vedanta aluminium

VAML/MoEF&CC/006/2026-01
May 28,, 2026

O/C

To,
Deputy Director General of Forests (C),
Ministry of Environment, Forest and Climate Change,
Integrated Regional Office,
A/3, Chandersekharpur,
Bhubaneswar, Odisha – 751023

Sub: Submission of Half-Yearly Compliance Report of Smelter & CPP of M/s. Vedanta Aluminium Metal Limited, Jharsuguda for the period from October 2025 to March 2026

Ref: 1. Environment Clearance letter No. J-11011/144/2006-IA.II (I) dated 07.03.2007
2. Environment Clearance letter No. J-13011/10/2006-IA.II (T) dated 14.03.2007
3. Environment Clearance letter No. J-11011/29/2007-IA.II (I) dated 11.06.2008
4. Environment Clearance letter No. J-11011/29/2007-IA.II (I) dated 05.05.2022

Respected Sir,

This has reference to the above subject, cited reference and as per the provision of Environment Clearance and EIA notification 2006, we are herewith submitting the half-yearly compliance status for conditions in the Environment Clearance for 2.5 LTPA Aluminium Smelter, Captive Power Plant 675 MW, expansion of Aluminium Smelter (2.5 to 16 LTPA) and Captive Power Plant (675 MW to 1350 MW), Aluminium Smelter 18 LTPA (16 to 18 LTPA) and Captive Power Plant.

We would like to draw your attention towards the fact that we are facing problem during uploading of half-yearly compliance report at Parivesh 2.0 Portal. Moreover, we are also facing problem in raising the ticket on Parivesh 2.0 Portal for the above issue (screenshot enclosed). We will upload the documents as soon as the issue will be resolved. In order to meet the stipulated timeline of submission, we are hereby submitting the half-yearly compliance reports via email and hardcopies of the Annexures will be submitted due to constraints of size of files.

Further, as already intimated and submitted that we have already applied EC transfer application from M/s. Vedanta Limited to M/s. Vedanta Aluminium Metal Limited.

Thanking You,

Yours Faithfully,
For M/s. Vedanta Aluminium Metal Limited, Jharsuguda

Dr. Amit Kumar Tyagi
Head- Environment

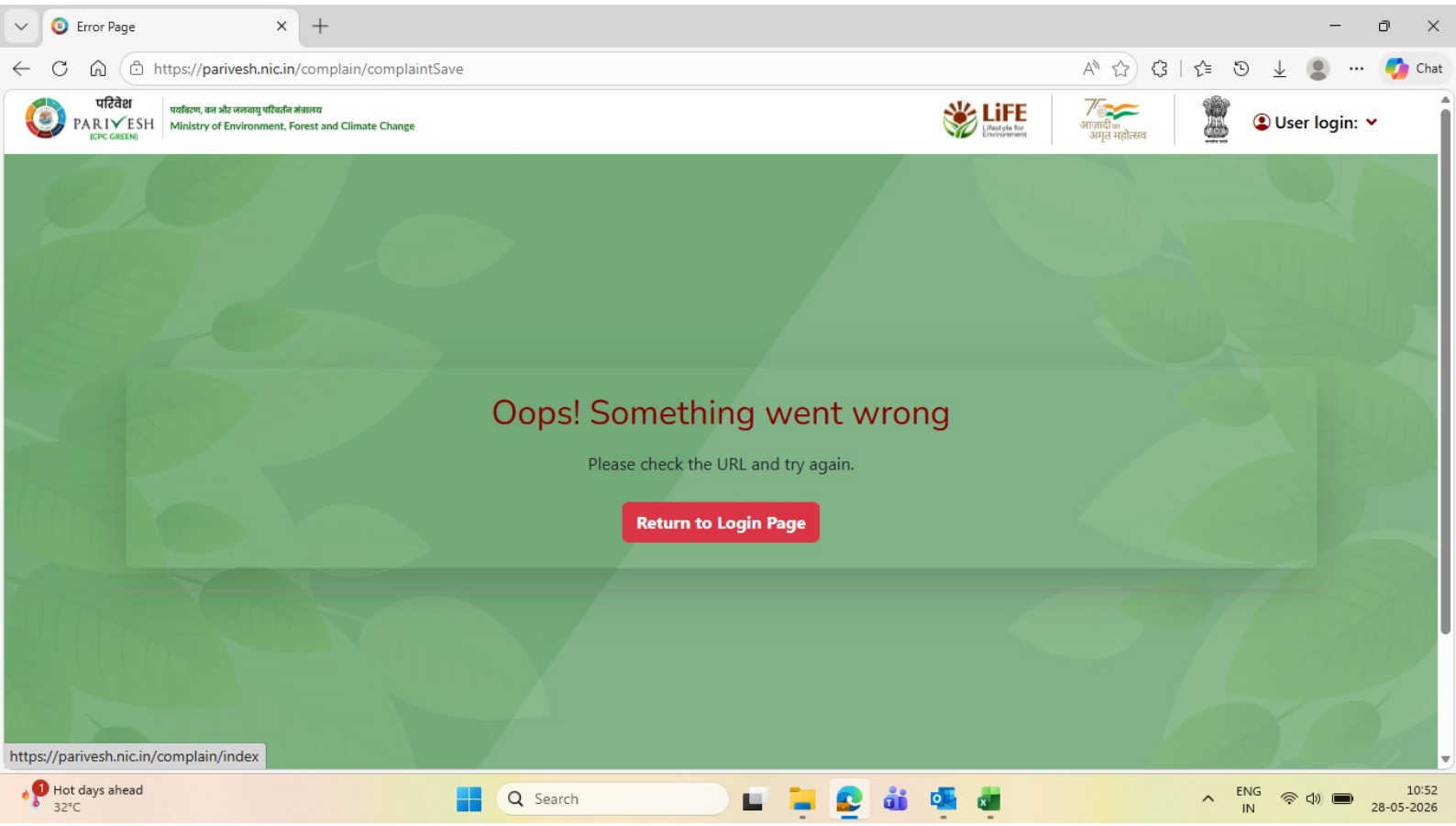
Copy to: 1. The Director, I.A. Division, Ministry of Environment, Forests & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi – 110003
2. The Member Secretary, Central Pollution Control Board, "Paribesh Bhawan", CBD-Cum Office Complex, East Arjun Nagar, New Delhi-110032
3. The Member Secretary, State Pollution Control Board, Odisha, Bhubaneswar

Enclosures: As above

GOVT. OF INDIA
MoEF & CC Integrated R.O.
Bhubaneswar-751023
04 JUN 2026
RECEIVED

Vedanta Aluminium Metal Limited
Vill.: Bhurkamunda, P.O.: Kalimandir, Dist.: Jharsuguda, Odisha, India, 768202
T: +91-664 566 6000 | F: +91-664 566 6267 | Website: www.vedantaaluminium.com

REGISTERED OFFICE: Vedanta Aluminium Metal Limited, C-103, Atul Projects, Corporate Avenue New Link, Chakala MIDC, Mumbai, Maharashtra, India, 400093
CIN: U24202MH2023PLC411663 | Email: vaml.sect@vedanta.co.in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(CPC GREEN)
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Ministry of Environment, Forest and Climate Change
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Sl.No.	CONDITIONS	COMPLIANCE STATUS
SPECIFIC CONDITIONS		
1.	The gaseous emissions from various process units shall confirm to the standards prescribed by the concerned authorities from time to time. The OSPCB may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. At no time the emissions level shall go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the unit, the respective unit shall not be restarted until the control measures are rectified to achieve the desired efficiency. The particulate emissions from the bake oven plant shall not exceed 50 mg/ NM^3.	The gaseous emissions from various process units are confirming to the prescribed standards. In case of failure of any of the pollution control system of any unit, the respective unit will be started only after the control measures are rectified and achieve the desired efficiency. The particulate matter emission from Bake Oven ranges between 5.0 to 6.2 mg/Nm^3. **Monitoring Report for the period of Oct-25 to Mar-26 enclosed as Annexure-2.**
2.	Particulate fluoride emissions shall not be more than 0.65 mg/ NM^3 and fugitive particulate fluoride emissions from pot room shall not be more than 1.85 mg/ NM^3.	The particulate fluoride emission ranges between 0.044 to 0.067 mg/Nm^3. Roof monitoring system through cassette method has been installed for fugitive fluoride (gaseous and particulate) monitoring and the same is being carried out by MoEFCC approved lab and fugitive particulate fluoride emissions ranges between 0.246 to 0.687 mg/Nm^3. Moreover, laser-based fluoride monitoring system has also been installed in pot rooms for monitoring of fugitive fluoride and online data transmitted on OSPCB server. **Monitoring Report for the period of Oct-25 to Mar-26 enclosed as Annexure-2.**
3.	In-plant, control measures for checking fugitive emissions from spillage /raw materials handling shall be provided. Fugitive fluoride emissions from the pot room and in the forage around the smelter complex shall be monitored and data submitted regularly to the Ministry's Regional Office at Bhubaneswar and OSPCB. Further dry scrubbing system to control the emissions from the pot	We have provided dry scrubbing system and State of the art gas collection and handling system to extract the gaseous emissions generated in the process of aluminium smelting and baking of anodes to maintain the total fluoride emissions below the stipulated standards of 0.8 kg/T of aluminium produced. Fugitive fluoride emissions from the pot room and forage fluoride in the surrounding villages are being monitored regularly. The fluoride emissions through the fume treatment plants is being maintained below 0.3 Kg/T in case of pot rooms and below 0.1 Kg/T in case of bake oven. The monitoring report is being submitted regularly to the Ministry Regional Office and OSPCB. **Monitoring Report for the period of Oct-25 to Mar-26 enclosed as Annexure-2.**

	lines shall be provided. Total fluoride emissions shall not exceed 0.8 kg/ton of Aluminium produced. Further, the pot emissions through fume treatment plant shall not exceed 0.30 kg/ ton of Aluminium produced.	
4.	The company shall install bag-filters, dry scrubbing system, dust suppression system to control the emissions from all melting and casting units. The emissions shall conform to the standards prescribed by the ministry /CPCB /SPCB whichever is more stringent.	MoEF&CC has notified revised standards dated 21.07.25 for Aluminium Smelters and the emission standards have been prescribed for oil fired casting unit only. The furnace provided in the cast house for melting and holding of metal are electrically operated and no fuel burning is done. Fumes, if any from the cast house furnace is routed through a forced suction duct. Proper ventilation has been ensured in the cast house. **Notification enclosed as Annexure-4.**
5.	The poly-aromatic hydrocarbons (PAH) from the carbon plant (anode bake oven) shall not exceed 2 mg/Nm^3. The data on PAH shall be monitored quarterly and report submitted regularly to the Ministry, it's Regional Office at Bhubaneswar and OSPCB.	Poly-Aromatic Hydrocarbons (PAH) is being monitored in the stack of Bake Oven and is in the range of 0.22 to 0.29 mg/Nm^3. The same is monitored regularly and report is submitted quarterly, six monthly to MoEFCC and regional office of the Ministry and monthly to the OSPCB. **Monitoring Report for the period of Oct-25 to Mar-26 enclosed as Annexure-2.**
6.	Fluoride consumption shall be less than 10 kg/ton of Aluminium produced as specified in the CREP guidelines.	MoEF&CC has notified revised standards dated 21.07.25 for Aluminium Smelters and this condition has been replaced by AlF3 consumption of 20 kg/ton of Al from the date of notification. Further, we have submitted letter dated 04.08.25 to your good office for using the new standard and as per new standard our AlF3 consumption from Oct-25 to Mar-26 ranges between 17.109 to 18.416 kg/MT of Al. **Notification enclosed as Annexure-4.**
7.	The spent pot lining generated from the smelter shall be properly treated by setting up of spent pot lining treatment plant to remove fluoride and cyanide and disposal off in secured landfill. The location and design of the landfill site shall be approved by the OSPCB as per Hazardous Wastes (Management and Handling) Rules, 2003. Leachate collection facilities shall be provided to the secured landfill facility	• The SPL generated from our smelter is being sent to OSPCB authorized agency M/s Green Energy Resources located at Sambalpur for detoxification which in turn is sending the detoxified material for further utilization in various industries including cement and steel. The refractory portion is being disposed off to Re Sustainability TSDF (formerly known as RAMKY TSDF) as per the Hazardous Waste Authorization. stored under covered shed till an approved disposal mechanism is in place. • The secured landfill has been constructed including leachate collection system and collection of surface run off around the SLF to a common sump from where it is taken to the ETP for treatment. SLF phase I has been capped and monitoring is being carried out as per the CPCB guidelines.

	(SLF). The dross shall be recycled in the cast house. Fly ash and bottom ash shall be disposed off in concentrate form to the ash pond shall be provided to the cement/ brick manufacturing unit. STP sludge shall be utilized as manure for green belt development. All the used oil and batteries should be sold to the authorized recyclers/ reprocessors.	• We are not disposing hazardous waste in the captive SLF, and details are monthly submitted to OSPCB office for the same. • The dross generated is either being internally processed for metal recovery or being sold to authorized re-processors. • Fly ash is being utilized in various sustainable avenues such as cement and brick manufacturing, road and infrastructure development, reclamation of low- lying areas, quarry back filling etc. • STP sludge is being used in green belt as a manure. • Used batteries and Used oil are being stored in designated sheds and is disposed to authorized recyclers/ re-processors. **Annual Return (Form-4) of FY-22, FY-23, FY-24 and FY-25 are enclosed as Annexure-6.**
8.	Regular groundwater monitoring shall be carried out by installing Peizometers all around the secured land fill site in consultation with the OSPCB / SGWB /CGWB and data submitted to the Ministry's Regional Office and OSPCB.	Piezometers have been installed in consultation with OSPCB and the ground water monitoring around the SLF area is being done as per the CPCB guidelines and monthly reports submitted to the OSPCB and six monthly to RO, MOEF Office. **Monitoring Report for the period of Oct-25 to Mar-26 enclosed as Annexure-2.**
9.	The total water requirement from Hirakud Reservoir shall not exceed 6,240m^3/day as per the permission accorded by the State Govt. Reverse Osmosis plant shall be installed to treat effluent from cooling tower blow down and recycle to raw water reservoir for further utilization for fire protection, dust suppression, gardening etc. ETP and RO permeate will be recycled back. The rejects from the RO plant shall be disposed off in the HDPE lined secured landfill (SLF) within smelter premises. Domestic effluent shall be treated in Sewage treatment Plant (STP). No effluent shall be discharged during the non-monsoon period and shall be discharged during monsoon period, only after	We have a valid water agreement with Govt of Odisha Water Resource department, Burla for withdrawal of 40.9 cusec water from Hirakud reservoir for our Aluminium Smelter and CPP. We have implemented various water conservation measures in our plant to reduce the freshwater consumption. Effluent Treatment Plant along with Reverse Osmosis plant has been installed and the treated effluent is recycled in the process. The ETP Sludge has been sent to OSPCB approved TSDF for disposal. Domestic effluent is treated in the sewage treatment plant and treated water reused in the green belt development. No effluent is being discharged outside the plant premises. **Water withdrawal agreement is enclosed as Annexure-32.**

