



HIL/LHD/ENV/MoEF&CC/410

Date: 24th November 2025

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

Sub: Six Monthly EC Compliance Report for Serangdag (77.89 Ha) Bauxite Mining project of M/s Hindalco Industries Limited, Gumla Jharkhand for the period from April 2025 to September 2025.

Ref: Environmental Clearance Identification No. EC23B001JH161552, dated 11th October 2023.

Dear Sir,

With reference to the above, we are submitting herewith the Compliance status report of EC conditions for **Serangdag (77.89 Ha) Bauxite Mining project of M/s Hindalco Industries Limited**, Gumla 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
77.89	100000	04.10.1978 to 31.03.2030

Hope you will find the same in order.

Thanking You

Yours faithfully,
For **Hindalco Industries Limited**

Basudev Gangopadhyay
AVP (Planning, Environment & Compliance)

Enclosure: - As Above

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Name of the Project : Serangdag Bauxite Mine (77.89 ha)
M/s Hindalco Industries Limited

Environment Clearance No & date : EC23B001JH161552, dated 11.10.2023

Period of Compliance Report : From 1st April 2025 to 30th September 2025

A. Specific Conditions

**Condition 1-This Environmental Clearance is valid subject to the following condition below-
That this project has**

- a. Obtained all legal rights to operate at concerned place.**
- b. Complied with all existing concerned laws of the land and**
- c. Complied with the decisions of SEIAA on the issue of Environmental Clearance till date.**

Reply – Agreed. All the legal rights and concerned laws are already complied with. The decisions of SEIAA on the issue of Environmental Clearance are being/will be complied.

Condition 2- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary and on either side of approach road in two rows with the spacing of 3x3m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, morality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Cline Change. Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Reply to Condition 2- Progressive plantation is being carried out in consultation with local forest Dept. During FY 2025-26 till September, a total of 2190 nos. saplings have been planted within mining lease. Cumulative 7.35 ha areas have been planted till date. In addition to these, agricultural activities (bio plantation) are going on in the reclaimed land as per the consent from landowners. Safety Zone plantation work is already being carried out. Plant survival rates are being taken care of by regular watering and manuring. Protection of saplings by fencing pillar and chain link fencing is being done. Photographs of plantation and chain link fencing are attached below.



Plantation at Mine

Condition 3- No mining/activity shall be undertaken in the forest land or deemed forest without obtaining requisite prior forestry clearance.

Reply to Condition 3- Noted. However, there is no forest land in our mining lease area. Therefore, we are not doing any mining/activity in the forest area.

Condition 4 - The project proponent may apply simultaneously for forest and NBWL clearance in order to complete the formalities without undue delay which till process on their respective merits, no rights will vest in or accrue to them unless all clearance are obtained, if applicable.

Reply to Condition 4 - Noted. However, there is no forest land within the lease hold area. Therefore, there is no need for forest clearance. This mine is also located beyond the ESZ boundary. Hence, NBWL is not applicable for this mine.

B. Statutory Compliance

Condition 1- This Environmental Clearance (EC) is subject to orders/ judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.

Reply to Condition 1 – Noted. However, common cause condition is not applicable for this mine.

Condition 2- In the writ petition (Civil) no. 202/1995, T.N. Godaverman Thirumulpad vs union of India and Ors. the Hon'ble Supreme Court passed an order dated 03.06.2022 " National Park or Wildlife Sanctuary must have an ESZ of minimum 01 km in which the activities prescribed and prescribed in the guidelines of 09th February, 2011 shall be strictly adhered to".

Reply to Condition 2- Noted. However, this mine is tentatively 10 kms away from Mahuadanr ESZ boundary.

Condition 3- The Project proponent complies with all the statutory requirements and judgement of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of common cause versus Union of India & Ors before commencing the mining operations.

Reply to Condition 3- Noted. However, common cause condition is not applicable for this mine.

Condition 4- The Hon'ble Supreme Court vide order dated 08.01.2020 in W.P. (Civil) No. 114/2014 in the matter of Common Cause vs. Union of India has directed that the area which has been mined should be restored so that grass and other vegetation including trees can grow in the mining area for the benefit of animals.

"The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc."

Reply to Condition 4- This is running mine. Backfilling & reclamation in the mined-out area are being done simultaneously as per the approved mining plan and progressive mine closure plan. However, at the end of the final closure of the mine the entire mined out area will be backfilled and reclaimed for the purpose of plantation, re-grassing, constructing rainwater harvesting pond and agricultural activity as per final mine closure plan.

Condition 5- The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of Judgement of Hon'ble Supreme Court dated 2nd August. 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors.

Reply to Condition 5- There had been no illegal mining involved. Hence, there is no demand from the State Government regarding common cause matter for Serangdag Bauxite Mine.

Condition 6- This Environmental Clearance shall become operational only after receiving formal NBWL Clearance from MoEF&CC subsequent to the recommendations of the Standing Committee of National Board for Wildlife. if applicable to the Project.

Reply to Condition 6- Noted. However, this mine is located beyond the ESZ boundary. Hence, it is not applicable for this mine.

Condition 7- This Environmental Clearance shall become operational only after receiving formal Forest Clearance (FC) under the provision of the Forest Conservation Act. 1980. If applicable to the Project.

Reply to Condition 7- Noted. However, no forest area is involved in the lease area. So, this condition is not applicable for this mine.

Condition 8- Project Proponent (PP) shall obtain Consent to Operate after grant of EC and effectively implement all the conditions stipulated therein. The mining activity shall not commence prior to obtaining Consent to Establish / Consent to Operate from the concerned State Pollution Control Board/Committee.

Reply to Condition 8- Noted. Valid CTE and CTO have already been received from JSPCB, Ranchi.

Condition 9- The PP shall adhere to the provision of the Mines Act, 1952, Mines and Mineral (Development & Regulation) Act, 2015 and rules & regulations made there under. PP shall adhere to various circulars issued by Directorate General Mines Safety (DGMS) and Indian Bureau of Mines from time to time.

Reply to Condition 9- This is an operative mine, and all the provisions and regulations made under Mines Act, 1952 and MMDR Act, 2015 and various circulars issued by Directorate General Mines Safety (DGMS) and Indian Bureau of Mines are being adhered to.

Condition 10- The Project Proponent shall obtain consent from all the concerned landowners, before mining operations, as per the provisions of the MMDR Act, 1957 and rules made there under in respect of lands which are not owned by it.

Reply to Condition 10- Agreed. This is an operative mine. Therefore, the land is acquired for mining purposes only after getting the written consent from the respective landowners followed by the DC's order.

Condition 11- The Project Proponent shall follow the mitigation measures provided in MoEF & CC's Office Memorandum No. Z-11013/57/2014-IAJI (M), dated 29th October. 2014 titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area".

Reply to Condition 11- Noted and being adhered to.

Condition 12- The Project Proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and from CGWA for withdrawal of ground water for the project.

Reply to Condition 12- Noted. We have obtained NOC for withdrawal of groundwater for drinking purposes only from CGWA/CGWB. The Scan copy of the 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 SERANGDAG BAUXITE MINING PROJECT (140.07 HA)					
PROJECT ADDRESS SERANGDAG BAUXITE MINING PROJECT VILL - SERANGDAG, PAUNRI AND HANRUP TEHSIL - BISHUNPUR AND GHAGHRA				PIN CODE 835302	
STATE JHARKHAND		DISTRICT GUMLA		TOWN/BLOCK GHAGHRA	
COMMUNICATION ADDRESS MINES DIVISION, 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/2024/229/R-2/2		2. DATE OF ISSUANCE 26/05/2025			
3. APPLICATION NO. MIN/JH/2024/229/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)			

NOC CGWA

Condition 13- A copy of EC letter will be marked to concerned Panchayat / local NGO etc. if any from whom suggestion / representation has been received while processing the proposal.

Reply to Condition 13- Noted. The EC Letter has been submitted to Gram Panchayat Mukhiya, District Industries Centre, MoEF&CC, JSPCB, Deputy Commissioner and Zila Parishad. Acknowledgment copy of the same is attached herewith as **Annexure-9**.

Condition 14- State Pollution Control Board/Committee shall be responsible for display of this EC letter at its Regional office, District Industries Centre, and Collector's office/ Tehsildar's Office for 30 days.

Reply to Condition 14- Noted. The EC Letter has been submitted to JSPCB for display of the same at its Regional office and other government offices.

Condition 15- The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board/Committee and website of the Ministry of Environment. Forest and Climate Change (www. Environment

clearance.nic.in). A copy of the advertisement may be forwarded to the concerned MoEF&CC Regional Office for compliance and record.

