VL/MOEF/006 2025 - 19
November 22, 2025

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 Vedanta Limited, Jharsuguda for the period from April 2025 to September 2025

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

Dear 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.

Thanking You,

Yours Faithfully,
For Vedanta Limited

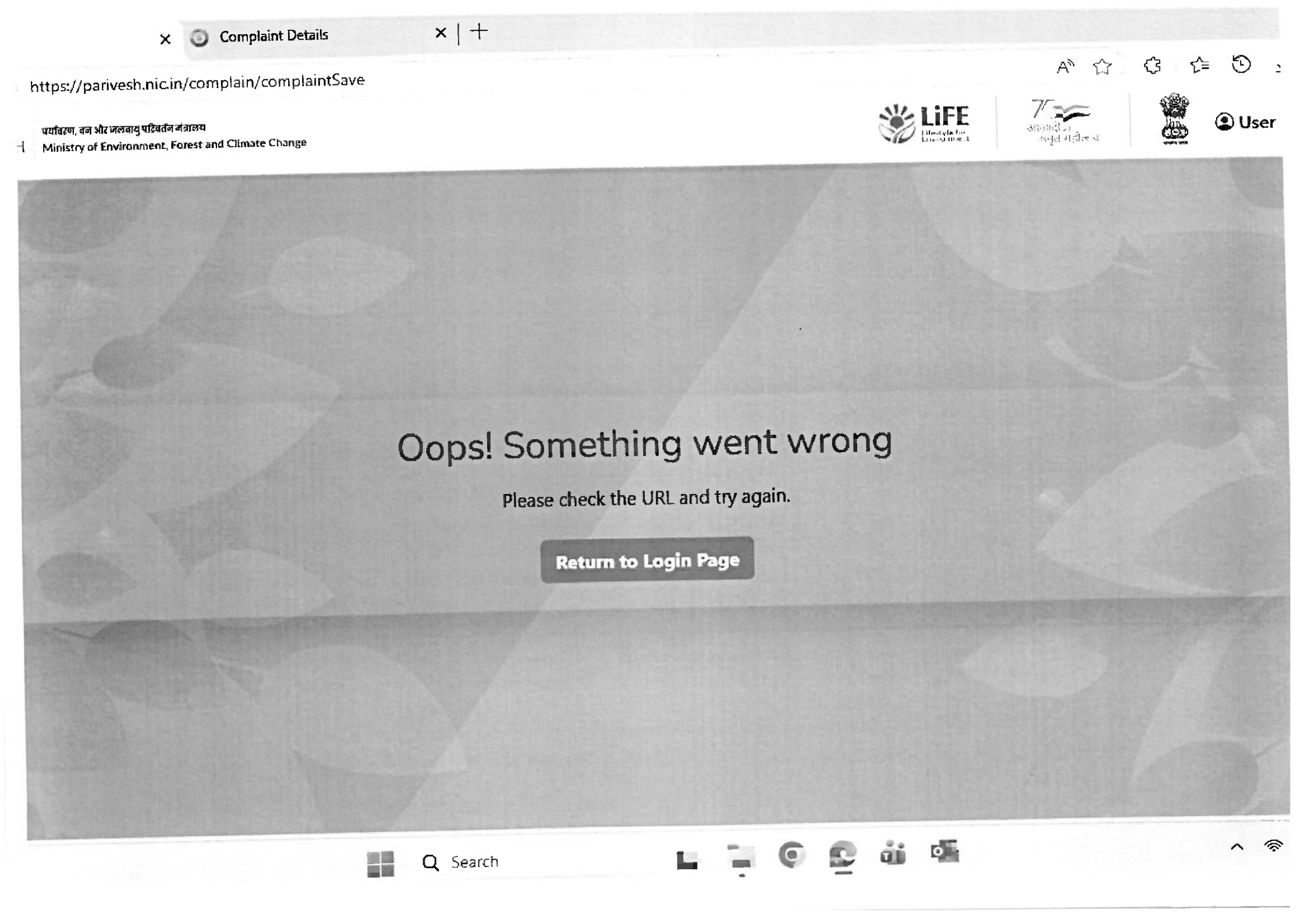
Dr. Amit Kumar Tyagi
Head- Environment

CC: 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

Enclosed: As above

VEDANTA LIMITED ,JHARSUGUDA
Vill- Bhurkamunda, P.O- Kalimandir, Dist- Jharsuguda (Odisha)- 768202
T +91-664 566 6000 F +91-664 566 6267 www.vedantalimited.com

REGISTERED OFFICE : Vedanta Limited 1st Floor, 'C' wing, Unit 103, Corporate Avenue, Atul Projects, Chakala, Andheri (East), Mumbai 400093, Maharashtra, India.
CIN: L13209MH1965PLC291394


Complaint Details
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VEDANTA LIMITED, JHARSUGUDA

Compliance Status on Environmental Clearance - CPP 675 MW vide letter no. J-13011/10/2006-IA-II(T) dated 14th March 2007

Sl.No.	CONDITIONS	COMPLIANCE STATUS
1.	All the conditions stipulated by Orissa State Pollution Control Board vide their letter no. 8064/ ind-II-NOC-3633 dated 31.03.2006 shall be strictly implemented.	All the conditions stipulated by Odisha State Pollution Control Board vide their letter no. 8064/ ind-II-NOC-3633 dated 31.03.2006 have been implemented.
2.	The total land requirement shall not be exceed 233.92 ha for all the activities/ facilities of the power project put together.	The total land on which the plant facilities of CPP 675 MW has been set up is within 233.92 ha.
3.	Ash and sulphur contents in the coal to be used in the project shall not exceed 41.6% and 0.5% respectively.	From Apr-25 to Sep-25, the average ash in the coal is 41.87 percent and sulphur contents in the coal ranges 0.186 - 0.369 percent respectively. With respect to this point, please note that there has been a MoEFCC notification dated 21.05.2020 and subsequent amendments that substituted Rule 3(8) of the Environment (Protection) Rules, 1986 and stated that the TPPs can use coal without any stipulations as to ash content or distance subject to fulfilment of certain conditions Such conditions include technology solution for emission norms, management of ash pond, safe transportation among others. It is submitted that such conditions are being complied with in letter and spirit. **Notification enclosed as Annexure-41a and Coal analysis report from NABL accredited lab for period of Apr-25 to Sep-25 is enclosed as Annexure-41b.**
4.	One multi-flue stack of 275 m height shall be provided with continuous online monitoring equipments. Exit velocity of at least 23.6 m/sec shall be maintained	One multi-flue stack of 275 m height with online monitoring system has been provided. Minimum Exit velocity of 23.6 m/sec is being maintained.
5.	High efficiency Electrostatic Precipitators (ESPs) with efficiency not less than 99.9% shall be installed to ensure that particulate emission does not exceed 100 mg/NM^3. It shall also be ensured that the AAQ levels in the notified ecologically sensitive areas including Reserve forests and Sanctuaries falling in the impact zone of the project do not exceed the prescribed standards for these areas.	Electrostatic Precipitators (ESPs) with 99.98 percent efficiency followed by bag filters (hybrid ESP) have been installed and the particulate emissions is within 50 mg/Nm3. Our plant does not fall in ecologically sensitive areas, National Park, Wildlife Sanctuaries, however there are Reserve Forests located in the 10 km area. Ambient air quality is regularly monitored as per the guidelines prescribed by CPCB/OSPCB in the plant Area. All the parameters are well within the limit. AAQ monitoring reports are submitted monthly to OSPCB and quarterly to your good office. **Monitoring Report for the period of Apr-25 to Sep-25 enclosed as Annexure-2.**
6.	Space provision shall be made for Flue Gas De-sulphurisation (FGD) unit, if required at a later stage.	As per the notification G.S.R. 465(E). dated 11th July 2025, the FGD system for Sulphur dioxide emission standards shall not be applicable to all Category C thermal power

		plants subject to ensuring compliance of stack height criteria. As per the criteria mentioned in the notification, we have been falling under category C and are compliant of stack height criteria since inception. So, this condition is not applicable for our Industry. **Notification copy enclosed as Annexure-42**
7.	Closed Circuit Cooling system with Cooling Towers shall be provided. COC shall be optimized for ensuring water conservation.	Closed circuit cooling system with cooling towers (NDCT) has been provided and an optimum level of COC is being maintained as part of water conservation measures.
8.	Environmental clearance is subjected to obtaining clearance under the Wildlife (Protection) Act, 1972 from the Competent Authority.	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 13.**
9.	Environmental clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs Union of India in Writ Petition (Civil) No. 460 of 2004 as may be applicable to this project.	Not Applicable at present.
10.	A conservation plan for Schedule-I animals reported in the study area of the project, shall be prepared in consultation with an expert organization like Wildlife Institute of India at Dehradun and duly approved by State Wildlife Department of Orissa. A copy of the same shall be submitted to the Ministry and the regional Office at Bhubaneswar within six months of the date of issue of this letter. The plan so prepared	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.

	shall be implemented effectively. Necessary allocation of funds for the same shall be made and will be included as project cost.	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 13.**
11.	Adequate dust extraction such as bag filters and water spray system in dusty areas such as coal and ash handling areas, transfer areas and other vulnerable areas shall be provided.	Fixed water sprinkling system have been provided all along the coal storage area. Further, Mobile Water tankers/Mist cannon/sprinklers have also been deployed round the clock in CHP, ash pond area to arrest airborne emissions. **Photos are enclosed as Annexure-11.**
12.	Fly ash shall be collected in dry form and ash generated shall be used in a phased manner as per provisions of the notification on Fly ash utilization issued by the ministry in September 1999 and its amendment. By the end of 9th year full fly ash utilization should be ensured. Unutilized ash shall be disposed off in the ash pond in the form of High Concentration Slurry.	Fly ash is being collected in dry form in silos of capacity 12000 m3. Ash is being utilized in cement, brick manufacturing, road and infrastructure activities, reclamation of low-lying areas and the balance is disposed off to the ash pond in the form of High Concentration Slurry disposal for further utilization in sustainable avenues. As per MoEFCC Fly ash amendment notification dated 30th December 2022, We have 3 operational ash ponds/dykes (Kurebaga, Siriapali and Katikela) and stored ash is being utilized regularly in sustainable avenues. The communication letter sent to the OSPCB and CPCB office vide letter no VL/AU/22-23/117/OPCB dated 30th March 2023. **Letter is enclosed as Annexure-10a.** As per Fly ash notification 2021 and its subsequent amendments, more than 100 percent ash was utilized in FY 2025 and the same is planned for FY26 also. Monthly fly ash utilization report has been uploaded in CPCB portal. Moreover, continuous efforts have been made to utilize fly ash in different sustainable avenues as per enclosed plan for 100 percent Fly ash utilization/disposal, in close coordination with the statutory bodies. **Ash Utilization Plan of FY-26 is enclosed as Annexure-10b and Annexure-10c respectively.**

13.	Ash pond shall be lined with impervious lining to avoid leaching into ground water. Adequate safety measures shall also be taken so that pond ash does not become air borne to air pollution in the surrounding areas.	The ash ponds/dykes are constructed/ designed as per the recommendations given in design documents. The ash pond has been lined with impervious clay/ HDPE lining to avoid any leaching into ground water. Moreover, piezometric wells have been installed to check the ground water quality. The ash is being transported through High concentration slurry disposal system. Water in the slurry is minimum thereby making the entire mass a rock-like structure so that no water is available for leaching into ground and the ash will not get airborne. Further, mobile tankers/ fixed sprinkling system has been provided to arrest the airborne emission if any. **Photos of water sprinkling measures enclosed as Annexure-43.**
14.	Rainwater harvesting shall be practiced. A detailed scheme for rainwater harvesting to recharge the groundwater aquifer shall be prepared in consultation with Central Ground Water Authority / State Ground Water Board and a copy of the same will be submitted within three months to the Ministry.	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-35.** We have installed 7 nos. of roof top rainwater harvesting structure with a total capacity of more than 10000 m3 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-8a.** 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-8b.**
15.	The treated effluents conforming to the prescribed standards shall be re-circulated and reused within the plant. There shall be no discharge outside the plant boundary. In case of emergency, only 30 m^3/hr discharges from the plant may be done in the drain.	We have implemented various water conservation measures in our plant to reduce freshwater consumption. Effluent Treatment Plant has been installed, and the treated effluent is recycled in the process. 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 Apr-25 to Sep-25 enclosed as Annexure-2.**
16.	Regular monitoring of groundwater in and around the ash pond area shall be carried out, records maintained, and quarterly	Ground water monitoring in the villages around the ash pond is being undertaken and the quarterly report is being submitted to the

	reports shall be furnished to the Regional Office of this Ministry.	Regional Office of the Ministry, apart from piezometric bore wells around the ash ponds. The list of ground water monitoring locations in the villages along with direction in respect of the ash pond in use is as under -Gudigaon (N), Kurebaga (N), Siriapali (NE) Katapali (NW), Katikela (SE), Bhurkhamunda (SW), R and R colony (NW), Tumbakela (W), Brundamal (NW), Sripura(S). **Monitoring Report for the period of Apr-25 to Sep-25 enclosed as Annexure-2.**
17.	A 50 m wide greenbelt shall be developed all along the plant and ash pond boundary covering 1/3rd of the total area.	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 have 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.**
18.	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	First aid and sanitation facilities had been provided to all the drivers and contract workers during the construction phase. Moreover, company has established dedicated First Aid center and Apollo Clinic to cater the employees and workers throughout the year.
19.	Leq of Noise level should be limited to 75 dBA and regular maintenance of equipment be undertaken. For people working in the high noise areas, personal protection devices should be provided.	Mitigative measures have been provided in high noise level areas like Turbine and Generator to ensure the Leq of noise level less than 75 dB(A) with regular maintenance of equipment. **Monitoring Report for the period of Apr-25 to Sep-25 enclosed as Annexure-2.**
20.	Regular monitoring of the ambient air quality shall be carried out in and around the power plant and records maintained. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Quarterly reports shall be submitted to the Regional Office of this Ministry.	AAQ stations have been fixed in consultation with OSPCB in and around the power plant complex. **Consultation letter enclosed as Annexure-37.** 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. We are submitting monitoring reports monthly to OSPCB and quarterly reports to your Regional Office of Ministry.