<table>
<tr><td></td><td>proper treatment and meeting the norms of the OSPCB/CPCB.</td><td></td></tr>
<tr><td>10.</td><td>Green belt of adequate width and density around the project site shall be developed in 117.5 ha (33%) out of total 355.47 ha. in consultation with the DFO as per the CPCB guidelines having density of 2000 trees/ ha.</td><td>33 percent Green belt has been developed all along the plant periphery and plant area. Efforts have been made to cover three tier green belt all along the periphery. High potential local species has been planted to attenuate the pollutants as per the CPCB guidelines. Moreover, as a responsible corporate, we have taken up plantation activities in Jharsuguda at various locations. Green Belt Photos are enclosed as Annexure-5a.
We have taken up a mass plantation drive outside plant premises in an area of approx. 50 acres with 1 lakh saplings under MoEFCC drive Ek Ped Maa Ke Naam. Letter enclosed as Annexure-5c.</td></tr>
<tr><td>11.</td><td>Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.</td><td>Occupational Health Surveillance of the workers is being done on a regular basis and records are being maintained. Samples records are enclosed as Annexure-23.
<table>
<tr><th>Year</th><th>Permanent Employee</th><th>Contractual Employee</th><th>Total Employee</th></tr>
<tr><td>2023-24</td><td>2271</td><td>8513</td><td>10784</td></tr>
<tr><td>2024-25</td><td>2623</td><td>11327</td><td>13950</td></tr>
<tr><td>2025-26</td><td>3138</td><td>14234</td><td>17372</td></tr>
</table></td></tr>
<tr><td>12.</td><td>The company shall develop rainwater structures to harvest the runoff water for recharge of groundwater in consultation with the Central Ground Water Authority /Board.</td><td>As per CGWA guidelines September 2020, the industries falling under hazardous category should not implement any recharge measures within the plant premises. Hence, we have carried out roof top rainwater harvesting structures at our site to utilize the collected/harvested water. CGWA guideline enclosed as Annexure-33.
We have installed 7 nos. of roof top rainwater harvesting structure with a total capacity of more than 10000 m^3 of rainwater for reuse. The details pf all rainwater harvesting measures adopted in our complex has been submitted to CGWA vide letter no VL/CGWB/003/2024-01 dated August 05, 2024. Letter enclosed as Annexure-7a.
Moreover, we have completed cleaning and restoration of various community ponds and farm ponds thereby augmenting the capacity for rainwater harvesting in the surrounding villages. Photos of few ponds are enclosed as Annexure-7b.</td></tr>
<tr><td>13.</td><td>Rehabilitation and Resettlement Plan prepared and submitted to the state Govt. shall be implemented as per the R & R Policy of the State Government. All the recommendations mentioned in the R & R Plan shall be strictly followed including suitable</td><td>The R and R package has been finalized based on the R and R Policy of Odisha incorporating the local additional requirement discussed in the RPDAC meeting chaired by the Revenue Divisional Commissioner and attended by the District Collector and representatives of the affected villagers. The District Collector/District Magistrate and the Administration is overseeing to ensure strict compliance of the commitment. Status Report enclosed as Annexure-34.</td></tr>
</table>

	employment and other facilities to all the oustees.	
14.	The environmental clearance for the 675 MW captive power plant (5 X 135) from the Ministry shall be obtained before initiating construction work and operation of the proposed smelter plant.	We have received the Environmental Clearance for the 675 MW CPP vide letter no J-13011/10/2006-IA.II (T) dated 14th March, 2007.
15.	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Aluminium sector shall be strictly implemented.	The recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Aluminium and its subsequent amendments is being implemented at site. **Status of CREP compliance is enclosed as Annexure-8.**
16.	Ministry of Environment and Forests shall regularly be informed about the source and quantity of bauxite ore produced from captive /indigenous /imported sources.	We regularly inform about the source and quantity of Alumina procured from captive/ indigenous/ imported sources. The source and quantity of alumina procured during FY 2026 is as below: Domestic - 2732914 MT Imported - 790870 MT Imported alumina sources are as follows: • Vietnam Coal and Mineral Industries Holding Corporation Limited (Vinacomin), Vietnam • PT. Borneo Alumindo Prima • PT Well Harvest Winning Alumina Refinery, Indonesia • Worsley Alumina, Australia • Rio Tinto Aluminium, Australia • Pt. Bintan Alumina, Indonesia • Maaden • South 32, Australia Domestic alumina sources are as follows: • Utkal Alumina Refinery, Doraguda, Rayagada, India • NALCO Alumina Refinery, Damanjodi, Odisha • Alumina Refinery , Lanjigarh Odisha
17.	Bauxite ore shall be obtained only from those mines, which have been accorded environmental clearance by the Ministry of Environment and Forests.	We are not procuring any bauxite ore as alumina is the main raw material for aluminum smelting. Alumina sourced within India is from refineries that have been granted Environment Clearance by MoEFCC.
18.	Seven reserve forests are located around the project site. While transporting bauxite ore from captive /indigenous /import sources, prior permission from the State Forest Department shall be obtained due to likely impact of transport of	We are neither procuring nor transporting any bauxite ore as alumina is the main raw material for aluminum smelting operations at Jharsuguda, Odisha.

	ore to the smelter site on the reserve forests and wildlife.	
19.	Recommendations regarding mitigative measures suggested by the State Forest Department and Chief Wildlife Warden, Govt. of Orissa shall be strictly followed.	The Principal Chief Conservator of Forests, (Wildlife) and Chief Wildlife Warden, Odisha has approved the site-specific wildlife conservation plan on 30.04.2021 with a financial forecast of Rs. 610.894 lakhs to be spent for implementation by the Forest Department (Both Jharsuguda and Sambalpur Forest Division) for this plan. Accordingly, as per the demand raised by the Divisional Forest Officer, Jharsuguda, an amount of Rs. 530.904 lakhs have been deposited on 17.05.2021 towards implementation of the above-mentioned plan over a period of 10 years. The plan is under implementation by Forest Department. Moreover, the recommendations given in the wildlife management plan to be executed by Vedanta Ltd have been completed except compliance of condition for providing the software for WL-Anukampa and its maintenance. We are continuously taking follow-up with the DFO office for the implementation status and way forward to comply the WL-Anukampa and its maintenance condition. **Latest communication and implementation status are enclosed as Annexure-12.**
20.	The forest and Environment Department, Govt. of Odisha shall undertake the carrying capacity of the region at the expense of the Project Proponents by associating the Wildlife Institute of India, Dehradun having regard to all relevant aspects including the impact of existing plants on elephants and their movement.	We had approached Wildlife Institute of India, Dehradun to take up the study but they refused to undertake the study, the same was communicated to the Ministry. Based on the committee recommendation the condition was amended to undertake the study through Centre for Ecological Sciences, Indian Institute of Science, Bangalore. The same was communicated to us vide letter No. J- 13011/3/2007-IA.II (T) dated 12th May 2008 and the compliance status of the condition is mentioned in the amended condition 3 (xi). The study has been completed and the report has been submitted to Director, Project Elephant, MoEFCC, CWLW and PCCF, Govt. of Odisha for necessary vetting. The conclusion of the study is detailed in Chapter 5, Pg.27 and reads as We therefore do not recommend the establishment of any corridor through this virtually nonexistent (or non-viable) habitat in the Sambalpur North Forest Division. We strongly recommend that the overall viability of the Sambalpur Elephant Reserve is strengthened in the Sambalpur South Forest Division. **Report enclosed report as Annexure-42.** The Principal Chief Conservator of Forests, (Wildlife) and Chief Wildlife Warden, Odisha has approved the site-specific wildlife conservation plan on 30.04.2021 with a financial forecast of Rs. 610.894 lakhs to be spent for implementation by the Forest Department (Both Jharsuguda and Sambalpur Forest Division) for this plan. Accordingly, as per the demand raised by the Divisional Forest Officer, Jharsuguda, an amount of Rs. 530.904 lakhs have been deposited on 17.05.2021 towards implementation of the above-mentioned plan over a period of 10 years. The plan is under implementation by the Forest Department. Moreover, the recommendations given in the wildlife management plan

		to be executed by Vedanta Ltd have been completed except compliance of condition for providing the software for WL-Anukampa and its maintenance. We are continuously taking follow-up with the DFO office for the implementation status and way forward to comply the WL-Anukampa and its maintenance condition. **Latest communication and implementation status are enclosed as Annexure-12.**
21.	In case the Govt. of Orissa comes up with the proposed elephant reserve, the same may be informed to the Ministry for imposing additional safeguards, if any.	Noted.
GENERAL CONDITIONS		
1.	The project authorities must strictly adhere to the stipulations made by the Orissa State Pollution Control Board and the State Government.	Noted.
2.	No expansion or modification in the plant should be carried out without prior approval of the Ministry of Environment and Forests.	Noted.
3.	Adequate number of ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of SPM, SO_2 and NO_x are anticipated in consultation with the OSPCB. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional office at Bhubaneswar and Orissa State Pollution Control Board once in six months.	Manual and Continuous Ambient air quality monitoring stations have been established as per the mathematical modelling carried out during the Environmental Impact Assessment study. All stations are qualified the criteria of downwind, upwind and crosswind directions. **Communication letter enclosed as Annexure-35.** We had already submitted an application/letter to OSPCB regarding precise location of the AAQMS on dated 22.04.2024, 08.07.2024 and 25.07.2024 along with a report Air Dispersion Modelling for Power and Aluminum Plant, Bhurkamunda, Jharsuguda - to Check the Efficacy of the Existing Ambient Air Quality Network (manual and CAAQMS) by Professor Mukesh Sharma, IIT Kanpur. Monitoring data of ambient air quality and stack monitoring are regularly submitted to MoEFCC, IRO MoEFCC, OSPCB. **Monitoring Report for the period of Oct-25 to Mar-26 enclosed as Annexure-2.**
4.	Industrial wastewater should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. The treated wastewater should be recycled in the	The wastewater generated from the plant is collected and treated in the effluent treatment plant to conform to the prescribed standards. The treated water is being recycled and reused in the plant. Domestic effluent is treated in the sewage treatment plant and treated water reused in the green belt development. No effluent is being discharged outside the plant premises. **Monitoring Report for the period of Oct-25 to Mar-26 enclosed as Annexure-2.**

	plant as well as utilization for plantation purposes.	
5.	The project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous Wastes (Management and Handling) Rules, 2003. Authorization from OSPCB must be obtained for collection, storage, treatment and disposal of hazardous wastes.	We are strictly complying with the rules and regulations with regard to handling, collection, transport, treatment, storage and disposal of Hazardous waste in accordance with the Hazardous Wastes (Management and Handling) Rules, 2016 and are having a valid Hazardous waste authorization for the management of Hazardous wastes from OSPCB.
6.	The overall noise levels in and around the plant area should be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).	The overall noise levels are being maintained below the stipulated standards as per EPA Rules, 1989. The ambient noise levels monitored are observed within 52.3 dB(A) to 74.4 dB(A) during daytime and 43.6 dB(A) to 69.6 dB(A) in night time. **Monitoring Report for the period of Oct-25 to Mar-26 enclosed as Annexure-2.**
7.	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA / EMP / risk analysis and DMP report.	All environmental protection measures and safeguards as recommended in the EIA/EMP/risk analysis and DMP are being implemented. **Implementation status report enclosed as Annexure-36.**
8.	Rs. 193.46 Crores and Rs. 2.60 Crores have been earmarked toward the capital cost and Rs. 1.20 Crores towards the recurring the expenditure /annum for environmental protection measures. The fund so provided shall be used judiciously to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. The funds so provided shall not	We have earmarked capital cost towards installation of environmental control, monitoring systems and green belt development. Every year the budget is separately allocated for the Operation and Maintenance of pollution control, monitoring systems, Greenbelt development, which is not diverted for any other purpose. **Expenditure details enclosed as Annexure-37.**

	be diverted for any other purposes.	
9.	The Regional office of this Ministry at Bhubaneswar / Central Pollution Control Board /OSPCB will monitor the stipulated conditions. A six-monthly compliance report and the monitored data along with statistical interpretation should be submitted to them regularly.	We are submitting the half yearly compliance report and the monitoring data with statistical interpretation along with supporting annexures in the MoEFCC Parivesh Portal and to the regional office of MoEF&CC, CPCB, OSPCB as well as on our website and link of the same is as below. https://vedantaaluminium.com/sustainability/ compliance-report-jharsuguda/
10.	The Project Proponent should inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with State pollution Control Board/ Committee and may also be seen at Website of the Ministry of Environment and Forests at http://enfor.nic.in This should be advertised within seven days from the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional Office.	Necessary advertisement with information as advised by the Ministry has been released in two local newspapers one in vernacular (Samaja, Sambalpur) and one in English (The Times of India, Bhubaneswar).
11.	The Project Authorities should inform the Regional Office as well as ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	The project of 2.5 LTPA Aluminum Smelter was approved by MoEFCC vide EC letter no J-11011/144/2006-IA-II (I) dated 07.03.2007 and OSPCB Consent to Establish (CTE) vide letter no 8064/IND-II-NOC-3633 dated 31.03.2006 and OSPCB renewed Consent to Operate (CTO) vide letter no 6536/IND-I-CON-6079 dated 28.03.2025. We have commenced the land development work as per the Consent to Establish and final approval i.e. Consent to Operate.

Ref: Envlab/26-27/TR-02855 **Date: 07.05.2026**

VEDANTA LIMITED, JHARSUGUDA
SMELTER & CPP
Half Yearly Environment Quality Report
(October 2025 – March 2026)

1. Stack Emission:

a) Pot Room Fume Treatment Plant (FTP) Outlet

i. Particulate Matter (mg/Nm^3)

Stack Description	Limit	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
FTP 1- Pot Line-1	100	5.5	5.2	5.0	5.2	5.0	5.3	5.0	5.5	5.2
FTP 2- Pot Line-1	100	5.1	5.2	5.4	5.5	5.6	5.2	5.1	5.6	5.3
FTP 3- Pot Line-2	100	5.4	5.5	5.1	5.0	5.2	5.0	5.0	5.5	5.2
FTP 4- Pot Line-2	100	5.4	5.6	5.5	5.3	5.1	5.5	5.1	5.6	5.4
FTP 5- Pot Line-3	100	2.2	2.3	2.5	2.6	2.8	3.0	2.2	3.0	2.6
FTP 6- Pot Line-3	100	3.0	3.1	3.3	3.0	3.2	3.5	3.0	3.5	3.2
FTP 7- Pot Line-4	100	3.5	3.2	3.0	3.2	3.0	3.1	3.0	3.5	3.2
FTP 8- Pot Line-4	100	3.2	3.5	3.6	3.5	3.2	2.9	2.9	3.6	3.3
FTP 9- Pot Line-5	100	2.8	3.0	3.2	3.4	3.3	3.4	2.8	3.4	3.2
FTP 10- Pot Line-5	100	3.1	3.3	3.1	3.4	3.1	3.2	3.1	3.4	3.2
FTP 11- Pot Line-6	100	3.2	3.1	3.2	3.5	3.6	3.5	3.1	3.6	3.4
FTP 12- Pot Line-6	30	3.6	3.5	3.2	3.3	3.5	3.3	3.2	3.6	3.4

ii. Gaseous Fluoride (mg/Nm^3)

Stack Description	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
FTP 1- Pot Line-1	0.44	0.42	0.44	0.46	0.53	0.55	0.42	0.55	0.47
FTP 2- Pot Line-1	0.45	0.41	0.42	0.45	0.42	0.46	0.41	0.46	0.44
FTP 3- Pot Line-2	0.48	0.46	0.45	0.48	0.45	0.48	0.45	0.48	0.47
FTP 4- Pot Line-2	0.55	0.52	0.50	0.51	0.50	0.51	0.50	0.55	0.52
FTP 5- Pot Line-3	0.56	0.55	0.58	0.60	0.62	0.60	0.55	0.62	0.59
FTP 6- Pot Line-3	0.60	0.61	0.60	0.62	0.61	0.63	0.60	0.63	0.61
FTP 7- Pot Line-4	0.63	0.62	0.65	0.66	0.60	0.64	0.60	0.66	0.63
FTP 8- Pot Line-4	0.57	0.59	0.55	0.59	0.62	0.65	0.55	0.65	0.60
FTP 9- Pot Line-5	0.62	0.60	0.61	0.64	0.66	0.61	0.60	0.66	0.62
FTP 10- Pot Line-5	0.60	0.63	0.60	0.62	0.65	0.68	0.60	0.68	0.63
FTP 11- Pot Line-6	0.61	0.62	0.64	0.65	0.60	0.66	0.60	0.66	0.63
FTP 12- Pot Line-6	0.65	0.64	0.65	0.67	0.63	0.65	0.63	0.67	0.65

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iii. Particulate Fluoride (mg/Nm^3)

Stack Description	Limit	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
FTP 1- Pot Line-1	0.65	0.058	0.055	0.053	0.056	0.058	0.055	0.053	0.058	0.056
FTP 2- Pot Line-1	0.65	0.044	0.048	0.049	0.048	0.045	0.048	0.044	0.049	0.047
FTP 3- Pot Line-2	0.65	0.053	0.055	0.056	0.060	0.063	0.060	0.053	0.063	0.058
FTP 4- Pot Line-2	0.65	0.056	0.059	0.058	0.059	0.056	0.059	0.056	0.059	0.058
FTP 5- Pot Line-3	0.65	0.065	0.062	0.066	0.063	0.066	0.064	0.062	0.066	0.064
FTP 6- Pot Line-3	0.65	0.060	0.063	0.060	0.065	0.061	0.065	0.060	0.065	0.062
FTP 7- Pot Line-4	0.65	0.058	0.055	0.058	0.059	0.057	0.055	0.055	0.059	0.057
FTP 8- Pot Line-4	0.65	0.064	0.060	0.062	0.060	0.063	0.060	0.060	0.064	0.062
FTP 9- Pot Line-5	0.65	0.065	0.066	0.065	0.067	0.064	0.066	0.064	0.067	0.066
FTP 10- Pot Line-5	0.65	0.059	0.057	0.059	0.054	0.055	0.054	0.054	0.059	0.056
FTP 11- Pot Line-6	0.65	0.054	0.055	0.054	0.056	0.054	0.052	0.052	0.056	0.054
FTP 12- Pot Line-6	0.65	0.063	0.065	0.062	0.065	0.062	0.063	0.062	0.065	0.063

iv. Total Fluoride (kg/T)

