

HIL/LHD/ENV/MoEF&CC/402

Date: 24th November 2025

To,
The Dy. Director General of Forest (C)
Ministry of Environment, Forests and Climate Changes
2nd Floor, Headquarter-Jharkhand State Housing Board
Harmu Chowk, Ranchi, Jharkhand-834002

Sub: Six Monthly EC Compliance Report for Bhusar (65.31 Ha) Bauxite Mining Project of M/s Hindalco Industries Limited, Lohardaga Jharkhand for the period from April 2025 to September 2025.

Ref: Environmental Clearance Letter No. J-11015/184/2011-IA II (M), dated 17th June 2013.

Dear Sir,

With reference to the above, we are submitting herewith the Compliance status report of EC conditions for **Bhusar (65.31 Ha) Bauxite Mining Project of M/s Hindalco Industries Limited**, Lohardaga Jharkhand for the period from **April 2025 to September 2025** for your kind perusal please.

The lease details are below:

Lease area (ha)	Production Capacity (MT)	Lease Period
65.31	280000	11.07.1981 to 31.03.2030

Hope you will find the same in order.

Thanking You

Yours faithfully,
For **Hindalco Industries Limited**

A handwritten signature in blue ink, appearing to read "Basudev Gangopadhyay".

Basudev Gangopadhyay
AVP (Planning, Environment & Compliance)

Enclosure: - As Above

CC: ro.ranchi-mef@gov.in, mef@ori.nic.in, mef@nic.in, mef.or@nic.in, mscb.cpcb@nic.in, zokolkatta.cpcb@nic.in, ranchijspcb@gmail.com, roranchi47@gmail.com

Name of the Project

**: Bhusar Bauxite Mine (65.31 ha)
M/s Hindalco Industries Limited**

Environment Clearance No & date : J-11015/184/2011-IA. II (M), dated 17.06.2013

Period of compliance Report

: From 1st April 2025 to 30th September 2025

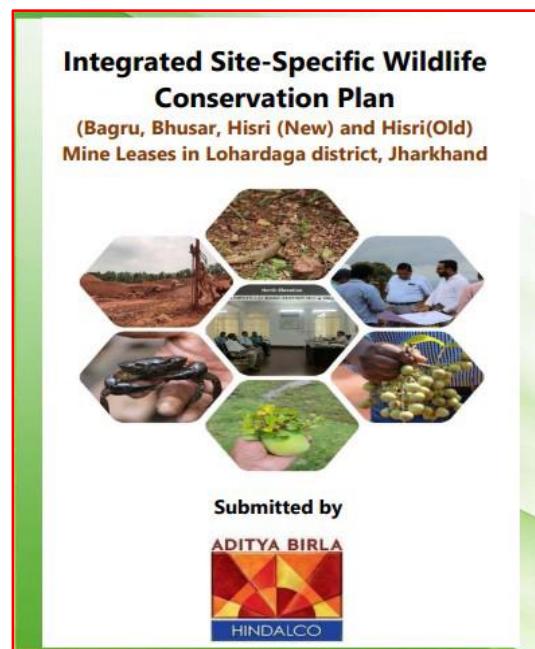
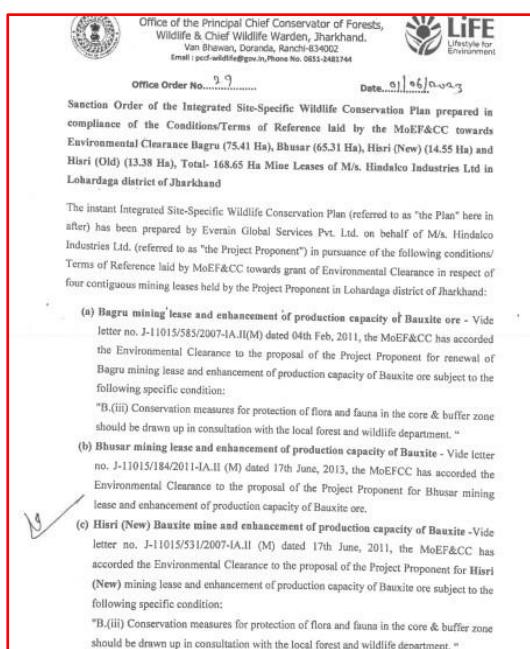
Specific Conditions: -

Condition i: - All the conditions stipulated by State Pollution Control Board in their NOC shall be effectively implemented.

Reply: - Implementations of stipulated conditions in NOC are fulfilled post which consent to operate has been obtained from time to time. Existing consent to operate is valid up to 30.09.2027.

Condition ii: - Environmental clearance is subject to obtaining clearance under the wildlife (Protection) Act, 1972 from the competent authority, as may be applicable to this project.

Reply: - This is not applicable for this mine as this mine is located tentatively 20 kms away from nearest Eco sensitive zone. However, we have prepared Integrated Site-specific Wildlife Conservation Plan and obtained approval via obtained approval from by PCCF, Wildlife, Ranchi vide Office Order No.29 dated 01.06.2023. A copy of same is enclosed below:



Condition iii: - The mining operations shall be restricted to above ground water table and it should not intersect groundwater table. Prior approval of the Ministry of Environment & Forests and Central Ground Water Authority shall be obtained for mining below water table.

Reply: - Shallow depth mining is being done and does not intersect the ground water. In future also, working zone will be restricted to above ground water table. We assure that no mining is/was carried out below groundwater table and the same status will be maintained in future also.

Condition iv: - The project proponent shall ensure that no natural watercourse shall be obstructed due to any mining operations.

Reply: - There is no natural watercourse and / or water resources within the mining lease area. Shallow depth mining methodology is adopted for mining process. Hence, there is no impact of mining operation on natural watercourse.

Condition v: - Topsoil should be stacked with proper slope at earmarked site(s) only with adequate measures and should be used for reclamation and rehabilitation of mined out areas.

Reply: - Topsoil is being stacked temporarily with proper slope as and when required. Concurrent backfilling and reclamation of mined out area are being exercised for which topsoil is being spread on backfilled area for reclamation. No OB dump is present in mines. The mining is being carried out as per the approved mining plan. Monitoring and management of rehabilitated areas is being done through effective supervision.



Reclaimed area

Condition vi: - The entire waste generated shall be backfilled and there shall be no external over burden dump left at the end of the mine life. The entire backfilled area shall be reclaimed by plantation. The back filling should be carried out in such a manner that it is restored to the normal ground level. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment as Forests and its Regional Office, Bhubaneswar on six monthly basis.

Reply: - Backfilling and reclamation are being done concurrently by overburden. No OB dump is present in mines. The mining is being carried out as per the approved mining plan. Data pertaining to backfilling is enclosed as **Annexure 4**. Monitoring and management of rehabilitated areas is being done through effective supervision. Compliance status is being submitted to MoEF&CC on six monthly bases. Now, the Regional office of MoEF&CC is in Ranchi.

Condition vii: - Catch drains and siltation ponds of appropriate size should be constructed for the working pit, temporary OB dumps, if any and mineral dumps to arrest flow of silt and sediment. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted, particularly after monsoon, and maintained properly. Garland drain of appropriate size, gradient and length shall be constructed for both mine pit and temporary dumps and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and desilted at regular intervals.

Reply:- To collect & manage rainwater during monsoon, part of mined out area is used as settling tank for the runoff. Rainwater stored is being used for watering the mine area, roads, green belt development and sprinkling as necessary. Catch drains, Garland drains of appropriate size are being constructed in both around the mine pit to prevent runoff of water and flow of sediments directly into the agricultural field and water bodies, if applicable. Sump of adequate capacity is being provided and maintained as required. No active external dump exists in mine.



Garland drain

Condition viii: -Dimension of the retaining wall at the toe of temporary dumps and OB benches within the mine to check run-off and siltation should be based on the rain fall data.

Reply: - There are no temporary dumps within the mining lease area. However, the dimensions of the retaining wall of temporary OB dumps will be maintained based on average rain fall, if required.

Condition ix: - Plantation shall be raised in an area of 52.50 ha including a 7.5m wide green belt in the safety zone around the mining lease by planting the native species around ML area, backfilled and reclaimed area, around water body, roads etc. in consultation with the local DFO/Agriculture Department at the end of life of mine. The density of the trees should be around 2500 plants per ha.

Reply: - It is already in practice. Phase wise plantation of native species in consultation with forest department has been carried out within safety zone and mined out/reclaimed pits. During FY 2025-26 till September, a total of 1850 nos. saplings have been planted within the mining lease. Cumulative 46.24 ha areas have been planted till date. In addition to this, agricultural activity is going on reclaimed land as per the consent from landowners. Greenbelt development programme is in progress with progress of mining activities. Photographs enclosed below:



Plantation at mine

Condition x: - Regular water sprinkling should be carried out in critical areas prone to air pollution and having high levels of SPM and RSPM such as haul road, loading and unloading point and transfer points. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.

Reply: - Mobile water tankers have been provided for sprinkling of water in critical areas to suppress dust. Additionally, we have also installed a Mist Fog Cannon to suppress the dust at the transfer point. AAQ parameters are monitored on regular basis in the mine. Monitoring Report is attached as **Annexure 2**.



Dust suppression through water tanker



Mist Fog Cannon

Condition xi: - The project authority should implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.

Reply: - A detailed rainwater harvesting plan to augment ground water has been prepared and suitable measures like water harvesting pond etc. are created for the augmentation of ground water in the area (Bagru Plateau) in consultation with the Central Ground Water Board.

Condition xii: - Regular monitoring of ground water level and quality should be carried out in and around the mine lease by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring should be carried out four times in a year i.e. January, April-May, August, November and the data thus collected may be sent regularly to Ministry of Environment and Forests, its Regional Office, Bhubaneswar; Central Ground Water Authority and Central Ground Water Board.

Reply: - Since, Shallow depth mining is being carried out, hence there is no intersection of ground water table during the mining operation at present and in future also. Regular monitoring of groundwater level and quality of the area is being carried out by establishing a network of existing wells/Piezometers. Reports are being sent regularly to the regional office of Ministry, CGWA and JSPCB. The Ground water level from April 2025 to September 2025 and quality Monitoring report of pre-monsoon and monsoon season is attached as **Annexure 1 & 2**. Now, Regional office of MoEF&CC is in Ranchi.



Piezometer

Condition xiii: - The project authorities should obtain prior approval of the competent authority for drawl of groundwater if any, required for the project.

Reply:- We are not using any ground water for mining purposes. Suitable arrangement has been made for collection and storage of rainwater in harvesting pond. Water drawn from rainwater harvesting pond is being used for sprinkling on haul roads and for raising plantation. However, No Objection Certificate (NOC) for ground water abstraction has been obtained from CGWA/CGWB for drinking purposes only. The copy of the NOC CGWA is attached below:

 भारत सरकार जल विवरण वर्ष २०२४-२०२५ अधीक्षण नियम अधीक्षण विभाग गणराज्य भारत Ministry of Jal Shakti Department of Water Resources, River Development & Ganga Rejuvenation Central Ground Water Authority													
(भारत सरकारी संस्कृत अन्यायि प्रमाण पत्र) NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION													
Project Name: Bhusar Bauxite Mining Lease (65.31 Ha) Project Address: Bagru Hill Bauxite Mine, Vill - Bhusar, P.o - Lohardaga Village: Bhusar Block: Kisko District: Lohardaga State: Jharkhand Pin Code: 835302 Communication Address: Hindustan Minerals Ltd, Hindustan Complex, Jhal Road, Lohardaga, P.o - Lohardaga, Kisko, Lohardaga, Jharkhand - 835302 Address of CGWB Regional Office: Central Ground Water Board Mid Eastern Region, 6th Floor, Frazer Road Dak Banglow, Patna, Bihar - 800011													
1. NOC No.: CGWA/NOC/MINREN/2/2024/9800 2. Date of Issuance: 01/09/2024 3. Application No.: 21-44840/HM/NOC/2019 4. Category: Safe (GWRE 2023) 5. Project Status: Existing Ground Water 6. NOC Type: Renewal 7. Valid from: 11/09/2024 8. Valid up to: 10/09/2026 9. Ground Water Abstraction Permitted: <table border="1"> <tr> <td>Fresh Water</td> <td>Saline Water</td> <td>Dewatering</td> <td>Total</td> </tr> <tr> <td>m³/day</td> <td>m³/year</td> <td>m³/day</td> <td>m³/year</td> </tr> <tr> <td>9.50</td> <td>3467.50</td> <td></td> <td></td> </tr> </table> 10. Details of ground water abstraction /Dewatering structures		Fresh Water	Saline Water	Dewatering	Total	m³/day	m³/year	m³/day	m³/year	9.50	3467.50		
Fresh Water	Saline Water	Dewatering	Total										
m³/day	m³/year	m³/day	m³/year										
9.50	3467.50												

NOC for Groundwater



Rainwater Harvesting Pond

Condition xiv: - Vehicular emissions should be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The vehicles should be covered with a tarpaulin and shall not be overloaded.

Reply: - Bauxite is transported through ropeway from mine to Lohardaga siding. However, Regular maintenance of HEMM/vehicles and all measures are being taken to control vehicular emission.



Ropeway transportation- eco-friendly

Condition xv:- Blasting operation should be carried out only during the daytime. Controlled blasting should be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.

Reply:- Blasting time is fixed during 1.00 PM - 2.00 PM. Controlled blasting method is in practice. Ground vibration study has been conducted periodically. All efforts are being taken to mitigate impact of blasting.

Condition xvi: - Drills shall either be operated with dust extractors or equipped with water injection system.

Reply: - Wet drilling is in practice.

Condition xvii: - Consent to operate should be obtained from SPCB before starting/ enhanced production from the mine.

Reply: - We have already obtained the Consent to Operate from JSPCB for Bauxite as per the production capacity mentioned in EC. Existing CTO is valid up to 30.09.2027.

Condition xviii :- A Final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.

Reply: - Progressive mine closure plan along with mining scheme has been approved by IBM. Final mine closure plan will be prepared in due time. Based on present resource estimate, and peak rated production capacity mentioned in EC, Mining operation is being carried out.

General Conditions: -

Condition i: - No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment and Forests.

Reply: - Noted.

Condition ii: - No change in the calendar plan including excavation, quantum of mineral bauxite and waste should be made.

Reply: - Calendar plan including excavation, quantum of mineral bauxite and waste is being done as per IBM approved mining scheme. The report is attached as **Annexure-4**.

Condition iii: - Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for PM10, SO₂ as NO_x monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.

Reply: - We have already established four ambient air quality monitoring stations in core zone as well as buffer zone. Monitoring is being carried out and reported to the concerned authorities. Report is attached as **Annexure 2**.

Condition iv: - Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.

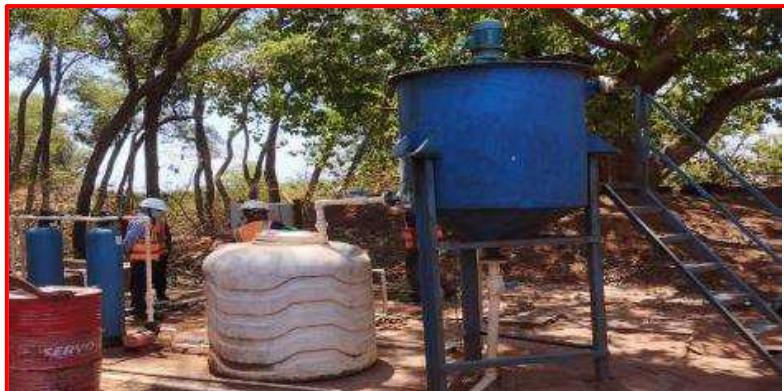
Reply: - Suitable water spraying system is already available. To arrest fugitive dust proper water sprinkling is being carried out on haul roads, loading and unloading and at transfer points. Mist cannon is also installed. Photographs attached above.

Condition v: Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.

Reply: - Noise monitoring is being done regularly. Workers engaged in operation of HEMMs, etc. has also been provided with PPEs such as ear plugs and earmuffs. Monitoring of noise level is being conducted at various locations of the work zone area. Report is attached as **Annexure 2**.

Condition vi: -Industrial wastewater (workshop and wastewater from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422(E) dated 19th May 1993 and 31st December 03 or as amended from time to time. Oil and grease trap should be installed before discharge of effluents from workshop.

Reply: - There is no industrial wastewater generation from mining operation. We are not discharging any wastewater outside the mine lease area. However, negligible amount of wastewater is generated in workshop from washing of vehicles and Effluent treatment plant (ETP) has been installed for this effluent. The treated water is in close circuit and being reused for washing of vehicles in the workshop.



Effluent Treatment Plant (ETP)

Furthermore, the quality of this treated water is being monitored regularly, and all water parameters are within permissible limits. The monitoring report is attached herewith as **Annexure 2**.

Condition vii: -Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.

Reply: - All the workers have been provided with PPEs including dust mask and dust respirators. Apart from PPEs distribution to all workers, we are also providing adequate safety training and conducting awareness session on Safety and health aspects on regular basis.

