To,

Joint Director (EZ)
Ministry of Environment, Forest & Climate Change
Eastern Regional Office
A/3- Chandrasekharpur
Bhubaneswar-751023

Ref. No.- TSL/PPA/ENV/71
Date: 24th Nov' 2025

(**Sub**: Submission of Half yearly EC Compliance report for April- September'25)

Ref. No.- : Environmental Clearance ref no.- J-13012/91/2008-IA. II (T) Dt.14.05.2010 in respect of M/s. Tata Steel Limited, Power Plant Anantapur and extension of validity of EC Ref. no.- J-13012/91/2008-IA.II(T) Dt.14.08.2015 and amendment of EC Ref. no.- J-13012/91/2008-IA.II(T) Dt.15.006.2018 & 03.07.2019.

Dear Sir,

We are submitting herewith the half yearly compliance report of the EC conditions for April- September'25 in respect of 135 (2 x 67.5) MW Captive Power Plant of M/s. Tata Steel Limited, Power Plant Athagarh.

Status of the EC compliance is being uploaded in the Ministry's Portal and sent through E-mail and the hard copies by person/ Speed post.

This is for your kind perusal.

Thanking you,

Yours faithfully.

For Tata Steel Limited
Power Plant Athagarh

TATA STEEL LIMITED (POWER PLANT, ATHAGARH)

Authorised Signatory
Debasish Pattnaik

Encl : As above

Copy to:

i). Director, Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhavan, Jorbagh Road, New Delhi - 110 003
ii) Member Secretary, Central Pollution Control Board, Parivesh Bhawan, CBD cum Office Complex, East Arjun Nagar, Delhi-110032
iii). Member Secretary, State Pollution Control Board, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-8, Bhubaneswar
iv). Regional Officer, State Pollution Control Board, 586, Surya Vihar, Link Road, Cuttack, Odisha

GOVT. OF INDIA
MoEF & CC Integrated R.O.
Bhubaneswar-751023
22 DEC 2025
RECEIVED

TATA

To,

Joint Director (EZ)
Ministry of Environment, Forest & Climate Change
Eastern Regional Office
A/3- Chandrasekharpur
Bhubaneswar-751023

Ref. No.- TSL/PPA/ENV/71
Date: 24th Nov' 2025

(**Sub**: Submission of Half yearly EC Compliance report for April- September'25)

Ref. No.- : Environmental Clearance ref no.- J-13012/91/2008-IA. II (T) Dt.14.05.2010 in respect of M/s. Tata Steel Limited, Power Plant Anantapur and extension of validity of EC Ref. no.- J-13012/91/2008-IA.II(T) Dt.14.08.2015 and amendment of EC Ref. no.- J-13012/91/2008-IA.II(T) Dt.15.006.2018 & 03.07.2019.

Dear Sir,

We are submitting herewith the half yearly compliance report of the EC conditions for April- September'25 in respect of 135 (2 x 67.5) MW Captive Power Plant of M/s. Tata Steel Limited, Power Plant Athagarh.

Status of the EC compliance is being uploaded in the Ministry's Portal and sent through E-mail and the hard copies by person/ Speed post.

This is for your kind perusal.

Thanking you,

Yours faithfully.

TATA STEEL LIMITED (POWER PLANT, ATHAGARH)

For Tata Steel Limited
Power Plant Athagarh
Authorised Signatory
Debasish Pattnaik

Encl : As above

No.....Dt.....
S.P.C. BOARD
BHUBANESWAR
Received

Copy to:

i). Director, Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhavan, Jorbagh Road, New Delhi - 110 003
ii) Member Secretary, Central Pollution Control Board, Parivesh Bhawan, CBD cum Office Complex, East Arjun Nagar, Delhi-110032
iii). Member Secretary, State Pollution Control Board, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-8, Bhubaneswar
iv). Regional Officer, State Pollution Control Board, 586, Surya Vihar, Link Road, Cuttack, Odisha

To,

Joint Director (EZ)
Ministry of Environment, Forest & Climate Change
Eastern Regional Office
A/3- Chandrasekharpur
Bhubaneswar-751023

Ref. No.- TSL/PPA/ENV/71
Date: 24th Nov' 2025

(**Sub**: Submission of Half yearly EC Compliance report for April- September'25)

Ref. No.- : Environmental Clearance ref no.- J-13012/91/2008-IA. II (T) Dt.14.05.2010 in respect of M/s. Tata Steel Limited, Power Plant Anantapur and extension of validity of EC Ref. no.- J-13012/91/2008-IA.II(T) Dt.14.08.2015 and amendment of EC Ref. no.- J-13012/91/2008-IA.II(T) Dt.15.006.2018 & 03.07.2019.

Dear Sir,

We are submitting herewith the half yearly compliance report of the EC conditions for April- September'25 in respect of 135 (2 x 67.5) MW Captive Power Plant of M/s. Tata Steel Limited, Power Plant Athagarh.

Status of the EC compliance is being uploaded in the Ministry's Portal and sent through E-mail and the hard copies by person/ Speed post.

This is for your kind perusal.

Thanking you,

Yours faithfully.

For Tata Steel Limited
Power Plant Athagarh

TATA STEEL LIMITED POWER PLANT, ATHAGARH

Authorised Signatory
Debasish Pattnaik

Encl : As above

Copy to:

i). Director, Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhavan, Jorbagh Road, New Delhi - 110 003
ii) Member Secretary, Central Pollution Control Board, Parivesh Bhawan, CBD cum Office Complex, East Arjun Nagar, Delhi-110032
iii). Member Secretary, State Pollution Control Board, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-8, Bhubaneswar
iv). Regional Officer, State Pollution Control Board, 586, Surya Vihar, Link Road, Cuttack, Odisha

Sailashree Vihar S.O (751021) Counter No: 1
SP-D ED835866132IN IVR:69798358661 32
23-12-2025 11:34:39,208(Actual)gms,
To: MEMBER SEC CENTRAL POLLUTION CONTROL BOARD PA
Shahdara SO, DELHI - 110032
From:TATA STEEL LTD-751031
(Base:72.00)

Track@ www.indiapost.gov.in Dial-18002666868

Sailashree Vihar S.O (751021) Counter No: 1
SP-D ED835866146IN IVR:69798358661 46
23-12-2025 11:35:43,204(Actual)gms,
To: DIR MINISTRY OF ENV FOREST AND CLIMATE CHANGE
Lodi Road HO, DELHI - 110003
From:TATA STEEL LTD-751031
(Base:72.00)

Track@ www.indiapost.gov.in Dial-18002666868

Booking Ref.ID: 266602862312258 3411
GSTIN:21AAACB0281M1ZT,Article Count: 2
Total Base Tariff: 144
Total CGST: 13 Total SGST: 13

Net Amount: 170, 23-12-2025 11:34:39
Track @ www.indiapost.gov.in

o/c

TATA

To,

Joint Director (EZ)
Ministry of Environment, Forest & Climate Change
Eastern Regional Office
A/3- Chandrasekharpur
Bhubaneswar-751023

Ref. No.- TSL/PPA/ENV/71
Date: 24th Nov' 2025

(**Sub**: Submission of Half yearly EC Compliance report for April- September'25)

Ref. No.- : Environmental Clearance ref no.- J-13012/91/2008-IA. II (T) Dt.14.05.2010 in respect of M/s. Tata Steel Limited, Power Plant Anantapur and extension of validity of EC Ref. no.- J-13012/91/2008-IA.II(T) Dt.14.08.2015 and amendment of EC Ref. no.- J-13012/91/2008-IA.II(T) Dt.15.006.2018 & 03.07.2019.

Dear Sir,

We are submitting herewith the half yearly compliance report of the EC conditions for April- September'25 in respect of 135 (2 x 67.5) MW Captive Power Plant of M/s. Tata Steel Limited, Power Plant Athagarh.

Status of the EC compliance is being uploaded in the Ministry's Portal and sent through E-mail and the hard copies by person/ Speed post.

This is for your kind perusal.

Thanking you,

Yours faithfully.

For Tata Steel Limited
Power Plant Athagarh

TATA STEEL LIMITED POWER PLANT, ATHAGARH

Debasish Pattnaik

Authorised Signatory
Debasish Pattnaik

Encl : As above

Copy to:

i). Director, Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhavan, Jorbagh Road, New Delhi - 110 003
ii) Member Secretary, Central Pollution Control Board, Parivesh Bhawan, CBD cum Office Complex, East Arjun Nagar, Delhi-110032
iii). Member Secretary, State Pollution Control Board, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-8, Bhubaneswar
iv). Regional Officer, State Pollution Control Board, 586, Surya Vihar, Link Road, Cuttack, Odisha

Compliance report to the conditions imposed in the Environmental Clearance No. J-13012/91/2008-IA. II (T) Dt.14.05.2010 and Extension of validity upto 13.05.2017 which was recommended by EAC in their 36th meeting held during 19th &20th May 2015 vide No.- J-13012/91/2008-IA.II(T) Dt.14.08.2015.

Sl. No.	CONDITIONS	COMPLIANCE STATUS
i)	Environmental Clearance is subject to obtaining prior clearance from the National Board of Wildlife under the wildlife (Protection) Act. 1972	Clearance from the National Board of Wildlife obtained and submitted to MoEF vide letter ref. no.: BPPL/MoEF/F-001/01/189/2012-2013 Dt.18.09.2012.
ii)	Wildlife Conservation Plan prepared shall be implemented in consultation with the office of the Chief Wildlife warden and fund earmarked for the same shall not be diverted. The status of the implementation shall be submitted to the Regional office of the Ministry from time to time	Approval obtained for Wildlife Conservation Plan from Office of The Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden, Odisha vide no.6184/1WL-SSP-159/2015, Dt.14.07.2015. Rs.3.03 Crores has been deposited with the Principal Chief Conservator of Forests (Wildlife) Odisha for implementation of the plan as per approval.
iii)	Existing water bodies such as ponds shall not be disturbed, and it shall be ensured that measures to regenerate water bodies in the area is undertaken and report submitted to the Regional office of the ministry and the competent Authority in the state government	No water bodies such as Ponds, ditches are existing within our plant premises, also we did not disturb any waterbody near to our Plant. Moreover we have implemented Rainwater harvesting structure inside our Plant for groundwater recharge and regeneration of water bodies.
iv)	COC of 5.0 shall be adopted. No ground water shall be extracted for use in operation of the power plant even in lean season. No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the setting up / operation of the power plant.	COC of 5.0 has been adopted in designing cooling water system. No water body has been disturbed during setting up our of Plant. Also no groundwater is being used for plant activities.
v)	Detailed hydro-geological study shall be conducted from an institute / organization of repute to assess impact of surface water regime and submitted within six months. Specific mitigation measures shall be spelt out and action plan for implementation of the same shall be provided. It shall be ensured that the area drainage is not disturbed due to the proposed power plant. Hydro-geological study of the area shall be also reviewed annually and results submitted to the Ministry and concerned agency in the state Govt. In case adverse impact on ground water quantity and quality is observed at any stage, immediate mitigating steps to contain any adverse impact on ground water shall be undertaken.	Hydro-geological study has been prepared; Groundwater level and quality are monitored as a part of above study. Latest report on Water quality and water level of the ground regime is attached as per **Annexure-I.** Regular monitoring of water quality is carried out and the results are found well within the norms and are being submitted to SPCB on 1st week of every month. We ensure that natural drainage is disturbed due to plant activities.

vi)	Source of water for meeting the requirement during lean season shall be specified and submitted to the Regional office of the Ministry within three months	Water management Plan has been submitted to MoEF vide letter no. BPPL/MoEF/ F-001/ 01/147/2010-2011, Dt. 05.08.2010. Water requirement for the Plant operation is met from river Mahanadi, with the permission obtained from Water resource Dept. Govt. of Odisha for drawl quantity of 5.4 Cusec.
vii)	The treated effluent conforming to the prescribed standards only shall be recirculated and reused within the plant. There shall be no discharge outside the plant boundary except during monsoon. Arrangements shall be made that effluents and storm water do not get mixed. A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt / plantation	The plant is Engineered on "Zero Effluent Discharge concept". Storm water drainage system is separate from effluent system. There is no mixing of effluent and storm water. Sewage Treatment Plant of capacity 16 KLD is in place for treatment of sewage. Treated sewage is being used for raising greenbelt/ plantation. Treated water from Coal run-off system is utilized for dust suppression. Monthly analysis report of ETP & STP are submitted to OSPCB are attached as per **Annexure II.**
viii)	Regular monitoring of ground water levels shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for heavy metals (Hg, Cr, As, Pb) and records maintained and submitted to the regional office of this ministry. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.	Piezo meter installed. Ground water quality is being monitored and analyzed for the heavy metals (like Hg, Cr, As, Pb etc.) in every season. The results are compared with the earlier data and are found well within the norms. Reports are submitted to Regional Office of MoEF along with the compliance report. Groundwater level is monitored for every season (Pre-monsoon, Monsoon, Post-monsoon & Winter) is reported to Regional Office of Ministry. Monitoring report is attached as per **Annexure-I**
ix)	Monitoring of surface water quality shall be regularly conducted and records maintained. The monitored data shall be submitted to the ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall be undertaken.	Regular surface water quality for River Mahanadi & Sapua are being conducted and test report are submitted to OSPCB & Regional Office of MoEF & CC on monthly basis. Samples collected from the test wells and analysed for the heavy metals like Hg, Cd, Zn, Cr^{+6}, As etc. and are found well within the norms. The reports (Apr-Sept'25) are enclosed as per **Annexure-III.**
x)	Additionally soil for leveling of the proposed site shall be generated within the site (to the extent possible) so that natural drainage system of the area is protected and improved.	Complied. Soil generated within the site has been used for leveling.
xi)	Provision for installation of FGD shall be made. High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg / Nm3. Adequate dust extraction system such as cyclones/bag filters and water spray system in dusty areas such as in coal handling and ash	Complied. ESPs (12 Fields) with emission level of less than 50 mg/Nm^3, DE System with Bag filters, DS systems and Dry fog systems for CHP are installed, commissioned and are in operation. Presently these are running in good condition.

<table>
<tr><td></td><td>handling points. Transfer areas and other vulnerable dusty areas shall be provided. A stack 130 mt with flue gas velocity of 22 m/s shall be installed.</td><td>130 mt twin flue stack with flue gas exit velocity of not less than 22 m/sec is in place.</td></tr>
<tr><td>xii)</td><td>Utilization of 100% Fly ash generated shall be made from 4th year of operation of the plant. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.</td><td>Fly ash generated from the plant is supplied to the nearby brick manufacturing units from the date of its commercial operation for optimum utilization to meet the guidelines. 100% Ash utilization is achieved by supplying ot Brick Plants, NH Construction projects and Cement Plants. Data is audited by engaging CPCB approved Auditor/s and annual fly ash implementation report is submitted to OSPCB, CPCB, CEA, MoEF & CC.

Ash generation Vs Utilization data for April-Sept'25 is given as per the below Table.
<table>
<tr><th>Month</th><th>Ash generation (Metric Tons)</th><th>Ash utilization (Metric Tons)</th><th>Utilization (%)</th></tr>
<tr><td>Apr-25</td><td>27599.0</td><td>32795.00</td><td>118.83</td></tr>
<tr><td>May-25</td><td>26258.0</td><td>26203.00</td><td>99.79</td></tr>
<tr><td>Jun-25</td><td>15006.0</td><td>14508.00</td><td>96.68</td></tr>
<tr><td>Jul-25</td><td>14200.0</td><td>14024.00</td><td>98.76</td></tr>
<tr><td>Aug-25</td><td>20943.0</td><td>20821.00</td><td>99.42</td></tr>
<tr><td>Sept-25</td><td>30914.0</td><td>30173.70</td><td>97.61</td></tr>
<tr><td colspan="4">Overall Utilization (H1) : 102.67%</td></tr>
</table></td></tr>
<tr><td>xiii)</td><td>The proponent shall upload the status of compliance of the stipulated EC conditions including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF. The respective Zonal office of CPCB and the SPCB. The criteria pollutant levels namely SPM, RSPM ($PM_{2.5}$ & PM_{10}), SO_2, NOx (ambient levels as well as stack emissions) shall be displayed at a convenient location near the main gate of the company in the public domain.</td><td>EC compliance status along with the monitoring result is submitted to MoEF & CC, CPCB & OSPCB; also is uploaded in the Company website periodically.

Online continuous stack monitoring system is in place for monitoring the parameters like PM, SO_2 & NOx.

4 nos. of Continuous Online Ambient Air Quality Monitoring Stations for the parameters like PM_{10}, $PM_{2.5}$, SO_2, NOx & CO are in place; uninterrupted real time data of CAAQMS & CEMS are being transmitted to the OSPCB & CPCB Servers.

Monitoring of Ambient air quality, stack emission, water & effluent quality is being carried out regularly and analysis reports are submitted at OSPCB on monthly basis. Summarized monitoring data is being displayed at the main gate of the Plant.</td></tr>
<tr><td>xiv)</td><td>Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry form. Mercury and other heavy metals (As, Hg, Cr, Pb, etc) will be monitored in the bottom ash also in the effluents emanation from the existing ash pond. No ash shall be disposed off in low lying area.</td><td>We are disposing off/ dumping Fly ash in case of Truckers Strike or any disturbance which are rare and remote, in the existing ash pond temporarily.
Ash is dumped with >25% moisture to mitigate or avoid any fugitive dust emission.

No ash is disposed in the Low-lying areas.

Mercury and other heavy metals (As, Hg, Cr, Pb, etc) are monitored in the bottom ash and in the effluent of the existing ash pond.</td></tr>
</table>

		We ensure for no emanation of effluent from the ash dyke area at any point of time.
xv)	Ash pond shall be lined with HDP/LDP lining or any other suitable impermeable media such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.	Complied. LDPE lining has been provided in the Ash Dyke area.
xvi)	For disposal of Bottom ash in abandoned in mines (if proposed to be undertaken) it shall be ensured that the bottom and sides of the mined out areas are adequately lined with clay before Bottom Ash is filled up. The project proponent shall inform the State pollution Control Board well in advance before undertaking the activity.	Noted; With prior approval from OSPCB as per the prevailing guideline of MoEF & CC
xvii)	Rainwater harvesting should be adopted. Central groundwater Authority / Board shall be consulted for finalization of appropriate rainwater harvesting technology within a period of three months from the date of clearances and details shall be furnished.	Scheme has been prepared in consultation with Central Ground Water Authority. Details submitted to the Director, MoEF, New Delhi vide Ref. No.- BPPL/MoEF/F-001/01/ 154/2010-2011 Dt.28.08.2010. Rainwater harvesting system constructed with immediate effect with harvesting pond with a holding capacity of 6000 m^3.
xviii)	Greenbelt consisting of 3 tiers of plantations of native species around plant and at least 100 m width shall be raised. Wherever 100 m width is not feasible a 50 m width shall be raised and adequate justification shall be submitted to the ministry. Tree density shall not less than 2500 per Ha with survival rate not less than 70%	Developed greenbelt with predominant native species of a tree density of 2500 per Ha. 3 tier plantation has been developed at several patches, depending upon the space availability. Till date more than 69000 greenbelt has been developed and maintained with a survival rate of more than 90% by engaging dedicated Horticulture team.
xix)	Two nearest village shall be adopted and basic amenities like development of roads, drinking water supply, primary health centre, primary school etc. shall be developed in co-ordination with the district administration.	Power Plant Athagarh, M/s. Tata Steel Limited is dedicated to provide the basic amenities like development of roads, street lights, drinking water, education, supporting medical assistance in respect of providing medical equipment in the nearby Govt. Hospitals, tree plantation, imparting training at villages-Anantapur, Dhurusia, Nuasahan, Berhampur for income generation in coordination with Dist. Admistration. During last 5 years, an amount of Rs. 381.26 Lakhs is spend for peripheral development activities in co-ordination with Dist. Administration, Cuttack. Tata Steel Foundation is closely associated towards these activities as CSR program.
xx)	Local employable youth shall be trained in skills relevant to the project for eventual employment in the project itself. The action taken report and details thereof to this effect shall be	About 250 local people from the nearby villages like Anantapur, Dhurusia, Bhuinberai, Nuasashan, Berhampur, Gajamba, Kakhadi, Katakiasahi are employed after basic training during construction phase in different trades and are being engaged for commissioning and operation period.