Stack Description	Limit	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
FTP 1- Pot Line-1	0.30	0.07	0.07	0.07	0.07	0.08	0.09	0.07	0.09	0.08
FTP 2- Pot Line-1	0.30	0.07	0.07	0.07	0.07	0.07	0.08	0.07	0.08	0.07
FTP 3- Pot Line-2	0.30	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
FTP 4- Pot Line-2	0.30	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.09	0.08
FTP 5- Pot Line-3	0.20	0.07	0.06	0.08	0.08	0.07	0.07	0.06	0.08	0.07
FTP 6- Pot Line-3	0.20	0.08	0.07	0.07	0.07	0.08	0.08	0.07	0.08	0.08
FTP 7- Pot Line-4	0.20	0.08	0.07	0.07	0.08	0.07	0.07	0.07	0.08	0.07
FTP 8- Pot Line-4	0.20	0.07	0.07	0.07	0.07	0.08	0.08	0.07	0.08	0.07
FTP 9- Pot Line-5	0.20	0.07	0.07	0.07	0.07	0.08	0.08	0.07	0.08	0.07
FTP 10- Pot Line-5	0.20	0.08	0.08	0.08	0.08	0.07	0.08	0.07	0.08	0.08
FTP 11- Pot Line-6	0.20	0.08	0.07	0.08	0.08	0.08	0.09	0.07	0.09	0.08
FTP 12- Pot Line-6	0.20	0.08	0.08	0.08	0.09	0.08	0.08	0.08	0.09	0.08

b) Bake Oven Fume Treatment Plant (FTP) Outlet

i. Particulate Matter (mg/Nm^3)

Stack Description	Limit	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
FTP 1 - Bake Oven	100	5.4	5.6	5.4	5.6	5.2	5.5	5.2	5.6	5.5
FTP 2 - Bake Oven	100	5.5	5.2	5.0	5.1	5.4	5.8	5.0	5.8	5.3
FTP-3 - Bake Oven	100	6.0	6.1	6.2	6.0	6.1	6.0	6.0	6.2	6.1
FTP-4 - Bake Oven	100	5.4	5.8	5.9	5.5	5.8	6.1	5.4	6.1	5.8
FTP-5 - Bake Oven	100	5.8	5.5	5.4	5.8	5.3	5.6	5.3	5.8	5.6

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ii. Gaseous Fluoride (mg/Nm^3)

Stack Description	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
FTP 1 - Bake Oven	2.25	2.28	2.33	2.58	2.33	2.42	2.25	2.58	2.37
FTP 2 - Bake Oven	2.44	2.45	2.40	2.44	2.45	2.40	2.40	2.45	2.43
FTP-3 - Bake Oven	2.60	2.56	2.59	2.56	2.40	2.58	2.40	2.60	2.55
FTP-4 - Bake Oven	2.41	2.45	2.41	2.36	2.31	2.26	2.26	2.45	2.37
FTP-5 - Bake Oven	2.45	2.42	2.38	2.62	2.38	2.30	2.30	2.62	2.43

iii. Particulate Fluoride (mg/Nm^3)

Stack Description	Limit	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
FTP 1 - Bake Oven	0.65	0.56	0.58	0.40	0.59	0.55	0.52	0.40	0.59	0.53
FTP 2 - Bake Oven	0.65	0.43	0.45	0.42	0.45	0.42	0.46	0.42	0.46	0.44
FTP-3 - Bake Oven	0.65	0.45	0.42	0.40	0.39	0.36	0.33	0.33	0.45	0.39
FTP-4 - Bake Oven	0.65	0.42	0.43	0.45	0.42	0.40	0.44	0.40	0.45	0.43
FTP-5 - Bake Oven	0.65	0.52	0.50	0.52	0.50	0.53	0.50	0.50	0.53	0.51

iv. Total Fluoride (Kg/T)

ıck Description	Limit	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
P 1 - Bake Oven	0.1	0.02	0.03	0.02	0.03	0.03	0.03	0.02	0.03	0.03
P 2 - Bake Oven	0.1	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
P-3 - Bake Oven	0.1	0.02	0.02	0.02	0.02	0.01	0.02	0.01	0.02	0.02
P-4 - Bake Oven	0.1	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.02	0.02
P-5 - Bake Oven	0.1	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.02	0.02

v. Total PAH (mg/Nm^3)

Stack Description	Limit	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
FTP 1 - Bake Oven	2	0.24	0.25	0.28	0.26	0.26	0.27	0.24	0.28	0.26
FTP 2 - Bake Oven	2	0.25	0.22	0.24	0.25	0.25	0.24	0.22	0.25	0.24
FTP-3 - Bake Oven	2	0.22	0.23	0.25	0.29	0.28	0.25	0.22	0.29	0.25
FTP-4 - Bake Oven	2	0.25	0.22	0.26	0.22	0.27	0.24	0.22	0.27	0.24
FTP-5 - Bake Oven	2	0.25	0.24	0.26	0.24	0.27	0.26	0.24	0.27	0.25

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c) Captive Power Plant (CPP)

i. Particulate Matter (mg/Nm^3)

ıck Description	Limit	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
P- Unit 1	50	41.3	42.0	41.6	42.5	42.1	41.8	41.3	42.5	41.9
P- Unit 2	50	46.2	45.8	44.9	44.6	44.5	44.0	44.0	46.2	45.0
P- Unit 3	50	46.6	46.9	46.0	45.8	45.2	45.6	45.2	46.9	46.0
P- Unit 4	50	45.1	44.8	45.3	46.0	45.8	46.2	44.8	46.2	45.5
P- Unit 5	50	44.8	45.7	46.5	46.9	46.3	45.8	44.8	46.9	46.0
P- Unit 6	50	45.4	46.3	46.8	45.4	45.0	44.7	44.7	46.8	45.6
P- Unit 7	50	42.9	43.1	44.5	47.2	46.9	47.2	42.9	47.2	45.3
P- Unit 8	50	44.0	44.5	42.9	43.8	43.2	42.5	42.5	44.5	43.5
P- Unit 9	50	45.6	45.8	46.1	45.9	44.8	44.1	44.1	46.1	45.4

ii. SO2 (mg/Nm^3)

ıck Description	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
P- Unit 1	1356	1362	1354	1362	1354	1328	1328	1362	1353
P- Unit 2	1324	1344	1338	1325	1316	1310	1310	1344	1326
P- Unit 3	1350	1328	1306	1312	1308	1315	1306	1350	1320
P- Unit 4	1328	1336	1328	1320	1322	1334	1320	1336	1328
P- Unit 5	1346	1340	1348	1355	1364	1356	1340	1364	1352
P- Unit 6	1332	1348	1355	1364	1358	1366	1332	1366	1354
P- Unit 7	1308	1324	1386	1390	1398	1402	1308	1402	1368
P- Unit 8	1316	1320	1352	1348	1356	1368	1316	1368	1343
P- Unit 9	1345	1356	1366	1356	1364	1355	1345	1366	1357

iii. NOx (mg/Nm^3)

Stack Description	Limit	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
CPP- Unit 1	450	348	342	336	338	321	317	317	348	334
CPP- Unit 2	450	324	325	320	312	310	315	310	325	318
CPP- Unit 3	450	360	355	348	353	346	339	339	360	350
CPP- Unit 4	450	341	348	356	368	372	366	341	372	359
CPP- Unit 5	450	325	336	329	336	341	335	325	341	334
CPP- Unit 6	450	336	328	333	321	332	327	321	336	330
CPP- Unit 7	450	328	334	342	345	354	360	328	360	344
CPP- Unit 8	450	324	330	325	320	328	334	320	334	327
CPP- Unit 9	450	360	354	360	355	360	358	354	360	358

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iv. Mercury (mg/Nm^3)

Stack Description	Limit	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
CPP- Unit 1	0.03	0.0082	0.0085	0.0088	0.0090	0.0082	0.0083	0.0082	0.0090	0.0085
CPP- Unit 2	0.03	0.0081	0.0080	0.0082	0.0085	0.0088	0.0085	0.0080	0.0088	0.0084
CPP- Unit 3	0.03	0.0075	0.0078	0.0075	0.0077	0.0078	0.0079	0.0075	0.0079	0.0077
CPP- Unit 4	0.03	0.0069	0.0072	0.0079	0.0078	0.0080	0.0084	0.0069	0.0084	0.0077
CPP- Unit 5	0.03	0.0080	0.0088	0.0086	0.0085	0.0081	0.0080	0.0080	0.0088	0.0083
CPP- Unit 6	0.03	0.0078	0.0075	0.0080	0.0082	0.0079	0.0078	0.0075	0.0082	0.0079
CPP- Unit 7	0.03	0.0079	0.0070	0.0078	0.0071	0.0073	0.0075	0.0070	0.0079	0.0074
CPP- Unit 8	0.03	0.0082	0.0084	0.0085	0.0079	0.0075	0.0072	0.0072	0.0085	0.0080
CPP- Unit 9	0.03	0.0080	0.0083	0.0082	0.0086	0.0080	0.0078	0.0078	0.0086	0.0082

2. Fugitive Fluoride in Pot rooms

Fugitive Fluoride: Particulate Fluoride (mg/Nm3)										
Potroom	Limit	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
Room 1	1.85	0.484	0.578	0.604	0.337	0.439	0.381	0.337	0.604	0.471
Room 2	1.85	0.429	0.673	0.604	0.470	0.474	0.492	0.429	0.673	0.524
Room 3	1.85	0.411	0.574	0.584	0.492	0.446	0.337	0.337	0.584	0.474
Room 4	1.85	0.484	0.687	0.607	0.412	0.400	0.376	0.376	0.687	0.494
Room 5	1.85	0.346	0.563	0.470	0.337	0.340	0.328	0.328	0.563	0.397
Room 6	1.85	0.290	0.480	0.489	0.356	0.357	0.391	0.290	0.489	0.394
Room 7	1.85	0.338	0.541	0.449	0.314	0.317	0.309	0.309	0.541	0.378
Room 8	1.85	0.310	0.529	0.446	0.288	0.292	0.332	0.288	0.529	0.366
Room 9	1.85	0.347	0.450	0.473	0.262	0.359	0.311	0.262	0.473	0.367
Room 10	1.85	0.363	0.531	0.471	0.285	0.246	0.251	0.246	0.531	0.358
Room 11	1.85	0.301	0.545	0.526	0.398	0.354	0.394	0.301	0.545	0.420
Room 12	1.85	0.366	0.532	0.437	0.322	0.283	0.267	0.267	0.532	0.368

Fugitive Fluoride: Gaseous Fluoride (mg/Nm3)									
Potroom	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
Room 1	1.330	1.268	1.327	1.229	1.214	1.262	1.214	1.330	1.272
Room 2	1.372	1.264	1.283	1.167	1.290	1.220	1.167	1.372	1.266
Room 3	1.227	1.241	1.340	1.256	1.259	1.275	1.227	1.340	1.266
Room 4	1.353	1.297	1.280	1.239	1.226	1.252	1.226	1.353	1.275
Room 5	1.053	0.978	1.201	1.261	1.028	0.991	0.978	1.261	1.085
Room 6	1.128	1.063	1.164	1.167	1.044	0.978	0.978	1.167	1.091
Room 7	1.128	1.039	1.119	1.025	1.051	1.025	1.025	1.128	1.065
Room 8	1.077	0.981	1.191	0.992	1.101	1.074	0.981	1.191	1.069
Room 9	1.263	1.105	1.236	1.184	1.091	1.045	1.045	1.263	1.154
Room 10	1.109	1.018	1.108	1.052	1.113	1.073	1.018	1.113	1.079
Room 11	1.115	0.980	1.181	1.007	1.095	0.964	0.964	1.181	1.057
Room 12	1.124	1.051	1.179	1.035	1.146	1.187	1.035	1.187	1.120

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Total Fluoride: Particulate Fluoride (Kg/Mt)									
Potroom	**Oct'25**	**Nov'25**	**Dec'25**	**Jan'26**	**Feb'26**	**Mar'26**	**Min**	**Max**	**Avg**
Room 1	0.102	0.116	0.121	0.079	0.106	0.088	0.079	0.121	0.102
Room 2	0.094	0.131	0.126	0.106	0.106	0.112	0.094	0.131	0.113
Room 3	0.093	0.122	0.113	0.105	0.100	0.080	0.080	0.122	0.102
Room 4	0.102	0.130	0.118	0.092	0.094	0.086	0.086	0.130	0.104
Room 5	0.094	0.139	0.109	0.081	0.090	0.091	0.081	0.139	0.101
Room 6	0.076	0.118	0.112	0.091	0.096	0.109	0.076	0.118	0.100
Room 7	0.086	0.130	0.111	0.086	0.087	0.084	0.084	0.130	0.097
Room 8	0.085	0.136	0.103	0.085	0.080	0.091	0.080	0.136	0.097
Room 9	0.083	0.109	0.107	0.070	0.096	0.089	0.070	0.109	0.092
Room 10	0.094	0.132	0.114	0.078	0.068	0.072	0.068	0.132	0.093
Room 11	0.078	0.136	0.117	0.101	0.098	0.111	0.078	0.136	0.107
Room 12	0.092	0.126	0.099	0.089	0.077	0.071	0.071	0.126	0.092

Total Fluoride: Gaseous Fluoride (Kg/Mt)									
Potroom	**Oct'25**	**Nov'25**	**Dec'25**	**Jan'26**	**Feb'26**	**Mar'26**	**Min**	**Max**	**Avg**
Room 1	0.279	0.255	0.265	0.289	0.292	0.292	0.255	0.292	0.279
Room 2	0.299	0.247	0.267	0.264	0.288	0.277	0.247	0.299	0.274
Room 3	0.277	0.263	0.258	0.268	0.283	0.304	0.258	0.304	0.276
Room 4	0.286	0.245	0.250	0.278	0.289	0.287	0.245	0.289	0.273
Room 5	0.285	0.242	0.278	0.305	0.271	0.274	0.242	0.305	0.276
Room 6	0.294	0.260	0.268	0.289	0.280	0.273	0.260	0.294	0.277
Room 7	0.288	0.250	0.275	0.281	0.288	0.279	0.250	0.288	0.277
Room 8	0.296	0.252	0.274	0.292	0.301	0.295	0.252	0.301	0.285
Room 9	0.302	0.268	0.278	0.316	0.292	0.299	0.268	0.316	0.293
Room 10	0.288	0.252	0.269	0.288	0.307	0.308	0.252	0.308	0.285
Room 11	0.290	0.244	0.263	0.256	0.293	0.271	0.244	0.293	0.270
Room 12	0.283	0.249	0.267	0.286	0.313	0.314	0.249	0.314	0.285

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Total Fugitive Fluoride (Kg/Mt)										
Potroom	**Limit**	**Oct'25**	**Nov'25**	**Dec'25**	**Jan'26**	**Feb'26**	**Mar'26**	**Min**	**Max**	**Avg**
Room 1	0.4	0.381	0.371	0.386	0.368	0.398	0.380	0.368	0.398	0.381
Room 2	0.4	0.393	0.378	0.393	0.370	0.394	0.389	0.370	0.394	0.386
Room 3	0.4	0.370	0.385	0.371	0.373	0.383	0.384	0.370	0.385	0.378
Room 4	0.4	0.388	0.375	0.368	0.370	0.383	0.373	0.368	0.388	0.376
Room 5	0.4	0.379	0.381	0.387	0.386	0.361	0.365	0.361	0.387	0.377
Room 6	0.4	0.370	0.378	0.380	0.389	0.376	0.382	0.370	0.389	0.379
Room 7	0.4	0.374	0.380	0.386	0.367	0.375	0.363	0.363	0.386	0.374
Room 8	0.4	0.381	0.388	0.377	0.377	0.381	0.386	0.377	0.388	0.382
Room 9	0.4	0.385	0.377	0.385	0.386	0.388	0.388	0.377	0.388	0.385
Room 10	0.4	0.382	0.384	0.383	0.366	0.375	0.380	0.366	0.384	0.378
Room 11	0.4	0.368	0.380	0.380	0.357	0.391	0.382	0.357	0.391	0.376
Room 12	0.4	0.375	0.375	0.366	0.375	0.390	0.385	0.366	0.390	0.378

3. Forage Fluoride

Sl. No.	**Location**	**Forage Fluoride (ppm)**								
		Oct'25	**Nov'25**	**Dec'25**	**Jan'26**	**Feb'26**	**Mar'26**	**Min**	**Max**	**Avg**
Limit		**One Month: 40 ppm**								
1.	Gudigaon	20.6	20.1	20.5	20.2	20.5	20.1	20.1	20.6	20.3
2.	Kurebaga	20.4	20.5	20.0	20.5	20.6	21.6	20.0	21.6	20.6
3.	Siriapali	20.6	20.8	21.2	21.4	21.0	21.8	20.6	21.8	21.1
4.	Katapali	20.4	20.2	20.4	20.8	20.1	20.9	20.1	20.9	20.5
5.	Katikela	20.5	20.8	20.2	20.0	20.2	21.4	20.0	21.4	20.5
6.	Burkhamunda	19.1	20.3	21.3	21.6	21.1	21.8	19.1	21.8	20.9
7.	R&R Colony	20.5	21.1	21.0	20.9	20.5	20.2	20.2	21.1	20.7
8.	Tumbakela	20.9	21.2	22.1	22.4	22.2	21.6	20.9	22.4	21.7
9.	Brundamal	19.7	19.8	19.5	19.8	19.5	19.9	19.5	19.9	19.7
10.	Sripura	20.8	20.2	20.9	20.3	19.8	20.3	19.8	20.9	20.4
11.	Ghichimura	19.5	20.6	21.2	21.5	21.3	21.1	19.5	21.5	20.9
12.	Lapanga	20.2	20.5	20.8	20.1	20.2	20.5	20.1	20.8	20.4
Average		**19.7**	20.6	20.1	20.5	20.2	20.5	20.1	20.1	20.6

