

# MINERALS & MINERALS LIMITED

Regd. Office- Court Road, P.O. & Distt.-Lohardaga, Jharkhand-835302

Tel.-06526-223163

CIN NO. U26990JH1970PLC000875

Ref. :

Date .....

M&M/LHD/ENV/MoEF&CC/406

Date: 24<sup>th</sup> November 2025

To,

**The Dy. Director General of Forest (C)**

**Ministry of Environment, Forests and Climate Changes**

**2<sup>nd</sup> Floor, Headquarter-Jharkhand State Housing Board**

**Harmu Chowk, Ranchi, Jharkhand-834002**

**Sub:** Six Monthly EC Compliance Report for Pakhar (15.58 Ha) Bauxite Mining Project of M/s Minerals & Minerals Limited, Lohardaga Jharkhand for the period from April 2025 to September 2025.

**Ref:** Environmental Clearance Letter No. J-11015/123/2009-IA.II (M) dated 24<sup>th</sup> January 2007.

Dear Sir,

With reference to the above, we are submitting herewith the Compliance status report of EC conditions for **Pakhar (15.58 ha)** Bauxite Mining Project of **M/s Minerals & Minerals 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
15.58	60000	28.04.1965 to 31.03.2030

Hope you will find the same in order.

Thanking You

Yours faithfully,

For **Minerals & Minerals Limited**



**Basudev Gangopadhyay**

**AVP (Planning, Environment & Compliance)**

Enclosure: - As Above

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

**Name of the Project** : **Pakhar Bauxite Mine (15.58 ha)**  
**M/s Minerals & Minerals Limited**

**Environment Clearance No. & date** : **J-11015/123/2006-IA.II(M), dated 24.01.2007**

**Period of compliance Report** : **From 1<sup>st</sup> April 2025 to 30<sup>th</sup> September 2025**

**Specific Conditions: -**

**Condition i: - All the conditions stipulated by SPCB in their NOC shall be effectively implemented.**

**Reply: -** Implementations of the 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 31.03.2026. Productions of bauxite are within limits specified in consent to operate.

**Condition ii:-The environmental clearance is subject to approval of the state land use Department, Government of Jharkhand for diversion of agricultural land for non-agricultural use.**

**Reply: -** Land acquisition is being done with the permission of competent authority of State Government i.e. concerned Deputy Commissioner (D.C.) under CNT Act. The land lease agreement is being done with raiyat (Landowner) after permission of State Govt with provision of returning the land as per the norms set by D.C. The compensation and facilities are being provided as per norms set in agreement. Thus, land acquisition has the approval of the State Government.

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

**Reply: -** The mining operation is confined within shallow depth and not intersected ground water. In future also, working zones will be restricted to above ground water table. We undertake that no mining is/was carried out below ground water 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 operation.**

**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 water courses.

**Condition v: - Topsoil shall be stacked properly with proper slope with adequate measures and should be used for reclamation and rehabilitation of mined out areas.**

**Reply: -** Topsoil is being stacked properly with proper slope as and when required for its use for reclamation and rehabilitation. Sequential backfilling and reclamation of the mined-out area are being exercised during mining operation. The mining is being carried out as per the approved

mining plan. Monitoring and management of rehabilitated areas is being done through effective supervision.



Reclamation of mined out area

**Condition vi: - The waste generated shall be concurrently backfilled in the mined-out area. There shall be no external OB dump. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forest on six monthly basis.**

**Reply: -** Overburden and waste rock from the mining pit are being used for concurrent backfilling. A very small quantity of OB is left out, which will be used for concurrent backfilling and reclamation with the progress of mining activity in due course of time. Thus, there will not be any external dump at the end of mine life.

Data pertaining to backfilling is enclosed as **Annexure 4**.

**Condition vii: - Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from mine working. 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 (size, gradient and length) shall be constructed for mine pit 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 setting 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.



Garland Drain

**Condition viii: - Plantation shall be raised in an area of 6.98 ha including a green belt of adequate width by planting the native species around the ML area, roads, reclaimed area etc. in consultation with the local DFO / Agriculture Department. The density of the trees should be around 1500 plants per ha.**

**Reply: -** Plantation is being carried out around ML area with progress of mining. During FY 2025–26, a total of 1050 saplings have been planted within the mining lease area. Cumulatively, plantation has been carried out over 4.17 acres till date. In addition to this agricultural activity is going on reclaimed land.



Plantation at Mines

**Condition ix: - The project proponent shall ensure that there shall be no discharge from the mine.**



**Reply:** - Ensured. There is no discharge from mine.

**Condition x:** - The Project proponent shall carry out regular monitoring of spring discharge and its quality near Pakhar village on long term basis.

**Reply:** - Water Quality near Pakhar village is being monitored. Analysis report is attached as Annexure 2.

**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 augmentation of ground water in our adjacent mine of Pakhar Plateau, in consultation with Central Ground Water Board



Rainwater Harvesting Pond

**Condition xii:** - Regular monitoring of ground water level and quality should be carried out 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 – pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to MOEF, Central Ground water Authority and Regional Director Central Ground Water Board.

**Reply:** - We are not using ground water for any mining purpose. 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. A Piezometer has been installed for monitoring of ground water level. Water level and water quality reports are being sent regular to regional office of Ministry, CGWA and JSPCB. The same is attached herewith as Annexure 1 & 2. Now, Regional office of MoEF&CC is in Ranchi.



Piezometer

**Condition xiii: - Prior permission from the competent authority should be obtained for drawl of water from the surface water bodies.**

**Reply:** - We are not using any water from natural streams/ ground water for mining operation. Rainwater harvesting ponds with proper fencing have been already constructed water in our adjacent mine of Pakhar Plateau. Rainwater harvested during rainy season is being used for sprinkling on haul roads and raising plantation.

However, we have already obtained NOC for extraction of ground water from CGWA/ CGWB for drinking purpose only. The copy of same NOC is attached below.

भारत सरकार जल शक्ति मंत्रालय जल संसाधन विभाग, केन्द्रीय भूमि जल प्राधिकरण GOVERNMENT OF INDIA MINISTRY OF JAL SHAKTI DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION CENTRAL GROUND WATER AUTHORITY		 सत्यमेव जयते			
भूजल निकासी हेतु अनापत्ति प्रमाण पत्र NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION					
PROJECT NAME PAKHAR BAUXITE MINING PROJECT (15.58 HA)					
PROJECT ADDRESS PAKHAR BAUXITE MINING PROJECT VILL - PAKHAR, TEHSIL - KISKO				PIN CODE 835302	
STATE JHARKHAND		DISTRICT LOHARDAGA		TOWN/BLOCK KISKO	
COMMUNICATION ADDRESS COURT ROAD					
ADDRESS OF CGWB REGIONAL OFFICE 6th & 7th Floor, Lok Nayak Jai Prakash Bhawan, Frazer Road, Dak Banglow, Patna- 800011, Bihar.					
1. NOC NO. NOC/MIN/JH/2024/49/R-2/2		2. DATE OF ISSUANCE 13/02/2025			
3. APPLICATION NO. MIN/JH/2024/49/R-2		4. APPLICATION TYPE Mining			
5. PROJECT STATUS Existing Project		6. NOC TYPE Renew			
7. VALID FROM 16/02/2025		8. VALID UP TO 15/02/2027			
9. WATER QUALITY TYPE Fresh Water		10. AREA TYPE CATEGORY Safe (GWRE-2024)			

**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 transportation of mineral. The vehicles should be covered with a tarpaulin and shall not be overloaded.**

**Reply:** - To keep vehicular emissions under control, vehicles are periodically checked & repaired. All measures are being taken to control vehicular emission. All vehicles are covered with tarpaulins, and non-overloading guidelines are being followed during transportation of mineral.



Tarpaulin covered vehicles

**Condition xv: - Drills should either be operated with dust extractors or should be equipped with water injection system.**

**Reply: -** Wet drilling is in practice.



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

**Reply: -** Blasting time is fixed during Lunch Time i.e. 1.00 PM-2.00 PM. We have control blasting permission. Controlled blasting method is in practice. Ground vibration study has been conducted periodically. Efforts and mitigative measures are being taken to mitigate the impact of the blast.

**Condition xvii: - Consent to operate should be obtained from SPCB prior to start of enhanced production from the mine.**

**Reply: -** We have already obtained the Consent to Operate for Bauxite Ore as per production capacity mentioned in EC.

**Condition xviii: - Sewage treatment plant should be installed for the colony. ETP should also be provided for workshop and wastewater generated from mining operations.**

**Reply: -** As of now there is no colony within the lease hold. However, Domestic Wastewater generated from mine office area is being collected through individual Septic Tank and followed by Soak Pit.

No wastewater is generated from our mining operation. However, only negligible amount of effluent is being generated from workshop and Oil & grease trap system is already installed for

Pakhar group of mines to treat this effluent. The treated water is in close circuit and being reused for washing of vehicle in the workshop. We are not discharging any wastewater outside the mine lease area.

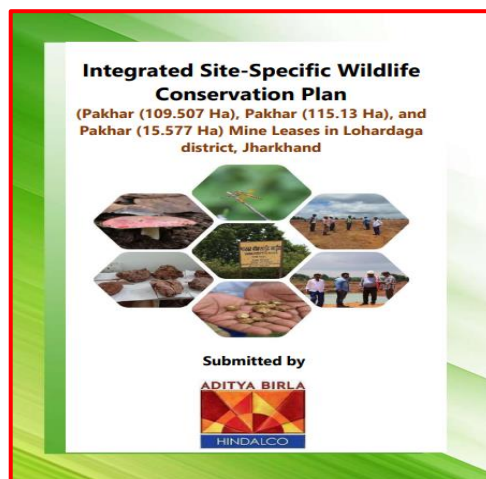
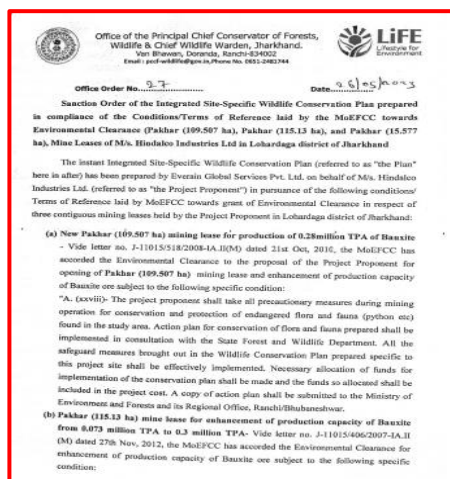
Furthermore, the quality of this treated water is being monitored regularly and the monitoring report is attached herewith as **Annexure 2**.

**Condition xix: - The project proponent should take all precautionary measures during mining operation for conservation and protection of endangered fauna such as Indian Python etc. Spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Department. Necessary allocation of funds for implementation of the conservation plan shall be made and the funds so allocated shall be included in the project cost. Copy of action plan may be submitted to the Ministry and its Regional Office within 3 months.**

**Reply: -** Safeguard Measures already implemented and being implemented as suggested by forest department are as follows:

1. Minimum level of Noise during Mining.
2. Permanent pillars are established within in the mine lease area at 7.5m from the forest boundary.
3. Daily water sprinkling on haul road.
4. Transportation is carried out during daytime only.
5. Maintenance of mineral transportation road is being done regularly.
6. Social activities are being undertaken in nearby areas etc.

We have also prepared Integrated Site-specific Wildlife Conservation in consultation with State Forest Department and obtained approval letter from Principal Chief Conservator of Forest, Wildlife & Chief Wildlife Warden, Jharkhand via Office Order No.27 dated 26.05.2023 for conservation and protection of flora and fauna in the core and buffer zone for Pakhar Group of Mines.



Integrated Site-specific Wildlife Conservation for Pakhar Group of Mines

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

**Reply: -** The Final Mine Closure Plan (FMCP) has been approved by the Indian Bureau of Mines and subsequently submitted to the regional office of the Ministry of Environment, Forest and Climate Change (MoEF&CC).



**General Conditions: -**

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

**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 and in scientific manner. Data pertaining to excavation, quantum of mineral bauxite etc. are mentioned in the report attached as **Annexure 4**.