<table>
<tr><td></td><td>submitted to the Regional Office of the Ministry and the State Govt. concerned from time to time.</td><td></td></tr>
<tr><td>xxi)</td><td>The project proponent shall also adequately contribute in the development of the neighboring villages. Special package with implementation schedule for providing fluoride free potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner</td><td>CSR initiatives are being undertaken by TSF (Tata Steel Foundation) and various infrastructural development activities are taken up after detailed study on Socioeconomic conditions around the plant location like:
Income generation
Skill update
Market linkage
Employment linkage
Snitation
Healthcare
Education
Extensive Greenbelt development
A sum of expenditure of Rs. 381.26 Lacs has been made during last 5 years (FY:21-25) for above CSR activities.</td></tr>
<tr><td>xxii)</td><td>A good action plan for R&R (if applicable) with package for the project affected persons be submitted and implemented as per prevalent R&R policy within three months from the date of issue of this letter.</td><td>No displacement is involved. Hence R&R is not applicable.</td></tr>
<tr><td>xxiii)</td><td>An amount of Rs. 2.5 Crores shall be earmarked as one time capital cost for CSR programme. Subsequently a recurring expenditure of Rs. 0.5 crore per annum shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted within one month along with road map for implementation</td><td>Provision is made and being complied.
The details of CSR activities submitted to MoEF vide letter no. BPPL/MoEF/F-001/01/ 136/2010-2011, Dt.11.06.2010. CSR works are being taken up in a phased manner.
CSR Expenditure of Power Plant Athagarh for the last five years 2021-2025<table><tr><td>Year</td><td>Amount in Rs. Lakhs</td></tr><tr><td>FY25</td><td>104.81</td></tr><tr><td>FY24</td><td>98.71</td></tr><tr><td>FY23</td><td>80.68</td></tr><tr><td>FY22</td><td>67.14</td></tr><tr><td>FY21</td><td>29.92</td></tr></table></td></tr>
<tr><td>xxiv)</td><td>While identifying CSR programme the company shall conduct need based assessment for the nearby villages to study economic measures with action plan which can help in upliftment of poor section of society. Income generating projects consistent with the traditional skills of the people besides development of fodder farm, fruit bearing orchards, vocational training etc can form a part of such programme. Company shall provide separate budget for community development activities and income generating programmes. This will be in addition to vocational training for individuals imparted to take up self-employment and jobs.</td><td>Socio Economic Study has been completed. The suggestion of Socio-Economic Study is integrated with CSR program and submitted to Dist. Administration for approval.
For encouraging self-employment many job contract are given to local villagers.
Skill development programs like development of fodder farm, fruit bearing orchards, vocational training etc are conducted by TSF for community development activities and income generation of local villages.</td></tr>
</table>

xxv)	It shall be ensured that in-built monitoring mechanism for the schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time.	CSR works are being taken up in a phased manner. The status of the implementation also being submitted time to time. We are also adhering the CSR Guidelines as per the Company Act-2014 and Company Act amendment 2020. Tata Steel Foundation (TSF) has been assigned with the responsibility for conducting the Social Audit and implementation of the scheme time to time.
xxvi)	Adequate safety measures shall be provided in the plant area to check / minimize spontaneous fires in coal yard, especially during summer season. Copy of these measures with full details along with location plant layout shall be submitted to the Ministry as well as to the regional office of the Ministry.	Water spray system and fire hydrants are provided in Coal stock yard and are in operation. Deployment of Security all around the Clock at the coal yard site as precautionary Safety / Security measure. Copy of the approved plant layout, depicted with arrangement of Fire Hydrant line all around the Coal yard is attached as per **Annexure-IV**
xxvii)	Storage facilities for auxiliary liquid fuel such as LDO and HFO/LSHS shall be made in the plant area in consultation with Department of Explosives, Nagpur, Sulphur content in the liquified fuel will not exceed 0.5. Disaster Management plan shall be prepared to meet any eventually in case of an accident taking place due to storage of oil.	For Storage of LDO Petroleum Class-C storage License has been obtained from Petroleum & Explosive Safety Organization (PESO), Nagpur vide ref. no. P/HQ/OR/15/1172 (P326589), Dt. 23.02.2015; and amended renewed License vide Letter no.-P/HQ/OR/15/1172 (P326589), Dt. 24.11.2023 and valid till Dt. 31.12.2033. We ensure to use low Sulphur (<0.5%) content LDO / Fuel for our Plant requirement. Disaster Management plan is prepared and approved by Director of Factories, Govt. of Odisha.
xxvii i)	First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Temporary facilities like rest shelter, toilets, First aid Center were developed during construction phase. Eventually permanent infrastructures like First Aid Center with adequate paramedical staff round the clock, adequate nos. of toilets, washrooms, restrooms with drinking water facility, parking area at 4 locations, Safety training Center etc. has been provided in operational period and are in use.
A. GENERAL CONDITIONS		
i)	Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 75 dBA. For people working in the high noise area, requisite personal protective equipment like ear plugs/ ear muffs etc., shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc. shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non- noisy / less noisy areas	Compressors and Emergency Diesel Set are installed with acoustic enclosure to limit the noise level within the prescribed limit. However, earplugs / ear-muffs are provided and ensured for its usage to the workers engaged at noisy areas. Periodic medical examination (PME) is being conducted to every worker in every year. Noise monitoring report is enclosed as per **Annexure-V.**
ii)	Regular monitoring of ground level concentration of SO_2, NOx, $PM_{2.5}$ & PM_{10} and Hg shall be carried out in the impact zone and records maintained, If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided	Monitoring of Ambient air quality wrt. PM_{10}, $PM_{2.5}$, SO_2, NOx & CO and Stack emission for the parameters like PM (Particulate Matter), SO_2, NOx & Hg is being carried out every month in consultation with SPCB. All the test results are found well within the norms. Monitoring reports are being submitted to SPCB every month and once in six months to the MoEF & CC along with the compliance report. Monitored result along

	immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the regional office of this Ministry. The data shall also be put on the website of the company.	with the Half yearly compliance reports are being uploaded in our company's website.
iii)	The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Board / Committee and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in	Published in English daily (The Indian Express - 21.05.2010 Page no.5) and Odiya daily (The Samaya - 22.05.2010 Page no.7)
iv)	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad / municipal corporation, Urban local body and the local NGO. If any, from whom suggestions / representations, if any, received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	Directive complied.
v)	A separate Environment Management Cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards	As a part of corporate responsibility and in order to manage the day-to-day environmental management practices, Power Plant Athagarh has developed a permanent organizational set up charged with the task of ensuring effective implementation of all identified Environmental pollution mitigation measures. Conscious to this, Plant has created an Environmental Management Cell (EMC) under the leadership of Sr. Manager-Environment, Safety & Stainability along with a subordinate and Horticulture staff to coordinate the activities concerned with the management and implementation of environmental pollution control measures. A well-documented system has also been developed to monitor and control environmental pollution.
vi)	The Project proponent shall also submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored data (both in hard copies as well by e-mail) to the respective Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB.	Six monthly reports are submitted regularly to Regional Office of MoEF & CC, CPCB, SPCB by E-mail and hard copy of the compliance by speed post. Updated compliance is uploaded in the web portal of MoEF & CC and compliance report is uploaded in the Company website.

vii)	The Environment statement for each financial year ending 31st March in Form V is mandated to be submitted by the project proponent to the concerned State Pollution Board as prescribed under the Environment (Protection) Rules, 1986 as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of the ministry by e-mail.	Annual Environmental Statement (**Form-V**) for FY 2024-25 vide our letter no.- TSL/PPA/ENV/12, Dt. 02.09.2024 has been submitted at State Pollution Control Board, Odisha and Regional Office, MoEF & CC, Bhubaneswar is enclosed as per **Annexure- VI.**
viii)	The Project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its regional office, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environmental clearance conditions on their website and update the same periodically and simultaneously send the same by e-mail to the Regional Office, Ministry of Environment and Forests	Six monthly status of implementation is being submitted regularly to the Regional Office of MoEF & CC, CPCB, SPCB by E-mail and hard copies also being submitted through Speed-post. Compliance report is being uploaded in company's website. Updated compliance is also being uploaded in the web portal of MoEF & CC.
ix)	Regional Office of the Ministry of Environment & Forests will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring Project proponent will up-load the compliance status in their website and update the same from time to time at least six monthly basis. Criteria pollutants levels including NOx (From stack & ambient air) shall be displayed at the main gate of the power plant.	A set of documents was submitted to Regional Office, Bhubaneswar and Status are being sent to Regional Office regularly. Compliance report of Half Yrly. Env. Clearance is uploaded in company's website. Criteria of Pollutants Level is displayed at main gate of the Plant.
x	Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-	Total allocated amount of Rs. 64.97 Crores for environmental protection measures has been implemented. Annual operation & maintenance expenditure is estimated to be Rs. 70 Lacs per Annum.

	wise expenditure should be reported to the Ministry.	
xi)	The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the dates of start of land development work and commissioning of plant.	Submitted to MoEF & Regional Office vide letter ref.no. BPPL/F-01/01/297 Dt. 22.08.2013.
xii)	Full cooperation shall be extended to the Scientists / Officers / CPCB/ SPCB who would be monitoring the compliance of environmental status	Noted and strictly adhered to
xiii)	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc., The housing may be in the form of temporary structures to be removed after the completion of the project.	All the basic amenities was being provided to the workmen during project construction phase; Project construction activity has been completed during 2016.
Extension of validity of EC No. J-13012/91/2008-IA.II(T) Dt.14.08.2015		
1	As committed, the projects worth of Rs.2.5 cores (one time capital investment) to be taken up under the CSR activities will be finalised with the District Authorities and Rehabilitation & Peripheral Development Advisory Committee (RPDAC) and shall be implemented within the next one year.	CSR works are being taken up in a phased manner. The status of the implementation also being submitted time to time. We are also adhering the CSR Guidelines as per the Company Act-2014 and Company Act amendment 2020.
2	As committed, the greenbelt development shall be taken up immediately and plant one lakh saplings within the next one year.	Adequate greenbelt of more than 69000 has been developed with a tree density of 2500 per Ha. Varieties of predominant local species are selected for a better survival by engaging a dedicated Horticulture team to take necessary care of the greenbelt.
3	Harnessing solar power within the premises of the plant particularly at available rooftops shall be carried out and status of implementation including actual generation of solar power shall be submitted along with half-yearly monitoring report.	We have installed Solar Power system on the roof top of our First Aid Centre and it has been synchronized with existing GRID system and now in operation. Solar Power generation for Apr-Sept'25 is enclosed as per **Annexure-VII.** Additionally 50 KW Solar Power station has installed at the Plant Admn. Building and commissioned on Sept'2025.
4	A long-term study of radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute and results thereof analyzed every two year and reported along with monitoring reports. Thereafter mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly	Storm water / Coal leachate collected into the coal run-off system during monsoon is tested for the Heavy metals and Radioactive elements. We are process for developing In-built continuous mechanism for measuring the radio activity and heavy metals contents on coal.

	ash (including bottom ash) shall be put in place.	
5	Fugitive emissions shall be controlled to prevent impact on agricultural or non-agricultural land. In case of any proven damage to agricultural land/crop, necessary compensation shall be paid by the PP.	Fugitive emission is being taken care of. Adequate nos. of dust suppression, Dry fog, fixed type water sprinklers and dust extraction system has been provided at coal yard, Ash dyke, CHP, Ash Silo, Haul road and Junction houses. Regular water sprinkling is being carried out along the internal roads to suppress the road dust emission. Also we have installed 2 nos. of mechanized wheel washing systems at entry/ exit gate of coal yard and along the Haul road near Silo to washout the accumulated coal / ash dust over the wheels of the trucks/ Bulkers exiting from the Plant; which prevent further carryover of dust, due to vehicle movement along the haul road. We have installed 2 nos. of mist canon at the coal stackyard by replacing with the fixed type water sprinklers for effective & efficient dust suppression and optimizing water usage.
6	Greenbelt shall also be developed around the Ash Pond over and above the Greenbelt around the plant boundary.	Greenbelt has been developed around the ash dykes and also the vacant area available along the Plant boundary for abatement of pollution.
7	An Environmental Cell comprising of at least one expert in environmental science/engineering, ecology, occupational health and social science, shall be created preferably at the project site itself and shall be headed by an officer of appropriate superiority and qualification. It shall be ensured that the Head of the Cell shall directly report to the Head of the Plant who would be accountable for implementation of environmental regulations and social impact improvement/mitigation measures.	Environment cell has been created at the site assigned with the charge of Head-Environment & Sustainability, who is directly reporting to Plant Head to accomplish his job smoothly.
8	For proper and periodic monitoring of CSR activities, a CSR committee or a Social Audit committee or a suitable credible external agency shall be appointed. CSR activities shall also be evaluated by an independent external agency. This evaluation shall be both concurrent and final.	CSR activities are being implemented by TSF in coordination of District Authority and the same is being regularly reviewed by the Collector, Cuttack. Power Plant Athagarh has undertaken different CSR activities in collaboration with Tata Steel Foundation in financial year 2024-25 under different sectors as per the Companies Act 2013. CSR activities are being implemented by the Company and regularly reviewed, monitored by the District Authority, Cuttack. The Company has its CSR Committee constituted at Board level who oversees and supervises the CSR activities as approved. Further BPPL has amalgamated into and with Tata Steel Limited (TSL) from 1st July, 2024 and now BPPL as a separate entity does not exist. While saying this, this division has become a part of Tata Steel Group and the CSR requirement of whole TSL group is being undertaken through Tata Steel Foundation.

		Last review meeting was conducted on Dt. **24.10.2025.** Tata Steel Foundation is working for the projects like 1. Rural development CSR project 2. Education 3. CSR project through Tata Steel Foundation 4. Healthcare 5. Climate Resilient Agriculture & Water management projects 6. Infrastructure development 7. Income generation 8. Skill update 9. Sanitation 10. Extensive greenbelt development In addition to the above CSR projects, the Company has planned to undertake different CSR activities under the empaneled sectors under Companies Act 2013. We are also adhering the CSR Guidelines as per the Company Act-2013 and Companies (Corporate Social Responsibility) Rules, 2014 and Company Act amendment 2020.
9	The project proponent shall formulate a well laid Corporate Environment Policy and identify and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with the conditions stipulated in this clearance letter and other applicable environmental laws and regulations.	Corporate Environment Policy has been formulated and in implementation. All the statutory compliances are being addressed as per the Industrial standard and are being monitored, reviewed and documented time to time by the Environment Management Cell (EMC). Maximum efforts are being taken for conservation of natural resources and better performance for environmental practices in line with the Environmental laws and regulations.
Amendment of EC No.J-13012/91/2008-IA.II(T) Dt.23.12.2015		
10	Prior requisite approvals from the concerned State Authorities especially the PWD; shall be obtained.	We have obtained necessary approvals for coal transportation by road from PWD.
11	Adequate road safety measures shall be provided for pedestrians and specially for students near Schools. This should be done in consultation and approval of authorities concerned.	Adequate road safety measure are being taken all the time by engaging Security personnel at all the junctions and road crossings as a traffic control measure. About 74 nos. of streetlights were installed for better illumination. No entry timings are being followed during the busy hours like School timing hours. this is done in consultation and with prior approval from the local Dist. Administration.
12	Monitoring of Air Pollution and noise shall be carried out at least once in a month and submitted to Ministry's R.O and SPCB.	Air quality monitoring is being carried out at 3 different locations along the Coal transportation road at least in every month and reports are being submitted to SPCB & Regional Office of MoEF & CC every month. Acknowledgement of the letter is attached herewith as per **Annexure-VIII.**
13	The transportation by road shall be through mechanically covered trucks to the extent possible, else through trucks covered by tarpaulin.	Always ensured to make all our material transportation is carried out through the tarpaulin covered trucks. Proper surveillance is carried out by us all the time.
14	Explore the possibility of upgrading road shoulders into pukka road in consultation with State Government.	We are maintaining the coal transportation road on regular basis; and deposited Rupees 3.50 Crores with State Govt. for upgrading into pucca road. Also, we take care of regular maintenance of the road to a greater possible extent on a priority basis.
15	Periodic maintenance of the road shall be done by the project proponent at its own	We are regularly inspecting and monitoring the road condition and traffic management by posting the Security personnel at the road

	expenses and shall also facilitate the traffic control on the road in consultation with the State Govt.	crossing areas to control the traffic. Regular maintenance of the road is being carried out; and repairing of the same is done on a priority basis. For any major road repair requisite amount is deposited with the State Govt. for repair/ construction.
16	Avenue Plantation of 2/3 rows all along the road shall be carried out by the project proponent at its own expenses in consultation with State Government.	Avenue plantation of 2300 trees (with 2 rows) along the Coal transportation road has been developed. Additionally, we are planning for planting more 2000 greenbelt along the coal transportation route in FY 26 as an avenue plantation measure.
17	The Project proponent shall advertise in the local leading newspapers and place on the website, the temporary permission so accorded by the Ministry for public information.	We have released advertisement in local newspapers both in Odia and English for grant of permission for coal transportation by road for a temporary permission accorded from Ministry of Environment Forest and Climate Change.
Amendment of EC No.J-13012/91/2008-IA.II(T) Dt.15.06.2018		
18	Local plant species shall be planted as a part of greenbelt development	Plantation is being carried out with predominant local species in consultation with Forest Department, Govt. of Odisha
19	Avenue plantation and regular water sprinkling shall be made along the road as coal is transported by road	Avenue plantation of 2300 trees (with 2 rows) along the Coal transportation road has been developed. Additionally, we are planning for planting more 2000 greenbelt along the coal transportation route in FY 25-26 as an avenue plantation measure. Regular water sprinkling along the road is being carried out as a dust suppression measure.
20	Revised emission norms dated 07.12.2015 and amendments issued time to time shall be achieved.	Complied; and strictly adhered to.
Amendment of EC No. J-13012/91/2008-IA. II(T) Dt.03.07.2019		
21	The soft copy of traffic impact assessment study report is to be uploaded on the Ministry's website as well as Company's website	Soft copy of the Traffic impact study has been uploaded on the website of MoEF & CC on Dt. 06.06.2019.
22	The conditions stipulated in Ministry's Show cause withdrawal letter dated 16.04.2019 shall be complied with: 1. Avenue plantation along the total length of the route (Talcher-97 km) shall be developed in consultation with Social Forestry Department and the custodian of the road (NHAI/ PWD). The expenses for plantation, protection and maintenance for five years shall be borne by the M/s. Bhubaneshwar Power Pvt. Ltd. For the selection of the species, number of species in a specific length, technical guidance for maintenance, Social Forestry Department shall be consulted.	A survey was conducted by Power Plant Athagarh along the coal transportation route of 97km from Plant to MCL, Talcher. At present 4 laning of the road construction work i.e. soil cutting, filling, laying WBM & concreting is going on at several patches; almost 95 % of the stretch has been completed and is in use. Remaining work is under progress. We had a discussion with PCCF, Govt. of Odisha regarding the action plan for implementation of greenbelt development as directed by MoFF & CC. In this context, Additional PCCF, had directed to DFO, Angul to find out the availability of land along the coal transportation route for developing avenue plantation; since the plantation along the newly constructed NH-55 is coming under the purview of NHAI Project. DFO, Angul had requested to NHAI Authorities to provide, land details for creating avenue plantation. Accordingly, NHAI

	2. An action plan indicating number and type of saplings, time schedule, budgetary allocation for development and maintenance shall be prepared by the Social Forestry Department.	Authority clarified with their Letter Dt. 25.11.2020 that the scope of plantation along the NH-55 (70 km) is under the purview of EPC Contractor, which shall be executed after completion of road construction project. We are waiting for further communication from DFO, Angul in this regard. Avenue plantation of 2300 trees (with 2 rows) along the Coal transportation road has been developed in a stretch of 10 km from Power Plant along the PWD road connecting to NH-55. Additionally, we are planning for planting more 2000 greenbelt along the PWD road of coal transportation route in FY 25-26 as an avenue plantation measure.
23	The detailed progress of the construction of railway siding, balance work, expenditure spent, estimated time required for completion etc. is to be submitted to the Ministry and its Regional Office for monitoring	We are adhering to the clarification published by MoEF & CC Gazette Notification vide S.O. 156 (E), Dt. 21.05.2020 & their Office Memorandum Dt. 29.10.2020 and the Letter Dt. 17.11.2020 (addressed to BPPL) for coal transportation by road in tarpaulin covered trucks till the railway conveyor system of the TPP is established. However, follow up for obtaining clearances from various authorities at local and state level is in process. Permission for acquiring land from Railway Authorities, both State and local authorities is in process.
24	The quantity of coal transportation from various routes/ sources including rail shall be submitted month-wise, daily average, minimum and maximum for six month period April- September, October-March as part of compliance report.	Details of route wise coal transportation to Power Plant Athagarh for the period Apr-Sept'25 is enclosed as per **Annexure-IX.**
25	The preparedness and readiness of the power plant to install additional pollution control measures to achieve the revised flue gas emission standards dated 07.12.2015 shall be submitted to the Ministry. A copy of extension of timelines given by the CPCB, if any to install the pollution control measures such as ESP upgradation for meeting PM emission, FGD for SO_2 reduction, NOx control measures etc. is to be submitted to the Ministry.	Both the Units of our Power Plant were commissioned during June' 2016 and we are maintaining the emission parameters and specific water consumption within the stipulated standard prescribed as per the MoEF & CC Gazette Notification dt. 07.12.2015. No upgradation of the Pollution control equipment is envisaged, as Tata Steel has established its new Power plant and commercial operation started from June'2016. Plant is equipped with 130 mt height twin flue stack for proper dispersion of SO_2 after flue gas being cleaned. AQI wrt SO_2 level in ambient air quality is well within the norms. We have submitted a request letter of representation to SPCB to consider our case as C Category.

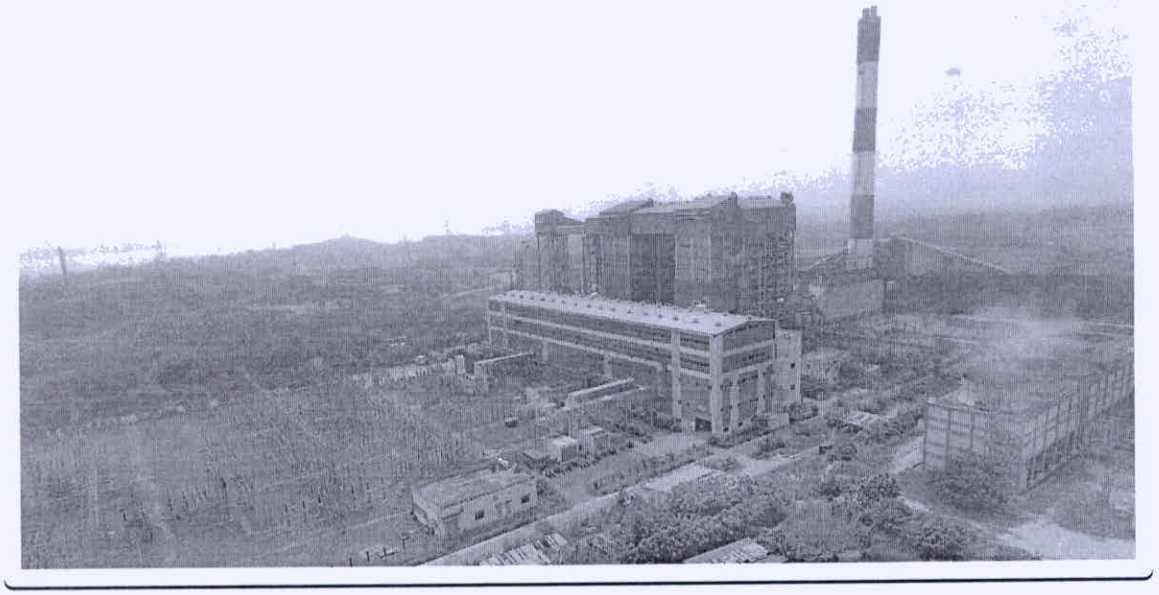
* * * * *

ANNEXURE – I

TATA

REPORT ON

HYDROGEOLOGY STUDY



[Period: Sept'25 to Oct'25]

Submitted to

TATA STEEL LIMITED

POWER PLANT ATHAGARH

Address: Village: Anantapur, P.O-Dhurusia

Tehsil : Athagarh, District Cuttack, Odisha,PIN-754027

CONTENTS

Sl. No.	Description	Page No.
1	Introduction	2
	Study Context	2
	Geomorphology	3
	Aquifer System	3
	Hydrology & Recharge	4
1.1	Scope of the Study	5
1.2	Methodology of investigations.	6
	Analytical Techniques	7
	Hydrogeological and Spatial Analysis	7
2.0	Result and Analysis	8
2.1	Drainage pattern & Ground water level	8
3.0	Analysis of Surface and Groundwater quality	12
4.0	Summary & Conclusion	15
Table		
I	Location details of Observation Wells for monitoring of Water Level	9
II	Summary of Groundwater level of the study area	9
III	Depth of water level of aquifer in the Study area	11
IV	Summary of Surface water quality of ash dyke & storm water	12
V	Summary of Groundwater Quality	13
VI	Summary of Surface Water Quality of the study area	14
Figures		
I	Location map of monitoring well	8
II	Drainage Pattern of the study area	10
III	Groundwater table contour map	11

1.0 Introduction:

M/s. Tata Steel Limited, Power Plant Athagarh (Erstwhile Bhubaneshwar Power Private Limited) has set up a captive thermal power project of 135 MW (2x67.5) at village Anantapur in Athagarh Tehsil of Cuttack District, Orissa in 2016. M/s. Tata Steel has acquired BPPL from erstwhile owner M/s. Jasper Industries in Feb' 2018 and BPPL has since then become a 100% subsidiary of Tata Steel; and on post-merger with Tata Steel the Plant is named as Power Plant Athagarh, M/s. Tata Steel Limited.