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4. Ambient Air Quality:

i. PM_{10} ($\mu g/m^3$)

Sl. No.	Sampling Location	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
	Limit (24 Hours)	100								
1	Near Carbon Plant, Smelter-1	59.3	60.0	59.6	61.0	60.3	60.7	59.3	61.0	60.2
2	Near Rectifier of Expansion Pot Room	57.7	57.0	56.0	60.0	58.7	58.4	56.0	60.0	58.0
3	Near R & R colony	50.4	51.4	52.7	55.0	54.9	55.2	50.4	55.2	53.3
4	Near China Gate Weigh Bridge	58.9	59.6	60.0	60.3	60.6	59.6	58.9	60.6	59.8
5	Near Cooling Tower IPP	60.5	60.1	60.2	61.4	61.7	62.3	60.1	62.3	61.0
6	Near ETP, Smelter-1	56.8	57.6	58.2	58.9	59.7	59.8	56.8	59.8	58.5
7	Near Cast House, Smelter-1	59.0	59.6	60.0	61.4	61.5	61.6	59.0	61.6	60.5
8	Near Pot Room, Smelter-1	60.2	60.1	60.8	60.9	61.6	63.0	60.1	63.0	61.1
9	Near Coal Yard of CPP	61.7	61.6	61.9	61.8	62.0	62.4	61.6	62.4	61.9
10	Near Cooling Tower of CPP	60.3	60.6	60.8	62.1	63.1	63.6	60.3	63.6	61.8
11	Kurebaga Ash Pond	60.2	62.1	62.0	63.5	63.9	64.4	60.2	64.4	62.7
12	Siriapali Ash Pond	59.9	61.0	61.5	62.3	62.8	61.4	59.9	62.8	61.5
13	Katikela Ash Pond	59.9	59.2	59.3	61.3	62.0	61.9	59.2	62.0	60.6

ii. $PM_{2.5}$ ($\mu g/m^3$)

Sl. No.	Sampling Location	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
	Limit (24 Hours)	60								
1	Near Carbon Plant, Smelter-1	30.0	30.2	30.1	30.7	30.5	31.3	30.0	31.3	30.5
2	Near Rectifier of Expansion Pot Room	29.2	28.7	28.3	30.3	30.2	29.4	28.3	30.3	29.4
3	Near R & R colony	25.5	26.0	26.7	27.8	27.7	26.5	25.5	27.8	26.7
4	Near China Gate Weigh Bridge	29.7	30.1	30.6	30.4	30.5	30.1	29.7	30.6	30.2
5	Near Cooling Tower IPP	30.5	30.2	30.4	31.0	31.1	31.4	30.2	31.4	30.8
6	Near ETP, Smelter-1	28.7	28.9	29.4	29.8	30.0	30.1	28.7	30.1	29.5
7	Near Cast House, Smelter-1	29.8	30.0	30.4	31.0	29.5	28.1	28.1	31.0	29.8
8	Near Pot Room, Smelter-1	30.3	30.1	30.7	30.7	31.0	31.8	30.1	31.8	30.8
9	Near Coal Yard of CPP	31.6	30.9	31.3	31.3	31.2	31.5	30.9	31.6	31.3
10	Near Cooling Tower of CPP	30.3	30.6	30.6	31.4	31.8	32.1	30.3	32.1	31.1
11	Kurebaga Ash Pond	30.4	31.4	29.9	32.1	32.2	32.5	29.9	32.5	31.4
12	Siriapali Ash Pond	30.2	30.8	31.0	31.4	31.6	31.7	30.2	31.7	31.1
13	Katikela Ash Pond	30.3	29.8	30.4	31.0	31.2	31.1	29.8	31.2	30.6

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iii. SO_2 (µg/m^3)

Sl. No.	Sampling Location	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
	Limit (24 Hours)	80								
1	Near Carbon Plant, Smelter-1	20.0	20.3	21.2	22.0	21.8	21.7	20.0	22.0	21.2
2	Near Rectifier of Expansion Pot Room	22.4	22.0	22.4	23.3	22.0	21.4	21.4	23.3	22.3
3	Near R & R colony	20.7	21.3	21.8	22.1	22.3	21.8	20.7	22.3	21.7
4	Near China Gate Weigh Bridge	21.3	21.4	21.9	21.9	21.7	22.0	21.3	22.0	21.7
5	Near Cooling Tower IPP	18.8	19.0	20.2	21.1	21.8	22.2	18.8	22.2	20.5
6	Near ETP, Smelter-1	23.1	22.8	22.4	23.5	23.6	22.4	22.4	23.6	23.0
7	Near Cast House, Smelter-1	21.1	20.8	21.6	22.7	22.6	22.2	20.8	22.7	21.8
8	Near Pot Room, Smelter-1	23.5	23.7	24.3	23.9	24.0	24.4	23.5	24.4	24.0
9	Near Coal Yard of CPP	25.9	25.5	25.7	25.9	26.1	26.5	25.5	26.5	25.9
10	Near Cooling Tower of CPP	22.9	23.2	23.7	23.6	23.9	23.5	22.9	23.9	23.5
11	Kurebaga Ash Pond	22.9	23.0	23.3	23.7	23.4	22.9	22.9	23.7	23.2
12	Siriapali Ash Pond	22.3	22.6	22.9	23.4	23.5	23.7	22.3	23.7	23.1
13	Katikela Ash Pond	21.8	21.5	22.0	22.2	22.2	22.5	21.5	22.5	22.0

v. NO_2 (µg/m^3)

Sl. No.	Sampling Location	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
	Limit (24 Hours)	80								
1	Near Carbon Plant, Smelter-1	25.4	24.4	25.4	25.7	26.0	24.7	24.4	26.0	25.3
2	Near Rectifier of Expansion Pot Room	27.7	26.5	25.8	27.6	26.9	26.5	25.8	27.7	26.8
3	Near R & R colony	24.4	24.7	25.3	25.7	25.5	24.7	24.4	25.7	25.1
4	Near China Gate Weigh Bridge	27.6	27.2	26.9	28.1	28.0	26.6	26.6	28.1	27.4
5	Near Cooling Tower IPP	22.4	21.6	22.2	22.6	23.4	23.1	21.6	23.4	22.6
6	Near ETP, Smelter-1	26.4	26.2	26.9	27.9	27.8	27.2	26.2	27.9	27.1
7	Near Cast House, Smelter-1	29.4	29.2	28.3	28.0	27.4	25.7	25.7	29.4	28.0
8	Near Pot Room, Smelter-1	27.4	27.5	29.0	28.3	27.9	27.8	27.4	29.0	28.0
9	Near Coal Yard of CPP	30.6	30.4	31.4	31.9	31.8	31.9	30.4	31.9	31.3
10	Near Cooling Tower of CPP	27.0	27.3	27.9	26.8	27.8	28.6	26.8	28.6	27.6
11	Kurebaga Ash Pond	25.4	25.3	26.5	27.4	27.2	26.9	25.3	27.4	26.5
12	Siriapali Ash Pond	25.7	26.1	26.6	26.5	26.7	27.0	25.7	27.0	26.4
13	Katikela Ash Pond	25.6	25.6	25.9	26.3	26.9	26.6	25.6	26.9	26.2

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vi. CO (mg/m^3)

Sl. No.	Sampling Location	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
	Limit (8 Hours)	**2.0**								
1	Near Carbon Plant, Smelter-1	0.57	0.55	0.59	0.60	0.58	0.56	0.55	0.60	0.58
2	Near Rectifier of Expansion Pot Room	0.53	0.53	0.56	0.54	0.55	0.53	0.53	0.56	0.54
3	Near R & R colony	0.52	0.52	0.54	0.58	0.57	0.59	0.52	0.59	0.55
4	Near China Gate Weigh Bridge	0.54	0.56	0.57	0.58	0.56	0.54	0.54	0.58	0.56
5	Near Cooling Tower IPP	0.55	0.54	0.56	0.59	0.58	0.60	0.54	0.60	0.57
6	Near ETP, Smelter-1	0.57	0.56	0.57	0.59	0.60	0.59	0.56	0.60	0.58
7	Near Cast House, Smelter-1	0.56	0.55	0.56	0.57	0.58	0.59	0.55	0.59	0.57
8	Near Pot Room, Smelter-1	0.58	0.57	0.60	0.58	0.59	0.58	0.57	0.60	0.58
9	Near Coal Yard of CPP	0.59	0.60	0.58	0.60	0.59	0.60	0.58	0.60	0.59
10	Near Cooling Tower of CPP	0.60	0.60	0.59	0.62	0.61	0.63	0.59	0.63	0.61
11	Kurebaga Ash Pond	0.58	0.59	0.61	0.59	0.57	0.58	0.57	0.61	0.59
12	Siriapali Ash Pond	0.60	0.62	0.59	0.61	0.60	0.59	0.59	0.62	0.60
13	Katikela Ash Pond	0.62	0.61	0.60	0.62	0.61	0.60	0.60	0.62	0.61

vii. Pb (µg/m^3)

Sl. No.	Sampling Location	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
	Limit (24 Hours)	**1.0**								
1	Near Carbon Plant, Smelter-1	0.12	0.13	0.14	0.15	0.14	0.13	0.12	0.15	0.14
2	Near Rectifier of Expansion Pot Room	0.15	0.13	0.15	0.14	0.16	0.13	0.13	0.16	0.14
3	Near R & R colony	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
4	Near China Gate Weigh Bridge	0.14	0.15	0.16	0.15	0.13	0.16	0.13	0.16	0.15
5	Near Cooling Tower IPP	0.14	0.13	0.14	0.13	0.14	0.13	0.13	0.14	0.14
6	Near ETP, Smelter-1	0.15	0.14	0.15	0.16	0.14	0.13	0.13	0.16	0.15
7	Near Cast House, Smelter-1	0.14	0.15	0.16	0.15	0.16	0.14	0.14	0.16	0.15
8	Near Pot Room, Smelter-1	0.15	0.14	0.15	0.13	0.14	0.13	0.13	0.15	0.14
9	Near Coal Yard of CPP	0.13	0.14	0.12	0.13	0.14	0.13	0.12	0.14	0.13
10	Near Cooling Tower of CPP	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11	Kurebaga Ash Pond	0.13	0.14	0.15	0.16	0.15	0.13	0.13	0.16	0.14
12	Siriapali Ash Pond	0.15	0.14	0.16	0.15	0.14	0.16	0.14	0.16	0.15
13	Katikela Ash Pond	0.14	0.15	0.16	0.14	0.15	0.13	0.13	0.16	0.15

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vii. As (ng/m^3)

Sl. No.	Sampling Location	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
	Limit (24 Hours)	06								
1	Near Carbon Plant, Smelter-1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2	Near Rectifier of Expansion Pot Room	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
3	Near R & R colony	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
4	Near China Gate Weigh Bridge	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
5	Near Cooling Tower IPP	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
6	Near ETP, Smelter-1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
7	Near Cast House, Smelter-1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
8	Near Pot Room, Smelter-1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
9	Near Coal Yard of CPP	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10	Near Cooling Tower of CPP	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11	Kurebaga Ash Pond	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12	Siriapali Ash Pond	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Katikela Ash Pond	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

viii. Ni (ng/m^3)

Sl. No.	Sampling Location	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
	Limit (24 Hours)	20								
1	Near Carbon Plant, Smelter-1	0.12	0.13	0.14	0.15	0.14	0.13	0.12	0.15	0.14
2	Near Rectifier of Expansion Pot Room	0.15	0.13	0.12	0.15	0.14	0.13	0.12	0.15	0.14
3	Near R & R colony	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
4	Near China Gate Weigh Bridge	0.15	0.14	0.15	0.14	0.15	0.14	0.14	0.15	0.15
5	Near Cooling Tower IPP	0.13	0.13	0.14	0.15	0.16	0.13	0.13	0.16	0.14
6	Near ETP, Smelter-1	0.14	0.15	0.16	0.15	0.17	0.14	0.14	0.17	0.15
7	Near Cast House, Smelter-1	0.14	0.13	0.14	0.15	0.14	0.14	0.13	0.15	0.14
8	Near Pot Room, Smelter-1	0.14	0.16	0.15	0.16	0.14	0.13	0.13	0.16	0.15
9	Near Coal Yard of CPP	0.14	0.13	0.14	0.15	0.14	0.16	0.13	0.16	0.14
10	Near Cooling Tower of CPP	0.15	0.14	0.13	0.14	0.15	0.13	0.13	0.15	0.14
11	Kurebaga Ash Pond	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12	Siriapali Ash Pond	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Katikela Ash Pond	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

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ix. BaP (ng/m^3)

Sl. No.	Sampling Location	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
	Limit (24 Hours)	01								
1	Near Carbon Plant, Smelter-1	0.13	0.14	0.15	0.15	0.16	0.14	0.13	0.16	0.15
2	Near Rectifier of Expansion Pot Room	0.13	0.12	0.13	0.13	0.14	0.13	0.12	0.14	0.13
3	Near R & R colony	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
4	Near China Gate Weigh Bridge	0.13	0.14	0.15	0.14	0.16	0.14	0.13	0.16	0.14
5	Near Cooling Tower IPP	0.13	0.14	0.16	0.15	0.14	0.13	0.13	0.16	0.14
6	Near ETP, Smelter-1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
7	Near Cast House, Smelter-1	0.14	0.13	0.15	0.16	0.15	0.14	0.13	0.16	0.15
8	Near Pot Room, Smelter-1	0.14	0.15	0.13	0.15	0.14	0.13	0.13	0.15	0.14
9	Near Coal Yard of CPP	0.14	0.13	0.15	0.14	0.16	0.15	0.13	0.16	0.15
10	Near Cooling Tower of CPP	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11	Kurebaga Ash Pond	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12	Siriapali Ash Pond	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Katikela Ash Pond	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

x. Benzene (µg/m^3)

Sl. No.	Sampling Location	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
	Limit (24 Hours)	05								
1	Near Carbon Plant, Smelter-1	0.14	0.13	0.14	0.15	0.14	0.13	0.13	0.15	0.14
2	Near Rectifier of Expansion Pot Room	0.13	0.14	0.13	0.15	0.14	0.13	0.13	0.15	0.14
3	Near R & R colony	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
4	Near China Gate Weigh Bridge	0.14	0.12	0.15	0.14	0.16	0.15	0.12	0.16	0.14
5	Near Cooling Tower IPP	0.13	0.15	0.16	0.15	0.14	0.15	0.13	0.16	0.15
6	Near ETP, Smelter-1	0.12	0.14	0.15	0.14	0.15	0.13	0.12	0.15	0.14
7	Near Cast House, Smelter-1	0.13	0.14	0.16	0.15	0.14	0.13	0.13	0.16	0.14
8	Near Pot Room, Smelter-1	0.14	0.12	0.13	0.14	0.13	0.12	0.12	0.14	0.13
9	Near Coal Yard of CPP	0.14	0.15	0.14	0.16	0.14	0.13	0.13	0.16	0.14
10	Near Cooling Tower of CPP	0.13	0.14	0.15	0.16	0.15	0.14	0.13	0.16	0.15
11	Kurebaga Ash Pond	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12	Siriapali Ash Pond	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Katikela Ash Pond	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

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xi. NH_3 (µg/m_3)

Sl. No.	Sampling Location	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
	Limit (24 Hours)	400								
1	Near Carbon Plant, Smelter-1	22.3	22.4	21.7	21.5	21.3	21.1	21.1	22.4	21.7
2	Near Rectifier of Expansion Pot Room	21.7	21.6	21.6	21.7	21.8	21.4	21.4	21.8	21.6
3	Near R & R colony	20.9	21.0	20.5	20.6	21.6	21.7	20.5	21.7	21.1
4	Near China Gate Weigh Bridge	21.6	21.2	21.5	21.4	21.3	21.5	21.2	21.6	21.4
5	Near Cooling Tower IPP	21.3	21.4	21.5	21.3	20.3	20.4	20.3	21.5	21.0
6	Near ETP, Smelter-1	23.4	24.9	24.3	24.1	23.8	23.1	23.1	24.9	23.9
7	Near Cast House, Smelter-1	22.2	22.0	22.4	22.0	21.9	21.7	21.7	22.4	22.0
8	Near Pot Room, Smelter-1	21.7	22.5	22.3	22.1	22.2	22.3	21.7	22.5	22.2
9	Near Coal Yard of CPP	23.6	23.9	24.5	24.2	23.8	23.0	23.0	24.5	23.8
10	Near Cooling Tower of CPP	21.0	21.2	21.6	21.5	22.1	21.9	21.0	22.1	21.6
11	Kurebaga Ash Pond	21.0	21.4	21.2	21.9	22.0	22.2	21.0	22.2	21.6
12	Siriapali Ash Pond	21.3	21.1	22.3	22.5	21.5	21.7	21.1	22.5	21.7
13	Katikela Ash Pond	21.0	21.7	20.4	20.6	20.5	20.7	20.4	21.7	20.8

xii. Ozone (µg/m^3)