Condition viii: - Occupational health surveillance programme of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.

Reply: - Periodical Occupational health surveillance program of the workers is being carried out and records maintained as per statute.

Condition ix:- A separate environmental management cell with suitable qualified personnel should be set up under the control of a senior Executive, who will report directly to the Head of the organization.

Reply: - A separate environmental management cell with suitable qualified personnel has been set up under the control of a Senior Executive, who is reporting directly to the Head of the Organization. The same is being attached herewith as **Annexure 3**.

Condition x:- The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purposes. Year-wise expenditure should be reported to the Ministry and its Regional Office located at Bhubaneswar.

Reply: - Every year budget is earmarked for environmental protection measures being prepared for purpose and its expenditure is being reported to the ministry. The copy of the same is attached as **Annexure 5**. Now, the Regional Office of MoEF&CC is in Ranchi.

Condition xi:- The Regional Office of this Ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The Project authorities should extend full cooperation to the officer(s) of the Regional Office by furnishing requisite data/information/monitoring reports.

Reply: - Noted and Agreed. Now, the Regional Office of MoEF&CC is in Ranchi.

Condition xii: - The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Bhubaneswar, Central Pollution Control Board and State Pollution Control Board.

Reply: - Six monthly reports on status of compliance of stipulated environmental clearance conditions including monitoring report are being submitted to the MoEF&CC, Zonal office of CPCB and JSPCB Ranchi. Now, the Regional Office of MoEF&CC is in Ranchi.

Condition xiii: - A copy of the clearance letter will be marked to the concerned Panchayat/local NGO, if any, from whom suggestions/representation has been received while processing the proposal.

Reply: - Complied. A copy of clearance letter has been already submitted.

Condition xiv- The project authorities should inform to the Regional Office located at Bhubaneswar regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

Reply: - It is an operational mine. Hence provisions related to financial closure is not applicable.

Condition xv: - State Pollution Control Board should display a copy of the clearance letter at the Regional Office, District Industry Centre and Collector's/Tehsildar's Office for 30 days.

Reply: - Noted. The EC Letter has been submitted to JSPCB for display of same at its Regional office and other government offices.

Condition xvi:- The project authorities should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the Clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment and Forests at <http://envfor.nic.in> and a copy of the same should be forwarded to the Regional Office of this Ministry located at Bhubaneswar.

Reply: - Noted and complied. The information on grant of the EC has been published in two local newspapers. The copy of the advertisement has already been submitted to the Regional Office of the MoEF&CC. Now, the Regional office of MoEF&CC is in Ranchi.

Piezometer Monitoring Report

Mine: Bhusar Bauxite Mine (65.31 Ha)

S No	Month	Ground Water Level (BGL) in meter
1	Apr-25	35.34
2	May-25	35.93
3	Jun-25	35.56
4	Jul-25	35.18
5	Aug-25	34.93
6	Sep-25	34.28



EPIC LabTech Private Limited

Address:
C/o - R.K. Tripathi, Indrapuri.
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epictabtech@gmail.com

CIN - U74999JH2022PTC019623
PAN - AAHCE3611M
GST - 20AAHCE3611M12X

Accredited by -
Institutional State Pollution Control Board
Certified by -
ISO 9001:2015 and ISO 14001:2015

Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical					
Report Unique ID	RL0136251706	Group	Atmospheric Pollution					
Issue date/time	26.04.2025/ 12:30	Sub Group	Ambient Air Quality					
Report Issue to								
M/s - HINDALCO INDUSTRIES LIMITED VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302 MONITORING SITE: BHUSAR BAUXITE MINE		Contact Person	Mr. Ankit Das					
		Contact Number	+91 9971034775					
		Email Id	ankit.das@adityabirla.com					
		Order Date	31.03.2025/ 10:10					
		Order Number	13612313868					
References of Quality Management System (Steps of Traceability Chain)								
Customer Registration No.	EPIC/OTH/0136	Sample Booking Number	EPIC-251706					
Sample(s) Code	251706 (A) (B) (C) (D)	Sample Receipt (D/T)	21.04.2025/ 11:05					
Sampling References								
Type of Industry	Bauxite Mine	Ref. of Sampling Plan	EPIC/LAB/R/036					
Sampling method used	IS 5182 and CPCB Air Manual Volume - 1 (NAAQM/36/2012-13)							
Sampling Start (D/T)	18.04.2025/ 11:25	Sampling End (D/T)	19.04.2025/ 07:41					
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team					
Description/condition of sample	Receipt sample(s) were fit for analysis.							
Environmental Condition during sampling								
Weather condition	Clear	Temperature (°C)	30					
		Humidity %	47					
		Wind direction	240°-60°					
Sampling Location(s) with GPS coordinate(s)								
S. Location A	Near View Point 1 (Bhusar Mine Pit I)	GPS coordinate	23° 29' 13.64" / 84° 35' 50.55"					
S. Location B	Near View Point 2 (Bhusar Mine Pit II)	GPS coordinate	23° 29' 20.67" / 84° 35' 48.66"					
S. Location C	Near Rest Shelter	GPS coordinate	23° 29' 11.69" / 84° 35' 45.82"					
S. Location D	Near GTS Point	GPS coordinate	23° 29' 11.17" / 84° 35' 43.41"					
Date(s) of performance of the laboratory activities								
Test start date	21.04.2025/ 12:05	Test completion date	25.04.2025/ 16:05					
-Test Result-								
Sl	Test Parameters	Method used	Unit	A	B	C	D	Limits
1.	Benzene (C ₆ H ₆)	IS:5182(P-11) 2006	µg/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	-
2.	Benzo (a) Pyrene (Bap)- Particulate phase only	IS:5182(P-12) 2004	ng/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	-
3.	Carbon Monoxide (CO)	EPIC/LAB/SOP/AP/01/00	mg/m ³	BDL (MDL-1.8)	BDL (MDL-1.8)	BDL (MDL-1.8)	BDL (MDL-1.8)	-
--Test Result End--								

Prescribed Limit Environmental (Protection) Rules-1986, Schedule VII.
Operational Status Unit was Operational During sampling.



Checked by
(B.J. Kumar)
Technical Head

Verified & Issue by
(Umesh Das)
Laboratory Head

Authenticity
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



TC-12887

Analytical Test Certificate

Unique Lab Report No.	TC1288725000000392	Discipline	Chemical
Report Unique ID	RL0136251707	Group	Water
Issue date/time	26.04.2025/ 12:33	Sub Group	Drinking Water

Report Issue to M/s - HINDALCO INDUSTRIES LIMITED VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302 MONITORING SITE: BHUSAR BAUXITE MINE	Contact Person Mr. Ankit Das
	Contact Number +91 9971034775
	Email Id ankit.das@adityabirla.com
	Order Date 31.03.2025/ 10:10
	Order Number 13612313868

References of Quality Management System (Steps of Traceability Chain)			
Customer Registration No.	EPIC/OTH/0136	Sample Booking Number	EPIC-251707
Sample(s) Code	251707	Sample Receipt (D/T)	21.04.2025/ 11:09

Sampling References			
Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling method used	IS : 3025 (Part-1) 1987, R-2003		
Sampling Start (D/T)	18.04.2025/ 14:50	Sampling End (D/T)	18.04.2025/ 15:05
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team
Description/condition of sample	Receipt sample(s) were fit for analysis.		

Environmental Condition during sampling							
Weather condition	Clear	Temperature (°C)	30	Humidity %	47	Wind direction	240°-60°

Sampling Location(s) with GPS coordinate(s)			
S. Location A	Canteen	GPS coordinate	23° 29' 10.25"/84°35' 51.64"

Date(s) of performance of the laboratory activities			
Test start date	21.04.2025/ 11:20	Test completion date	25.04.2025/ 13:10

-Test Result-

Sl	Test Parameters	Method used	Unit	Results	Limits	
					Acceptable Limit	Permissible limit
1.	pH value at 25°C	IS 3025 (P-11) 2022	-	6.56	6.5-8.5	No relaxation
2.	Turbidity	IS 3025 (P-10) 1984	NTU	0.38	1	5
3.	Colour	IS 3025 (P-04) 2021	Hazen	<5	5	15
4.	Odour	IS 3025 (P-05) 2018	-	Agreeable	Agreeable	Agreeable
5.	Taste	IS 3025 (P-07) 2017	-	Agreeable	Agreeable	Agreeable
6.	Total Dissolved Solids (TDS)	IS 3025 (P-16) 2023	mg/l	191	500	2000
7.	Chloride (as Cl)	IS 3025 (P-32) 2019	mg/l	28.56	250	1000
8.	Total Alkalinity(as CaCO ₃)	IS 3025 (P-23) 2019	mg/l	90.00	200	600
9.	Total Hardness (as CaCO ₃)	IS 3025 (P-21) 2009	mg/l	104.00	200	600
10.	Calcium (as Ca)	IS 3025 (P-40) 1991	mg/l	32.06	75	200
11.	Free Residual Chlorine	IS 3025 (P-26) 1986	mg/l	BDL(MDL-0.4)	0.2	1
12.	Sulphate (as SO ₄)	IS 3025 (P-24/Sec-1)2022	mg/l	1.20	200	400
13.	Nitrate (as NO ₃)	APHA 4500 B 2023	mg/l	1.76	45	No relaxation
14.	Phenolic Compound	IS 3025 (P-43/Sec-1) 2022	mg/l	BDL(MDL-0.001)	0.001	0.002
15.	Magnesium (as Mg)	APHA 3500 Mg E 2023	mg/l	5.83	30	100
Group - Residues and Contaminants in Water,					Sub Group-Trace Metals Elements	
16.	Copper (as Cu)	APHA 3111 B 2023	mg/l	BDL(MDL-0.2)	0.05	1.5
17.	Iron (as Fe)	APHA 3111 B 2023	mg/l	BDL(MDL-0.1)	1.0	No relaxation
18.	Lead (as Pb)	APHA 3111 B 2023	mg/l	BDL(MDL-0.01)	0.01	No relaxation

Contracted Notes: 1. The laboratory accepts responsibility for content of this report. 2. Test performed at laboratory's permanent facility, at specific environmental condition as method required and results relate only to the sample tested in prescribed Date & time. 3. The Test report shall not be reproduced full or in part & can't be used as proof in the court of law. 4. Any complaint about this report should be communicated in writing within 10 days of its issue. 5. Total liability of EPIC LabTech Pvt. Ltd. will be limited to involved amount only. 6. All disputes are subjected to Ranchi jurisdiction and maximum liability of the laboratory does not exceed the testing and sampling charges. 7. Opinion does not imply endorsement of the tested product by laboratory. Under no circumstances, laboratory accepts any caused by use or misuse of this report. 8. When the results are from external provider are marked as * mark.

Abbreviation: - BDL: Below Detectable Limit, MDL: Minimum Detectable Limit, Test Limit of Quantification.



EPIC LabTech Private Limited

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23049-73994
epiclabtech@gmail.com

CIN: U74110JH2022PTC019685
PAN: AAHCE381TM
GST: 20AAHCE381UM12X
Accredited by -
HALC, state certificate number IC-12887
Jharkhand State Pollution Control Board
Certified by -
ISO 9001:2015 and ISO 45001:2018



TC-12887

Analytical Test Certificate

Unique Lab Report No.	TC1288725000000392	Discipline	Chemical
Report Unique ID	RL0136251707	Group	Water
Issue date/time	26.04.2025/ 12:33	Sub Group	Drinking Water

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD,
POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA,
STATE-JHARKHAND, INDIA 835302
MONITORING SITE: BHUSAR BAUXITE MINE

Contact Person
Mr. Ankit Das
Contact Number
+91 9071034775
Email Id
ankit.das@adityabirla.com
Order Date
31.03.2025/ 10:10
Order Number
13612313868

19. Cadmium (as Cd)	APHA 3111 B 2023	mg/l	BDL(MDL-0.003)	0.003	No relaxation
20. Total Chromium (as Cr)	APHA 3111 B 2023	mg/l	BDL(MDL-0.05)	0.05	No relaxation
21. Nickel (as Ni)	APHA 3111 B 2023	mg/l	BDL(MDL-0.02)	0.02	No relaxation
22. Total Arsenic (as As)	APHA 3114 B 2023	mg/l	BDL(MDL-0.005)	0.01	0.05
23. Selenium (as Se)	APHA 3114 B 2023	mg/l	BDL(MDL-0.005)	0.01	No relaxation
24. Manganese (as Mn)	APHA 3111 B 2023	mg/l	BDL(MDL-0.09)	0.1	0.3
25. Zinc (as Zn)	APHA 3111 B 2023	mg/l	BDL(MDL-0.04)	5	15

--Test Result End --

Prescribed Limit IS 10500:2021

Operational Status Unit was Operational During sampling.

Analysed by - Pratima Kumar/ Anjali Kumar




Checked by
(B.N. Kumar)
Technical Head


Verified & Issue by
(Umesh Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical
Report Unique ID	RL0136251707	Group	Water
Issue date/time	26.04.2025/ 12:33	Sub Group	Drinking Water

Report Issue to M/s - HINDALCO INDUSTRIES LIMITED VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302 MONITORING SITE: BHUSAR BAUXITE MINE	Contact Person Mr. Ankit Das
	Contact Number +91 9971034775
	Email Id ankit.das@adityabirla.com
	Order Date 31.03.2025/ 10:10
	Order Number 13612313868

References of Quality Management System (Steps of Traceability Chain)			
Customer Registration No.	EPIC/OTH/0136	Sample Booking Number	EPIC-251707
Sample(s) Code	251707	Sample Receipt (D/T)	21.04.2025/ 11:09

Sampling References			
Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling method used	IS : 3025 (Part-1) 1987, R-2003		
Sampling Start (D/T)	18.04.2025/ 14:50	Sampling End (D/T)	18.04.2025/ 15:05
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team
Description/condition of sample	Receipt sample(s) were fit for analysis.		

Environmental Condition during sampling						
Weather condition	Clear	Temperature (°C)	30	Humidity %	47	Wind direction 240°-60°

Sampling Location(s) with GPS coordinate(s)			
S. Location A	Canteen	GPS coordinate	23° 29' 10.25"/84° 35' 51.64"

Data(s) of performance of the laboratory activities			
Test start date	21.04.2025/ 11:20	Test completion date	25.04.2025/ 13:10

Sl	Test Parameters	Method used	Unit	Results	Limits	
					Acceptable Limit	Permissible limit
1.	Fluoride (as F)	APHA 4500 F-C 2023	mg/l	BDL(MDL-0.1)	1.0	1.5
Group-Residues and Contaminants in Water						
2.	Aluminum	IS 3025 (P-55):2019	mg/l	BDL(MDL-0.1)	0.03	0.2
3.	Boron	IS 3025 (P-57):2021	mg/l	BDL(MDL-0.1)	0.5	1.0
4.	Polychlorinated biphenyls	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.2)	0.5	No relaxation
5.	Polynuclear Aromatic Hydrocarbons (PAH)	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.05)	0.1	No relaxation
Group-Residues and Contaminants in Water						
6.	Alachlor	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	20	No relaxation
7.	Atrazine	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	2.0	No relaxation
8.	Dieldrin	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.02)	0.03	No relaxation
9.	Alpha HCH	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.005)	0.01	No relaxation
10.	Beta HCH	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.02)	0.04	No relaxation
11.	Butachlor	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	125.0	No relaxation
12.	Chlopyriphos	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	30.0	No relaxation
13.	Delta HCH	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.02)	0.04	No relaxation
14.	Ethion	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	3.0	No relaxation
15.	Gamma- HCH(Lindane)	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	2.0	No relaxation
16.	Malathion	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	190.0	No relaxation
17.	Methyl parathion	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.2)	0.3	No relaxation



Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical
Report Unique ID	RL0136251707	Group	Water
Issue date/time	26.04.2025/ 12:33	Sub Group	Drinking Water

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD,
POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA,
STATE-JHARKHAND, INDIA 835302
MONITORING SITE: BHUSAR BAUXITE MINE

Contact Person
Mr. Ankit Das
Contact Number
+91 9971034775
Email Id
ankit.das@adityabirla.com
Order Date
31.03.2025/ 10:10
Order Number
13612313868

18. Monocrotophos	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	1.0	No relaxation
19. Phorate	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	2.0	No relaxation
20. DDT (o, p and p, p-isomer of DDT, DDE and DDD)	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	1.0	No relaxation
21. Endosulfan (alpha, beta, and sulphate)	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.05)	0.4	No relaxation

--Test Result End--

Prescribed Limit

IS 10500:2021

Operational Status

Unit was Operational During sampling.