Plant is located at Anantapur village in Athagarh Tehsil of Cuttack District, Odisha. The plant is at a distance of 15 kms from NH-55 & 45 kms from Bhubaneswar. The nearest railway head is Ghantikhal at a distance of 4 Km on west direction (On Nirgundi -Talcher section of East Coast Rly.). Cuttack is the nearest city located at a distance of 20 kms from the Plant.

Plant is operating its coal based captive thermal Power Plant 135 MW (2 x 67.5) since 1st June 2016. EC has been granted by MoEF vide letter No. J-13012/91/2008-IA. II (T), Dt. 14.05.2010. Permissions like CTO, Hazardous Waste Authorization, Bio-medical waste authorization and other permissions were amended on post-merger with Tata Stee Limited.

Study Context

This report provides a comprehensive review of the geohydrology study conducted by third party independent organisation (M/s. Das Hydrological Solutions, Bhubaneswar) having expertise in the field of hydrogeology for the area within a 10 km radius of Tata Steel Limited, Power Plant, Athagarh. The study aimed to analyze the hydrological conditions of the region and assess their implications for the company's operations and environmental stewardship. The information incorporated herein is based on site visits and both primary and secondary data collection, ensuring accuracy for future studies and understanding of the hydrogeology.

This report details the hydrological and hydrogeological study conducted in the vicinity of Power Plant Ahagarh of M/s. Tata Steel Limited. The primary purpose of this investigation is to assess the potential impact of the plant's operations on local surface and underground water bodies and to analyze long-term trends in water quality and levels.

The study area encompasses the region around the Tata Steel Limited, Power Plant, Athagarh, which is situated in the delta region of Mahanadi, near Mundali barrage.

Geomorphology:

The Mahanadi delta is an **arcuate-shaped depositional basin** (~9,000 sq. km) formed by fluvial and marine processes. It lies between the **Eastern Ghats in the west** and the **Bay of Bengal in the east**, with Kathajodi as a major distributary of the Mahanadi. The delta exhibits **low relief, flat alluvial plains**, and a network of distributaries, anabranches, and tidal channels. Sediment deposition during SW monsoon is significant.

The surrounding area lies within the Mahanadi-Kathajodi deltaic zone, characterized by fertile alluvial soils and high groundwater potential.

Aquifer System

The delta hosts **multi-layered aquifers**:

- **Shallow unconfined aquifer**: Mostly fine sand and clay.
- **Leaky confined aquifer**: Medium to coarse sand at depths of **15–50 m**, thickness **20–55 m**.

Hydraulic conductivity ranges **11.3–96.8 m/day**, indicating high heterogeneity.

Groundwater flow direction: **NW to SE**, towards the coast.

*(**Source:** Aquifer mapping and management of Groundwater resources, Cuttack District, Odisha conducted by **CGWB**)*

Hydrology & Recharge

Highly seasonal river flow: Almost no flow in summer; peak discharge during monsoon. Runoff coefficient varies widely (10–43% of monsoon rainfall). Groundwater recharge is strongly influenced by rainfall and river stage, with correlation coefficients up to 0.891 for river stage vs groundwater level. Net groundwater recharge in coastal aquifers: ~248–263 MCM/year; some outflow (~9 MCM) to Bay of Bengal prevents seawater ingress.

Methodology Employed: The study followed a structured methodology.

- **Sampling Strategy:** Designated sampling locations, determined in collaboration with Tata Steel Limited, include both open wells for groundwater sampling and river sites for surface water sampling. To specifically investigate the plant's impact, surface water samples from the Mahanadi, Sapua Nala were collected at both upstream and downstream points relative to the Tata Steel Limited, Athagarh Power plant.
- **Temporal Phases:** Sample collection and water table measurements were performed during post-monsoon (November'25) and rest of the season will be performed during pre-monsoon (March'26) and monsoon (August'26).
- **Data Collection:** Water table levels were measured directly at the designated sites. Comprehensive water quality tests were conducted on the collected samples to facilitate the categorization of these water sources based on their characteristics.
- **Technical Team and Site Logistics:** The study was conducted by a technical team from Das Hydrogeological Solutions. The team was supported by experts from Tata Steel Plant Athagarh Power Plant during site visits. Initial discussions were held at the plant office to finalize the scope, and relevant drawings and top sheets were acquired to facilitate the identification of sampling locations.

Limitation Acknowledgment: It is crucial to state that specific, granular, publicly available environmental monitoring data (including raw water quality parameters for sampling locations or detailed daily dam release figures) directly pertaining to the Tata Steel Limited site. Therefore, this report discusses expected behaviors, general industry impacts, and Tata Steel's stated commitments, rather than presenting empirical findings based on site-specific data.

1.1 Scope of the Study:

1. Study on physiography, drainage pattern including drainage analysis, preparation of drainage map and climatology study.
2. Depict aquifer geometry of the area and aquifer characteristics.
3. Hydrogeological and Hydrological survey (10 km radius) of Power Plant Athagarh M/s. Tata Steel Limited.
4. Study on Hydro-geology of the area:
    - Interpretation of the prevailing hydro-geological condition of the area.
    - Well inventory, ground water flow along-with direction, measurement of
    - ground water level
    - Collection of historical ground water level through secondary source.
    - Collection and analysis of ground water quality trend including ground water level fluctuation.
    - Preparation of map configuration of secondary system based on data collected from secondary source.
    - Collection and analysis of ground water sample.
    - Impact analysis of any change in surface/ ground water quality over the years.

1.2 Methodology of investigations.

The consultancy study likely employed a rigorous methodology combining extensive primary and secondary data collection, followed by various analytical techniques to interpret the findings.

Data Collection Methods

Primary Data Collection Methods (Field-Based and Direct Measurement):

- **Periodic Site Visits and Field Surveys**: Crucial for direct observation of geological features, existing water sources, topography, land use, and potential pollution points, and for conducting reconnaissance and identifying sampling locations
- **Groundwater Level Monitoring**: Involved establishing a network of observation wells (piezometers) to regularly measure water table fluctuations, providing real-time data on groundwater dynamics, hydraulic gradients, and flow directions.
- **Water Quality Sampling and Analysis**: Representative water samples were collected from various sources (borewells, open wells, surface water) to assess chemical, physical, and biological quality, including parameters like pH, Electrical Conductivity (EC), Total Dissolved Solids (TDS), major ions, and heavy metals.

Secondary Data Collection Methods (Existing Records and Databases):

- **Government and Institutional Databases**: Extensive use of data from the Central Ground Water Board (CGWB) for historical groundwater levels, quality, abstraction rates, and regional aquifer information. Data from State Pollution Control Boards (SPCBs) provided environmental monitoring data and compliance records. Meteorological data from the Indian Meteorological Department (IMD) was incorporated for recharge estimation, and national platforms like India-WRIS were utilized.
- **Published Literature and Reports**: Review of scientific journals, conference papers, previous Environmental Impact Assessment (EIA) reports, and geohydrological studies relevant to the region or similar industrial areas.

- **Cartographic and Remote Sensing Data**: Topographic maps from the Survey of India (SOI), geological maps from the Geological Survey of India (GSI), and satellite imagery/GIS data were used.

Analytical Techniques

The collected data was subjected to various analytical techniques to interpret findings and draw conclusions.

Laboratory Analysis of Water Samples:

1. **Physicochemical Analysis**: Measurement of parameters like pH, EC, TDS, and turbidity using standard laboratory methods.
2. **Major Ion Chemistry**: Analysis of cations (Calcium, Magnesium, Sodium, Potassium) and anions (Chloride, Sulfate, Bicarbonate, Carbonate, Nitrate, Fluoride) using techniques such as ion chromatography and atomic absorption spectrophotometry (AAS).
3. **Trace Element/Heavy Metal Analysis**: Detection of elements like Iron, Manganese, Chromium, Lead, Cadmium, Arsenic, Zinc, and Copper using advanced methods like Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES) and ICP-Mass Spectrometry (ICP-MS).
4. **Microbiological Analysis**: Assessment of parameters like Total Coliforms and E. coli, if required, using standard microbiological techniques.

Hydrogeological and Spatial Analysis:

1. **Groundwater Flow Mapping**: Construction of water table contour maps using measured water levels and spatial interpolation in GIS software to determine flow directions and gradients.
2. **Statistical Analysis**: Application of descriptive statistics, correlation, regression, and multivariate methods to identify relationships and potential contamination sources.

2.0 RESULT ANALYSIS

2.1 Drainage pattern & Ground water level

Observation wells have been established in and surrounding the Plant. Water level has been measured and groundwater samples were collected and analyzed in accredited chemical laboratory. The location of observation wells pertaining to the power plant is given in **Figure no. I**. The ground water sampling location and level of observation wells and quality are given in **Table no.- I and II**. The depth of water level of aquifer in the buffer zone given in **Table no.- III** (Source *National Water Infromatics Centre, CGWB*).

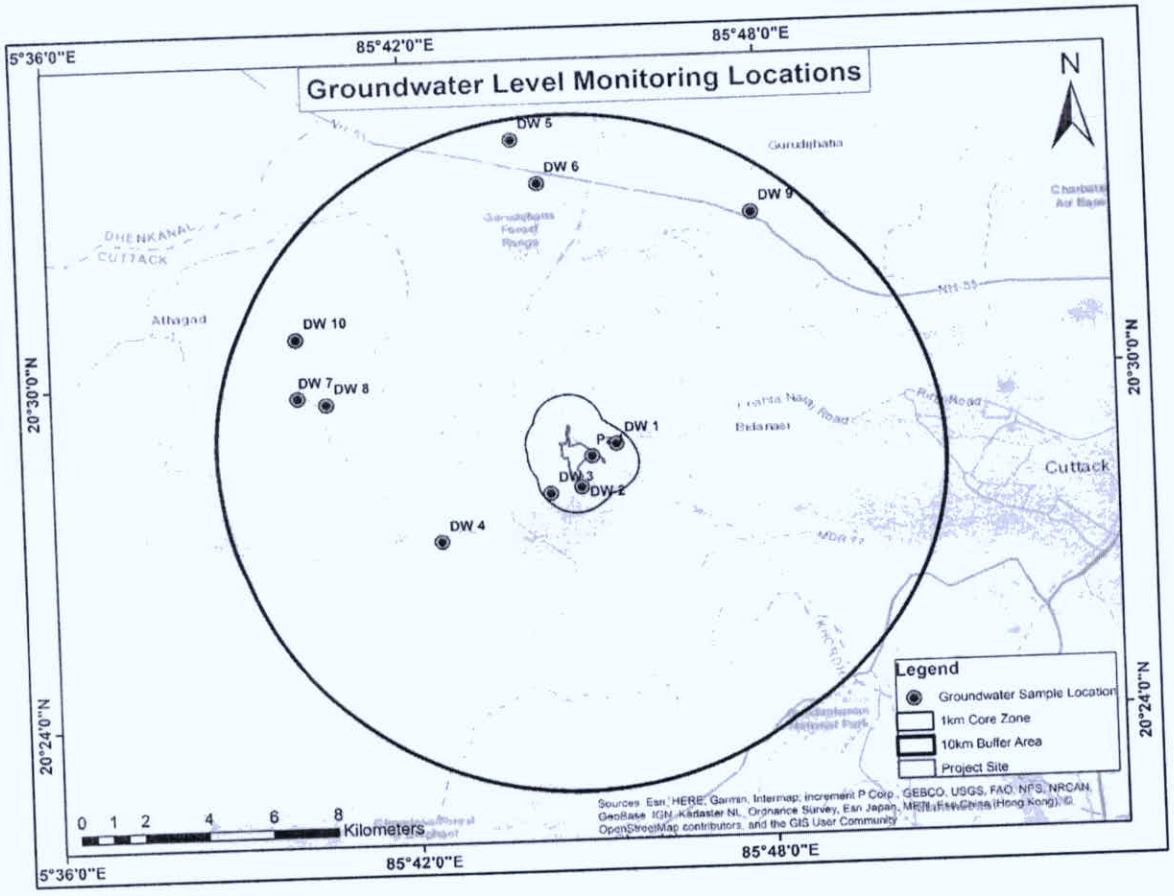


Figure No.- I: Location map of monitoring well

Table No.- I : Location details of Observation Wells for monitoring of Water Level

Sl. no.	Location	Type	Latitude	Longitude	Well Depth (m bmp)	Well Dia(m)	MP (magl)	Water Level(mbmp), Post-monsoon (Nov'2025)	Water Level (mbgl)
1	Tata Steel Limited Power Plant, Athagarh (Pz)	Pz	20.477	85.751006	65 mt	0.15	2.5	18.5	16
2	Nuasasan: near house of Sh. Pathani Dalei	DW	20.4804	85.757985	10.25	1.7x1.7	0	4.04	4.04
3	Anantapur: infront of Mahima Tungi	DW	20.468	85.747738	8.7	1.4x1.4	0.3	6.54	6.24
4	Balarampur: in Sarpaswar Mahadev Mandir	DW	20.4664	85.738993	7.04	1.4x1.4	0.45	5.24	4.79
5	Sapua Nala (Seasonal): Location-	SW	20.4671	85.74087	-	-	-	-	-
6	Mahanadi River : Location-	SW	20.4753	85.7546	-	-	-	-	-

Summary of the Groundwater level of the study area is given below herewith in the **Table No.- II .**

Table No.- II : Summary of Groundwater level of the study area

Sl. no.	Location	Type	Latitude	Longitude	Well Depth (m bmp)	Well Dia(m)	MP (magl)	Water Level(mbmp), Post-monsoon (Nov'2025)	Water Level (mbgl)
1	Tata Steel Limited Power Plant, Athagarh (Pz)	Pz	20.477	85.751006	65 mt	0.15	2.5	18.5	16
2	Nuasasan: near house of Sh.Pathani Dalei	DW	20.4804	85.757985	10.25	1.7x1.7	0	4.04	4.04
3	Anantapur:infront of Mahima Tungi	DW	20.468	85.747738	8.7	1.4x1.4	0.3	6.54	6.24
4	Balarampur:in Sarpaswar Mahadev Mandir	DW	20.4664	85.738993	7.04	1.4x1.4	0.45	5.24	4.79
5	Sapua Nala (Seasonal) : Location-	SW	20.4671	85.74087	-	-	-	-	-
6	Mahanadi River : Location-	SW	20.4753	85.7546	-	-	-	-	-

Drainage pattern and groundwater table contour map is given below in **Figure No.- II & III.**

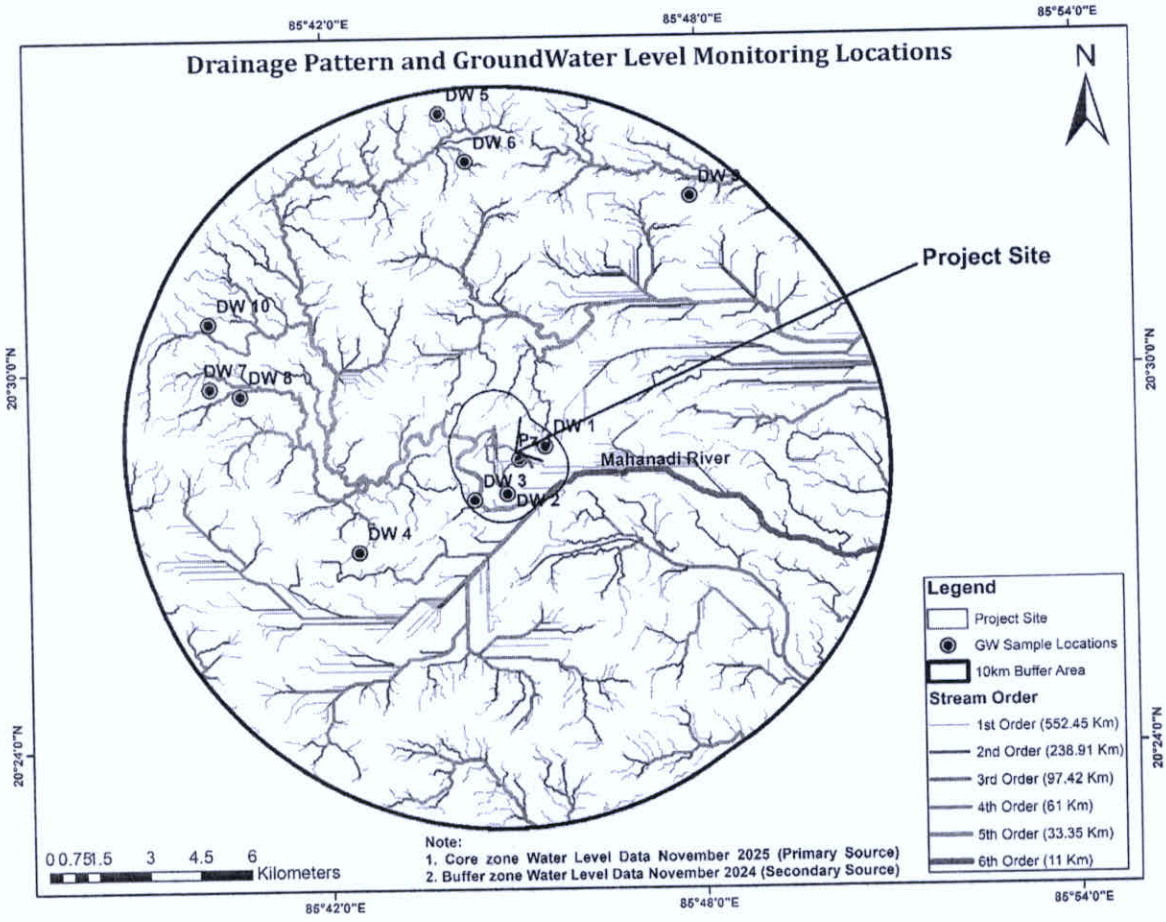


Figure- No. II: Drainage Pattern of the study area

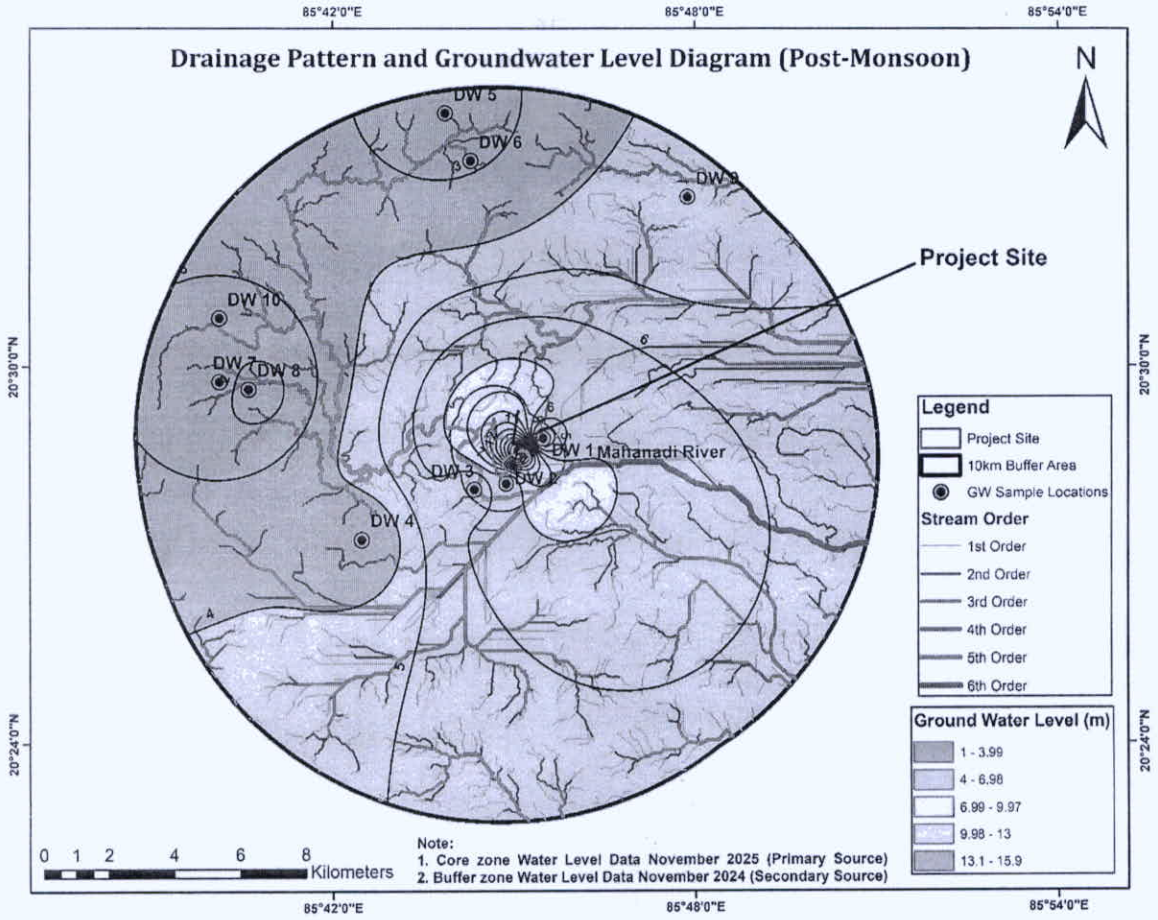


Figure- No. III: Groundwater table contour map

Hydrogeological framework, Groundwater development prospects & aquifer management of the study area is furnished as per the **Table No.-III** given below.