Sl. No.	Sampling Location	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
	Limit (8 Hours)	100								
1	Near Carbon Plant, Smelter-1	6.3	6.2	6.5	6.5	6.6	6.4	6.2	6.6	6.4
2	Near Rectifier of Expansion Pot Room	6.4	6.2	6.4	6.5	6.3	6.5	6.2	6.5	6.4
3	Near R & R colony	6.3	6.2	6.4	6.5	6.6	6.3	6.2	6.6	6.4
4	Near China Gate Weigh Bridge	6.4	6.3	6.7	6.6	6.7	6.5	6.3	6.7	6.5
5	Near Cooling Tower IPP	6.8	6.3	6.8	6.6	6.5	6.3	6.3	6.8	6.6
6	Near ETP, Smelter-1	5.7	6.1	6.0	6.2	6.4	6.3	5.7	6.4	6.1
7	Near Cast House, Smelter-1	6.0	6.3	6.4	6.3	6.4	6.3	6.0	6.4	6.3
8	Near Pot Room, Smelter-1	6.7	6.5	6.8	6.6	6.9	6.7	6.5	6.9	6.7
9	Near Coal Yard of CPP	6.4	6.3	6.5	6.4	6.6	6.5	6.3	6.6	6.5
10	Near Cooling Tower of CPP	6.7	6.5	6.8	6.5	6.3	6.5	6.3	6.8	6.6
11	Kurebaga Ash Pond	6.3	6.6	6.7	6.5	6.4	6.5	6.3	6.7	6.5
12	Siriapali Ash Pond	6.0	6.3	6.4	6.5	6.4	6.6	6.0	6.6	6.4
13	Katikela Ash Pond	6.2	6.2	6.4	6.3	6.4	6.5	6.2	6.5	6.3

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Ref: Envlab/26-27/TR-02868 **Date: 07.05.2026**

5. Noise:

i. Day Time (6.00 a.m. to 10.00 p.m.)

Sl. No.	Sampling Location	Limit	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
1	In R & R colony	55	53.6	54.0	54.5	54.1	54.3	54.0	53.6	54.5	54.1
2	Near Boiler of IPP	75	74.4	74.5	74.0	73.8	72.9	73.1	72.9	74.5	73.8
3	In Green Anode Plant	75	73.5	72.9	73.1	72.9	73.1	73.5	72.9	73.5	73.2
4	In Cast house - Smelter 1	75	72.8	72.5	72.2	71.6	72.2	71.8	71.6	72.8	72.2
5	Near Boiler of CPP	75	73.9	73.6	73.5	73.3	73.0	73.2	73.0	73.9	73.4
6	In Pot Room - Smelter 1	75	71.8	71.5	71.1	70.8	71.1	70.6	70.6	71.8	71.2

ii. Night Time (10.00 p.m. to 6.00 a.m.)

Sl. No.	Sampling Location	Limit	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
1	In R & R colony	45	44.0	44.2	44.5	44.3	44.6	44.2	44.0	44.6	44.3
2	Near Boiler of IPP	70	67.5	67.9	67.6	67.1	66.9	66.3	66.3	67.9	67.2
3	In Green Anode Plant	70	66.8	66.5	66.2	65.8	65.5	65.0	65.0	66.8	66.0
4	In Cast house - Smelter 1	70	65.9	64.8	64.3	64.6	64.9	64.2	64.2	65.9	64.8
5	Near Boiler of CPP	70	68.9	69.1	68.9	69.1	68.6	67.9	67.9	69.1	68.8
6	In Pot Room - Smelter 1	70	67.2	66.8	66.0	65.4	66.3	65.8	65.4	67.2	66.3

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Ref: Envlab/26-27/TR-02869 **Date: 07.05.2026**

6. Water:

a) Smelter-1 ETP Outlet:

Sl. No.	Parameters	Unit	Limit	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
1	pH	-	6.5-9.0	7.24	7.26	7.28	7.22	7.25	7.22	7.2	7.3	7.2
2	Total Suspended Solids	mg/l	100	32	30	32	35	32	30	30.0	35.0	31.8
3	Total Dissolved Solids	mg/l	2100	148	145	141	138	131	127	127	148	138
4	BOD (5 days at 20°C)	mg/l	30	13.4	12.9	12.2	12	12.5	12.2	12.0	13.4	12.5
5	COD	mg/l	250	52	50	48	45	48	45	45.0	52.0	48.0
6	Fluoride	mg/l	1.5	0.7	0.72	0.7	0.74	0.77	0.75	0.7	0.8	0.7
7	Oil and Grease	mg/l	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
8	Hexavalent chromium as Cr+6	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
9	Total Chromium	mg/l	2	0.040	0.036	0.033	0.036	0.033	0.032	0.0	0.0	0.0
10	Cyanide	mg/l	0.2	ND	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11	Free ammonia	mg/l	5	BDL	ND	ND	ND	ND	ND	ND	ND	ND
12	Total Nitrogen	mg/l	100	7.2	7.0	6.9	6.6	6.2	6.0	6.0	7.2	6.7

b) Smelter-2 ETP Outlet:

Sl. No.	Parameters	Unit	Limit	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
1	pH	-	7.30	7.30	7.33	7.38	7.39	7.36	7.31	7.3	7.4	7.3
2	Total Suspended Solids	mg/l	35	35	32	35	31	33	32	31.0	35.0	33.0
3	Total Dissolved Solids	mg/l	285	285	281	278	285	280	275	275.0	285.0	280.7
4	BOD (5 days at 20°C)	mg/l	12.1	12.1	11.8	11.2	10.8	11.2	11	10.8	12.1	11.4
5	COD	mg/l	48	48	44	45	42	45	42	42.0	48.0	44.3
6	Fluoride	mg/l	0.85	0.85	0.82	0.81	0.78	0.72	0.69	0.7	0.9	0.8
7	Oil and Grease	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8	Hexavalent chromium as Cr+6	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
9	Total Chromium	mg/l	0.043	0.043	0.045	0.048	0.045	0.042	0.041	0.0	0.0	0.0
10	Cyanide	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11	Free ammonia	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
12	Total Nitrogen	mg/l	6.6	6.6	6.8	6.6	6.3	6.0	6.2	6.0	6.8	6.4

c) CPP ETP Outlet:

Sl. No.	Parameters	Unit	Limit	Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
1	pH	-	6.5-9.0	7.24	7.22	7.25	7.30	7.27	7.3	7.2	7.3	7.3
2	Suspended Solids	mg/l	100	32	30	28	26	28	25	25	32	28
3	Total Dissolved Solids	mg/l	2100*	235	236	231	224	233	228	224	236	231
4	Oil and Grease	mg/l	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
5	Phosphate	mg/l	5.0	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
6	Chromium	mg/l	2.0	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
7	Copper	mg/l	3.0	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
8	Zinc	mg/l	5.0	0.14	0.15	0.13	0.15	0.16	0.18	0.13	0.18	0.15

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Ref: Envlab/26-27/TR- 02870 **Date: 07.05.2026**

d) Surface Water:

Sampling location: SW1- Upstream of Bheden River

Sl. No.	Parameter	Unit	SW1								
			Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
1	Colour	Hazen	10	10	10	10	10	10	10.0	10.0	10.0
2	pH	--	7.30	7.26	7.32	7.30	7.33	7.35	7.3	7.4	7.3
3	DO	mg/l	5.1	5	5.1	5	4.9	4.8	4.8	5.1	5.0
4	Chloride	mg/l	22.5	27.5	23	20	25	23	20.0	27.5	23.3
5	Total Dissolved solids	mg/l	218	209	213	220	216	223	209	223	216.5
6	Suspended solids	mg/l	59	56	54	56	58	60	54.0	60.0	57.2
7	Oil & Grease	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
8	BOD (5) days at 20^0 C	mg/l	1.7	1.8	1.6	1.7	1.8	1.9	1.6	1.9	1.8
9	Arsenic as As	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10	Lead as Pb	mg/l	0.029	0.025	0.028	0.026	0.024	0.025	0.0	0.0	0.0
11	Cadmium as Cd	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12	Hexachromium as Cr^{+6}	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Copper as Cu	mg/l	0.018	0.016	0.018	0.016	0.018	0.020	0.0	0.0	0.0
14	Zinc as Zn	mg/l	0.18	0.2	0.22	0.24	0.26	0.23	0.2	0.3	0.2
15	Selenium as Se	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16	Cyanide as CN	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
17	Fluoride as F	mg/l	0.27	0.25	0.22	0.20	0.22	0.25	0.2	0.3	0.2
18	Sulphate as (SO4)	mg/l	10.8	11.6	11.2	12.8	13.4	12.5	10.8	13.4	12.1
19	Phenolic compounds as C_6H_5OH	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Iron as Fe	mg/l	0.33	0.31	0.33	0.32	0.35	0.32	0.3	0.4	0.3
21	Nitrate as NO_3	mg/l	1.22	1.3	1.28	1.25	1.28	1.25	1.2	1.3	1.3
22	Anionic Detergents	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
23	Total Coliform	MPN/100ml	110	120	110	120	110	140	110.0	140.0	118.3

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Surface Water: Continued.

Sampling location: SW2- Downstream of Bheden River

Sl.No.	Parameter	Unit	SW2								
			Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
1	Colour	Hazen	20	15	15	15	15	15	15.0	20.0	15.8
2	pH	--	7.41	7.45	7.41	7.44	7.45	7.4	7.4	7.5	7.4
3	DO	mg/l	5.5	5.4	5.5	5.4	5.3	5.2	5.2	5.5	5.4
4	Chloride	mg/l	20.0	30.0	25	28	28	25	20.0	30.0	25.8
5	Total Dissolved solids	mg/l	219	215	220	216	223	230	215.0	230.0	220.5
6	Suspended solids	mg/l	62	60	63	60	63	68	60.0	68.0	62.7
7	Oil & Grease	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
8	BOD (5) days at 20^0 C	mg/l	1.6	1.7	1.8	1.9	2	2.1	1.6	2.1	1.9
9	Arsenic as As	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10	Lead as Pb	mg/l	0.028	0.026	0.030	0.033	0.030	0.027	0.0	0.0	0.0
11	Cadmium as Cd	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12	Hexachromium as Cr^{+6}	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Copper as Cu	mg/l	0.017	0.019	0.021	0.023	0.022	0.024	0.0	0.0	0.0
14	Zinc as Zn	mg/l	0.2	0.22	0.2	0.23	0.22	0.2	0.2	0.2	0.2
15	Selenium as Se	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16	Cyanide as CN	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
17	Fluoride as F	mg/l	0.3	0.33	0.31	0.32	0.35	0.32	0.3	0.4	0.3
18	Sulphate as (SO4)	mg/l	12.4	12	12.8	12.2	12.5	11.4	11.4	12.8	12.2
19	Phenolic compounds as C_6H_5OH	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Iron as Fe	mg/l	0.41	0.43	0.42	0.4	0.41	0.4	0.4	0.4	0.4
21	Nitrate as NO_3	mg/l	1.34	1.41	1.39	1.35	1.33	1.30	1.3	1.4	1.4
22	Anionic Detergents	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
23	Total Coliform	MPN/100ml	140	150	120	150	170	180	120.0	180.0	151.7

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Ref: Envlab/26-27/TR- 02872 **Date: 07.05.2026**

Surface Water: Continued.

Sampling location: SW3- Upstream of Kharkhari Nallah

Sl.No.	Parameter	Unit	SW3								
			Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
1	Colour	Hazen	15	10	10	10	10	10	10.0	15.0	10.8
2	pH	--	6.92	6.98	6.95	6.98	6.94	6.98	6.9	7.0	7.0
3	DO	mg/l	5.3	5.2	5.1	5	4.9	4.8	4.8	5.3	5.1
4	Chloride	mg/l	25	27.5	30.0	32.5	28.5	28	25.0	32.5	28.5
5	Total Dissolved solids	mg/l	212	208	205	212	215	218	205.0	218.0	211.7
6	Suspended solids	mg/l	62	58	55	58	56	60	55.0	62.0	58.2
7	Oil & Grease	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
8	BOD (5) days at 20^0 C	mg/l	1.8	1.9	1.8	1.9	2	2.1	1.8	2.1	1.9
9	Arsenic as As	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10	Lead as Pb	mg/l	0.018	0.015	0.019	0.021	0.024	0.022	0.0	0.0	0.0
11	Cadmium as Cd	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12	Hexachromium as Cr^{+6}	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Copper as Cu	mg/l	0.015	0.012	0.016	0.014	0.015	0.017	0.0	0.0	0.0
14	Zinc as Zn	mg/l	0.16	0.18	0.16	0.14	0.16	0.19	0.1	0.2	0.2
15	Selenium as Se	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16	Cyanide as CN	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
17	Fluoride as F	mg/l	0.31	0.33	0.29	0.32	0.31	0.29	0.3	0.3	0.3
18	Sulphate as (SO4)	mg/l	15.9	15.2	14.9	14.2	14	14.8	14.0	15.9	14.8
19	Phenolic compounds as C_6H_5OH	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Iron as Fe	mg/l	0.32	0.34	0.30	0.36	0.33	0.36	0.3	0.4	0.3
21	Nitrate as NO_3	mg/l	1.77	1.69	1.66	1.40	1.45	1.44	1.4	1.8	1.6
22	Anionic Detergents	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
23	Total Coliform	MPN/100ml	150	150	120	110	120	110	110.0	150.0	126.7

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Ref: Envlab/26-27/TR- 02873 **Date: 07.05.2026**

Surface Water: Continued.

Sampling location: SW4- Downstream of Kharkhari Nalla

Sl.No.	Parameter	Unit	SW4								
			Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
1	Colour	Hazen	20	15	15	15	15	15	15.0	20.0	15.8
2	pH	--	6.98	7.00	7.1	7.14	7.12	7.22	7.0	7.2	7.1
3	DO	mg/l	5.4	5.3	5.2	5.1	5	4.9	4.9	5.4	5.2
4	Chloride	mg/l	35.0	30.0	35.0	30.0	33.5	30.0	30.0	35.0	32.3
5	Total Dissolved solids	mg/l	208	213	221	229	221	226	208.0	229.0	219.7
6	Suspended solids	mg/l	63	67	62	65	68	72	62.0	72.0	66.2
7	Oil & Grease	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
8	BOD (5) days at 20^0 C	mg/l	1.9	1.8	1.7	1.8	1.9	2	1.7	2.0	1.9
9	Arsenic as As	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10	Lead as Pb	mg/l	0.017	0.016	0.021	0.022	0.021	0.019	0.0	0.0	0.0
11	Cadmium as Cd	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12	Hexachromium as Cr^{+6}	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Copper as Cu	mg/l	0.020	0.17	0.18	0.16	0.013	0.015	0.0	0.2	0.1
14	Zinc as Zn	mg/l	0.18	0.20	0.23	0.25	0.24	0.22	0.2	0.3	0.2
15	Selenium as Se	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16	Cyanide as CN	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
17	Fluoride as F	mg/l	0.35	0.32	0.3	0.27	0.29	0.28	0.3	0.4	0.3
18	Sulphate as (SO4)	mg/l	18.2	17.8	18.5	18.9	19.3	19.5	17.8	19.5	18.7
19	Phenolic compounds as C_6H_5OH	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Iron as Fe	mg/l	0.30	0.33	0.31	0.38	0.36	0.35	0.3	0.4	0.3
21	Nitrate as NO_3	mg/l	2.1	2.00	2.1	2.20	2.1	2.15	2.0	2.2	2.1
22	Anionic Detergents	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
23	Total Coliform	MPN/100ml	210	180	150	200	210	200	150.0	210.0	191.7

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Ref: Envlab/26-27/TR-02874 **Date: 07.05.2026**

Surface Water: Continued.