		Monitoring Report for the period of Apr-25 to Sep-25 enclosed as Annexure-2.
21.	The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned, informing that the project has been accorded environmental clearance and copies of clearance letters are available with the State Pollution Control Board/ Committee and may also be seen at the Website of the Ministry of Environment and Forests at http://envfor.nic.in.	Necessary advertisement with information as advised by the Ministry has been released in two local newspapers one in vernacular and one in English.
22.	A separate environment monitoring cell with suitable qualified staff should be set up for implementation of the stipulated environmental safeguards.	A separate Environment Management Cell with qualified personnel has been set up to monitor compliance of the conditions stipulated. **Organogram enclosed as Annexure-28.**
23.	Half yearly report on the status of implementation of the stipulated conditions and environmental safeguards should be submitted to this Ministry, Regional Office, CPCB and SPCB.	We are uploading half yearly compliance report along with monitoring data and supporting annexures in the MoEFCC Parivesh Portal and on our website and link of the same is as below. https://vedantaaluminium.com/sustainability/compliance-report-jharsuguda/
24.	Regional Office of the Ministry of Environment and Forests located at Bhubaneswar will monitor the implementation of the stipulated conditions. Complete set of Environmental Impact Assessment Report and Environmental Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring.	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-38.**
25.	Separate funds should be allocated for implementation of environmental protection measures along with item-wise break-up. This cost should be included as part of the project cost. The funds earmarked for the environment protection measures should not be diverted for other purposes and year-wise expenditure should be reported to the ministry.	Separate funds has been allocated for implementation of the Environmental Protection measures and will not be diverted for any other purposes. **Expenditure details enclosed as Annexure-39.**
26.	Full co-operation should be extended to the Scientists /officers from the Ministry/ Regional Office of the Ministry at Bhubaneswar / the CPCB /the SPCB who would be monitoring the compliance of environmental status.	We shall extend full co-operation to the scientists/ officers from the Ministry/ Regional Office/ CPCB and OSPCB who would be monitoring the compliance of Environmental status.

Sl.No.	Terms and Conditions	Status
a.	Details regarding change in source (location of the source, proposed quantity, distance from the power plant and mode of transportation), quality (Ash, Sulphur, Moisture content and Calorific value) shall be informed to the Ministry and its concerned Regional Office. The quantity of coal transported from each source along with the mode of transportation shall be submitted as part of EC Compliance Report. 1. Domestic to Domestic 2. from domestic to domestic (blended with imported coal up to 30% content of imported coal) 3. from imported to imported (blended with domestic coal up to 10% content of domestic coal) 4. from imported to domestic (where the GCV of the domestic coal is of the same grade as of imported coal).	We have procured the coal from the below domestic sources: Source - MCL, NLC, OCPL, and Captive Mine (Jamkhani). Coal Quality details - GCV (Kcal/kg) ARB - Approx 2800 to Approx 3400 Ash - 40 percent to 50 percent Sulphur Content - 0.34 percent to 0.55 percent Total Moisture -11.73 percent to 13.51 percent
b.	The applicable flue gas emissions standards for Particulate Matter, Sulphur Dioxide, Oxides of Nitrogen and Mercury shall be complied in line with Ministry's Notification vide S.O. 3305(E) dated 7.12.2015 and subsequent emissions. A progress of implementation and its compliance shall be submitted as part of Compliance Report.	Applicable flue gas emission standards like PM, SO2, NOX and Hg is being monitored regularly. **Monitoring Report for the period of Oct-24 to Nov-25 enclosed as Annexure-2.** As per the notification G.S.R. 465(E). dated 11th July 2025, the FGD system for Sulphur dioxide emission standards shall not be applicable to all Category C thermal power plants subject to ensuring compliance of stack height criteria. As per the criteria mentioned in the notification, we have been falling under category C and are compliant of stack height criteria since inception. So, this condition is not applicable for our Industry. **Notification copy enclosed as Annexure-42.**
c.	Ash content in the Coal and Coal transportation is governed by the Ministry's Notification vide S.O. 1561 (E) dated 21.5.2020. As far as possible, Coal transportation shall be done by rail/ conveyor or other eco-friendly modes. However, road transportation is allowed with tarpaulin covered trucks till the railway/ conveyor belt infrastructure is made available. A progress (Physical and financial) of rail connectivity from nearest railway siding or conveyor connectivity to the power plant hall be submitted in the EC compliance report.	Mode of transportation of coal is rail and road with proper mitigative measures. In addition to that we have provided railway infrastructure inside plant premises for unloading of coal with proper mitigative measures.
d .	Additional ash pond shall not be permitted on account of increase in ash content in the	Noted. As per Fly ash notification 2021 and its subsequent amendments, more than 100

	raw coal as due to change in coal source including lignite other than the ash pond permitted and specified in the Prior Environmental Clearance. 100% fly ash utilisation is to be achieved within 4 years in accordance with the extant provisions laid down in the Fly ash notifications dated 14.09.1999, 27.08.2003, 3.11.2009 & 25.01.2016, 31.12.2021 and 30.12.2022 as amended from time to time.	percent ash was utilized in FY 2025 and the same is planned for FY 2026 also. Moreover, continuous efforts have been made to utilize fly ash in different sustainable avenues as per enclosed plan for 100 percent Fly ash utilization/disposal in close coordination with the statutory bodies. **Ash Utilization Plan of FY-26 and request letters are enclosed as Annexure-10b and Annexure-10c respectively.**
e.	In case of exceptional circumstances, project proponents may approach the Ministry for seeking permission to use an emergency ash pond with cogent reasons, if any.	Noted.
f.	The details regarding monthly generation, utilisation and disposal of fly ash (including bottom ash) shall be submitted to the Ministry and its Regional Office.	Monthly fly ash utilization report has been uploaded in CPCB portal.

Ref: **Envlab/25-26/TR-15338** ***Date: 09.10.2025***

VEDANTA LIMITED, JHARSUGUDA
SMELTER & CPP
Half Yearly Environment Quality Report
(April 2025 – September 2025)

1. Stack Emission:

a) Pot Room Fume Treatment Plant (FTP) Outlet

i. Particulate Matter (mg/Nm^3)

Stack Description	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Limit	**100**					
FTP 1- Pot Line-1	5.4	5.5	5.0	5.1	5.2	5.4
FTP 2- Pot Line-1	4.7	6.4	5.1	5.3	5.5	5.3
FTP 3- Pot Line-2	5.2	5.8	5.4	5.0	5.1	5.5
FTP 4- Pot Line-2	2.5	5.5	5.2	5.1	5.3	5.2
FTP 5- Pot Line-3	3.0	3.2	2.8	2.6	2.8	2.5
FTP 6- Pot Line-3	2.9	3.3	3.7	3.5	3.0	3.1
FTP 7- Pot Line-4	3.2	3.0	3.1	3.3	3.5	3.2
FTP 8- Pot Line-4	2.7	2.8	2.9	3.0	3.3	3.5
FTP 9- Pot Line-5	3.6	3.2	3.3	3.4	3.2	2.9
FTP 10- Pot Line-5	3.3	2.8	2.9	2.6	2.9	3.0
FTP 11- Pot Line-6	2.8	3.1	3.5	3.2	3.1	3.3
Limit	**30**					
FTP 12- Pot Line-6	2.9	2.9	3.1	3.3	3.4	3.4

ii. Gaseous Fluoride (mg/Nm^3)

Stack Description	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
FTP 1- Pot Line-1	0.55	0.51	0.49	0.47	0.45	0.48
FTP 2- Pot Line-1	0.54	0.63	0.43	0.44	0.48	0.46
FTP 3- Pot Line-2	0.53	0.55	0.52	0.50	0.51	0.50
FTP 4- Pot Line-2	0.59	0.60	0.56	0.54	0.55	0.54
FTP 5- Pot Line-3	0.58	0.54	0.53	0.56	0.58	0.55
FTP 6- Pot Line-3	0.59	0.61	0.65	0.69	0.65	0.62
FTP 7- Pot Line-4	0.51	0.55	0.52	0.50	0.56	0.59
FTP 8- Pot Line-4	0.63	0.65	0.51	0.54	0.59	0.58
FTP 9- Pot Line-5	0.64	0.63	0.55	0.58	0.60	0.63
FTP 10- Pot Line-5	0.59	0.62	0.57	0.58	0.61	0.62
FTP 11- Pot Line-6	0.62	0.68	0.65	0.63	0.65	0.60
FTP 12- Pot Line-6	0.48	0.45	0.65	0.68	0.65	0.63

Reviewed by

Approved by

Ref: **Envlab/25-26/TR- 15339** *Date: 09.10.2025*

iii. Particulate Fluoride (mg/Nm^3)

Stack Description	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Limit	0.65					
FTP 1- Pot Line-1	0.058	0.052	0.054	0.050	0.055	0.054
FTP 2- Pot Line-1	0.059	0.051	0.047	0.049	0.042	0.045
FTP 3- Pot Line-2	0.056	0.066	0.058	0.055	0.051	0.050
FTP 4- Pot Line-2	0.052	0.051	0.055	0.053	0.056	0.058
FTP 5- Pot Line-3	0.062	0.059	0.060	0.062	0.064	0.066
FTP 6- Pot Line-3	0.051	0.055	0.052	0.058	0.060	0.063
FTP 7- Pot Line-4	0.061	0.060	0.058	0.055	0.058	0.059
FTP 8- Pot Line-4	0.059	0.054	0.061	0.059	0.062	0.060
FTP 9- Pot Line-5	0.052	0.057	0.062	0.064	0.065	0.061
FTP 10- Pot Line-5	0.055	0.058	0.053	0.056	0.059	0.058
FTP 11- Pot Line-6	0.059	0.055	0.053	0.055	0.058	0.056
FTP 12- Pot Line-6	0.063	0.069	0.062	0.064	0.065	0.066

iv. Total Fluoride (kg/T)

Stack Description	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Limit	0.30					
FTP 1- Pot Line-1	0.08	0.08	0.08	0.07	0.07	0.08
FTP 2- Pot Line-1	0.09	0.10	0.07	0.07	0.08	0.07
FTP 3- Pot Line-2	0.08	0.09	0.08	0.08	0.08	0.08
FTP 4- Pot Line-2	0.09	0.09	0.09	0.09	0.09	0.09
Limit	0.20					
FTP 5- Pot Line-3	0.07	0.07	0.07	0.07	0.08	0.07
FTP 6- Pot Line-3	0.07	0.07	0.08	0.08	0.08	0.08
FTP 7- Pot Line-4	0.06	0.07	0.06	0.06	0.07	0.07
FTP 8- Pot Line-4	0.07	0.08	0.06	0.07	0.08	0.07
FTP 9- Pot Line-5	0.08	0.07	0.07	0.07	0.08	0.08
FTP 10- Pot Line-5	0.08	0.08	0.07	0.07	0.08	0.08
FTP 11- Pot Line-6	0.08	0.09	0.08	0.08	0.08	0.08
FTP 12- Pot Line-6	0.07	0.06	0.07	0.08	0.08	0.08

Reviewed by

Approved by

Ref: **Envlab/25-26/TR- 15340** ***Date: 09.10.2025***

b) Bake Oven Fume Treatment Plant (FTP) Outlet

i. Particulate Matter (mg/Nm^3)

Stack Description	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Limit	**100**					
FTP 1 - Bake Oven	5.4	5.3	5.3	5.5	5.4	5.6
FTP 2 - Bake Oven	5.1	5.1	5.1	5.0	5.3	5.1
FTP-3 - Bake Oven	5.1	5.2	5.2	5.4	5.8	5.9
FTP-4 - Bake Oven	5.0	5.0	5.4	5.2	5.0	5.2
FTP-5 - Bake Oven	4.9	5.0	5.1	5.2	5.5	5.6

ii. Gaseous Fluoride (mg/Nm^3)

Stack Description	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
FTP 1 - Bake Oven	2.66	2.59	2.51	2.48	2.36	2.29
FTP 2 - Bake Oven	2.42	2.45	2.49	2.45	2.42	2.40
FTP-3 - Bake Oven	2.76	2.46	2.55	2.56	2.55	2.58
FTP-4 - Bake Oven	2.34	2.44	2.32	2.39	2.41	2.46
FTP-5 - Bake Oven	2.47	2.49	2.47	2.51	2.48	2.41

iii. Particulate Fluoride (mg/Nm^3)

Stack Description	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Limit	**0.65**					
FTP 1 - Bake Oven	0.52	0.57	0.63	0.62	0.63	0.58
FTP 2 - Bake Oven	0.45	0.51	0.59	0.58	0.60	0.45
FTP-3 - Bake Oven	0.57	0.34	0.37	0.39	0.41	0.43
FTP-4 - Bake Oven	0.49	0.45	0.34	0.37	0.38	0.44
FTP-5 - Bake Oven	0.54	0.53	0.58	0.60	0.61	0.54

iv. Total Fluoride (Kg/T)

Stack Description	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Limit	**0.10**					
FTP 1 - Bake Oven	0.03	0.03	0.02	0.02	0.03	0.03
FTP 2 - Bake Oven	0.02	0.03	0.03	0.02	0.03	0.03
FTP-3 - Bake Oven	0.02	0.01	0.02	0.01	0.02	0.01
FTP-4 - Bake Oven	0.01	0.02	0.01	0.01	0.02	0.02
FTP-5 - Bake Oven	0.02	0.02	0.02	0.01	0.02	0.02

v. Total PAH (mg/Nm^3)

Stack Description	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Limit	**2**					
FTP 1 - Bake Oven	0.25	0.23	0.24	0.22	0.24	0.26
FTP 2 - Bake Oven	0.23	0.24	0.21	0.24	0.25	0.23
FTP-3 - Bake Oven	0.26	0.25	0.26	0.25	0.22	0.25
FTP-4 - Bake Oven	0.24	0.26	0.24	0.23	0.22	0.26
FTP-5 - Bake Oven	0.25	0.25	0.24	0.25	0.26	0.23