Analysed by -Pratima Kumar/ Anjali Kumar



Checked by
(B.N. Kumar)
Technical Head

Verified by
(Umesh Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



EPIC LabTech Private Limited

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CIN: U74999JH2022PTC019683
PAN: AAHCE3611M
GST: 20AAHCE3611M12X

Accredited by:-
Jharkhand State Pollution Control Board
Certified by:-
ISO 9001:2015 and ISO 45001:2018

Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Biological
Report Unique ID	RL0136251708	Group	Water
Issue date/time	26.04.2025/ 12:35	Sub Group	Drinking Water

Report Issue to

M/S - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302
MONITORING SITE : BHUSAR BAUXITE MINE

Contact Person
Mr. Ankit Das
Contact Number
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Email Id
ankit.das@adityabirla.com
Order Date
31.03.2025/ 10:10
Order Number
13612313868

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0136	Sample Booking Number	EPIC-251708
Sample(s) Code	251708	Sample Receipt (D/T)	21.04.2025/ 11:15

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling method used	IS : 3025 (Part-1) 1987, R-2003 & IS 1622 1981		
Sampling Start (D/T)	18.04.2025/ 14:50	Sampling End (D/T)	18.04.2025/ 15:05
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team
Description/condition of sample	Receipt sample(s) were fit for analysis.		

Environmental Condition during sampling

Weather condition	Clear	Temperature (°C)	30	Humidity %	47	Wind direction	240°-60°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Canteen	GPS coordinate	23° 29' 10.25" / 84° 35' 51.64"
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Date(s) of performance of the laboratory activities

Test start date	21.04.2025/ 11:20	Test completion date	25.04.2025/ 13:10
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--Test Result--

Sl	Test Parameters	Method used	Unit	Results	Limits
1.	Total Coliform	IS 15185 2002	Per 100 ml	Not Detected	Shall not be detectable in any 100 ml sample
2.	E. Coli	IS 15185 2002	Per 100 ml	Not Detected	

--Test Result End --

Prescribed Limit

IS 10500:2021

Operational Status

Unit was Operational During sampling.

Analysed by -Pratna Kumar/ Anjali Kumar

Checked by
(B.N. Kumar)
Technical Head

Verified & Issue by
(Anjali Kumar)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand





TC-12887

Analytical Test Certificate

Unique Lab Report No.	TC1288725000000393	Discipline	Chemical
Report Unique ID	RL0136251709	Group	Water
Issue date/time	26.04.2025/ 12:37	Sub Group	Ground Water

Report Issue to M/s - HINDALCO INDUSTRIES LIMITED VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302 MONITORING SITE: BHUSAR BAUXITE MINE	Contact Person Mr. Ankit Das
	Contact Number +91 9971034775
	Email Id ankit.das@adityabirla.com
	Order Date 31.03.2025/ 10:10
	Order Number 13612313868

References of Quality Management System (Steps of Traceability Chain)			
Customer Registration No.	EPIC/OTH/0136	Sample Booking Number	EPIC-251709
Sample(s) Code	251709	Sample Receipt (D/T)	21.04.2025/ 11:15

Sampling References			
Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling method used	IS : 3025 (Part-1) 1987, R-2003		
Sampling Start (D/T)	18.04.2025/ 12:30	Sampling End (D/T)	18.04.2025/ 12:40
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team

Description/condition of sample	Receipt sample(s) were fit for analysis.
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Environmental Condition during sampling							
Weather condition	Clear	Temperature (°C)	30	Humidity %	47	Wind direction	240°-60°

Sampling Location(s) with GPS coordinate(s)			
S. Location A	Near Shiv Mandir	GPS coordinate	23 29 09.50/84 35 44.55

Date(s) of performance of the laboratory activities			
Test start date	21.04.2025/ 11:30	Test completion date	25.04.2025/ 13:10

Sl.	Test Parameters	Method used	Unit	Test Result		
				Results	Acceptable Limit	Permissible limit
1.	pH value at 25°C	IS 3025 (P-11) 2022	-	6.89	6.5-8.5	No relaxation
2.	Turbidity	IS 3025 (P-10) 1984	NTU	0.59	1	5
3.	Colour	IS 3025 (P-04) 2021	Hazen	<5	5	15
4.	Odour	IS 3025 (P-05) 2018	-	Agreeable	Agreeable	Agreeable
5.	Taste	IS 3025 (P-07) 2017	-	Agreeable	Agreeable	Agreeable
6.	Total Dissolved Solids (TDS)	IS 3025 (P-16) 2023	mg/l	245.00	500	2000
7.	Chloride (as Cl)	IS 3025 (P-32) 2019	mg/l	37.44	250	1000
8.	Total Alkalinity(as CaCO ₃)	IS 3025 (P-23) 2019	mg/l	122.00	200	600
9.	Total Hardness (as CaCO ₃)	IS 3025 (P-21) 2009	mg/l	168.00	200	600
10.	Calcium (as Ca)	IS 3025 (P-40) 1991	mg/l	56.11	75	200
11.	Free Residual Chlorine	IS 3025 (P-26) 1986	mg/l	BDL(MDL-0.4)	0.2	1
12.	Sulphate (as SO ₄)	IS 3025 (P-24/Sec-1) 2022	mg/l	02.80	200	400
13.	Nitrate (as NO ₃)	APHA 4500 B 2023	mg/l	02.93	45	No relaxation
14.	Phenolic Compound	IS 3025 (P-43/Sec-1) 2022	mg/l	BDL(MDL-0.001)	0.001	0.002
15.	Magnesium (as Mg)	APHA 3500 Mg E 2023	mg/l	6.80	30	100
Group - Residues and Contaminants in Water,				Sub Group - Trace Metals Elements		
16.	Copper(as Cu)	APHA 3111 B 2023	mg/l	BDL(MDL-0.2)	0.05	1.5
17.	Iron (as Fe)	APHA 3111 B 2023	mg/l	BDL(MDL-0.1)	1.0	No relaxation



Analytical Test Certificate

Unique Lab Report No.	TC1288725000000393	Discipline	Chemical
Report Unique ID	RL0136251709	Group	Water
Issue date/time	26.04.2025/ 12:37	Sub Group	Ground Water

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD,
POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA,
STATE-JHARKHAND, INDIA 835302
MONITORING SITE: BHUSAR BAUXITE MINE

Contact Person
Contact Number
Email Id
Order Date
Order Number

Mr. Ankit Das
+91 9971034775
ankit.das@adityabirla.com
31.03.2025/ 10:10
13612313868

18. Lead (as Pb)	APHA 3111 B 2023	mg/l	BDL(MDL-0.01)	0.01	No relaxation
19. Cadmium (as Cd)	APHA 3111 B 2023	mg/l	BDL(MDL-0.003)	0.003	No relaxation
20. Total Chromium (as Cr)	APHA 3111 B 2023	mg/l	BDL(MDL-0.05)	0.05	No relaxation
21. Nickel (as Ni)	APHA 3111 B 2023	mg/l	BDL(MDL-0.02)	0.02	No relaxation
22. Total Arsenic (as As)	APHA 3114 B 2023	mg/l	BDL(MDL-0.005)	0.01	0.05
23. Selenium (as Se)	APHA 3114 B 2023	mg/l	BDL(MDL-0.005)	0.01	No relaxation
24. Manganese (as Mn)	APHA 3111 B 2023	mg/l	BDL(MDL-0.09)	0.1	0.3
25. Zinc(as Zn)	APHA 3111 B 2023	mg/l	BDL(MDL-0.04)	5	15

--Test Result End--

Prescribed Limit

IS 10500:2021

Operational Status

Unit was Operational During sampling.

Analysed by -Pralima Kumar/ Anguly Kumar



Checked by
(E.N. Kumar)
Technical Head

Verfied & Issue by
(Umesh Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



EPIC LabTech Private Limited

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CIN-U74999JH2022PTC019685
PAN-AAHCE3511M
GST-20AAHCE351M1ZK

Accredited by:-
Jharkhand State Pollution Control Board
Certified by:-
ISO 9001:2015 and ISO 45001:2018

Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical
Report Unique ID	RL0136251709	Group	Water
Issue date/time	26.04.2025/ 12:37	Sub Group	Ground Water

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD,
POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA,
STATE-JHARKHAND, INDIA 835302
MONITORING SITE: BHUSAR BAUXITE MINE

Contact Person
Mr. Ankit Das
Contact Number
+91 9971034775
Email Id
ankit.das@adityabirla.com
Order Date
31.03.2025/ 10:10
Order Number
13612313868

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0136	Sample Booking Number	EPIC-251709
Sample(s) Code	251709	Sample Receipt (D/T)	21.04.2025/ 11:15

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling method used	IS : 3025 (Part-1) 1987, R-2003		
Sampling Start (D/T)	18.04.2025/ 12:30	Sampling End (D/T)	18.04.2025/ 12:40
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team
Description/condition of sample	Receipt sample(s) were fit for analysis.		

Environmental Condition during sampling

Weather condition	Clear	Temperature (°C)	30	Humidity %	47	Wind direction	240°-60°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Shiv Mandir	GPS coordinate	23 29 09.50/84 35 44.55
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Date(s) of performance of the laboratory activities

Test start date	21.04.2025/ 11:30	Test completion date	25.04.2025/ 13:10
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--Test Result--

Sl	Test Parameters	Method used	Unit	Results	Limits
					Acceptable Limit
					Permissible limit

1.	Fluoride (as F)	APHA 4500 F-C 2023	mg/l	BDL(MDL-0.1)	1.0	1.5
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Group-Residues and Contaminants in Water

Sub Group-Trace Metals Elements

2.	Aluminum	IS 3025 (P-55):2019	mg/l	BDL(MDL-0.1)	0.03	0.2
3.	Boron	IS 3025 (P-57):2021	mg/l	BDL(MDL-0.1)	0.5	1.0
4.	Polychlorinated biphenyls	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.2)	0.5	No relaxation
5.	Polynuclear Aromatic Hydrocarbons (PAH)	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.05)	0.1	No relaxation

Group-Residues and Contaminants in Water

Sub Group-Pesticides

6.	Alachlor	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	20	No relaxation
7.	Atrazine	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	2.0	No relaxation
8.	Dieldrin	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.02)	0.03	No relaxation
9.	Alpha HCH	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.005)	0.01	No relaxation
10.	Beta HCH	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.02)	0.04	No relaxation
11.	Butachlor	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	125.0	No relaxation
12.	Chlopyriphos	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	30.0	No relaxation
13.	Delta HCH	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.02)	0.04	No relaxation
14.	Ethion	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	3.0	No relaxation
15.	Gamma-HCH(Lindane)	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	2.0	No relaxation



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CIN: U74999JH2022PTC019685 Accredited by:-
Jharkhand State Pollution Control Board
Certified by:-
ISO 9001:2015 and ISO 45001:2018

Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical
Report Unique ID	RL0136251709	Group	Water
Issue date/time	26.04.2025/ 12:37	Sub Group	Ground Water

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD,
POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA,
STATE-JHARKHAND, INDIA 835302
MONITORING SITE: BHUSAR BAUXITE MINE

Contact Person
Mr. Ankit Das
Contact Number
+91 9971034775
Email Id
ankit.das@adityabirla.com
Order Date
31.03.2025/ 10:10
Order Number
13612313868

16. Malathion	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	190.0	No relaxation
17. Methyl parathion	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.2)	0.3	No relaxation
18. Monocrotophos	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	1.0	No relaxation
19. Phorate	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	2.0	No relaxation
20. DDT (o, p and p, p-isomer of DDT, DDE and DDD)	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	1.0	No relaxation
21. Endosulfan (alpha, beta, and sulphate)	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.05)	0.4	No relaxation

--Test Result End--

Prescribed Limit

IS 10500:2021

Operational Status

Unit was Operational During sampling.

Analysed by - Pratima Kumar/ Anjali Kumar



Checked by
(B.N. Kumar)
Technical Head

Verified & Issue by
(Ankit Das)
Laboratory Head

Authorized Signatory

EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Biological
Report Unique ID	RL0136251710	Group	Water
Issue date/time	26.04.2025/ 12:39	Sub Group	Ground Water
Report Issue to			

M/S - HINDALCO INDUSTRIES LIMITED VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302 MONITORING SITE: BHUSAR BAUXITE MINE	Contact Person	Mr. Ankit Das
	Contact Number	+91 9971034775
	Email Id	ankit.das@adityabirla.com
	Order Date	31.03.2025/ 10:10
	Order Number	13612313868

References of Quality Management System (Steps of Traceability Chart)

Customer Registration No.	EPIC/OTH/0136	Sample Booking Number	EPIC-251710
Sample(s) Code	251710	Sample Receipt (D/T)	21.04.2025/ 11:17

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling method used	IS : 3025 (Part-1) 1987, R-2003 & IS 1622 1981		
Sampling Start (D/T)	18.04.2025/ 12:30	Sampling End (D/T)	18.04.2025/ 12:40
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team
Description/condition of sample	Receipt sample(s) were fit for analysis.		

Environmental Condition during sampling

Weather condition	Clear	Temperature (°C)	30	Humidity %	47	Wind direction	240°-60°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Shiv Mandir	GPS coordinate	23 29 09.50/84 35 44.55
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Date(s) of performance of the laboratory activities

Test start date	21.04.2025/ 11:30	Test completion date	25.04.2025/ 13:10
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Sl.	Test Parameters	Method used	Unit	--Test Result--		Limits
				Results		
1.	Total Coliform	IS 15185 2002	Per 100 ml	Not Detected		
2.	E. Coli	IS 15185 2002	Per 100 ml	Not Detected		Should not be detectable in any 100 ml sample

--Test result End --

Prescribed Limit

Operational Status

Analysed by - Pratima Kumar/ Ajay Kumar



 Checked by
(B.N. Kumar)
Technical Head


 Verified & Issue by
(Ankit Das)
Laboratory Head

 Authorized Signatory
 EPIC LabTech Pvt. Ltd.
 Ranchi, Jharkhand



Analytical Test Certificate

Unique Lab Report No.	TC1288725000000523	Discipline	Chemical
Report Unique ID	RL0169252033	Group	Atmospheric Pollution
Issue date/time	21.05.2025/ 15:10	Sub Group	Ambient Air Quality

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302
MONITORING SITE : BHUSAR BAUXITE MINE

Contact Person
Mr. Ankit Das
Contact Number
+91 9971034775
Email Id
ankit.das@adityabirla.com
Order Date
31.03.2025/ 10:10
Order Number
13612313868

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0169	Sample Booking Number	EPIC-252033
Sample(s) Code	252033 (A) (B) (C) (D)	Sample Receipt (D/T)	16.05.2025/ 10:40

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	14.05.2025/ 11:46	Sampling End (D/T)	15.05.2025/ 07:56
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team
Sampling method used	IS 5182 and CPCB Air Manual Volume - 1 (NAAQM/36/2012-13)		
Description/condition of sample	Receipt sample(s) were fit for analysis.		

Environmental Condition during sampling

Weather condition	Clear	Temperature (°C)	29	Humidity %	52	Wind direction	200°-20°
-------------------	-------	------------------	----	------------	----	----------------	----------

Sampling Location(s) with GPS coordinate(s)

S. Location A	Near View Point 1 (Bhusar Mine Pit I)	GPS coordinate	23° 29' 13.64" / 84° 35' 50.55"
S. Location B	Near View Point 2 (Bhusar Mine Pit II)	GPS coordinate	23° 29' 20.57" / 84° 35' 48.66"
S. Location C	Near Rest Shelter	GPS coordinate	23° 29' 11.69" / 84° 35' 45.82"
S. Location D	Near GTS Point	GPS coordinate	23° 29' 11.17" / 84° 35' 43.41"

Date(s) of performance of the laboratory activities

Test start date	16.05.2025/ 10:55	Test completion date	20.05.2025/ 13:10
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--Test Results--

Sl	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Particulate Matter (PM ₁₀)	IS:5182 (P-23) 2022	µg/m ³	79.03	72.32	88.37	83.76	100 (24 hr)
2.	Fine Particulate Matter (PM _{2.5})	IS 5182 (P-24) 2019	µg/m ³	38.92	34.76	45.13	40.90	60(24 hr)
3.	Sulphur Dioxide (SO ₂)	IS:5182 (P-02) 2023	µg/m ³	12.58	09.41	11.24	08.68	80(24 hr)
4.	Nitrogen Dioxide (NO ₂)	IS:5182 (P-06) 2022	µg/m ³	26.10	20.12	24.24	19.41	80(24 hr)
5.	Ammonia (NH ₃)	IS:5182 (P-25) 2018	µg/m ³	37.01	33.77	40.26	35.71	400(24 hr)
6.	Ozone (O ₃)	IS:5182 (P-09) 2019	µg/m ³	26.47	21.46	28.61	20.03	180(1 hr)
7.	Lead (Pb)	IS:5182(P-22) 2019	µg/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	1.0(24 hr)
8.	Nickel (Ni)	IS:5182(P-26) 2020	ng/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	-
9.	Arsenic (As)	USEPA IO 3.2:1999	ng/m ³	BDL (MDL-0.001)	BDL (MDL-0.001)	BDL (MDL-0.001)	BDL (MDL-0.001)	-

--Test Results End --

Prescribed Limit Environmental (Protection) Rules-1986, Schedule VII.

Operational Status Unit was Operational During sampling.