**Condition iii: - Four ambient air quality-monitoring station should be established in the core zone as well as in the buffer zone for RPM, SPM, SO<sub>2</sub>, NO<sub>x</sub> monitoring. Location of the stations should be decided based on the metrological 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 the core zone as well as buffer zone. Monitoring is being carried out and reported to the concerned authorities. Monitoring Report is attached as **Annexure 2**.

**Condition iv: - Data on ambient air quality (RPM, SPM, SO<sub>2</sub>, NO<sub>x</sub>) should be regularly submitted to the Ministry including its Regional office located at Bhubneshwar and the State Pollution Control Board / Central pollution Control Board once in six months.**

**Reply: -** Being adhered to. Monitoring Reports for the reporting period are attached as **Annexure-2**. Now, the Regional office of MoEF&CC is in Ranchi.

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

**Reply: -** Mobile water tanker with sprinkling facility has been provided along haul roads, at loading and unloading areas, and at transfer points to control dust emissions.



Water Tanker

**Condition vi: - Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operation of HEMM, etc. should be provided with ear plug / muffs.**

**Reply: -** Measures are being taken for control of noise levels below 85 dB (A) in the work environment. Workers engaged in operation of HEMM, etc. has been provided with ear plug / muffs. The noise level monitoring is being conducted at a regular interval. The noise level is within the prescribed norms. Report is attached as **Annexure 2**.

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

**Reply: -** No wastewater is generated from our mining operation. However, only negligible amount of effluent is being generated from workshop and Oil & grease trap system is already installed for Pakhar group of mines to treat this effluent. The treated water is in close circuit and being reused for washing of vehicle in the workshop. We are not discharging any wastewater outside the mine lease area.

Furthermore, the quality of this treated water is being monitored regularly and the monitoring report is attached herewith as **Annexure 2**.

**Condition viii: - Personnel working in dusty areas should wear protective respiratory devices and they should also provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.**

**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. 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 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: -** The Final Mine Closure Plan (FMCP), along with the Financial Assurance, has been approved by the Indian Bureau of Mines and subsequently submitted to the Regional Office of the Ministry of Environment, Forest and Climate Change (MoEF&CC). The financial closure is planned for 31<sup>st</sup> March 2028. Now, the Regional office of MoEF&CC is in Ranchi.

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

**Reply: -** Every year, the funds earmarked for environmental protection measures is being budgeted separately 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 xii: - The Regional Office of this Ministry located at Bhubneshwar shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.**

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

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

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

**Condition xiv: - State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Center and Collector's office / 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 xv: - The project authorities should advertise at least in two local newspapers widely circulated, one of which locality concerned, within 7days 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 Bhubneshwar.**

**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: Pakhar Bauxite Mine (15.58 Ha)**

<b>S No</b>	<b>Month</b>	<b>Ground Water Level (BGL) in meter</b>
1	<b>Apr-25</b>	<b>38.14</b>
2	<b>May-25</b>	<b>38.29</b>
3	<b>Jun-25</b>	<b>38.17</b>
4	<b>Jul-25</b>	<b>38.08</b>
5	<b>Aug-25</b>	<b>37.96</b>
6	<b>Sep-25</b>	<b>37.77</b>





# EPIC LabTech Private Limited



Address:-  
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📞 98357 86677  
📞 93049 73994  
✉ epiclabtech@gmail.com

CIN:-U74999JH2022PTC019683  
PAN:-AAHCE3611M  
GST:-Z0AAHCE3611M1ZK

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

TC-12887

Annexure - 2

Unique Lab Report No.	TC1288725000000343	Discipline	Chemical
Report Unique ID	RL0152251601	Group	Atmospheric Pollution
Issue date/time	21.04.2025/ 14:30	Sub Group	Ambient Air Quality

Report Issue to <b>M/s - MINERALS &amp; MINERALS LIMITED</b> VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302 <b>MINES:- PAKHAR 15.58 BAUXITE MINE</b>	Contact Person Contact Number Email Id Order Date Order Number	Mr. Ankit Das +91 9971034775 ankit.das@adityabirla.com 05.04.2025/ 10:10 RP/MJB/MM/25/0114/00
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References of Quality Management System (Steps of Traceability Chain)			
Customer Registration No.	EPIC/OTH/0152	Sample Booking Number	EPIC-251601
Sample(s) Code	251601 (A) (B) (C) (D)	Sample Receipt (D/T)	14.04.2025/ 10:56

Sampling References			
Type of Industry	Bauxite Mines	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)	12.04.2025/ 12:45	Sampling End (D/T)	13.04.2025/ 07:15
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 %	61	Wind direction	270°-90°

Sampling Location(s) with GPS coordinate(s)			
S. Location A	Near Mine Office	GPS coordinate	23° 32' 22.71" / 84° 36' 34.81"
S. Location B	Near Weigh Bridge	GPS coordinate	23° 32' 25.07" / 84° 36' 35.09"
S. Location C	Near Mine Quarry No-M1	GPS coordinate	23° 32' 11.67" / 84° 35' 58.48"
S. Location D	Near Mine Quarry No-M4	GPS coordinate	23° 32' 07.68" / 84° 36' 04.96"

Date(s) of performance of the laboratory activities			
Test start date	14.04.2025/ 14:45	Test completion date	19.04.2025/ 16:55

## --Test Results --

Sl	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Particulate Matter (PM <sub>10</sub> )	IS:5182 (P-23) 2022	µg/m3	78.02	83.02	73.07	72.01	100 (24 hr)
2.	Fine Particulate Matter (PM <sub>2.5</sub> )	IS 5182 (P-24) 2019	µg/m3	36.98	38.44	34.27	33.81	60(24 hr)
3.	Sulphur Dioxide (SO <sub>2</sub> )	IS:5182 (P-02) 2023	µg/m3	07.52	07.71	07.89	07.22	80(24 hr)
4.	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182 (P-06) 2022	µg/m3	20.64	21.50	20.70	20.76	80(24 hr)
5.	Ozone (O <sub>3</sub> )	IS:5182 (P-09) 2019	µg/m3	19.40	20.05	19.72	20.37	180(1 hr)
6.	Ammonia (NH <sub>3</sub> )	IS:5182 (P-25) 2018	µg/m3	34.12	34.75	33.49	32.85	400(24 hr)
7.	Lead (Pb)	IS:5182(P-22) 2019	µg/m3	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/m3	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/m3	BDL (MDL-0.001)	BDL (MDL-0.001)	BDL (MDL-0.001)	BDL (MDL-0.001)	-

## --Test Results End --

Prescribed Limit  
Operational Status  
Analysed by -A. K. SINHA

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



Checked by  
(B.N. Kumar)  
Technical Head

Verified & Issued by  
(Umesh Das)  
Laboratory Head

Authorized Signatory  
EPIC LabTech Pvt. Ltd.

Page 2 of 1

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 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. |

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





# EPIC LabTech Private Limited

Address:-  
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Jharkhand - 834005, India

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📞 98357 86877  
📞 93043 73294  
✉ epiclabtech@gmail.com

CIN:-U74999JH2022PTC019685  
PAN:-AAHCE3611M  
GST:-20AAHCE3611M1ZX

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	RL0152251601	Group	Atmospheric Pollution
Issue date/time	21.04.2025/ 14:30	Sub Group	Ambient Air Quality

### Report Issue to

**M/s - MINERALS & MINERALS LIMITED**  
VILLAGE-COURT ROAD,  
POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA,  
STATE-JHARKHAND, INDIA 835302  
**MINES :- PAKHAR 15.58 BAUXITE MINE**

Contact Person	Mr. Ankit Das
Contact Number	+91 9971034775
Email Id	ankit.das@adityabirla.com
Order Date	05.04.2025/ 10:10
Order Number	RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0152	Sample Booking Number	EPIC-251601
Sample(s) Code	251601 (A) (B) (C) (D)	Sample Receipt (D/T)	14.04.2025/ 10:56

### Sampling References

Type of Industry	Bauxite Mines	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)	12.04.2025 / 12:45	Sampling End (D/T)	13.04.2025/ 07:15
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 %	61	Wind direction	270°-90°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Mine Office	GPS coordinate	23° 32' 22.71" / 84° 36' 34.81"
S. Location B	Near Weigh Bridge	GPS coordinate	23° 32' 25.07" / 84° 36' 35.09"
S. Location C	Near Mine Quarry No-M1	GPS coordinate	23° 32' 08.09" / 84° 36' 06.42"
S. Location D	Near Mine Quarry No-M4	GPS coordinate	23° 32' 07.68" / 84° 36' 04.96"

### Date(s) of performance of the laboratory activities

Test start date	14.04.2025/ 14:45	Test completion date	19.04.2025/ 16:55
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### --Test Results --

Sl	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Benzene (C <sub>6</sub> H <sub>6</sub> )	IS:5182(P-11) 2006	µg/m <sup>3</sup>	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 <sup>3</sup>	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 <sup>3</sup>	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 -A.K. SINHA



Checked by  
(B.N. Kumar)  
Technical Head

Verified & Issue 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:-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.	TC1288725000000344	Discipline	Chemical
Report Unique ID	RL0152251602	Group	Water
Issue date/time	21.04.2025/ 14:33	Sub Group	Drinking Water

### Report Issue to

**M/s - MINERALS & MINERALS LIMITED**  
VILLAGE-COURT ROAD,  
POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA,  
STATE-JHARKHAND, INDIA 835302  
**Mines: - PAKHAR 15.58 BAUXITE MINE**

Contact Person	Mr. Ankit Das
Contact Number	+91 9971034775
Email Id	ankit.das@adityabirla.com
Order Date	05.04.2025/ 10:10
Order Number	RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0152	Sample Booking Number	EPIC-251602
Sample(s) Code	251602	Sample Receipt (D/T)	14.04.2025/ 11:08

### 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)	12.04.25/ 16:50	Sampling End (D/T)	12.04.2025/ 17:10
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 %	61	Wind direction	270°-90°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Canteen, Pakhar (15.58 ha)	GPS coordinate	23° 32' 23.49" / 84° 36' 37.04"
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### Date(s) of performance of the laboratory activities

Test start date	14.04.2025/ 11:20	Test completion date	18.04.2025/ 16:00
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### --Test Results --

Sl	Test Parameters	Method used	Unit	Results	Limits	
					Acceptable Limit	Permissible limit
1.	pH value at 25°C	IS 3025 (P-11) 2022	-	6.69	6.5-8.5	No relaxation
2.	Turbidity	IS 3025 (P-10) 1984	NTU	0.54	1	5
3.	Colour	IS 3025 (P-04) 2021	Hazen	<5.00	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	217.00	500	2000
7.	Chloride (as Cl)	IS 3025 (P-32) 2019	mg/l	37.44	250	1000
8.	Total Alkalinity (as CaCO <sub>3</sub> )	IS 3025 (P-23) 2019	mg/l	86.00	200	600
9.	Total Hardness (as CaCO <sub>3</sub> )	IS 3025 (P-21) 2009	mg/l	116.00	200	600
10.	Calcium (as Ca <sup>+</sup> )	IS 3025 (P-40) 1991	mg/l	39.28	75	200
11.	Free Residual Chlorine	IS 3025 (P-26) 1986	mg/l	BDL(MDL-0.4)	0.2	1
12.	Sulphate (as SO <sub>4</sub> )	IS 3025 (P-24/Sec-1)2022	mg/l	7.90	200	400
13.	Nitrate (as NO <sub>3</sub> )	APHA 4500 B 2023	mg/l	2.11	45	No relaxation
14.	Phenolic Compound	IS 3025 (P-43/Sec-1) 2022	mg/l	BDL(MDL-0.001)	0.001	0.002





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CIN:-U74999JH2022PTC019685  
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.	TC1288725000000344	Discipline	Chemical
Report Unique ID	RL0152251602	Group	Water
Issue date/time	21.04.2025/ 14:33	Sub Group	Drinking Water

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD,  
POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA,  
STATE-JHARKHAND, INDIA 835302  
Mines: - PAKHAR 15.58 BAUXITE MINE

Contact Person  
Contact Number  
Email Id  
Order Date  
Order Number

Mr. Ankit Das  
+91 9971034775  
ankit.das@adityabirla.com  
05.04.2025/ 10:10  
RP/MJB/MM/25/0114/00

15. Magnesium (as Mg+)	APHA 3500 Mg E 2023	mg/l	4.37	30	100
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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  
Operational Status

IS 10500:2021  
Unit was Operational During sampling.