Reply to Condition 15- Noted and complied. The information regarding grant of EC has been published in two local newspapers, namely “Hindustan” and “Hindustan Times.” Copies of the advertisement in local newspapers have already been submitted to the Regional Office of MoEF&CC, Ranchi and JSPCB, Ranchi along with the Six-monthly EC compliance report, vide letter no. HIL/LHD/ENV/MoEF/418 dated 25.11.2023. The copy of the same advertisement in the newspapers is attached below.

पर्यावरण स्वीकृति के संबंध में

हिण्डालको इण्डस्ट्रीज लिमिटेड की सेरेंगदाग बॉक्साइट खदान (क्षेत्रफल : 77.89 हे०), बॉक्साइट 100000 टी.पी.ए की उत्पादन क्षमता के साथ गांव : सेरेंगदाग, हंनरूप एवं पवनरी तालुका बिशुनपुर एवं घघरा, जिला गुमला, झारखंड का एस.ई.आई.ए.ए. झारखंड से पुनः मान्य ईसी प्रदान किया गया है।

पर्यावरण स्वीकार करेक बारे में

हिण्डालको इण्डस्ट्रीज लिमिटेड कर सेरेंगदाग बॉक्साइट खदान (क्षेत्रफल : 77.89 हे०), बॉक्साइट 100000 टी.पी.ए की उत्पादन क्षमता कर साथ गांव : सेरेंगदाग, हंनरूप और पवनरी तालुका बिशुनपुर एवं घघरा, जिला गुमला, झारखंड कर एस.ई.आई.ए.ए. झारखंड बट से फिर से मानेक ले ईसी देवल गेले है।

Advertisement in the “Hindustan”

पर्यावरण स्वीकृति के संबंध में

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Advertisement in the “Hindustan Times”

Condition 16- The Project Proponent shall inform the MoEF & CC for any change in ownership of the mining lease. In case there is any change in ownership or mining lease is transferred then mining operation shall only be carried out after transfer of EC as per provisions of the para 11 of EIA Notification, 2006 as amended from time to time.

Reply to Condition 16- Noted and will be informed if applicable.

Condition 17- In all Stone Mining projects, depending upon the air pollution estimates based upon fuel use in operations and activities of the respective projects; required monitoring station-based air quality monitoring shall be done in the influence area of the project with needed mitigation conditions to ensure sustainable. Stone mining as per guidelines, circulars and norms of MOEFCC / Hon'ble NGT or any other directives of regulatory / statutory bodies and competent Courts.

PP to take preventive steps to avoid flash flood conditions arising from mining operations and probably run off in rainy season conditions.

Reply to Condition 17- This is not a stone mine. It is a bauxite mine and all the mitigation measures are being taken to prevent air pollution in Serangdag Bauxite Mine. As shallow depth mining is being carried out, there is no chance of flash flood conditions arising from mining operations.

Condition 18- PP shall maintain minimum distance from Reserved / Protected Forests as stipulated in applicable guidelines.

Reply to Condition 18- Noted and being adhered to.

Condition 19- All statutory clearances shall be obtained before the start of mining operations.

Reply to Condition 19- All statutory clearances have already been obtained as it is a running mine.

C. Air Quality monitoring and preservation

Condition 1- The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Monitoring Stations with 1 (one) in upwind and 2 (two) in downwind direction based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical parameters, relevant for mining operations, of air pollution viz. PM10, PM2.5, NO2, CO and SO2 etc. as per the methodology mentioned in NAAQS Notification No. B-2901 6/20/90/PCUI, dated 18.11.2009, covering the aspects of transportation and use of heavy machinery in the impact zone. The ambient air quality shall also be monitored at prominent places like office buildings, canteen etc. as per the site condition to ascertain the exposure characteristics at specific places. The above data shall be digitally displayed within 03 months in front of the main Gate of the mine site.

Reply to Condition 1- We have 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. The report is attached as **Annexure 2**. The display board is already installed in front of mine gate office. We have already installed an online PM10 analyzer at mine site.

Condition 2- Effective safeguard measures for prevention of dust generation and subsequent Suppression (like regular water sprinkling, metaled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from all sources shall be regularly controlled by installation of required equipment/ machineries and preventive maintenance. Use of suitable water-soluble chemical dust suppressing agents may be explored for better effectiveness of dust control system. It shall be ensured that the air pollution level conforms to the standards prescribed by the MoEF&CC/ Central Pollution Control Board.

Reply to Condition 2- Continuous water sprinkling is being done to prevent dust suppression on haul road. Online PM10 analyzer has been installed for regular monitoring purposes. Suitable water-soluble chemical dust suppressing agents will be used in future if required.

Condition 3-Approved devices for dust suppression shall be installed.

Reply to Condition 3- USEPA approved online PM10 analyzer has been installed in mine as per the directives of JSPCB. However, dust suppression is also being done by sprinkling water through mobile water tankers.



Dust Suppression through water tanker.

Condition 4- Personnel working in dusty areas should be provided with protective respiratory devices and they should also be 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. A detailed report shall be sent to the Pollution Control Board periodically.

Reply to Condition 4- All the workers have been provided with PPEs including dust mask and dust respirators. The Periodical Occupational health surveillance program of the workers is being carried out and records maintained as per statute. IME/PME report has been attached as **Annexure 6**.

Condition 5- The proponent shall upload the status of compliance of the environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to Jharkhand State Pollution Control Board and its concerned Regional Office. The criteria pollutant levels are namely SPM, RSPM, SO₂, NO_x (ambient levels) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the project shall be monitored and displayed at a convenient location near the main gate of the company in the company in the public domain.

Reply to Condition 5- Six-monthly EC compliance along with Environmental monitoring reports is being uploaded on the company website regularly. The same is also being submitted to the Regional Office of MoEF&CC, Ranchi and JSPCB, Ranchi. An Environmental Display board is already installed at the Mine Main Gate.

D. Water quality monitoring and preservation:

Condition 1- In case, immediate mining scheme envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case, mining operation involves intersection of ground water table at a later stage, then PP shall ensure that prior approval from CGWA and MoEF&CC is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydro-geological study of the area.

Reply to Condition 1- Noted. Since shallow depth mining is being carried out in Serangdag Bauxite Mine. Therefore, Mining operation does not involve intersection of ground water table. However, we are regularly monitoring the ground water table through installation of piezometer. The copy of the same report is attached herewith as **Annexure-1**.

As the water table is not intersecting during mining operation, the detailed hydro-geological study is not applicable for this mine.

Condition 2- Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintained. The natural water bodies and or streams which are flowing in and around the village, should not be disturbed. The Water Table should be nurtured so as not to go down below the pre-mining period. In case of any water scarcity in the area, the Project Proponent has to provide water to the villagers for their use. A provision for regular monitoring of water tables in open dug wall located in village should be incorporated to ascertain the impact of mining over ground water table. The Report on changes in Ground water level and quality shall be submitted on a six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.

Reply to Condition 2- Noted. Regular monitoring of drinking water along with stream and spring water is being carried out. As shallow depth mining is being carried out, there is no intersection of the groundwater table during the mining operation at present and in the future. A piezometer has also been installed in mine for monitoring of ground water level. Drinking water is being provided to nearby villages regularly.

The ground water level and water quality reports are being submitted regularly on a six-monthly basis to the regional office of the Ministry, CGWA, and JSPCB. The same are attached herewith as **Annexure 1 and 2**.

Condition 3-Project Proponent shall regularly monitor and maintain records w.r.t. ground water level and quality in and around the mine lease by establishing a network of existing wells as well as new piezo-meter installations during the mining operation in consultation with Central Ground Water Authority/ State Ground Water Department. The Report on changes in Ground water level and quality shall be submitted on a six-monthly basis to the Regional Office of the Ministry. CGWA and State Groundwater Department / State Pollution Control Board.

Reply to Condition 3- We regularly monitor and maintain records w.r.t. ground water level and quality in and around the mine lease. However, we are not using groundwater for any mining

purposes. As shallow depth mining is being carried out, there is no intersection of the groundwater table during the mining operation at present and in the future. A piezometer has also been installed in the mine to monitor the ground water level.

The ground water level and water quality reports are being submitted regularly on a six-monthly basis to the regional office of the Ministry, CGWA, and JSPCB. The same are attached herewith as **Annexure 1 and 2**.



Piezometer

Condition 4- The Project Proponent shall undertake regular monitoring of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease and maintain its records. The project proponent shall undertake regular monitoring of water quality upstream and downstream of water bodies passing within and nearby/ adjacent to the mine lease and maintain its records. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. PP shall carry out regular monitoring w.r.t. pH and included the same in monitoring plan. The parameters to be monitored shall include their water quality vis-à-vis suitability for usage as per CPCB criteria and flow rate. It shall be ensured that no obstruction and/ or alteration be made to water bodies during mining operations without justification and prior approval of MoEF&CC. The monitoring of water courses/ bodies existing in lease area shall be carried out four times in a year viz. pre- monsoon (April-May), Monsoon (August), post-monsoon (November) and winter (January) and the record of monitored data may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority and Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board. Clearly showing the trend analysis on a six-monthly basis.

