2019	15	BDL(DL-0.05)	BDL(DL-0.05)	
23	Hexa Chromium (as Cr <sup>+6</sup> )	mg/l	IS 3025 (Part 52) :2003	1.0	BDL(DL-0.001)	BDL(DL-0.001)	
24	Mercury (as Hg)	mg/l	IS: 3025 (Part 48): 1994	( <del>)  </del>	BDL(DL-0.005)	BDL(DL-0.005)	
25	Manganese (as Mn)	mg/l	IS 3025 (Part 2): 2019		BDL(DL-0.05)	BDL(DL-0.05)	

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only.
• Test report shall not be reproduced except in full without prior written approval of Anacon Labs. • Liability of Anacon Labs is limited to invoiced amount only. • Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. • 'mg/l' is equivalent to 'ppm'. • BDL-Below detection limit • DL- Indicates detection limit of instrument/method and shall be considered as 'absent'.

REMARKS: As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande Technical Manager

Snehal Raut
Deputy Technical Manager

**Authorized Signatories** 

Pooja Kathane Technical Manager Dr. (Mrs.) S.D. Garway Quality Manager

----End of Report----