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Approved by

Ref: **Envlab/25-26/TR-15341** *Date: 09.10.2025*

c) Captive Power Plant (CPP)

i. Particulate Matter (mg/Nm^3)

Stack Description	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Limit	50					
CPP- Unit 1	45.3	46.2	44.5	44.8	42.6	42.2
CPP- Unit 2	44.9	45.6	44.4	45.1	45.5	45.4
CPP- Unit 3	47.0	46.6	46.4	46.9	46.1	45.8
CPP- Unit 4	44.1	44.1	45.3	44.7	45.3	44.9
CPP- Unit 5	46.3	44.8	45.2	46.2	45.0	45.6
CPP- Unit 6	46.0	44.9	45.4	45.9	44.8	45.1
CPP- Unit 7	45.8	45.2	45.0	44.8	44.2	43.8
CPP- Unit 8	43.6	44.1	43.8	42.9	43.6	43.2
CPP- Unit 9	45.6	45.9	45.0	46.1	45.9	45.5

ii. SO2 (mg/Nm^3)

Stack Description	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Limit						
CPP- Unit 1	1359	1364	1356	1344	1350	1362
CPP- Unit 2	1333	1355	1335	1330	1328	1338
CPP- Unit 3	1340	1349	1351	1356	1348	1341
CPP- Unit 4	1358	1331	1341	1338	1330	1322
CPP- Unit 5	1353	1350	1344	1340	1355	1356
CPP- Unit 6	1337	1344	1349	1354	1351	1348
CPP- Unit 7	1333	1337	1320	1336	1328	1316
CPP- Unit 8	1356	1354	1350	1354	1318	1320
CPP- Unit 9	1369	1344	1358	1366	1360	1356

iii. NOx (mg/Nm^3)

Stack Description	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Limit	450					
CPP- Unit 1	341	349	356	350	354	352
CPP- Unit 2	358	337	340	336	328	320
CPP- Unit 3	357	357	350	356	360	354
CPP- Unit 4	354	351	348	342	345	338
CPP- Unit 5	350	326	324	332	330	322
CPP- Unit 6	338	350	354	356	351	342
CPP- Unit 7	354	342	344	348	345	331
CPP- Unit 8	336	338	346	342	338	326
CPP- Unit 9	338	355	361	368	370	368

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Ref: **Envlab/25-26/TR- 15342** ***Date: 09.10.2025***

iv. Mercury (mg/Nm^3)

Stack Description	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Limit	0.03					
CPP- Unit 1	0.0073	0.0073	0.0075	0.0078	0.0081	0.0080
CPP- Unit 2	0.0075	0.0075	0.0076	0.0080	0.0082	0.0079
CPP- Unit 3	0.0076	0.0076	0.0076	0.0072	0.0075	0.0078
CPP- Unit 4	0.0076	0.0079	0.0075	0.0073	0.0070	0.0072
CPP- Unit 5	0.0073	0.0073	0.0078	0.0075	0.0078	0.0075
CPP- Unit 6	0.0077	0.0077	0.0076	0.0078	0.0082	0.0081
CPP- Unit 7	0.0076	0.0076	0.0079	0.0075	0.0079	0.0077
CPP- Unit 8	0.0074	0.0074	0.0075	0.0072	0.0076	0.0072
CPP- Unit 9	0.0074	0.0073	0.0074	0.0075	0.0078	0.0076

Reviewed by

Approved by

Ref: **Envlab/25-26/TR-15343** *Date: 09.10.2025*

2. Fugitive Fluoride in Pot rooms

Fugitive Fluoride – Apr'25						
Potroom	Sampling date	Fugitive Fluoride (mg/Nm^3)		Total Fluoride (Kg/Mt)		Total Fugitive Fluoride (Kg/Mt)
		Particulate Fluoride	Gaseous Fluoride	Particulate Fluoride	Gaseous Fluoride	
Limit		**1.85**				**0.40**
Room 1	10-01-2025	0.437	1.409	0.094	0.303	0.397
Room 2	07-01-2025	0.463	1.198	0.106	0.275	0.381
Room 3	08-01-2025	0.317	1.371	0.074	0.322	0.396
Room 4	09-01-2025	0.335	1.326	0.075	0.298	0.373
Room 5	09-01-2025	0.352	1.065	0.094	0.283	0.377
Room 6	18-01-2025	0.268	1.145	0.075	0.320	0.395
Room 7	14-01-2025	0.292	1.110	0.081	0.309	0.390
Room 8	10-01-2025	0.326	1.020	0.091	0.284	0.375
Room 9	16-01-2025	0.286	1.050	0.078	0.285	0.363
Room 10	12-01-2025	0.325	1.035	0.088	0.280	0.368
Room 11	15-01-2025	0.333	1.005	0.091	0.275	0.366
Room 12	10-01-2025	0.319	1.016	0.087	0.278	0.365

Fugitive Fluoride – May'25						
Potroom	Sampling date	Fugitive Fluoride (mg/Nm^3)		Total Fluoride (Kg/Mt)		Total Fugitive Fluoride (Kg/Mt)
		Particulate Fluoride	Gaseous Fluoride	Particulate Fluoride	Gaseous Fluoride	
Limit		**1.85**				**0.40**
Room 1	07-05-2025	0.410	1.329	0.091	0.294	0.385
Room 2	09-05-2025	0.499	1.275	0.108	0.275	0.383
Room 3	03-05-2025	0.399	1.351	0.088	0.298	0.386
Room 4	04-05-2025	0.411	1.214	0.094	0.279	0.373
Room 5	13-05-2025	0.393	1.043	0.107	0.284	0.391
Room 6	07-05-2025	0.352	1.055	0.095	0.289	0.385
Room 7	08-05-2025	0.363	1.095	0.096	0.291	0.387
Room 8	09-05-2025	0.404	1.068	0.107	0.283	0.390
Room 9	14-05-2025	0.376	1.147	0.097	0.297	0.394
Room 10	11-05-2025	0.354	0.971	0.101	0.278	0.379
Room 11	20-05-2025	0.422	1.045	0.109	0.270	0.379
Room 12	10-05-2025	0.364	1.054	0.096	0.277	0.373

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Ref: **Envlab/25-26/TR-15344** *Date: 09.10.2025*

Fugitive Fluoride in Pot rooms: Continued

Fugitive Fluoride – Jun'25						
Potroom	Sampling date	Fugitive Fluoride (mg/Nm^3)		Total Fluoride (Kg/Mt)		Total Fugitive Fluoride (Kg/Mt)
		Particulate Fluoride	Gaseous Fluoride	Particulate Fluoride	Gaseous Fluoride	
Limit		**1.85**				**0.40**
Room 1	05.06.2025	0.529	1.310	0.111	0.274	0.385
Room 2	06.06.2025	0.547	1.323	0.110	0.267	0.377
Room 3	03.06.2025	0.457	1.226	0.100	0.269	0.369
Room 4	04.06.2025	0.460	1.252	0.099	0.268	0.367
Room 5	12.06.2025	0.392	1.025	0.105	0.275	0.380
Room 6	15.06.2025	0.429	1.035	0.111	0.267	0.378
Room 7	22.06.2025	0.391	0.953	0.107	0.260	0.367
Room 8	14.06.2025	0.413	0.977	0.113	0.267	0.380
Room 9	11.06.2025	0.410	1.035	0.109	0.275	0.384
Room 10	14.06.2025	0.422	1.083	0.108	0.278	0.386
Room 11	15.06.2025	0.398	0.999	0.107	0.268	0.375
Room 12	13.06.2025	0.358	1.035	0.092	0.266	0.358
Fugitive Fluoride – Jul'25						
Potroom	Sampling date	Fugitive Fluoride (mg/Nm^3)		Total Fluoride (Kg/Mt)		Total Fugitive Fluoride (Kg/Mt)
		Particulate Fluoride	Gaseous Fluoride	Particulate Fluoride	Gaseous Fluoride	
Limit		**1.85**				**0.40**
Room 1	04-07-2025	0.466	1.348	0.100	0.289	0.389
Room 2	08-07-2025	0.447	1.260	0.099	0.279	0.378
Room 3	03-07-2025	0.474	1.456	0.096	0.294	0.390
Room 4	02-07-2025	0.428	1.164	0.098	0.266	0.364
Room 5	23-07-2025	0.332	1.015	0.089	0.274	0.363
Room 6	13-07-2025	0.399	1.154	0.099	0.285	0.385
Room 7	12-07-2025	0.417	1.073	0.109	0.280	0.389
Room 8	18-07-2025	0.360	1.103	0.090	0.274	0.364
Room 9	22-07-2025	0.397	1.083	0.102	0.279	0.381
Room 10	15-07-2025	0.407	1.045	0.109	0.289	0.390
Room 11	24-07-2025	0.370	1.083	0.095	0.279	0.374
Room 12	11-07-2025	0.361	0.973	0.096	0.257	0.353

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Ref: **Envlab/25-26/TR-15345** *Date: 09.10.2025*

Fugitive Fluoride in Pot rooms: Continued

Fugitive Fluoride – Aug'25						
Potroom	Sampling date	Fugitive Fluoride (mg/Nm^3)		Total Fluoride (Kg/Mt)		Total Fugitive Fluoride (Kg/Mt)
		Particulate Fluoride	Gaseous Fluoride	Particulate Fluoride	Gaseous Fluoride	
Limit		**1.85**				**0.40**
Room 1	07-08-2025	0.472	1.432	0.096	0.292	0.388
Room 2	03-08-2025	0.535	1.329	0.113	0.281	0.394
Room 3	05-08-2025	0.509	1.288	0.109	0.275	0.384
Room 4	02-08-2025	0.535	1.239	0.116	0.270	0.386
Room 5	17-08-2025	0.404	1.013	0.108	0.271	0.379
Room 6	02-08-2025	0.455	1.026	0.121	0.274	0.395
Room 7	14-08-2025	0.418	1.068	0.109	0.279	0.388
Room 8	17-08-2025	0.431	1.005	0.116	0.270	0.386
Room 9	06-08-2025	0.458	1.116	0.114	0.278	0.392
Room 10	02-08-2025	0.430	1.135	0.103	0.271	0.374
Room 11	20-08-2025	0.452	1.132	0.110	0.275	0.385
Room 12	14-08-2025	0.439	1.079	0.109	0.268	0.377
Fugitive Fluoride – Sep'25						
Potroom	Sampling date	Fugitive Fluoride (mg/Nm^3)		Total Fluoride (Kg/Mt)		Total Fugitive Fluoride (Kg/Mt)
		Particulate Fluoride	Gaseous Fluoride	Particulate Fluoride	Gaseous Fluoride	
Limit		**1.85**				**0.40**
Room 1	04-09-2025	0.527	1.248	0.115	0.272	0.387
Room 2	06-09-2025	0.689	1.169	0.146	0.247	0.393
Room 3	02-09-2025	0.521	1.131	0.119	0.259	0.378
Room 4	07-09-2025	0.550	1.129	0.127	0.261	0.388
Room 5	16-09-2025	0.440	0.951	0.122	0.264	0.386
Room 6	09-09-2025	0.521	1.097	0.126	0.265	0.391
Room 7	13-09-2025	0.399	0.973	0.108	0.263	0.371
Room 8	13-09-2025	0.454	0.979	0.119	0.257	0.376
Room 9	12-09-2025	0.507	1.069	0.125	0.264	0.389
Room 10	12-09-2025	0.433	1.084	0.110	0.275	0.385
Room 11	11-09-2025	0.490	1.048	0.122	0.261	0.383
Room 12	11-09-2025	0.446	0.989	0.118	0.262	0.380

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Approved by

Ref: **Envlab/25-26/TR- 15346** ***Date: 09.10.2025***

3. Forage Fluoride

Sl. No.	Location	Forage Fluoride (ppm)					
		Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1.	Gudigaon	19.0	19.8	19.5	19.8	19.5	19.9
2.	Kurebaga	19.6	20.2	20.1	20.2	21.0	21.3
3.	Siriapali	20.5	20.6	20.8	20.1	20.5	20.8
4.	Katapali	19.2	21.0	20.9	20.2	20.8	20.2
5.	Katikela	20.9	20.4	20.8	19.9	19.5	20.1
6.	Burkhamunda	20.4	19.2	19.8	19.5	20.0	19.6
7.	R&R Colony	19.6	20.5	21.0	21.3	21.6	21.1
8.	Tumbakela	18.9	21.2	21.1	20.6	20.8	20.2
9.	Brundamal	21.3	19.5	19.6	19.2	19.6	18.9
10.	Sripura	19.1	20.8	20.4	20.2	20.5	20.2
11.	Ghichimura	18.8	19.6	19.9	19.5	19.9	19.4
12.	Lapanga	19.1	20.4	20.7	20.3	20.5	20.3
Average		**19.7**	**20.3**	**20.4**	**20.1**	**20.4**	**20.2**

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Ref: **Envlab/25-26/TR- 15347** ***Date: 09.10.2025***

4. Ambient Air Quality:

i. PM 10 size <10 (µg/m^3)

Sl. No.	Sampling Location	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Limit (24 Hours)		**100**					
1	Near Carbon Plant, Smelter-1	61.8	62.5	62.3	59.4	59.5	59.0
2	Near Rectifier of Expansion Pot Room	60.8	61.7	61.1	59.5	59.6	58.7
3	Near R & R colony	55.8	54.8	54.1	52.3	53.4	50.9
4	Near China Gate Weigh Bridge	61.7	61.5	60.9	60.0	59.9	59.2
5	Near Cooling Tower IPP	61.7	60.8	61.2	59.1	61.1	60.2
6	Near ETP, Smelter-1	57.8	57.3	57.5	55.3	58.6	57.6
7	Near Cast House, Smelter-1	63.6	60.7	62.0	59.8	60.8	58.7
8	Near Pot Room, Smelter-1	61.6	61.5	61.4	58.5	60.1	59.4
9	Near Coal Yard of CPP	60.7	61.8	62.9	61.2	61.8	61.6
10	Near Cooling Tower of CPP	60.2	60.1	61.0	59.5	61.5	60.4
11	Kurebaga Ash Pond	63.2	63.8	63.8	59.8	60.6	60.3
12	Siriapali Ash Pond	63.0	63.8	65.2	60.3	60.2	60.4
13	Katikela Ash Pond	62.3	63.0	63.1	60.1	60.7	60.3

ii. PM 2.5 size < 2.5 (µg/m^3)