Table No.- III: Depth of water level of aquifer in the Study area

Sl. No.	District	Block	Village	Type of Well	Latitude	Longitude	Pre-monsoon WL (mbgl)	Post-monsoon WL (mbgl)	Fluctuation
1	Cuttack	Athagarh	Athagarh	DW	20.509	85.617	6.6	3.6	3
2	Cuttack	Athagarh	Megha	DW	20.453	85.708	5.5	2.48	3.02
3	Cuttack	Athagarh	Khuntuni	DW	20.569	85.731	3.4	1.45	1.95
4	Cuttack	Athagarh	Radha Govindpur	DW	20.509	85.638	2.01	1.0	0.11
5	Cuttack	Athagarh	Radha shyampur	DW	20.556	85.738	6.96	4.02	2.94
6	Cuttack	Athagarh	Banakhandi	DW	20.496	85.669	5.54	2.48	3.06
7	Cuttack	Athagarh	Rajnagar	DW	20.494	85.677	2.3	1.4	0.9
8	Cuttack	Athagarh	Orondo	DW	20.546	85.798	7.74	4.06	3.68
9	Cuttack	Athagarh	Nuapada	DW	20.516	85.603	6.61	5.84	0.77
10	Cuttack	Athagarh	Parshurampur	DW	20.513	85.669	6.03	3.13	2.9

Source: *National Water Infromatics Centre, CGWB*

3.0 ANALYSIS OF SURFACE AND GROUND WATER QUALITY

Water samples from ash dyke, storm water and groundwater samples from dug wells in the study area were collected during post-monsoon,2025 and got analyzed at CSIR-IMMT, Bhubaneswar a NABL accredited chemical laboratory. The table below shows the summary result. The result shows that the concentration of elements in surface water samples of the study area are confirms with the permissible limit as prescribed by BIS The results are given in **Table No.- IV.**

Table No.- IV: Summary of Surface water quality of ash dyke & storm water

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result of Surface water samples	
			Acceptable limit	Permissible Limit	Ash Dyke	Outside of Plant
1.	Turbidity, NTU	Part 10	1	5	1.15	26.3
2.	pH Value(at 25.0 °C)	Part 11	6.5-8.5	No relaxation	7.58	7.04
3.	Total Dissolved Solids mg/L	Part 16	500	2000	393.0	268.0
4.	Total Hardness (as $CaCO_3$),mg/L	Part 21	200	600	200.0	128.0
5.	Calcium as Ca, mg/L	Part 40	75	200	48.10	29.66
6.	Magnesium as Mg, mg/L	Part 46	30	100	19.44	13.12
7.	Alkalinity as $CaCO_3$, mg/L	Part 23	200	600	52.0	88.0
8.	Chloride as Cl, mg/L	Part 32	250	1000	21.0	18.0
9.	Sulfate as SO_4, mg/L	Part 24	200	400	232.5	100.1
10.	Fluoride as F, mg/L	Part 60	1.0	1.5	0.83	0.25
11.	Iron as Fe, mg/L	Part 53	0.3	No relaxation	0.254	0.776
12.	Copper as Cu, mg/L	Part 42	0.05	1.5	0.032	0.064
13.	Manganese as Mn, mg/L	APHA (PART3111B)	0.1	0.3	0.085	0.240
14.	Zinc as Zn, mg/L	Part 49	5.0	15.0	0.321	0.044
15.	Lead as Pb, mg/L	Part 47	0.01	No relaxation	<0.01	<0.01
16.	Cadmium as Cd, mg/L	Part 41	0.003	No relaxation	<0.003	<0.003
17.	Chromium as Cr, mg/L	Part 52	0.05	No relaxation	0.03	0.04
18.	Nickel as Ni, mg/l	Part 54	0.02	No relaxation	0.015	0.016
19.	Color, Hazen units	Part 4	5	15	<5	<5
20.	Odour	Part 5	Agreeable	Agreeable	Agreeable	Agreeable
21.	Conductivity, µs/cm	Part 14	-	-	470.1	411.8
22.	Total Suspended Solid, mg/l	Part 17	-	-	<1.0	19.0
23.	Nitrate as NO_3, mg/L	Part 34	45	No relaxation	3.56	4.12
24.	Sodium, mg/l	Part 45	-	-	8.05	22.48
25.	Potassium, mg/l	Part 45	-	-	11.42	24.20
26.	Residual Free Chlorine, mg/l	Part 26	0.2	1.0	<0.2	<0.2
27.	Arsenic as As, mg/l	Part 37	0.01	No relaxation	<0.01	<0.01

(Source: CSIR, IIMT, Bhubaneswar Analysis report)

Summary of groundwater quality of the study area is given in the **Table No.-V.**

Table No.- V: Summary of Groundwater Quality

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result of Groundwater samples		
			Acceptable limit	Permissible Limit	Nuasashan village	Anantapur village	Balarampur village
1.	Turbidity, NTU	Part 10	1	5	0.96	1.05	1.62
2.	pH Value(at 25.0 °C)	Part 11	6.5-8.5	No relaxation	6.37	6.23	6.72
3.	Total Dissolved Solids mg/L	Part 16	500	2000	291.0	565.0	496.0
4.	Total Hardness (as $CaCO_3$),mg/L	Part 21	200	600	70.0	192.0	228.0
5.	Calcium as Ca, mg/L	Part 40	75	200	19.24	56.11	52.10
6.	Magnesium as Mg, mg/L	Part 46	30	100	5.35	12.64	23.81
7.	Alkalinity as $CaCO_3$, mg/L	Part 23	200	600	92.0	96.0	148.0
8.	Chloride as Cl, mg/L	Part 32	250	1000	42.0	96.0	48.0
9.	Sulfate as SO_4, mg/L	Part 24	200	400	15.0	131.1	44.3
10.	Fluoride as F, mg/L	Part 60	1.0	1.5	0.15	0.10	0.23
11.	Iron as Fe, mg/L	Part 53	0.3	No relaxation	0.356	0.471	0.458
12.	Copper as Cu, mg/L	Part 42	0.05	1.5	0.116	0.014	0.044
13.	Manganese as Mn, mg/L	APHA(PART 3111B)	0.1	0.3	0.056	0.042	0.063
14.	Zinc as Zn, mg/L	Part 49	5.0	15.0	0.073	0.089	0.085
15.	Lead as Pb, mg/L	Part 47	0.01	No relaxation	0.030	0.030	0.030
16.	Cadmium as Cd, mg/L	Part 41	0.003	No relaxation	<0.003	<0.003	<0.003
17.	Chromium as Cr, mg/L	Part 52	0.05	No relaxation	0.053	0.180	0.110
18.	Nickel as Ni, mg/l	Part 54	0.02	No relaxation	0.023	0.040	0.033
19.	Color, Hazen units	Part 4	5	15	<5	<5	<5
20.	Odour	Part 5	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
21.	Conductivity, µs/cm	Part 14	-	-	404.1	771.6	600.1
22.	Total Suspended Solid, mg/l	Part 17	-	-	<1.0	<1.0	<1.0
23.	Nitrate as NO_3, mg/L	Part 34	45	No relaxation	20.6	21.6	46.2
24.	Sodium, mg/l	Part 45	-	-	26.13	35.81	33.47
25.	Potassium, mg/l	Part 45	-	-	40.2	56.6	9.50
26.	Residual Free Chlorine, mg/l	Part 26	0.2	1.0	<0.2	<0.2	<0.2
27.	Arsenic as As, mg/l	Part 37	0.01	No relaxation	<0.01	<0.01	<0.01

(Source: CSIR, IIMT, Bhubaneswar Analysis report)

Summary of surface water quality of the study area is given in **Table No.- VI:**

Table no.- VI Summary of Surface Water Quality of the study area

Sl. No.	Parameter	Unit	Standards as per IS-2296:1992 Class –'C'	Analysis Results Sept'25		Analysis Results Oct'25	
				SW-I	SW-II	SW-I	SW-II
1	Colour (max)	Hazen	300	32.0	41.0	27.0	35.0
2	pH Value (at 25°C)	--	6.0-9.0	6.95	6.83	6.90	6.89
3	Suspended solids	mg/l	-	63	79	57	70
4	Dissolved Oxygen (minimum)	mg/l	4.0	5.2	5.4	5.0	5.3
5	Turbidity	NTU	--	43.2	49	24.0	32.0
6	Chloride (max)	mg/l	600	20.0	35.0	22.5	30.0
7	Total Dissolved Solids	mg/l	1500	361	409	349	391
8	BOD (3) days at 27°C (max)	mg/l	3.0	1.4	1.5	1.5	1.6
9	Arsenic as As	mg/l	0.2	<0.01	<0.01	<0.01	<0.01
10	Lead as Pb(max)	mg/l	0.1	<0.005	<0.005	<0.005	<0.005
11	Cadmium as Cd (max)	mg/l	0.01	<0.005	<0.005	<0.005	<0.005
12	Hexavalent Chromium as Cr^{+6}	mg/l	0.05	<0.01	<0.01	<0.01	<0.01
13	Copper as Cu (max)	mg/l	1.5	<0.05	<0.05	<0.05	<0.05
14	Zinc as Zn(max)	mg/l	15	<0.03	<0.03	<0.03	<0.03
15	Selenium as Se (max)	mg/l	0.05	<0.001	<0.001	<0.01	<0.01
16	Cyanide as CN (max)	mg/l	0.05	<0.05	<0.05	<0.05	<0.05
17	Fluoride as F (max)	mg/l	1.5	0.4	0.61	0.38	0.58
18	Sulphates (SO_4) (max)	mg/l	400	16.9	21.2	17.5	20.2
19	Phenolic Compounds as C_6H_5OH (max)	mg/l	0.005	<0.001	<0.001	<0.001	<0.001
20	Iron as Fe (max)	mg/l	0.5	0.42	0.45	0.45	0.46
21	Nitrate as NO_3, (max)	mg/l	50	1.38	2.60	1.50	2.8
22	Anionic Detergents (max)	mg/l	1.0	<0.2	<0.2	<0.2	<0.2
23	Total Coli form	MPN/ 100 ml	5000	330	790	310	630

N.B:

i. Source: Analysis report of M/s. Visiontek Consultancy, Service Pvt. Ltd.

ii. SW-1 Surface water sample from Sapua Nala, SW-II : Surface water sample from River Mahanadi

iii. Turbidity & Suspended solids are analyzed which is not a scheduled parameter under IS-2296, Class-C.

iv. ND-Not detectable.

v. BDL-(Below detection limit) Values- (Cu<0.05 mg/l, C_6H_5OH<0.001 mg/l, Cd<0.03 mg/l, Se<0.001 mg/l, As<0.004 mg/l, Pb<0.2 mg/l, Zn<0.03 mg/l, Cr^{+6}<0.05 mg/l)

4.0 Summary & Conclusion

Monitoring of both water regime and quality parameters shall be carried out at regular interval for Pre-monsoon, Post-monsoon and Winter Season along with annual review. More number of stations shall be incorporated in future for better understanding of the hydrogeology pattern of the study area.

CSIR-INSTITUTE OF MINERALS & MATERIALS TECHNOLOGY.

(A Govt. of India Autonomous Body)
Environmental Chemical Laboratory
Bhubaneswar, Odisha

TEST REPORT

TC-12319

Issued to : Tata Steel Limited Power Plant Athagarh	**Date : 28.11.2025**
Test report No – 01	
Source of Sample : Ash Pond	**Sample receiving Date : 24.11.2025**
Type of Sample : water	**Sample Analysis Date : 24.11.2025**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
1.	Turbidity, NTU	Part 10	1	5	1.15
2.	pH Value(at 25.0 °C)	Part 11	6.5-8.5	No relaxation	7.58
3.	Total Dissolved Solids mg/L	Part 16	500	2000	393.0
4.	Total Hardness (as $CaCO_3$),mg/L	Part 21	200	600	200.0
5.	Calcium as Ca, mg/L	Part 40	75	200	48.10
6.	Magnesium as Mg, mg/L	Part 46	30	100	19.44
7.	Alkalinity as $CaCO_3$, mg/L	Part 23	200	600	52.0
8.	Chloride as Cl, mg/L	Part 32	250	1000	21.0
9.	Sulfate as SO_4, mg/L	Part 24	200	400	232.5
10.	Fluoride as F, mg/L	Part 60	1.0	1.5	0.83
11.	Iron as Fe, mg/L	Part 53	0.3	No relaxation	0.254
12.	Copper as Cu, mg/L	Part 42	0.05	1.5	0.032
13.	Manganese as Mn, mg/L	APHA(PART 3111B)	0.1	0.3	0.085
14.	Zinc as Zn, mg/L	Part 49	5.0	15.0	0.321
15.	Lead as Pb, mg/L	Part 47	0.01	No relaxation	<0.010
16.	Cadmium as Cd, mg/L	Part 41	0.003	No relaxation	<0.003
17.	Chromium as Cr, mg/L	Part 52	0.05	No relaxation	0.04
18.	Nickel as Ni, mg/l	Part 54	0.02	No relaxation	0.015

Authorized Signatory

Dr. Arakshita Majhi
Senior Principal Scientist

Dr. Arakshita Majhi
Senior Principal Scientist
Phone : 0674-2379236,
E mail - arakshita@immt.res.in

NOTES :

1. The sample is drawn by the client& result relates to the sample tested.
2. This certificate shall not be reproduced wholly or in part without prior written consent of the laboratory.
3. This certificate shall not be used in any advertising media or as evidence in the court of Law without prior written consent of laboratory.
4. Latest version of test methods used as per latest specification.
5. It is recommended that the acceptable limit is to be implemented. Values in excess of those mentioned in "acceptable limit" render the water not suitable, but still may be tolerated in the absence of an alternative source but up to the limits indicate under "permissible limit" in the absence of alternative sources, above which the source will have to be rejected.

'End of Test Report'

Laboratory: Acharya Vihar, Bhubaneswar, Odisha-751013. Tel: 0674-2379236, Mobile: 9760387460.
E-mail: dir@immt.res.in.

CSIR-INSTITUTE OF MINERALS & MATERIALS TECHNOLOGY.

(A Govt. of India Autonomous Body)
Environmental Chemical Laboratory
Bhubaneswar, Odisha
TEST REPORT

Issued to : Tata Steel Limited Power Plant Athagarh	**Date : 28.11.2025**
Test report No – 01	
Source of Sample : Ash Pond	**Sample receiving Date : 24.11.2025**
Type of Sample : water	**Sample Analysis Date : 24.11.2025**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
19.	Color, Hazen units	Part 4	5	15	<5
20.	Odour	Part 5	Agreeable	Agreeable	Agreeable
21.	Conductivity, µs/cm	Part 14	-	-	470.1
22.	Total Suspended Solid, mg/l	Part 17	-	-	<1.0
23.	Nitrate as NO_3, mg/L	Part 34	45	No relaxation	3.56
24.	Sodium, mg/l	Part 45	-	-	8.05
25.	Potassium, mg/l	Part 45	-	-	11.42
26.	Residual Free Chlorine, mg/l	Part 26	0.2	1.0	<0.2
27.	Arsenic as As, mg/l	Part 37	0.01	No relaxation	<0.01

Authorized Signatory

Dr. Arakshita Majhi
Senior Principal Scientist
Phone : 0674-2379236,
E mail - arakshita@immt.res.in

NOTES :

1. The sample is drawn by the client& result relates to the sample tested.
2. This certificate shall not be reproduced wholly or in part without prior written consent of the laboratory.
3. This certificate shall not be used in any advertising media or as evidence in the court of Law without prior written consent of laboratory.
4. Latest version of test methods used as per latest specification.
5. It is recommended that the acceptable limit is to be implemented. Values in excess of those mentioned in "acceptable limit" render the water not suitable, but still may be tolerated in the absence of an alternative source but up to the limits indicate under "permissible limit" in the absence of alternative sources, above which the source will have to be rejected.
6. Testing parameters which are not set limitation has marked as "-".

'End of Test Report'

Laboratory: Acharya Vihar, Bhubaneswar, Odisha-751013. Tel: 0674-2379236, Mobile: 9760387460.
E-mail: dir@immt.res.in.

CSIR-INSTITUTE OF MINERALS & MATERIALS TECHNOLOGY.

(A Govt. of India Autonomous Body)
Environmental Chemical Laboratory
Bhubaneswar, Odisha

TEST REPORT

NABL TC-12319

Issued to : Tata Steel Limited Power Plant Athagarh	**Date : 28.11.2025**
Test report No – 02	
Source of Sample : Outside of the Plant	**Sample receiving Date : 24.11.2025**
Type of Sample : water	**Sample Analysis Date : 24.11.2025**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
1.	Turbidity, NTU	Part 10	1	5	26.3
2.	pH Value(at 25.0 °C)	Part 11	6.5-8.5	No relaxation	7.04
3.	Total Dissolved Solids mg/L	Part 16	500	2000	268.0
4.	Total Hardness (as $CaCO_3$),mg/L	Part 21	200	600	128.0
5.	Calcium as Ca, mg/L	Part 40	75	200	29.66
6.	Magnesium as Mg, mg/L	Part 46	30	100	13.12
7.	Alkalinity as $CaCO_3$, mg/L	Part 23	200	600	88.0
8.	Chloride as Cl, mg/L	Part 32	250	1000	18.0
9.	Sulfate as SO_4, mg/L	Part 24	200	400	100.1
10.	Fluoride as F, mg/L	Part 60	1.0	1.5	0.25
11.	Iron as Fe, mg/L	Part 53	0.3	No relaxation	0.776
12.	Copper as Cu, mg/L	Part 42	0.05	1.5	0.064
13.	Manganese as Mn, mg/L	APHA(PART 3111B)	0.1	0.3	0.240
14.	Zinc as Zn, mg/L	Part 49	5.0	15.0	0.044
15.	Lead as Pb, mg/L	Part 47	0.01	No relaxation	<0.01
16.	Cadmium as Cd, mg/L	Part 41	0.003	No relaxation	<0.003
17.	Chromium as Cr, mg/L	Part 52	0.05	No relaxation	0.040
18.	Nickel as Ni, mg/l	Part 54	0.02	No relaxation	0.016

Authorized Signatory

Dr. Arakshita Majhi
Senior Principal Scientist
Phone : 0674-2379236,
E mail - arakshita@immt.res.in

NOTES :

1. The sample is drawn by the client& result relates to the sample tested.
2. This certificate shall not be reproduced wholly or in part without prior written consent of the laboratory.
3. This certificate shall not be used in any advertising media or as evidence in the court of Law without prior written consent of laboratory.
4. Latest version of test methods used as per latest specification.
5. It is recommended that the acceptable limit is to be implemented. Values in excess of those mentioned in "acceptable limit" render the water not suitable, but still may be tolerated in the absence of an alternative source but up to the limits indicate under "permissible limit" in the absence of alternative sources, above which the source will have to be rejected.

'End of Test Report'

Laboratory: Acharya Vihar, Bhubaneswar, Odisha-751013. Tel: 0674-2379236, Mobile: 9760387460.
E-mail: dir@immt.res.in.

CSIR-INSTITUTE OF MINERALS & MATERIALS TECHNOLOGY.

(A Govt. of India Autonomous Body)
Environmental Chemical Laboratory
Bhubaneswar, Odisha
TEST REPORT

Issued to : Tata Steel Limited Power Plant Athagarh	**Date : 28.11.2025**
Test report No – 02	
Source of Sample : Outside of the Plant	**Sample receiving Date : 24.11.2025**
Type of Sample : water	**Sample Analysis Date : 24.11.2025**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
19.	Color, Hazen units	Part 4	5	15	<5
20.	Odour	Part 5	Agreeable	Agreeable	Agreeable
21.	Conductivity, µs/cm	Part 14	-	-	411.8
22.	Total Suspended Solid, mg/l	Part 17	-	-	19.0
23.	Nitrate as NO_3, mg/L	Part 34	45	No relaxation	4.12
24.	Sodium, mg/l	Part 45	-	-	22.48
25.	Potassium, mg/l	Part 45	-	-	24.20
26.	Residual Free Chlorine, mg/l	Part 26	0.2	1.0	<0.2
27.	Arsenic as As, mg/l	Part 37	0.01	No relaxation	<0.01

Authorized Signatory

Dr. Arakshita Majhi
Senior Principal Scientist
Phone : 0674-2379236,
E mail - arakshita@immt.res.in

NOTES :

1. The sample is drawn by the client& result relates to the sample tested.
2. This certificate shall not be reproduced wholly or in part without prior written consent of the laboratory.
3. This certificate shall not be used in any advertising media or as evidence in the court of Law without prior written consent of laboratory.
4. Latest version of test methods used as per latest specification.
5. It is recommended that the acceptable limit is to be implemented. Values in excess of those mentioned in "acceptable limit" render the water not suitable, but still may be tolerated in the absence of an alternative source but up to the limits indicate under "permissible limit" in the absence of alternative sources, above which the source will have to be rejected.
6. Testing parameters which are not set limitation has marked as "-".

'End of Test Report'

Laboratory: Acharya Vihar, Bhubaneswar, Odisha-751013. Tel: 0674-2379236, Mobile: 9760387460.
E-mail: dir@immt.res.in.

CSIR-INSTITUTE OF MINERALS & MATERIALS TECHNOLOGY.

(A Govt. of India Autonomous Body)
Environmental Chemical Laboratory
Bhubaneswar, Odisha

TEST REPORT

NABL
TC-12319

Issued to : Tata Steel Limited Power Plant Athagarh	**Date : 28.11.2025**
Test report No – 03	
Source of Sample : Nuasasan	**Sample receiving Date : 24.11.2025**
Type of Sample : water	**Sample Analysis Date : 24.11.2025**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
1.	Turbidity, NTU	Part 10	1	5	0.96
2.	pH Value(at 25.0 °C)	Part 11	6.5-8.5	No relaxation	6.37
3.	Total Dissolved Solids mg/L	Part 16	500	2000	291.0
4.	Total Hardness (as $CaCO_3$),mg/L	Part 21	200	600	70.0
5.	Calcium as Ca, mg/L	Part 40	75	200	19.24
6.	Magnesium as Mg, mg/L	Part 46	30	100	5.35
7.	Alkalinity as $CaCO_3$, mg/L	Part 23	200	600	92.0
8.	Chloride as Cl, mg/L	Part 32	250	1000	42.0
9.	Sulfate as SO_4, mg/L	Part 24	200	400	15.0
10.	Fluoride as F, mg/L	Part 60	1.0	1.5	0.15
11.	Iron as Fe, mg/L	Part 53	0.3	No relaxation	0.356
12.	Copper as Cu, mg/L	Part 42	0.05	1.5	0.116
13.	Manganese as Mn, mg/L	APHA(PART 3111B)	0.1	0.3	0.056
14.	Zinc as Zn, mg/L	Part 49	5.0	15.0	0.073
15.	Lead as Pb, mg/L	Part 47	0.01	No relaxation	0.030
16.	Cadmium as Cd, mg/L	Part 41	0.003	No relaxation	<0.003
17.	Chromium as Cr, mg/L	Part 52	0.05	No relaxation	0.053
18.	Nickel as Ni, mg/l	Part 54	0.02	No relaxation	0.023

Authorized Signatory

Dr. Arakshita Majhi
Senior Principal Scientist

Dr. Arakshita Majhi
Senior Principal Scientist
Phone : 0674-2379236,
E mail - arakshita@immt.res.in

NOTES :

1. The sample is drawn by the client& result relates to the sample tested.
2. This certificate shall not be reproduced wholly or in part without prior written consent of the laboratory.
3. This certificate shall not be used in any advertising media or as evidence in the court of Law without prior written consent of laboratory.
4. Latest version of test methods used as per latest specification.
5. It is recommended that the acceptable limit is to be implemented. Values in excess of those mentioned in "acceptable limit" render the water not suitable, but still may be tolerated in the absence of an alternative source but up to the limits indicate under "permissible limit" in the absence of alternative sources, above which the source will have to be rejected.