Analysed by -Pratima Kumari/ Anjali Kumari



Checked by  
(E.N. Kumar)  
Technical Head

Verified & Issued by  
(Anish Das)  
Laboratory Head

Authorized Signatory  
EPIC LabTech Pvt. Ltd.  
Ranchi, Jharkhand





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CIN:-U74999JH2022PTC019685  
PAN:-AAHCE3611M  
GST:-20AAHCE3611M1ZK

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	RL0152251602	Group	Water
Issue date/time	21.04.2025/ 14:33	Sub Group	Drinking Water

### Report Issue to

**M/s - MINERALS & MINERALS LIMITED**  
VILLAGE-COURT ROAD,  
POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA,  
STATE-JHARKHAND, INDIA 835302  
**MINES:- PAKHAR 15.58 BAUXITE MINE**

**Contact Person** Mr. Ankit Das  
**Contact Number** +91 9971034775  
**Email Id** ankit.das@adityabirla.com  
**Order Date** 05.04.2025/ 10:10  
**Order Number** RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0152	Sample Booking Number	EPIC-251602
Sample(s) Code	251602	Sample Receipt (D/T)	14.04.2025/ 11:08

### 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)	12.04.25/ 16:50	Sampling End (D/T)	12.04.2025/ 17:10
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 %	61	Wind direction	270°-90°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Canteen, Pakhar (15.58 ha)	GPS coordinate	23° 32' 23.49" / 84° 36' 37.04"
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### Date(s) of performance of the laboratory activities

Test start date	14.04.2025/ 11:20	Test completion date	18.04.2025/ 16:00
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### --Test Results --

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 (as 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.	Chlopyrifos	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





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CIN:-U74109JH2022PTC019685  
PAN:-AAHCE3611M  
GST:-20AAHCE3611M1ZK

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	RL0152251602	Group	Water
Issue date/time	21.04.2025/ 14:33	Sub Group	Drinking Water

### Report Issue to

**M/s - MINERALS & MINERALS LIMITED**  
VILLAGE-COURT ROAD,  
POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA,  
STATE-JHARKHAND, INDIA 835302  
**MINES:- PAKHAR 15.58 BAUXITE MINE**

Contact Person	Mr. Ankit Das
Contact Number	+91 9971034775
Email Id	ankit.das@adityabirla.com
Order Date	05.04.2025/ 10:10
Order Number	RP/MJB/MM/25/0114/00

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
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 Kumari/ Anjali Kumari	



  
Checked by  
(B.N. Kumar)  
Technical Head

  
Verified & Issue by  
(Animesh Das)  
Laboratory Head

Authorized Signatory  
EPIC LabTech Pvt. Ltd.  
Ranchi, Jharkhand







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CIN:-U74999JH2022PTC019685  
PAN:-AAHCE3611M  
GST:-20AAHCE3611M1ZK

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	RL0152251603	Group	Water
Issue date/time	21.04.2025/ 14:35	Sub Group	Drinking Water

### Report Issue to

M/S - M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD,  
POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA,  
STATE-JHARKHAND, INDIA 835302  
Mines:- PAKHAR 15.58 BAUXITE MINE

Contact Person  
Contact Number  
Email Id  
Order Date  
Order Number

Mr. Ankit Das  
+91 9971034775  
ankit.das@adityabirla.com  
05.04.2025/ 10:10  
RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0152	Sample Booking Number	EPIC-251603
Sample(s) Code	251603	Sample Receipt (D/T)	14.04.2025/ 11:20

### 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)	12.04.25/ 16:50	Sampling End (D/T)	12.04.2025/ 17:10
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 %	61	Wind direction	270°-90°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Canteen	GPS coordinate	23° 32' 23.49" / 84° 36' 37.04"
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### Date(s) of performance of the laboratory activities

Test start date	14.04.2025/ 11:40	Test completion date	18.04.2025/ 16:00
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### --Test Results --

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 -Fratima Kumari/ Anjali Kumari

IS 10500:2021  
Unit was Operational During sampling.



Checked by  
(R.K. Kumar)  
Technical Head

Verified & Issue by  
(Unmesh Das)  
Laboratory Head

Authorized Signatory  
EPIC LabTech Pvt. Ltd.  
Ranchi, Jharkhand





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CIN:-U74999JH2022PTC019685  
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.	TC1288725000000345	Discipline	Chemical
Report Unique ID	RL0152251604	Group	Water
Issue date/time	21.04.2025/ 14:37	Sub Group	Ground Water

Report Issue to <b>M/s - MINERALS &amp; MINERALS LIMITED</b> VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302 <b>MINES : PAKHAR 15.58 BAUXITE MINE</b>	Contact Person Contact Number Email Id Order Date Order Number	Mr. Ankit Das +91 9971034775 ankit.das@adityabirla.com 05.04.2025/ 10:10 RP/MJB/MM/25/0114/00
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References of Quality Management System (Steps of Traceability Chain)			
Customer Registration No.	EPIC/OTH/0152	Sample Booking Number	EPIC-251604
Sample(s) Code	251604	Sample Receipt (D/T)	14.04.2025/ 11:22

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)	12.04.25 / 17:15	Sampling End (D/T)	12.04.2025/ 17:30
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 %	61
		Wind direction	270°-90°

Sampling Location(s) with GPS coordinate(s)			
S. Location A	Near Mine Office Pakhar (15.58 ha) Bauxite Mine	GPS coordinate	23° 32' 22.44" / 84° 36' 35.70"

Date(s) of performance of the laboratory activities			
Test start date	14.04.2025/ 11:40	Test completion date	18.04.2025/ 16:00

### --Test Results --

Sl	Test Parameters	Method used	Unit	Results	Limits	
					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	0.6	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	257.00	500	2000
7.	Chloride (as Cl)	IS 3025 (P-32) 2019	mg/l	39.42	250	1000
8.	Total Alkalinity (as CaCO <sub>3</sub> )	IS 3025 (P-23) 2019	mg/l	128.00	200	600
9.	Total Hardness (as CaCO <sub>3</sub> )	IS 3025 (P-21) 2009	mg/l	174.00	200	500
10.	Calcium (as Ca)	IS 3025 (P-40) 1991	mg/l	49.70	75	200
11.	Free Residual Chlorine	IS 3025 (P-26) 1986	mg/l	BDL(MDL-0.4)	0.2	1
12.	Sulphate (as SO <sub>4</sub> )	IS 3025 (P-24/Sec-1)2022	mg/l	12.30	200	400
13.	Nitrate (as NO <sub>3</sub> )	APHA 4500 B 2023	mg/l	5.03	45	No relaxation
14.	Phenolic Compound	IS 3025 (P-43/Sec-1) 2022	mg/l	BDL(MDL-0.001)	0.001	0.002





# EPIC LabTech Private Limited



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C/o - R.K. Tripathi, Indrapuri,  
Road No. - 5, Ranchi,  
Jharkhand - 834005, India

☎ 0651 4666392  
☎ 98357 86677  
☎ 93049 73994  
✉ epiclabtech@gmail.com

CIN:-U74999JH2022PTC019685  
PAN:-AAHCE3611M  
GST:-20AAHCE3611M1ZX

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.	TC1288725000000345	Discipline	Chemical
Report Unique ID	RL0152251604	Group	Water
Issue date/time	21.04.2025/ 14:37	Sub Group	Ground Water

### Report Issue to

**M/s - MINERALS & MINERALS LIMITED**  
VILLAGE-COURT ROAD,  
POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA,  
STATE-JHARKHAND, INDIA 835302  
**MINES : PAKHAR 15.58 BAUXITE MINE**

Contact Person	Mr. Ankit Das
Contact Number	+91 9971034775
Email Id	ankit.das@adityabirla.com
Order Date	05.04.2025/ 10:10
Order Number	RP/MJB/MM/25/0114/00

15. Magnesium (as Mg)	APHA 3500 Mg E 2023	mg/l	12.15	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
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  
Operational Status  
Analysed by -Pratima Kumari/ Anjali Kumari

IS 10500:2021  
Unit was Operational During sampling.



Checked by  
(B.N. Kumar)  
Technical Head

Verified & Issued by  
(Umesh Das)  
Laboratory Head

Authorized Signatory  
EPIC LabTech Pvt. Ltd.  
Ranchi, Jharkhand

**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 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. |

**Abbreviation** :- BDL (Below Detectable Limit), MDL (Minimum Detectable Limit), LoQ (Limit of Quantitation). |





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CIN:- U74999JH2022PTC019685  
PAN:- AAHCE3611M  
GST:- 20AAHCE3611MT2H

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	RL0152251604	Group	Water
Issue date/time	21.04.2025/ 14:37	Sub Group	Ground Water

Report Issue to <b>M/s - MINERALS &amp; MINERALS LIMITED</b> VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302 <b>MINES : PAKHAR 15.58 BAUXITE MINE</b>	Contact Person Contact Number Email Id Order Date Order Number	Mr. Ankit Das +91 9971034775 ankit.das@adityabirla.com 05.04.2025/ 10:10 RP/MJB/MM/25/0114/00
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References of Quality Management System (Steps of Traceability Chain)			
Customer Registration No.	EPIC/OTH/0152	Sample Booking Number	EPIC-251604
Sample(s) Code	251604	Sample Receipt (D/T)	14.04.2025/ 11:22

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)	12.04.25 / 17:15	Sampling End (D/T)	12.04.2025/ 17:30
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 %	61	Wind direction	270°-90°

Sampling Location(s) with GPS coordinate(s)			
S. Location A	Near Mines Office	GPS coordinate	23° 32' 22.44" / 84°36' 35.70"

Date(s) of performance of the laboratory activities			
Test start date	14.04.2025/ 11:40	Test completion date	18.04.2025/ 16:00

### --Test Results --

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.	Chlorpyrifos	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





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CIN:-U74999JH2022PTC019685  
PAN:-AAHCE3611M  
GST:-20AAHCE3611M1ZK

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	RL0152251604	Group	Water
Issue date/time	21.04.2025/ 14:37	Sub Group	Ground Water

### Report Issue to

**M/s - MINERALS & MINERALS LIMITED**  
VILLAGE-COURT ROAD,  
POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA,  
STATE-JHARKHAND, INDIA 835302  
**MINES : PAKHAR 15.58 BAUXITE MINE**

**Contact Person** Mr. Ankit Das  
**Contact Number** +91 9971034775  
**Email Id** ankit.das@adityabirla.com  
**Order Date** 05.04.2025/ 10:10  
**Order Number** RP/MJB/MM/25/0114/00

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
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 Kumari



*[Signature]*  
**Checked by**  
(E.N. Kumar)  
Technical Head

*[Signature]*  
**Verified & Issue by**  
(Umash Das)  
Laboratory Head

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







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CIN:-U74999JH2022PTC019685

PAR:-AAHCE3611M

GST:-20AAHCE3611M1ZX

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	RL0152251605	Group	Water
Issue date/time	21.04.2025/ 14:39	Sub Group	Ground Water

### Report Issue to

M/S - M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD,  
POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA,  
STATE-JHARKHAND, INDIA 835302  
MINES: PAKHAR 15.58 BAUXITE MINE

Contact Person Mr. Ankit Das  
Contact Number +91 9971034775  
Email Id ankit.das@adityabirla.com  
Order Date 05.04.2025/ 10:10  
Order Number RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0152	Sample Booking Number	EPIC-251605
Sample(s) Code	251605	Sample Receipt (D/T)	14.04.2025/ 11:24

### 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)	12.04.25 / 17:15	Sampling End (D/T)	12.04.2025/ 17:30
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 %	61	Wind direction	270°-90°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Mines Office	GPS coordinate	23° 32' 22.44"/ 84°36' 35.70"
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### Date(s) of performance of the laboratory activities

Test start date	14.04.2025/ 11:40	Test completion date	14.04.2025/ 11:30
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### --Test Results --

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 Results End --

Prescribed Limit IS 10500:2021  
Operational Status Unit was Operational During sampling.  
Analysed by -Pratima Kumari/ Anjali Kumari