Reply to Condition 4- Regular monitoring of water quality parameters of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease is being carried out and record is being maintained for the same.

However, we are not using groundwater for any mining purposes. As shallow depth mining is being carried out, there is no intersection of the groundwater table during the mining operation at present and in the future. No natural watercourse and/or water resource is being and will be obstructed due to mining operations.

The water quality reports are being submitted regularly on a six-monthly basis to the regional office of the Ministry, CGWA, and JSPCB. The same are attached herewith as **Annexure 2**.

Condition 5- Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run-off: acid mine drainage and metal contamination in runoff shall be monitored along with Total Suspended Solids (TDS). Dissolved Oxygen (DO). pH and Total Suspended Solids (TSS). The monitored data shall be uploaded on the website of the company as well as displayed at the project site in public domain, on a display board at a suitable location near the main gate of the Company. The circular No. J- 20012/1/2006-IAJI (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change may also be referred to in this regard.

Reply to Condition 5- There is no polluted water generated during mining operations. However, a negligible amount of wastewater is generated in the workshop from washing vehicles, and an Oil & grease trap system is already installed for Serangdag group of mines to treat this effluent. The treated water is in close circuit and being reused for washing of vehicle in the workshop.

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

The monitoring report is being uploaded on the company website along with Six-monthly EC Compliance report regularly. An Environmental Display board is already installed at the Mine Main Gate.

Environmental Display Board

Condition 6- Project Proponent shall plan, develop and implement rainwater harvesting measures on long term basis to augment ground water resources in the area consultation with Central Ground Water Board/ State Groundwater Department. A report on amount of water recharged needs to be submitted to Regional Office MoEF&CC annually.

Reply to Condition 6 - Rainwater harvesting pond with proper fencing has been already constructed on long term basis to augment ground water in the area of Serangdag plateau, in consultation with Central Ground Water Board. Photographs of the same have been attached below. Water Positivity study for Serangdag Group of Mines has been carried out recently. Total amount of water recharge has been found to be 22092.50 m³/Annum.



Rainwater Harvesting Pond

Condition 7- Industrial wastewater (workshop and wastewater from the mine) should be properly collected and treated so as to conform to the notified standards prescribed from time to time. The standards shall be prescribed through Consent to Operate (CTO) issued by concerned State Pollution Control Board (SPCB). The workshop effluent shall be treated after its initial passage through Oil and grease trap.

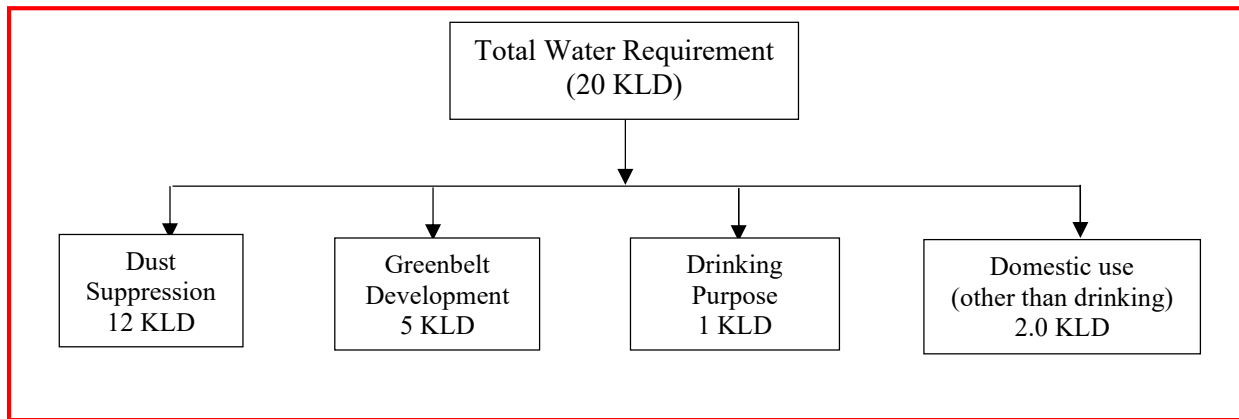
Reply to Condition 7- There is no polluted water generated during mining operations. However, a negligible amount of wastewater is generated in the workshop from vehicles washing, and an Oil & grease trap system is already installed for Sherengdag group of mines to treat this effluent. The treated water is in close circuit and being reused for washing of vehicle in the workshop. Furthermore, the quality of this treated water is being monitored regularly and all water parameters are within permissible limits. The monitoring report is attached herewith as **Annexure- 2**.



Washing Ramp with Oil & Grease Trap

Condition 8- The water balance/water auditing shall be carried out and measures for reducing the consumption of water shall be taken up and reported to the Regional Office of the MoEF&CC and State Pollution Control Board/Committee.

Reply to Condition 8- Noted. The water balance for this mine is attached below. We are taking water from the rainwater harvesting pond for sprinkling and other activities. We are not abstracting any ground water for mining purposes. However, we have obtained NOC from CGWA for drinking purposes only. We have also conducted water study for Serangdag group of mines and prepared a report. Based on water study, this mine has been turned out to be a water positive mine.



Water Balance Chart

Condition 9- The mining operations shall be restricted to ground above the water table, and it should not intersect the groundwater table. In case of working below the ground water table. Prior approval of the Ground Water Directorate, Government of Jharkhand / Central Ground Water Board shall be obtained. Benches height and slope shall be maintained as per approved Mining Plan. The Mining Plan has to be got approved by concerned authorities as per IBM or equivalent agencies. Safety measures shall be adopted in line with DGMS Guidelines.

Reply to Condition 9- Noted. We are not using groundwater for any mining purposes. As shallow depth mining is being carried out, there is no intersection of the groundwater table during the mining operation at present and in the future.

A piezometer has been installed for monitoring of ground water level. The Mining Plan has already been approved by IBM, Ranchi and Safety measures like Benches height and slope are being maintained as per the guidelines by DGMS.

Condition 10- The project proponent shall ensure that no natural watercourse and / or water resources shall be obstructed / diverted due to any mining operations. Adequate measures shall be taken for conservation and protection of the first order and the second order streams. If any emanating / passing through the mine lease area during the course of mining operation.

Reply to Condition 10- There is no natural watercourse and / or water resources within the mining lease area. Shallow depth mining methodology is adopted for the mining process. Hence, there is no impact of mining operation on natural water courses.

Condition 11- The project proponent shall implement approved conservation measures to augment ground water resources in the area in consultation with the Ground Water Directorate, Government of Jharkhand/ Central Ground Water Board.

Reply to Condition 11- A detailed plan to augment groundwater has been prepared, and suitable measures like the creation of water harvesting ponds etc., are being taken for the augmentation of groundwater in the area of Serangdag Plateau, in consultation with the Central Ground Water Board.

Condition 12- The project proponent shall, if required, obtain necessary prior permission/NOC from the competent authorities for drawl of requisite quantity of water required from the source for the project.

Reply to Condition 12- No Objection Certificate (NOC) for ground water abstraction has been obtained for drinking purposes only from CGWB/CGWA. The same NOC is attached in Condition No.12 of Section (B) Statutory Compliance.

However, rainwater harvested during the rainy season, is being used for sprinkling on haul roads and plantation. We are not using groundwater for any mining purposes.

Condition 13- Suitable rainwater harvesting measures shall be planned and implemented in consultation with the Ground Water Directorate, Government of Jharkhand / Central Ground Water Board.

Reply to Condition 13- Suitable measures such as creation of rainwater harvesting ponds, etc., are implemented in the area of Serangdag Plateau, in consultation with the Central Ground Water Board.

E. Noise and vibration monitoring and prevention

Condition 1- The peak particle velocity at 500 m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS Guidelines.

Reply to Condition 1- Noted and being adhered to. Blast vibration study is being carried out at regular intervals and the report is attached herewith as **Annexure 8**.

Condition 2- The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed: by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day /night hours.

Reply to Condition 2- Noted. Mining operation is restricted to daytime only. So, there is no disturbance created in the nearby villages regarding illumination and sound.

Condition 3-The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The workers engaged in operations of HEMM. etc. should be provided with ear plugs /muffs. All personnel including labours working in dusty area shall be provided with protective respiratory devices along with adequate training, awareness and information on safety and health aspects. The PP shall be held responsible in case it has been found that workers/ personals/ labours are working without personal protective equipment.

Reply to Condition 3- Noted. The noise level monitoring is being conducted at a regular interval. The noise level is below the prescribed norms. The report has been attached as **Annexure 2**. All workers engaged in operation have been provided with PPEs. Training in Health and safety is being imparted by the respective officials.