'End of Test Report'

Laboratory: Acharya Vihar, Bhubaneswar, Odisha-751013. Tel: 0674-2379236, Mobile: 9760387460.
E-mail: dir@immt.res.in.

CSIR-INSTITUTE OF MINERALS & MATERIALS TECHNOLOGY.

(A Govt. of India Autonomous Body)
Environmental Chemical Laboratory
Bhubaneswar, Odisha
TEST REPORT

Issued to : Tata Steel Limited Power Plant Athagarh	**Date : 28.11.2025**
Test report No – 03	
Source of Sample : Nuasasan	**Sample receiving Date : 24.11.2025**
Type of Sample : water	**Sample Analysis Date : 24.11.2025**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
19.	Color, Hazen units	Part 4	5	15	<5
20.	Odour	Part 5	Agreeable	Agreeable	Agreeable
21.	Conductivity, µs/cm	Part 14	-	-	404.1
22.	Total Suspended Solid, mg/l	Part 17	-	-	<1.0
23.	Nitrate as NO_3, mg/L	Part 34	45	No relaxation	20.6
24.	Sodium, mg/l	Part 45	-	-	26.13
25.	Potassium, mg/l	Part 45	-	-	40.2
26.	Residual Free Chlorine, mg/l	Part 26	0.2	1.0	<0.2
27.	Arsenic as As, mg/l	Part 37	0.01	No relaxation	<0.01

Authorized Signatory

Dr. Arakshita Majhi
Senior Principal Scientist
Phone : 0674-2379236,
E mail - arakshita@immt.res.in

NOTES :

1. The sample is drawn by the client& result relates to the sample tested.
2. This certificate shall not be reproduced wholly or in part without prior written consent of the laboratory.
3. This certificate shall not be used in any advertising media or as evidence in the court of Law without prior written consent of laboratory.
4. Latest version of test methods used as per latest specification.
5. It is recommended that the acceptable limit is to be implemented. Values in excess of those mentioned in "acceptable limit" render the water not suitable, but still may be tolerated in the absence of an alternative source but up to the limits indicate under "permissible limit" in the absence of alternative sources, above which the source will have to be rejected.
6. Testing parameters which are not set limitation has marked as "-".

'End of Test Report'

Laboratory: Acharya Vihar, Bhubaneswar, Odisha-751013. Tel: 0674-2379236, Mobile: 9760387460.
E-mail: dir@immt.res.in.

CSIR-INSTITUTE OF MINERALS & MATERIALS TECHNOLOGY.

(A Govt. of India Autonomous Body)
Environmental Chemical Laboratory
Bhubaneswar, Odisha

TEST REPORT

NABL TC-12319

Issued to : Tata Steel Limited Power Plant Athagarh	**Date : 28.11.2025**
Test report No – 04	
Source of Sample : Anantapur	**Sample receiving Date : 24.11.2025**
Type of Sample : Water	**Sample Analysis Date : 24.11.2025**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
1.	Turbidity, NTU	Part 10	1	5	1.05
2.	pH Value(at 25.0 ^{o}C)	Part 11	6.5-8.5	No relaxation	6.23
3.	Total Dissolved Solids mg/L	Part 16	500	2000	565.0
4.	Total Hardness (as $CaCO_3$),mg/L	Part 21	200	600	192.0
5.	Calcium as Ca, mg/L	Part 40	75	200	56.11
6.	Magnesium as Mg, mg/L	Part 46	30	100	12.64
7.	Alkalinity as $CaCO_3$, mg/L	Part 23	200	600	96.0
8.	Chloride as Cl, mg/L	Part 32	250	1000	96.0
9.	Sulfate as SO_4, mg/L	Part 24	200	400	131.1
10.	Fluoride as F, mg/L	Part 60	1.0	1.5	0.10
11.	Iron as Fe, mg/L	Part 53	0.3	No relaxation	0.471
12.	Copper as Cu, mg/L	Part 42	0.05	1.5	0.014
13.	Manganese as Mn, mg/L	APHA(PART 3111B)	0.1	0.3	0.042
14.	Zinc as Zn, mg/L	Part 49	5.0	15.0	0.089
15.	Lead as Pb, mg/L	Part 47	0.01	No relaxation	0.030
16.	Cadmium as Cd, mg/L	Part 41	0.003	No relaxation	<0.003
17.	Chromium as Cr, mg/L	Part 52	0.05	No relaxation	0.180
18.	Nickel as Ni, mg/l	Part 54	0.02	No relaxation	0.040

Authorized Signatory

Dr. Arakshita Majhi
Senior Principal Scientist
Phone : 0674-2379236,
E mail - arakshita@immt.res.in

NOTES :

1. The sample is drawn by the client& result relates to the sample tested.
2. This certificate shall not be reproduced wholly or in part without prior written consent of the laboratory.
3. This certificate shall not be used in any advertising media or as evidence in the court of Law without prior written consent of laboratory.
4. Latest version of test methods used as per latest specification.
5. It is recommended that the acceptable limit is to be implemented. Values in excess of those mentioned in "acceptable limit" render the water not suitable, but still may be tolerated in the absence of an alternative source but up to the limits indicate under "permissible limit" in the absence of alternative sources, above which the source will have to be rejected.

'End of Test Report'

Laboratory: Acharya Vihar, Bhubaneswar, Odisha-751013. Tel: 0674-2379236, Mobile: 9760387460.
E-mail: dir@immt.res.in.

CSIR-INSTITUTE OF MINERALS & MATERIALS TECHNOLOGY.

(A Govt. of India Autonomous Body)
Environmental Chemical Laboratory
Bhubaneswar, Odisha
TEST REPORT

Issued to : Tata Steel Limited Power Plant Athagarh	**Date : 28.11.2025**
Test report No – 04	
Source of Sample : Anantapur	**Sample receiving Date : 24.11.2025**
Type of Sample : Water	**Sample Analysis Date : 24.11.2025**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
19.	Color, Hazen units	Part 4	5	15	<5
20.	Odour	Part 5	Agreeable	Agreeable	Agreeable
21.	Conductivity, µs/cm	Part 14	-	-	771.6
22.	Total Suspended Solid, mg/l	Part 17	-	-	<1.0
23.	Nitrate as NO_3, mg/L	Part 34	45	No relaxation	21.6
24.	Sodium, mg/l	Part 45	-	-	35.81
25.	Potassium, mg/l	Part 45	-	-	56.6
26.	Residual Free Chlorine, mg/l	Part 26	0.2	1.0	<0.2
27.	Arsenic as As, mg/l	Part 37	0.01	No relaxation	<0.01

Authorized Signatory

Dr. Arakshita Majhi
Senior Principal Scientist
Phone : 0674-2379236,
E mail - arakshita@immt.res.in

NOTES :

1. The sample is drawn by the client& result relates to the sample tested.
2. This certificate shall not be reproduced wholly or in part without prior written consent of the laboratory.
3. This certificate shall not be used in any advertising media or as evidence in the court of Law without prior written consent of laboratory.
4. Latest version of test methods used as per latest specification.
5. It is recommended that the acceptable limit is to be implemented. Values in excess of those mentioned in "acceptable limit" render the water not suitable, but still may be tolerated in the absence of an alternative source but up to the limits indicate under "permissible limit" in the absence of alternative sources, above which the source will have to be rejected.
6. Testing parameters which are not set limitation has marked as "-".

'End of Test Report'

Laboratory: Acharya Vihar, Bhubaneswar, Odisha-751013. Tel: 0674-2379236, Mobile: 9760387460.
E-mail: dir@immt.res.in.

CSIR-INSTITUTE OF MINERALS & MATERIALS TECHNOLOGY.

(A Govt. of India Autonomous Body)
Environmental Chemical Laboratory
Bhubaneswar, Odisha

TEST REPORT

NABL TC-12319

Issued to : Tata Steel Limited Power Plant Athagarh	**Date : 28.11.2025**
Test report No – 05	
Source of Sample : Balarampur	**Sample receiving Date : 24.11.2025**
Type of Sample : Water	**Sample Analysis Date : 24.11.2025**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
1.	Turbidity, NTU	Part 10	1	5	1.62
2.	pH Value(at 25.0 ^{o}C)	Part 11	6.5-8.5	No relaxation	6.72
3.	Total Dissolved Solids mg/L	Part 16	500	2000	496.0
4.	Total Hardness (as $CaCO_3$),mg/L	Part 21	200	600	228.0
5.	Calcium as Ca, mg/L	Part 40	75	200	52.10
6.	Magnesium as Mg, mg/L	Part 46	30	100	23.81
7.	Alkalinity as $CaCO_3$, mg/L	Part 23	200	600	148.0
8.	Chloride as Cl, mg/L	Part 32	250	1000	48.0
9.	Sulfate as SO_4, mg/L	Part 24	200	400	44.3
10.	Fluoride as F, mg/L	Part 60	1.0	1.5	0.23
11.	Iron as Fe, mg/L	Part 53	0.3	No relaxation	0.458
12.	Copper as Cu, mg/L	Part 42	0.05	1.5	0.044
13.	Manganese as Mn, mg/L	APHA(PART 3111B)	0.1	0.3	0.063
14.	Zinc as Zn, mg/L	Part 49	5.0	15.0	0.085
15.	Lead as Pb, mg/L	Part 47	0.01	No relaxation	0.030
16.	Cadmium as Cd, mg/L	Part 41	0.003	No relaxation	<0.003
17.	Chromium as Cr, mg/L	Part 52	0.05	No relaxation	0.110
18.	Nickel as Ni, mg/l	Part 54	0.02	No relaxation	0.033

Authorized Signatory

Dr. Arakshita Majhi

Dr. Arakshita Majhi
Senior Principal Scientist
Phone : 0674-2379236,
E mail - arakshita@immt.res.in

NOTES :

1. The sample is drawn by the client& result relates to the sample tested.
2. This certificate shall not be reproduced wholly or in part without prior written consent of the laboratory.
3. This certificate shall not be used in any advertising media or as evidence in the court of Law without prior written consent of laboratory.
4. Latest version of test methods used as per latest specification.
5. It is recommended that the acceptable limit is to be implemented. Values in excess of those mentioned in "acceptable limit" render the water not suitable, but still may be tolerated in the absence of an alternative source but up to the limits indicate under "permissible limit" in the absence of alternative sources, above which the source will have to be rejected.

'End of Test Report'

Laboratory: Acharya Vihar, Bhubaneswar, Odisha-751013. Tel: 0674-2379236, Mobile: 9760387460.
E-mail: dir@immt.res.in.

CSIR-INSTITUTE OF MINERALS & MATERIALS TECHNOLOGY.

(A Govt. of India Autonomous Body)
Environmental Chemical Laboratory
Bhubaneswar, Odisha
TEST REPORT

Issued to : Tata Steel Limited Power Plant Athagarh	**Date : 28.11.2025**
Test report No – 05	
Source of Sample : Balarampur	**Sample receiving Date : 24.11.2025**
Type of Sample : Water	**Sample Analysis Date : 24.11.2025**

Sl No	Characteristics	Test Method (P)of IS:3025	Requirements as per IS 10500:2012(Latest Version)		Test Result
			Acceptable limit	Permissible Limit	
19.	Color, Hazen units	Part 4	5	15	<5
20.	Odour	Part 5	Agreeable	Agreeable	Agreeable
21.	Conductivity, µs/cm	Part 14	-	-	600.1
22.	Total Suspended Solid, mg/l	Part 17	-	-	<1.0
23.	Nitrate as NO_3, mg/L	Part 34	45	No relaxation	46.2
24.	Sodium, mg/l	Part 45	-	-	33.47
25.	Potassium, mg/l	Part 45	-	-	9.50
26.	Residual Free Chlorine, mg/l	Part 26	0.2	1.0	<0.2
27.	Arsenic as As, mg/l	Part 37	0.01	No relaxation	<0.01

Authorized Signatory

Dr. Arakshita Majhi
Senior Principal Scientist
Phone : 0674-2379236,
E mail - arakshita@immt.res.in

NOTES :

1. The sample is drawn by the client& result relates to the sample tested.
2. This certificate shall not be reproduced wholly or in part without prior written consent of the laboratory.
3. This certificate shall not be used in any advertising media or as evidence in the court of Law without prior written consent of laboratory.
4. Latest version of test methods used as per latest specification.
5. It is recommended that the acceptable limit is to be implemented. Values in excess of those mentioned in "acceptable limit" render the water not suitable, but still may be tolerated in the absence of an alternative source but up to the limits indicate under "permissible limit" in the absence of alternative sources, above which the source will have to be rejected.
6. Testing parameters which are not set limitation has marked as "-".

'End of Test Report'

Laboratory: Acharya Vihar, Bhubaneswar, Odisha-751013. Tel: 0674-2379236, Mobile: 9760387460.
E-mail: dir@immt.res.in.

ANNEXURE -II

Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

VISIONTEK

Ref : Envlab/25-26/TR- 01433

Date : 02.05.2025

DOMESTIC EFFLUENT QUALITY ANALYSIS REPORT FOR APRIL-2025

1. Name of Industry : M/s Power Plant, Athagarh, TATA Steel Limited.
2. Sampling Location : STP Inlet
   STP Outlet
3. Date of sampling : 19.04.2025
4. Date of analysis : 21.04.2025 TO 26.04.2025
5. Sample collected by : VCSPL Representative

Sl. No.	Parameters	Unit	MoEF&CC Notification G.S.R 1265 (E), Dt. 13.10.2017	Analysis Results	
				STP Inlet	STP Outlet
1	pH(at 25°C)	--	6.5- 9.0	7.26	7.60
2	Biochemical Oxygen Demand (BOD, 3 days 27^0 C)	mg/l	< 30	17.6	16.0
3	Total Suspended Solids (TSS)	mg/l	< 100	43.0	25.0
4	Faecal Coliform	MPN/100ml	<1000	560	320
5	Chemical Oxygen Demand	mg/l	--	60.0	48.0
6	Total Nitrogen	mg/l	--	30.4	28.8
7	Total Phosphorous	mg/l	--	10.4	6.3

Reviewed By

Verified By

Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 0674-3511721
E-mail : visiontek@visiontek.org, visiontekin@gmail.com
Visit us at: www.visiontek.org

VISIONTEK

Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Ref : Envlab/25-26/TR-01432

Date : 02.05.2025

FINAL DISCHARGE WATER QUALITY ANALYSIS REPORT FOR APRIL-2025

1. Name of Industry : **M/s Power Plant, Athagarh, TATA Steel Limited**
2. Sampling Location : **FD-I: Guard Pond**
   FD-II: Coal Runoff System Outlet
3. Date of Sampling : **19.04.2025**
4. Date of Analysis : **21.04.2025 TO 26.04.2025**
5. Sample Collected By : **VCSPL Representative**

Sl. No.	Parameters	Unit	*Standards (In land Surface water)	Analysis Result	
				FD-I	FD-II
1	Colour	Hazen	5	<5	<5
2	Odour	---	Agreeable	Agreeable	Agreeable
3	Total Suspended solids	mg/l	100	48	61
4	Particle size of TSS	µ(micron)	<850	Passed	Passed
5	pH (at 25°C)	--	5.5-9.0	6.96	7.20
6	Temperature	°C	Shall not exceed 5°C above the receiving water	29.4	30.5
7	Oil & Grease	mg/l	10	8.2	9.0
8	Total Residual Chlorine	mg/l	1.0	<0.1	<0.1
9	Total Kjeldahl Nitrogen (NH3)	mg/l	100	12.0	13.5
10	Free Ammonia (NH3)	mg/l	5.0	0.20	0.26
11	Biochemical Oxygen Demand (BOD, 3 days 270 C)	mg/l	30	24.0	26.6
12	Chemical Oxygen Demand (COD)	mg/l	250	75.0	84.0
13	Arsenic (As)	mg/l	0.2	<0.01	<0.01
14	Mercury (Hg)	mg/l	0.01	<0.001	<0.001
15	Lead (Pb)	mg/l	0.1	<0.005	<0.005
16	Cadmium (Cd)	mg/l	2.0	<0.005	<0.005
17	Hexavalent Chromium (Cr+6)	mg/l	0.1	<0.01	<0.01
18	Total Chromium (Cr)	mg/l	2.0	<0.05	<0.05
19	Copper (Cu)	mg/l	3.0	<0.05	<0.05
20	Zinc(Zn)	mg/l	5.0	0.51	1.08
21	Selenium (Se)	mg/l	0.05	<0.01	<0.01
22	Nickel (Ni)	mg/l	3.0	<0.01	<0.01
23	Cyanide (CN)	mg/l	0.2	<0.05	<0.05
24	Fluoride (F)	mg/l	2.0	1.69	1.6
25	Dissolved Phosphates (P)	mg/l	5.0	2.44	2.6
26	Sulphide (S)	mg/l	2.0	<0.05	<0.05
27	Phenolic Compounds (C_6H_5OH)	mg/l	1.0	<0.001	<0.001
28	Bio-assay Test (% of survival of fish after 96 hrs in 100% effluent)	%	90% survival of fish after 96 hours in 100% effluent	86%	83%
29	Manganese (Mn)	mg/l	2	<0.05	<0.05
30	Iron (Fe)	mg/l	3	1.35	2.3
31	Nitrate Nitrogen	mg/l	10	6.9	9.5

*Substituted by Rule 2 of the Environment (Protection) Amended Rules, 1996 notified by G.S.R 176, dated 02.04.1996

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BHUBANESWAR

Reviewed By

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BHUBANESWAR

Verified By

VISIONTEK

Visiontek Consultancy Services Pvt.Ltd

(Committed For Better Environment)

Ref : Envlab/25-26/TR- 09281

Date : 03.07.2025

FINAL DISCHARGE WATER QUALITY ANALYSIS REPORT FOR JUNE-2025

1. Name of Industry : **M/s Power Plant, Athagarh, TATA Steel.**
2. Sampling Location : **FD-I: Guard Pond**
   FD-II: Coal Runoff System Outlet
3. Date of Sampling : **27.06.2025**
4. Date of Analysis : **28.06.2025 TO 03.07.2025**
5. Sample Collected By : **VCSPL Representative**

Sl. No.	Parameters	Unit	*Standards (In land Surface water)	Analysis Result	
				FD-I	FD-II
1	Colour	Hazen	5	<5	<5
2	Odour	---	Agreeable	Agreeable	Agreeable
3	Total Suspended solids	mg/l	100	42	65
4	Particle size of TSS	µ(micron)	<850	Passed	Passed
5	pH (at 25°C)	--	5.5-9.0	6.80	6.96
6	Temperature	°C	Shall not exceed 5°C above the receiving water	28.0	29.5
7	Oil & Grease	mg/l	10	9.2	9.5
8	Total Residual Chlorine	mg/l	1.0	<0.1	<0.1
9	Total Kjeldahl Nitrogen (NH3)	mg/l	100	3.0	4.5
10	Free Ammonia (NH3)	mg/l	5.0	0.18	0.25
11	Biochemical Oxygen Demand (BOD, 3 days 270 C)	mg/l	30	20.0	28.0
12	Chemical Oxygen Demand (COD)	mg/l	250	66.0	84.0
13	Arsenic (As)	mg/l	0.2	<0.004	<0.004
14	Mercury (Hg)	mg/l	0.01	<0.004	<0.004
15	Lead (Pb)	mg/l	0.1	<0.02	<0.02
16	Cadmium (Cd)	mg/l	2.0	<0.02	<0.01
17	Hexavalent Chromium (Cr+6)	mg/l	0.1	<0.01	<0.01
18	Total Chromium (Cr)	mg/l	2.0	<0.05	<0.05
19	Copper (Cu)	mg/l	3.0	<0.02	<0.02
20	Zinc(Zn)	mg/l	5.0	0.44	1.08
21	Selenium (Se)	mg/l	0.05	<0.001	<0.001
22	Nickel (Ni)	mg/l	3.0	<0.1	<0.1
23	Cyanide (CN)	mg/l	0.2	<0.01	<0.01
24	Fluoride (F)	mg/l	2.0	1.33	1.8
25	Dissolved Phosphates (P)	mg/l	5.0	2.08	2.5
26	Sulphide (S)	mg/l	2.0	<0.05	<0.05
27	Phenolic Compounds (C_6H_5OH)	mg/l	1.0	<0.05	<0.05
28	Bio-assay Test (% of survival of fish after 96 hrs in 100% effluent)	%	90% survival of fish after 96 hours in 100% effluent	86%	83%
29	Manganese (Mn)	mg/l	2	<0.025	<0.025
30	Iron (Fe)	mg/l	3	1.22	2.0
31	Nitrate Nitrogen	mg/l	10	7.2	9.4

*Substituted by Rule 2 of the Environment (Protection) Amended Rules, 1996 notified by G.S.R 176, dated 02.04.1996

ND- Not detected,BDL(Below detection limit) Values-(Cu<0.02mg/l , Mn<0.025mg/l,C_6H_5OH<0.05 mg/l, Hg<0.004 mg/l, Cd<0.01 mg/l ,Se<0.001 mg/l,CN<0.01,As<0.004 mg/l,Pb<0.02 mg/l, Zn<0.03 mg/l, Cr^{+6}<0.01 mg/l)

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Reviewed By

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Verified By

Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 0674-3511721
E-mail : visiontek@visiontek.org, visiontekin@gmail.com
Visit us at: www.visiontek.org

VISIONTEK

Visiontek Consultancy Services Pvt.Ltd

(Committed For Better Environment)

Ref : Envlab/25-26/TR-09282

Date : 03.07.2025

DOMESTIC EFFLUENT QUALITY ANALYSIS REPORT FOR JUNE-2025

1. Name of Industry : M/s Power Plant, Athagarh, TATA Steel.
2. Sampling Location : STP Inlet
   STP Outlet
3. Date of sampling : 27.06.2025
4. Date of analysis : 28.06.2025 TO 03.07.2025
5. Sample collected by : VCSPL Representative

Sl. No.	Parameters	Unit	MoEF&CC Notification G.S.R 1265 (E), Dt. 13.10.2017	Analysis Results	
				STP Inlet	STP Outlet
1	pH(at 25°C)	--	6.5- 9.0	7.20	7.59
2	Biochemical Oxygen Demand (BOD, 3 days 27^0 C)	mg/l	< 30	16.8	12.0
3	Total Suspended Solids (TSS)	mg/l	< 100	41.0	25.0
4	Faecal Coliform	MPN/100ml	<1000	430	220
5	Chemical Oxygen Demand	mg/l	--	60.0	48.0
6	Total Nitrogen	mg/l	--	26.5	20.1
7	Total Phosphorous	mg/l	--	9.1	6.0

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Reviewed By

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Verified By

Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 0674-3511721
E-mail : visiontek@visiontek.org, visiontekin@gmail.com
Visit us at: www.visiontek.org

Visiontek Consultancy Services Pvt.Ltd

(Committed For Better Environment)