Sl. No.	Sampling Location	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Limit (24 Hours)		**60**					
1	Near Carbon Plant, Smelter-1	31.3	31.5	32.6	30.0	29.9	29.7
2	Near Rectifier of Expansion Pot Room	30.9	31.1	30.8	30.0	30.1	29.6
3	Near R & R colony	28.3	27.6	27.4	26.3	27.0	25.7
4	Near China Gate Weigh Bridge	31.3	30.9	30.6	30.2	30.3	29.8
5	Near Cooling Tower IPP	31.2	30.8	30.2	29.9	31.0	30.4
6	Near ETP, Smelter-1	29.2	28.6	28.9	28.0	29.6	29.1
7	Near Cast House, Smelter-1	32.2	30.7	31.4	30.2	30.8	29.6
8	Near Pot Room, Smelter-1	31.2	31.1	30.9	29.5	30.3	30.1
9	Near Coal Yard of CPP	30.7	31.2	31.7	30.8	31.2	31.1
10	Near Cooling Tower of CPP	30.6	30.3	30.7	30.0	31.0	30.4
11	Kurebaga Ash Pond	31.9	32.4	32.2	30.2	30.5	30.4
12	Siriapali Ash Pond	31.9	32.3	32.9	30.4	30.4	30.0
13	Katikela Ash Pond	31.8	31.9	31.6	30.2	30.7	30.3

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Ref: **Envlab/25-26/TR- 15348** ***Date: 09.10.2025***

Ambient Air Quality: Continued.

iii. SO_2 (µg/m^3)

Sl. No.	Sampling Location	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Limit (24 Hours)		**80**					
1	Near Carbon Plant, Smelter-1	21.4	20.9	20.0	19.3	20.2	19.9
2	Near Rectifier of Expansion Pot Room	23.0	23.8	23.3	22.3	23.2	22.9
3	Near R & R colony	22.5	22.5	22.0	20.7	21.5	20.2
4	Near China Gate Weigh Bridge	23.5	23.7	23.3	21.9	22.2	21.8
5	Near Cooling Tower IPP	17.5	17.6	18.4	16.9	18.2	18.2
6	Near ETP, Smelter-1	24.3	24.2	24.4	22.9	22.8	21.7
7	Near Cast House, Smelter-1	21.4	21.5	21.7	19.7	20.7	21.0
8	Near Pot Room, Smelter-1	24.9	25.3	25.2	23.8	24.2	23.1
9	Near Coal Yard of CPP	28.8	28.4	28.6	25.5	26.9	26.0
10	Near Cooling Tower of CPP	24.1	24.3	24.1	23.4	23.9	23.4
11	Kurebaga Ash Pond	22.6	23.8	23.9	21.4	23.7	22.8
12	Siriapali Ash Pond	22.8	23.0	23.5	20.7	22.0	21.7
13	Katikela Ash Pond	23.6	24.0	24.2	22.1	23.0	22.1

v. NO_2 (µg/m^3)

Sl. No.	Sampling Location	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Limit (24 Hours)		**80**					
1	Near Carbon Plant, Smelter-1	30.3	30.3	28.7	27.7	27.9	26.3
2	Near Rectifier of Expansion Pot Room	31.5	31.6	31.1	29.3	29.8	28.3
3	Near R & R colony	27.2	27.4	26.8	24.8	25.1	24.5
4	Near China Gate Weigh Bridge	30.2	30.0	29.9	28.3	28.7	28.1
5	Near Cooling Tower IPP	24.8	24.3	24.2	22.1	24.3	23.2
6	Near ETP, Smelter-1	32.6	32.7	33.4	29.4	29.1	27.3
7	Near Cast House, Smelter-1	33.3	33.0	33.4	28.2	29.1	29.8
8	Near Pot Room, Smelter-1	29.1	29.9	30.1	27.8	29.3	27.1
9	Near Coal Yard of CPP	32.0	31.9	31.6	27.4	29.6	29.4
10	Near Cooling Tower of CPP	26.8	27.1	27.6	26.0	27.1	26.6
11	Kurebaga Ash Pond	28.0	27.6	28.1	24.6	25.6	25.1
12	Siriapali Ash Pond	30.3	30.9	30.8	24.3	26.2	25.3
13	Katikela Ash Pond	27.8	29.2	30.0	27.1	26.3	25.5

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Approved by

Ref: **Envlab/25-26/TR-15349** ***Date: 09.10.2025***

Ambient Air Quality: Continued.

vi. CO (mg/m^3)

Sl. No.	Sampling Location	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Limit (8 Hours)		**2.0**					
1	Near Carbon Plant, Smelter-1	0.55	0.57	0.58	0.56	0.58	0.58
2	Near Rectifier of Expansion Pot Room	0.58	0.57	0.55	0.53	0.56	0.54
3	Near R & R colony	0.49	0.49	0.51	0.48	0.53	0.51
4	Near China Gate Weigh Bridge	0.59	0.58	0.59	0.55	0.59	0.57
5	Near Cooling Tower IPP	0.59	0.60	0.61	0.57	0.59	0.56
6	Near ETP, Smelter-1	0.61	0.58	0.63	0.59	0.60	0.58
7	Near Cast House, Smelter-1	0.62	0.60	0.61	0.56	0.59	0.58
8	Near Pot Room, Smelter-1	0.56	0.58	0.59	0.58	0.60	0.57
9	Near Coal Yard of CPP	0.59	0.61	0.61	0.57	0.59	0.58
10	Near Cooling Tower of CPP	0.56	0.57	0.60	0.56	0.60	0.58
11	Kurebaga Ash Pond	0.69	0.69	0.65	0.56	0.60	0.59
12	Siriapali Ash Pond	0.68	0.67	0.69	0.60	0.60	0.61
13	Katikela Ash Pond	0.68	0.68	0.67	0.60	0.59	0.58

vii. Pb (µg/m^3)

Sl. No.	Sampling Location	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Limit (24 Hours)		1.0					
1	Near Carbon Plant, Smelter-1	0.15	0.15	0.13	0.12	0.13	0.13
2	Near Rectifier of Expansion Pot Room	0.17	0.13	0.14	0.14	0.14	0.13
3	Near R & R colony	BDL	BDL	BDL	BDL	BDL	BDL
4	Near China Gate Weigh Bridge	0.17	0.16	0.15	0.13	0.14	0.13
5	Near Cooling Tower IPP	0.16	0.15	0.14	0.12	0.13	0.12
6	Near ETP, Smelter-1	0.15	0.16	0.17	0.13	0.14	0.13
7	Near Cast House, Smelter-1	0.16	0.15	0.16	0.13	0.14	0.13
8	Near Pot Room, Smelter-1	0.15	0.15	0.17	0.14	0.15	0.16
9	Near Coal Yard of CPP	0.17	0.17	0.13	0.12	0.14	0.13
10	Near Cooling Tower of CPP	BDL	BDL	BDL	BDL	BDL	BDL
11	Kurebaga Ash Pond	0.15	0.16	0.13	0.12	0.13	0.14
12	Siriapali Ash Pond	0.17	0.17	0.15	0.13	0.15	0.13
13	Katikela Ash Pond	0.16	0.16	0.14	0.13	0.14	0.14

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Ref: **Envlab/25-26/TR- 15350** ***Date: 09.10.2025***

Ambient Air Quality: Continued.

vii. As (ng/m^3)

Sl. No.	Sampling Location	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Limit (24 Hours)		06					
1	Near Carbon Plant, Smelter-1	BDL	BDL	BDL	BDL	BDL	BDL
2	Near Rectifier of Expansion Pot Room	BDL	BDL	BDL	BDL	BDL	BDL
3	Near R & R colony	BDL	BDL	BDL	BDL	BDL	BDL
4	Near China Gate Weigh Bridge	BDL	BDL	BDL	BDL	BDL	BDL
5	Near Cooling Tower IPP	BDL	BDL	BDL	BDL	BDL	BDL
6	Near ETP, Smelter-1	BDL	BDL	BDL	BDL	BDL	BDL
7	Near Cast House, Smelter-1	BDL	BDL	BDL	BDL	BDL	BDL
8	Near Pot Room, Smelter-1	BDL	BDL	BDL	BDL	BDL	BDL
9	Near Coal Yard of CPP	BDL	BDL	BDL	BDL	BDL	BDL
10	Near Cooling Tower of CPP	BDL	BDL	BDL	BDL	BDL	BDL
11	Kurebaga Ash Pond	BDL	BDL	BDL	BDL	BDL	BDL
12	Siriapali Ash Pond	BDL	BDL	BDL	BDL	BDL	BDL
13	Katikela Ash Pond	BDL	BDL	BDL	BDL	BDL	BDL

viii. Ni (ng/m^3)

Sl. No.	Sampling Location	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Limit (24 Hours)		20					
1	Near Carbon Plant, Smelter-1	0.15	0.15	0.11	0.11	0.12	0.13
2	Near Rectifier of Expansion Pot Room	0.15	0.14	0.13	0.13	0.14	0.14
3	Near R & R colony	BDL	BDL	BDL	BDL	BDL	BDL
4	Near China Gate Weigh Bridge	0.15	0.16	0.15	0.13	0.14	0.13
5	Near Cooling Tower IPP	0.15	0.14	0.12	0.13	0.14	0.12
6	Near ETP, Smelter-1	0.15	0.16	0.17	0.13	0.14	0.13
7	Near Cast House, Smelter-1	0.14	0.12	0.14	0.13	0.14	0.15
8	Near Pot Room, Smelter-1	0.16	0.15	0.16	0.14	0.15	0.13
9	Near Coal Yard of CPP	0.17	0.13	0.14	0.13	0.14	0.13
10	Near Cooling Tower of CPP	0.16	0.17	0.16	0.14	0.15	0.14
11	Kurebaga Ash Pond	BDL	BDL	BDL	BDL	BDL	BDL
12	Siriapali Ash Pond	BDL	BDL	BDL	BDL	BDL	BDL
13	Katikela Ash Pond	BDL	BDL	BDL	BDL	BDL	BDL

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Ref: **Envlab/25-26/TR-15351** ***Date: 09.10.2025***

Ambient Air Quality: Continued.

ix. BaP (ng/m^3)

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

x. Benzene (µg/m^3)

Sl. No.	Sampling Location	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Limit (24 Hours)		05					
1	Near Carbon Plant, Smelter-1	0.15	0.17	0.14	0.13	0.13	0.16
2	Near Rectifier of Expansion Pot Room	0.15	0.14	0.16	0.16	0.15	0.13
3	Near R & R colony	BDL	BDL	BDL	BDL	BDL	BDL
4	Near China Gate Weigh Bridge	0.16	0.14	0.15	0.12	0.14	0.13
5	Near Cooling Tower IPP	0.15	0.13	0.14	0.12	0.14	0.12
6	Near ETP, Smelter-1	0.14	0.13	0.15	0.14	0.16	0.13
7	Near Cast House, Smelter-1	0.12	0.14	0.13	0.13	0.14	0.14
8	Near Pot Room, Smelter-1	0.14	0.15	0.14	0.13	0.15	0.13
9	Near Coal Yard of CPP	0.14	0.14	0.15	0.12	0.14	0.13
10	Near Cooling Tower of CPP	0.15	0.16	0.15	0.13	0.14	0.14
11	Kurebaga Ash Pond	BDL	BDL	BDL	BDL	BDL	BDL
12	Siriapali Ash Pond	BDL	BDL	BDL	BDL	BDL	BDL
13	Katikela Ash Pond	BDL	BDL	BDL	BDL	BDL	BDL

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Ref: **Envlab/25-26/TR- 15352** ***Date: 09.10.2025***

Ambient Air Quality: Continued.

xi. NH3 (µg/m3)

Sl. No.	Sampling Location	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Limit (24 Hours)		400					
1	Near Carbon Plant, Smelter-1	23.9	23.2	23.7	23.1	22.9	22.2
2	Near Rectifier of Expansion Pot Room	23.9	23.6	22.9	21.5	21.9	21.4
3	Near R & R colony	21.5	21.4	21.1	21.0	21.1	20.8
4	Near China Gate Weigh Bridge	23.7	23.3	23.2	21.9	22.0	21.3
5	Near Cooling Tower IPP	21.1	21.2	21.2	20.7	21.3	21.0
6	Near ETP, Smelter-1	28.4	28.0	27.4	24.6	24.5	23.4
7	Near Cast House, Smelter-1	24.1	24.7	24.4	23.2	23.2	22.6
8	Near Pot Room, Smelter-1	23.6	23.8	23.6	22.2	22.4	21.9
9	Near Coal Yard of CPP	24.4	24.9	24.4	23.7	24.3	24.1
10	Near Cooling Tower of CPP	22.3	22.0	22.0	21.1	21.5	21.2
11	Kurebaga Ash Pond	21.7	20.7	21.2	20.7	21.5	20.9
12	Siriapali Ash Pond	23.2	23.6	23.2	20.7	20.9	20.9
13	Katikela Ash Pond	24.2	23.9	23.8	21.7	21.1	21.4

xii. Ozone (µg/m3)