F. Mining Plan:

Condition 1- The Project Proponent shall adhere to the working parameters of the mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste. over burden. inter burden and topsoil etc. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode. ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment Forest and Climate Change which entail adverse environmental impacts even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form to Short Term Permit (STP), Query license or any other name.

Reply to Condition 1- Noted and being adhered to.

Condition 2- . The Project Proponent shall get the Final Mine Closure Plan along with Financial Assurance approved from Indian Bureau of Mines/Department of Mining & Geology as required under the Provision of the MMDR Act. 1957 and Rules/ Guidelines made there under. A copy of approved final mine closure plan shall be submitted within 2 months of the approval of the same from the competent authority to the concerned Regional Office of the Ministry of Environment, Forest and Climate Change for record and verification.

Reply to Condition 2- Noted and will be adhered in due course.

Condition 3-The land-use of the mine lease area at various stages of the mining scheme as well as at the end-of-life shall be governed as per the approved Mining Plan. The excavation vis-à-vis backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area shall be governed as per the approved mining plan. PP shall ensure the monitoring and management of rehabilitated areas until the vegetation becomes self-sustaining. The compliance status shall be submitted half-yearly to the MoEF&CC and its concerning the Regional Office.

Reply to Condition 3- Noted and being adhered. The excavated area is being back filled concurrently and the back filled area is used for afforestation/agricultural activity as required after

reclamation. Monitoring and management of rehabilitated areas continues through supervision. The photograph is attached below.



Reclaimed area

Condition 4- No change in mining technology and scope of working should be made without prior approval of the Statutory authorities / Department of Mines. Government of Jharkhand / Jharkhand State Pollution Control Board, Ranchi during the EC period.

Reply to Condition 4- Noted.

Condition 5- No change in the calendar plan including excavation. quantum of mineral and waste should be made.

Reply to Condition 5- 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 6- The Project proponent shall make all internal roads pucca as per approved specification of Govt. of Jharkhand and shall maintain a good housekeeping by regular cleaning and wetting of the haul roads and the premises.

Reply to Condition 6- Internal Haul Road has been provided as per approved specifications. Regular housekeeping and water sprinkling is being carried out for fugitive dust suppression.

Condition 7- The Project proponent shall maintain register for production and dispatch and submit return to the Board.

Reply to Condition 7- Noted and is being complied with, as per the requirement. However, Monthly as well as annual return is being submitted to IBM and District Mining office at stipulated timeframe.

Condition 8- Dispensary facilities for First Aid shall be provided at site.

Reply to Condition 8- Dispensary facilities are available for Serangdag Bauxite Mine. Photographs are attached below.



Dispensary Facility at mines

G. Land Reclamation

Condition 1- The Overburden (O.B.) generated during the mining operations shall be stacked at earmarked OB dump site(s) only and it should not be kept active for a long period of time. The physical parameters of the OB dumps are like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by D.G.M.S w.r.t safety in mining operations shall be strictly adhered to maintain the stability of topsoil/OB dumps. The topsoil shall be used for land reclamation and plantation.

Reply to Condition 1: - Overburden and waste rock are being used for concurrent backfilling, and topsoil is being spread on the backfilled area for reclamation as per mining plan approved by IBM. Currently, there is no OB dump present in the mine lease area. All Safety measures are being adhered to the guidelines/circulars issued by DGMS. Data pertaining to backfilling is enclosed as **Annexure 4**. Monitoring and management of rehabilitated areas is being done through effective supervision.

Condition 2- The reject/ waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps are like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.

Reply to Condition 2- Overburden and waste rock are being used for concurrent backfilling, and topsoil is being spread on the backfilled area for reclamation as per mining plan approved by IBM. Currently, there is no OB dump present in the mine lease area. All Safety measures are being adhered to the guidelines/circulars issued by DGMS. Data pertaining to backfilling is enclosed as **Annexure 4**. Monitoring and management of rehabilitated areas is being done through effective supervision.

Condition 3- The reclamation of waste dump sites shall be done in scientific manner as per the Approved Mining Plan cum Progressive Mine Closure Plan.

Reply to Condition 3- The land reclamation of OB dumps is being done after concurrent backfilling as per approved mining plan in a scientific manner. The photograph of the same is attached in reply to Condition 3 of Section (F) Mining Plan.

Condition 4- The slope of dumps shall be vegetated in a scientific manner with suitable native species to maintain the slope stability, prevent erosion and surface run off. The selection of local species regulates local climatic parameters and helps in adaptation of plant species to the microclimate. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps. The dump mass should be consolidated with the help of dozer/ compactors thereby ensuring proper filling/ leveling of dump mass. In critical areas, use of geo textiles/ geo-membranes / clay liners / Bentonite etc. shall be undertaken for stabilization of the dump.

Reply to Condition 4- Noted. Currently, there is no OB dump present in the mine lease area as we are following concurrent backfilling and reclamation process in scientific manner.

Condition 5- The Project Proponent shall carry out slope stability study in case the dump height is more than 30 meters. The slope stability report shall be submitted to concerned regional office of MoEF&CC.

Reply to Condition 5- Noted. There is no dump present currently on site as we are following concurrent backfilling and reclamation process. Therefore, this condition is not applicable for this mine.

Condition 6- Catch drains, settling tanks and ponds of appropriate size shall be constructed around the mine working, mineral yards and Topsoil/OB/Waste dumps to prevent run off of water and flow of sediments directly into the water bodies (Nallah/ River/ Pond etc.). The collected water should be utilized for watering the mine area, roads, green belt development, plantation etc. The drains/ sedimentation sumps, etc. shall be de-silted regularly, particularly after monsoon season, and maintained properly.

Reply to Condition 6- To collect & manage rainwater during monsoon, part of mined out area is used as a 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.



Garland drain

Condition 7- Check dams of appropriate size, gradient and length shall be constructed around mine pit and OB dumps to prevent storm run-off and sediment flow into adjoining water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall (based on 50 years data) and maximum discharge in the mine and its adjoining which shall also help in providing adequate retention time period thereby allowing proper settling of sediments/ silt material. The sedimentation pits/ sumps shall be constructed at the corners of the garland drains.

Reply to Condition 7- To collect & manage rainwater during monsoon, part of mined out area is used as a settling tank for the runoff. Rainwater stored is being used for watering the mine area, roads, green belt development and sprinkling as necessary. An appropriate check dam has been provided.



Check dam/ Catchment Area

Condition 8- The topsoil, if any, shall temporarily be stored at earmarked site(s) within the mine lease only and should not be kept unutilized for long. The physical parameters of the topsoil dumps are like height, width and angle of slope shall be governed as per the approved mining Plan and as per the guidelines framed by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of dumps. The topsoil shall be used for land reclamation and plantation purposes.

Reply to Condition 8- Topsoil is being used for reclamation and rehabilitation simultaneously. Temporary soil is being stacked separately in the mining premises, if required and the same is being used for reclamation purposes within a month. There is no external OB dump. The excavated area is being back filled concurrently and the back filled area is used for afforestation/agricultural activity as required. Monitoring and management of rehabilitated areas continues through supervision.

H. Transportation

Condition 1- No Transportation of the minerals shall be allowed in case of roads passing through villages habitations. In such cases, PP shall construct a 'bypass' road for the purpose of transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.

Reply to Condition 1- Haul Road has been constructed for transportation of minerals. Mobile water tankers with sprinkling facility have been provided along-haul roads, loading, unloading & at transfer points to arrest dust emission. Regular maintenance of vehicles is undertaken to minimize vehicular emission. All measures are being taken to control vehicular emission. The vehicles are being covered with tarpaulin while transportation of mineral. PUC Certificate is attached as **Annexure 7**.



Tarpaulin covered Vehicle

Condition 2- The Main haulage road within the mine lease should be provided with a permanent water sprinkling arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipment like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed in Crushers, belt-conveyors, and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.

Reply to Condition 2- Haul Road has been constructed for transportation of minerals. Mobile water tankers with sprinkling facilities have been provided on long-haul roads, loading, unloading & at transfer points to arrest dust emission. Regular maintenance of vehicles is undertaken to minimize vehicular emission. All measures are being taken to control vehicular emission. The vehicles are being covered with tarpaulin while transportation of mineral.