Ref : Envlab/25-26/TR-11834

Date : 04.09.2025

DOMESTIC EFFLUENT QUALITY ANALYSIS REPORT FOR AUGUST-2025

1. **Name of Industry** : **M/s Power Plant, Athagarh, TATA Steel.**
2. **Sampling Location** : **STP Inlet**
   STP Outlet
3. **Date of sampling** : **30.08.2025**
4. **Date of analysis** : **31.08.2025 TO 04.09.2025**
5. **Sample collected by** : **VCSPL Representative**

Sl. No.	Parameters	Unit	MoEF&CC Notification G.S.R 1265 (E), Dt. 13.10.2017	Analysis Results	
				STP Inlet	STP Outlet
1	pH(at 25°C)	--	6.5- 9.0	7.30	7.67
2	Biochemical Oxygen Demand (BOD, 3 days 27^0 C)	mg/l	< 30	16.6	10.4
3	Total Suspended Solids (TSS)	mg/l	< 100	48.0	25.0
4	Faecal Coliform	MPN/100ml	<1000	378	202
5	Chemical Oxygen Demand	mg/l	--	56.0	42.0
6	Total Nitrogen	mg/l	--	21.6	18.8
7	Total Phosphorous	mg/l	--	8.8	6.9

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Reviewed By

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Verified By

Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 0674-3511721
E-mail : visiontek@visiontek.org, visiontekin@gmail.com
Visit us at: www.visiontek.org

Visiontek Consultancy Services Pvt.Ltd

(Committed For Better Environment)

VISIONTEK

Ref : Envlab/25-26/TR- 11833

Date : 04.09.2025

FINAL DISCHARGE WATER QUALITY ANALYSIS REPORT FOR AUGUST-2025

1. Name of Industry : **M/s Power Plant, Athagarh, TATA Steel.**
2. Sampling Location : **FD-I: Guard Pond**
   FD-II: Coal Runoff System Outlet
3. Date of Sampling : **30.08.2025**
4. Date of Analysis : **31.08.2025 TO 04.09.2025**
5. Sample Collected By : **VCSPL Representative**

Sl. No.	Parameters	Unit	*Standards (In land Surface water)	Analysis Result	
				FD-I	FD-II
1	Colour	Hazen	5	<5	<5
2	Odour	---	Agreeable	Agreeable	Agreeable
3	Total Suspended solids	mg/l	100	40	56
4	Particle size of TSS	µ(micron)	<850	Passed	Passed
5	pH (at 25°C)	--	5.5-9.0	6.58	6.77
6	Temperature	^{0}C	Shall not exceed 5°C above the receiving water	26.8	28.5
7	Oil & Grease	mg/l	10	8.0	8.6
8	Total Residual Chlorine	mg/l	1.0	<0.1	<0.1
9	Total Kjeldahl Nitrogen (NH3)	mg/l	100	3.8	5.4
10	Free Ammonia (NH3)	mg/l	5.0	0.18	0.21
11	Biochemical Oxygen Demand (BOD, 3 days 270 C)	mg/l	30	15.0	22.0
12	Chemical Oxygen Demand (COD)	mg/l	250	61.0	82.0
13	Arsenic (As)	mg/l	0.2	<0.01	<0.01
14	Mercury (Hg)	mg/l	0.01	<0.001	<0.001
15	Lead (Pb)	mg/l	0.1	<0.005	<0.005
16	Cadmium (Cd)	mg/l	2.0	<0.005	<0.005
17	Hexavalent Chromium (Cr+6)	mg/l	0.1	<0.01	<0.01
18	Total Chromium (Cr)	mg/l	2.0	<0.01	<0.01
19	Copper (Cu)	mg/l	3.0	<0.05	<0.05
20	Zinc(Zn)	mg/l	5.0	0.41	1.15
21	Selenium (Se)	mg/l	0.05	<0.01	<0.01
22	Nickel (Ni)	mg/l	3.0	<0.1	<0.1
23	Cyanide (CN)	mg/l	0.2	<0.05	<0.05
24	Fluoride (F)	mg/l	2.0	1.44	1.6
25	Dissolved Phosphates (P)	mg/l	5.0	2.36	2.9
26	Sulphide (S)	mg/l	2.0	<0.05	<0.05
27	Phenolic Compounds (C_6H_5OH)	mg/l	1.0	<0.001	<0.001
28	Bio-assay Test (% of survival of fish after 96 hrs in 100% effluent)	%	90% survival of fish after 96 hours in 100% effluent	86%	83%
29	Manganese (Mn)	mg/l	2	<0.05	<0.05
30	Iron (Fe)	mg/l	3	1.4	2.2
31	Nitrate Nitrogen	mg/l	10	6.1	9.3

*Substituted by Rule 2 of the Environment (Protection) Amended Rules, 1996 notified by G.S.R 176, dated 02.04.1996
ND- Not detected,BDL(Below detection limit)

VISIONTEK CONSULTANCY SERVICES

Reviewed By

VISIONTEK CONSULTANCY SERVICES

Verified By

Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 0674-3511721
E-mail : visiontek@visiontek.org, visiontekin@gmail.com
Visit us at: www.visiontek.org

ANNEXURE – III

Visiontek Consultancy Services Pvt.Ltd

(Committed For Better Environment)

Ref : Envlab/25-26/TR-11832 **Date : 04.09.2025**

SURFACE WATER QUALITY ANALYSIS REPORT FOR AUGUST-2025

1. Name of Industry : M/s Power Plant, Athagarh, TATA Steel.
2. Sampling Location : SW-1: Mahanadi River
   SW-II: Sapua Nadi
3. Date of sampling : 30.08.2025
4. Date of analysis : 31.08.2025 TO 04.09.2025
5. Sample collected by : VCSPL Representative

Sl. No.	Parameter	Unit	Standards as per IS-2296:1992 Class –'C'	Analysis Results	
				SW-I	SW-II
1	Colour (max)	Hazen	300	30	45
2	pH Value (at 25°C)	--	6.0-9.0	6.91	6.80
3	Suspended solids	mg/l	-	70	86
4	Dissolved Oxygen (minimum)	mg/l	4.0	5.0	5.1
5	Turbidity	NTU	--	14.8	28.6
6	Chloride (max)	mg/l	600	22.5	30.0
7	Total Dissolved Solids	mg/l	1500	378	422
8	BOD (3) days at 27^0C (max)	mg/l	3.0	1.6	1.8
9	Arsenic as As	mg/l	0.2	<0.01	<0.01
10	Lead as Pb(max)	mg/l	0.1	<0.005	<0.005
11	Cadmium as Cd (max)	mg/l	0.01	<0.005	<0.005
12	Hexavalent Chromium as Cr^{+6}	mg/l	0.05	<0.01	<0.01
13	Copper as Cu (max)	mg/l	1.5	<0.05	<0.05
14	Zinc as Zn(max)	mg/l	15	<0.03	<0.03
15	Selenium as Se (max)	mg/l	0.05	<0.01	<0.01
16	Cyanide as CN (max)	mg/l	0.05	<0.05	<0.05
17	Fluoride as F (max)	mg/l	1.5	0.43	0.75
18	Sulphates (SO_4) (max)	mg/l	400	17.8	20.2
19	Phenolic Compounds as C_6H_5OH (max)	mg/l	0.005	<0.001	<0.001
20	Iron as Fe (max)	mg/l	0.5	0.41	0.44
21	Nitrate as NO_3, (max)	mg/l	50	1.54	2.9
22	Anionic Detergents (max)	mg/l	1.0	<0.2	<0.2
23	Total Coli form	MPN/ 100 ml	5000	270	720

Note- Turbidity & Suspended solids are analyzed which is not a scheduled parameter under IS-2296, Class-C.

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Reviewed By

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Verified By

Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 0674-3511721
E-mail : visiontek@visiontek.org, visiontekin@gmail.com
Visit us at: www.visiontek.org

Visiontek Consultancy ServicesPvt.Ltd

(Committed For Better Environment)

Ref : Envlab/25-26/TR-12867

Date : 29.09.2025

SURFACE WATER QUALITY ANALYSIS REPORT FOR SEPTEMBER-2025

1. Name of Industry : M/s Power Plant, Athagarh, TATA Steel.
2. Sampling Location : SW-1: Mahanadi River
   SW-II: Sapua Nadi
3. Date of sampling : 06.09.2025
4. Date of analysis : 08.09.2025 TO 14.09.2025
5. Sample collected by : VCSPL Representative

Sl. No.	Parameter	Unit	Standards as per IS-2296:1992 Class –'C'	Analysis Results	
				SW-I	SW-II
1	Colour (max)	Hazen	300	32	41
2	pH Value (at 25°C)	--	6.0-9.0	6.95	6.83
3	Suspended solids	mg/l	-	63	79
4	Dissolved Oxygen (minimum)	mg/l	4.0	5.2	5.4
5	Turbidity	NTU	--	43.2	49.0
6	Chloride (max)	mg/l	600	20.0	35.0
7	Total Dissolved Solids	mg/l	1500	361	409
8	BOD (3) days at 27^0C (max)	mg/l	3.0	1.4	1.5
9	Arsenic as As	mg/l	0.2	<0.01	<0.01
10	Lead as Pb(max)	mg/l	0.1	<0.005	<0.005
11	Cadmium as Cd (max)	mg/l	0.01	<0.005	<0.005
12	Hexavalent Chromium as Cr^{+6}	mg/l	0.05	<0.01	<0.01
13	Copper as Cu (max)	mg/l	1.5	<0.05	<0.05
14	Zinc as Zn(max)	mg/l	15	<0.03	<0.03
15	Selenium as Se (max)	mg/l	0.05	<0.01	<0.01
16	Cyanide as CN (max)	mg/l	0.05	<0.05	<0.05
17	Fluoride as F (max)	mg/l	1.5	0.40	0.61
18	Sulphates (SO_4) (max)	mg/l	400	16.9	21.2
19	Phenolic Compounds as C_6H_5OH (max)	mg/l	0.005	<0.001	<0.001
20	Iron as Fe (max)	mg/l	0.5	0.42	0.45
21	Nitrate as NO_3, (max)	mg/l	50	1.38	2.6
22	Anionic Detergents (max)	mg/l	1.0	<0.2	<0.2
23	Total Coli form	MPN/ 100 ml	5000	330	790

Note- Turbidity & Suspended solids are analyzed which is not a scheduled parameter under IS-2296, Class-C.

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Reviewed By

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Verified By

Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 0674-3511721
E-mail : visiontek@visiontek.org, visiontekin@gmail.com
Visit us at: www.visiontek.org

Visiontek Consultancy Services Pvt.Ltd

(Committed For Better Environment)

VISIONTEK

Ref : Envlab/25-26/TR-09280 **Date : 03.07.2025**

SURFACE WATER QUALITY ANALYSIS REPORT FOR JUNE-2025

1. Name of Industry : M/s Power Plant, Athagarh, TATA Steel.
2. Sampling Location : SW-1: Mahanadi River
   SW-II: Sapua Nadi
3. Date of sampling : 27.06.2025
4. Date of analysis : 28.06.2025 TO 03.07.2025
5. Sample collected by : VCSPL Representative

Sl. No.	Parameter	Unit	Standards as per IS-2296:1992 Class –'C'	Analysis Results	
				SW-I	SW-II
1	Colour (max)	Hazen	300	20	35
2	pH Value (at 25°C)	--	6.0-9.0	7.12	6.98
3	Suspended solids	mg/l	-	55	78
4	Dissolved Oxygen (minimum)	mg/l	4.0	4.2	4.4
5	Turbidity	NTU	--	10.6	21.2
6	Chloride (max)	mg/l	600	15.0	30.0
7	Total Dissolved Solids	mg/l	1500	340	386
8	BOD (3) days at 27^0C (max)	mg/l	3.0	2.8	2.9
9	Arsenic as As	mg/l	0.2	<0.004	<0.004
10	Lead as Pb(max)	mg/l	0.1	<0.02	<0.02
11	Cadmium as Cd (max)	mg/l	0.01	<0.03	<0.03
12	Hexavalent Chromium as Cr^{+6}	mg/l	0.05	<0.01	<0.01
13	Copper as Cu (max)	mg/l	1.5	<0.05	<0.05
14	Zinc as Zn(max)	mg/l	15	<0.03	<0.03
15	Selenium as Se (max)	mg/l	0.05	<0.001	<0.001
16	Cyanide as CN (max)	mg/l	0.05	<0.01	<0.01
17	Fluoride as F (max)	mg/l	1.5	0.36	0.62
18	Sulphates (SO_4) (max)	mg/l	400	16.8	22.3
19	Phenolic Compounds as C_6H_5OH (max)	mg/l	0.005	<0.05	<0.05
20	Iron as Fe (max)	mg/l	0.5	0.38	0.42
21	Nitrate as NO_3, (max)	mg/l	50	1.34	2.6
22	Anionic Detergents (max)	mg/l	1.0	<0.2	<0.2
23	Total Coli form	MPN/ 100 ml	5000	210	540

Note- Turbidity & Suspended solids are analyzed which is not a scheduled parameter under IS-2296, Class-C.

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Reviewed By

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Verified By

Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 0674-3511721
E-mail : visiontek@visiontek.org, visiontekin@gmail.com
Visit us at: www.visiontek.org

Ref : Envlab/25-26/TR-10693

Date : 04.08.2025

SURFACE WATER QUALITY ANALYSIS REPORT FOR JULY-2025

1. Name of Industry : M/s Power Plant, Athagarh, TATA Steel.
2. Sampling Location : SW-1: Mahanadi River
   SW-II: Sapua Nadi
3. Date of sampling : 18.07.2025
4. Date of analysis : 19.07.2025 TO 25.07.2025
5. Sample collected by : VCSPL Representative

Sl. No.	Parameter	Unit	Standards as per IS-2296:1992 Class –'C'	Analysis Results	
				SW-I	SW-II
1	Colour (max)	Hazen	300	25	40
2	pH Value (at 25°C)	--	6.0-9.0	7.0	6.86
3	Suspended solids	mg/l	-	60	81
4	Dissolved Oxygen (minimum)	mg/l	4.0	4.8	5.0
5	Turbidity	NTU	--	51.4	53.2
6	Chloride (max)	mg/l	600	20.0	35.0
7	Total Dissolved Solids	mg/l	1500	364	405
8	BOD (3) days at 27^0C (max)	mg/l	3.0	2.2	2.6
9	Arsenic as As	mg/l	0.2	<0.01	<0.01
10	Lead as Pb(max)	mg/l	0.1	<0.005	<0.005
11	Cadmium as Cd (max)	mg/l	0.01	<0.005	<0.005
12	Hexavalent Chromium as Cr^{+6}	mg/l	0.05	<0.01	<0.01
13	Copper as Cu (max)	mg/l	1.5	<0.05	<0.05
14	Zinc as Zn(max)	mg/l	15	<0.03	<0.03
15	Selenium as Se (max)	mg/l	0.05	<0.01	<0.01
16	Cyanide as CN (max)	mg/l	0.05	<0.05	<0.05
17	Fluoride as F (max)	mg/l	1.5	0.39	0.68
18	Sulphates (SO_4) (max)	mg/l	400	18.4	23.8
19	Phenolic Compounds as C_6H_5OH (max)	mg/l	0.005	<0.001	<0.001
20	Iron as Fe (max)	mg/l	0.5	0.40	0.45
21	Nitrate as NO_3, (max)	mg/l	50	1.45	2.8
22	Anionic Detergents (max)	mg/l	1.0	<0.2	<0.2
23	Total Coli form	MPN/ 100 ml	5000	220	630

Note- Turbidity & Suspended solids are analyzed which is not a scheduled parameter under IS-2296, Class-C.

Reviewed By

Verified By

Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Ref : Envlab/25-26/TR-01431

Date : 02.05.2025

SURFACE WATER QUALITY ANALYSIS REPORT FOR APRIL-2025

1. Name of Industry : M/s Power Plant, Athagarh, TATA Steel Limited.
2. Sampling Location : SW-1: Mahanadi River
   SW-II: Sapua Nadi
3. Date of sampling : 19.04.2025
4. Date of analysis : 21.04.2025 TO 26.04.2025
5. Sample collected by : VCSPL Representative

Sl. No.	Parameter	Unit	Standards as per IS-2296:1992 Class –'C'	Analysis Results	
				SW-I	SW-II
1	Colour (max)	Hazen	300	20	25
2	pH Value (at 25°C)	--	6.0-9.0	7.23	7.0
3	Suspended solids	mg/l	-	54	71
4	Dissolved Oxygen (minimum)	mg/l	4.0	4.5	4.2
5	Turbidity	NTU	--	13.8	20.6
6	Chloride (max)	mg/l	600	25.0	35.0
7	Total Dissolved Solids	mg/l	1500	346	361
8	BOD (3) days at 27^{0}C (max)	mg/l	3.0	2.8	2.8
9	Arsenic as As	mg/l	0.2	<0.01	<0.01
10	Lead as Pb(max)	mg/l	0.1	<0.005	<0.005
11	Cadmium as Cd (max)	mg/l	0.01	<0.005	<0.005
12	Hexavalent Chromium as Cr^{+6}	mg/l	0.05	<0.01	<0.01
13	Copper as Cu (max)	mg/l	1.5	<0.05	<0.05
14	Zinc as Zn(max)	mg/l	15	<0.03	<0.03
15	Selenium as Se (max)	mg/l	0.05	<0.01	<0.01
16	Cyanide as CN (max)	mg/l	0.05	<0.05	<0.05
17	Fluoride as F (max)	mg/l	1.5	0.44	0.53
18	Sulphates (SO_4) (max)	mg/l	400	18.6	21.8
19	Phenolic Compounds as C_6H_5OH (max)	mg/l	0.005	<0.001	<0.001
20	Iron as Fe (max)	mg/l	0.5	0.39	0.44
21	Nitrate as NO_3 (max)	mg/l	50	1.16	2.3
22	Anionic Detergents (max)	mg/l	1.0	<0.2	<0.2
23	Total Coli form	MPN/ 100 ml	5000	260	550

Note- Turbidity & Suspended solids are analyzed which is not a scheduled parameter under IS-2296, Class-C.

Reviewed By

Verified By

Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 0674-3511721
E-mail : visiontek@visiontek.org, visiontekin@gmail.com
Visit us at: www.visiontek.org

Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

VISIONTEK

Ref : Envlab/25-26/TR- 08605 **Date : 02.06.2025**

SURFACE WATER QUALITY ANALYSIS REPORT FOR MAY-2025

1. Name of Industry : M/s Tata Steel Limited, Power Plant Athagarh.
2. Sampling Location : SW-1: Mahanadi River
SW-II: Sapua Nadi
3. Date of sampling : 03.05.2025
4. Date of analysis : 03.05.2025 TO 08.05.2025
5. Sample collected by : VCSPL Representative

Sl. No.	Parameter	Unit	Standards as per IS-2296:1992 Class –'C'	Analysis Results	
				SW-I	SW-II
1	Colour (max)	Hazen	300	20	25
2	pH Value (at 25°C)	--	6.0-9.0	7.17	7.1
3	Suspended solids	mg/l	-	56	68
4	Dissolved Oxygen (minimum)	mg/l	4.0	4.4	4.2
5	Turbidity	NTU	--	11.6	18.5
6	Chloride (max)	mg/l	600	20.0	32.5
7	Total Dissolved Solids	mg/l	1500	325	354
8	BOD (3) days at 27^0C (max)	mg/l	3.0	2.6	2.8
9	Arsenic as As	mg/l	0.2	<0.004	<0.004
10	Lead as Pb(max)	mg/l	0.1	<0.02	<0.02
11	Cadmium as Cd (max)	mg/l	0.01	<0.03	<0.03
12	Hexavalent Chromium as Cr^{+6}	mg/l	0.05	<0.01	<0.01
13	Copper as Cu (max)	mg/l	1.5	<0.05	<0.05
14	Zinc as Zn(max)	mg/l	15	<0.03	<0.03
15	Selenium as Se (max)	mg/l	0.05	<0.001	<0.001
16	Cyanide as CN (max)	mg/l	0.05	<0.01	<0.01
17	Fluoride as F (max)	mg/l	1.5	0.40	0.52
18	Sulphates (SO_4) (max)	mg/l	400	19.4	20.2
19	Phenolic Compounds as C_6H_5OH (max)	mg/l	0.005	<0.05	<0.05
20	Iron as Fe (max)	mg/l	0.5	0.39	0.42
21	Nitrate as NO_3, (max)	mg/l	50	1.12	2.0
22	Anionic Detergents (max)	mg/l	1.0	<0.2	<0.2
23	Total Coli form	MPN/ 100 ml	5000	220	480

Note- Turbidity & Suspended solids are analyzed which is not a scheduled parameter under IS-2296, Class-C.

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

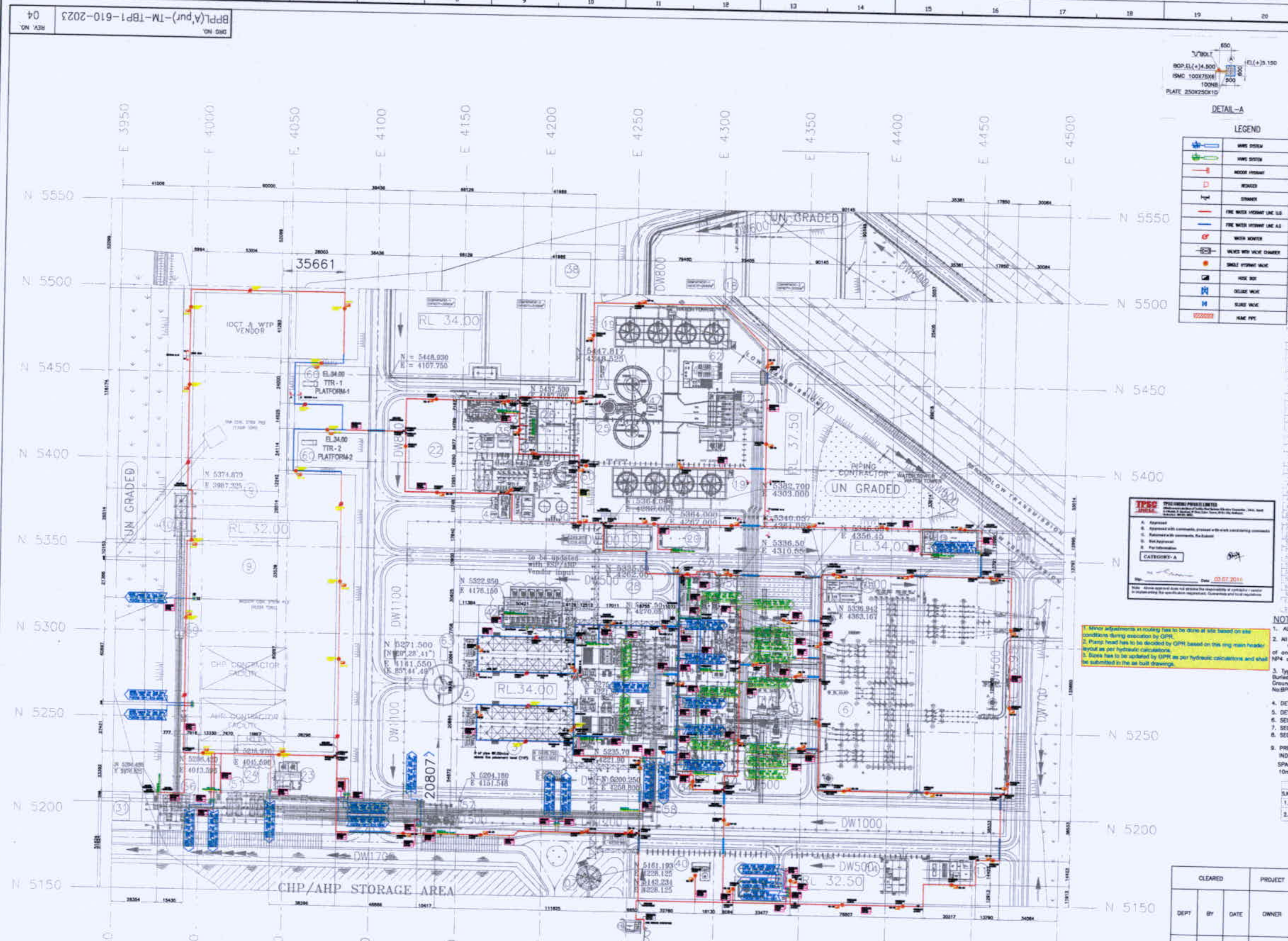
Reviewed By

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Verified By

ANNEXURE - IV

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT



1. Minor adjustments in routing has to be done at site based on site conditions during execution by GPR.
2. Pump head has to be decided by GPR based on the ring main header layout as per hydraulic calculations.
3. Sizes has to be updated by GPR as per hydraulic calculations and shall be submitted in the as built drawings.