Checked by  
(B.N. Kumar)  
Technical Head

Verified & Issued by  
(Umesh Das)  
Laboratory Head

Authorized Signatory  
EPIC LabTech Pvt. Ltd.  
Ranchi, Jharkhand





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CIN:-U74999JH2022PTC019683  
PAN:-AAHCE3611M  
GST:-20AAHCE3611M1ZX

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.	TC1288725000000489	Discipline	Chemical
Report Unique ID	RL0185251933	Group	Atmospheric Pollution
Issue date/time	17.05.2025/ 11:44	Sub Group	Ambient Air Quality

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE : PAKHAR 15.58 BAUXITE MINE

Contact Person Mr. Ankit Das  
Contact Number +91 9971034775  
Email Id ankit.das@adityabirla.com  
Order Date 05.04.2025/ 10:10  
Order Number RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0185	Sample Booking Number	EPIC-251933
Sample(s) Code	251933 (A) (B) (C) (D)	Sample Receipt (D/T)	10.05.2025/11:58

### Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	08.05.2025/ 12:30	Sampling End (D/T)	09.05.2025/ 08:55
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)	26	Humidity %	46	Wind direction	240°-60°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Mine Office	GPS coordinate	23° 32' 23.01" / 84° 36' 35.07"
S. Location B	Near Weigh Bridge	GPS coordinate	23° 32' 07.07" / 84° 36' 35.06"
S. Location C	Near Mine Quarry No-M4	GPS coordinate	23° 32' 07.08" / 84° 36' 06.09"
S. Location D	Near Mine Quarry No-M1	GPS coordinate	23° 32' 17.07" / 84° 36' 06.09"

### Date(s) of performance of the laboratory activities

Test start date	10.05.2025/ 11:50	Test completion date	16.05.2025/ 11:40
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### -Test Results-

Sl	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Particulate Matter (PM <sub>10</sub> )	IS-5182 (P-23) 2022	µg/m <sup>3</sup>	81.04	88.57	79.30	86.10	100 (24 hr)
2.	Fine Particulate Matter (PM <sub>2.5</sub> )	IS-5182 (P-24) 2019	µg/m <sup>3</sup>	39.03	44.16	37.48	42.39	60(24 hr)
3.	Sulphur Dioxide (SO <sub>2</sub> )	IS-5182 (P-02) 2023	µg/m <sup>3</sup>	11.20	08.09	12.14	09.31	80(24 hr)
4.	Nitrogen Dioxide (NO <sub>2</sub> )	IS-5182 (P-06) 2022	µg/m <sup>3</sup>	23.47	19.97	25.75	21.56	80(24 hr)
5.	Ammonia (NH <sub>3</sub> )	IS-5182 (P-25) 2018	µg/m <sup>3</sup>	30.53	33.95	35.51	32.71	400(24 hr)
6.	Ozone (O <sub>3</sub> )	IS-5182 (P-09) 2019	µg/m <sup>3</sup>	23.92	24.99	22.49	26.42	180(1 hr)
7.	Lead (Pb)	IS-5182(P-22) 2019	µg/m <sup>3</sup>	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 <sup>3</sup>	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 <sup>3</sup>	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 Grain



Reviewed by  
(R.N. Kumar)  
Technical Head

Issued by  
(Ajmesh Das)  
Laboratory Head

Authorized Signatory

EPIC LabTech Pvt. Ltd.  
Ranchi, Jharkhand

Contractual Notes: 1. Laboratory accepts responsibility for content of this report. 2. Test performed at laboratory's permanent facility or specific environmental conditions as mentioned required and results related 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 for any other purpose of law. 4. Any complaint about this report should be communicated in writing within 30 days of its issue. 5. Total liability of EPIC LabTech Pvt. Ltd. will be limited to service 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: U74999JH2022PTC010485  
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	RL0185251933	Group	Atmospheric Pollution
Issue date/time	17.05.2025/ 11:44	Sub Group	Ambient Air Quality

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE : PAKHAR 15.58 BAUXITE MINE

Contact Person Mr. Ankit Das  
Contact Number +91 9971034775  
Email Id ankit.das@adityabirla.com  
Order Date 05.04.2025/ 10:10  
Order Number RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0185	Sample Booking Number	EPIC-251933
Sample(s) Code	251933 (A) (B) (C) (D)	Sample Receipt (D/T)	10.05.2025/ 11:58

### Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	08.05.2025/ 12:30	Sampling End (D/T)	09.05.2025/ 08:55
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)	26	Humidity %	46	Wind direction	240°-60°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Mine Office	GPS coordinate	23° 32' 23.01" / 84° 36' 35.07"
S. Location B	Near Weigh Bridge	GPS coordinate	23° 32' 07.07" / 84° 36' 35.06"
S. Location C	Near Mine Quarry No-M4	GPS coordinate	23° 32' 07.08" / 84° 36' 06.09"
S. Location D	Near Mine Quarry No-M1	GPS coordinate	23° 32' 17.07" / 84° 36' 06.09"

### Date(s) of performance of the laboratory activities

Test start date	10.05.2025/ 11:50	Test completion date	16.05.2025/ 11:40
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### -Test Results-

Sl	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Benzene (C <sub>6</sub> H <sub>6</sub> )	IS:5182(P-11) 2006	µg/m <sup>3</sup>	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 <sup>3</sup>	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 <sup>3</sup>	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 - A.K Sinha



Reviewed by  
(B.N. Kumar)  
Technical Head

Issue by  
(Anish Das)  
Laboratory Head

Authorized Signatory  
EPIC LabTech Pvt. Ltd.  
Ranchi, Jharkhand





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CIN: - U74999JH2022PTC019681  
PAN: - AAHCE3611M  
GST: - 20AAHCE3611M1ZK

Accredited by:-  
NABL, vide 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.	TC1288725000000490	Discipline	Chemical
Report Unique ID	RL0185251934	Group	Atmospheric Pollution
Issue date/time	17.05.2025/ 11:48	Sub Group	Ambient Noise

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE : PAKHAR 15.58 BAUXITE MINE

Contact Person Mr. Ankit Das  
Contact Number +91 9871034775  
Email Id ankit.das@adityabirla.com  
Order Date 05.04.2025/ 10:10  
Order Number RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0185	Sample Booking Number	EPIC-251934
Sample(s) Code	251934 (A) (B) (C) (D)	Sample Receipt (D/T)	10.05.2025/ 12:05

### Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	08.05.2025/ 12:30	Sampling End (D/T)	09.05.2025/ 08:55
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)	26	Humidity %	46	Wind direction	240°-60°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Mine Office	GPS coordinate	23° 32' 23.01" / 84° 36' 35.07"
S. Location B	Near Weigh Bridge	GPS coordinate	23° 32' 07.07" / 84° 36' 35.06"
S. Location C	Near Mine Quarry No-M4	GPS coordinate	23° 32' 07.08" / 84° 36' 06.09"
S. Location D	Near Mine Quarry No-M1	GPS coordinate	23° 32' 17.07" / 84° 36' 06.09"

### Date(s) of performance of the laboratory activities

Test start date	10.05.2025/ 12:15	Test completion date	16.05.2025/ 11:42
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### --Test Results--

Sl	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	L <sub>eq</sub> (Day time)	IS: 9989:1981	dB (A)	51.5	61.7	45.5	44.1	75
2.	L <sub>eq</sub> (Night time)	IS: 9989:1981	dB (A)	42.1	44.4	39.8	37.9	70

### --Test Results End --

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



Reviewed by  
(E.N. Kumar)  
Technical Head







# EPIC LabTech Private Limited

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CIN - U74999JH2022PTC019685  
PAN - AAHCE3611M  
GST - 20AAHCE3611M12X

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.	TC1288725000000674	Discipline	Chemical
Report Unique ID	RL0218252308	Group	Atmospheric Pollution
Issue date/time	12.06.2025/14:30	Sub Group	Ambient Air Quality

### Report Issue to

M/s - MINERALS & MINERALS LIMITED VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302 MONITORING SITE: PAKHAR 15.58 BAUXITE MINE	Contact Person Contact Number Email Id Order Date Order Number	Mr. Ankit Das +91 9971034775 ankit.das@adityabirla.com 05.04.2025/ 10:10 RP/MJB/MM/25/0114/00
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### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0218	Sample Booking Number	EPIC-252308
Sample(s) Code	252308 (A) (B) (C) (D)	Sample Receipt (D/T)	07.06.2025/ 10:24

### Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	05.06.2025/ 12:25	Sampling End (D/T)	06.06.2025/ 10:55
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)	26	Humidity %	51	Wind direction	220°-40°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Mine Office	GPS coordinate	23° 32' 22.71" / 84° 36' 34.81"
S. Location B	Near Weigh Bridge	GPS coordinate	23° 32' 25.07" / 84° 36' 35.09"
S. Location C	Near Mine Quarry No-M4	GPS coordinate	23° 32' 08.09" / 84° 36' 06.42"
S. Location D	Near Mine Quarry No-M1	GPS coordinate	23° 32' 07.68" / 84° 36' 04.96"

### Date(s) of performance of the laboratory activities

Test start date	07.06.2025/ 10:50	Test completion date	11.06.2025/ 13:40
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### --Test Results--

Sl	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Particulate Matter (PM <sub>10</sub> )	IS:5182 (P-23) 2022	µg/m3	79.83	81.09	72.04	83.00	100 (24 hr)
2.	Fine Particulate Matter (PM <sub>2.5</sub> )	IS:5182 (P-24) 2019	µg/m3	36.37	40.23	39.23	41.46	60(24 hr)
3.	Sulphur Dioxide (SO <sub>2</sub> )	IS:5182 (P-02) 2023	µg/m3	09.40	10.18	08.22	11.75	80(24 hr)
4.	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182 (P-06) 2022	µg/m3	20.08	22.20	17.97	24.31	80(24 hr)
5.	Ammonia (NH <sub>3</sub> )	IS:5182 (P-25) 2018	µg/m3	31.17	37.01	32.14	30.19	400(24 hr)
6.	Ozone (O <sub>3</sub> )	IS:5182 (P-09) 2019	µg/m3	20.13	25.17	21.30	23.23	180(1 hr)
7.	Lead (Pb)	IS:5182(P-22) 2019	µg/m3	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/m3	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/m3	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  
(B.M. Kumar)  
Technical Head

Issued by  
(Animesh Das)  
Laboratory Head

Authorized Signatory  
EPIC LabTech Pvt. Ltd.  
Ranchi, Jharkhand

Page 1 of 1

Contractual Notice | 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 Detection Limit), LuQ (Limit of Quantitation).





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CIN:-U74999JH2022PTC019683  
PAN:-AAHCE3611M  
GST:-20AAHCE3611M1Zx

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	RL0218252308	Group	Atmospheric Pollution
Issue date/time	12.06.2025/14:30	Sub Group	Ambient Air Quality

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE: PAKHAR 15.58 BAUXITE MINE

Contact Person Mr. Ankit Das  
Contact Number +91 9971034775  
Email Id ankit.das@adityabirla.com  
Order Date 05.04.2025/ 10:10  
Order Number RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0218	Sample Booking Number	EPIC-252308
Sample(s) Code	252308 (A) (B) (C) (D)	Sample Receipt (D/T)	07.06.2025/ 10:24

### Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/038
Sampling Start (D/T)	05.06.2025/ 12:25	Sampling End (D/T)	06.06.2025/ 10:55
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)	26	Humidity %	51	Wind direction	220°-40°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Mine Office	GPS coordinate	23° 32' 22.71" / 84° 36' 34.81"
S. Location B	Near Weigh Bridge	GPS coordinate	23° 32' 25.07" / 84° 36' 35.09"
S. Location C	Near Mine Quarry No-M4	GPS coordinate	23° 32' 06.09" / 84° 36' 06.42"
S. Location D	Near Mine Quarry No-M1	GPS coordinate	23° 32' 07.68" / 84° 36' 04.96"

### Date(s) of performance of the laboratory activities

Test start date	07.06.2025/ 10:50	Test completion date	11.06.2025/ 13:40
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### --Test Results--

Sl	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Benzene (C <sub>6</sub> H <sub>6</sub> )	IS:5182(P-11) 2006	µg/m <sup>3</sup>	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 <sup>3</sup>	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 <sup>3</sup>	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 - A.K Sinha



*H.N. Kumar*  
Reviewed by  
(H.N. Kumar)  
Technical Head







# EPIC LabTech Private Limited

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CTN:-U74999JH2022PTC019685  
PAN:-AAHCE3611M  
GST:-20AAHCE3611M1ZK

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	RL0218252309	Group	Atmospheric Pollution
Issue date/time	12.06.2025/14:33	Sub Group	Work Zone Noise

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE: PAKHAR 15.58 BAUXITE MINE

Contact Person  
Contact Number  
Email Id  
Order Date  
Order Number

Mr. Ankit Das  
+91 9971034775  
ankit.das@adityabirla.com  
05.04.2025/ 10:10  
RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0218	Sample Booking Number	EPIC-252309
Sample(s) Code	252309 (A) (B)	Sample Receipt (D/T)	07.06.2025/ 10:30

### Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/038
Sampling Start (D)	05.06.2025	Sampling End (D)	05.06.2025
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)	26	Humidity %	51	Wind direction	220°-40°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Weigh Bridge	GPS coordinate	23° 32' 25.03" / 84° 36' 35.47"
S. Location B	Near Mines Query No. M1	GPS coordinate	23° 32' 07.97" / 84° 36' 06.50"

### Date(s) of performance of the laboratory activities

Test start date	07.06.2025/ 10:56	Test completion date	11.06.2025/ 14:01
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### --Test Results--

Sl	Test Parameters	Method used	Unit	Results		Limits
				A	B	
1.	Leq	IS: 9989:1981	dB (A)	75.1	72.3	85

### --Test Results End --

Prescribed Limit  
Operational Status

NIOSH - Publication No. 95-126 in 1972, Table 1-1  
Unit was Operational During sampling.