Analysed by - A.K. Sinha



Reviewed by
(A.K. Sinha)
Technical Head



Issue by
(Ankit Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand

Page 1 of 1



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CIN: U74999JH2022PTC019483
PAN: AAHCE3611M
GST: 20AAHCE3611M1ZA

Accredited by:
Jharkhand State Pollution Control Board
Certified by:
ISO 9001:2015 and ISO 45001:2018

Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical					
Report Unique ID	RL0168252033	Group	Atmospheric Pollution					
Issue date/time	21.05.2025/ 15:10	Sub Group	Ambient Air Quality					
Report Issue to								
M/s - HINDALCO INDUSTRIES LIMITED VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302 MONITORING SITE : BHUSAR BAUXITE MINE	Contact Person	Mr. Ankit Das						
	Contact Number	+91 9971034775						
	Email Id	ankit.das@adityabirla.com						
	Order Date	31.03.2025/ 10:10						
	Order Number	13612313868						
References of Quality Management System (Steps of Traceability Chart)								
Customer Registration No.	EPIC/OTH/0169	Sample Booking Number	EPIC-252033					
Sample(s) Code	252033 (A) (B) (C) (D)	Sample Receipt (D/T)	16.05.2025/ 10:40					
Sampling References								
Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036					
Sampling Start (D/T)	14.05.2025/ 11:46	Sampling End (D/T)	15.05.2025/ 07:56					
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team					
Sampling method used	IS 5182 and CPCB Air Manual Volume - 1 (NAAQM/36/2012-13)							
Description/condition of sample	Receipt sample(s) were fit for analysis.							
Environmental Condition during sampling								
Weather condition	Clear	Temperature (°C)	30					
		Humidity %	52					
		Wind direction	200°-20°					
Sampling Location(s) with GPS coordinate(s)								
S. Location A	Near View Point 1 (Bhusar Mine Pit I)	GPS coordinate	23° 29' 13.64" / 84° 35' 50.55"					
S. Location B	Near View Point 2 (Bhusar Mine Pit II)	GPS coordinate	23° 29' 20.67" / 84° 35' 48.66"					
S. Location C	Near Rest Shelter	GPS coordinate	23° 29' 11.69" / 84° 35' 45.82"					
S. Location D	Near GTS Point	GPS coordinate	23° 29' 11.17" / 84° 35' 43.41"					
Date(s) of performance of the laboratory activities								
Test start date	16.05.2025/ 10:55	Test completion date	20.05.2025/ 13:10					
-Test Results-								
Sl	Test Parameters	Method used	Unit	A	B	C	D	Limits
1.	Benzene (C ₆ H ₆)	IS:5182(P-11) 2006	µg/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	-
2.	Benzo (a) Pyrene (Bap)- Particulate phase only	IS:5182(P-12) 2004	ng/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	-
3.	Carbon Monoxide (CO)	EPIC/LAB/SOP/AP/01/00	mg/m ³	BDL (MDL-1.8)	BDL (MDL-1.8)	BDL (MDL-1.8)	BDL (MDL-1.8)	-
-Test Results End --								

Prescribed Limit: Environmental (Protection) Rules-1986, Schedule VII.

Operational Status: Unit was Operational During sampling.

Analysed by - AK Sinha


Reviewed by
(A.K. Sinha)
Technical Head




Issue by
(Ankit Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



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PAN-AAHCE3611M
GST-20AAHCE3611M12X

Accredited by -
NABL, certificate Number 12-12887
Jharkhand State Pollution Control Board
Certified by -
ISO 9001:2015 and ISO 14001:2015



TC-12887

Analytical Test Certificate

Unique Lab Report No.	TC1268725000000524	Discipline	Chemical
Report Unique ID	RL0169252034	Group	Atmospheric Pollution
Issue date/time	21.05.2025/ 15:12	Sub Group	Ambient Noise

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302
MONITORING SITE : BHUSAR BAUXITE MINE

Contact Person
Mr. Ankit Das
Contact Number
+91 9971034775
Email Id
ankit.das@adityabirla.com
Order Date
31.03.2025/ 10:10
Order Number
13612313868

References of Quality Management System (Steps of Traceability Chart)

Customer Registration No.	EPIC/OTH/0189	Sample Booking Number	EPIC-252034
Sample(s) Code	2520334 (A) (B) (C) (D)	Sample Receipt (D/T)	16.05.2025/ 10:49

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	14.05.2025/ 11:46	Sampling End (D/T)	15.05.2025/ 07:56
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team
Sampling method used	IS 9989:1981 (RA 2020) & CPCB Method S.O.50 (E) dated 11/01/2010		
Description/condition of sample	Receipt sample(s) were fit for analysis.		

Environmental Condition during sampling

Weather condition	Clear	Temperature (°C)	29	Humidity %	52	Wind direction	200°-20°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Near View Point 1 (Bhusar Mine Pit I)	GPS coordinate	23° 29' 13.64" / 84° 35' 50.55"
S. Location B	Near View Point 2 (Bhusar Mine Pit II)	GPS coordinate	23° 29' 20.67" / 84° 35' 48.66"
S. Location C	Near Rest Shelter	GPS coordinate	23° 29' 11.69" / 84° 35' 45.82"
S. Location D	Near GTS Point	GPS coordinate	23° 29' 11.17" / 84° 35' 43.41"

Date(s) of performance of the laboratory activities

Test start date	16.05.2025/ 10:59	Test completion date	20.05.2025/ 13:15
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--Test Results--

Sl	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	L _{eq} (Day time)	IS: 9989:1981	dB (A)	47.8	53.2	55.2	44.8	75
2.	L _{eq} (Night time)	IS: 9989:1981	dB (A)	39.4	43.2	45.5	36.5	70

--Test Results End --

Prescribed Limit
Environmental (Protection) Rules-1986, Schedule III.
Operational Status
Unit was Operational During sampling.



Reviewed by
(S.K. Kumar)
Technical Head

Issued by
(Gopal Das)
Laboratory Head
Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



EPIC LabTech Private Limited

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CIN: U74999IH2022PTC019683
PAN: AAHCE3611M
GST: 20AAHCE3611M12X

Accredited by -
ISO 17025:2017 certificate Number 10-12887
Jharkhand State Pollution Control Board
Certified by -
ISO 9001:2015 and ISO 45001:2018



TC-12887

Analytical Test Certificate

Unique Lab Report No.	TC1288725000000702	Discipline	Chemical
Report Unique ID	RL0202252431	Group	Atmospheric Pollution
Issue date/time	18.06.2025/ 12:35	Sub Group	Ambient Air Quality

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302
MONITORING SITE : BHUSAR BAUXITE MINE

Contact Person
Mr. Ankit Das
Contact Number
+91 9971034775
Email Id
ankit.das@adityabirla.com
Order Date
31.03.2025/ 10:10
Order Number
13612313868

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0202	Sample Booking Number	EPIC-252431
Sample(s) Code	252431 (A) (B) (C) (D)	Sample Receipt (D/T)	13.06.2025/ 10:15

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/038
Sampling Start (D/T)	11.06.2025/ 12:24	Sampling End (D/T)	12.06.2025/ 09:13
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team
Sampling method used	IS 5182 and CPCB Air Manual Volume - 1 (NAAQM/36/2012-13)		
Description/condition of sample	Receipt sample(s) were fit for analysis.		

Environmental Condition during sampling

Weather condition	Clear	Temperature (°C)	27	Humidity %	49	Wind direction	260°-80°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Near View Point 1 (Bhusar Mine Pit I)	GPS coordinate	23° 29' 13.64" / 84° 35' 50.55"
S. Location B	Near View Point 2 (Bhusar Mine Pit II)	GPS coordinate	23° 29' 20.67" / 84° 35' 48.66"
S. Location C	Near Rest Shelter	GPS coordinate	23° 29' 11.69" / 84° 35' 45.82"
S. Location D	Near GTS Point	GPS coordinate	23° 29' 11.17" / 84° 35' 43.41"

Date(s) of performance of the laboratory activities

Test start date	13.06.2025/ 10:35	Test completion date	17.06.2025/ 12:46
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--Test Results--

Sl.	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Particulate Matter (PM ₁₀)	IS:5182 (P-23) 2022	µg/m ³	76.01	78.32	72.04	70.13	100 (24 hr)
2.	Fine Particulate Matter (PM _{2.5})	IS 5182 (P-24) 2019	µg/m ³	34.92	36.02	32.70	31.04	60(24 hr)
3.	Sulphur Dioxide (SO ₂)	IS:5182 (P-02) 2020	µg/m ³	06.26	07.05	07.44	06.66	80(24 hr)
4.	Nitrogen Dioxide (NO ₂)	IS:5182 (P-06) 2022	µg/m ³	21.14	23.25	22.20	20.08	80(24 hr)
5.	Ammonia (NH ₃)	IS:5182 (P-25) 2018	µg/m ³	39.29	40.26	40.91	37.01	400(24 hr)
6.	Ozone (O ₃)	IS:5182 (P-09) 2019	µg/m ³	24.34	23.25	22.18	23.61	180(1 hr)
7.	Lead (Pb)	IS:5182(P-22) 2019	µg/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	1.0(24 hr)
8.	Nickel (Ni)	IS:5182(P-26) 2020	ng/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	-
9.	Arsenic (As)	USEPA IO 3.2:1999	ng/m ³	BDL (MDL-0.001)	BDL (MDL-0.001)	BDL (MDL-0.001)	BDL (MDL-0.001)	-

--Test Results End --

Prescribed Limit Environmental (Protection) Rules-1986, Schedule VII.

Operational Status Unit was Operational During sampling.

Analysed by - Archana Gorain

Reviewed by
(E.N. Kumar)
Technical Head

Issue by
(Ankit Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.

Ranchi, Jharkhand

Page 1 of 1

Contracted Notes : 1. The laboratory accepts responsibility for content of this report | 2. Test performed at laboratory's permanent facility. 3. Results are valid only in the condition as method required and results relate only to the sample tested in prescribed Date & time | 3. The Test report shall not be reproduced full or in part & can't be used as proof in the court of law. | 4. Any complaint about this report should be communicated in writing within 10 days of its issue | 5. Total liability of EPIC LabTech Pvt. Ltd. will be limited to invoiced amount only. | 6. All disputes are subjected to Ranchi Jurisdiction and maximum liability of the laboratory does not exceed the testing and sampling charges | 7. Opinion does not imply endorsement of the tested product by laboratory. Under no circumstances, laboratory accepts any caused by use or misuse of this report. | 8. When the results are from external provider are marked as * mark. |

Abbreviations: BDL (Below Detectable Limit), MDL (Minimum Detectable Limit), LoQ (Limit of Quantitation).



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CIN: U74999JH2022PTC019685 Accredited by:
Jharkhand State Pollution Control Board
Certified by:
ISO 9001:2015 and ISO 45001:2018

Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical					
Report Unique ID	RL0202252431	Group	Atmospheric Pollution					
Issue date/time	18.06.2025/ 12:35	Sub Group	Ambient Air Quality					
Report Issue to								
M/s - HINDALCO INDUSTRIES LIMITED VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302 MONITORING SITE : BHUSAR BAUXITE MINE	Contact Person Mr. Ankit Das	Contact Number +91 9971034775	Email Id ankit.das@adityabirla.com					
	Order Date 31.03.2025/ 10:10	Order Number 13612313868						
References of Quality Management System (Steps of Traceability Chain)								
Customer Registration No.	EPIC/OTH/0202	Sample Booking Number	EPIC-252431					
Sample(s) Code	252431 (A) (B) (C) (D)	Sample Receipt (D/T)	13.06.2025/ 10:15					
Sampling References								
Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036					
Sampling Start (D/T)	11.06.2025/ 12:24	Sampling End (D/T)	12.06.2025/ 09:13					
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team					
Sampling method used	IS 5182 and CPCB Air Manual Volume - 1 (NAAQM/36/2012-13)							
Description/condition of sample	Receipt sample(s) were fit for analysis.							
Environmental Condition during sampling								
Weather condition	Clear	Temperature (°C)	27					
		Humidity %	49					
		Wind direction	260°-80°					
Sampling Location(s) with GPS coordinate(s)								
S. Location A	Near View Point 1 (Bhusar Mine Pit I)	GPS coordinate	23° 29' 13.64" / 84° 35' 50.55"					
S. Location B	Near View Point 2 (Bhusar Mine Pit II)	GPS coordinate	23° 29' 20.67" / 84° 35' 48.86"					
S. Location C	Near Rest Shelter	GPS coordinate	23° 29' 11.69" / 84° 35' 45.82"					
S. Location D	Near GTS Point	GPS coordinate	23° 29' 11.17" / 84° 35' 43.41"					
Date(s) of performance of the laboratory activities								
Test start date	13.06.2025/ 10:35	Test completion date	17.06.2025/ 12:46					
-Test Results-								
Sl.	Test Parameters	Method used	Unit	A	B	C	D	Limits
1.	Benzene (C ₆ H ₆)	IS:5182(P-11) 2006	µg/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	-
2.	Benzo (a) Pyrene (Bap)- Particulate phase only	IS:5182(P-12) 2004	ng/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	-
3.	Carbon Monoxide (CO)	EPIC/LAB/SOP/AP/01/00	mg/m ³	BDL (MDL-1.8)	BDL (MDL-1.8)	BDL (MDL-1.8)	BDL (MDL-1.8)	-

-Test Results End -

Prescribed Limit Environmental (Protection) Rules-1986, Schedule VII.

Operational Status Unit was Operational During sampling.

Analyzed by - Archana Gorain



Reviewed by
(A.K. Kumar)
Technical Head

Issued by
(Ankit Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



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CIN:-U74999JH2022PTC0195685
PAN - AAHCE3671M
GST - 20AAHCE3671M12X

Accredited by -
Jharkhand State Pollution Control Board
Certified by -
ISO 9001:2015 and ISO 45001:2018

Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical
Report Unique ID	RL0202252433	Group	Atmospheric Pollution
Issue date/time	18.06.2025/ 12:37	Sub Group	Work Zone Noise

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302
MONITORING SITE: BHUSAR BAUXITE MINE

Contact Person
Mr. Ankit Das
Contact Number
+91 9971034775
Email Id
ankit.das@adityabirla.com
Order Date
31.03.2025/ 10:10
Order Number
13612313868

References of Quality Management System (Steps of Traceability Chart)

Customer Registration No.	EPIC/OTH/0202	Sample Booking Number	EPIC-252433
Sample(s) Code	252433 (A) (B)	Sample Receipt (D/T)	13.06.2025/ 10:18

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D)	11.06.2025/ 12:24	Sampling End (D)	12.06.2025/ 09:13
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team
Sampling method used	IS 9989:1981 (RA 2020) & CPCB Method S.O.50 (E) dated 11/01/2010		
Description/condition of sample	Receipt sample(s) were fit for analysis.		

Environmental Condition during sampling

Weather condition	Clear	Temperature (°C)	27	Humidity %	49	Wind direction	260°-80°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Bhusar Mines Pit II	GPS coordinate	23° 29' 35.01" / 84° 35' 30.09"
S. Location B	Bhusar Bauxite Mines (65.31hr)	GPS coordinate	23° 29' 42.01" / 84° 35' 26.07"

Date(s) of performance of the laboratory activities

Test start date	13.06.2025/ 10:40	Test completion date	17.06.2025/ 12:44
-----------------	-------------------	----------------------	-------------------

-Test Results--

Sl	Test Parameters	Method used	Unit	Results		Limits
				A	B	
1.	L_{eq}	IS: 9989:1981	dB (A)	76.1	73.2	85

-Test Results End --

Prescribed Limit
Operational Status
Analysed by - Archana Gorain


Issue by
(Ankit Das)
Laboratory Head


Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



Reviewed by
(A.K. Kumar)
Technical Head



EPIC LabTech Private Limited

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CIN-U74999JH2022PTC019683
PAN-AAHCE3861M
GST-20AAHCE3861M12X

Accredited by -
NABL, with certificate number TC-12887
Jharkhand State Pollution Control Board
Certified by -
ISO 9001:2015 and ISO 43001:2018



TC-12887

Analytical Test Certificate

Unique Lab Report No.	TC1288725000000874	Discipline	Chemical
Report Unique ID	RL02292528082	Group	Atmospheric Pollution
Issue date/time	17.07.2025/ 17:25	Sub Group	Ambient Air Quality

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302
MONITORING SITE: BHUSAR BAUXITE MINE

Contact Person
Contact Number
Email Id
Order Date
Order Number

Mr. Ankit Das
+91 9971034775
ankit.das@adityabirla.com
31.03.2025/ 10:10
13612313868

References of Quality Management System (Steps of Traceability Data)

Customer Registration No.	EPIC/OTH/0229	Sample Booking Number	EPIC- 2528082
Sample(s) Code	2528082 (A) (B) (C) (D)	Sample Receipt (D/T)	12.07.2025/ 12:51

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	10.07.2025/ 12:20	Sampling End (D/T)	11.07.2025/ 10:47
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Vishal Kumar & Team
Sampling method used	IS 5182 and CPCB Air Manual Volume - 1 (NAAQM/36/2012-13)		
Description/condition of sample	Receipt sample(s) were fit for analysis.		