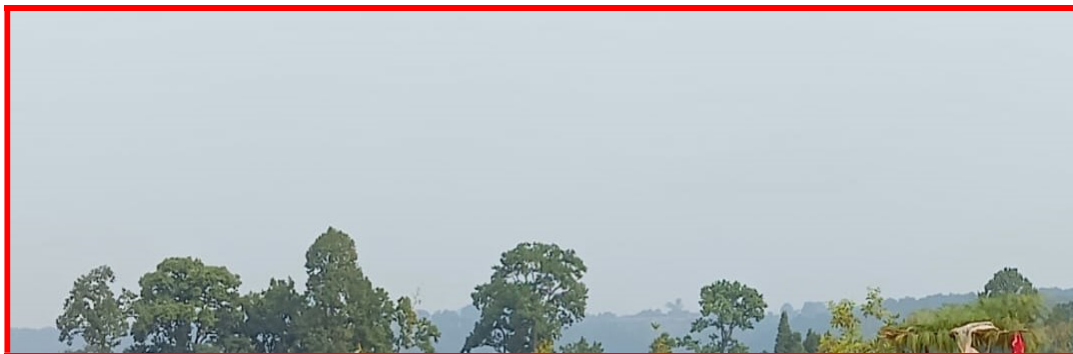
Condition 3- Vehicular emissions shall be kept under control by regular repairing of transport roads and regular air quality monitoring. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of minerals. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded. No transportation of stone / sand outside the mine lease area shall be carried out after sunset.

Reply to Condition 3- 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 minerals. No transportation of minerals outside the mine lease area is carried out after sunset.

I. Greenbelt

Condition 1-The Project Proponent shall develop greenbelt in 7.5m wide safety zone all along the mine lease boundary as per the guidelines of CPCB in order to arrest pollution emanating from mining operations within the lease. The whole Green belt shall be developed within the first 5 years starting from the windward side of the active mining area. The development of greenbelt shall be governed as per the EC granted by the Ministry irrespective of the stipulation made in approved mine plan.

Reply to Condition 1- Green belt development work is in progress in safety zone of mine lease already. Plantation work is being governed as per the approved mining plan and EC granted.





Plantation at mine

Condition 2- The Project Proponent shall carry out plantation/ afforestation in backfilled and reclaimed area of mining lease. around water body, along the roadsides, in community areas etc. by planting the native species in consultation with the State Forest Department/ Agriculture Department/ Rural development department/ Tribal Welfare Department/ Gram Panchayat is such that only those species be selected which are of use to the local people. The CPCB guidelines in this respect shall also be adhered. The density of the trees should be around 2500 saplings per Hectare. Adequate budgetary provision shall be made for the protection and care of trees.

Reply to Condition 2- Progressive plantation of native species is being carried out in consultation with local forest department within mining lease, reclaimed area etc. During FY 2025-26 till September, a total of 2190 nos. saplings have been planted within mining lease. Cumulative 7.35 ha areas have been planted till date. In addition to these agricultural activities (bio plantation) is going on reclaimed land as per the consent from landowners. The Green belt development program is in progress with the progress of mining activities.



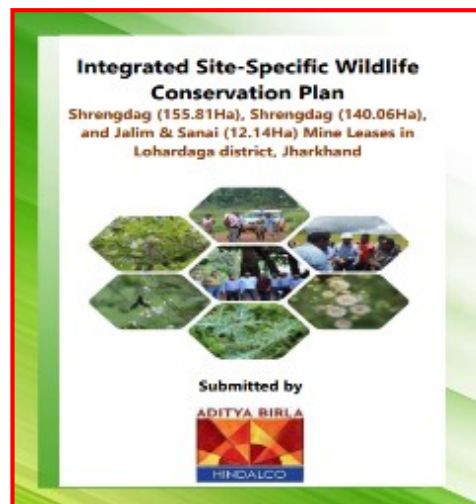
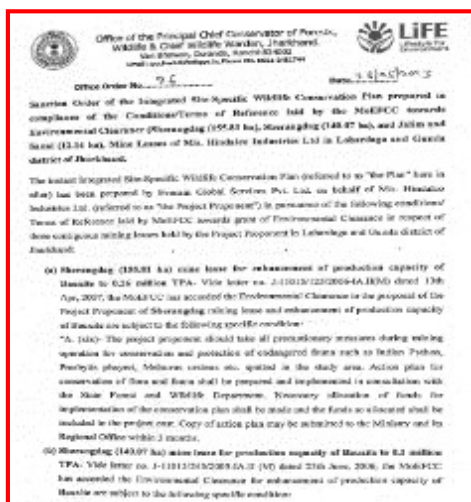
Plantation at mine

Condition 3- The Project Proponent shall make necessary alternative arrangements for livestock feed by developing grazing land with a view to compensating those areas which are coming within the mine lease. The development of such grazing land shall be done in consultation with the State Government. In this regard, Project Proponent should essentially implement the directions of the Hon'ble Supreme Court with regard to acquisition of grazing land. The sparse trees on such grazing ground, which provides mid- day shelter from the scorching sun, should be scrupulously guarded/ protected against felling and plantation of such trees should be promoted.

Reply to Condition 3- As per the agreement by DC, we are acquiring land on the lease basis in consultation with the State Government and with the consent of the landowner. After completing mining operations followed by reclamation and topsoil spreading, we return the land to the landowners for agriculture purpose or plantation whichever is desired by them (landowners /villagers). Hence, we do not deteriorate the quality of the land and there is no need to create grazing land. No cutting of trees/ felling of trees are involved in the mining process.

Condition 4- The Project Proponent shall undertake all precautionary measures for conservation and protection of endangered flora and fauna and Schedule-I species during mining operation. A Wildlife Conservation Plan shall be prepared for the same clearly delineating action to be taken for conservation of flora and fauna. The Plan shall be approved by Chief Wildlife Warden of the State Govt.

Reply to Condition 4- We have prepared Integrated Site-specific Wildlife Conservation in consultation with the State Forest Department and obtained approval letter from Principal Chief Conservator of Forest, Wildlife & Chief Wildlife Warden, Jharkhand via Office Order No.26 dated 26.05.2023 for conservation and protection of flora and fauna in the core and buffer zone for Serangdag Group of Mines. However, Mine is located outside an eco-sensitive zone.



Integrated Site-specific Wildlife Conservation Plan for Sherengdag Group of Mines

Condition 5- And implemented in consultation with the State Forest and Wildlife Department. A copy of the Wildlife Conservation Plan and its implementation status (annual) shall be submitted to the Regional Office of the Ministry.

Reply to Condition 5- Noted and complied with. A Site-Specific Wildlife Conservation Plan (WLCP) has been prepared in consultation with the State Forest Department and approved by the PCCF (Wildlife), Jharkhand. As per the approved WLCP, we receive a demand note from the DFO each year and make the corresponding payment accordingly. A copy of the latest payment receipt is enclosed herewith as **Annexure-11**.

Condition 6- The Project proponent shall not cut trees / carry out tree felling in leased out area without the permission of competent authority.

Reply to Condition 6- No cutting of trees/ felling of trees are involved in the mining process.

J. Public hearing and human health issues:

Condition 1- The Project Proponent shall appoint an Occupational Health Specialist for Regular as well as Periodical medical examination of the workers engaged in the mining activities, as per the DGMS guidelines. The records shall be maintained properly. PP shall also carry out Occupational health check-ups in respect of workers which are having ailments, like BP, diabetes, habitual smoking, etc. The check-ups shall be undertaken once in six months and necessary remedial/ preventive measures be taken. A status report on the same may be sent to MoEF&CC Regional Office and DGMS on a half-yearly basis.

Reply to Condition 1- Regular and periodical medical examination of the workers engaged in the project is being carried out and records are being maintained by Medical Officer. IME/PME record is attached as **Annexure 6**.

Condition 2- . The Project Proponent must demonstrate commitment to work towards 'Zero Harm' from their mining activities and carry out Health Risk Assessment (HRA) for identification workplace hazards and assess their potential risks to health and determine appropriate control measures to protect the health and wellbeing of workers and nearby community. The proponent shall maintain accurate and systematic records of the HRA. The HRA for neighborhood has to focus on Public Health Problems like Malaria, Tuberculosis, HIV, Anaemia, Diarrhea in children under five, respiratory infections due to biomass cooking. The proponent shall also create awareness and educate the nearby community and workers for Sanitation. Personal Hygiene, Hand washing, not to defecate in the open, Women Health and Hygiene (Providing Sanitary Napkins), hazard of tobacco and alcohol use. The Proponent shall carry out base line HRA for all the categories of workers and thereafter every five years.

Reply to Condition 2- Regular awareness programs are being carried out to educate the local community on healthcare, sanitation, hygiene etc. We have conducted awareness Drive on HEAT Wave at Serangdag mines operational areas as well as distributed ORS to the workers and Staffs. Regular rural medical camps are organized every week, specifically on Wednesdays and Fridays, across the mining operational areas including Bhaishathan, Itkiri, Lapsar, and Nathpur. In addition,

First Aid Centers are actively operating at Lapsar and Nathpur to provide immediate medical assistance to local residents.