Analysed by - A. K. Sinha



Reviewed by  
(E.N. Kumar)  
Technical Head

12  
4.12.2025  
Issued by  
(Anish Das)  
Laboratory Head

Authorized Signatory  
EPIC LabTech Pvt. Ltd.  
Ranchi, Jharkhand





# EPIC LabTech Private Limited



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CIN:-U74999JH2022PTC019685  
PAN:-AAHCE3611M  
GST:-20AAHCE3611M1ZK

Accredited by -  
NABL, NCE certificate number TC - 0387  
Jharkhand State Industrial Control Board  
Certified by -  
ISO 9001:2015 and ISO 45001:2018

TC-12887

## Analytical Test Certificate

Unique Lab Report No.	TC1288725000000823	Discipline	Chemical
Report Unique ID	RL02452528010	Group	Atmospheric Pollution
Issue date/time	11.07.2025/ 16:30	Sub Group	Ambient Air Quality

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE : PAKHAR 15.58 BAUXITE MINE

Contact Person Mr. Ankit Das  
Contact Number +91 9971034775  
Email Id ankit.das@adityabirla.com  
Order Date 05.04.2025/ 10:10  
Order Number RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0245	Sample Booking Number	EPIC-2528010
Sample(s) Code	2528010 (A) (B) (C) (D)	Sample Receipt (D/T)	07.07.2025/ 11:11

### Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	04.07.2025/ 11:50	Sampling End (D/T)	05.07.2025/ 09:13
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)	24	Humidity %	68	Wind direction	270°-90°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Mine Office	GPS coordinate	23° 32' 22.71" / 84° 36' 34.81"
S. Location B	Near Weigh Bridge	GPS coordinate	23° 32' 25.07" / 84° 36' 35.09"
S. Location C	Near Mine Quarry No-M4	GPS coordinate	23° 32' 08.09" / 84° 36' 06.42"
S. Location D	Near Mine Quarry No-M1	GPS coordinate	23° 32' 07.88" / 84° 36' 04.96"

### Date(s) of performance of the laboratory activities

Test start date	07.07.2025/ 11:30	Test completion date	11.07.2025/ 15:01
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### --Test Results--

Sl	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Particulate Matter (PM <sub>10</sub> )	IS:5182 (P-23) 2022	µg/m <sup>3</sup>	79.08	80.32	70.56	81.94	100 (24 hr)
2.	Fine Particulate Matter (PM <sub>2.5</sub> )	IS 5182 (P-24) 2019	µg/m <sup>3</sup>	35.31	39.69	38.35	40.33	60(24 hr)
3.	Sulphur Dioxide (SO <sub>2</sub> )	IS:5182 (P-02) 2023	µg/m <sup>3</sup>	08.97	10.11	07.88	11.66	80(24 hr)
4.	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182 (P-06) 2022	µg/m <sup>3</sup>	19.72	21.85	16.69	22.98	80(24 hr)
5.	Ammonia (NH <sub>3</sub> )	IS:5182 (P-25) 2018	µg/m <sup>3</sup>	19.54	24.57	20.38	22.89	400(24 hr)
6.	Ozone (O <sub>3</sub> )	IS:5182 (P-09) 2019	µg/m <sup>3</sup>	33.08	38.16	30.21	29.58	180(1 hr)
7.	Lead (Pb)	IS:5182(P-22) 2019	µg/m <sup>3</sup>	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 <sup>3</sup>	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 <sup>3</sup>	BDL(MDL- 1.6)	BDL(MDL- 1.6)	BDL(MDL- 1.6)	BDL(MDL- 1.6)	

### --Test Results End --

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



Reviewed by  
(S.N. Kumar)  
Technical Head

Issue by  
(Anish Das)  
Laboratory Head

Authorized Signatory  
EPIC LabTech Pvt. Ltd.  
Ranchi, Jharkhand

Contractual Notes | 1. The laboratory accepts responsibility for content of this report | 2. Test performed at laboratory's permanent facility | 3. Any complaint about this report should be communicated in writing within 10 days of its issue | 4. Any disputes are subjected to Ranchi Jurisdiction and maximum liability of the laboratory does not exceed the testing and sampling charges | 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. |

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





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CIN:-UT48993MH2022PTC019683  
PAN:-AAHCE3611M  
GST:-20AAHCE3611M1ZK

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	RL02452528010	Group	Atmospheric Pollution
Issue date/time	11.07.2025/ 16:30	Sub Group	Ambient Air Quality

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE: PAKHAR 15.58 BAUXITE MINE

Contact Person Mr. Ankit Das  
Contact Number +91 9971034775  
Email Id ankit.das@adityabirla.com  
Order Date 05.04.2025/ 10:10  
Order Number RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0245	Sample Booking Number	EPIC-2528010
Sample(s) Code	2528010 (A) (B) (C) (D)	Sample Receipt (D/T)	07.07.2025/ 11:11

### Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	04.07.2025/ 11:50	Sampling End (D/T)	05.07.2025/ 09:13
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)	24	Humidity %	66	Wind direction	270°-90°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Mine Office	GPS coordinate	23° 32' 22.71" / 84° 36' 34.81"
S. Location B	Near Weigh Bridge	GPS coordinate	23° 32' 25.07" / 84° 36' 35.09"
S. Location C	Near Mine Quarry No-M4	GPS coordinate	23° 32' 08.09" / 84° 36' 06.42"
S. Location D	Near Mine Quarry No-M1	GPS coordinate	23° 32' 07.68" / 84° 36' 04.96"

### Date(s) of performance of the laboratory activities

Test start date	07.07.2025/ 11:30	Test completion date	11.07.2025/ 15:01
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### --Test Results--

Sl	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Benzene (C <sub>6</sub> H <sub>6</sub> )	IS:5182(P-11) 2006	µg/m <sup>3</sup>	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 <sup>3</sup>	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 <sup>3</sup>	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  
(E.N. Kumar)  
Technical Head







# EPIC LabTech Private Limited

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CIN:-UT499920222PTC010685  
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.	TC1288725000000824	Discipline	Chemical
Report Unique ID	RL02452528011	Group	Water
Issue date/time	11.07.2025/ 16:32	Sub Group	Drinking Water

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE: PAKHAR 15.58 BAUXITE MINE

Contact Person Mr. Ankit Das  
Contact Number +91 9971034775  
Email Id ankit.das@adityabirta.com  
Order Date 05.04.2025/ 10:10  
Order Number RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0245	Sample Booking Number	EPIC-2528011
Sample(s) Code	2528011	Sample Receipt (D/T)	07.07.2025/ 11:12

### Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	04.07.2025/ 16:10	Sampling End (D/T)	04.07.2025/ 16:15
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)	24	Humidity %	68	Wind direction	270°-90°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Canteen	GPS coordinate	23° 32' 23.49" / 84° 36' 37.04"
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### Date(s) of performance of the laboratory activities

Test start date	07.07.2025/ 11:40	Test completion date	11.07.2025/ 10:30
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### --Test Result--

Sl	Test Parameters	Method used	Unit	Results	Limits	
					Acceptable Limit	Permissible limit
1.	pH value at 25.5°C	IS 3025 (P-11) 2022	-	6.64	6.5-8.5	No relaxation
2.	Turbidity	IS 3025 (P-10) 1984	NTU	0.51	1	5
3.	Colour	IS 3025 (P-04) 2021	Hazen	5.00	5	15
4.	Odour	IS 3025 (P-05) 2016	-	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	213.00	500	2000
7.	Chloride (as Cl)	IS 3025 (P-32) 2019	mg/l	35.47	250	1000
8.	Total Alkalinity (as CaCO <sub>3</sub> )	IS 3025 (P-23) 2019	mg/l	82.00	200	600
9.	Total Hardness (as CaCO <sub>3</sub> )	IS 3025 (P-21) 2009	mg/l	110.00	200	600
10.	Calcium (as Ca)	IS 3025 (P-40) 1991	mg/l	36.87	75	200
11.	Free Residual Chlorine	IS 3025 (P-26) 1986	mg/l	BDL(MDL-0.4)	0.2	1
12.	Sulphate (as SO <sub>4</sub> )	IS 3025 (P-24/Sec-1) 2022	mg/l	7.60	200	400
13.	Nitrate (as NO <sub>3</sub> )	APHA 4500 B 2023	mg/l	2.08	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	4.37	30	100

Group- Residues and Contaminants in Water

Sub Group-Trace Metals Elements





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CIN:-U74999JH2022PTC015685  
PAN:-AAHCE3611M  
GST:-20AAHCE3611M1ZK

Accredited by:-  
NABL with 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.	TC1288725000000824	Discipline	Chemical
Report Unique ID	RL02452528011	Group	Water
Issue date/time	11.07.2025/ 16:32	Sub Group	Drinking Water

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE: PAKHAR 15.58 BAUXITE MINE

Contact Person  
Contact Number  
Email Id  
Order Date  
Order Number

Mr. Ankit Das  
+91 9971034775  
ankit.das@adityabirla.com  
05.04.2025/ 10:10  
RP/MJB/MM/25/0114/00

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  
Operational Status  
Analysed by - Pratima Kumari

IS 10500:2021  
Unit was Operational During sampling.