Sl. No.	Sampling Location	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Limit (8 Hours)		100					
1	Near Carbon Plant, Smelter-1	6.7	6.6	6.8	6.5	6.4	6.3
2	Near Rectifier of Expansion Pot Room	6.5	6.9	6.6	6.3	6.4	6.2
3	Near R & R colony	6.6	6.5	6.5	6.3	6.5	6.3
4	Near China Gate Weigh Bridge	7.0	7.0	6.9	6.5	6.7	6.5
5	Near Cooling Tower IPP	6.9	7.1	7.2	6.8	7.0	6.6
6	Near ETP, Smelter-1	6.2	6.3	6.1	5.8	6.0	5.9
7	Near Cast House, Smelter-1	6.7	6.6	6.6	6.3	6.3	6.2
8	Near Pot Room, Smelter-1	6.9	7.0	6.9	6.7	6.9	6.6
9	Near Coal Yard of CPP	6.7	6.8	6.8	6.4	6.5	6.3
10	Near Cooling Tower of CPP	7.0	6.5	7.1	6.8	7.0	6.9
11	Kurebaga Ash Pond	6.8	7.0	6.9	6.6	6.7	6.4
12	Siriapali Ash Pond	6.8	6.6	6.8	6.2	6.4	6.3
13	Katikela Ash Pond	6.6	6.7	6.9	6.3	6.2	6.1

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Ref: **Envlab/25-26/TR- 15353** ***Date: 09.10.2025***

5. Noise:

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

Sl. No.	Sampling Location	Day Time (6.00 a.m. to 10.00 p.m.) Noise Level in dB (A)					
		Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Limit		**55**					
1	In R & R colony	52.3	53.0	54.1	54.4	53.5	53.9
Limit		**75**					
2	Near Boiler of IPP	74.4	74.1	74.4	74.2	74.3	74.0
3	In Green Anode Plant	73.0	72.8	72.5	73.1	72.5	72.9
4	In Cast house - Smelter 1	72.2	72.0	71.9	72.2	73.0	73.6
5	Near Boiler of CPP	73.8	73.5	73.8	73.0	73.9	74.2
6	In Pot Room - Smelter 1	70.1	70.6	71.6	70.8	71.6	72.1

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

Sl. No.	Sampling Location	Night Time (10.00 p.m. to 6.00 a.m.) Noise Level in dB (A)					
		Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Limit		**45**					
1	In R & R colony	44.2	44.5	44.0	44.1	43.6	43.9
Limit		**70**					
2	Near Boiler of IPP	68.8	68.9	69.2	69.6	68.2	67.9
3	In Green Anode Plant	67.1	66.5	65.4	67.2	66.9	67.5
4	In Cast house - Smelter 1	66.9	67.3	66.9	66.5	67.4	66.8
5	Near Boiler of CPP	68.9	69.1	69.5	68.3	68.9	69.1
6	In Pot Room - Smelter 1	69.5	69.2	68.9	67.8	67.0	67.7

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Ref: **Envlab/25-26/TR- 15354** ***Date: 09.10.2025***

6. Water:

a) Smelter-1 ETP Outlet:

Location of sample: Smelter ETP outlet - E1 (recycled as process make up water)									
Sl. No.	**Parameters**	**Unit**	**Limit**	**E1**					
				Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	pH	-	6.5-9.0	7.19	7.21	7.23	7.20	7.25	7.22
2	Total Suspended Solids	mg/l	100	36	31	30	32	35	36
3	Total Dissolved Solids	mg/l	2100	138	140	151	147	145	141
4	BOD (5 days at 20°C)	mg/l	30	11.5	12.0	12.8	12.0	12.5	12.2
5	COD	mg/l	250	48	45	48	45	50	48
6	Fluoride	mg/l	1.5	0.62	0.66	0.70	0.75	0.72	0.75
7	Oil and Grease	mg/l	10	ND	ND	ND	ND	ND	ND
8	Hexavalent chromium as Cr+6	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL
9	Total Chromium	mg/l	2	0.038	0.039	0.041	0.045	0.044	0.045
10	Cyanide	mg/l	0.2	ND	ND	ND	ND	ND	ND
11	Free ammonia	mg/l	5	BDL	BDL	BDL	BDL	BDL	BDL
12	Total Nitrogen	mg/l	100	6.9	7.2	7.0	7.5	7.8	7.5

b) Smelter-2 ETP Outlet:

Location of sample: Smelter ETP outlet - E2 (recycled as process make up water)									
Sl. No.	**Parameters**	**Unit**	**Limit**	**E2**					
				Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	pH	-	6.5-9.0	7.26	7.24	7.22	7.20	7.24	7.28
2	Total Suspended Solids	mg/l	100	40	36	38	33	35	33
3	Total Dissolved Solids	mg/l	2100	286	279	285	290	288	291
4	BOD (5 days at 20°C)	mg/l	30	12.5	12.2	12.8	12.5	12.2	12.5
5	COD	mg/l	250	41	44	45	42	40	42
6	Fluoride	mg/l	1.5	0.88	0.86	0.81	0.86	0.89	0.91
7	Oil and Grease	mg/l	10	ND	ND	ND	ND	ND	ND
8	Hexavalent chromium as Cr+6	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL
9	Total Chromium	mg/l	2	0.044	0.045	0.048	0.045	0.042	0.040
10	Cyanide	mg/l	0.2	BDL	BDL	BDL	BDL	BDL	BDL
11	Free ammonia	mg/l	5	ND	ND	ND	ND	ND	ND
12	Total Nitrogen	mg/l	100	6.6	6.8	6.6	6.9	6.8	6.5

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Ref: **Envlab/25-26/TR- 15355** ***Date: 09.10.2025***

c) CPP ETP Outlet:

Location of sample: CPP ETP outlet - E3									
Sl. No.	**Parameters**	**Unit**	**Limit**	**E3**					
				Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	pH	-	6.5-9.0	7.25	7.21	7.23	7.20	7.22	7.20
2	Suspended Solids	mg/l	100	38	33	31	32	30	31
3	Total Dissolved Solids	mg/l	2100*	236	242	240	245	241	239
4	Oil and Grease	mg/l	10	ND	ND	ND	ND	ND	ND
5	Phosphate	mg/l	5.0	BDL	BDL	BDL	BDL	BDL	BDL
6	Chromium	mg/l	2.0	BDL	BDL	BDL	BDL	BDL	BDL
7	Copper	mg/l	3.0	BDL	BDL	BDL	BDL	BDL	BDL
8	Zinc	mg/l	5.0	0.15	0.16	0.18	0.17	0.15	0.16

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Ref: **Envlab/25-26/TR- 15356** ***Date: 09.10.2025***

d) Surface Water:

Sampling location: SW1- Upstream of Bheden River

Sl.No.	Parameter	Unit	SW1					
			Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Hazen	10	10	10	15	15	10
2	pH	--	7.46	7.43	7.38	7.33	7.30	7.28
3	DO	mg/l	4.2	4.3	4.2	5.1	4.8	4.9
4	Chloride	mg/l	32.5	30	22.5	28	30	25
5	Total Dissolved solids	mg/l	198	204	210	220	218	209
6	Suspended solids	mg/l	55	58	60	69	65	62
7	Oil & Grease	mg/l	ND	ND	ND	ND	ND	ND
8	BOD (5) days at 20^0 C	mg/l	1.8	1.9	2.0	1.8	1.6	1.5
9	Arsenic as As	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
10	Lead as Pb	mg/l	0.019	0.021	0.023	0.027	0.029	0.027
11	Cadmium as Cd	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
12	Hexachromium as Cr^{+6}	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
13	Copper as Cu	mg/l	0.02	0.022	0.020	0.023	0.022	0.020
14	Zinc as Zn	mg/l	0.18	0.16	0.18	0.21	0.23	0.20
15	Selenium as Se	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
16	Cyanide as CN	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
17	Fluoride as F	mg/l	0.36	0.34	0.36	0.39	0.32	0.29
18	Sulphate as (SO4)	mg/l	10.9	11.4	12.0	11.4	12.2	11.9
19	Phenolic compounds as C_6H_5OH	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
20	Iron as Fe	mg/l	0.38	0.36	0.33	0.37	0.39	0.36
21	Nitrate as NO_3	mg/l	1.18	1.22	1.28	1.33	1.30	1.28
22	Anionic Detergents	mg/l	ND	ND	ND	ND	ND	ND
23	Total Coliform	MPN/100ml	110	120	110	140	120	110

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Ref: **Envlab/25-26/TR- 15357** ***Date: 09.10.2025***

Surface Water: Continued.

Sampling location: SW2- Downstream of Bheden River

Sl.No.	Parameter	Unit	SW2					
			Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Hazen	15	15	15	20	25	20
2	pH	--	7.60	7.58	7.50	7.47	7.44	7.45
3	DO	mg/l	4.5	4.4	4.3	5.0	5.5	5.6
4	Chloride	mg/l	25	22.5	25	30.0	27	22.5
5	Total Dissolved solids	mg/l	213	215	218	230	225	221
6	Suspended solids	mg/l	63	60	64	68	66	60
7	Oil & Grease	mg/l	ND	ND	ND	ND	ND	ND
8	BOD (5) days at 20^0 C	mg/l	1.9	2.0	2.1	1.6	1.5	1.4
9	Arsenic as As	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
10	Lead as Pb	mg/l	0.02	0.023	0.022	0.025	0.026	0.025
11	Cadmium as Cd	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
12	Hexachromium as Cr^{+6}	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
13	Copper as Cu	mg/l	0.016	0.018	0.016	0.020	0.018	0.015
14	Zinc as Zn	mg/l	0.15	0.18	0.2	0.23	0.22	0.21
15	Selenium as Se	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
16	Cyanide as CN	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
17	Fluoride as F	mg/l	0.32	0.35	0.32	0.35	0.30	0.28
18	Sulphate as (SO4)	mg/l	11.5	11.8	11.5	12.5	12	12.5
19	Phenolic compounds as C_6H_5OH	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
20	Iron as Fe	mg/l	0.4	0.42	0.40	0.39	0.42	0.40
21	Nitrate as NO_3	mg/l	1.35	1.31	1.33	1.40	1.35	1.31
22	Anionic Detergents	mg/l	ND	ND	ND	ND	ND	ND
23	Total Coliform	MPN/100ml	140	150	140	150	140	120

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Ref: **Envlab/25-26/TR- 15358** ***Date: 09.10.2025***

Surface Water: Continued.

Sampling location: SW3- Upstream of Kharkhari Nallah

Sl.No.	Parameter	Unit	SW3					
			Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Hazen	10	10	10	15	20	15
2	pH	--	6.98	6.96	6.95	6.9	6.85	6.87
3	DO	mg/l	4.8	4.7	4.6	5.3	5.0	5.1
4	Chloride	mg/l	35	33	30	40	35	30
5	Total Dissolved solids	mg/l	189	196	201	215	210	200
6	Suspended solids	mg/l	54	52	55	60	64	61
7	Oil & Grease	mg/l	ND	ND	ND	ND	ND	ND
8	BOD (5) days at 20^0 C	mg/l	2.2	2.3	2.4	1.9	1.7	1.6
9	Arsenic as As	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
10	Lead as Pb	mg/l	0.017	0.018	0.016	0.022	0.02	0.021
11	Cadmium as Cd	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
12	Hexachromium as Cr^{+6}	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
13	Copper as Cu	mg/l	0.018	0.017	0.019	0.022	0.02	0.018
14	Zinc as Zn	mg/l	0.16	0.15	0.14	0.18	0.2	0.18
15	Selenium as Se	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
16	Cyanide as CN	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
17	Fluoride as F	mg/l	0.39	0.38	0.4	0.43	0.36	0.33
18	Sulphate as (SO4)	mg/l	15.6	16.4	17.3	18.6	17.0	16.4
19	Phenolic compounds as C_6H_5OH	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
20	Iron as Fe	mg/l	0.33	0.35	0.38	0.35	0.36	0.35
21	Nitrate as NO_3	mg/l	1.8	1.77	1.82	1.91	1.88	1.80
22	Anionic Detergents	mg/l	ND	ND	ND	ND	ND	ND
23	Total Coliform	MPN/100ml	150	170	180	210	150	140

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Ref: **Envlab/25-26/TR-15359** ***Date: 09.10.2025***

Surface Water: Continued.

Sampling location: SW4- Downstream of Kharkhari Nalla

Sl.No.	Parameter	Unit	SW4					
			Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Hazen	15	15	15	20	25	20
2	pH	--	7.13	7.10	7.13	7.00	6.97	6.95
3	DO	mg/l	4.6	4.5	4.4	5.5	5.4	5.5
4	Chloride	mg/l	40	43	40	45	40	37.0
5	Total Dissolved solids	mg/l	194	190	193	220	215	206
6	Suspended solids	mg/l	65	66	69	74	70	65
7	Oil & Grease	mg/l	ND	ND	ND	ND	ND	ND
8	BOD (5) days at 20^0 C	mg/l	2.1	2.2	2.3	2.0	1.8	1.7
9	Arsenic as As	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
10	Lead as Pb	mg/l	0.014	0.016	0.019	0.024	0.022	0.020
11	Cadmium as Cd	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
12	Hexachromium as Cr^{+6}	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
13	Copper as Cu	mg/l	0.018	0.019	0.021	0.026	0.024	0.022
14	Zinc as Zn	mg/l	0.18	0.17	0.18	0.19	0.22	0.21
15	Selenium as Se	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
16	Cyanide as CN	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
17	Fluoride as F	mg/l	0.4	0.41	0.43	0.50	0.41	0.38
18	Sulphate as (SO4)	mg/l	16.4	16.8	17.5	19.4	18.0	17.8
19	Phenolic compounds as C_6H_5OH	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
20	Iron as Fe	mg/l	0.36	0.37	0.36	0.40	0.38	0.33
21	Nitrate as NO_3	mg/l	1.92	1.98	2.08	2.01	2.10	2.00
22	Anionic Detergents	mg/l	ND	ND	ND	ND	ND	ND
23	Total Coliform	MPN/100ml	200	210	210	220	200	200

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Ref: **Envlab/25-26/TR- 15360** ***Date: 09.10.2025***

Surface Water: Continued.