To promote sports and encourage youth participation, football kits have been distributed to village teams and government school children in the Serangdag mining operational area

Also, awareness has been created for Sanitation, Personal Hygiene, Hand washing and not to defecate in the open periodically through “Swacchta Abhiyan”. Education and awareness for Women Health and Hygiene, hazard of tobacco and alcohol use is being given on regular intervals to the local villagers.

All workers and company staff are provided with proper PPEs and Bleaching powder. Base line HRA for all the categories of workers will be carried out in the future. However, we conduct IME/PME for the health and wellbeing of the workers in the mines.



Awareness Program

Condition 3- The Proponent shall carry out Occupational health surveillance which be a part of HRA and include Biological Monitoring where practical and feasible, and the tests and investigations relevant to the exposure (e.g. for Dust X-Ray chest: For Noise Audiometric: for Lead Exposure Blood Lead. For Welders Full Ophthalmologic Assessment: for Manganese Miners a complete Neurological Assessment by a Certified Neurologist. and Manganese (Mn) Estimation in Blood: For Inorganic Chromium- Fortnightly skin inspection of hands and forearms by a responsible person. Except routine tests all tests would be carried out in a Lab accredited by NABH. Records of Health Surveillance must be kept for 30 years, including the results of and the records of Physical examination and tests. The record of exposure due to materials like Asbestos, Hard Rock Mining, Silica, Gold, Kaolin, Aluminum, Iron,

Manganese, Chromium, Lead, Uranium needs to be handed over to the Mining Department of the State in case the life of the mine is less than 30 years. It would be obligatory for the State Mines Departments to make arrangements for the safe and secure storage of the records including X-Ray. Only conventional X-Ray will be accepted for recording purposes and not the digital one). X-Ray must meet ILO criteria (17 x14 inches and of good quality).

Reply to Condition 3- Occupational health surveillance is being conducted in regular intervals by specialized doctors and nurses. Regular rural medical camps are organized every week, specifically on Wednesdays and Fridays, across the mining operational areas including Bhaisbathan, Itkiri, Lapsar, and Nathpur along with regular running first AID center at Lapsar & Nathpur. Periodical medical examination of the workers engaged in the project is being carried out and records are being maintained by Medical Officer. IME/PME record is attached as **Annexure 6**.



Rural medical camp

Condition 4- The Proponent shall maintain a record of performance indicators for workers which includes. (a) there should not be a significant decline in their Body Mass Index, and it should stay between 18.5 -24.9, (b) the Final Chest X-Ray compared with the base line X-Ray should not show any capacities (c) At the end of their leaving job there should be no Diminution in their Lung Functions Forced Expiratory Volume in one second (FEV1), Forced Vital Capacity (FVC), and the ratio) unless they are smokers which has to be adjusted, and the effect of age, (d) their hearing should not be affected. As a proof an Audiogram (first and last need to be presented), (c) they should not have developed any Persistent Back Pain, Neck Pain, and the movement of their Hip, Knee and other joints should have a normal range of movement. (f) they should not have suffered loss of any body part. The record of the same should be submitted to the Regional Office, MoEF&CC annually along with details of the relief and compensation paid to workers having the above indications.

Reply to Condition 4- Noted and being complied with. However, Regular, and periodical medical examination of the workers engaged in the project is being carried out and records are being maintained. IME/PME record is attached above.

Condition 5-The Project Proponent shall ensure that Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.

Reply to Condition 5- Personnel working in dusty areas are provided with proper respiratory devices. Regular training is being conducted on occupational health and work safety environments.

Condition 6- Project Proponent shall make provision for the housing for workers/labours or shall construct labor camps within/outside (company owned land) with necessary basic infrastructure/ facilities like fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche for kids etc. The housing may be provided in the form of temporary structures which can be removed after the completion of the project-related infrastructure. The domestic wastewater should be treated with STP in order to avoid contamination of underground water.

Reply to Condition 6- Rest shelters have been provided to laborers. As most of the workers/laborers are from local villages, there is no need for labor camps.

Condition 7- The activities proposed in the Action plan prepared for addressing the issues raised during the Public Hearing shall be completed as per the budgetary provisions mentioned in the Action Plan and within the stipulated time frame. The Status Report on implementation of Action Plan shall be submitted to the concerned Regional Office of the Ministry along with District Administration.

Reply to Condition 7- Noted. The issues raised during the Public Hearing are being implemented as per the budgetary provision.

Condition 8- Measures should be taken for control of noise levels below prescribed norms in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs /muffs.

Reply to Condition 8- Noise level is maintained below prescribed norms and is being monitored by NABL accredited laboratory. The report is attached as **Annexure 2**. All the workers engaged in operations of HEMM are provided with earplugs.

K. Corporate Environment Responsibility (CER):

Condition 1- The activities and budget earmarked for Corporate Environmental Responsibility (CER) as per Ministry's O.M No 22-65/2017 -IA. II (M) dated 01.05.2018 or as proposed by EAC should be kept in a separate bank account. The activities proposed for CER shall be implemented in a time bound manner and annual report of implementation of the same along with documentary proof viz. photographs, purchase document, latitude & longitude of infrastructure developed & road constructed needs to be submitted to Regional Office MoEF&CC annually along with audited statement.

Reply to Condition 1- Every year, the funds earmarked for environmental protection measures is budgeted separately and its expenditure is being reported to the regional office of Ministry. The copy of the same is attached as **Annexure 5**.

Condition 2- Project Proponent shall keep the funds earmarked for environmental protection measures in a separate account and refrain from diverting the same for other purposes. The

Year wise expenditure of such funds should be reported to the MoEF&CC and its concerned Regional Office.

Reply to Condition 2- Every year, the funds earmarked for environmental protection measures is budgeted separately and its expenditure is being reported to the regional office of Ministry. The copy of the same is attached as **Annexure 5**.

Condition 3- The funds earmarked for environmental protection measures should be kept in a separate account and should not be diverted for other purposes. Year wise expenditure should be reported to the Jharkhand State Pollution Control Board, Ranchi. PP shall carry out CSR activities as per Government Guidelines (% of Profit / turnover) or at least Rs 1 per ton whichever is higher.

Reply to Condition 3- Every year, the funds earmarked for CSR measures is being budgeted separately as per the govt. guidelines and its expenditure is being reported to the Ministry and JSPCB. The copy of the same is attached as **Annexure 5**.

Condition 4- The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the Jharkhand State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along the status of compliance of EC conditions and shall also be sent to the concerned Regional Office of JSPCB by e-mail.

Reply to Condition 4- Environment statement is being submitted regularly to Member Secretary, JSPCB. Also, the status of compliance of EC conditions is uploaded on the website of the company on a regular basis.

L. Miscellaneous:

Condition 1- The Project Proponent shall prepare a digital map (land use & land cover) of the entire lease area once in five years for the purpose of monitoring land use pattern and submit a report concerned Regional Office of the MoEF & CC.

Reply to Condition 1 – Noted and will be complied with. However, Digital Map of land use and land cover is being prepared every year and is being submitted to IBM Ranchi. The same is attached herewith as **Annexure 10**.

Condition 2- The Project Authorities should inform the Regional office regarding the date of financial closures and final approval of the project by the concerned authorities start of land development work.

Reply to Condition 2- This is an operative mine hence provision related to financial closure is not applicable.

Condition 3- It shall be mandatory for the project management to submit six (06) monthly compliance report in respect of the stipulated prior environmental clearance terms and

conditions in hard copies and soft copies to the regulatory authority concerned Regional office of MoEF & CC at Ranchi and Jharkhand State Pollution Control Board (J.S.P.C.B.). Ranchi/ JPCB/ SEIAA.

Reply to Condition 3- Six monthly reports on the status of the EC conditions are being submitted regularly.

Condition 4- A separate 'Environmental Management Cell' with suitable qualified manpower should be set-up under the control of a Senior Executive. The Senior Executive shall report directly to the Head of the Organization. Adequate number of qualified Environmental Scientists and Mining Engineers shall be appointed and submit a report to RO, MoEF&CC.

Reply to Condition 4- 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 5- The concerned Regional Office of the MoEF&CC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEF&CC officer(s) by furnishing the requisite data / information /monitoring reports.

Reply to Condition 5- Noted and Agreed.

Condition 6- Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act. 1986.

Reply to Condition 6- Noted.

Condition 7- The Ministry / SEIAA / SEAC may revoke or suspend the clearance. if implementation of any of the above conditions is not satisfactory.

Reply to Condition 7- Noted.

Condition 8- The Ministry /SEIAA /SEAC reserves the right to stipulate additional conditions if found necessary. The Company in a time-bound manner shall implement these conditions.

Reply to Condition 8- Noted & Agreed.

Condition 9- No blasting shall be carried out after sunset. Blasting operation shall be carried out only during Daytime, Controlled blasting shall be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.