Reviewed by  
(B.N. Kumar)  
Technical Head

Issued by  
(Dimesh Das)  
Laboratory Head

Authorized Signatory  
EPIC LabTech Pvt. Ltd.  
Ranchi, Jharkhand







# EPIC LabTech Private Limited

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CIN:-U74999JH2022PTC019685

PAN:-AAHCE3611M

GST:-20AAHCE3611M1ZX

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	RL02452528011	Group	Water
Issue date/time	11.07.2025/ 16:32	Sub Group	Drinking Water

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE : PAKHAR 15.58 BAUXITE MINE

Contact Person Mr. Ankit Das  
Contact Number +91 9971034775  
Email Id ankit.das@adityabirla.com  
Order Date 05.04.2025/ 10:10  
Order Number RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0245	Sample Booking Number	EPIC-2528011
Sample(s) Code	2528011	Sample Receipt (D/T)	07.07.2025/ 11:12

### Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	04.07.2025/ 16:10	Sampling End (D/T)	04.07.2025/ 16:15
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)	24	Humidity %	68	Wind direction	270°-90°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Canteen	GPS coordinate	23° 32' 23.49" / 84° 36' 37.04"
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### Date(s) of performance of the laboratory activities

Test start date	07.07.2025/ 11:40	Test completion date	11.07.2025/ 10:30
-----------------	-------------------	----------------------	-------------------

### --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.	Chlopyrifos	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





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GST:-20AAHCE3611M1ZK

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

Report Unique ID

RL02452528011

Issue date/time

11.07.2025/ 16:32

Discipline

Chemical

Group

Water

Sub Group

Drinking Water

Report Issue to

M/s - MINERALS & MINERALS LIMITED

VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,

DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302

MONITORING SITE : PAKHAR 15.58 BAUXITE MINE

Contact Person

Mr. Ankit Das

Contact Number

+91 9971034775

Email Id

ankit.das@adityabirta.com

Order Date

05.04.2025/ 10:10

Order Number

RP/MJB/MM/25/0114/00

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 Kumari



Reviewed by  
(E.N. Kumar)  
Technical Read

Issued by  
(Anish Das)  
Laboratory Head

Authorized Signatory  
EPIC LabTech Pvt Ltd.  
Ranchi, Jharkhand







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GST - 20AAHCE3611M1ZK

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	RL02452528012	Group	Water
Issue date/time	11.07.2025/ 16:34	Sub Group	Drinking Water

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE : PAKHAR 15.58 BAUXITE MINE

Contact Person	Mr. Ankit Das
Contact Number	+91 9971034775
Email Id	ankit.das@adityabirla.com
Order Date	05.04.2025/ 10:10
Order Number	RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0245	Sample Booking Number	EPIC-2528012
Sample(s) Code	2528012	Sample Receipt (D/T)	07.07.2025/ 11:13

### Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	04.07.2025/ 16:10	Sampling End (D/T)	04.07.2025/ 16:15
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)	24	Humidity %	68	Wind direction	270°-90°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Canteen	GPS coordinate	23° 32' 23.49" / 84° 36' 37.04"
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### Date(s) of performance of the laboratory activities

Test start date	07.07.2025/ 11:40	Test completion date	11.07.2025/ 10:30
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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 -	Sujata Kumari



Reviewed by  
(B.N. Kumar)  
Technical Head

Issued by  
(Dinesh Das)  
Laboratory Head

Authorized Signatory  
EPIC LabTech Pvt. Ltd.  
Ranchi, Jharkhand





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



## Analytical Test Certificate

Unique Lab Report No.	TC1288725000000992	Discipline	Chemical
Report Unique ID	RL02772533027	Group	Atmospheric Pollution
Issue date/time	21.08.2025/ 17:09	Sub Group	Ambient Air Quality

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE : PAKHAR 15.58 BAUXITE MINE

Contact Person Mr. Ankit Das  
Contact Number +91 9971034775  
Email Id ankit.das@adityabirla.com  
Order Date 05.04.2025/ 10:10  
Order Number RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0277	Sample Booking Number	EPIC-2533027
Sample(s) Code	2533027 (A) (B) (C) (D)	Sample Receipt (D/T)	16.08.2025/ 11:24

### Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	13.08.2025/ 11:51	Sampling End (D/T)	14.08.2025/ 09:12
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	20°-220°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Mine Office	GPS coordinate	23° 32' 22.71" / 84° 36' 34.81"
S. Location B	Near Weigh Bridge	GPS coordinate	23° 32' 25.07" / 84° 36' 35.09"
S. Location C	Near Mine Quarry No-M4	GPS coordinate	23° 32' 07.68" / 84° 36' 04.96"
S. Location D	Near Mine Quarry No-M1	GPS coordinate	23° 32' 08.09" / 84° 36' 06.42"

### Date(s) of performance of the laboratory activities

Test start date	16.08.2025/ 11:44	Test completion date	21.08.2025/ 15:00
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### -Test Results-

Sl	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Particulate Matter (PM <sub>10</sub> )	IS-5182 (P-23) 2022	µg/m³	78.27	79.33	69.56	80.92	100 (24 hr)
2.	Fine Particulate Matter (PM <sub>2.5</sub> )	IS-5182 (P-24) 2019	µg/m³	34.35	38.74	37.42	39.47	60(24 hr)
3.	Sulphur Dioxide (SO <sub>2</sub> )	IS-5182 (P-02) 2023	µg/m³	08.59	09.74	07.51	10.93	80(24 hr)
4.	Nitrogen Dioxide (NO <sub>2</sub> )	IS-5182 (P-06) 2022	µg/m³	18.68	20.81	15.65	21.99	80(24 hr)
5.	Ammonia (NH <sub>3</sub> )	IS-5182 (P-25) 2018	µg/m³	19.05	24.09	19.89	22.13	400(24 hr)
6.	Ozone (O <sub>3</sub> )	IS-5182 (P-09) 2019	µg/m³	32.76	37.53	29.89	28.94	180(1 hr)
7.	Lead (Pb)	IS-5182(P-22) 2019	µg/m³	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/m³	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/m³	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  
(R.K. Kumar)  
Technical Head

Issued by  
(Animesh Das)  
Laboratory Head

Authorized Signatory

EPIC LabTech Pvt. Ltd.  
Ranchi, Jharkhand

Page 1 of 1

Contractual Notes | 1. This 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 without the consent of 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 Expenses 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 liability 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), LoQ (Limit of Quantitation).





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CIN:-U74999JH2022PTC019681  
PAN:-AAHCE3611M  
GST:-20AAHCE3611M12X

Accredited by :-  
Jharkhand State Pollution Control Board  
Certified by :-  
ISO 9001:2015 and ISO 4001:2018

## Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical
Report Unique ID	RL02772533027	Group	Atmospheric Pollution
Issue date/time	21.08.2025/ 17:09	Sub Group	Ambient Air Quality

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE : PAKHAR 15.58 BAUXITE MINE

Contact Person Mr. Ankit Das  
Contact Number +91 9971034775  
Email Id ankit.das@adityabirla.com  
Order Date 05.04.2025/ 10:10  
Order Number RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0277	Sample Booking Number	EPIC-2533027
Sample(s) Code	2533027 (A) (B) (C) (D)	Sample Receipt (D/T)	16.08.2025/ 11:24

### Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	13.08.2025/ 11:51	Sampling End (D/T)	14.08.2025/ 09:12
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	20°-220°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Mine Office	GPS coordinate	23° 32' 22.71" / 84° 36' 34.81"
S. Location B	Near Weigh Bridge	GPS coordinate	23° 32' 25.07" / 84° 36' 35.09"
S. Location C	Near Mine Quarry No-M4	GPS coordinate	23° 32' 07.68" / 84° 36' 04.96"
S. Location D	Near Mine Quarry No-M1	GPS coordinate	23° 32' 08.09" / 84° 36' 06.42"

### Date(s) of performance of the laboratory activities

Test start date	16.08.2025/ 11:44	Test completion date	21.08.2025/ 15:00
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### --Test Results--

Sl	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Benzene (C <sub>6</sub> H <sub>6</sub> )	IS:5182(P-11) 2006	µg/m <sup>3</sup>	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 <sup>3</sup>	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 <sup>3</sup>	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  
(E.N. Kumar)  
Technical Head







# EPIC LabTech Private Limited

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CIN: U74999JH2022PTC019885  
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



## Analytical Test Certificate

Unique Lab Report No.	TC1288725000000993	Discipline	Chemical
Report Unique ID	RL02772533028	Group	Water
Issue date/time	21.08.2025/ 17:12	Sub Group	Ground Water

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE : PAKHAR 15.58 BAUXITE MINE

Contact Person Mr. Ankit Das  
Contact Number +91 9971034775  
Email Id ankit.das@adityabirla.com  
Order Date 05.04.2025/ 10:10  
Order Number RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0277	Sample Booking Number	EPIC-2533028
Sample(s) Code	2533028	Sample Receipt (D/T)	16.08.2025/ 11:25

### Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	13.08.2025/ 15:30	Sampling End (D/T)	13.08.2025/ 15:40
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	20°-220°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Mines Office	GPS coordinate	23° 32' 22.44" / 84° 36' 35.70"
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### Date(s) of performance of the laboratory activities

Test start date	16.08.2025/ 11:45	Test completion date	21.08.2025/ 15:55
-----------------	-------------------	----------------------	-------------------

### --Test Result--

Sl	Test Parameters	Method used	Unit	Results	Limits	
					Acceptable Limit	Permissible limit
1.	pH value at 25.70C	IS 3025 (P-11) 2022	-	6.7	6.5-8.5	No relaxation
2.	Turbidity	IS 3025 (P-10) 1984	NTU	0.57	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	255.00	500	2000
7.	Chloride (as Cl)	IS 3025 (P-32) 2019	mg/l	37.44	250	1000
8.	Total Alkalinity (as CaCO <sub>3</sub> )	IS 3025 (P-23) 2019	mg/l	124.00	200	600
9.	Total Hardness (as CaCO <sub>3</sub> )	IS 3025 (P-21) 2009	mg/l	170.00	200	600
10.	Calcium (as Ca)	IS 3025 (P-40) 1991	mg/l	48.1	75	200
11.	Free Residual Chlorine	IS 3025 (P-26) 1986	mg/l	BDL(MDL-0.4)	0.2	1
12.	Sulphate (as SO <sub>4</sub> )	IS 3025 (P-24/Sec-1)2022	mg/l	12.1	200	400
13.	Nitrate (as NO <sub>3</sub> )	APHA 4500 B 2023	mg/l	4.99	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	12.15	30	100





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CIN:-UT4999042022PTC019485  
PAN:-AAHCE3611M  
GST:-20AAHCE3611M1Z8

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



## Analytical Test Certificate

Unique Lab Report No.	TC1288725000000993	Discipline	Chemical
Report Unique ID	RL02772533028	Group	Water
Issue date/time	21.08.2025/ 17:12	Sub Group	Ground Water

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE : PAKHAR 15.58 BAUXITE MINE

Contact Person	Mr. Ankit Das
Contact Number	+91 9971034775
Email Id	ankit.das@adityabirla.com
Order Date	05.04.2025/ 10:10
Order Number	RP/MJB/MM/25/0114/00

### 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  
Operational Status  
Analysed by -Pappu Kumar

IS 10500:2021  
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







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CIN:-U74999JH2022PTC019683  
RAN:-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	RL02772533028	Group	Water
Issue date/time	21.08.2025/ 17:12	Sub Group	Ground Water

### Report Issue to

**M/s - MINERALS & MINERALS LIMITED**  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
**MONITORING SITE : PAKHAR 15.58 BAUXITE MINE**

**Contact Person** Mr. Ankit Das  
**Contact Number** +91 9971034775  
**Email Id** ankit.das@adityabirla.com  
**Order Date** 05.04.2025/ 10:10  
**Order Number** RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0277	Sample Booking Number	EPIC-2533028
Sample(s) Code	2533028	Sample Receipt (D/T)	16.08.2025/ 11:25

### Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	13.08.2025/ 15:30	Sampling End (D/T)	13.08.2025/ 15:40
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team
Sampling method used	IS : 3025 (Part-1) 1967, 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	20°-220°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Mines Office	GPS coordinate	23° 32' 22.44" / 84° 36' 35.70"
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### Date(s) of performance of the laboratory activities

Test start date	16.08.2025/ 11:45	Test completion date	21.08.2025/ 15:55
-----------------	-------------------	----------------------	-------------------

### --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
<b>Group-Residues and Contaminants in Water</b>				<b>Sub Group-Trace Metals Elements</b>		
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
<b>Group-Residues and Contaminants in Water</b>				<b>Sub Group-Pesticides</b>		
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.	Chlorpyrifos	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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CIN:-U74999JH2022PTC019685  
PAN:-AASHCE3611M  
GST:-20AANCE3611M1ZK

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	RL02772533028	Group	Water
Issue date/time	21.08.2025/ 17:12	Sub Group	Ground Water

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE : PAKHAR 15.58 BAUXITE MINE

Contact Person	Mr. Ankit Das
Contact Number	+91 9971034775
Email Id	ankit.das@adityabirla.com
Order Date	05.04.2025/ 10:10
Order Number	RP/MJB/MM/25/0114/00

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 -Pappu Kumar	



  
Reviewed by  
(B.N. Kumar)  
Technical Head

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







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PAN:-AANCE3611M  
GST:-20AANCE3611M1ZX

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  
Report Unique ID RL02772533029  
Issue date/time 21.08.2025/ 17:15

Discipline Biological  
Group Water  
Sub Group Ground Water

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE : PAKHAR 15.58 BAUXITE MINE

Contact Person Mr. Ankit Das  
Contact Number +91 9971034775  
Email Id ankit.das@adityabirla.com  
Order Date 05.04.2025/ 10:10  
Order Number RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No. EPIC/OTH/0277  
Sample(s) Code 2533029

Sample Booking Number EPIC-2533029  
Sample Receipt (D/T) 16.08.2025/ 11:25

### Sampling References

Type of Industry Bauxite Mines  
Sampling Start (D/T) 13.08.2025/ 15:30  
Mode of Sampling Conducted by Laboratory  
Sampling method used IS : 3025 (Part-1) 1987, R-2003  
Description/condition of sample Receipt sample(s) were fit for analysis.