Environmental Condition during sampling

Weather condition	Cloudy	Temperature (°C)	26	Humidity %	70	Wind direction	40°-220°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Near View Point 1 (Bhusar Mine Pit I)	GPS coordinate	23° 29' 13.64" / 84° 35' 50.55"
S. Location B	Near View Point 2 (Bhusar Mine Pit II)	GPS coordinate	23° 29' 20.67" / 84° 35' 48.66"
S. Location C	Near Rest Shelter	GPS coordinate	23° 29' 11.89" / 84° 35' 45.82"
S. Location D	Near GTS Point	GPS coordinate	23° 29' 11.17" / 84° 35' 43.41"

Date(s) of performance of the laboratory activities

Test start date	12.07.2025/ 13:15	Test completion date	17.07.2025/ 15:10
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--Test Results--

Sl	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Particulate Matter (PM ₁₀)	IS:5182 (P-23) 2022	µg/m ³	75.30	77.64	71.72	69.12	100 (24 hr)
2.	Fine Particulate Matter (PM _{2.5})	IS:5182 (P-24) 2019	µg/m ³	33.04	34.99	31.76	30.67	60(24 hr)
3.	Sulphur Dioxide (SO ₂)	IS:5182 (P-02) 2023	µg/m ³	06.98	06.38	06.41	05.77	80(24 hr)
4.	Nitrogen Dioxide (NO ₂)	IS:5182 (P-06) 2022	µg/m ³	20.76	22.94	20.94	19.02	80(24 hr)
5.	Ammonia (NH ₃)	IS:5182 (P-25) 2018	µg/m ³	38.40	39.58	39.87	36.35	400(24 hr)
6.	Ozone (O ₃)	IS:5182 (P-09) 2019	µg/m ³	23.63	21.97	20.97	22.63	180(1 hr)
7.	Lead (Pb)	IS:5182 (P-22) 2019	µg/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	1.0(24 hr)
8.	Nickel (Ni)	IS:5182 (P-26) 2020	ng/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)
9.	Arsenic (As)	USEPA IO 3.2:1999	ng/m ³	BDL (MDL-0.001)	BDL (MDL-0.001)	BDL (MDL-0.001)	BDL (MDL-0.001)	BDL (MDL-0.001)

--Test Results End --

Prescribed Limit Environmental (Protection) Rules-1986, Schedule VII.

Operational Status Unit was Operational During sampling.

Analysed by - Vishal Mangraj


Reviewed by
(E.K. Kumar)
Technical Head


Issued by
(Amesh Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.

Page 1 of 1

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CIN: U74999JH2022PTC019683 Accredited by -
Jharkhand State Pollution Control Board
Certified by -
ISO 9001:2015 and ISO 45001:2018

Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical
Report Unique ID	RL02292528082	Group	Atmospheric Pollution
Issue date/time	17.07.2025/ 17:25	Sub Group	Ambient Air Quality

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302
MONITORING SITE: BHUSAR BAUXITE MINE

Contact Person
Mr. Ankit Das
Contact Number
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Email Id
ankit.das@adityabirla.com
Order Date
31.03.2025/ 10:10
Order Number
13612313868

References of Quality Management System (Steps of Traceability Data)

Customer Registration No.	EPIC/OTH/0229	Sample Booking Number	EPIC- 2528082
Sample(s) Code	2528082 (A) (B) (C) (D)	Sample Receipt (D/T)	12.07.2025/ 12:51

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	10.07.2025/ 12:20	Sampling End (D/T)	11.07.2025/ 10:47
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Vishal Kumar & Team
Sampling method used	IS 5182 and CPCB Air Manual Volume - 1 (NAAQM/36/2012-13)		
Description/condition of sample	Receipt sample(s) were fit for analysis.		

Environmental Condition during sampling

Weather condition	Cloudy	Temperature (°C)	26	Humidity %	70	Wind direction	20°-220°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Near View Point 1 (Bhusar Mine Pit I)	GPS coordinate	23° 29' 13.64" / 84° 35' 50.55"
S. Location B	Near View Point 2 (Bhusar Mine Pit II)	GPS coordinate	23° 29' 20.67" / 84° 35' 48.66"
S. Location C	Near Rest Shelter	GPS coordinate	23° 29' 11.69" / 84° 35' 45.82"
S. Location D	Near GTS Point	GPS coordinate	23° 29' 11.17" / 84° 35' 43.41"

Date(s) of performance of the laboratory activities

Test start date	12.07.2025/ 13:15	Test completion date	17.07.2025/ 15:10
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-Test Results-

Sl	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Benzene (C ₆ H ₆)	IS:5182(P-11) 2006	µg/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	-
2.	Benzo (a) Pyrene (Bap)- Particulate phase only	IS:5182(P-12) 2004	ng/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	-
3.	Carbon Monoxide (CO)	EPIC/LAB/SOP/AP/01/00	mg/m ³	BDL (MDL-1.8)	BDL (MDL-1.8)	BDL (MDL-1.8)	BDL (MDL-1.8)	-

-Test Results End -

Prescribed Limit Environmental (Protection) Rules-1986, Schedule VII.

Operational Status Unit was Operational During sampling.

Analysed by - Vishal Mangraj


Reviewed by
(Vishal Mangraj)
Technical Head



Page 1 of 1

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Abbreviations: - BDL (Below Detectable Limit), MDL (Minimum Detectable Limit), LoQ (Limit of Quantitation).



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GST: 20AAHCE3611M1ZK

Accredited by:-
NABL, Lab. certificate Number TC - 12887
Jharkhand State Pollution Control Board
Certified by:-
ISO 9001:2015 and ISO 45001:2018

TC-12887

Analytical Test Certificate

Unique Lab Report No.	TC1288725000000675	Discipline	Chemical
Report Unique ID	RL02292528083	Group	Water
Issue date/time	17.07.2025/ 17:28	Sub Group	Drinking Water

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,
DIST - LOHARDAGA, STATE - JHARKHAND, INDIA 835302
MONITORING SITE: BHUSAR BAUXITE MINE

Contact Person
Mr. Ankit Das
Contact Number
+91 9971034775
Email Id
ankit.das@adityabirla.com
Order Date
31.03.2025/ 10:10
Order Number
13612313868

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0229	Sample Booking Number	EPIC-2528083
Sample(s) Code	2528083	Sample Receipt (D/T)	12.07.2025/ 12:52

Sampling References

Type of industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	10.07.2025/ 15:11	Sampling End (D/T)	10.07.2025/ 15:18
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Vishal Kumar & Team
Sampling method used	IS: 3025 (Part-1) 1987, R-2003		
Description/condition of sample		Receipt sample(s) were fit for analysis.	

Environmental Condition during sampling

Weather condition	Cloudy	Temperature (°C)	27	Humidity %	70	Wind direction	40°-220°
-------------------	--------	------------------	----	------------	----	----------------	----------

Sampling Location(s) with GPS coordinate(s)

S. Location A	Canteen	GPS coordinate	23° 29' 10.25" / 84° 35' 51.64"
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Date(s) of performance of the laboratory activities

Test start date	12.07.2025/ 13:06	Test completion date	17.07.2025/ 15:00
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--Test Result--

Sl	Test Parameters	Method used	Unit	Results	Acceptable Limit	Limits Permissible limit
1.	pH value at 25.5°C	IS 3025 (P-11) 2022	-	6.68	8.5-8.5	No relaxation
2.	Turbidity	IS 3025 (P-10) 1984	NTU	0.415	1	5
3.	Colour	IS 3025 (P-04) 2021	Hazen	<5	5	15
4.	Odour	IS 3025 (P-05) 2018	-	Agreeable	Agreeable	Agreeable
5.	Taste	IS 3025 (P-07) 2017	-	Agreeable	Agreeable	Agreeable
6.	Total Dissolved Solids (TDS)	IS 3025 (P-16) 2023	mg/l	188.00	500	2000
7.	Chloride (as Cl)	IS 3025 (P-32) 2019	mg/l	27.36	250	1000
8.	Total Alkalinity (as CaCO ₃)	IS 3025 (P-23) 2019	mg/l	89.62	200	600
9.	Total Hardness (as CaCO ₃)	IS 3025 (P-21) 2009	mg/l	102.66	200	600
10.	Calcium (as Ca)	IS 3025 (P-40) 1991	mg/l	31.75	75	200
11.	Free Residual Chlorine	IS 3025 (P-26) 1986	mg/l	BDL(MDL-0.4)	0.2	1
12.	Sulphate (as SO ₄)	IS 3025 (P-24/Sec-1) 2022	mg/l	1.11	200	400
13.	Nitrate (as NO ₃)	APHA 4500 B 2023	mg/l	1.65	45	No relaxation
14.	Phenolic Compound	IS 3025 (P-43/Sec-1) 2022	mg/l	BDL(MDL-0.001)	0.001	0.002
15.	Magnesium (as Mg)	APHA 3500 Mg E 2023	mg/l	5.62	30	100



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PAN: AAHCE3611M
GST: 20AAHCE3611M1ZK

Accredited by:
NABL, vide certificate Number TC-12887
Jharkhand State Pollution Control Board
Certified by:
ISO 9001:2015 and ISO 45001:2018

TC-12887

Analytical Test Certificate

Unique Lab Report No.	TC1288725000000675	Discipline	Chemical
Report Unique ID	RL02292528083	Group	Water
Issue date/time	17.07.2025/ 17:28	Sub Group	Drinking Water

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302
MONITORING SITE: BHUSAR BAUXITE MINE

Contact Person
Mr. Ankit Das
Contact Number
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Email Id
ankit.das@adityabirla.com
Order Date
31.03.2025/ 10:10
Order Number
13612313868

Group - Residues and Contaminants in Water			Sub Group - Trace Metals Elements		
16. Copper (as Cu)	APHA 3111 B 2023	mg/l	BDL(MDL-0.2)	0.05	1.5
17. Iron (as Fe)	APHA 3111 B 2023	mg/l	BDL(MDL-0.1)	1.0	No relaxation
18. Lead (as Pb)	APHA 3111 B 2023	mg/l	BDL(MDL-0.01)	0.01	No relaxation
19. Cadmium (as Cd)	APHA 3111 B 2023	mg/l	BDL(MDL-0.003)	0.003	No relaxation
20. Total Chromium (as Cr)	APHA 3111 B 2023	mg/l	BDL(MDL-0.05)	0.05	No relaxation
21. Nickel (as Ni)	APHA 3111 B 2023	mg/l	BDL(MDL-0.02)	0.02	No relaxation
22. Total Arsenic (as As)	APHA 3114 B 2023	mg/l	BDL(MDL-0.005)	0.01	0.05
23. Selenium (as Se)	APHA 3114 B 2023	mg/l	BDL(MDL-0.005)	0.01	No relaxation
24. Manganese (as Mn)	APHA 3111 B 2023	mg/l	BDL(MDL-0.09)	0.1	0.3
25. Zinc (as Zn)	APHA 3111 B 2023	mg/l	BDL(MDL-0.04)	5	15

-Test result End -

Prescribed Limit

IS 10500:2021

Operational Status

Unit was Operational During sampling.



Reviewed by
(B.N. Kumar)
Technical Head

Issued by
(Umesh Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand





EPIC LabTech Private Limited

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GST - 20AAHCE3611M12X

Accredited by -
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Certified by -
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Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical			
Report Unique ID	RL02292528083	Group	Water			
Issue date/time	17.07.2025/ 17:28	Sub Group	Drinking Water			
Report Issue to						
M/s - HINDALCO INDUSTRIES LIMITED VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302 MONITORING SITE: BHUSAR BAUXITE MINE		Contact Person	Mr. Ankit Das			
		Contact Number	+91 9971034775			
		Email Id	ankit.das@adityabirla.com			
		Order Date	31.03.2025/ 10:10			
		Order Number	13612313868			
References of Quality Management System (Steps of Traceability Data)						
Customer Registration No.	EPIC/OTH/0229	Sample Booking Number	EPIC-2528083			
Sample(s) Code	2528083	Sample Receipt (D/T)	12.07.2025/ 12:52			
Sampling References						
Type of industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036			
Sampling Start (D/T)	10.07.2025/ 15:11	Sampling End (D/T)	10.07.2025/ 15:16			
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Vishal Kumar & Team			
Sampling method used	IS: 3025 (Part-1) 1987, R-2003					
Description/condition of sample	Receipt sample(s) were fit for analysis.					
Environmental Condition during sampling						
Weather condition	Clear	Temperature (°C)	27			
		Humidity %	70			
		Wind direction	40°-220°			
Sampling Location(s) with GPS coordinate(s)						
S. Location A	Canteen	GPS coordinate	23° 29' 10.25" / 84° 35' 51.64"			
Date(s) of performance of the laboratory activities						
Test start date	12.07.2025/ 13:08	Test completion date	17.07.2025/ 15:00			
--Test Result--						
Sl.	Test Parameters	Method used	Unit	Results	Acceptable Limit	Limits Permissible limit
1.	Fluoride (as F)	APHA 4500 F-C 2023	mg/l	BDL(MDL-0.1)	1.0	1.5
Group-Residues and Contaminants in Water				Sub Group-Trace Metals Elements		
2.	Aluminum	IS 3025 (P-55):2019	mg/l	BDL(MDL-0.1)	0.03	0.2
3.	Boron	IS 3025 (P-57):2021	mg/l	BDL(MDL-0.1)	0.5	1.0
4.	Polychlorinated biphenyls	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.2)	0.5	No relaxation
5.	Polynuclear Aromatic Hydrocarbons (PAH)	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.05)	0.1	No relaxation
Group-Residues and Contaminants in Water				Sub Group-Pesticides		
6.	Alachlor	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	20	No relaxation
7.	Atrazine	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	2.0	No relaxation
8.	Dieldrin	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.02)	0.03	No relaxation
9.	Alpha HCH	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.005)	0.01	No relaxation
10.	Beta HCH	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.02)	0.04	No relaxation
11.	Butachlor	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	125.0	No relaxation
12.	Chloryrifos	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	30.0	No relaxation
13.	Delta HCH	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.02)	0.04	No relaxation
14.	Ethion	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	3.0	No relaxation

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Abbreviations: BDL (Below Detectable Limit), MDL (Minimum Detectable Limit), LoQ (Limit of Quantitation)



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CIN-U74999JH2022PTC019685
PAN-AAHCE38T1M
GST-20AAHCE38T1M12X

Accredited by -
Jharkhand State Pollution Control Board
Certified by -
ISO 9001:2015 and ISO 14001:2015

Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical		
Report Unique ID	RL02292528083	Group	Water		
Issue date/time	17.07.2025/ 17:28	Sub Group	Drinking Water		
Report Issue to					
M/s - HINDALCO INDUSTRIES LIMITED VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302 MONITORING SITE: BHUSAR BAUXITE MINE	Contact Person Mr. Ankit Das Contact Number +91 9971034775 Email Id ankit.das@adityabirla.com Order Date 31.03.2025/ 10:10 Order Number 13612313868				
15. Gamma- HCH(Lindane)	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	2.0	No relaxation
16. Malathion	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	190.0	No relaxation
17. Methyl parathion	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.2)	0.3	No relaxation
18. Monocrotophos	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	1.0	No relaxation
19. Phorate	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	2.0	No relaxation
20. DDT (o, p and p, p-isomer of DDT, DDE and DDD)	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	1.0	No relaxation
21. Endosulfan (alpha, beta, and sulphate)	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.05)	0.4	No relaxation

--Test result End --

Prescribed Limit

IS 10500:2021

Operational Status

Unit was Operational During sampling.

Analysed by - Vishal Mangaraj




Reviewed by
(B.N. Kumar)
Technical Head


Issued by
(Ankit Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



Page 2 of 2

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Abbreviations: - BDL (Below Detectable Limit), MDL (Minimum Detectable Limit), LoQ (Limit of Quantification). |



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CIN: U74999JH2022PTC019683
PAN: AAHCE3611M
GST: 29AAHCE3611M12X

Accredited by -
Jharkhand State Pollution Control Board
Certified by -
ISO 9001:2015 and ISO 45001:2018

Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Biological
Report Unique ID	RL02292528084	Group	Water
Issue date/time	17.07.2025/ 17:31	Sub Group	Drinking Water

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302
MONITORING SITE: BHUSAR BAUXITE MINE

Contact Person
Contact Number
Email Id
Order Date
Order Number

Mr. Ankit Das
+91 9971034775
ankit.das@adityabirla.com
31.03.2025/ 10:10
13612313868

References of Quality Management System (Steps of Traceability Data)

Customer Registration No.	EPIC/OTH/0229	Sample Booking Number	EPIC-2528084
Sample(s) Code	2528084	Sample Receipt (D/T)	12.07.2025/ 12:52

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	10.07.2025/ 15:11	Sampling End (D/T)	10.07.2025/ 15:18
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Vishal Kumar & Team
Sampling method used	IS : 3025 (Part-1) 1987, R-2003		
Description/condition of sample		Receipt sample(s) were fit for analysis.	