Sampling location: SW5- Upstream Hirakud Reservoir

Sl.No.	Parameter	Unit	SW5								
			Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
1	Colour	Hazen	5	5	5	5	5	5	5.0	5.0	5.0
2	pH	--	7.11	7.12	7.1	7.18	7.2	7.25	7.1	7.3	7.2
3	DO	mg/l	5.8	5.7	5.8	5.7	5.6	5.5	5.5	5.8	5.7
4	Chloride	mg/l	27.5	22.5	25.0	22.5	27.5	25.0	22.5	27.5	25.0
5	Total Dissolved solids	mg/l	190	195	200	208	213	218	190.0	218.0	204.0
6	Suspended solids	mg/l	72	68	66	69	65	68	65.0	72.0	68.0
7	Oil & Grease	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
8	BOD (5) days at 20^0 C	mg/l	1.6	1.7	1.6	1.7	1.8	1.9	1.6	1.9	1.7
9	Arsenic as As	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10	Lead as Pb	mg/l	0.015	0.014	0.016	0.018	0.016	0.02	0.0	0.0	0.0
11	Cadmium as Cd	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12	Hexachromium as Cr^{+6}	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Copper as Cu	mg/l	0.017	0.015	0.012	0.014	0.012	0.014	0.0	0.0	0.0
14	Zinc as Zn	mg/l	0.15	0.17	0.15	0.18	0.19	0.21	0.2	0.2	0.2
15	Selenium as Se	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16	Cyanide as CN	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
17	Fluoride as F	mg/l	0.34	0.31	0.32	0.35	0.36	0.31	0.3	0.4	0.3
18	Sulphate as (SO4)	mg/l	13.2	12.9	13.3	13.6	13.8	13.3	12.9	13.8	13.4
19	Phenolic compounds as C_6H_5OH	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Iron as Fe	mg/l	0.35	0.38	0.35	0.36	0.39	0.37	0.4	0.4	0.4
21	Nitrate as NO_3	mg/l	1.68	1.70	1.50	1.43	1.46	1.42	1.4	1.7	1.5
22	Anionic Detergents	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
23	Total Coliform	MPN/100ml	150	170	150	180	170	180	150.0	180.0	166.7

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Surface Water: Continued.

Sampling location: SW6- Downstream of Hirakud Reservoir

Sl.No.	Parameter	Unit	SW6								
			Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
1	Colour	Hazen	10	10	10	10	10	10	10.0	10.0	10.0
2	pH	--	7.35	7.40	7.45	7.39	7.36	7.31	7.3	7.5	7.4
3	DO	mg/l	5.5	5.4	5.5	5.4	5.3	5.2	5.2	5.5	5.4
4	Chloride	mg/l	22.5	25.0	27.5	25.0	28.5	27.5	22.5	28.5	26.0
5	Total Dissolved solids	mg/l	211	206	212	223	230	235	206.0	235.0	219.5
6	Suspended solids	mg/l	60	58	59	63	66	70	58.0	70.0	62.7
7	Oil & Grease	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
8	BOD (5) days at 20^0 C	mg/l	1.7	1.8	1.7	1.8	1.9	2	1.7	2.0	1.8
9	Arsenic as As	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10	Lead as Pb	mg/l	0.017	0.015	0.019	0.016	0.015	0.018	0.0	0.0	0.0
11	Cadmium as Cd	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12	Hexachromium as Cr^{+6}	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Copper as Cu	mg/l	0.014	0.012	0.016	0.019	0.018	0.02	0.0	0.0	0.0
14	Zinc as Zn	mg/l	0.19	0.16	0.18	0.17	0.16	0.18	0.2	0.2	0.2
15	Selenium as Se	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16	Cyanide as CN	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
17	Fluoride as F	mg/l	0.35	0.32	0.33	0.3	0.32	0.3	0.3	0.4	0.3
18	Sulphate as (SO4)	mg/l	16.2	15.8	16.1	15.8	16.2	15.8	15.8	16.2	16.0
19	Phenolic compounds as C_6H_5OH	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Iron as Fe	mg/l	0.37	0.38	0.36	0.34	0.36	0.32	0.3	0.4	0.4
21	Nitrate as NO_3	mg/l	1.8	1.85	1.75	1.69	1.74	1.70	1.7	1.9	1.8
22	Anionic Detergents	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
23	Total Coliform	MPN/100ml	200	180	170	200	220	210	170.0	220.0	196.7

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Surface Water: Continued.

Sampling location: SW7- Confluence point near Kherual bridge

Sl.No.	Parameter	Unit	SW7								
			Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Min	Max	Avg
1	Colour	Hazen	15	15	15	15	15	15	15.0	15.0	15.0
2	pH	--	7.13	7.21	7.26	7.22	7.25	7.28	7.1	7.3	7.2
3	DO	mg/l	5.5	5.4	5.3	5.2	5.1	5.0	5.0	5.5	5.3
4	Chloride	mg/l	30.0	35.0	30.0	25.0	27.5	25.0	25.0	35.0	28.8
5	Total Dissolved solids	mg/l	206	200	208	216	221	229	200.0	229.0	213.3
6	Suspended solids	mg/l	68	65	70	72	74	75	65.0	75.0	70.7
7	Oil & Grease	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
8	BOD (5) days at 20^0 C	mg/l	1.6	1.7	1.6	1.7	1.8	1.9	1.6	1.9	1.7
9	Arsenic as As	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10	Lead as Pb	mg/l	0.020	0.022	0.024	0.021	0.023	0.025	0.0	0.0	0.0
11	Cadmium as Cd	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12	Hexachromium as Cr^{+6}	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Copper as Cu	mg/l	0.018	0.015	0.020	0.023	0.026	0.023	0.0	0.0	0.0
14	Zinc as Zn	mg/l	0.20	0.21	0.22	0.2	0.23	0.25	0.2	0.3	0.2
15	Selenium as Se	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16	Cyanide as CN	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
17	Fluoride as F	mg/l	0.32	0.30	0.34	0.31	0.33	0.29	0.3	0.3	0.3
18	Sulphate as (SO4)	mg/l	15.9	16.4	16.8	16.3	16.5	16.2	15.9	16.8	16.4
19	Phenolic compounds as C_6H_5OH	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Iron as Fe	mg/l	0.34	0.36	0.38	0.35	0.38	0.35	0.3	0.4	0.4
21	Nitrate as NO_3	mg/l	1.92	1.9	1.85	1.8	1.88	1.82	1.8	1.9	1.9
22	Anionic Detergents	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
23	Total Coliform	MPN/100ml	220	210	200	220	240	280	200.0	280.0	228.3

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e) Ground Water - Village Area:

Sl. No	Parameter	Unit	Standard as per IS: 10500	GW1		GW2	
				Oct'25	Jan'26	Oct'25	Jan'26
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	7.12	7.18	7.12	7.2
6	Total Hardness (as $CaCO_3$)	mg/l	200	140	154	107	112
7	Iron (as Fe)	mg/l	1	0.38	0.35	0.4	0.41
8	Chloride (as Cl)	mg/l	250	37.5	36.6	40	42.5
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	300	313	248	256
11	Calcium (as Ca)	mg/l	75	36.9	37.4	38.6	39.2
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	BDL	BDL	BDL	BDL
14	Sulphate as (SO_4)	mg/l	200	18.8	18	13.6	14.5
15	Nitrate (as NO_3)	mg/l	45	1.23	1.28	1.26	1.3
16	Fluoride (as F)	mg/l	1	0.35	0.33	0.32	0.3
17	Phenolic compounds as C_6H_5OH	mg/l	0.001	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.38	0.33	0.4	0.44
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND
28	Alkalinity	mg/l	200	30	35	55	50
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL

Sampling Location: GW1 - Gudigaon Village GW2 - Kurebaga Village

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Ground Water - Village Area: Continued.

Sl. No	Parameter	Unit	Standard as per IS: 10500	GW3		GW4	
				Oct'25	Jan'26	Oct'25	Jan'26
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	7.22	7.29	7	7.1
6	Total Hardness (as $CaCO_3$)	mg/l	200	125	136	142	131
7	Iron (as Fe)	mg/l	1	0.35	0.33	0.42	0.40
8	Chloride (as Cl)	mg/l	250	35	37.5	37.5	35
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	285	291	291	278
11	Calcium (as Ca)	mg/l	75	40.5	40.1	39.6	38.4
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	BDL	BDL	BDL	BDL
14	Sulphate as (SO_4)	mg/l	200	15.9	16.6	16.2	16.8
15	Nitrate (as NO_3)	mg/l	45	1.50	1.54	1.69	1.71
16	Fluoride (as F^-)	mg/l	1	0.26	0.22	0.35	0.32
17	Phenolic compounds as C_6H_5OH	mg/l	0.001	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.42	0.45	0.36	0.32
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND
28	Alkalinity	mg/l	200	45	40	40	45
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL

Sampling Location: GW3- Siriapali Village GW4- Katapali Village

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Ref: Envlab/26-27/TR-02879 **Date: 07.05.2026**

Ground Water - Village Area: Continued.

Sl. No	Parameter	Unit	Standard as per IS: 10500	GW5		GW6	
				Oct'25	Jan'26	Oct'25	Jan'26
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	7.2	7.31	7.1	7.11
6	Total Hardness (as $CaCO_3$)	mg/l	200	148	142	90	84
7	Iron (as Fe)	mg/l	1	0.4	0.43	0.38	0.35
8	Chloride (as Cl)	mg/l	250	35	30	35	35
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	248	255	230	224
11	Calcium (as Ca)	mg/l	75	43.8	42.5	34.4	35.1
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	BDL	BDL	BDL	BDL
14	Sulphate as (SO_4)	mg/l	200	15.4	14.2	14.4	13.9
15	Nitrate (as NO_3)	mg/l	45	1.68	1.65	1.35	1.29
16	Fluoride (as F)	mg/l	1	0.32	0.3	0.34	0.31
17	Phenolic compounds as C_6H_5OH	mg/l	0.001	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.34	0.30	0.41	0.38
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND
28	Alkalinity	mg/l	200	50	55	45	40
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL

Sampling Location: GW5- Katikela Village GW6- Bhurkamunda Village

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Ground Water - Village Area: Continued.

Sl. No	Parameter	Unit	Standard as per IS: 10500	GW7		GW8	
				Oct'25	Jan'26	Oct'25	Jan'26
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	7.1	7.19	7.12	7.22
6	Total Hardness (as $CaCO_3$)	mg/l	200	88	79	98	90
7	Iron (as Fe)	mg/l	1	0.32	0.3	0.42	0.45
8	Chloride (as Cl)	mg/l	250	42.5	47	40	43
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	207	213	248	252
11	Calcium (as Ca)	mg/l	75	31.1	29.8	32.2	32.9
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	BDL	BDL	BDL	BDL
14	Sulphate as (SO_4)	mg/l	200	14.5	15.2	16.8	16.6
15	Nitrate (as NO_3)	mg/l	45	1.55	1.51	1.51	1.47
16	Fluoride (as F)	mg/l	1	0.30	0.28	0.36	0.33
17	Phenolic compounds as C_6H_5OH	mg/l	0.001	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.45	0.42	0.42	0.40
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND
28	Alkalinity	mg/l	200	45	40	50	55
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL

Sampling Location: GW7- R & R Colony Village GW8- Tumbakela Village

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Ref: Envlab/26-27/TR-02881 **Date: 07.05.2026**

Ground Water – Village Area: Continued.

Sl. No	Parameter	Unit	Standard as per IS: 10500	GW9		GW10	
				Oct'25	Jan'26	Oct'25	Jan'26
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	7.25	7.32	7.2	7.12
6	Total Hardness (as $CaCO_3$)	mg/l	200	85	78	102	92
7	Iron (as Fe)	mg/l	1	0.33	0.38	0.33	0.3
8	Chloride (as Cl)	mg/l	250	45	47	35	37
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	263	256	281	278
11	Calcium (as Ca)	mg/l	75	33.6	34.1	35	34.5
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	BDL	BDL	BDL	BDL
14	Sulphate as (SO_4)	mg/l	200	16.0	15.2	18.8	19.1
15	Nitrate (as NO_3)	mg/l	45	1.41	1.36	1.48	1.42
16	Fluoride (as F)	mg/l	1	0.40	0.43	0.33	0.35
17	Phenolic compounds as C_6H_5OH	mg/l	0.001	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.47	0.45	0.42	0.44
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND
28	Alkalinity	mg/l	200	55	50	55	50
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL

Sampling Location: GW9- Brundamal Village GW10-Sripura Village

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Reviewed By

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Approved By

Ref: Envlab/26-27/TR-02882 **Date: 07.05.2026**

f) Ground Water - Secured Land Fill (SLF) Area:

Sl. No	Parameter	Unit	Standard as per IS:10500	GW1								
				Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Max	Min	Avg
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	6.67	6.70	6.78	6.81	6.85	6.90	6.67	6.90	6.79
6	Total Hardness (as $CaCO_3$)	mg/l	200	75	72	68	65	68	66	65.0	75.0	69.0
7	Iron (as Fe)	mg/l	1	0.35	0.32	0.35	0.33	0.35	0.32	0.32	0.35	0.34
8	Chloride (as Cl)	mg/l	250	25	22.5	20	22.5	20	25	20.0	25.0	22.5
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	244	238	241	248	253	246	238.0	253.0	245.0
11	Calcium (as Ca)	mg/l	75	23.6	22.9	21.8	21.6	22.2	21.6	21.6	23.6	22.3
12	Copper (as Cu)	mg/l	0.05	0.034	0.032	0.03	0.033	0.035	0.032	0.030	0.035	0.033
13	Manganese (as Mn)	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14	Sulphate as (SO_4)	mg/l	200	12	11.7	12	12.4	11.9	12.4	11.7	12.4	12.1
15	Nitrate (as NO_3)	mg/l	45	1.26	1.3	1.25	1.22	1.28	1.25	1.22	1.30	1.26
16	Fluoride (as F)	mg/l	1	0.35	0.31	0.33	0.31	0.32	0.33	0.31	0.35	0.33
17	Phenolic compounds (as C_6H_5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.3	0.26	0.24	0.25	0.22	0.24	0.22	0.30	0.25
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
28	Alkalinity	mg/l	200	55	50	45	40	45	40	40.0	55.0	45.8
29	Aluminium as Al	mg/l	0.03	0.025	0.021	0.024	0.025	0.022	0.025	0.021	0.025	0.024
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Sampling Location GW1 - Secured landfill Bore well (East)

Reviewed By

Approved By

Ref: Envlab/26-27/TR- 02883 **Date: 07.05.2026**

Ground Water - Secured Land Fill (SLF) Area: Continued.

Sl. No	Parameter	Unit	Standard as per IS:10500	GW2								
				Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Max	Min	Avg
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	6.92	6.95	6.9	6.92	6.90	6.93	6.90	6.95	6.92
6	Total Hardness (as $CaCO_3$)	mg/l	200	88	85	80	82	85	80	80.0	88.0	83.3
7	Iron (as Fe)	mg/l	1	0.38	0.35	0.37	0.31	0.33	0.3	0.30	0.38	0.34
8	Chloride (as Cl)	mg/l	250	28	25	22.5	25	27	23	22.5	27.5	24.9
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	250	245	250	262	266	270	245.0	270.0	257.2
11	Calcium (as Ca)	mg/l	75	36.8	35.4	33.8	34.1	34.5	33.8	33.8	36.8	34.7
12	Copper (as Cu)	mg/l	0.05	0.032	0.030	0.028	0.025	0.028	0.025	0.025	0.032	0.028
13	Manganese (as Mn)	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14	Sulphate as (SO_4)	mg/l	200	13.5	13.2	13.8	13.2	13.5	13	13.0	13.8	13.4
15	Nitrate (as NO_3)	mg/l	45	1.40	1.35	1.31	1.36	1.33	1.36	1.31	1.40	1.35
16	Fluoride (as F)	mg/l	1	0.32	0.3	0.28	0.25	0.28	0.25	0.25	0.32	0.28
17	Phenolic compounds (as C_6H_5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.32	0.30	0.32	0.34	0.35	0.32	0.30	0.35	0.33
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
28	Alkalinity	mg/l	200	40	45	40	45	50	45	40.0	50.0	44.2
29	Aluminium as Al	mg/l	0.03	0.021	0.022	0.025	0.028	0.026	0.027	0.021	0.028	0.025
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Sampling Location: GW2 - Secured landfill Bore well (West)

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Reviewed By

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Approved By

Ref: Envlab/26-27/TR-02884 **Date: 07.05.2026**

Ground Water - Secured Land Fill (SLF) Area: Continued.