Ref. of Sampling Plan EPIC/LAB/R/036  
Sampling End (D/T) 13.08.2025/ 15:40  
Sample collected by Mr. Akash Kumar & Team

### Environmental Condition during sampling

Weather condition Cloudy Temperature (°C) 26 Humidity % 69 Wind direction 20°-220°

### Sampling Location(s) with GPS coordinate(s)

S. Location A Near Mines Office GPS coordinate 23° 32' 22.44" / 84° 36' 35.70"

### Date(s) of performance of the laboratory activities

Test start date 16.08.2025/ 11:45 Test completion date 21.08.2025/ 15:55

### --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 - Sujata Kumari

Reviewed by  
(E.N. Kumar)  
Technical Head

Issued by  
(Anish Das)  
Laboratory Head

Authorized Signatory  
EPIC LabTech Pvt. Ltd.  
Ranchi, Jharkhand





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CIN:-U74999JH2022PTC019685  
PAN:-AAHCE3611M  
GST:-20AAHCE3611M12X

Accredited by:-  
NABL vide certificate number TC-12867  
Jharkhand State Pollution Control Board  
Certified by:-  
ISO 9001:2015 and ISO 45001:2018



## Analytical Test Certificate

Unique Lab Report No.	TC1286725000000994	Discipline	Chemical
Report Unique ID	RL02772533030	Group	Water
Issue date/time	21.08.2025/ 17:18	Sub Group	Surface Water

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE : PAKHAR 15.58 BAUXITE MINE

Contact Person Mr. Ankit Das  
Contact Number +91 9971034775  
Email Id ankit.das@adityabirla.com  
Order Date 05.04.2025/ 10:10  
Order Number RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0277	Sample Booking Number	EPIC-2533030
Sample(s) Code	2533030	Sample Receipt (D/T)	16.08.2025/ 11:26

### Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	13.08.2025/ 17:20	Sampling End (D/T)	13.08.2025/ 17:30
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	20°-220°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Bunglapurt Village (Spring Water)	GPS coordinate	23° 32' 39.47" / 84° 36' 32.01"
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### Date(s) of performance of the laboratory activities

Test start date	16.08.2025/ 11:46	Test completion date	21.08.2025/ 15:55
-----------------	-------------------	----------------------	-------------------

### --Test Result--

Sl	Test Parameters	Method used	Unit	Results	Limits
1.	pH value at 25.70C	IS 3025 (P-11) 2022	-	6.56	-
2.	Turbidity	IS 3025 (P-10) 1984	NTU	1.25	-
3.	Colour	IS 3025 (P-04) 2021	Hazen	10	-
4.	Odour	IS 3025 (P-05) 2018	-	Agreeable	-
5.	Taste	IS 3025 (P-07) 2017	-	Agreeable	-
6.	Total Dissolved Solids (TDS)	IS 3025 (P-16) 2023	mg/l	291.00	-
7.	Chloride (as Cl)	IS 3025 (P-32) 2019	mg/l	20.69	-
8.	Total Alkalinity (as CaCO <sub>3</sub> )	IS 3025 (P-23) 2019	mg/l	70.00	-
9.	Total Hardness (as CaCO <sub>3</sub> )	IS 3025 (P-21) 2009	mg/l	86.34	-
10.	Calcium (as Ca)	IS 3025 (P-40) 1991	mg/l	15.23	-
11.	Free Residual Chlorine	IS 3025 (P-26) 1986	mg/l	BDL(MDL-0.4)	-
12.	Sulphate (as SO <sub>4</sub> )	IS 3025 (P-24/Sec-1)2022	mg/l	9.51	-
13.	Nitrate (as NO <sub>3</sub> )	APHA 4500 B 2023	mg/l	3.53	-
14.	Phenolic Compound	IS 3025 (P-43/Sec-1) 2022	mg/l	BDL(MDL-0.001)	-





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PAN:-AAHCE3611M  
GST:-20AAHCE3611M1ZK

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



## Analytical Test Certificate

Unique Lab Report No.	TC1288725000000994	Discipline	Chemical
Report Unique ID	RL02772533030	Group	Water
Issue date/time	21.08.2025/ 17:18	Sub Group	Surface Water

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE : PAKHAR 15.58 BAUXITE MINE

Contact Person	Mr. Ankit Das
Contact Number	+91 9971034775
Email Id	ankit.das@adityabirla.com
Order Date	05.04.2025/ 10:10
Order Number	RP/MJB/MM/25/0114/00

### Group - Residues and Contaminants in Water,

### Sub Group - Trace Metals Elements

15. Copper (as Cu)	APHA 3111 B 2023	mg/l	BDL(MDL-0.2)	-
16. Iron (as Fe)	APHA 3111 B 2023	mg/l	BDL(MDL-0.1)	-
17. Lead (as Pb)	APHA 3111 B 2023	mg/l	BDL(MDL-0.01)	-
18. Cadmium (as Cd)	APHA 3111 B 2023	mg/l	BDL(MDL-0.003)	-
19. Total Chromium (as Cr)	APHA 3111 B 2023	mg/l	BDL(MDL-0.05)	-
20. Nickel (as Ni)	APHA 3111 B 2023	mg/l	BDL(MDL-0.02)	-
21. Total Arsenic (as As)	APHA 3114 B 2023	mg/l	BDL(MDL-0.005)	-
22. Selenium (as Se)	APHA 3114 B 2023	mg/l	BDL(MDL-0.005)	-
23. Manganese (as Mn)	APHA 3111 B 2023	mg/l	BDL(MDL-0.09)	-
24. Zinc (as Zn)	APHA 3111 B 2023	mg/l	BDL(MDL-0.04)	-

### Prescribed Limit

### Operational Status

Analysed by -Pappu Kumar

Unit was Operational During sampling.



Reviewed by  
(E.N. Kumar)  
Technical Head

Issued by  
(Umesh Das)  
Laboratory Head

Authorized Signatory  
EPIC LabTech Pvt. Ltd.  
Ranchi, Jharkhand







# EPIC LabTech Private Limited

Address:-

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✉ epiclabtech@gmail.com

CIN:-U74999JH2022PTC019685

PAN:-AAHCE3611M

GST:-20AAHCE3611M1ZX

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	RL02772533030	Group	Water
Issue date/time	21.08.2025/ 17:18	Sub Group	Surface Water

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE : PAKHAR 15.58 BAUXITE MINE

Contact Person Mr. Ankit Das  
Contact Number +91 9971034775  
Email Id ankit.das@adityabirla.com  
Order Date 05.04.2025/ 10:10  
Order Number RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0277	Sample Booking Number	EPIC-2533030
Sample(s) Code	2533030	Sample Receipt (D/T)	16.08.2025/ 11:26

### Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	13.08.2025/ 17:20	Sampling End (D/T)	13.08.2025/ 17:30
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	20°-220°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Bunglapurt Village (Spring Water)	GPS coordinate	23° 32' 39.47" / 84° 36' 32.01"
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### Date(s) of performance of the laboratory activities

Test start date	16.08.2025/ 11:46	Test completion date	21.08.2025/ 15:55
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### --Test Result--

Sl	Test Parameters	Method used	Unit	Results	Limits
1.	Fluoride (as F)	APHA 4500 F-C 2023	mg/l	BDL(MDL-0.1)	-
Group-Residues and Contaminants in Water				Sub Group-Trace Metals Elements	
2.	Aluminum	IS 3025 (P-55):2019	mg/l	BDL(MDL-0.1)	-
3.	Boron	IS 3025 (P-57):2021	mg/l	BDL(MDL-0.1)	-
4.	Polychlorinated biphenyls	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.2)	-
5.	Polynuclear Aromatic Hydrocarbons (PAH)	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.05)	-
Group-Residues and Contaminants in Water				Sub Group-Pesticides	
6.	Alachlor	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	-
7.	Atrazine	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	-
8.	Dieldrin	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.02)	-
9.	Alpha HCH	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.005)	-
10.	Beta HCH	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.02)	-
11.	Butachlor	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	-
12.	Chlopyrifos	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	-
13.	Delta HCH	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.02)	-
14.	Ethion	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	-





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✉ epiclabtech@gmail.com

CIN:-U74999JH2022PTC019685  
PAN:-AANCE3611M  
GST:-20AAHCE3611M1ZK

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	RL02772533030	Group	Water
Issue date/time	21.08.2025/ 17:18	Sub Group	Surface Water

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE : PAKHAR 15.58 BAUXITE MINE

Contact Person	Mr. Ankit Das
Contact Number	+91 9971034775
Email Id	ankit.das@adityabirla.com
Order Date	05.04.2025/ 10:10
Order Number	RP/MJB/MM/25/0114/00

15.	Gamma- HCH(Lindane)	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	-
16.	Malathion	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	-
17.	Methyl parathion	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.2)	-
18.	Monocrotophos	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	-
19.	Phorate	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	-
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)	-
21.	Endosulfan (alpha, beta, and sulphate)	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.05)	-

--Test result End --

Prescribed Limit

Operational Status

Analysed by - Pappu Kumar

Unit was Operational During sampling.



  
Reviewed by  
(E.N. Kumar)  
Technical Head

  
Issued by  
(Umesh Das)  
Laboratory Head

Authorized Signatory  
EPIC LabTech Pvt. Ltd.  
Ranchi, Jharkhand







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✉ epiclabtech@gmail.com

CIN:-U74999JH2022PTC019685  
PAN:-AKHCE3611M  
GST:-20AAHCE3611M1ZK

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	RL02772533031	Group	Water
Issue date/time	21.08.2025/ 17:21	Sub Group	Surface Water

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE : PAKHAR 15.58 BAUXITE MINE

Contact Person	Mr. Ankit Das
Contact Number	+91 9971034775
Email Id	ankit.das@adityabirla.com
Order Date	05.04.2025/ 10:10
Order Number	RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0277	Sample Booking Number	EPIC-2533031
Sample(s) Code	2533031	Sample Receipt (D/T)	16.08.2025/ 11:26

### Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	13.08.2025/ 17:20	Sampling End (D/T)	13.08.2025/ 17:30
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	20°-220°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Bunglapurt Village (Spring Water)	GPS coordinate	23° 32' 39.47" / 84° 36' 32.01"
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### Date(s) of performance of the laboratory activities

Test start date	16.08.2025/ 11:46	Test completion date	21.08.2025/ 15:56
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### --Test Result--

Sl	Test Parameters	Method used	Unit	Results	Limits
1.	Total Coliform	IS 15185 2002	Per 100 ml	322	
2.	E.Coli	IS 15185 2002	Per 100 ml	181	

### --Test result End --

### Prescribed Limit

### Operational Status

Analysed by - Sujata Kumari

Unit was Operational During sampling.