Sampling location: SW5- Upstream Hirakud Reservoir

Sl.No.	Parameter	Unit	SW5					
			Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Hazen	5	5	5	10	15	5
2	pH	--	7.12	7.14	7.10	7	7.1	7.13
3	DO	mg/l	4.4	4.3	4.2	5.2	5.5	5.6
4	Chloride	mg/l	25	20.0	25	30	27	25
5	Total Dissolved solids	mg/l	200	208	210	215	205	198
6	Suspended solids	mg/l	62	65	66	75	72	70
7	Oil & Grease	mg/l	ND	ND	ND	ND	ND	ND
8	BOD (5) days at 20^0 C	mg/l	2	2.1	2.2	1.6	1.5	1.4
9	Arsenic as As	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
10	Lead as Pb	mg/l	0.017	0.018	0.016	0.020	0.018	0.016
11	Cadmium as Cd	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
12	Hexachromium as Cr^{+6}	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
13	Copper as Cu	mg/l	0.016	0.015	0.018	0.021	0.019	0.015
14	Zinc as Zn	mg/l	0.16	0.18	0.16	0.20	0.18	0.16
15	Selenium as Se	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
16	Cyanide as CN	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
17	Fluoride as F	mg/l	0.34	0.36	0.39	0.41	0.4	0.36
18	Sulphate as (SO4)	mg/l	13.2	13.0	13.8	15	14.0	13.5
19	Phenolic compounds as C_6H_5OH	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
20	Iron as Fe	mg/l	0.38	0.40	0.42	0.36	0.39	0.36
21	Nitrate as NO_3	mg/l	1.85	1.81	1.86	1.90	1.80	1.76
22	Anionic Detergents	mg/l	ND	ND	ND	ND	ND	ND
23	Total Coliform	MPN/100ml	170	150	170	180	210	170

Reviewed by

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Ref: **Envlab/25-26/TR- 15361** ***Date: 09.10.2025***

Surface Water: Continued.

Sampling location: SW6- Downstream of Hirakud Reservoir

Sl.No.	Parameter	Unit	SW6					
			Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Hazen	15	15	15	20	20	10
2	pH	--	7.62	7.65	7.62	7.49	7.40	7.39
3	DO	mg/l	4.6	4.5	4.4	5.4	5.2	5.3
4	Chloride	mg/l	25.0	28.0	23	30	25	20
5	Total Dissolved solids	mg/l	209	212	215	225	220	218
6	Suspended solids	mg/l	58	59	58	63	65	62
7	Oil & Grease	mg/l	ND	ND	ND	ND	ND	ND
8	BOD (5) days at 20^0 C	mg/l	1.8	1.9	2.0	1.8	1.6	1.5
9	Arsenic as As	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
10	Lead as Pb	mg/l	0.019	0.022	0.025	0.022	0.02	0.018
11	Cadmium as Cd	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
12	Hexachromium as Cr^{+6}	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
13	Copper as Cu	mg/l	0.014	0.013	0.016	0.020	0.018	0.016
14	Zinc as Zn	mg/l	0.15	0.16	0.15	0.19	0.2	0.21
15	Selenium as Se	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
16	Cyanide as CN	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
17	Fluoride as F	mg/l	0.29	0.30	0.31	0.38	0.35	0.32
18	Sulphate as (SO4)	mg/l	14.4	14.9	15.6	16.4	16.2	15.8
19	Phenolic compounds as C_6H_5OH	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
20	Iron as Fe	mg/l	0.39	0.41	0.40	0.39	0.42	0.41
21	Nitrate as NO_3	mg/l	1.68	1.77	1.82	1.96	1.90	1.84
22	Anionic Detergents	mg/l	ND	ND	ND	ND	ND	ND
23	Total Coliform	MPN/100ml	165	170	180	210	220	180

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Ref: **Envlab/25-26/TR- 15362** ***Date: 09.10.2025***

Surface Water: Continued.

Sampling location: SW7- Confluence point near Kherual bridge

Sl.No.	Parameter	Unit	SW7					
			Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Hazen	15	15	15	20	25	15
2	pH	--	7.18	7.20	7.15	7.10	7.0	7.1
3	DO	mg/l	4.6	4.4	4.3	5.0	5.5	5.6
4	Chloride	mg/l	30	35	30	35	38	35
5	Total Dissolved solids	mg/l	182	185	190	220	215	211
6	Suspended solids	mg/l	70	72	70	80	75	71
7	Oil & Grease	mg/l	ND	ND	ND	ND	ND	ND
8	BOD (5) days at 20^0 C	mg/l	1.6	1.7	1.8	1.5	1.4	1.3
9	Arsenic as As	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
10	Lead as Pb	mg/l	0.023	0.025	0.024	0.028	0.029	0.022
11	Cadmium as Cd	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
12	Hexachromium as Cr^{+6}	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
13	Copper as Cu	mg/l	0.022	0.021	0.022	0.026	0.024	0.020
14	Zinc as Zn	mg/l	0.20	0.21	0.23	0.26	0.25	0.22
15	Selenium as Se	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
16	Cyanide as CN	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
17	Fluoride as F	mg/l	0.30	0.33	0.35	0.32	0.34	0.31
18	Sulphate as (SO4)	mg/l	16.3	16.6	16.5	17.2	16.9	16.1
19	Phenolic compounds as C_6H_5OH	mg/l	BDL	BDL	BDL	BDL	BDL	BDL
20	Iron as Fe	mg/l	0.42	0.40	0.43	0.38	0.40	0.36
21	Nitrate as NO_3	mg/l	1.88	1.89	1.93	2.20	2.00	1.95
22	Anionic Detergents	mg/l	ND	ND	ND	ND	ND	ND
23	Total Coliform	MPN/100ml	200	220	210	220	180	200

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Ref: **Envlab/25-26/TR- 15363** ***Date: 09.10.2025***

e) Ground Water - Village Area:

Sl. No	Parameter	Unit	Standard as per IS: 10500	GW1		GW2	
				Apr'25	Jul'25	Apr'25	Jul'25
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	7.08	7.00	7.15	7.11
6	Total Hardness (as $CaCO_3$)	mg/l	200	135	144	108	112
7	Iron (as Fe)	mg/l	1	0.39	0.41	0.41	0.44
8	Chloride (as Cl)	mg/l	250	45	40	42.5	45.0
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	293	308	241	256
11	Calcium (as Ca)	mg/l	75	36.2	37.5	38.4	39.1
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	17.8	18.3	14.5	14
15	Nitrate (as NO_3)	mg/l	45	1.11	1.2	1.22	1.28
16	Fluoride (as F)	mg/l	1	0.35	0.38	0.31	0.34
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	0.40	0.39	0.42
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	40	35	65	60
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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Ref: **Envlab/25-26/TR-15364** ***Date: 09.10.2025***

Ground Water - Village Area: Continued.

Sl. No	Parameter	Unit	Standard as per IS: 10500	GW3		GW4	
				Apr'25	Jul'25	Apr'25	Jul'25
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	7.15	6.94	6.9
6	Total Hardness (as $CaCO_3$)	mg/l	200	123	130	136	145
7	Iron (as Fe)	mg/l	1	0.36	0.38	0.45	0.46
8	Chloride (as Cl)	mg/l	250	37.5	32.5	45.0	40.0
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	275	288	288	294
11	Calcium (as Ca)	mg/l	75	40.1	41.4	42.5	40.0
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	15.6	16.4	16.3	16.8
15	Nitrate (as NO_3)	mg/l	45	1.48	1.56	1.65	1.73
16	Fluoride (as F)	mg/l	1	0.25	0.29	0.36	0.38
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	0.41	0.44	0.31	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	55	50	50	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/25-26/TR- 15365** ***Date: 09.10.2025***

Ground Water - Village Area: Continued.

Sl. No	Parameter	Unit	Standard as per IS: 10500	GW5		GW6	
				Apr'25	Jul'25	Apr'25	Jul'25
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	7.23	7.18	7.19	7.11
6	Total Hardness (as $CaCO_3$)	mg/l	200	141	150	81	96
7	Iron (as Fe)	mg/l	1	0.42	0.45	0.38	0.41
8	Chloride (as Cl)	mg/l	250	45	38	42.5	38
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	249	256	246	239
11	Calcium (as Ca)	mg/l	75	43.6	44.5	34.8	35.2
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	15.4	15.9	13.8	14.8
15	Nitrate (as NO_3)	mg/l	45	1.69	1.72	1.32	1.40
16	Fluoride (as F)	mg/l	1	0.30	0.35	0.33	0.37
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	0.36	0.39	0.39	0.42
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	45	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: GW5- Katikela Village GW6- Bhurkamunda Village

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Ref: **Envlab/25-26/TR- 15366** ***Date: 09.10.2025***

Ground Water - Village Area: Continued.

Sl. No	Parameter	Unit	Standard as per IS: 10500	GW7		GW8	
				Apr'25	Jul'25	Apr'25	Jul'25
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	6.96	7.22	7.18
6	Total Hardness (as $CaCO_3$)	mg/l	200	85	92	96	104
7	Iron (as Fe)	mg/l	1	0.36	0.35	0.41	0.44
8	Chloride (as Cl)	mg/l	250	50.0	45.0	48	43
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	196	210	244	253
11	Calcium (as Ca)	mg/l	75	29.6	30.8	30.5	31.6
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	14.4	15.0	16.7	17.5
15	Nitrate (as NO_3)	mg/l	45	1.60	1.65	1.58	1.53
16	Fluoride (as F)	mg/l	1	0.28	0.33	0.34	0.39
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	0.48	0.40	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	50	40	60	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/25-26/TR- 15367** ***Date: 09.10.2025***

Ground Water – Village Area: Continued.

Sl. No	Parameter	Unit	Standard as per IS: 10500	GW9		GW10	
				Apr'25	Jul'25	Apr'25	Jul'25
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	7.28	7.20	7.3	7.22
6	Total Hardness (as $CaCO_3$)	mg/l	200	79	88	93	108
7	Iron (as Fe)	mg/l	1	0.36	0.39	0.30	0.35
8	Chloride (as Cl)	mg/l	250	55	50	45.0	37.5
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	259	268	271	285
11	Calcium (as Ca)	mg/l	75	32.8	33.4	34.1	34.9
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	16.2	16.8	18.1	19.2
15	Nitrate (as NO_3)	mg/l	45	1.39	1.44	1.45	1.51
16	Fluoride (as F)	mg/l	1	0.38	0.42	0.30	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	0.43	0.49	0.40	0.45
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	65	60
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

Reviewed by

Approved by

Ref: **Envlab/25-26/TR-15368** ***Date: 09.10.2025***

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

Sl. No	Parameter	Unit	Standard as per IS:10500	GW1					
				Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	6.76	6.78	6.71	6.68	6.72	6.7
6	Total Hardness (as $CaCO_3$)	mg/l	200	80	75	81	88	82	79
7	Iron (as Fe)	mg/l	1	0.36	0.38	0.40	0.35	0.36	0.33
8	Chloride (as Cl)	mg/l	250	25	23	20	25	22.5	26
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	236	244	253	260	250	241
11	Calcium (as Ca)	mg/l	75	23.9	24.1	24.8	26.9	25.3	24.9
12	Copper (as Cu)	mg/l	0.05	0.038	0.036	0.038	0.040	0.039	0.037
13	Manganese (as Mn)	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL
14	Sulphate as (SO_4)	mg/l	200	12.2	11.8	12.5	13.8	13.2	12.8
15	Nitrate (as NO_3)	mg/l	45	1.23	1.2	1.17	1.30	1.25	1.22
16	Fluoride (as F)	mg/l	1	0.40	0.43	0.40	0.38	0.41	0.38
17	Phenolic compounds (as C_6H_5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.30	0.33	0.35	0.38	0.34	0.32
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND	ND	ND
28	Alkalinity	mg/l	200	45	40	45	50	55	50
29	Aluminium as Al	mg/l	0.03	0.026	0.028	0.027	0.022	0.024	0.022
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL

Sampling Location GW1 - Secured landfill Bore well (East)

Reviewed by

Approved by

Ref: **Envlab/25-26/TR-15369** ***Date: 09.10.2025***

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

Sl. No	Parameter	Unit	Standard as per IS:10500	GW2					
				Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	6.9	6.95	6.9	6.81	6.85	6.88
6	Total Hardness (as $CaCO_3$)	mg/l	200	93	88	93	100	95	92
7	Iron (as Fe)	mg/l	1	0.35	0.39	0.42	0.40	0.38	0.35
8	Chloride (as Cl)	mg/l	250	35	30	28	30	25	27.0
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	258	261	270	265	260	252
11	Calcium (as Ca)	mg/l	75	35.6	36	37.2	36.8	38.2	37.5
12	Copper (as Cu)	mg/l	0.05	0.039	0.041	0.045	0.041	0.038	0.035
13	Manganese (as Mn)	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL
14	Sulphate as (SO_4)	mg/l	200	15.6	16.3	15.8	16.6	14.6	14.0
15	Nitrate (as NO_3)	mg/l	45	1.30	1.25	1.30	1.35	1.46	1.36
16	Fluoride (as F)	mg/l	1	0.29	0.32	0.35	0.39	0.37	0.35
17	Phenolic compounds (as C_6H_5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.36	0.35	0.38	0.36	0.35	0.31
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND	ND	ND
28	Alkalinity	mg/l	200	50	45	40	45	40	45
29	Aluminium as Al	mg/l	0.03	0.025	0.029	0.026	0.025	0.021	0.018
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL

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

Reviewed by

Approved by

Ref: **Envlab/25-26/TR- 15370** ***Date: 09.10.2025***

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

Sl. No	Parameter	Unit	Standard as per IS:10500	GW3					
				Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	7.13	7.10	7.13	7.2	7.12	7.15
6	Total Hardness (as $CaCO_3$)	mg/l	200	95	90	95	105	100	98
7	Iron (as Fe)	mg/l	1	0.43	0.45	0.48	0.42	0.4	0.38
8	Chloride (as Cl)	mg/l	250	41	45	40	35	38	35
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	343	350	354	340	335	329
11	Calcium (as Ca)	mg/l	75	36.1	36.6	37.6	39.1	39.8	39.0
12	Copper (as Cu)	mg/l	0.05	0.040	0.044	0.046	0.043	0.048	0.042
13	Manganese (as Mn)	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL
14	Sulphate as (SO_4)	mg/l	200	16.8	17.5	18.6	18.1	18	17.1
15	Nitrate (as NO_3)	mg/l	45	1.38	1.42	1.45	1.42	1.4	1.42
16	Fluoride (as F)	mg/l	1	0.42	0.40	0.43	0.40	0.45	0.41
17	Phenolic compounds (as C_6H_5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.41	0.44	0.45	0.42	0.4	0.42
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND	ND	ND
28	Alkalinity	mg/l	200	55.0	55.0	50.0	55.0	50.0	55.0
29	Aluminium as Al	mg/l	0.03	0.029	0.028	0.029	0.028	0.025	0.024
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL

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

Reviewed by

Approved by

Ref: **Envlab/25-26/TR- 15371** ***Date: 09.10.2025***

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

Sl. No	Parameter	Unit	Standard as per IS:10500	GW4					
				Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	7.22	7.25	7.21	7.12	7.0	7.10
6	Total Hardness (as $CaCO_3$)	mg/l	200	81	86	89	96	90	92
7	Iron (as Fe)	mg/l	1	0.40	0.42	0.38	0.39	0.35	0.37
8	Chloride (as Cl)	mg/l	250	38	43	38	33	30	33
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	329	334	342	336	330	318
11	Calcium (as Ca)	mg/l	75	35.5	34.9	35.4	36.6	37.5	36.9
12	Copper (as Cu)	mg/l	0.05	0.036	0.038	0.039	0.042	0.037	0.035
13	Manganese (as Mn)	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL
14	Sulphate as (SO_4)	mg/l	200	14.5	15.1	15.4	15.2	14.8	16.2
15	Nitrate (as NO_3)	mg/l	45	1.25	1.29	1.34	1.32	1.30	1.27
16	Fluoride (as F)	mg/l	1	0.36	0.38	0.36	0.37	0.39	0.36
17	Phenolic compounds (as C_6H_5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.38	0.36	0.33	0.39	0.36	0.35
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND	ND	ND
28	Alkalinity	mg/l	200	50	50	55	50	45	40
29	Aluminium as Al	mg/l	0.03	0.027	0.025	0.026	0.024	0.022	0.021
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL

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

Reviewed by

Approved by

Ref: **Envlab/25-26/TR- 15372** ***Date: 09.10.2025***

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

Sl. No	Parameter	Unit	Standard as per IS:10500	GW1					
				Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	7.12	7.05	7.11	7.04	7.00	7.12
6	Total Hardness (as $CaCO_3$)	mg/l	200	136	145	152	142	150	147
7	Iron (as Fe)	mg/l	1	0.36	0.35	0.33	0.38	0.37	0.35
8	Chloride (as Cl)	mg/l	250	35	35	30	33	36	35
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	318	326	334	327	330	322
11	Calcium (as Ca)	mg/l	75	36.1	35.7	36.2	36.8	36.4	35.9
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	0.045	0.042	0.044	0.045	0.041	0.042
14	Sulphate as (SO_4)	mg/l	200	15.2	14.8	15.6	16.2	15.9	16.4
15	Nitrate (as NO_3)	mg/l	45	3.1	2.9	3.2	3.4	3.0	2.8
16	Fluoride (as F)	mg/l	1	0.3	0.33	0.35	0.34	0.32	0.30
17	Phenolic compounds (as C_6H_5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.26	0.28	0.29	0.32	0.3	0.29
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND	ND	ND
28	Alkalinity	mg/l	200	40	30	35	40	37	35
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL

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

Reviewed by

Approved by

Ref: **Envlab/25-26/TR-15373** ***Date: 09.10.2025***

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

Sl. No	Parameter	Unit	Standard as per IS:10500	GW2					
				Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	6.98	6.96	6.98	6.9	6.84	6.93
6	Total Hardness (as $CaCO_3$)	mg/l	200	153	161	166	170	165	160
7	Iron (as Fe)	mg/l	1	0.32	0.30	0.34	0.39	0.35	0.32
8	Chloride (as Cl)	mg/l	250	45.0	46	43	40	37	33
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	324	330	328	335	325	319
11	Calcium (as Ca)	mg/l	75	29.7	30.4	31.2	30.9	31.4	30.8
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	0.048	0.041	0.045	0.048	0.044	0.045
14	Sulphate as (SO_4)	mg/l	200	16.3	16.6	17.3	17.8	16.9	17.3
15	Nitrate (as NO_3)	mg/l	45	2.8	2.6	2.8	2.9	2.5	2.4
16	Fluoride (as F)	mg/l	1	0.32	0.35	0.38	0.36	0.38	0.36
17	Phenolic compounds (as C6H5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.3	0.33	0.35	0.36	0.38	0.35
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND	ND	ND
28	Alkalinity	mg/l	200	50	45	40	45	40	45
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL

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

Reviewed by

Approved by

Ref: **Envlab/25-26/TR- 15374** ***Date: 09.10.2025***

Ground Water - Ash Pond Area: Kurebaga Ash Pond Continued

Sl. No	Parameter	Unit	Standard as per IS:10500	GW3					
				Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	7.23	7.28	7.34	7.28	7.21	7.22
6	Total Hardness (as $CaCO_3$)	mg/l	200	160	166	170	178	175	172
7	Iron (as Fe)	mg/l	1	0.4	0.42	0.4	0.43	0.4	0.38
8	Chloride (as Cl)	mg/l	250	50.0	50	48	45	40	43
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	345	341	350	361	355	348
11	Calcium (as Ca)	mg/l	75	38.8	38.9	39.6	40.3	39.0	37.8
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	0.05	0.045	0.049	0.051	0.047	0.046
14	Sulphate as (SO_4)	mg/l	200	21.2	20.9	21.8	20.5	20.6	20.1
15	Nitrate (as NO_3)	mg/l	45	3.40	3.1	3.4	3.6	3.5	3.3
16	Fluoride (as F)	mg/l	1	0.35	0.36	0.34	0.38	0.41	0.40
17	Phenolic compounds (as C6H5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.35	0.39	0.41	0.42	0.45	0.42
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND	ND	ND
28	Alkalinity	mg/l	200	55	50	55	50	45	50
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL

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

Reviewed by

Approved by

Ref: **Envlab/25-26/TR-15375** ***Date: 09.10.2025***

Ground Water - Ash Pond Area: Kurebaga Ash Pond Continued

Sl. No	Parameter	Unit	Standard as per IS:10500	GW4					
				Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	7.14	7.10	7.15	7.11	7.0	7.1
6	Total Hardness (as $CaCO_3$)	mg/l	200	158	149	156	166	160	154
7	Iron (as Fe)	mg/l	1	0.31	0.36	0.35	0.38	0.37	0.36
8	Chloride (as Cl)	mg/l	250	45	45.0	40	42.5	45	40
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	323	325	336	324	320	309
11	Calcium (as Ca)	mg/l	75	37.2	36.8	37.2	37.8	37.0	36.2
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	0.043	0.046	0.050	0.049	0.045	0.042
14	Sulphate as (SO_4)	mg/l	200	19.6	18.8	19.6	19.9	20.3	18.8
15	Nitrate (as NO_3)	mg/l	45	3.20	3.0	3.2	3.5	3.4	3.2
16	Fluoride (as F)	mg/l	1	0.32	0.31	0.3	0.33	0.35	0.33
17	Phenolic compounds (as C6H5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.32	0.35	0.38	0.40	0.35	0.36
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND	ND	ND
28	Alkalinity	mg/l	200	55	45	40	45	40	45
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL

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

Reviewed by

Approved by

Ref: **Envlab/25-26/TR-15376** ***Date: 09.10.2025***

Ground Water - Ash Pond Area: Katikela Ash Pond

Sl. No	Parameter	Unit	Standard as per IS:10500	GW1					
				Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	6.88	6.91	6.88	6.80	6.72	6.66
6	Total Hardness (as $CaCO_3$)	mg/l	200	90	94	98	106	100	96
7	Iron (as Fe)	mg/l	1	0.36	0.38	0.35	0.39	0.36	0.33
8	Chloride (as Cl)	mg/l	250	45	43	40	45	40	38
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	288	295	300	311	290	281
11	Calcium (as Ca)	mg/l	75	36.6	35.8	36.2	37.9	37.5	36.9
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	0.045	0.048	0.045	0.044	0.042	0.040
14	Sulphate as (SO_4)	mg/l	200	13.6	14.2	14.8	15.1	14.5	13.9
15	Nitrate (as NO_3)	mg/l	45	1.40	1.38	1.43	1.52	1.46	1.41
16	Fluoride (as F)	mg/l	1	0.35	0.38	0.4	0.37	0.36	0.33
17	Phenolic compounds (as C6H5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.39	0.40	0.43	0.42	0.36	0.33
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL
28	Alkalinity	mg/l	200	45	40	35	30	35	30
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	0.034	0.036	0.039	0.034	0.032	0.033

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

Reviewed by

Approved by

Ref: **Envlab/25-26/TR-15377** ***Date: 09.10.2025***

Ground Water - Ash Pond Area: Katikela Ash Pond Continued

Sl. No	Parameter	Unit	Standard as per IS:10500	GW2					
				Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	7.2	7.15	7.1	7.0	6.9	6.94
6	Total Hardness (as $CaCO_3$)	mg/l	200	106	112	116	110	105	100
7	Iron (as Fe)	mg/l	1	0.38	0.41	0.43	0.40	0.35	0.32
8	Chloride (as Cl)	mg/l	250	48	47.5	43	47.5	42.5	40
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	323	315	319	324	310	302
11	Calcium (as Ca)	mg/l	75	40.9	40.8	41.3	40.6	42.4	41.8
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	0.039	0.035	0.039	0.041	0.038	0.035
14	Sulphate as (SO_4)	mg/l	200	15.9	16.1	15.9	16.8	15.6	15.0
15	Nitrate (as NO_3)	mg/l	45	1.69	1.72	1.8	1.88	1.75	1.72
16	Fluoride (as F)	mg/l	1	0.26	0.25	0.29	0.33	0.35	0.34
17	Phenolic compounds (as C6H5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.33	0.36	0.35	0.38	0.39	0.36
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL
28	Alkalinity	mg/l	200	40.0	45.0	40.0	45.0	40.0	45.0
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	0.031	0.033	0.03	0.035	0.032	0.029

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

Reviewed by

Approved by

Ref: **Envlab/25-26/TR- 15378** ***Date: 09.10.2025***

Ground Water - Ash Pond Area: Katikela Ash Pond Continued

Sl. No	Parameter	Unit	Standard as per IS:10500	GW3					
				Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	7.11	7.22	7.19	7.11	7	7.1
6	Total Hardness (as $CaCO_3$)	mg/l	200	138	135	141	150	145	138
7	Iron (as Fe)	mg/l	1	0.4	0.42	0.45	0.48	0.46	0.4
8	Chloride (as Cl)	mg/l	250	50	50	53	55	45	43
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	335	328	336	345	330	319
11	Calcium (as Ca)	mg/l	75	43.8	42.5	42.8	43.5	42.5	44.2
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	0.048	0.05	0.053	0.056	0.055	0.052
14	Sulphate as (SO_4)	mg/l	200	17.2	17.8	18.6	18.2	17.5	16.8
15	Nitrate (as NO_3)	mg/l	45	1.80	1.85	1.91	1.9	1.8	1.75
16	Fluoride (as F)	mg/l	1	0.35	0.38	0.36	0.39	0.37	0.35
17	Phenolic compounds (as C6H5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.44	0.45	0.42	0.40	0.42	0.40
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL
28	Alkalinity	mg/l	200	55	56	55	60	50	55
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	0.035	0.038	0.04	0.042	0.040	0.038

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

Reviewed by

Approved by

Ref: **Envlab/25-26/TR- 15379** ***Date: 09.10.2025***

Ground Water - Ash Pond Area: Katikela Ash Pond Continued

Sl. No	Parameter	Unit	Standard as per IS:10500	GW4					
				Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	7.18	7.16	7.15	7.08	7.00	6.98
6	Total Hardness (as $CaCO_3$)	mg/l	200	96	92	95	100	90	88
7	Iron (as Fe)	mg/l	1	0.35	0.39	0.38	0.44	0.40	0.38
8	Chloride (as Cl)	mg/l	250	45	37.5	35	40	37	35
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	298	290	296	308	300	297
11	Calcium (as Ca)	mg/l	75	42.5	41.9	42.6	40.0	42.0	41.6
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	0.04	0.044	0.046	0.042	0.040	0.041
14	Sulphate as (SO_4)	mg/l	200	16.8	17.3	17.8	18	16.9	16.0
15	Nitrate (as NO_3)	mg/l	45	1.63	1.66	1.72	1.68	1.70	1.67
16	Fluoride (as F)	mg/l	1	0.33	0.31	0.35	0.38	0.34	0.31
17	Phenolic compounds (as C6H5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.38	0.39	0.41	0.44	0.40	0.38
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL
28	Alkalinity	mg/l	200	50	54	50	55	45	40
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	0.029	0.026	0.029	0.032	0.030	0.025

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

Reviewed by

Approved by

Ref: Envlab/25-26/TR-15380 ***Date: 09.10.2025***

Ground Water - Ash Pond Area: Siriapali Ash Pond Continued

Sl. No	Parameter	Unit	Standard as per IS:10500	GW1					
				Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Hazen	5	<5	<5	<5	<5	<5	<5
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	7.16	7.13	7.15	7.11	7.05	7.11
6	Total Hardness (as $CaCO_3$)	mg/l	200	132	140	148	142	145	138
7	Iron (as Fe)	mg/l	1	0.38	0.33	0.36	0.34	0.38	0.32
8	Chloride (as Cl)	mg/l	250	35	32.5	30	32.5	35	30
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	243	251	258	259	250	241
11	Calcium (as Ca)	mg/l	75	32.6	32.6	33.1	34.2	33.5	32.9
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	0.04	0.043	0.046	0.044	0.040	0.039
14	Sulphate as (SO_4)	mg/l	200	19.8	19.4	19.8	20.0	19	18.6
15	Nitrate (as NO_3)	mg/l	45	2.29	2.34	2.41	2.48	2.45	2.4
16	Fluoride (as F)	mg/l	1	0.28	0.3	0.33	0.32	0.3	0.31
17	Phenolic compounds (as C6H5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.26	0.29	0.32	0.28	0.32	0.30
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND	ND	ND
28	Alkalinity	mg/l	200	40	35	30	35	30	35
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL

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

Reviewed by

Approved by

Ref: **Envlab/25-26/TR-15381** ***Date: 09.10.2025***

Ground Water - Ash Pond Area: Siriapali Ash Pond Continued

Sl. No	Parameter	Unit	Standard as per IS:10500	GW2					
				Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Hazen	5	<5	<5	<5	<5	<5	<5
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	6.98	6.95	6.91	6.88	6.80	6.86
6	Total Hardness (as $CaCO_3$)	mg/l	200	124	116	122	130	125	120
7	Iron (as Fe)	mg/l	1	0.26	0.25	0.28	0.33	0.30	0.29
8	Chloride (as Cl)	mg/l	250	37.5	30	32.5	37.5	40	35
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	212	220	231	224	238	227
11	Calcium (as Ca)	mg/l	75	28.1	28.1	28.8	29.6	30.1	30.5
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	0.045	0.048	0.05	0.043	0.039	0.036
14	Sulphate as (SO_4)	mg/l	200	23.6	24.2	23.6	22.9	23.6	22.4
15	Nitrate (as NO_3)	mg/l	45	2.45	2.44	2.49	2.55	2.66	2.59
16	Fluoride (as F)	mg/l	1	0.39	0.35	0.38	0.34	0.39	0.33
17	Phenolic compounds (as C6H5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.25	0.22	0.25	0.28	0.3	0.28
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND	ND	ND
28	Alkalinity	mg/l	200	50	45	40	38	35	37
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL

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

Reviewed by

Approved by

Ref: **Envlab/25-26/TR- 15382** ***Date: 09.10.2025***

Ground Water - Ash Pond Area: Siriapali Ash Pond Continued

Sl. No	Parameter	Unit	Standard as per IS:10500	GW3					
				Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Hazen	5	<5	<5	<5	<5	<5	<5
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity (NTU)	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	7.2	7.24	7.28	7.25	7.21	7.24
6	Total Hardness (as $CaCO_3$)	mg/l	200	140	144	150	154	150	146
7	Iron (as Fe)	mg/l	1	0.36	0.32	0.37	0.39	0.4	0.38
8	Chloride (as Cl)	mg/l	250	42.5	40	37.5	40	45	40
9	Residual free Chlorine	mg/l	0.2	ND	ND	ND	ND	ND	ND
10	Dissolved solids	mg/l	500	250	256	266	278	270	263
11	Calcium (as Ca)	mg/l	75	37.2	37.2	36.9	37.5	35.5	34.8
12	Copper (as Cu)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	mg/l	0.1	0.042	0.044	0.052	0.046	0.045	0.042
14	Sulphate as (SO_4)	mg/l	200	24.9	25.2	25.8	23.6	23.5	23.9
15	Nitrate (as NO_3)	mg/l	45	2.50	2.56	2.6	2.68	0.27	2.66
16	Fluoride (as F)	mg/l	1	0.40	0.42	0.4	0.38	0.4	0.36
17	Phenolic compounds (as C6H5OH)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
18	Anionic Detergent (as MBAS)	mg/l	0.2	ND	ND	ND	ND	ND	ND
19	Mercury (as Hg)	mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	mg/l	5	0.29	0.31	0.3	0.32	0.35	0.33
26	Chromium as (Cr^{+6})	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral oil	mg/l	0.5	ND	ND	ND	ND	ND	ND
28	Alkalinity	mg/l	200	55	50	55	50	45	40
29	Aluminium as Al	mg/l	0.03	BDL	BDL	BDL	BDL	BDL	BDL
30	Boron	mg/l	0.5	BDL	BDL	BDL	BDL	BDL	BDL

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

Reviewed by

Approved by

Ref: **Envlab/25-26/TR-15383** ***Date: 09.10.2025***

7. Soil Quality:

Sl. No.	Parameters	S-1		S-4		S-6	
		Apr'25	Jul'25	Apr'25	Jul'25	Apr'25	Jul'25
1	Colour	Brown	Brown	Brown	Brown	Reddish	Reddish
2	Type of Soil	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
3	pH	6.48	6.5	6.93	6.98	6.94	6.9
4	Texture	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam
5	Infiltration Rate (cm/hr)	8.8	7.9	8	7.5	8.1	7.8
6	Bulk Density (gm/cc)	1.62	1.59	1.71	1.78	1.23	1.22
7	Porosity %	38.9	40	35.5	32.8	53.6	53.7
8	Moisture content %	8.6	10.8	7.9	11.3	7.8	8.8
9	Fluoride %	0.004	0.0048	0.0075	0.0080	0.0085	0.009
10	Silica as SiO_2%	28.8	29.6	39.5	40.6	24.1	25.3
11	Chloride %	0.035	0.038	0.033	0.035	0.04	0.045
12	Sulphate %	0.49	0.51	0.56	0.60	0.28	0.26
13	Potassium as K%	0.031	0.037	0.038	0.044	0.038	0.04
14	Magnesium as Mg%	0.28	0.31	0.33	0.35	0.28	0.30
15	Calcium as Ca%	0.43	0.47	0.71	0.75	0.62	0.66
16	Manganese as Mn%	0.39	0.41	0.48	0.49	0.54	0.55
17	Iron as Fe%	0.6	0.63	0.58	0.57	0.91	0.88
18	Available Organic Carbon %	2.8	2.9	2.46	2.58	2.1	2.3
19	Available Nitrogen%	0.078	0.081	0.075	0.077	0.081	0.084

Sampling locations:

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

Reviewed by

Approved by

Ref: **Envlab/25-26/TR- 15384** ***Date: 09.10.2025***

Soil Quality: Continued.

Sl. No.	Parameters	S-2					
		Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Brown	Brown	Brown	Brown	Brown	Brown
2	Type of Soil	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
3	pH	7.1	7.18	7.16	7.13	7.2	7.23
4	Texture	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam
5	Infiltration Rate (cm/hr)	7.6	6.8	6.6	7	6.1	6.4
6	Bulk Density (gm/cc)	1.78	1.55	1.59	1.83	1.55	1.58
7	Porosity %	32.8	40.8	40	30.9	41.5	41.5
8	Moisture content %	7.1	5.9	6.2	11.6	8	7.9
9	Fluoride %	0.0035	0.0038	0.004	0.0039	0.0049	0.0047
10	Silica as SiO_2%	35.4	35.9	36.1	34.9	37.8	37.2
11	Chloride %	0.038	0.041	0.041	0.041	0.045	0.042
12	Sulphate %	0.42	0.46	0.49	0.48	0.51	0.48
13	Potassium as K%	0.049	0.048	0.05	0.052	0.053	0.052
14	Magnesium as Mg%	0.24	0.35	0.38	0.28	0.4	0.42
15	Calcium as Ca%	0.48	0.58	0.6	0.49	0.63	0.6
16	Manganese as Mn%	0.32	0.36	0.38	0.35	0.42	0.4
17	Iron as Fe%	0.54	0.53	0.55	0.56	0.6	0.57
18	Available Organic Carbon %	2.2	2.16	2.20	2.50	2.28	2.25
19	Available Nitrogen%	0.081	0.086	0.089	0.084	0.091	0.088

Sampling locations: S-2: Kurebaga Village

Reviewed by

Approved by

Ref: **Envlab/25-26/TR-15385** ***Date: 09.10.2025***

Soil Quality: Continued.

Sl. No.	Parameters	S-3					
		Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Brown	Brown	Brown	Brown	Brown	Brown
2	Type of Soil	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
3	pH	7.15	7.1	7.15	7.12	7.18	7.16
4	Texture	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam
5	Infiltration Rate (cm/hr)	7.8	7	7.1	6.9	6.9	6.8
6	Bulk Density (gm/cc)	1.59	1.41	1.48	1.66	1.46	1.44
7	Porosity %	40	46.6	44.1	42.4	41.5	41.5
8	Moisture content %	8.8	6.8	7	10.5	9.1	9
9	Fluoride %	0.0039	0.0044	0.0045	0.0044	0.0049	0.0045
10	Silica as SiO_2%	36.3	36.2	36.8	37.2	38	36.9
11	Chloride %	0.036	0.044	0.044	0.039	0.049	0.046
12	Sulphate %	0.52	0.49	0.52	0.55	0.55	0.53
13	Potassium as K%	0.045	0.044	0.047	0.049	0.049	0.047
14	Magnesium as Mg%	0.29	0.3	0.32	0.32	0.36	0.33
15	Calcium as Ca%	0.56	0.60	0.63	0.58	0.68	0.66
16	Manganese as Mn%	0.4	0.44	0.45	0.44	0.49	0.47
17	Iron as Fe%	0.65	0.61	0.63	0.68	0.65	0.62
18	Available Organic Carbon %	1.89	1.9	1.93	1.77	1.9	1.88
19	Available Nitrogen%	0.069	0.075	0.078	0.072	0.085	0.086

Sampling locations: S-3: Siriapali Village

Reviewed by

Approved by

Ref: **Envlab/25-26/TR- 15386** ***Date: 09.10.2025***

Sl. No.	Parameters	S-5					
		Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Colour	Brown	Brown	Brown	Brown	Brown	Brown
2	Type of Soil	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
3	pH	6.96	6.95	6.96	6.9	6.90	6.93
4	Texture	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam
5	Infiltration Rate (cm/hr)	7.7	7.5	7.3	7	7	7.1
6	Bulk Density (gm/cc)	1.63	1.45	1.5	1.6	1.51	1.53
7	Porosity %	38.5	45	43.4	39.6	44.9	44.9
8	Moisture content %	9.2	7.6	7.8	11.2	8.8	8.6
9	Fluoride %	0.0041	0.0046	0.0048	0.0044	0.0052	0.005
10	Silica as SiO_2%	34.2	34.6	35	35.3	36.7	37.1
11	Chloride %	0.04	0.038	0.038	0.043	0.036	0.038
12	Sulphate %	0.38	0.41	0.43	0.41	0.48	0.46
13	Potassium as K%	0.043	0.039	0.041	0.045	0.044	0.045
14	Magnesium as Mg%	0.21	0.29	0.34	0.24	0.35	0.32
15	Calcium as Ca%	0.65	0.56	0.55	0.68	0.59	0.54
16	Manganese as Mn%	0.52	0.45	0.42	0.55	0.45	0.43
17	Iron as Fe%	0.6	0.65	0.66	0.63	0.7	0.67
18	Available Organic Carbon %	1.90	2.22	2.3	1.96	2.42	2.45
19	Available Nitrogen%	0.08	0.079	0.081	0.083	0.088	0.083

Soil Quality: Continued.

Sampling locations: S-5: Katikela Village

Reviewed by

Approved by

Ref: **Envlab/25-26/TR- 15387** ***Date: 09.10.2025***

Soil Quality: Continued.

Sl. No.	Parameters	S-7		S-8	
		Apr'25	Jul'25	Apr'25	Jul'25
1	Colour	Reddish	Reddish	Brown	Brown
2	Type of Soil	Neutral	Neutral	Neutral	Neutral
3	pH	7.18	7.22	7.15	7.18
4	Texture	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam
5	Infiltration Rate (cm/hr)	8.8	8.0	6.8	6.5
6	Bulk Density (gm/cc)	1.3	1.41	1.29	1.33
7	Porosity %	50.9	46.8	38.2	44.8
8	Moisture content %	8	8.8	6.8	7.5
9	Fluoride %	0.006	0.0066	0.0052	0.0058
10	Silica as SiO_2%	23.8	24.2	26.1	26.8
11	Chloride %	0.033	0.038	0.038	0.041
12	Sulphate %	0.35	0.39	0.39	0.41
13	Potassium as K%	0.025	0.029	0.046	0.048
14	Magnesium as Mg%	0.33	0.3	0.28	0.33
15	Calcium as Ca%	0.55	0.58	0.6	0.63
16	Manganese as Mn%	0.58	0.59	0.63	0.66
17	Iron as Fe%	0.95	0.98	0.89	0.92
18	Available Organic Carbon %	3	3.5	4.5	4.8
19	Available Nitrogen%	0.086	0.091	0.077	0.082

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

Reviewed by

Approved by

Ref: **Envlab/25-26/TR- 15388** ***Date: 09.10.2025***

Soil Quality: Continued.

Sl. No.	Parameters	S-9			S-10	
		Apr'25		Ju'25	Apr'25	Jul'25
1	Colour	Brown		Brown	Brown	Brown
2	Type of Soil	Neutral	Neutral	Neutral	Neutral	
3	pH	6.92	6.89	6.85	6.8	
4	Texture	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	
5	Infiltration Rate (cm/hr)	8.9	8.1	9.1	8.8	
6	Bulk Density (gm/cc)	1.61	1.68	1.45	1.55	
7	Porosity %	32.2	36.6	45.3	41.5	
8	Moisture content %	7.9	8.3	9.1	9.8	
9	Fluoride %	0.0063	0.007	0.0080	0.0089	
10	Silica as SiO_2%	31.3	30.9	29.8	30.6	
11	Chloride %	0.056	0.059	0.06	0.063	
12	Sulphate %	0.26	0.30	0.41	0.45	
13	Potassium as K%	0.068	0.070	0.055	0.061	
14	Magnesium as Mg%	0.33	0.35	0.26	0.28	
15	Calcium as Ca%	0.54	0.59	0.66	0.68	
16	Manganese as Mn%	0.45	0.48	0.61	0.65	
17	Iron as Fe%	0.78	0.8	0.82	0.85	
18	Available Organic Carbon %	4.1	4.4	3.9	4.2	
19	Available Nitrogen%	0.085	0.089	0.092	0.095	

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

Reviewed by

Approved by