Sl. No	Parameter	Unit	Standard as per IS:10500	GW3								
				Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Max	Min	Avg
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	7.16	7.21	7.22	7.2	7.23	7.21	7.16	7.23	7.21
6	Total Hardness (as $CaCO_3$)	mg/l	200	96	92	89	86	90	85	85.0	96.0	89.7
7	Iron (as Fe)	mg/l	1	0.39	0.36	0.38	0.33	0.35	0.38	0.33	0.39	0.37
8	Chloride (as Cl)	mg/l	250	32	30	30	32.5	30	32.5	30.0	32.5	31.2
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	321	313	316	320	324	319	313.0	324.0	318.8
11	Calcium (as Ca)	mg/l	75	38.8	37	35.6	35	35.6	36.2	35.0	38.8	36.4
12	Copper (as Cu)	mg/l	0.05	0.04	0.036	0.033	0.031	0.035	0.036	0.031	0.040	0.035
13	Manganese (as Mn)	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14	Sulphate as (SO_4)	mg/l	200	16.8	16.0	15.9	15.6	16	15.9	15.6	16.8	16.0
15	Nitrate (as NO_3)	mg/l	45	1.43	1.4	1.36	1.38	1.41	1.45	1.36	1.45	1.41
16	Fluoride (as F)	mg/l	1	0.4	0.36	0.33	0.3	0.33	0.35	0.30	0.40	0.35
17	Phenolic compounds (as C_6H_5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.41	0.35	0.32	0.35	0.36	0.35	0.32	0.41	0.36
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
28	Alkalinity	mg/l	200	52	55	50	55	55.0	55	50.0	55.0	53.7
29	Aluminium as Al	mg/l	0.03	0.026	0.029	0.028	0.029	0.027	0.028	0.026	0.029	0.028
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Sampling Location: GW3 - Secured landfill Bore well (North)

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Reviewed By

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Approved By

Ref: Envlab/26-27/TR- 02885 **Date: 07.05.2026**

Ground Water - Secured Land Fill (SLF) Area: Continued.

Sl. No	Parameter	Unit	Standard as per IS:10500	GW4								
				Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Max	Min	Avg
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	7.14	7.18	7.15	7.11	7.16	7.12	7.1	7.2	7.1
6	Total Hardness (as $CaCO_3$)	mg/l	200	88	86	82	79	84	82	79.00	88.00	83.50
7	Iron (as Fe)	mg/l	1	0.34	0.32	0.36	0.32	0.34	0.36	0.3	0.4	0.3
8	Chloride (as Cl)	mg/l	250	30	28	27.5	25	26	30	25.0	30.0	27.8
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	314	309	312	308	312	315	308.0	315.0	311.7
11	Calcium (as Ca)	mg/l	75	35.4	34.8	34.2	33.5	34.1	34.4	33.500	35.400	34.400
12	Copper (as Cu)	mg/l	0.05	0.038	0.035	0.032	0.03	0.034	0.035	0.0300	0.0380	0.0340
13	Manganese (as Mn)	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14	Sulphate as (SO_4)	mg/l	200	15.9	15.1	14.5	14.1	14.5	14.2	14.10	15.90	14.72
15	Nitrate (as NO_3)	mg/l	45	1.22	1.28	1.2	1.15	1.22	1.27	1.15	1.28	1.22
16	Fluoride (as F)	mg/l	1	0.33	0.31	0.29	0.27	0.3	0.32	0.2700	0.3300	0.3033
17	Phenolic compounds (as C_6H_5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.33	0.31	0.27	0.26	0.25	0.28	0.25	0.33	0.28
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
28	Alkalinity	mg/l	200	45	50	55	50	55	50	45.0	55.0	50.8
29	Aluminium as Al	mg/l	0.03	0.025	0.026	0.025	0.027	0.025	0.022	0.022	0.027	0.025
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Sampling Location: GW4 - Secured landfill Bore well (South)

Reviewed By

Approved By

Ref: Envlab/26-27/TR-02886 **Date: 07.05.2026**

g) Ground Water - Ash Pond Area : Kurebaga Ash Pond

Sl. No	Parameter	Unit	Standard as per IS:10500	GW1								
				Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Max	Min	Avg
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	7.15	7.12	7.1	7.15	7.12	7.22	7.10	7.22	7.14
6	Total Hardness (as $CaCO_3$)	mg/l	200	140	136	128	122	130	134	122.0	140.0	131.7
7	Iron (as Fe)	mg/l	1	0.32	0.35	0.32	0.35	0.32	0.33	0.32	0.35	0.33
8	Chloride (as Cl)	mg/l	250	33	35	32.5	30	25	27	25.0	35.0	30.3
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	318	310	302	314	307	318	302.0	318.0	311.5
11	Calcium (as Ca)	mg/l	75	34.8	33.6	32.9	33.2	32.6	33.4	32.6	34.8	33.4
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	0.040	0.042	0.039	0.043	0.045	0.046	0.039	0.046	0.043
14	Sulphate as (SO_4)	mg/l	200	16.2	15.9	16.4	15.7	16.2	16.2	15.7	16.4	16.1
15	Nitrate (as NO_3)	mg/l	45	2.6	2.5	2.2	2.4	2.5	2.1	2.1	2.6	2.4
16	Fluoride (as F)	mg/l	1	0.28	0.25	0.28	0.32	0.34	0.33	0.3	0.3	0.3
17	Phenolic compounds (as C_6H_5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.26	0.28	0.26	0.29	0.26	0.26	0.3	0.3	0.3
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
28	Alkalinity	mg/l	200	32	30	35	30	35	35	30.0	35.0	32.8
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Sampling Locations: Kurebaga Ash Pond GW1 - Bore well (East)

Reviewed By

Approved By

Ref: Envlab/26-27/TR-02887 **Date: 07.05.2026**

Ground Water - Ash Pond Area: Kurebaga Ash Pond Continued.

Sl. No	Parameter	Unit	Standard as per IS:10500	GW2								
				Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Max	Min	Avg
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	6.9	6.96	6.91	6.98	6.95	6.87	6.87	6.98	6.93
6	Total Hardness (as $CaCO_3$)	mg/l	200	156	155	160	156	161	160	155.0	161.0	158.0
7	Iron (as Fe)	mg/l	1	0.3	0.27	0.25	0.26	0.28	0.27	0.25	0.30	0.27
8	Chloride (as Cl)	mg/l	250	30	34	35	37.5	35	33	30.0	37.5	34.1
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	310	302	296	290	299	298	290.0	310.0	299.2
11	Calcium (as Ca)	mg/l	75	31.2	30.9	28.9	27.6	28.8	29.5	27.6	31.2	29.5
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	0.042	0.045	0.042	0.045	0.04	0.045	0.040	0.045	0.043
14	Sulphate as (SO_4)	mg/l	200	16.9	16.0	15.8	16.3	16.8	16.8	15.8	16.9	16.4
15	Nitrate (as NO_3)	mg/l	45	2.2	2.0	2.3	2.5	2.3	2.0	2.0	2.5	2.2
16	Fluoride (as F)	mg/l	1	0.35	0.31	0.33	0.35	0.38	0.32	0.3	0.4	0.3
17	Phenolic compounds (as C6H5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.33	0.30	0.31	0.33	0.35	0.3	0.3	0.4	0.3
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
28	Alkalinity	mg/l	200	40	35	40	45	40	40	35.0	45.0	40.0
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Sampling Locations: Kurebaga Ash Pond GW2 - Bore well (West)

Reviewed By

Approved By

Ref: Envlab/26-27/TR-02888 **Date: 07.05.2026**

Ground Water - Ash Pond Area: Kurebaga Ash Pond Continued

Sl. No	Parameter	Unit	Standard as per IS:10500	GW3								
				Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Max	Min	Avg
1	Colour	Haz en	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	7.24	7.22	7.18	7.22	7.25	7.25	7.18	7.25	7.23
6	Total Hardness (as $CaCO_3$)	mg/l	200	169	168	176	184	170	171	168.0	184.0	173.0
7	Iron (as Fe)	mg/l	1	0.35	0.36	0.33	0.36	0.35	0.34	0.33	0.36	0.35
8	Chloride (as Cl)	mg/l	250	45	40	45	42.5	45	43	40.0	45.0	43.3
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	344	340	331	329	335	333	329.0	344.0	335.3
11	Calcium (as Ca)	mg/l	75	35.6	34.8	33.6	34.2	34.9	35.2	33.6	35.6	34.7
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	0.045	0.048	0.045	0.048	0.046	0.048	0.045	0.048	0.047
14	Sulphate as (SO_4)	mg/l	200	19.8	20.8	21.4	22	21.5	21.3	19.8	22.0	21.1
15	Nitrate (as NO_3)	mg/l	45	3.5	3.1	3.2	3	3.2	3.5	3.0	3.5	3.3
16	Fluoride (as F)	mg/l	1	0.37	0.34	0.35	0.39	0.41	0.36	0.3	0.4	0.4
17	Phenolic compounds (as C6H5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.4	0.36	0.33	0.35	0.38	0.32	0.3	0.4	0.4
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
28	Alkalinity	mg/l	200	45	48	45	50	55	55	45.0	55.0	49.7
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Sampling location: Kurebaga Ash Pond GW3 - Bore well (North)

Reviewed By

Approved By

Ref: Envlab/26-27/TR-02889 **Date: 07.05.2026**

Ground Water - Ash Pond Area: Kurebaga Ash Pond Continued

Sl. No	Parameter	Unit	Standard as per IS:10500	GW4								
				Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Max	Min	Avg
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	7.12	7.10	7.15	7.12	7.1	7.2	7.10	7.20	7.13
6	Total Hardness (as $CaCO_3$)	mg/l	200	152	150	154	160	156	166	150.0	166.0	156.3
7	Iron (as Fe)	mg/l	1	0.35	0.32	0.3	0.33	0.31	0.29	0.29	0.35	0.32
8	Chloride (as Cl)	mg/l	250	38	36	35	30	35	34	30.0	37.5	34.6
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	302	309	315	323	328	316	302.0	328.0	315.5
11	Calcium (as Ca)	mg/l	75	35.5	33.6	32.5	32	31.6	33.8	31.6	35.5	33.2
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	0.04	0.044	0.04	0.044	0.042	0.046	0.040	0.046	0.043
14	Sulphate as (SO_4)	mg/l	200	18	18.4	18.8	19.6	20.2	20.5	18.0	20.5	19.3
15	Nitrate (as NO_3)	mg/l	45	3.0	2.8	2.5	2.9	2.80	2.7	2.5	3.0	2.8
16	Fluoride (as F)	mg/l	1	0.30	0.33	0.32	0.38	0.36	0.35	0.3	0.4	0.3
17	Phenolic compounds (as C6H5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.34	0.32	0.3	0.27	0.25	0.26	0.3	0.3	0.3
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
28	Alkalinity	mg/l	200	40	45	42	45	40	45	40.0	45.0	42.8
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Sampling location: Kurebaga Ash Pond GW4 - Bore well (South)

Reviewed By

Approved By

Ref: Envlab/26-27/TR-02890 **Date: 07.05.2026**

Ground Water - Ash Pond Area: Katikela Ash Pond

Sl. No	Parameter	Unit	Standard as per IS:10500	GW1								
				Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Max	Min	Avg
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	6.70	6.77	6.82	6.89	6.92	6.87	6.70	6.92	6.83
6	Total Hardness (as $CaCO_3$)	mg/l	200	90	94	90	95	92	90	90.0	95.0	91.8
7	Iron (as Fe)	mg/l	1	0.31	0.33	0.35	0.33	0.35	0.34	0.31	0.35	0.34
8	Chloride (as Cl)	mg/l	250	35	40	37.5	30	35	32.5	30.0	40.0	35.0
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	277	281	269	278	283	277	269.0	283.0	277.5
11	Calcium (as Ca)	mg/l	75	35.6	34.4	33.6	33.9	34.5	33.6	33.6	35.6	34.3
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	0.038	0.035	0.033	0.037	0.039	0.033	0.033	0.039	0.036
14	Sulphate as (SO_4)	mg/l	200	14.2	13.6	14.1	13.7	14.4	14	13.6	14.4	14.0
15	Nitrate (as NO_3)	mg/l	45	1.44	1.5	1.47	1.44	1.47	1.42	1.4	1.5	1.5
16	Fluoride (as F)	mg/l	1	0.31	0.30	0.33	0.36	0.33	0.35	0.3	0.4	0.3
17	Phenolic compounds (as C_6H_5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.31	0.32	0.34	0.39	0.33	0.3	0.3	0.4	0.3
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
28	Alkalinity	mg/l	200	25	33	30	35	30	35	25.0	35.0	31.3
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	0.038	0.033	0.038	0.035	0.033	0.035	0.033	0.038	0.035

Sampling Locations: Katikela Ash Pond GW1 - Bore well (East)

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Reviewed By

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BSR

Approved By

Ref: Envlab/26-27/TR-02891 **Date: 07.05.2026**

Ground Water - Ash Pond Area: Katikela Ash Pond Continued

Sl. No	Parameter	Unit	Standard as per IS:10500	GW2								
				Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Max	Min	Avg
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	6.96	6.8	6.75	6.7	6.77	6.75	6.70	6.96	6.79
6	Total Hardness (as $CaCO_3$)	mg/l	200	104	96	92	90	88	85	85.0	104.0	92.5
7	Iron (as Fe)	mg/l	1	0.34	0.32	0.3	0.36	0.32	0.3	0.30	0.36	0.32
8	Chloride (as Cl)	mg/l	250	43	38.5	35	37.5	40	35	35.0	42.5	38.1
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	311	305	311	305	312	307	305.0	312.0	308.5
11	Calcium (as Ca)	mg/l	75	42.0	40.8	41.2	40.8	40.1	41.2	40.1	42.0	41.0
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	0.039	0.036	0.038	0.040	0.042	0.045	0.036	0.045	0.040
14	Sulphate as (SO_4)	mg/l	200	15.4	16	16.8	17.5	17	16.5	15.4	17.5	16.5
15	Nitrate (as NO_3)	mg/l	45	1.78	1.81	1.77	1.82	1.9	1.86	1.8	1.9	1.8
16	Fluoride (as F)	mg/l	1	0.33	0.32	0.31	0.28	0.26	0.28	0.3	0.3	0.3
17	Phenolic compounds (as C6H5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.35	0.34	0.35	0.36	0.35	0.38	0.3	0.4	0.4
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
28	Alkalinity	mg/l	200	40	35	36	35	40.0	37	35.0	40.0	37.2
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	0.026	0.03	0.033	0.039	0.036	0.038	0.026	0.039	0.034

Sampling Locations: Katikela Ash Pond GW2 - Bore well (West)

Reviewed By

Approved By

Ref: Envlab/26-27/TR-02892 **Date: 07.05.2026**

Ground Water - Ash Pond Area: Katikela Ash Pond Continued

Sl. No	Parameter	Unit	Standard as per IS:10500	GW3								
				Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Max	Min	Avg
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	7.13	7.22	7.18	7.21	7.16	7.2	7.13	7.22	7.18
6	Total Hardness (as $CaCO_3$)	mg/l	200	135	122	115	121	118	122	115.0	135.0	122.2
7	Iron (as Fe)	mg/l	1	0.41	0.36	0.37	0.4	0.43	0.41	0.36	0.43	0.40
8	Chloride (as Cl)	mg/l	250	45	47.5	45	42	45	40	40.0	47.5	44.1
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	322	316	320	331	326	334	316.0	334.0	324.8
11	Calcium (as Ca)	mg/l	75	43.6	41.5	43.9	44.5	43.6	42.2	41.5	44.5	43.2
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	0.05	0.044	0.04	0.043	0.044	0.046	0.040	0.050	0.045
14	Sulphate as (SO_4)	mg/l	200	16.6	17.1	18.9	18.4	18.8	19.6	16.6	19.6	18.2
15	Nitrate (as NO_3)	mg/l	45	1.78	1.82	1.9	1.96	1.95	1.90	1.8	2.0	1.9
16	Fluoride (as F)	mg/l	1	0.35	0.38	0.35	0.38	0.38	0.36	0.4	0.4	0.4
17	Phenolic compounds (as C6H5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.41	0.43	0.42	0.44	0.45	0.42	0.4	0.5	0.4
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
28	Alkalinity	mg/l	200	50	55	50	45	40	45	40.0	55.0	47.5
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	0.039	0.041	0.043	0.041	0.044	0.045	0.039	0.045	0.042

Sampling location: Katikela Ash Pond GW3 - Bore well (North)

Reviewed By

Approved By

Ref: Envlab/26-27/TR-02893 **Date: 07.05.2026**

Ground Water - Ash Pond Area: Katikela Ash Pond Continued

Sl. No	Parameter	Unit	Standard as per IS:10500	GW4								
				Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Max	Min	Avg
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	6.96	6.89	6.78	6.84	6.89	6.93	6.78	6.96	6.88
6	Total Hardness (as $CaCO_3$)	mg/l	200	85	80	76	82	86	80	76.0	86.0	81.5
7	Iron (as Fe)	mg/l	1	0.36	0.35	0.34	0.38	0.39	0.37	0.34	0.39	0.37
8	Chloride (as Cl)	mg/l	250	38	35	30	35	38	35	30.0	37.5	35.0
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	290	288	275	284	278	285	275.0	290.0	283.3
11	Calcium (as Ca)	mg/l	75	40.9	40.6	42.5	43.1	42.9	41.8	40.6	43.1	42.0
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	0.040	0.035	0.030	0.036	0.035	0.039	0.030	0.040	0.036
14	Sulphate as (SO_4)	mg/l	200	16.4	16.9	17.5	18.2	17.9	18.8	16.4	18.8	17.6
15	Nitrate (as NO_3)	mg/l	45	1.63	1.70	1.65	1.7	1.81	1.78	1.6	1.8	1.7
16	Fluoride (as F)	mg/l	1	0.32	0.35	0.31	0.34	0.37	0.33	0.3	0.4	0.3
17	Phenolic compounds (as C6H5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.36	0.39	0.36	0.32	0.3	0.35	0.3	0.4	0.3
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
28	Alkalinity	mg/l	200	45	40	45	40	45	40	40.0	45.0	42.5
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	0.024	0.025	0.028	0.026	0.030	0.028	0.024	0.030	0.026