NOTES

1. ALL DIMENSIONS ARE IN MM AND COORDINATES ARE IN METRES UNLESS NOTED.
2. All hydrant lines to be laid along the road side with the distance of 1.0m from the road / drain. hydrant pipe should be covered by hume pipe of one size higher then the hydrant pipe size preferably of class NP3 / NP4 at the road crosings.
3. Typical Details of Hydrant Valves, Water Monitors,Valve Chambers, Buried Pipe Road Crossings, Internal and External Hose Box and Under Ground Mains Please refer in the Drawing No:BPPL(A'pur)-TM-TBP1-610-2023 SH 2 OF 2
4. DETAIL – A
5. DETAIL – B
6. SECTION – A-A
7. SECTION – B-B
8. SECTION – C-C

(4–8) Please refer in the Drawing No: BPPL(A'pur)-TM-TBP1-610-2023 SH 2 OF 2

9. PREFERRED LOCATION AT 10.5m LVL. OF INERT GAS CYLINDER BANKS IS INDICATED. LOCATION TO BE CONFIRMED.
SPACE FOR IG541 GAS CYLINDER BANK ASSEMBLY AREA 10m LENGTH X 7m WIDTH X 4m HEIGHT

REFERENCE DRAWINGS

S.NO	DESCRIPTION	DRAWING NO	REV
1.	PLOT PLAN	BPPL(A'pur)-WM-TBP1-115-0100	04
2.	PLANT DRAIN LAYOUT AND DETAILS	BPPL(A'pur)-WC-TBP1-385-0302	01

REV.	DESCRIPTION	DATE	DRAWN	CHKD.	APPD.
04	Revised asper TPSC Comment dated 3-7-14	03-7-14	CR	RV	SD
03	Revised asper TPSC Comment dated 22-3-14	04-4-14	CR	RV	SD
02	Revised asper TPSC Comment dated 13-3-14	15-3-14	CR	RV	SD
01	Revised asper TPSC Comment dated 28-2-14	8-3-14	CR	RV	SD
00	ISSUEING FOR APPROVEL	25-1-14	CR	RV	SD

CLEARED			
DEPT	BY	DATE	
MECH.			
ELEC.			
CIVIL			
I & C			
PM			

PROJECT: 2 X 67.5 MW THERMAL POWER PLANT, ANANTAPUR VILLAGE, ATHAGARH (TEHSIL), CUTTACK DISTRICT, ODISHA, INDIA

OWNER: BHUBANESHWAR POWER PRIVATE LIMITED
Corporate Office: 1st Floor, Vasantha Chambers, Fateh Maidan Road, Basheerbagh, Hyderabad - 500 004
Project Office: RD-7, 1st Floor, VIP Area, IRC Village, Nayapalli, Bhubaneshwar - 751 015

OWNER'S CONSULTANT: TPSC (INDIA) PRIVATE LIMITED
(Wholly owned subsidiary of Toshiba Plant systems & Services Corporation, Tokyo, Japan)
A-1 Module, D-Quadrant, 2nd & 9th Floor, Cyber Towers, Hi-Tec City, Madhapur, HYDERABAD - 500 081, INDIA.

VENDOR: GPR TUBES & TAPE (P) LIMITED
Plot No.76, Mahalakshmi Nagar, Extension 5, 2nd Main Road, Thiruverkadu, Chennai-600 077

TITLE: Fire Ringmain & Outdoor Hydrant Piping Layout

BPPL DWG.NO. BPPL(A'pur)-TM-TBP1-610-2023 | TPSC DWG.NO. –

SH. NO 1 of 2 | SCALE : 1 : 1175 | SH. SIZE A1 | PREPARED BY CR DATE 22-03-14 | CHECKED BY RV DATE 22-03-14 | APPROVED BY SD DATE 22-03-14 | DATE 03-7-14 | REV. 04

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

ANNEXURE-V

Visiontek Consultancy Services Pvt.Ltd

(Committed For Better Environment)

Ref : Envlab/25-26/TR- 10016

Date : 03.07.2025

NOISE MONITORING REPORT FOR JUNE-2025

1. **Name of Industry** : **M/s Power Plant Athagarh, TATA Steel.**
2. **Date of Sampling** : **30.06.2025**
3. **Name of Sampling Instrument : SLM 100**
4. **Sample Collected By** : **VCSPL Representative**

Sl. No.	Location	Noise level in dB(A) Day time	Remarks
1	At Plant Gate	58.8	Vehicle movement was there
2	Near Security Barrack	60.2	Vehicle movement was there
3	At Weigh Bridge	55.8	Vehicle movement was there
4	Near Canteen	51.9	Vehicle movement was there
5	At OPTCL Control Room	60.6	--
6	132 KV Switch yard area	75.9	--
7	At New Admin Building	67.2	During Plant operation
8	At LDO Tank area	65.1	Vehicle movement was there
9	At Silo area	86.9	During ash loading to vehicles
10	At Main Ash Dyke area	72.0	Vehicle movement was there
11	At Mini Ash Dyke area	75.3	Vehicle movement was there
12	At CHP Primary Crusher	74.4	During Plant operation
13	At CHP Secondary Crusher	72.2	During Plant operation
14	At Ground Hopper	62.5	Measured at 1 mt distance while loading to Hopper
15	At Coal yard area North side	59.1	Measured during coal was unloaded from trucks
16	At Coal yard area South side	66.4	Measured during coal was unloaded from trucks
17	At coal runoff pit	74.3	Vehicle movement was there
18	At Boiler-I (Ground Floor)	84.1	During Plant operation
19	At Boiler -I (Bunker Floor)	81.2	During Plant operation
20	At Boiler -I (Burner Floor)	85.6	During Plant operation
21	At Boiler-II (Ground Floor)	79.1	During Plant operation
22	At Boiler -II (Bunker Floor)	79.8	During Plant operation
23	At Boiler –II (Burner Floor)	85.8	During Plant operation
24	At ESP-I area	83.0	During Plant operation
25	At ESP-II area	83.9	During Plant operation
26	At Chimney Area	85.8	ID fans were in operation
27	At Main water Reservoir	59.1	During Plant operation
28	At DM Plant area	85.6	Pumps were in operation
29	At Clariflocculator	61.6	During plant operation
30	Near Cooling Tower-I	79.8	During Plant operation
31	Near Cooling Tower-II	83.2	During Plant operation
32	TG Building Ground Floor (South side)	75.8	Pumps were in operation
33	TG Building Ground Floor (North side)	71.9	During Plant operation
34	At TG-I	86.9	TG was in operation (measured at 1mt distance)
35	At TG-II	70.1	TG was in operation (measured at 1mt distance)
36	At Control Room	69.9	During Plant operation
37	AHP Compressor room	86.1	Compressors were in operation
38	Plant Compressor house	84.2	Compressors were in operation
39	At Emergency DG Set	76.3	DG was not in operation
40	At Store yard area	56.1	Minor work was carried out
41	At Rest Room	58.8	--
42	Nuasasan village	59.2	Vehicle movement was there
43	Berhampur village	63.8	Vehicle movement was there

Note: The instrument was auto-calibrated before use

Prepared By

Verified By

Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 0674-3511721
E-mail : visiontek@visiontek.org, visiontekin@gmail.com
Visit us at: www.visiontek.org

VISIONTEK

Visiontek Consultancy Services Pvt.Ltd

(Committed For Better Environment)

Ref : Envlab/25-26/TR-10018

Date : 03.07.2025

DG SET NOISE MONITORING REPORT FOR JUNE-2025

1. **Name of Industry** : **M/s Power Plant Athagarh, TATA Steel.**
2. **Date of Sampling** : **30.06.2025**
3. **Name of Sampling Instrument** : **SLM 100**
4. **Noise measure by** : **VCSPL Representative**
5. **Location** : **1 mt away from the DG Set, CUMINS make (1010 KVA) (Measured while in operation mode)**

Sl. No.	Location	Noise level in dB(A) Day time	Noise level in dB(A) Night time	Remarks
1	At DG Set South side	74.1	54.2	DG in Operation
2	At DG Set North side	73.9	53.1	DG in Operation
3	At DG Set East side	75.8	54.8	DG in Operation
4	At DG Set West side	76.4	54.0	DG in Operation

Note: The instrument was auto-calibrated before use

Prepared By

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Verified By

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 0674-3511721
E-mail : visiontek@visiontek.org, visiontekin@gmail.com
Visit us at: www.visiontek.org

Ref : Envlab/25-26/TR - 10017

Date : 03.07.2025

NOISE MONITORING REPORT (DAY & NIGHT) FOR JUNE-2025

1. **Name of Industry** : **M/s Power Plant Athagarh, TATA Steel.**
2. **Date of Sampling** : **30.06.2025**
3. **Name of Sampling Instrument** : **SLM 100**
4. **Noise measured by** : **VCSPL Representative**

Sl. No.	Location	Noise level in dB(A) Day time	Noise level in dB(A) Night time	Remarks
1	At Plant Gate	66.2	53.7	Vehicle movement was there
2	At Weigh Bridge	66.9	50.9	Vehicle movement was there
3	At Silo area	74.7	48.3	No ash loading to vehicles
4	At CHP Primary Crusher	68.1	60.6	During Plant operation
5	At Coal yard area	69.6	61.5	Measured during coal was unloaded from trucks
6	At Boiler-I (Ground Floor)	71.3	64.1	During Plant operation
7	At DM Plant area	66.9	54.9	Pumps were in operation
8	At TG-I	74.0	64.2	TG was in operation (measured at 1mt distance)
9	At Switch yard Area	56.1	44.5	--

Note: The instrument was auto-calibrated before use

Prepared By

Verified By

Ref : Envlab/25-26/TR - 10017

Date : 03.07.2025

NOISE MONITORING REPORT (DAY & NIGHT) FOR JUNE-2025

1. **Name of Industry** : **M/s Power Plant Athagarh, TATA Steel.**
2. **Date of Sampling** : **30.06.2025**
3. **Name of Sampling Instrument** : **SLM 100**
4. **Noise measured by** : **VCSPL Representative**

Sl. No.	Location	Noise level in dB(A) Day time	Noise level in dB(A) Night time	Remarks
1	At Plant Gate	66.2	53.7	Vehicle movement was there
2	At Weigh Bridge	66.9	50.9	Vehicle movement was there
3	At Silo area	74.7	48.3	No ash loading to vehicles
4	At CHP Primary Crusher	68.1	60.6	During Plant operation
5	At Coal yard area	69.6	61.5	Measured during coal was unloaded from trucks
6	At Boiler-I (Ground Floor)	71.3	64.1	During Plant operation
7	At DM Plant area	66.9	54.9	Pumps were in operation
8	At TG-I	74.0	64.2	TG was in operation (measured at 1mt distance)
9	At Switch yard Area	56.1	44.5	--

Note: The instrument was auto-calibrated before use

Prepared By

Verified By

ANNEXURE-VI

TATA

The Member Secretary
State Pollution Control Board
Paribesh Bhawan
A/118, Nilakantha Nagar
Unit-8, Bhubaneswar

Ref. No.- TSL/PPA/ENV/60
Date: 25th August 2025

(Sub: Submission of annual Env. Statement for 2024-25)

Ref: 1. Special Condition no: F (2) – 19 of CTO Order vide No.- 4547/ IND-I-CON-6375, Dt.- 23.03.2023.

2. General Condition No (vii) of Environmental Clearance issued to BPPL by MoEF & CC vide No. J -13012/ 91/2008-IA. II (T) Dt. 14.05.2010.

Dear Sir,

We are submitting herewith the Annual Environmental Statement (Form-V) for FY 2024-25 in respect of 135 (2 x 67.5) MW Captive Power Plant of M/s. Bhubaneshwar Power Private Limited, Anantapur.

This is for your kind perusal.

Thanking you,

Yours faithfully,
For Tata Steel Limited
Power Plant Athagarh

TATA STEEL LIMITED * POWER PLANT, ATHAGARH *

Authorised Signatory
Debasish Pattnaik

No.....Dt.....
RECEIVED
26 AUG 2025
S.P.C. BOARD
BHUBANESWAR

(Encl: Form–V for FY 2024-25 containing 7 pages)

Copy to:

1. Regional Director (EZ), MoEF & CC, A/3, Chandrasekharpur, Bhubaneswar-751023
2. Regional Officer, State Pollution Control Board, 586, Surya Vihar, Link Road, Cuttack, Odisha

TATA

The Member Secretary
State Pollution Control Board
Paribesh Bhawan
A/118, Nilakantha Nagar
Unit-8, Bhubaneswar

Ref. No.- TSL/PPA/ENV/60
Date: 25th August 2025

(Sub: Submission of annual Env. Statement for 2024-25)

Ref: 1. Special Condition no. F (2) – 19 of CTO Order vide No.- 4547/ IND-I-CON-6375, Dt.- 23.03.2023.

2. General Condition No (vii) of Environmental Clearance issued to BPPL by MoEF & CC vide No. J -13012/ 91/2008-IA. II (T) Dt. 14.05.2010.

Dear Sir,

We are submitting herewith the Annual Environmental Statement (Form-V) for FY 2024-25 in respect of 135 (2 x 67.5) MW Captive Power Plant of M/s. Bhubaneshwar Power Private Limited, Anantapur.

This is for your kind perusal.

Thanking you,

Yours faithfully,
For Tata Steel Limited
Power Plant Athagarh

TATA STEEL LIMITED * POWER PLANT ATHAGARH *

Authorised Signatory
Debasish Pattnaik

GOVT. OF INDIA
MoEF & CC Integrated R.O.
Bhubaneswar-751023
26 AUG 2025
RECEIVED

(Encl: Form–V for FY 2024-25 containing 7 pages)

Copy to:

1. Regional Director (EZ), MoEF & CC, A/3, Chandrasekharpur, Bhubaneswar-751023
2. Regional Officer, State Pollution Control Board, 586, Surya Vihar, Link Road, Cuttack, Odisha

TATA

O/C

The Member Secretary
State Pollution Control Board
Paribesh Bhawan
A/118, Nilakantha Nagar
Unit-8, Bhubaneswar

Ref. No.- TSL/PPA/ENV/60
Date: 25th August 2025

(Sub: Submission of annual Env. Statement for 2024-25)

Ref: 1. Special Condition no. F (2) – 19 of CTO Order vide No.- 4547/ IND-I-CON-6375, Dt.- 23.03.2023.

2. General Condition No (vii) of Environmental Clearance issued to BPPL by MoEF & CC vide No. J -13012/ 91/2008-IA. II (T) Dt. 14.05.2010.

Dear Sir,

We are submitting herewith the Annual Environmental Statement (Form-V) for FY 2024-25 in respect of 135 (2 x 67.5) MW Captive Power Plant of M/s. Bhubaneshwar Power Private Limited, Anantapur.

This is for your kind perusal.

Thanking you,

Yours faithfully,
For Tata Steel Limited
Power Plant Athagarh

TATA STEEL LIMITED * POWER PLANT, ATHAGARH *

Debasish Pattnaik

Authorised Signatory
Debasish Pattnaik

(**Encl**: Form–V for FY 2024-25 containing 7 pages)

Copy to:

1. Regional Director (EZ), MoEF & CC, A/3, Chandrasekharpur, Bhubaneswar-751023
2. Regional Officer, State Pollution Control Board, 586, Surya Vihar, Link Road, Cuttack, Odisha

ENVIRONMENTAL STATEMENT FORM-V

(See Rule – 14)

Environmental statement for the financial year ending with 31st March' 2025.

PART-A

General:

i	Name and address of the owner/ occupier of the industry	**Mr. T V NARENDRAN** M/s. TATA STEEL LIMITED, POWER PLANT ATHAGARH Village- Anantapur P.O- Dhurusia Tehsil- Athagarh Dist.- Cuttack, Odisha PIN- 754027
ii	Industry category	Red-A (Thermal Power generation)
iii	Production capacity	135 (2 x 67.5) MW
iv	Year of establishment	Dt. 01.06.2016
v	Date of last Environmental statement submitted	Dt. 02.09.2024

PART-B

Water and Raw material consumption

i. Water consumption (m^3/day)

Process : 396.065
Cooling : 6325.054
Domestic : 13.865

Name of Products	Process water consumption per unit of products	
	During the previous financial year	During the current financial Year
Thermal Power	0.218 (m^3/MWH)	0.15728 (m^3/MWH)

ii. *Raw material consumption*

Name of raw materials*	Name of Products	Consumption of raw material per unit of Output	
		During the previous financial year	During the current financial year
Coal	Thermal Power	0.83691 MT/MWH	0.833549 MT/MWH
LDO		0.162955 Ltr/ MWH	0.207234 Ltr/ MWH

** Industry may use codes if disclosing details of raw material would violate contractual obligations, Otherwise all industries have to name the raw materials used.*

PART-C

Pollution discharged to environment/unit of output
(Parameter as specified in the consent issued)

Pollutants	Quantity of Pollutants discharged (mass/day)	Concentration of Pollutants discharged (mass/volume)	Percentage of variation from prescribed standards with reasons.
(a) Water	Wastewater generated from the process including sewage is treated in ETP and STP. Treated wastewater is being re-used for ash conditioning, dust suppression and gardening purposes		
(b) Air	< 50 mg/Nm^3	< 50 mg/Nm^3	Ambient air quality & Stack emission monitoring reports are submitted regularly to SPCB / MoEF; monitored values are found well within the prescribed limits.

PART-D

HAZARDOUS WASTES

(as specified under Hazardous Wastes (Management & Handling Rules,1989).

Hazardous Wastes	Total Quantity (Kg)	
	During the previous financial year	During the current financial year
1. From Process	2.074 KL (Used Oil) 0.0 KL (Waste containing Oil)	2.520 KL (Used Oil) 0.0 KL (Waste containing Oil)
2. From Pollution Control Facilities	--	--

PART - E

SOLID WASTES:

Solid Wastes		**Total Quantity (Tons)**	
		During the previous financial year	During the current financial year
a. From process		67954.0 (Bottom Ash)	62277.0 (Bottom Ash)
b. From Pollution Control Facility		271820.0 (Fly Ash)	249106.0 (Fly Ash)
c. Quantity recycled or re-utilized within the unit.			
1. **Ash utilization**			
i.	Supply to Brick Plants for Brick making	342713.0	299833.0
ii.	Supply to Cement Plant for Cement making	6211.0	110.0
iii.	Disposal in ash dykes	--	--
iv.	Quarry reclamation	55499.0	00.0
v.	Road making	53286.0	28720.0

The scrap (metal pieces, insulation waste, packing plastics, wooden planks etc.) generated from activities are collected, stored in scrap yard and sold to outside vendors through Industrial Biproduct Management Division (IBMD), Tata Steel Ltd.

PART-F

Please specify the characteristics (in terms of concentration and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

Hazardous Waste

Hazardous Waste generated from the process includes used oil (drained from machineries/ equipment) and oil-soaked cotton waste. Authorization obtained from OSPCB for generation, handling collection, storage and disposal of Hazardous Waste vide letter No.- IND-IV- HW -1202/7312 on Dt. 06.05.2023 and amended (due to amalgamation into and with Tata Steel) vide letter no.- IND-IV-HW-1202/262, 04.01.2025; Valid Date: 31.03.2026. Hazardous waste (Used oil) is stored in hazardous waste storage area & is being disposed off to the SPCB/CPCB authorized re-processors. While oil-soaked cotton waste is incinerated in the Boiler.

SOLID WASTE

For the collection of dry fly ash, 3 Nos. of dedicated silos are in place with pneumatic conveying system for further disposal.

PART-G

Impact of the pollution control measures taken on conservation of natural resources and consequently on the cost of production.

The following practices are adapted for the pollution control & conservation of natural resources:

1. Twin-flue stack with height of 130 meter are provided as per the CPCB guidelines for better dispersion of emissions and keep the concentrations within SPCB/CPCB specified standards.
2. High efficient Electrostatic Precipitators (ESPs) of 12 fields in each are provided for the control of dust emissions in flue gas.
3. Installation of Dust Extraction system along with 6 Nos. of Bag Filters at CHP & 3 nos. of Bag Filter at Ash Silos to arrest the fugitive emissions
4. Roof sheeting and side cladding in conveyor galleries to control fugitive dust
5. Installation of Dust Suppression System in identified areas in CHP
6. Installation of 24 nos. of Dry Fog systems nozzles at transfer points of CHP
7. Installation of 2 nos. of high efficient mist canons at coal yard as an effective dust suppression measure.
8. Specific water consumption has been maintained < 3.5 m^3/MWH & cooling water system is designed at 5.0 COC; and is maintained at 5.9- 6.0 COC.
9. Effluent Treatment Plant (ETP) and Sewage Treatment Plant (STP) are in place to control water pollution. Treated water is completely reused for ash conditioning, greenbelt development, dust suppression etc.
10. Rainwater harvesting is being practiced in the plant premises.
11. Good housekeeping is maintained within the plant premises.
12. Separate road for Two wheelers/ Pedestrians

13. Total 61571 nos. Greenbelt has been developed in & around the plant periphery and maintained with >92.0 % survival rate to control the dispersal of dust particles and attenuate the noise generated from plant operation.