Environmental Condition during sampling

Weather condition	Cloudy	Temperature (°C)	27	Humidity %	70	Wind direction	40°-220°
-------------------	--------	------------------	----	------------	----	----------------	----------

Sampling Location(s) with GPS coordinate(s)

S. Location A	Canteen	GPS coordinate	23° 29' 10.25" / 84° 35' 51.64"
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Date(s) of performance of the laboratory activities

Test start date	12.07.2025/ 13:08	Test completion date	17.07.2025/ 15:00
-----------------	-------------------	----------------------	-------------------

--Test Result--

Sl.	Test Parameters	Method used	Unit	Results	Limits
1.	Total Coliform	IS 15185 2002	Per 100 ml	Not Detected	Shall not be detectable in any 100 ml sample
2.	E.Coli	IS 15185 2002	Per 100 ml	Not Detected	

--Test result End --

Prescribed Limit

Operational Status

Analysed by - Sujata Kumar




Reviewed by
(S. Kumar)
Technical Head


Issued by
(Umesh Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.,
Ranchi, Jharkhand

Page 1 of 1

Contractual Note: 1. The laboratory accepts responsibility for content of this report | 2. Test performed at laboratory's permanent facility, at specific environmental condition as method required and results relate only to the sample tested in prescribed Date & time | 3. The Test report shall not be reproduced full or in part & can't be used as proof in the court of law | 4. Any complaint about this report should be communicated in writing within 10 days of its issue | 5. Total liability of EPIC LabTech Pvt. Ltd. will be limited to serviced amount only | 6. All disputes are subjected to Ranchi Jurisdiction and maximum liability of the laboratory does not exceed the testing and sampling charges | 7. Opinion does not imply endorsement of the tested product by laboratory. Under no circumstances, laboratory accepts any claim by use or misuse of this report | 8. When the results are from external provider are marked as * mark | 9. Abbreviations: - BDL (Below Detectable Limit), MDL (Minimum Detectable Limit), LoQ (Limit of Quantitation).



Analytical Test Certificate

Unique Lab Report No.	TC1288725000001031	Discipline	Chemical
Report Unique ID	RL02612534053	Group	Atmospheric Pollution
Issue date/time	26.08.2025/ 12:18	Sub Group	Ambient Air Quality

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302
MONITORING SITE : BHUSAR BAUXITE MINE

Contact Person
Mr. Ankit Das
Contact Number
+91 9971034775
Email Id
ankit.das@adityabirla.com
Order Date
31.03.2025/ 10:10
Order Number
13612313868

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0261	Sample Booking Number	EPIC-2534053
Sample(s) Code	2534053 (A) (B) (C) (D)	Sample Receipt (D/T)	21.08.2025/ 11:06

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	19.08.2025/ 12:21	Sampling End (D/T)	20.08.2025/ 10:00
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team
Sampling method used	IS 5182 and CPCB Air Manual Volume - 1 (NAAQM/36/2012-13)		
Description/condition of sample	Receipt sample(s) were fit for analysis.		

Environmental Condition during sampling

Weather condition	Cloudy	Temperature (°C)	26	Humidity %	70	Wind direction	40°-220°
-------------------	--------	------------------	----	------------	----	----------------	----------

Sampling Location(s) with GPS coordinate(s)

S. Location A	Near View Point 1 (Bhusar Mine Pit I)	GPS coordinate	23° 29' 13.64" / 84° 35' 50.55"
S. Location B	Near View Point 2 (Bhusar Mine Pit II)	GPS coordinate	23° 29' 20.67" / 84° 35' 48.66"
S. Location C	Near Rest Shelter	GPS coordinate	23° 29' 11.89" / 84° 35' 45.82"
S. Location D	Near GTS Point	GPS coordinate	23° 29' 11.17" / 84° 35' 43.41"

Date(s) of performance of the laboratory activities

Test start date	21.08.2025/ 11:26	Test completion date	26.08.2025/ 11:00
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-Test Results-

Sl	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Particulate Matter (PM ₁₀)	IS:5182 (P-23) 2022	µg/m ³	74.98	77.09	71.39	68.53	100 (24 hr)
2.	Fine Particulate Matter (PM _{2.5})	IS:5182 (P-24) 2019	µg/m ³	32.92	34.72	30.87	29.94	60(24 hr)
3.	Sulphur Dioxide (SO ₂)	IS:5182 (P-02) 2023	µg/m ³	06.35	06.97	06.32	06.70	80(24 hr)
4.	Nitrogen Dioxide (NO ₂)	IS:5182 (P-06) 2022	µg/m ³	19.72	21.73	20.66	18.61	80(24 hr)
5.	Ammonia (NH ₃)	IS:5182 (P-25) 2018	µg/m ³	37.52	38.11	38.99	35.18	400(24 hr)
6.	Ozone (O ₃)	IS:5182 (P-09) 2019	µg/m ³	23.30	21.63	20.64	21.97	180(1 hr)
7.	Lead (Pb)	IS:5182 (P-22) 2019	µg/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	1.0(24 hr)
8.	Nickel (Ni)	IS:5182 (P-26) 2020	ng/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	MDL-0.1
9.	Arsenic (As)	USEPA 10.3.2:1999	ng/m ³	BDL (MDL-0.001)	BDL (MDL-0.001)	BDL (MDL-0.001)	BDL (MDL-0.001)	MDL-0.001

-Test Results End -

Prescribed Limit Environmental (Protection) Rules-1996, Schedule VII.

Operational Status Unit was Operational During sampling.

Analysed by - Vishal Mangaraj



Reviewed by
(E.N. Kumar)
Technical Head

Ankit Das
Laboratory Head
Authorized Signatory

EPIC LabTech Pvt. Ltd.



EPIC LabTech Private Limited

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CIN-U74399JH2022PTC019685 Accredited by:
Jharkhand State Pollution Control Board
Certified by:
ISO 9001:2015 and ISO 45001:2018

Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical					
Report Unique ID	RL02612534053	Group	Atmospheric Pollution					
Issue date/time	26.08.2025/ 12:18	Sub Group	Ambient Air Quality					
Report Issue to								
M/s - HINDALCO INDUSTRIES LIMITED VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302 MONITORING SITE : BHUSAR BAUXITE MINE		Contact Person	Mr. Ankit Das					
		Contact Number	+91 9971034775					
		Email Id	ankit.das@adityabirla.com					
		Order Date	31.03.2025/ 10:10					
		Order Number	13612313868					
References of Quality Management System (Steps of Traceability Data)								
Customer Registration No.	EPIC/OTH/0261	Sample Booking Number	EPIC-2534053					
Sample(s) Code	2534053 (A) (B) (C) (D)	Sample Receipt (D/T)	21.08.2025/ 11:06					
Sampling References								
Type of industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036					
Sampling Start (D/T)	19.08.2025/ 12:21	Sampling End (D/T)	20.08.2025/ 10:00					
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team					
Sampling method used	IS 5182 and CPCB Air Manual Volume - 1 (NAAQM/36/2012-13)							
Description/condition of sample	Receipt sample(s) were fit for analysis.							
Environmental Condition during sampling								
Weather condition	Cloudy	Temperature (°C)	26					
		Humidity %	70					
		Wind direction	40°-220°					
Sampling Location(s) with GPS coordinate(s)								
S. Location A	Near View Point 1 (Bhusar Mine Pit I)	GPS coordinate	23° 29' 13.64" / 84° 35' 50.55"					
S. Location B	Near View Point 2 (Bhusar Mine Pit II)	GPS coordinate	23° 29' 20.67" / 84° 35' 48.66"					
S. Location C	Near Rest Shelter	GPS coordinate	23° 29' 11.69" / 84° 35' 45.82"					
S. Location D	Near GTS Point	GPS coordinate	23° 29' 11.17" / 84° 35' 43.41"					
Date(s) of performance of the laboratory activities								
Test start date	21.08.2025/ 11:26	Test completion date	26.08.2025/ 11:00					
-Test Results-								
Sl	Test Parameters	Method used	Unit	A	B	C	D	Limits
1.	Benzene (C ₆ H ₆)	IS:5182(P-11) 2006	µg/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	-
2.	Benzo (a) Pyrene (Bap)- Particulate phase only	IS:5182(P-12) 2004	ng/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	-
3.	Carbon Monoxide (CO)	EPIC/LAB/SOP/AP/01/00	mg/m ³	BDL (MDL-1.8)	BDL (MDL-1.8)	BDL (MDL-1.8)	BDL (MDL-1.8)	-
-Test Results End -								

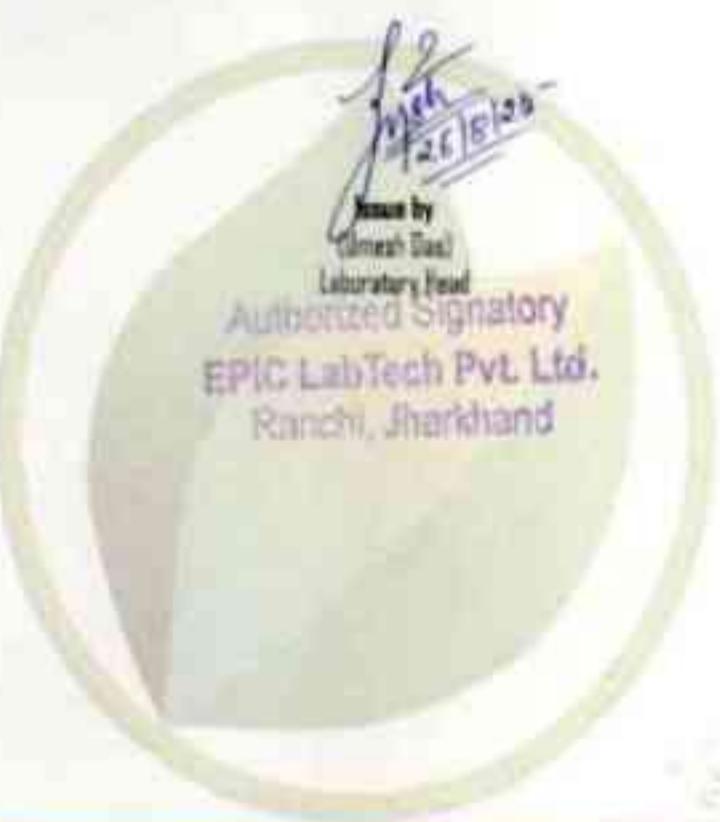
Prescribed Limit Environmental (Protection) Rules-1986, Schedule VII.

Operational Status Unit was Operational During sampling.

Analysed by - Vishal Mangaraj




Reviewed by
(A.N. Kumar)
Technical Head



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Abbreviations - BDL (Below Detectable Limit), MDL (Minimum Detectable Limit), LoQ (Limit of Quantitation)



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PAN - AAHCE3611M
GST - 20AAHCE3611M12X

Accredited by -
NABL, NOC certificate Number TC-12887
Jharkhand State Pollution Control Board
Certified by -
ISO 9001:2015 and ISO 14001:2015

TC-12887

Analytical Test Certificate

Unique Lab Report No.	TC1288725000001032	Discipline	Chemical
Report Unique ID	RL02612534054	Group	Water
Issue date/time	26.08.2025/ 12:21	Sub Group	Ground Water

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302
MONITORING SITE : BHUSAR BAUXITE MINE

Contact Person
Mr. Ankit Das
Contact Number
+91 9971034775
Email Id
ankit.das@adityabirla.com
Order Date
31.03.2025/ 10:10
Order Number
13612313868

References of Quality Management System (Steps of Traceability Chart)

Customer Registration No.	EPIC/OTH/0261	Sample Booking Number	EPIC-2534054
Sample(s) Code	2534054	Sample Receipt (D/T)	21-08-2025/11:09

Sampling References

Type of industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	19.08.2025/ 15:18	Sampling End (D/T)	19.08.2025/ 15:28
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team
Sampling method used	IS : 3025 (Part-1) 1987, R-2003		
Description/condition of sample	Receipt sample(s) were fit for analysis.		

Environmental Condition during sampling

Weather condition	Cloudy	Temperature (°C)	26	Humidity %	70	Wind direction	40°-220°
-------------------	--------	------------------	----	------------	----	----------------	----------

Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Shiv Mandir	GPS coordinate	23° 29' 09.50" / 84° 35' 44.55"
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Date(s) of performance of the laboratory activities

Test start date	21.08.2025/ 12:00	Test completion date	26.08.2025/ 11:00
-----------------	-------------------	----------------------	-------------------

--Test Result--

Sl	Test Parameters	Method used	Unit	Results	Limits	
					Acceptable Limit	Permissible limit
1.	pH value at 25.7°C	IS 3025 (P-11) 2022	-	6.99	6.5-8.5	No relaxation
2.	Turbidity	IS 3025 (P-10) 1984	NTU	0.62	1	5
3.	Colour	IS 3025 (P-04) 2021	Hazen	<5	5	15
4.	Odour	IS 3025 (P-05) 2018	-	Agreeable	Agreeable	Agreeable
5.	Taste	IS 3025 (P-07) 2017	-	Agreeable	Agreeable	Agreeable
6.	Total Dissolved Solids (TDS)	IS 3025 (P-16) 2023	mg/l	238.00	500	2000
7.	Chloride (as Cl)	IS 3025 (P-32) 2019	mg/l	36.27	250	1000
8.	Total Alkalinity (as CaCO ₃)	IS 3025 (P-23) 2019	mg/l	121.74	200	600
9.	Total Hardness (as CaCO ₃)	IS 3025 (P-21) 2009	mg/l	167.35	200	600
10.	Calcium (as Ca)	IS 3025 (P-40) 1991	mg/l	55.29	75	200
11.	Free Residual Chlorine	IS 3025 (P-26) 1986	mg/l	BDL(MDL-0.4)	0.2	1
12.	Sulphate (as SO ₄)	IS 3025 (P-24/Sec-1) 2022	mg/l	2.61	200	400
13.	Nitrate (as NO ₃)	APHA 4500 B 2023	mg/l	2.86	45	No relaxation
14.	Phenolic Compound	IS 3025 (P-43/Sec-1) 2022	mg/l	BDL(MDL-0.001)	0.001	0.002
15.	Magnesium (as Mg)	APHA 3500 Mg E 2023	mg/l	6.51	30	100

Page 1 of 2

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CIN: U74999JH2022PTC03685
PAN: AAHCE3611M
GST: 20AAHCE3611M12X

Accredited by -
NABL, Lab certificate Number TC-12887
Jharkhand Mine Pollution Control Board
Certified by -
ISO 9001:2015 and ISO 45001:2018



TC-12887

Analytical Test Certificate

Unique Lab Report No.	TC1288725000001032	Discipline	Chemical
Report Unique ID	RL02612534054	Group	Water
Issue date/time	26.08.2025/ 12:21	Sub Group	Ground Water

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302
MONITORING SITE : BHUSAR BAUXITE MINE

Contact Person
Contact Number
Email Id
Order Date
Order Number

Mr. Ankit Das
+91 9971034775
ankit.das@adityabirla.com
31.03.2025/ 10:10
13612313868

Group - Residues and Contaminants in Water, Sub Group - Trace Metals Elements

16. Copper (as Cu)	APHA 3111 B 2023	mg/l	BDL(MDL-0.2)	0.05	1.5
17. Iron (as Fe)	APHA 3111 B 2023	mg/l	BDL(MDL-0.1)	1.0	No relaxation
18. Lead (as Pb)	APHA 3111 B 2023	mg/l	BDL(MDL-0.01)	0.01	No relaxation
19. Cadmium (as Cd)	APHA 3111 B 2023	mg/l	BDL(MDL-0.003)	0.003	No relaxation
20. Total Chromium (as Cr)	APHA 3111 B 2023	mg/l	BDL(MDL-0.05)	0.05	No relaxation
21. Nickel (as Ni)	APHA 3111 B 2023	mg/l	BDL(MDL-0.02)	0.02	No relaxation
22. Total Arsenic (as As)	APHA 3114 B 2023	mg/l	BDL(MDL-0.005)	0.01	0.05
23. Selenium (as Se)	APHA 3114 B 2023	mg/l	BDL(MDL-0.005)	0.01	No relaxation
24. Manganese (as Mn)	APHA 3111 B 2023	mg/l	BDL(MDL-0.09)	0.1	0.3
25. Zinc (as Zn)	APHA 3111 B 2023	mg/l	BDL(MDL-0.04)	5	15

-Test Result End--

Prescribed Limit

IS 10500:2021

Operational Status

Unit was Operational During sampling.