Sampling location: Katikela Ash Pond GW4 - Bore well (South)

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Reviewed By

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Approved By

Ref: Envlab/26-27/TR-02894 **Date: 07.05.2026**

Ground Water - Ash Pond Area: Siriapali Ash Pond Continued

Sl. No	Parameter	Unit	Standard as per IS:10500	GW1								
				Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Max	Min	Avg
1	Colour	Hazen	5	<5	<5	<5	<5	<5	<5	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	7.14	7.18	7.12	7.15	7.20	7.28	7.12	7.28	7.18
6	Total Hardness (as $CaCO_3$)	mg/l	200	141	136	132	125	132	127	125.0	141.0	132.2
7	Iron (as Fe)	mg/l	1	0.34	0.32	0.35	0.33	0.31	0.33	0.31	0.35	0.33
8	Chloride (as Cl)	mg/l	250	32.5	33.1	32.6	31.9	32.8	33.4	31.9	33.4	32.7
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	236	230	221	210	218	224	210.0	236.0	223.2
11	Calcium (as Ca)	mg/l	75	32.2	31.8	32.2	31.8	32.2	31.8	31.8	32.2	32.0
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	0.033	0.035	0.032	0.036	0.038	0.033	0.032	0.038	0.035
14	Sulphate as (SO_4)	mg/l	200	18.4	17.9	17.2	19.8	19.4	18.6	17.2	19.8	18.6
15	Nitrate (as NO_3)	mg/l	45	2.44	2.35	2.31	2.26	2.22	2.17	2.2	2.4	2.3
16	Fluoride (as F)	mg/l	1	0.32	0.30	0.34	0.32	0.35	0.33	0.3	0.4	0.3
17	Phenolic compounds (as C6H5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.28	0.25	0.22	0.25	0.22	0.24	0.2	0.3	0.2
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
28	Alkalinity	mg/l	200	30	35	30	35	30	35	30.0	35.0	32.5
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Sampling Locations: Siriapali Ash Pond GW1 - Bore well (East)

Reviewed By

Approved By

Ref: Envlab/26-27/TR-02895 **Date: 07.05.2026**

Ground Water - Ash Pond Area: Siriapali Ash Pond Continued

Sl. No	Parameter	Unit	Standard as per IS:10500	GW2								
				Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Max	Min	Avg
1	Colour	Hazen	5	<5	<5	<5	<5	<5	<5	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	6.85	6.89	6.94	6.98	6.95	7	6.85	7.00	6.94
6	Total Hardness (as $CaCO_3$)	mg/l	200	122	124	128	134	139	142	122.0	142.0	131.5
7	Iron (as Fe)	mg/l	1	0.26	0.28	0.29	0.33	0.35	0.34	0.26	0.35	0.31
8	Chloride (as Cl)	mg/l	250	30	30.6	29.8	29	29.6	28.8	28.8	30.6	29.6
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	222	220	226	229	236	245	220.0	245.0	229.7
11	Calcium (as Ca)	mg/l	75	31.6	30.6	29.8	29.2	29.7	28.6	28.6	31.6	29.9
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	0.035	0.038	0.036	0.035	0.032	0.030	0.030	0.038	0.034
14	Sulphate as (SO_4)	mg/l	200	22	21.9	20.2	21.4	20.9	21.4	20.2	22.0	21.3
15	Nitrate (as NO_3)	mg/l	45	2.50	2.41	2.38	2.30	2.38	2.25	2.3	2.5	2.4
16	Fluoride (as F)	mg/l	1	0.30	0.32	0.35	0.34	0.32	0.30	0.3	0.4	0.3
17	Phenolic compounds (as C6H5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.26	0.23	0.28	0.29	0.28	0.25	0.2	0.3	0.3
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
28	Alkalinity	mg/l	200	35	38	35	40	35	30	30.0	40.0	35.5
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Sampling Locations: Siriapali Ash Pond GW2 - Bore well (West)

Reviewed By

Approved By

Ref: Envlab/26-27/TR-02896 **Date: 07.05.2026**

Ground Water - Ash Pond Area: Siriapali Ash Pond Continued

Sl. No	Parameter	Unit	Standard as per IS:10500	GW3								
				Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26	Max	Min	Avg
1	Colour	Hazen	5	<5	<5	<5	<5	<5	<5	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	7.30	7.33	7.28	7.33	7.39	7.29	7.28	7.39	7.32
6	Total Hardness (as $CaCO_3$)	mg/l	200	145	141	136	140	145	153	136.0	153.0	143.3
7	Iron (as Fe)	mg/l	1	0.35	0.36	0.38	0.35	0.37	0.35	0.35	0.38	0.36
8	Chloride (as Cl)	mg/l	250	45	44.3	45	43.8	42.9	41.8	41.8	45.0	43.8
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	258	249	245	256	260	266	245.0	266.0	255.7
11	Calcium (as Ca)	mg/l	75	33.5	32.5	32.8	32.3	33.9	34.5	32.3	34.5	33.3
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	0.040	0.039	0.04	0.042	0.045	0.042	0.039	0.045	0.041
14	Sulphate as (SO_4)	mg/l	200	23.3	22.8	23.5	24.2	24.5	24.8	22.8	24.8	23.9
15	Nitrate (as NO_3)	mg/l	45	2.61	2.56	2.4	2.44	2.53	2.46	2.4	2.6	2.5
16	Fluoride (as F)	mg/l	1	0.35	0.33	0.36	0.35	0.38	0.34	0.3	0.4	0.4
17	Phenolic compounds (as C6H5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.30	0.31	0.32	0.31	0.33	0.30	0.3	0.3	0.3
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
28	Alkalinity	mg/l	200	38	42	40	45	40	45	38.0	45.0	41.7
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Sampling Locations: Siriapali Ash Pond GW3 - Bore well (North)

Reviewed By

Approved By

Ref: Envlab/26-27/TR-02897 **Date: 07.05.2026**

7. Soil Quality:

Sl. No.	Parameters	S-1		S-4		S-6	
		Oct'25	Jan'26	Oct'25	Jan'26	Oct'25	Jan'26
1	Colour	Brown	Brown	Brown	Brown	Reddish	Reddish
2	Type of Soil	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
3	pH	6.44	6.51	6.95	6.88	6.81	6.85
4	Texture	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam
5	Infiltration Rate (cm/hr)	8.1	8.5	7.2	7.8	7.9	8.1
6	Bulk Density (gm/cc)	1.62	1.63	1.81	1.78	1.28	1.29
7	Porosity %	41.2	41.3	31.7	31.8	51.2	51.3
8	Moisture content %	11.2	10.8	10.5	10.1	8.5	8.1
9	Fluoride %	0.0045	0.0042	0.0077	0.0080	0.0088	0.009
10	Silica as SiO_2%	29.1	28.7	39.8	39.2	24.8	24.4
11	Chloride %	0.033	0.038	0.030	0.033	0.048	0.046
12	Sulphate %	0.48	0.46	0.61	0.63	0.24	0.26
13	Potassium as K%	0.033	0.035	0.045	0.042	0.038	0.036
14	Magnesium as Mg%	0.33	0.35	0.32	0.3	0.33	0.36
15	Calcium as Ca%	0.45	0.41	0.72	0.7	0.63	0.65
16	Manganese as Mn%	0.4	0.43	0.46	0.44	0.54	0.57
17	Iron as Fe%	0.61	0.63	0.55	0.59	0.89	0.91
18	Available Organic Carbon %	2.7	2.6	2.52	2.45	2.2	2.4
19	Available Nitrogen%	0.078	0.075	0.078	0.081	0.088	0.085

Sampling locations: S-1: Gudigaon Village S-4: Katapali Village S-6: Bhurkamunda Village

Reviewed By

Approved By

Ref: Envlab/26-27/TR- 02898 **Date: 07.05.2026**

Soil Quality: Continued.

Sl. No.	Parameters	S-2					
		Oct'25	**Nov'25**	**Dec'25**	**Jan'26**	**Feb'26**	**Mar'26**
1	Colour	Brown	Brown	Brown	Brown	Brown	Brown
2	Type of Soil	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
3	pH	7.11	7.25	7.22	7.00	7.12	7.15
4	Texture	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam
5	Infiltration Rate (cm/hr)	7.8	6.5	6.4	8.1	6.6	6.9
6	Bulk Density (gm/cc)	1.88	1.58	1.59	1.60	1.56	1.48
7	Porosity %	40.1	41.5	41.2	40.2	41.4	41.9
8	Moisture content %	11.5	7.5	7.2	11.1	6.9	6.6
9	Fluoride %	0.0036	0.0043	0.0045	0.0039	0.0048	0.0046
10	Silica as SiO_2%	33.6	36.9	36.2	34.1	35.9	35
11	Chloride %	0.038	0.044	0.045	0.040	0.042	0.044
12	Sulphate %	0.46	0.46	0.44	0.45	0.48	0.46
13	Potassium as K%	0.048	0.05	0.053	0.042	0.055	0.052
14	Magnesium as Mg%	0.26	0.44	0.42	0.28	0.45	0.42
15	Calcium as Ca%	0.48	0.58	0.56	0.45	0.54	0.55
16	Manganese as Mn%	0.38	0.42	0.45	0.35	0.42	0.4
17	Iron as Fe%	0.54	0.54	0.51	0.58	0.48	0.45
18	Available Organic Carbon %	2.42	2.20	2.15	2.38	2.21	2.15
19	Available Nitrogen%	0.082	0.09	0.093	0.08	0.095	0.098

Sampling locations: S-2: Kurebaga Village

Reviewed By

Approved By

Ref: Envlab/26-27/TR- 02899 **Date: 07.05.2026**

Soil Quality: Continued.

Sl. No.	Parameters	S-3					
		Oct'25	Nov'25	Dec'25	Jan'26	Feb'26	Mar'26
1	Colour	Brown	Brown	Brown	Brown	Brown	Brown
2	Type of Soil	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
3	pH	7.08	7.14	7.15	7.13	7.23	7.28
4	Texture	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam
5	Infiltration Rate (cm/hr)	7.5	6.6	6.8	7.9	6.9	7.1
6	Bulk Density (gm/cc)	1.71	1.44	1.45	1.72	1.42	1.36
7	Porosity %	39.4	41.5	41.4	39.6	41.5	42
8	Moisture content %	9.6	8.6	8.1	9.2	7.7	7.2
9	Fluoride %	0.0045	0.0048	0.0046	0.0048	0.0043	0.0045
10	Silica as SiO_2%	36.8	37.2	36.8	37.2	37.4	36.9
11	Chloride %	0.035	0.049	0.052	0.037	0.056	0.059
12	Sulphate %	0.54	0.5	0.51	0.50	0.5	0.52
13	Potassium as K%	0.051	0.043	0.048	0.050	0.046	0.048
14	Magnesium as Mg%	0.3	0.31	0.33	0.32	0.36	0.33
15	Calcium as Ca%	0.56	0.63	0.6	0.52	0.62	0.6
16	Manganese as Mn%	0.42	0.45	0.42	0.40	0.41	0.44
17	Iron as Fe%	0.66	0.59	0.58	0.62	0.59	0.54
18	Available Organic Carbon%	1.69	1.96	1.8	1.74	1.91	1.84
19	Available Nitrogen%	0.075	0.085	0.082	0.078	0.088	0.09

Sampling locations: S-3: Siriapali Village

Reviewed By

Approved By

Ref: Envlab/26-27/TR-02900 **Date: 07.05.2026**

Soil Quality: Continued.

Sl. No.	Parameters	S-5					
		Oct'25	**Nov'25**	**Dec'25**	**Jan'26**	**Feb'26**	**Mar'26**
1	Colour	Brown	Brown	Brown	Brown	Brown	Brown
2	Type of Soil	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
3	pH	6.88	6.90	6.93	6.94	6.88	6.93
4	Texture	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam
5	Infiltration Rate (cm/hr)	7.4	7.0	7.1	8	7	7.8
6	Bulk Density (gm/cc)	1.63	1.53	1.55	1.6	1.53	1.5
7	Porosity %	42.2	44.9	44.6	41.8	44.2	43.8
8	Moisture content %	10.9	8.1	7.8	10.2	7.5	7
9	Fluoride %	0.0042	0.0051	0.0054	0.0045	0.0052	0.0055
10	Silica as SiO_2%	34.0	37.4	37.8	34.5	38.1	37.8
11	Chloride %	0.041	0.035	0.038	0.044	0.033	0.035
12	Sulphate %	0.43	0.44	0.46	0.42	0.49	0.48
13	Potassium as K%	0.048	0.042	0.045	0.051	0.048	0.045
14	Magnesium as Mg%	0.25	0.35	0.36	0.22	0.35	0.32
15	Calcium as Ca%	0.66	0.51	0.54	0.63	0.55	0.52
16	Manganese as Mn%	0.52	0.41	0.38	0.51	0.33	0.3
17	Iron as Fe%	0.61	0.65	0.62	0.63	0.65	0.62
18	Available Organic Carbon %	1.90	2.3	2.1	1.86	2.14	2.2
19	Available Nitrogen%	0.081	0.079	0.076	0.084	0.079	0.076

Sampling locations: S-5: Katikela Village

Reviewed By

Approved By

Ref: Envlab/26-27/TR- 02901 **Date: 07.05.2026**

Soil Quality: Continued.

Sl. No.	Parameters	S-7		S-8	
		Oct'25	Jan'26	Oct'25	Jan'26
1	Colour	Reddish	Reddish	Brown	Brown
2	Type of Soil	Neutral	Neutral	Neutral	Neutral
3	pH	7.15	7.22	7.2	7.24
4	Texture	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam
5	Infiltration Rate (cm/hr)	8.2	8.3	6.8	6.9
6	Bulk Density (gm/cc)	1.38	1.4	1.40	1.39
7	Porosity %	48.6	48.7	40.4	40.2
8	Moisture content %	8.4	8	7.2	6.9
9	Fluoride %	0.0065	0.0068	0.0054	0.0055
10	Silica as SiO_2%	24.0	24.5	26.1	26.6
11	Chloride %	0.036	0.039	0.04	0.044
12	Sulphate %	0.38	0.35	0.42	0.4
13	Potassium as K%	0.026	0.028	0.045	0.044
14	Magnesium as Mg%	0.28	0.29	0.31	0.32
15	Calcium as Ca%	0.56	0.52	0.60	0.63
16	Manganese as Mn%	0.58	0.55	0.63	0.6
17	Iron as Fe%	0.92	0.88	0.90	0.93
18	Available Organic Carbon %	3.2	3	4.6	4.5
19	Available Nitrogen%	0.094	0.09	0.086	0.088

Sampling locations: S-7: R&R Colony S-8: Tumbakela Village

Reviewed By

Approved By

Ref: Envlab/26-27/TR- 02902 **Date: 07.05.2026**

Soil Quality: Continued.

Sl. No.	Parameters	S-9		S-10	
		Oct'25	Jan'26	Oct'25	Jan'26
1	Colour	Brown	Brown	Brown	Brown
2	Type of Soil	Neutral	Neutral	Neutral	Neutral
3	pH	6.93	6.9	6.84	6.87
4	Texture	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam
5	Infiltration Rate (cm/hr)	8.3	8.5	9	9.2
6	Bulk Density (gm/cc)	1.65	1.66	1.51	1.5
7	Porosity %	35.4	35.5	39.6	39.4
8	Moisture content %	8.0	7.7	9.6	9.2
9	Fluoride %	0.0073	0.0078	0.0086	0.0088
10		31.2	30.8	30.2	30.5
11	Chloride %	0.056	0.055	0.061	0.063
12	Sulphate %	0.33	0.36	0.43	0.45
13	Potassium as K%	0.067	0.062	0.064	0.065
14	Magnesium as Mg%	0.33	0.3	0.25	0.28
15	Calcium as Ca%	0.57	0.55	0.66	0.62
16	Manganese as Mn%	0.46	0.45	0.62	0.64
17	Iron as Fe%	0.84	0.86	0.88	0.92
18	Available Organic Carbon %	4.1	4	4.0	3.8
19	Available Nitrogen%	0.092	0.096	0.091	0.095

Sampling locations: S-9: Brundamal Village S-10: Sripura Village

Reviewed By

Approved By