14. Utilization of 105.5 % of ash for Fly ash Brick making and Cement making in 9th year of plant operation; and efforts are being taken for 100% utilization in the subsequent years also.

15. Installation and put in use of mechanized waste converter & Vermicomposting system.

16. Installation of 2 nos. of IP Surveillance Camera to visualize the Stack/ Fugitive emission and as a proof for Zero Effluent Discharge (ZED), if any and the video footage is connected to SPCB Server.

17. 2 nos. mechanized wheel washing system has been installed for wheel washing of coal / ash trucks exited from the plant to control the fugitive emission in the haul road.

18. Installation Electronic digital display board at the Plant gate for displaying the environmental monitoring parameters and EHS awareness propaganda.

19. Conducted Energy Audit by engaging BEE Certified Energy Auditor.

20. Conducted performance evaluation study of all pollution control equipment by engaging NIT Rourkela.

21. Installation of 2 nos. high efficient Mist Canons at coal yard as an effective dust suppression measure.

22. Engaging vehicle mounted Road Sweeping machine as a part of Housekeeping activity for Control of Fugitive emission along the haul road and internal road network.

23. Installed 5KW **Solar** Power system and is synchronized with existing GRID system and in operation; additionally extending with solar power generation for more 50 KW.

24. Established Energy Management System for Pollution Control Equipment and Energy consumption data has been stored in a Centralized platform.

25. Provision of Concreted Truck Parking facility at Ash Silo area.

26. Developed 2 wheeler parking area with concrete floor

27. Engaged IIT Bhubaneswar for Ash Compliance Audit.

28. Upgradation of Main Plant Instrument Air Compressor for reduction in Energy consumption

29. Replacement of existing Guard Pond Pumps for reduction in Energy consumption.

30. Installation of 50 KW Solar Panels for Office rooftop (Work in progress)

31. Upgradation of CT Fan Blades with epoxy glass FRP Fan blades for reduction in Energy consumption

32. Overhauling of BFP ARC valves for reduction in Energy consumption

PART-H

Additional measures/investment proposal for environmental protection including abatement of pollution.

Tata Steel Limited, Power Plant Athagarh is regularly monitoring of ambient air quality, stack emission, noise level and water quality in and around the plant premises. Monitoring parameters are meeting the permissible limits prescribed by MoEF & CC/ CPCB / SPCB. Further we have installed 4 nos. of CAAQMS, 2 nos. CEMS & 1 no. of EQMS for continuous monitoring of ambient air quality, stack emission and water quality parameters; and are being transmitted to SPCB/CPCB servers.

PART-I

MISCELLANEOUS:

Any other particulars in respect of environmental protection and abatement of pollution.

The part – I of any Environmental Statement report is perhaps the best scale to measure various parameters of the plans, target, achievements and Power Plant Athagarh **(PPA)** has made sincere efforts to visualize the general environmental scenario and implemented plan for the associated improvements. Some highlights are mentioned as below:

1. Four (04) nos. of Continuous Ambient Air Quality Monitoring Stations (CAAQMS), Two (02) Continuous Emission Monitoring System (CEMS) in flues of two stacks and 1 EQMS (Effluent Quality monitoring Station) are installed; online data from CAAQMS, CEMS & EQMS are being transmitted to SPCB/ CPCB servers.
2. A laboratory has been established at Plant site for regular sampling and analysis of required operational parameters.

List of pollution control equipment/ facilities available at **TSL, PPA** are as follows:

Sl. No.	Plant activities	Pollution control measures
1	Coal yard	Installation of 2 nos. of high efficient mist canons
2	Coal yard	Provision of Concreted Garland drain
3	Coal handling system	Installation of Dust suppression system at Ground Hopper
4	Coal handling area	Coal settling pit/ Coal run off system
5	Coal bunker/ secondary crusher house	Dust extraction system (3 nos.) with Bag filter
6	Dry Fog System	24 nos. of DFS Nozzles are provided in CHP transfer points
7	Boilers (Dust control)	2 nos. of Electrostatic Precipitator of 12 fields in each
8	Boilers (Emission dispersion)	130 mt high stack
9	DM Plant	Neutralization pit
10	Cooling tower blow down & regeneration waste	Effluent Treatment Plant (ETP)/ Oil water separator / Guard Pond
11	Domestic Effluent	Sewage Treatment Plant (STP)
12	Ash storage Silos	Bag Filters and Conditioners in each Silo
13	Fly ash & Bottom ash disposal	Ash Dyke, Road making, Brick & Cement making
14	Vehicle movement along the roads	Road Sweeping machine
15	Coal & Ash transportation on Haul road	02 nos. Mechanized wheel washing system
16	Ash Silo area	Conditioners, DF system, Concreted parking area

MISCELLANEOUS

Any other particulars in respect of environmental protection and abatement of pollution.

The programs like World Environment Day, World Ozone Day & Van Mahotsav was observed at Plant and Cuttack with great enthusiasm to create awareness among the Employees, Spouses, Employees Kids. Approx. 61571plantation has been carried out till 31st March 2025 over an area of 67 acres. Rest of the greenbelt are being developed progressively. Apart from the above, we have developed a Bio-diversity Park over an area of 5.0 Acres inside the Plant with a provision of rainwater harvesting facility.

Celebration of 52nd World Environment Day

Celebration of Vanamahostav-2024

Celebration of World Ozone Day-2024

* * * * *

POWER PLANT ATHAGARH, M/s. TATA STEEL LIMITED

Annexure-~~IV~~ VII

SOLAR POWER GENERATION DATA FOR April'2025 – September'2025.

Sl. No.	Month	Solar Power Generation (KWH)	
		Rooftop Solar power generation	Total
1	April 25	349	349
2	May 25	533	533
3	June 25	393	393
4	July 25	357	357
5	August 25	380	380
6	September 25	4	4
Total		**2016**	**2016**

For Power Plant Athagarh
Tata Steel Limited

ANNEXURE – VIII

Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Ref : Envlab/25-26/TR- 01426

Date : 02.05.2025

AAQ MONITORING REPORT FOR APRIL 2025

1. **Name of Industry** : **M/s Power Plant Athagarh, TATA Steel Limited.**
2. **Sampling Location** : **AAQ Monitoring Station ID: Ghantikhal Village**
3. **Monitoring Instruments** : **RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler**
4. **Sample collected by** : **VCSPL Representative**

Date	PARAMETERS											
	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_x ($\mu g/m^3$)	O_3 ($\mu g/m^3$)	CO (mg/m^3)	NH_3 ($\mu g/m^3$)	C_6H_6 ($\mu g/m^3$)	BaP (ng/m^3)	Ni (ng/m^3)	Pb ($\mu g/m^3$)	As (ng/m^3)
20.04.2025	88.2	39.6	16.8	24.0	7.9	0.90	21.2	BDL	BDL	BDL	BDL	BDL
Testing method	IS 5182: Part 23	EPA CFR-40 (pt 50) Appendix-1	IS 5182 (Part-2) RA2006	IS 5182 (Part-6) RA2006	Chemical Method	IS 5182 (P-10)	Indo phenol blue method	Absorption & Desorption followed by GC analysis	Solvent extraction followed by Gas Chromatography analysis	AAS method after sampling on EPM 2000 or Equivalent filter Paper		
NAAQ Standard	100/24Hr	60/24 Hr	80/24 Hr	80/24 Hr	100/8 Hr	02/8 Hr	400/24 Hr	05/Annual	01/Annual	20/Annual	1/24 Hr	06/Annual

BDL Values: SO2< 4 µg/m3, NOX< 6 µg/m3, O3 <5 µg/m3, NH3< 20 µg/m3, Ni<2.5 ng/m3, As < 1.0 ng/m3, C6H6<4.0 µg/m3, BaP<0.5 ng/m3, Pb<0.02 µg/m3, CO-<0.1 mg/m3

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Reviewed By

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Verified By

Ref : Envlab/25-26/TR-09275

Date : 03.07.2025

AAQ MONITORING REPORT FOR JUNE 2025

1. **Name of Industry** : **M/s Power Plant Athagarh, TATA Steel.**
2. **Sampling Location** : **AAQ Monitoring Station ID: Berhampur Village**
3. **Monitoring Instruments** : **RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler**
4. **Sample collected by** : **VCSPL Representative**

Date	PARAMETERS											
	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_x ($\mu g/m^3$)	O_3 ($\mu g/m^3$)	CO (mg/m^3)	NH_3 ($\mu g/m^3$)	C_6H_6 ($\mu g/m^3$)	BaP (ng/m^3)	Ni (ng/m^3)	Pb ($\mu g/m^3$)	As (ng/m^3)
25.06.2025	49.8	25.4	16.2	21.8	6.8	0.77	20.8	BDL	BDL	BDL	BDL	BDL
Testing method	IS 5182: Part 23	EPA CFR-40 (pt 50) Appendix-1	IS 5182 (Part-2) RA2006	IS 5182 (Part-6) RA2006	Chemical Method	IS 5182 (P-10)	Indo phenol blue method	Absorption & Desorption followed by GC analysis	Solvent extraction followed by Gas Chromatography analysis	AAS method after sampling on EPM 2000 or Equivalent filter Paper		
NAAQ Standard	100/24Hr	60/24 Hr	80/24 Hr	80/24 Hr	100/8 Hr	02/8 Hr	400/24 Hr	05/Annual	01/Annual	20/Annual	1/24 Hr	06/Annual

BDL Values: SO2< 4 µg/m3, NOX< 6 µg/m3, O3 <5 µg/m3, NH3< 20 µg/m3, Ni<2.5 ng/m3, As < 1.0 ng/m3, C6H6<4.0 µg/m3, BaP<0.5 ng/m3, Pb<0.02 µg/m3, CO-<0.1 mg/m3

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Reviewed By

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Verified By

Ref : Envlab/25-26/TR- 01427

Date : 02.05.2025

AAQ MONITORING REPORT FOR APRIL 2025

1. **Name of Industry** : **M/s Power Plant Athagarh, TATA Steel Limited.**
2. **Sampling Location** : **AAQ Monitoring Station ID: Berhanpur Village**
3. **Monitoring Instruments** : **RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler**
4. **Sample Collected By** : **VCSPL representative**

Date	PARAMETERS											
	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_x ($\mu g/m^3$)	O_3 ($\mu g/m^3$)	CO (mg/m^3)	NH_3 ($\mu g/m^3$)	C_6H_6 ($\mu g/m^3$)	BaP (ng/m^3)	Ni (ng/m^3)	Pb ($\mu g/m^3$)	As (ng/m^3)
20.04.2025	71.2	36.6	18.5	23.6	7.0	0.81	20.8	BDL	BDL	BDL	BDL	BDL
Testing method	IS 5182: Part 23	EPA CFR-40 (pt 50) Appendix-1	IS 5182 (Part-2) RA2006	IS 5182 (Part-6) RA2006	Chemical Method	IS 5182 (P-10)	Indo phenol blue method	Absorption & Desorption followed by GC analysis	Solvent extraction followed by Gas Chromatography analysis	AAS method after sampling on EPM 2000 or Equivalent filter Paper		
NAAQ Standard	100/24Hr	60/24 Hr	80/24 Hr	80/24 Hr	100/8 Hr	02/8 Hr	400/24 Hr	05/Annual	01/Annual	20/Annual	1/24 Hr	06/Annual

BDL Values: SO2< 4 µg/m3, NOX< 6 µg/m3, O3 <5 µg/m3, NH3< 20 µg/m3, Ni<2.5 ng/m3, As < 1.0 ng/m3, C6H6<4.0 µg/m3, BaP<0.5 ng/m3, Pb<0.02 µg/m3, CO-<0.1 mg/m3

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Reviewed By

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Verified By

Visiontek Consultancy Services Pvt.Ltd

(Committed For Better Environment)

Ref : Envlab/25-26/TR- 09276 **Date : 03.07.2025**

AAQ MONITORING REPORT FOR JUNE 2025

1. **Name of Industry** : **M/s Power Plant Athagarh, TATA Steel.**
2. **Sampling Location** : **AAQ Monitoring Station ID: Nuasasan Village**
3. **Monitoring Instruments** : **RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler**
4. **Sample Collected By** : **VCSPL representative**

Date	PARAMETERS											
	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_x ($\mu g/m^3$)	O_3 ($\mu g/m^3$)	CO (mg/m^3)	NH_3 ($\mu g/m^3$)	C_6H_6 ($\mu g/m^3$)	BaP (ng/m^3)	Ni (ng/m^3)	Pb ($\mu g/m^3$)	As (ng/m^3)
25.06.2025	40.6	21.2	14.2	19.6	7.0	0.72	20.2	BDL	BDL	BDL	BDL	BDL
Testing method	IS 5182: Part 23	EPA CFR-40 (pt 50) Appendix-I	IS 5182 (Part-2) RA2006	IS 5182 (Part-6) RA2006	Chemical Method	IS 5182 (P-10)	Indo phenol blue method	Absorption & Desorption followed by GC analysis	Solvent extraction followed by Gas Chromatography analysis	AAS method after sampling on EPM 2000 or Equivalent filter Paper		
NAAQ Standard	100/24Hr	60/24 Hr	80/24 Hr	80/24 Hr	100/8 Hr	02/8 Hr	400/24 Hr	05/Annual	01/Annual	20/Annual	1/24 Hr	06/Annual

BDL Values: SO2< 4 µg/m3, NOX< 6 µg/m3, O3 <5 µg/m3, NH3< 20 µg/m3, Ni<2.5 ng/m3, As < 1.0 ng/m3, C6H6<4.0 µg/m3, BaP<0.5 ng/m3, Pb<0.02 µg/m3, CO-<0.1 mg/m3

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Reviewed By

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Verified By

Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 0674-3511721
E-mail : visiontek@visiontek.org, visiontekin@gmail.com
Visit us at: www.visiontek.org

Ref : Envlab/25-26/TR- 09277 **Date : 03.07.2025**

AAQ MONITORING REPORT FOR JUNE 2025

1. **Name of Industry** : **M/s Power Plant Athagarh, TATA Steel.**
2. **Sampling Location** : **AAQ Monitoring Station ID: Bhuniburai Village**
3. **Monitoring Instruments** : **RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler**
4. **Sample Collected By** : **VCSPL representative**

Date	PARAMETERS											
	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_x ($\mu g/m^3$)	O_3 ($\mu g/m^3$)	CO (mg/m^3)	NH_3 ($\mu g/m^3$)	C_6H_6 ($\mu g/m^3$)	BaP (ng/m^3)	Ni (ng/m^3)	Pb ($\mu g/m^3$)	As (ng/m^3)
26.06.2025	30.5	16.2	12.2	16.8	6.6	0.72	20.2	BDL	BDL	BDL	BDL	BDL
Testing method	IS 5182: Part 23	EPA CFR-40 (pt 50) Appendix-1	IS 5182 (Part-2) RA2006	IS 5182 (Part-6) RA2006	Chemical Method	IS 5182 (P-10)	Indo phenol blue method	Absorption & Desorption followed by GC analysis	Solvent extraction followed by Gas Chromatography analysis	AAS method after sampling on EPM 2000 or Equivalent filter Paper		
NAAQ Standard	100/24Hr	60/24 Hr	80/24 Hr	80/24 Hr	100/8 Hr	02/8 Hr	400/24 Hr	05/Annual	01/Annual	20/Annual	1/24 Hr	06/Annual

BDL Values: SO2< 4 µg/m3, NOX< 6 µg/m3, O3 <5 µg/m3, NH3< 20 µg/m3, Ni<2.5 ng/m3, As < 1.0 ng/m3, C6H6<4.0 µg/m3, BaP<0.5 ng/m3, Pb<0.02 µg/m3, CO-<0.1 mg/m3

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Reviewed By

VISIONTEK CONSULTANCY SERVICES

Verified By

Visiontek Consultancy ServicesPvt.Ltd

(Committed For Better Environment)

Ref : Envlab/25-26/TR-12862 **Date: 29.09.2025**

AAQ MONITORING REPORT FOR SEPTEMBER 2025

1. **Name of Industry** : **M/s Power Plant Athagarh, TATA Steel.**
2. **Sampling Location** : **AAQ Monitoring Station ID: Berhampur Village**
3. **Monitoring Instruments** : **RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler**
4. **Sample collected by** : **VCSPL Representative**

Date	PARAMETERS											
	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_x ($\mu g/m^3$)	O_3 ($\mu g/m^3$)	CO (mg/m^3)	NH_3 ($\mu g/m^3$)	C_6H_6 ($\mu g/m^3$)	BaP (ng/m^3)	Ni (ng/m^3)	Pb ($\mu g/m^3$)	As (ng/m^3)
18.09.2025	55.3	25.2	17.5	22.4	6.6	0.78	20.4	BDL	BDL	BDL	BDL	BDL
Testing method	IS 5182: Part 23	IS 5182: Part 24	IS 5182 (Part-2) RA2006	IS 5182 (Part-6) RA2006	VCSPL/AAQ SOP/001	IS 5182 (P-10)	IS 5182 Part-25	IS 5182 (Part-11):2006	IS 5182 (Part-12):2004	IS 5182(Part -22):2004		
NAAQ Standard	100/24Hr	60/24 Hr	80/24 Hr	80/24 Hr	100/8 Hr	02/8 Hr	400/24 Hr	05/Annual	01/Annual	20/Annual	1/24 Hr	06/Annual

BDL Values: SO2< 4 µg/m3, NOX< 6 µg/m3, O3 <5 µg/m3, NH3< 20 µg/m3, Ni<2.5 ng/m3, As < 1.0 ng/m3, C6H6<4.0 µg/m3, BaP<0.5 ng/m3, Pb<0.02 µg/m3, CO-<0.1 mg/m3

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Reviewed By

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Verified By

Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 0674-3511721
E-mail : visiontek@visiontek.org, visiontekin@gmail.com
Visit us at: www.visiontek.org

Visiontek Consultancy ServicesPvt.Ltd

(Committed For Better Environment)

Ref : Envlab/25-26/TR- 12863

Date : 29.09.2025

AAQ MONITORING REPORT FOR SEPTEMBER 2025

1. **Name of Industry** : **M/s Power Plant Athagarh, TATA Steel.**
2. **Sampling Location** : **AAQ Monitoring Station ID: Nuasasan Village**
3. **Monitoring Instruments** : **RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler**
4. **Sample Collected By** : **VCSPL representative**

Date	PARAMETERS											
	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_x ($\mu g/m^3$)	O_3 ($\mu g/m^3$)	CO (mg/m^3)	NH_3 ($\mu g/m^3$)	C_6H_6 ($\mu g/m^3$)	BaP (ng/m^3)	Ni (ng/m^3)	Pb ($\mu g/m^3$)	As (ng/m^3)
17.09.2025	42.9	22.4	16.8	21.8	7.6	0.77	20.3	BDL	BDL	BDL	BDL	BDL
Testing method	IS 5182: Part 23	IS 5182: Part 24	IS 5182 (Part-2) RA2006	IS 5182 (Part-6) RA2006	VCSPL/AAQ SOP/001	IS 5182 (P-10)	IS 5182 Part-25	IS 5182 (Part-11):2006	IS 5182 (Part-12):2004	IS 5182(Part -22):2004		
NAAQ Standard	100/24Hr	60/24 Hr	80/24 Hr	80/24 Hr	100/8 Hr	02/8 Hr	400/24 Hr	05/Annual	01/Annual	20/Annual	1/24 Hr	06/Annual

BDL Values: SO2< 4 µg/m3, NOX< 6 µg/m3, O3 <5 µg/m3, NH3< 20 µg/m3, Ni<2.5 ng/m3, As < 1.0 ng/m3, C6H6<4.0 µg/m3, BaP<0.5 ng/m3, Pb<0.02 µg/m3, CO-<0.1 mg/m3

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Reviewed By

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Verified By

Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 0674-3511721
E-mail : visiontek@visiontek.org, visiontekin@gmail.com
Visit us at: www.visiontek.org

Ref : Envlab/25-26/TR- 12864

Date : 29.09.2025

AAQ MONITORING REPORT FOR SEPTEMBER 2025

1. **Name of Industry** : **M/s Power Plant Athagarh, TATA Steel.**
2. **Sampling Location** : **AAQ Monitoring Station ID: Bhuniburai Village**
3. **Monitoring Instruments** : **RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler**
4. **Sample Collected By** : **VCSPL representative**

Date	PARAMETERS											
	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_x ($\mu g/m^3$)	O_3 ($\mu g/m^3$)	CO (mg/m^3)	NH_3 ($\mu g/m^3$)	C_6H_6 ($\mu g/m^3$)	BaP (ng/m^3)	Ni (ng/m^3)	Pb ($\mu g/m^3$)	As (ng/m^3)
19.09.2025	22.6	12.8	13.6	18.2	6.9	0.76	20.2	BDL	BDL	BDL	BDL	BDL
Testing method	IS 5182: Part 23	IS 5182: Part 24	IS 5182 (Part-2) RA2006	IS 5182 (Part-6) RA2006	VCSPL/AAQ SOP/001	IS 5182 (P-10)	IS 5182 Part-25	IS 5182 (Part-11):2006	IS 5182 (Part-12):2004	IS 5182(Part -22):2004		
NAAQ Standard	100/24Hr	60/24 Hr	80/24 Hr	80/24 Hr	100/8 Hr	02/8 Hr	400/24 Hr	05/Annual	01/Annual	20/Annual	1/24 Hr	06/Annual

BDL Values: SO2< 4 µg/m3, NOX< 6 µg/m3, O3 <5 µg/m3, NH3< 20 µg/m3, Ni<2.5 ng/m3, As < 1.0 ng/m3, C6H6<4.0 µg/m3, BaP<0.5 ng/m3, Pb<0.02 µg/m3, CO-<0.1 mg/m3

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Reviewed By

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Verified By

Annexure-IX

Quantity of coal transportation from various routes/ sources is as follows: (Period: Apr'25-Sep'25)

Mode of Transport	By Road								By Rail			
Month	MCL Talcher area mines		Open market		Imported coal from Paradeep port		Washery Coal Rejects Talcher area		MCL Talcher area mines to RJGR Rly siding		Washery Rejects coal from ALPS Mining via RJGR Rly Siding	
	No of Trucks	Dispatch qty in MT	No of Trucks	Dispatch qty in MT	No of Trucks	Dispatch qty in MT	No of Trucks	Dispatch qty in MT	No of Trucks	Dispatch qty in MT	No of Trucks	Dispatch qty in MT
Apr-25	2225	65,114.95										
May-25	1926	56,422.19										
June-25	1502	43,845.96										
July-25	1190	34,255.87										
Aug-25	1561	45,374.67										
Sept-25	1930	55,981.68										

TATA STEEL LIMITED ★ POWER PLANT, ATHAGARH ★

For **TATA STEEL LIMITED,**
Power Plant Athagarh