Reviewed by  
(E.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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CIN:-U74999JH2022PTC018625  
PAN:-AAHCE3611M  
GST:-20AAHCE3611M1ZX

Accredited by :-  
NABL, vide certificate number TC- 5887  
(Jharkhand State Pollution Control Board)  
Certified by :-  
ISO 9001:2015 and ISO 40001:2018



## Analytical Test Certificate

Unique Lab Report No.	TC1288725000001166	Discipline	Chemical
Report Unique ID	RL03052537005	Group	Atmospheric Pollution
Issue date/time	11.09.2025/ 17:06	Sub Group	Ambient Air Quality

### Report Issue to

<b>M/s - MINERALS &amp; MINERALS LIMITED</b> VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302 <b>MONITORING SITE : PAKHAR 15.58 BAUXITE MINE</b>	<b>Contact Person</b> Mr. Ankit Das <b>Contact Number</b> +91 9971034775 <b>Email Id</b> ankit.das@adityabirla.com <b>Order Date</b> 05.04.2025/ 10:10 <b>Order Number</b> RP/MJB/MM/25/0114/00
--	---

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0305	Sample Booking Number	EPIC-2537005
Sample(s) Code	2537005 (A) (B) (C) (D)	Sample Receipt (D/T)	08.09.2025/ 11:00

### Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	06.09.2025/ 11:52	Sampling End (D/T)	07.09.2025/ 09:20
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)	28	Humidity %	68	Wind direction	45°-225°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Mine Office	GPS coordinate	23° 32' 22.71" / 84° 36' 34.81"
S. Location B	Near Weigh Bridge	GPS coordinate	23° 32' 25.07" / 84° 36' 35.09"
S. Location C	Near Mine Quarry No-M4	GPS coordinate	23° 32' 08.09" / 84° 36' 06.42"
S. Location D	Near Mine Quarry No-M1	GPS coordinate	23° 32' 07.68" / 84° 36' 04.96"

### Date(s) of performance of the laboratory activities

Test start date	08.09.2025/ 11:20	Test completion date	11.09.2025/ 16:00
-----------------	-------------------	----------------------	-------------------

### --Test Results--

Sl	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Particulate Matter (PM <sub>10</sub> )	IS:5182 (P-23) 2022	µg/m <sup>3</sup>	54.01	52.00	52.99	55.01	100 (24 hr)
2.	Fine Particulate Matter (PM <sub>2.5</sub> )	IS 5182 (P-24) 2019	µg/m <sup>3</sup>	23.96	22.96	24.88	24.81	60(24 hr)
3.	Sulphur Dioxide (SO <sub>2</sub> )	IS:5182 (P-02) 2023	µg/m <sup>3</sup>	09.72	10.08	08.21	10.44	80(24 hr)
4.	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182 (P-06) 2022	µg/m <sup>3</sup>	17.64	16.59	18.65	19.67	80(24 hr)
5.	Ammonia (NH <sub>3</sub> )	IS:5182 (P-25) 2018	µg/m <sup>3</sup>	20.45	25.21	21.57	24.09	400(24 hr)
6.	Ozone (O <sub>3</sub> )	IS:5182 (P-08) 2019	µg/m <sup>3</sup>	16.86	17.17	17.81	16.54	180(1 hr)
7.	Lead (Pb)	IS:5182(P-22) 2019	µg/m <sup>3</sup>	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 <sup>3</sup>	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 <sup>3</sup>	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  
(Umesh Das)  
Laboratory Head

Authorized Signatory  
EPIC LabTech Pvt. Ltd.

**Contractual Notes** | 1. The laboratory accepts responsibility for content of this report | 2. Test performed at laboratory's permanent facility or on-site in 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 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 :-

PAN:-AAHCE3611M

GST:-20AAHCE3611M1ZK

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	RL03052537005	Group	Atmospheric Pollution
Issue date/time	11.09.2025/ 17:06	Sub Group	Ambient Air Quality

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE : PAKHAR 15.58 BAUXITE MINE

Contact Person Mr. Ankit Das  
Contact Number +91 9971034775  
Email Id ankit.das@adityabirla.com  
Order Date 05.04.2025/ 10:10  
Order Number RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0305	Sample Booking Number	EPIC-2537005
Sample(s) Code	2537005 (A) (B) (C) (D)	Sample Receipt (D/T)	08.09.2025/ 11:00

### Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	06.09.2025/ 11:52	Sampling End (D/T)	07.09.2025/ 09:20
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)	28	Humidity %	68	Wind direction	45°-225°
-------------------	--------	------------------	----	------------	----	----------------	----------

### Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Mine Office	GPS coordinate	23° 32' 22.71" / 84° 36' 34.81"
S. Location B	Near Weigh Bridge	GPS coordinate	23° 32' 25.07" / 84° 36' 35.09"
S. Location C	Near Mine Quarry No-M4	GPS coordinate	23° 32' 08.09" / 84° 36' 06.42"
S. Location D	Near Mine Quarry No-M1	GPS coordinate	23° 32' 07.68" / 84° 36' 04.96"

### Date(s) of performance of the laboratory activities

Test start date	08.09.2025/ 11:20	Test completion date	11.09.2025/ 16:00
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### --Test Results--

Sl	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Benzene (C <sub>6</sub> H <sub>6</sub> )	IS:5182(P-11) 2006	µg/m <sup>3</sup>	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 <sup>3</sup>	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 <sup>3</sup>	BDL (MDL-1.8)	BDL (MDL-1.8)	BDL (MDL-1.8)	BDL (MDL-1.8)	-

### --Test Results End --

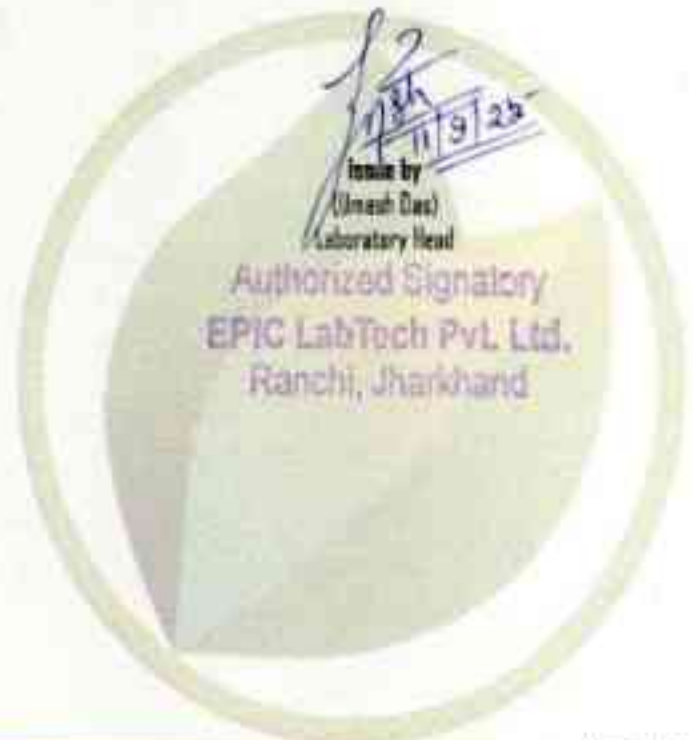
Prescribed Limit Environmental (Protection) Rules-1986, Schedule VII.

Operational Status Unit was Operational During sampling.

Analyzed by - Vishal Mangraj



  
Reviewed by  
(B.N. Kumar)  
Technical Head







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CIN:-U74999JH2022PTC019685  
PAN:-AAHCE3611M  
GST:-30AAHCE3611M12X

Accredited by -  
NABL vide certificate number TC- 10807  
Jharkhand State Pollution Control Board  
Certified by -  
ISO 9001:2015 and ISO 45001:2018



TC-12887

## Analytical Test Certificate

Unique Lab Report No. TC1288725000001167  
Report Unique ID RL03052537006  
Issue date/time 11.09.2025/ 17:09

Discipline Chemical  
Group Pollution & Environment  
Sub Group Soil/Sediments

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE: PAKHAR 15.58 BAUXITE MINE

Contact Person Mr. Ankit Das  
Contact Number +91 9971034775  
Email Id ankit.das@adityabirla.com  
Order Date 05.04.2025/ 10:10  
Order Number RP/MJB/MM/25/0114/00

### References of Quality Management System(Steps of Traceability Chain)

Customer Registration No. EPIC/OTH/0305  
Sample(s) Code 2537006  
Sample Booking Number EPIC-2537006  
Sample Receipt (D/T) 08.09.2025/11:01

### Sampling References

Type of Industry Bauxite Mines  
Sampling Start (D/T) 06.09.2025/ 15:45  
Mode of Sampling Conducted by Laboratory  
Sampling method used EPIC/LAB/SOP/PE/01/00  
Description/condition of sample Receipt sample(s) were fit for analysis.  
Ref. of Sampling Plan EPIC/LAB/RV/036  
Sampling End (D/T) 06.09.2025/ 15:55  
Sample collected by Mr. Akash Kumar & Team

### Environmental Condition during sampling

Weather condition Cloudy Temperature (°C) 28 Humidity % 68 Wind direction 45°-225°

### Sampling Location(s) with GPS coordinate(s)

S. Location A Near Mine Quarry No.M4  
GPS coordinate 23° 32' 05.42" / 84° 36' 04.05"

### Date(s) of performance of the laboratory activities

Test start date 08.09.2025/ 12:15  
Test completion date 11.09.2025/ 16:00

### --Test Result--

Sl	Test Parameters	Method used	Unit	Results	Limits
1.	pH value at 25.7°C	MAGI 2011	-	6.60	-
2.	Available Phosphorus	MAGI 2011	Kg/ha	9.20	-
3.	Available Potassium	MAGI 2011	Kg/ha	77.80	-
4.	Organic Carbon	MAGI 2011	%	1.46	-
5.	Electrical Conductivity	MAGI 2011	µs/cm	99.25	-
6.	Magnesium	MAGI 2011	mg/kg	2.4	-
7.	Nitrogen	MAGI 2011	%	0.12	-
8.	Arsenic (as As)	USEPA 3050 B 1996	mg/kg	BDL(MDL-0.005)	-
9.	Cadmium (as Cd)	USEPA 3050 B 1996	mg/kg	0.68	-
10.	Selenium (as Se)	USEPA 3050 B 1996	mg/kg	BDL(MDL-0.006)	-

### --Test result End --

Operational Status Unit was Operational During sampling.  
Analysed by -Ishika Singh



Reviewed by  
(B.N. Kumar)  
Technical Head



Authorized Signatory  
EPIC LabTech Pvt. Ltd.  
Ranchi, Jharkhand

Page 1 of 1

Contractual Notes | 1. The laboratory accepts responsibility for content of this report | 2. Test performed at laboratory's permanent facility at specified 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 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. |

Abbreviation - BDL (Below Detectable Limit), MDL (Minimum Detectable Limit), LoQ (Limit of Quantitation). |





# EPIC LabTech Private Limited

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CIN:-U74999/JH2022PTC019685  
PAN:-AAHCE3611M  
GST:-20AAHCE3611M1ZX

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	RL03052537006	Group	Pollution & Environment
Issue date/time	11.09.2025/ 17:09	Sub Group	Soil/Sediments

### Report Issue to

M/s - MINERALS & MINERALS LIMITED  
VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA,  
DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302  
MONITORING SITE : PAKHAR 15.58 BAUXITE MINE

Contact Person Mr. Ankit Das  
Contact Number +91 9971034775  
Email Id ankit.das@adityabirla.com  
Order Date 05.04.2025/ 10:10  
Order Number RP/MJB/MM/25/0114/00

### References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0305	Sample Booking Number	EPIC-2537006
Sample(s) Code	2537006	Sample Receipt (D/T)	08.09.2025/11:01

### Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	06.09.2025/ 15:45	Sampling End (D/T)	08.09.2025/ 15:55
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)	28	Humidity %	68	Wind direction	45°-225°
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### Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Mine Quarry No.M4	GPS coordinate	23° 32' 05.42" / 84° 36' 04.05"
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### Date(s) of performance of the laboratory activities

Test start date	08.09.2025/ 12:15	Test completion date	11.09.2025/ 16:00
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### --Test Result--

Sl	Test Parameters	Method used	Unit	Results	Limits
1.	Chloride (as Cl)	EPIC/LAB/SOP/PE/01/00	%	0.035	-
2.	Mercury (as Hg)	USEPA 3050 B 1996	mg/kg	BDL(MDL-0.005)	-

### --Test result End --

Operational Status Unit was Operational During sampling.

Analysed by - Ishika Singh



Reviewed by  
(B.N. Kumar)  
Technical Head

Issued by  
(Anish Das)  
Laboratory Head

Authorized Signatory  
EPIC LabTech Pvt. Ltd.  
Ranchi, Jharkhand



# MINERALS & MINERALS LIMITED

Regd. Office- Court Road, P.O. & Distt.-Lohardaga, Jharkhand-835302

Tel.-06526-223163

CIN NO. U26990JH1970PLC000875

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Ref. :

Date .....

## **Annexure 3**

Date – 01.05.2025

### **Office Order**

Environmental Cell has been re-constituted for Pakhar Group of Mines (Pakhar – 109.507 ha, Pakhar – 15.58 ha Bauxite Mines). 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 Minerals & Minerals Limited.

1. Mr. Jitendra Kumar (Coordinator)
2. Mr. Chandan Kumar (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**

<b>Minerals &amp; Minerals Limited</b>								
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)