Analysed by - Pappu Kumar



Reviewed by
(P.K. Kumar)
Technical Head

Issued by
(Aditya Birla)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.,
Ranchi, Jharkhand



Page 2 of 2

Contracted Notes | 1. The laboratory accepts responsibility for content of this report | 2. Test performed at laboratory's permanent facility at specific environmental condition as method required and results relate only to the sample tested in prescribed Date & time | 3. The Test report shall not be reproduced full or in part & can't be used as proof in the court of law. | 4. Any complaint about this report should be communicated in writing within 10 days of its issue | 5. Total liability of EPIC LabTech Pvt. Ltd. will be limited to invoice amount only. | 6. All disputes are subjected to Ranchi Jurisdiction and maximum liability of the laboratory does not exceed the testing and sampling charges | 7. Opinion does not imply endorsement of the tested product by laboratory. Under no circumstances, laboratory accepts any caused by use or misuse of this report. | 8. When the results are from external provider are marked as * mark. |

Abbreviations: - BDL (Below Detectable Limit), MDL (Minimum Detectable Limit), LoQ (Limit of Quantitation)



Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical
Report Unique ID	RL02612534054	Group	Water
Issue date/time	26.08.2025/ 12:21	Sub Group	Ground Water

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302
MONITORING SITE : BHUSAR BAUXITE MINE

Contact Person
Contact Number
Email Id
Order Date
Order Number

Mr. Ankit Das
+91 9971034775
ankit.das@adityabirla.com
31.03.2025/ 10:10
13612313868

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0261	Sample Booking Number	EPIC-2534054
Sample(s) Code	2534054	Sample Receipt (D/T)	21-08-2025/11:09

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	19.08.2025/ 15:18	Sampling End (D/T)	19.08.2025/ 15:28
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team
Sampling method used	IS : 3025 (Part-1) 1987, R-2003		
Description/condition of sample		Receipt sample(s) were fit for analysis.	

Environmental Condition during sampling

Weather condition	Cloudy	Temperature (°C)	26	Humidity %	70	Wind direction	40°-220°
-------------------	--------	------------------	----	------------	----	----------------	----------

Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Shiv Mandir	GPS coordinate	23° 29' 09.50" / 84° 35' 44.55"
---------------	------------------	----------------	---------------------------------

Date(s) of performance of the laboratory activities

Test start date	21.08.2025/ 12:00	Test completion date	26.08.2025/ 11:00
-----------------	-------------------	----------------------	-------------------

--Test Result--

Sl	Test Parameters	Method used	Unit	Results	Limits	
					Acceptable Limit	Permissible limit
1.	Fluoride (as F)	APHA 4500 F-C 2023	mg/l	BDL(MDL-0.1)	1.0	1.5

Group Residues and Contaminants in Water **Sub Group** Trace Metals Elements

2.	Aluminum	IS 3025 (P-55):2019	mg/l	BDL(MDL-0.1)	0.03	0.2
3.	Boron	IS 3025 (P-57):2021	mg/l	BDL(MDL-0.1)	0.5	1.0
4.	Polychlorinated biphenyls	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.2)	0.5	No relaxation
5.	Polynuclear Aromatic Hydrocarbons (PAH)	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.05)	0.1	No relaxation

Group Residues and Contaminants in Water **Sub Group** Pesticides

6.	Alachlor	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	20	No relaxation
7.	Atrazine	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	2.0	No relaxation
8.	Dieldrin	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.02)	0.03	No relaxation
9.	Alpha HCH	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.005)	0.01	No relaxation
10.	Beta HCH	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.02)	0.04	No relaxation
11.	Butachlor	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	125.0	No relaxation
12.	Chlopyriphos	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	30.0	No relaxation
13.	Delta HCH	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.02)	0.04	No relaxation
14.	Ethion	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	3.0	No relaxation

Page 1 of 2

Contractual Notes : 1. The laboratory accepts responsibility for content of this report | 2. Test performed at laboratory's permanent facility at specific environmental condition as method required and results relate only to the sample treated in prescribed Date & time | 3. The Test report shall not be reproduced full or in part & can't be used as proof in the court of law | 4. Any complaint about this report should be communicated in writing within 10 days of its issue | 5. Total liability of EPIC LabTech Pvt. Ltd. will be limited to lossless amount only | 6. All disputes are subjected to Ranchi Jurisdiction and maximum liability of the laboratory does not exceed the testing and sampling charges | 7. Opinion does not imply endorsement of the tested product by laboratory. Under no circumstances, laboratory accepts any claim by user or misuse of this report | 8. When the results are from external provider are marked as * mark |

Abbreviations : - BDL (Below Detectable Limit), MDL (Minimum Detectable Limit), LoQ (Limit of Quantitation)



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CIN-U74899JH2022PTC019643
PAN-AAHCE3611M
GST-20AAHCE3611M12X

Accredited by -
Jharkhand State Pollution Control Board
Certified by -
ISO 9001:2015 and ISO 45001:2018

Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical
Report Unique ID	RL02612534054	Group	Water
Issue date/time	26.08.2025/ 12:21	Sub Group	Ground Water

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302
MONITORING SITE: BHUSAR BAUXITE MINE

Contact Person
Contact Number
Email Id
Order Date
Order Number

Mr. Ankit Das
+91 9971034775
ankit.das@adityabirla.com
31.03.2025/ 10:10
13612313868

15. Gamma- HCH(Lindane)	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	2.0	No relaxation
16. Malathion	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	190.0	No relaxation
17. Methyl parathion	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.2)	0.3	No relaxation
18. Monocrotophos	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	1.0	No relaxation
19. Phorate	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	2.0	No relaxation
20. DDT (o, p and p, p-isomer of DDT, DDE and DDD)	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	1.0	No relaxation
21. Endosulfan (alpha, beta, and sulphate)	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.05)	0.4	No relaxation

--Test result End --

Prescribed Limit

IS 10500:2021

Operational Status

Unit was Operational During sampling.



Reviewed by
(B.N. Kumar)
Technical Head

Issued by
(Ankit Das)
Laboratory Head
Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



EPIC LabTech Private Limited

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CIN: U74999JH2022PTC019685
PAN: AAHCE3611M
GST: 20AAHCE3611M12X

Accredited by -
Bihar State Pollution Control Board
Certified by -
ISO 9001:2015 and ISO 45001:2018

Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Biological
Report Unique ID	RL02612534055	Group	Water
Issue date/time	26.08.2025/ 12:24	Sub Group	Ground Water

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302
MONITORING SITE: BHUSAR BAUXITE MINE

Contact Person
Contact Number
Email Id
Order Date
Order Number

Mr. Ankit Das
+91 9971034775
ankit.das@adityabirla.com
31.03.2025/ 10:10
13612313868

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0261	Sample Booking Number	EPIC-2534055
Sample(s) Code	2534055	Sample Receipt (D/T)	21-08-2025/11:09

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	19.08.2025/ 15:18	Sampling End (D/T)	19.08.2025/ 15:28
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team
Sampling method used	IS : 3025 (Part-1) 1987, R-2003		
Description/condition of sample	Receipt sample(s) were fit for analysis.		

Environmental Condition during sampling

Weather condition	Cloudy	Temperature (°C)	26	Humidity %	70	Wind direction	40°-220°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Shiv Mandir	GPS coordinate	23° 29' 09.50" / 84° 35' 44.55"
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Date(s) of performance of the laboratory activities

Test start date	21.08.2025/ 12:00	Test completion date	26.08.2025/ 11:00
-----------------	-------------------	----------------------	-------------------

--Test Result--

Sl	Test Parameters	Method used	Unit	Results	Limits
1.	Total Coliform	IS 15185:2002	Per 100 ml	Not Detected	Should not be detectable in any 100 ml sample
2.	E. Coli	IS 15185:2002	Per 100 ml	Not Detected	

--Test result End --

Prescribed Limit

IS 10500:2021

Operational Status

Unit was Operational During sampling.

Analyzed by - Sujata Kumari


Reviewed by
(S. Kumari)
Technical Head


Ankit Das
Issued by
(Ankit Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand





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PAN: AAHCE3511M
GST: 20AAHCE3511M12X

Accredited by :-
NABL, Noida certificate Number TC- 12887
Jharkhand State Pollution Control Board
Certified by :-
ISO 9001:2015 and ISO 14001:2015

TC-12887

Analytical Test Certificate

Unique Lab Report No.	TC1288725000001196	Discipline	Chemical
Report Unique ID	RL02892538001	Group	Atmospheric Pollution
Issue date/time	18-09-2025/17:00	Sub Group	Ambient Air Quality

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302
MONITORING SITE : BHUSAR BAUXITE MINE

Contact Person
Mr. Ankit Das
Contact Number
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Email Id
ankit.das@adityabirla.com
Order Date
31.03.2025/ 10:10
Order Number
13612313868

References of Quality Management System (Steps of Traceability Data)

Customer Registration No.	EPIC/OTH/0289	Sample Booking Number	EPIC-2538001
Sample(s) Code	2538001 (A) (B) (C) (D)	Sample Receipt (D/T)	15.09.2025/ 10:28

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	12.09.2025/ 12:37	Sampling End (D/T)	13.09.2025/ 10:05
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team
Sampling method used	IS 5182 and CPCB Air Manual Volume - 1 (NAAQM/36/2012-13)		
Description/condition of sample	Receipt sample(s) were fit for analysis.		

Environmental Condition during sampling

Weather condition	Cloudy	Temperature (°C)	26	Humidity %	69	Wind direction	135°-315°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Near View Point 1 (Bhusar Mine Pit I)	GPS coordinate	23° 29' 13.64" / 84° 35' 50.55"
S. Location B	Near View Point 2 (Bhusar Mine Pit II)	GPS coordinate	23° 29' 20.67" / 84° 35' 48.66"
S. Location C	Near Rest Shelter	GPS coordinate	23° 29' 11.69" / 84° 35' 45.82"
S. Location D	Near GTS Point	GPS coordinate	23° 29' 11.17" / 84° 35' 43.41"

Date(s) of performance of the laboratory activities

Test start date	15.09.2025/ 10:48	Test completion date	18.09.2025/ 16:00
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-Test Results-

Sl	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Particulate Matter (PM ₁₀)	IS:5182 (P-23) 2022	µg/m ³	56.97	57.99	52.98	60.02	100 (24 hr)
2.	Fine Particulate Matter (PM _{2.5})	IS 5182 (P-24) 2019	µg/m ³	24.84	25.29	25.73	28.05	50(24 hr)
3.	Sulphur Dioxide (SO ₂)	IS:5182 (P-02) 2023	µg/m ³	07.08	07.44	07.80	06.67	80(24 hr)
4.	Nitrogen Dioxide (NO ₂)	IS:5182 (P-06) 2022	µg/m ³	18.62	19.64	19.61	19.57	80(24 hr)
5.	Ammonia (NH ₃)	IS:5182 (P-25) 2018	µg/m ³	25.80	26.09	24.04	25.80	400(24 hr)
6.	Ozone (O ₃)	IS:5182 (P-08) 2019	µg/m ³	17.97	17.64	18.64	18.31	180(1 hr)
7.	Lead (Pb)	IS:5182 (P-22) 2019	µg/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	1.0(24 hr)
8.	Nickel (Ni)	IS:5182 (P-26) 2020	ng/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	
9.	Arsenic (As)	USEPA ID 3.2:1999	ng/m ³	BDL (MDL-0.001)	BDL (MDL-0.001)	BDL (MDL-0.001)	BDL (MDL-0.001)	

-Test Results End -

Prescribed Limit Environmental (Protection) Rules-1986, Schedule VII.

Operational Status Unit was Operational During sampling.

Analysed by - Vishal Mangaraj

Reviewed by
(B.N. Kumar)
Technical Head

Issue by
(B.N. Kumar)
Laboratory Head

Authorized Signatory

EPIC LabTech Pvt. Ltd.

B.N. Kumar

Page 1 of 1

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Abbreviations: - BDL (Below Detectable Limit), MDL (Minimum Detectable Limit), LoQ (Limit of Quantitation).



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CIN: U74999JH2022PTC019685 Accredited by:-
Jharkhand State Pollution Control Board
Certified by:-
ISO 9001:2015 and ISO 45001:2018

Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical
Report Unique ID	RL02892538001	Group	Atmospheric Pollution
Issue date/time	18-09-2025/17:00	Sub Group	Ambient Air Quality

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302
MONITORING SITE : BHUSAR BAUXITE MINE

Contact Person
Mr. Ankit Das
Contact Number
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Email Id
ankit.das@adityabirla.com
Order Date
31.03.2025/ 10:10
Order Number
13612313868

References of Quality Management System (Steps of Traceability Chart)

Customer Registration No.	EPIC/OTH/0289	Sample Booking Number	EPIC-2538001
Sample(s) Code	2538001 (A) (B) (C) (D)	Sample Receipt (D/T)	15.09.2025/ 10:28

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	12.09.2025/ 12:37	Sampling End (D/T)	13.09.2025/ 10:05
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team
Sampling method used	IS 5182 and CPCB Air Manual Volume - 1 (NAAQM/36/2012-13)		
Description/condition of sample	Receipt sample(s) were fit for analysis.		

Environmental Condition during sampling

Weather condition	Cloudy	Temperature (°C)	26	Humidity %	69	Wind direction	135°-315°
-------------------	--------	------------------	----	------------	----	----------------	-----------

Sampling Location(s) with GPS coordinate(s)

S. Location A	Near View Point 1 (Bhusar Mine Pit I)	GPS coordinate	23° 29' 13.64" / 84° 35' 50.55"
S. Location B	Near View Point 2 (Bhusar Mine Pit II)	GPS coordinate	23° 29' 20.67" / 84° 35' 48.66"
S. Location C	Near Rest Shelter	GPS coordinate	23° 29' 11.69" / 84° 35' 45.82"
S. Location D	Near GTS Point	GPS coordinate	23° 29' 11.17" / 84° 35' 43.41"

Date(s) of performance of the laboratory activities

Test start date	15.09.2025/ 10:48	Test completion date	18.09.2025/ 16:00
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--Test Results--

Sl.	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Benzene (C ₆ H ₆)	IS:5182(P-11) 2006	µg/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	-
2.	Benzo (a) Pyrene (Bap)- Particulate phase only	IS:5182(P-12) 2004	ng/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	-
3.	Carbon Monoxide (CO)	EPIC/LAB/SOP/AP/01/00	mg/m ³	BDL (MDL-1.8)	BDL (MDL-1.8)	BDL (MDL-1.8)	BDL (MDL-1.8)	-

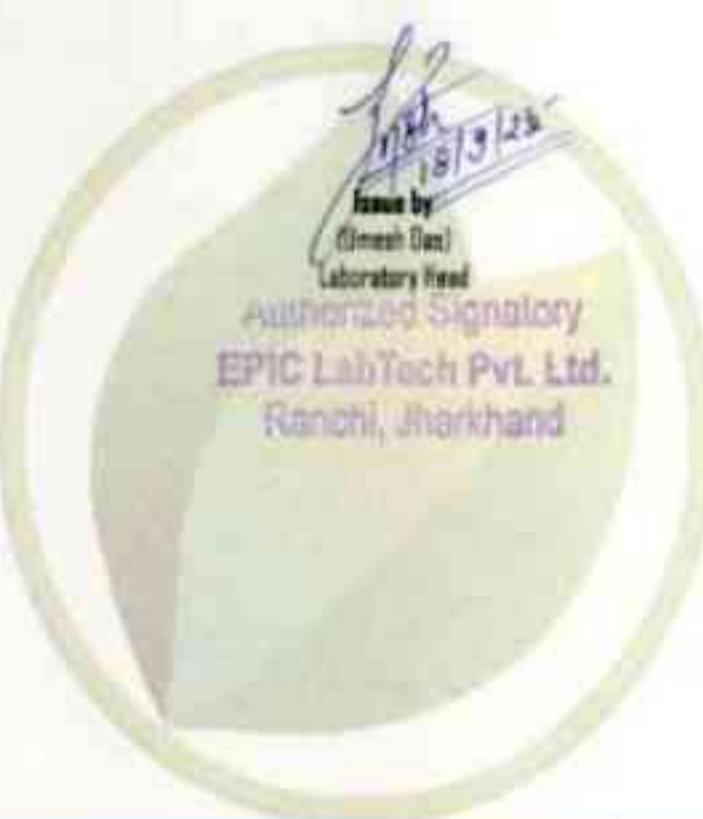
--Test Results End --

Prescribed Limit Environmental (Protection) Rules-1986, Schedule VII.

Operational Status Unit was Operational During sampling.

Analysed by - Vishal Mangaraj


Reviewed by
(R.K. Kumar)
Technical Head



Page 1 of 1

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PAN - AAHCE3611M
GST - 20AAHCE3611M2K



TC-12887

Analytical Test Certificate

Unique Lab Report No.	TC1288725000001197	Discipline	Chemical
Report Unique ID	RL02892538002	Group	Water
Issue date/time	18-09-2025/17:03	Sub Group	Surface Water

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,
DIST-LOHARDAGA, STATE-JHARKHAND, INDIA 835302
MONITORING SITE: BHUSAR BAUXITE MINE

Contact Person
Mr. Ankit Das
Contact Number
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Email Id
ankit.das@adityabirla.com
Order Date
31.03.2025/ 10:10
Order Number
13612313868

References of Quality Management System (Steps of Traceability Data)

Customer Registration No.	EPIC/OTH/0289	Sample Booking Number	EPIC-2538002
Sample(s) Code	2538002	Sample Receipt (D/T)	15.09.2025/ 10:29

Sampling References

Type of industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	12.09.2025/ 16:10	Sampling End (D/T)	12.09.2025/ 16:20
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team
Sampling method used	IS : 3025 (Part-1) 1987, R-2003		
Description/condition of sample	Receipt sample(s) were fit for analysis.		