Reply to Condition 9- Blasting time is fixed during Lunch Time i.e. 12:00 PM -1:00 PM. Controlled blasting method is in practice. Ground vibration study has been conducted periodically. Efforts and mitigative measures are being taken to reduce the impact of the blast.

Condition 10- Drilling shall either be operated with dust extractors or equipped with a water injection system.

Reply to Condition 10- Wet Drilling practice is adopted at our mines.



Wet Drilling

Condition 11- Pre-placement medical examination and periodical medical examination of the workers engaged in the project conducted by a Registered Medical Officer shall be carried out and records maintained.

Reply to Condition 11- Pre-placement medical examination and periodical medical examination of the workers engaged in the project are being carried out and records maintained as per statute. IME/PME report is attached above.

Condition 12- Provision shall be made for the housing of construction labor at a suitable place away from the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets / septic tanks, safe drinking water, medical health care, etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

Reply to Condition 12- This is an existing mine, and all the necessary basic facilities have been provided to the workers. Also, as most of the workers/laborers are from local village, so there is no need of housing infrastructure/ labor camps.

Condition 13-Proper Safety measures as per statutory requirement shall be implemented around the mined-out Pit prior to closure of site.

Reply to Condition 13- Noted and being adhered to.

Condition 14- The Project Proponent shall submit six monthly report on the expenditure incurred on environmental management plan submitted by them.

Reply to Condition 14- Environmental Expenditure is being submitted six-monthly. The report is attached as **Annexure 5**.

Condition 15- Since blasting and mining on Hillock / Rock out crop may also be carried out. Suitable scheme for access / ramp to the highest elevation with gradient shall be submitted for

approval from competent authorities.

Reply to Condition 15- We are doing mining operations in a very shallow depth of plateau areas. During mining operations, we carry out drilling and blasting to produce bauxite. After removing OB, we are extracting bauxite from the mine pit. However, there are no outcrops of rock in surrounding areas of our mine, hence this is not applicable for our mine.

Condition 16- A separate environmental management /monitoring 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 to Condition 16- 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 17- The Jharkhand State Pollution Control Board, Ranchi directly or through its Regional Office shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) by furnishing the requisite data information /monitoring reports.

Reply to Condition 17- Noted and Agreed.

Condition 18- A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zila Parishad / Municipal Corporation, Urban Local Body and the Local NGO if any from whom suggestions/ representations, if any were received while processing the proposal. The clearance letter shall also be put on the website of the company by the project proponent.

Reply to Condition 18- A copy of the clearance letter has been submitted to Panchayat office and Zila parishad. No suggestions were received from urban bodies/ local NGOs while processing the proposal.

Condition 19- It shall be mandatory for the project management to submit six (06) monthly compliance report in respect of the stipulated prior environmental clearance terms and conditions in hard copies and soft copies to the regulatory authority concerned Regional Office of MoEF & CC at Ranchi and Jharkhand State Pollution Control Board (J.S.P.C.B.) Ranchi/SEIAA/CPCB.

Reply to Condition 19- Six monthly reports on the status of the EC are being submitted regularly.

Condition 20- Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act. 1986.

Reply to Condition 20- Noted.

Condition 21- The Authority reserves the right to add any new condition or modify the above conditions to revoke the clearance if conditions stipulated above are not implemented to the satisfaction of Authority or for that matter for any other Administrative reason.

Reply to Condition 21- Noted and agreed.

Condition 22- In case of any deviation or alteration in the project proposed from those submitted to SEIAA, Jharkhand for clearance, a fresh reference should be made to SEIAA to assess the adequacy of the conditions imposed and to incorporate any new conditions if required.

Reply to Condition 22- Noted and agreed.

Condition 23- The above stipulations would be enforced among others under the Water- (Prevention & Control of Pollution) Act, 1974. the Air (Prevention & Control of Pollution) Act. 1981 the Environment (Protection) Act, 1986. Hazardous and other Wastes (Management and Transboundary Movement) Rules. 2016 and the Public Liability Insurance Act. 1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/ High Court of Jharkhand and another Court of Law relating to the subject matter.

Reply to Condition 23- Noted.

Condition 24- The SEIAA, Jharkhand or any other competent Authority may alter modify the above conditions or stipulate any further condition in the interest of Environment protection.

Reply to Condition 24- Noted and agreed.

Condition 25-The Environmental Clearance accorded shall be valid for the period of lease of the mine. The PP shall not increase production rate and alter lease area during the validity of Environmental Clearance.

Reply to Condition 25- Noted and agreed.

Condition 26-Any Appeal against this Environmental Clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Reply to Condition 26- Noted.

Piezometer Monitoring Report

Mine: Serangdag Bauxite Mine (77.89 Ha)

S No	Month	Ground Water Level (BGL) in meter
1	Apr-25	37.25
2	May-25	37.51
3	Jun-25	36.98
4	Jul-25	36.87
5	Aug-25	36.46
6	Sep-25	36.35



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CIN:-U74998JH2022PTC018685
PAN:-AAHCE3611M
GST:-20AAHCE3611M1ZK

Accredited by:-
NABL, lab certificate number NC-13561
Jharkhand State Pollution Control Board
Certified by:-
ISO 9001:2015 and ISO 45001:2018



TC-12887

Annexure - 2

Unique Lab Report No.	TC1288725000000418	Discipline	Chemical
Report Unique ID	RL0140251747	Group	Atmospheric Pollution
Issue date/time	29.04.2025/ 10:33	Sub Group	Ambient Air Quality

Report Issue to M/s - HINDALCO INDUSTRIES LIMITED VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302 MINES : SHRENDAG B BAUXITE MINE	Contact Person Contact Number Email Id Order Date Order Number	Mr. Ankit Das +91 9971034775 ankit.das@adityabirla.com 31.03.2025/ 10:10 13612313868
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References of Quality Management Systems (Steps of Traceability Chain)			
Customer Registration No.	EPIC/OTH/0140	Sample Booking Number	EPIC- 251747
Sample(s) Code	251747 (A) (B) (C) (D)	Sample Receipt (D/T)	24.04.2025/ 10:08

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/38/2012-13)		
Sampling Start (D/T)	22.04.2025/ 10:43	Sampling End (D/T)	23.04.2025/ 07:12
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)	29	Humidity %	57	Wind direction	0°-180°

Sampling Location(s) with GPS coordinate(s)			
S. Location A	Mine Pit Quarry No 28	GPS coordinate	23° 21' 46.93" / 84° 26' 18.88"
S. Location B	Near Baisbhatan Village	GPS coordinate	23° 21' 29.92" / 84° 26' 42.67"
S. Location C	Block 2A (Prohopat Village)	GPS coordinate	23° 21' 32.14" / 84° 26' 01.24"
S. Location D	Harup Block C (Proposed)	GPS coordinate	23° 21' 29.60" / 84° 26' 29.01"

Date(s) of performance of the laboratory activities			
Test start date	24.04.2025/ 11:15	Test completion date	27.04.2025/ 17:50

--Test Result End --								
Sl	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Particulate Matter (PM ₁₀)	IS:5182 (P-23) 2022	µg/m ³	82.86	79.00	70.97	67.97	100 (24 hr)
2.	Fine Particulate Matter (PM _{2.5})	IS 5182 (P-24) 2019	µg/m ³	39.94	38.13	33.04	30.12	60(24 hr)
3.	Sulphur Dioxide (SO ₂)	IS:5182 (P-02) 2023	µg/m ³	08.87	09.37	07.14	07.17	80(24 hr)
4.	Nitrogen Dioxide (NO ₂)	IS:5182 (P-06) 2022	µg/m ³	23.89	23.17	21.07	19.98	80(24 hr)
5.	Ozone (O ₃)	IS:5182 (P-09) 2019	µg/m ³	34.59	33.62	31.36	26.19	180(1 hr)
6.	Ammonia (NH ₃)	IS:5182 (P-25) 2018	µg/m ³	51.81	51.18	41.70	37.28	400(24 hr)
7.	Lead (Pb)	IS:5182(P-22) 2019	µg/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	1.0(24 hr)
8.	Nickel (Ni)	IS:5182(P-26) 2020	ng/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	-
9.	Arsenic (As)	USEPA IO 3.2:1999	ng/m ³	BDL (MDL-0.001)	BDL (MDL-0.001)	BDL (MDL-0.001)	BDL (MDL-0.001)	-

--Test result End --			
Prescribed Limit	Environmental (Protection) Rules-1986, Schedule VII.		
Operational Status	Unit was Operational During sampling.		
Analyzed by -A. K. SINHA			



Checked by
(A.K. Kumar)
Technical Head

Verified & Issued by
(Anish Das)
Laboratory Head

Authorized Signatory

Page 1 of 1

Confidential Status | 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 the issue. | 4. All disputes are subjected to Ranchi Jurisdiction and maximum liability of the laboratory does not exceed the testing and sampling charges | 5. 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. | 6. 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 - U74999JH2022PTC019885 Accredited by -