Environmental Condition during sampling

Weather condition	Cloudy	Temperature (°C)	26	Humidity %	69	Wind direction	135°-315°
-------------------	--------	------------------	----	------------	----	----------------	-----------

Sampling Location(s) with GPS coordinate(s)

S. Location A	Near View Point I (Bhusar Mine Pit I)	GPS coordinate	23° 29' 13.20" / 84° 35' 50.63"
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Date(s) of performance of the laboratory activities

Test start date	15.09.2025/ 10:49	Test completion date	18.09.2025/ 15:10
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--Test Result--

Sl.	Test Parameters	Method used	Unit	Results	Limits
1.	pH value at 25°C	IS 3025 (P-11) 2022	-	7.98	-
2.	Total Dissolved Solids (TDS)	IS 3025 (P-16) 2023	mg/l	120.00	-
3.	Calcium (as Ca)	IS 3025 (P-40) 1991	mg/l	7.60	-

Group - Residues and Contaminants in Water.

4. Iron (as Fe)	APHA 3111 B 2023	BDL(MDL-0.1)
-----------------	------------------	--------------

--Test result End --

Operational Status
Unit was Operational During sampling.

Analyzed by - Pappu Kumar



Reviewed by
(Pappu Kumar)
Technical Head

Issued by
(Ankit Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



EPIC LabTech Private Limited

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CIN: U74999JH2022PTC019685 Accredited by:
Jharkhand State Pollution Control Board
Certified by:
ISO 9001:2015 and ISO 14001:2015

Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical
Report Unique ID	RL02892538002	Group	Water
Issue date/time	18-09-2025/17:03	Sub Group	Surface Water

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302
MONITORING SITE: BHUSAR BAUXITE MINE

Contact Person
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Contact Number
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Email Id
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Order Date
31.03.2025/ 10:10
Order Number
13612313868

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0289	Sample Booking Number	EPIC-2538002
Sample(s) Code	2538002	Sample Receipt (D/T)	15.09.2025/ 10:29

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	12.09.2025/ 16:10	Sampling End (D/T)	12.09.2025/ 16:20
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team
Sampling method used	IS : 3025 (Part-1) 1987, R-2003		
Description/condition of sample		Receipt sample(s) were fit for analysis.	

Environmental Condition during sampling

Weather condition	Cloudy	Temperature (°C)	26	Humidity %	69	Wind direction	135°-315°
-------------------	--------	------------------	----	------------	----	----------------	-----------

Sampling Location(s) with GPS coordinate(s)

S. Location A	Near View Point I (Bhusar Mine Pit I)	GPS coordinate	23° 29' 13.20" / 84° 35' 50.63"
---------------	---------------------------------------	----------------	---------------------------------

Data(s) of performance of the laboratory activities

Test start date	15.09.2025/ 10:49	Test completion date	18.09.2025/ 15:10
-----------------	-------------------	----------------------	-------------------

--Test Result--

Sl	Test Parameters	Method used	Unit	Results	Limits
1.	Dissolve Oxygen (DO)	IS 3025 (P-38) 1989	mg/l	5.1	-
2.	Temperature	IS 3025 (P-09) 1986	°C	25.3	-
3.	BOD (3days at 27°C)	IS 3025 (P-44) 2000	mg/l	2.2	-
4.	COD	IS 3025 (P-58) 2006	mg/l	24.00	-
5.	Total Suspended Solids (TSS)	IS 3025 (P-17) 2022	mg/l	13.00	-
6.	Oil & Grease	IS 3025 (P39) 2021	mg/l	BDL(MDL-04)	-

Group - Residues and Contaminants in Water,

7.	Aluminum (as Al)	IS 3025 (P-55) 2003	-	Sub Group - Trace Metals Elements
----	------------------	---------------------	---	-----------------------------------

Operational Status	Unit was Operational During sampling.
--------------------	---------------------------------------

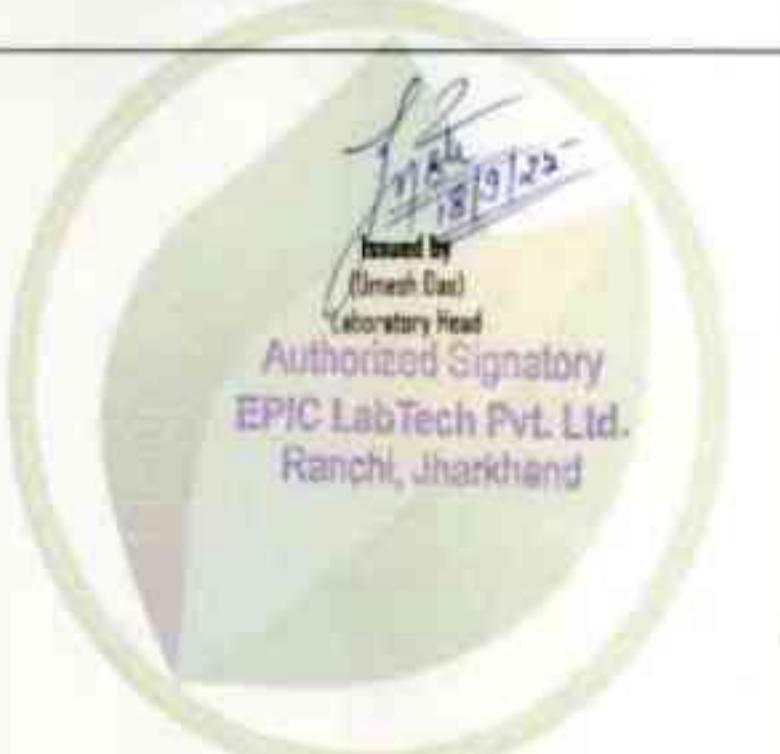
Analysed by - Pappu Kumar



Reviewed by
(B.K. Kumar)
Technical Head

Reviewed by
(B.K. Kumar)
Technical Head

--Test result End--





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GST - 20XANCE3611M12X

Accredited by -
NABL, with certificate Number TC - 12887
Jharkhand State Pollution Control Board
Certified by -
ISO 9001:2015 and ISO 45001:2018



TC-12887

Analytical Test Certificate

Unique Lab Report No.	TC1288725000001198	Discipline	Chemical
Report Unique ID	RL02892538003	Group	Pollution & Environment
Issue date/time	18-09-2025/17:06	Sub Group	Soil/Sediments

Report Issue to

M/s - HINDALCO INDUSTRIES LIMITED
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302
MONITORING SITE : BHUSAR BAUXITE MINE

Contact Person
Mr. Ankit Das
Contact Number
+91 9971034775
Email Id
ankit.das@adityabirla.com
Order Date
31.03.2025/ 10:10
Order Number
13612313868

References of Quality Management System (Steps of Traceability Data)

Customer Registration No.	EPIC/OTH/0289	Sample Booking Number	EPIC-2538003
Sample(s) Code	2538003	Sample Receipt (D/T)	15.09.2025/ 10:37

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	12.09.2025/ 15:40	Sampling End (D/T)	12.09.2025/ 15:50
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team
Sampling method used	EPIC/LAB/SOP/PE/01/00		
Description/condition of sample	Receipt sample(s) were fit for analysis.		

Environmental Condition during sampling

Weather condition	Cloudy	Temperature (°C)	26	Humidity %	69	Wind direction	135°-315°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Near View Point I (Bhusar Mine Pit I)	GPS coordinate	23° 29' 13.20" / 84° 35' 50.63"
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Date(s) of performance of the laboratory activities

Test start date	15.09.2025/ 11:30	Test completion date	18.09.2025/ 15:30
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Test Result

Sl.	Test Parameters	Method used	Unit	Results	Limits
1.	pH value at 25.7°C	MAGI 2011	-	6.85	-
2.	Available Phosphorus	MAGI 2011	Kg/ha	2.7	-
3.	Available Potassium	MAGI 2011	Kg/ha	92.50	-
4.	Organic Carbon	MAGI 2011	%	1.50	-
5.	Electrical Conductivity	MAGI 2011	µs/cm	140.9	-
6.	Magnesium	MAGI 2011	mg/kg	49.36	-
7.	Nitrogen	MAGI 2011	%	0.15	-
8.	Arsenic (as As)	USEPA 3050 B 1996	mg/kg	BDL(MDL-0.005)	-
9.	Cadmium (as Cd)	USEPA 3050 B 1996	mg/kg	0.65	-
10.	Selenium (as Se)	USEPA 3050 B 1996	mg/kg	BDL(MDL-0.006)	-

Test result End

Operational Status

Analyzed by - Ishika Singh

Unit was Operational During sampling.



Reviewed by
(E.K. Kumar)
Technical Head

Issued by
(Ankit Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.

Page 1 of 1

Contractual Notes : 1. The laboratory accepts responsibility for content of this report | 2. Test performed at laboratory's permanent facility. All samples are analyzed in the same condition as method required and results relate only to the sample tested in prescribed Date & time | 3. The Test report shall not be reproduced full or in part & can't be used as proof in the court of law | 4. Any complaint about this report should be communicated in writing within 10 days of its issue | 5. Total liability of EPIC LabTech Pvt. Ltd. will be limited to incurred amount only | 6. All disputes are subjected to Ranchi Jurisdiction and maximum liability of the laboratory does not exceed the testing and sampling charges | 7. Opinion does not imply endorsement of the tested product by laboratory. Under no circumstances, laboratory accepts any caused by use or misuse of this report | 8. When the results are from external provider are marked as * mark. |

Abbreviations : BDL (Below Detectable Limit), MDL (Minimum Detectable Limit), LoQ (Limit of Quantitation)



EPIC LabTech Private Limited

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CINL-U74599JH2022PTC019683
PAN - AAHCE3611M
GST: 20AAHCE3611M12X

Accredited by -
Jharkhand State Pollution Control Board
Certified by -
ISO 9001:2015 and ISO 45001:2018

Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical
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References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0289	Sample Booking Number	EPIC-2538003
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Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	12.09.2025/ 15:40	Sampling End (D/T)	12.09.2025/ 15:50
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team
Sampling method used	EPIC/LAB/SOP/PE/01/00		
Description/condition of sample		Receipt sample(s) were fit for analysis.	

Environmental Condition during sampling

Weather condition	Cloudy	Temperature (°C)	26	Humidity %	69	Wind direction	135°-315°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Near View Point I (Bhusar Mine Pit I)	GPS coordinate	23° 29' 13.20" / 84° 35' 50.63"
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Date(s) of performance of the laboratory activities

Test start date	15.09.2025/ 11:30	Test completion date	18.09.2025/ 15:30
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Test Result

Sl	Test Parameters	Method used	Unit	Results	Limits
1.	Chloride (as Cl)	EPIC/LAB/SOPPE/01/00	%	0.085	-
2.	Mercury (as Hg)	USEPA 3050 B 1996	mg/kg	BDL(MDL-0.005)	-

Test result End

Operational Status
Unit was Operational During sampling.

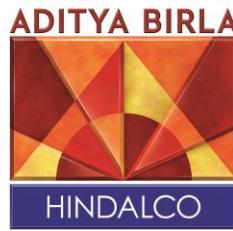


Analyzed by - Ishika Singh

Reviewed by
(S.N. Kumar)
Technical Head

Issued by
(Ankit Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.,
Ranchi, Jharkhand



Annexure 3

Date – 01.11.2025

Office Order

Environmental Cell has been re-constituted for Bagru Group of Mines (Bagru Bauxite Mine, Bhusar Bauxite Mine and Hisri New Bauxite Mine). This cell consists of the following team members who will ensure compliance with the Environment Acts, Rules & Regulations in respect of the said mines of Hindalco Industries Limited.

1. Mr. Shambhu Vashistha (Coordinator)
2. Mr. Malaya Prusty (Geologist)
3. Mr. Girija Tamrakar (Environment Engineer)
4. Mr. Anand Prakash Tiwari (Environment Engineer)

The Undersigned is the in charge of above Environment Management Cell constituted for the purpose of ensuring compliances of environmental acts, rules and regulations for the above mines.



Basudev Gangopadhyay
AVP (Planning, Environment & Compliance)

Annexure 4

Production, Mined Out, Back Filled and Over Burden removal from April 2025 to September 2025								
S No	Name of the Mines	Mining lease area (ha)	Production Capacity (MT)*	Lease Period*	Production (MT)	Mined out area (ha)	Backfilled area (ha)	Over burden (Cu.M)
1	Bagru Bauxite Mine	75.41	85000	22.01.1974 to 31.03.2030	NIL	NIL	NIL	NIL
2	Bhusar Bauxite Mine	65.31	280000	11.07.1981 to 31.03.2030	79390	0.21	0.45	87427.68
3	Hisri (New) Bauxite Mine	14.55	100000	19.07.1981 to 31.03.2030	41829	0.11	0.23	13246.30
4	Pakhar (8.09) Bauxite Mine	8.09	80000	16.05.1973 to 31.03.2030	NIL	NIL	NIL	NIL
5	Pakhar (35.12) Bauxite Mine	35.12	200000	17.04.1975 to 31.03.2030	NIL	NIL	NIL	NIL
6	Pakhar (115.13) Bauxite Mine	115.13	300000	19.07.1996 to 31.03.2030	124975	1.58	0.50	153576.56
7	Sherangdag-A Bauxite Mine	155.81	260000	16.10.1974 to 31.03.2030	500	0.03	0.01	0.00
8	Serangdag-B Bauxite Mine	77.89	100000	04.10.1978 to 31.03.2030	57100	2.01	1.60	70755.24
9	Jalim & Sanai Bauxite Mine	12.14	50000	16.10.1974 to 31.03.2030	8547	0.13	0.10	8842.10
10	Gurdari Bauxite Mine	584.19	325000	23.03.1985 to 22.03.2035	94470	4.30	3.31	125642.99
11	Kujam - I Bauxite Mine	80.87	150000	13.03.2006 to 12.03.2056	NIL	NIL	NIL	NIL
12	Kujam - II Bauxite Mine	157.38	300000	24.03.2006 to 23.03.2056	63140	1.67	0.51	56988.56
13	Amtipani Bauxite Mine	190.95	150000	13.03.2006 to 12.03.2056	93765	3.168	1.21	209999.64

Annexure 4

Minerals & Minerals Limited								
14	Pakhar (109.507) Bauxite Mine	109.507	280000	26.07.2008 to 25.07.2058	100280	1.630	0.72	175833.99
15	Pakhar (15.58) Bauxite Mine	15.58	60000	28.04.1965 to 31.03.2030	NIL	NIL	NIL	NIL
16	Bimarla Bauxite Mine	134.526	300000	18.07.2009 to 17.07.2059	77100	0.849	0.30	62788.97
17	Amtipani Chirodih Bauxite Mine	130.01	450000	11.01.2017 to 10.01.2067	157400	5.320	4.600	218030.43

*Static information about the mines included in the above table



Basudev Gangopadhyay
AVP (Planning, Environment and Compliance)

Annexure-5

BREAK UP THE COST OF ENVIRONMENTAL MEASURES DURING THE YEAR 2025-26

The composite cost during the year 2025-26 for environmental protection & pollution control by Jharkhand Mines division of M/s Hindalco Industries Ltd & M/s Minerals & Minerals Ltd for implementation of the suggested measures in EC at our all the operating mines in the state of Jharkhand-namely Bagru (75.41 ha), Hisri New (14.55 ha), Bhusar (65.31 ha), Pakhar (115.13 ha), Pakhars (109.507 ha), Pakhar (15.58 ha), Pakhar (8.09 ha), Pakhar (35.12 ha), Sherangdag (155.81 ha), Serangdag (77.89 ha), Jalim & Sanai (12.14 ha), Bimarla Bauxite Mines (134.526 ha), Gurdari (584.19 ha), Amtipani (190.95 ha), Kujam I (80.87 ha) Kujam II (157.38 ha), and Amtipani Chirodih (130.01 ha) Bauxite mines.

S. No	Description	Budget (in Rupees) FY 2025-26 (From Apr'25 to Sep'25)	Actual (in Rupees) FY 2025-26 (From Apr'25 to Sep'25)
1	Pollution Control and Environmental Monitoring	1,71,00,000	59,45,184
2	Reclamation/ Back filing & Rehabilitation**	2,04,00,000	1,19,00,000
3	Green belt, Plantation & Water sprinkling arrangement	1,20,00,000	42,73,045
4	Rural Development	7,92,00,000	2,59,84,599

**Part of OB removed cost



Basudev Gangopadhyay
AVP (Planning, Environment & Compliance)