PAVE-AAHCE3611M

GST-20AAHCE3611M1EX

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	RL0140251747	Group	Atmospheric Pollution
Issue date/time	29.04.2025/ 10:33	Sub Group	Ambient Air Quality

Report Issue to

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

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

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0140	Sample Booking Number	EPIC- 251747
Sample(s) Code	251747 (A) (B) (C) (D)	Sample Receipt (D/T)	24.04.2025/ 10:08

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)	22.04.2025/ 10:43	Sampling End (D/T)	23.04.2025/ 07:12
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)	29	Humidity %	57	Wind direction	0°-180°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Mine Pit Quarry No 2B	GPS coordinate	23° 21' 46.93" / 84° 26' 18.88"
S. Location B	Near Baisbhatan Village	GPS coordinate	23° 21' 29.92" / 84° 26' 42.67"
S. Location C	Block 2A (Prohopat Village)	GPS coordinate	23° 21' 32.14" / 84° 26' 01.24"
S. Location D	Harup Block C (Proposed)	GPS coordinate	23° 21' 29.60" / 84° 26' 29.01"

Date(s) of performance of the laboratory activities

Test start date	24.04.2025/ 11:15	Test completion date	27.04.2025/ 17:50
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--Test Result End --

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

--Test Result 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 & Issued by
(Vinod Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



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UIN - UT49991H222PTC019685
PAN: - RAHCE361M
GST: - 20AAHCE361M1Z2

Accredited by:-
NABL, with certificate number TC- 13547
(Jharkhand State Pollution Control Board)
Certified by:-
ISO 9001:2015 and ISO 45001:2018

TC-12887

Analytical Test Certificate

Unique Lab Report No.	TC1288725000000419	Discipline	Chemical
Report Unique ID	RL0140251748	Group	Water
Issue date/time	29.04.2025/ 10:35	Sub Group	Drinking Water

Report Issue to

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

Contact Person
Contact Number
Email Id
Order Date
Order Number

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

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0140	Sample Booking Number	EPIC- 251748
Sample(s) Code	251748	Sample Receipt (D/T)	24.04.2025/ 12:11

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/038
Sampling method used	IS : 3025 (Part-1) 1987, R-2003		
Sampling Start (D/T)	22.04.2025/ 16:00	Sampling End (D/T)	22.04.2025/ 16:20
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)	29	Humidity %	57	Wind direction	0°-180°
-------------------	-------	------------------	----	------------	----	----------------	---------

Sampling Location(s) with GPS coordinate(s)

S. Location A	Canteen	GPS coordinate	23° 22' 24.94" / 84° 28' 32.69"
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Date(s) of performance of the laboratory activities

Test start date	24.04.2025/ 10:40	Test completion date	28.04.2025/ 13:30
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--Test Result --

Sl	Test Parameters	Method used	Unit	Results	Limits	
					Acceptable Limit	Permissible limit
1.	pH value at 24.8°C	IS 3025 (P-11) 2022	-	6.91	6.5-8.5	No relaxation
2.	Turbidity	IS 3025 (P-10) 1984	NTU	0.76	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	165.00	500	2000
7.	Chloride (as Cl)	IS 3025 (P-32) 2019	mg/l	13.79	250	1000
8.	Total Alkalinity (as CaCO ₃)	IS 3025 (P-23) 2019	mg/l	70.00	200	500
9.	Total Hardness (as CaCO ₃)	IS 3025 (P-21) 2009	mg/l	104.00	200	500
10.	Calcium (as Ca)	IS 3025 (P-40) 1991	mg/l	14.43	75	200
11.	Free Residual Chlorine	IS 3025 (P-26) 1986	mg/l	BDL(MDL-0.4)	0.2	1
12.	Sulphate (as SO ₄)	IS 3025 (P-24/Sec-1)2022	mg/l	01.80	200	400
13.	Nitrate (as NO ₃)	APHA 4500 B 2023	mg/l	0.99	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	16.52	30	100



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CIN - U74998JH2022PTC019625

PAN - AAHCE3611M

GST - 20AAHCE3611M1ZK

Accredited by -

NABL, acc. certificate Number N- 12887

Jharkhand State Pollution Control Board

Certified by -

ISO 9001:2015 and ISO 45001:2018

TC-12887

Analytical Test Certificate

Unique Lab Report No.	TC1288725000000419	Discipline	Chemical
Report Unique ID	RLD140251748	Group	Water
Issue date/time	29.04.2025/ 10:35	Sub Group	Drinking Water

Report Issue to

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

Contact Person
Contact Number
Email id
Order Date
Order Number

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

Group - Residues and Contaminants in Water

Sub Group - Trace Metals Elements

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

--Test Result End--

Prescribed Limit
Operational Status
Analysed by -Pratima Kumari/ Anjali Kumari

IS 10500:2021
Unit was Operational During sampling.



Checked by
(R.N. Kumar)
Technical Head

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



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CIN:-U74999JH2022PTC011665 Accredited by:-

PAN:-AAHCE3671M

GST:-20AAHCE3671M1ZK

RankFront Scan Inflation 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	RL0140251748	Group	Water
Issue date/time	29.04.2025/ 10:35	Sub Group	Drinking Water

Report Issue to M/s - HINDALCO INDUSTRIES LIMITED VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302 MONITORING SITE: SHRENDAG B BAUXITE MINE	Contact Person Contact Number Email Id Order Date Order Number	Mr. Ankit Das +91 9971034775 ankit.das@adityabirla.com 31.03.2025/ 10:10 13612313868
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References of Quality Management System (Steps of Traceability Chain)			
Customer Registration No.	EPIC/OTH/0140	Sample Booking Number	EPIC- 251748
Sample(s) Code	251748	Sample Receipt (D/T)	24.04.2025/ 10:11

Sampling References			
Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/038
Sampling method used	IS : 3025 (Part-1) 1987, R-2003		
Sampling Start (D/T)	22.04.2025/ 16:00	Sampling End (D/T)	22.04.2025/ 16:20
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)	29	Humidity %	57	Wind direction	0°-180°

Sampling Location(s) with GPS coordinate(s)			
S. Location A	Canteen	GPS coordinate	23° 22' 24.94" / 84° 28' 32.69"

Date(s) of performance of the laboratory activities			
Test start date	24.04.2025/ 10:40	Test completion date	28.04.2025/ 13:30

--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



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CIN: U74999JH2022PTC015625
PAN: AAHCE3311M
GST: 20AAHCE3611M1ZK

Accredited by -
Bharat Standard Bureau Control Room
Certified by -
ISO 9001:2015 and ISO 45001:2018

Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical
Report Unique ID	RL0140251748	Group	Water
Issue date/time	29.04.2025/ 10:35	Sub Group	Drinking Water

Report Issue to

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

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

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

—Test Result End—

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



Checked by
(R.K. Kumar)
Technical Head

Verified & Issue by
(Anish Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



EPIC LabTech Private Limited

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CIN:- U74999JH2022PTC019635 Accredited by:-

PAN:- AAHCE8811M

GST:- 20AAHCE8811M1Z3

Stateland 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	RL0140251749	Group	Water
Issue date/time	29.04.2025/ 10:37	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: SHRENDAG B BAUXITE MINE

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

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0140	Sample Booking Number	EPIC-251749
Sample(s) Code	251749	Sample Receipt (D/T)	24.04.2025/ 10:13

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/038
Sampling method used	IS : 3025 (Part-1) 1987, R-2003& IS 1622 1981		
Sampling Start (D/T)	22.04.2025/ 16:00	Sampling End (D/T)	22.04.2025/ 16:20
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)	29	Humidity %	57	Wind direction	0°-180°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Canteen	GPS coordinate	23° 22' 24.94"/ 84° 28' 32.69"
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Date(s) of performance of the laboratory activities

Test start date	24.04.2025/ 10:40	Test completion date	28.04.2025/ 13:30
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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 -Pratima Kumar/ Anjali Kumar



Checked by
(R.K. Kumar)
Technical Head

Verified & Issue by
(Anish Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



EPIC LabTech Private Limited



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Jharkhand - 834005, India

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CIN:-U74999JH2022PTC019435
PAN:-AAHCE367TM
GST:-26AAHCE367TM1Z8

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

TC-12887

Analytical Test Certificate

Unique Lab Report No.	TC1288725000000420	Discipline	Chemical
Report Unique ID	RL0140251750	Group	Water
Issue date/time	29.04.2025/ 10:39	Sub Group	Ground Water

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

References of Quality Management System(Steps of Traceability Chain)			
Customer Registration No.	EPIC/OTH/0140	Sample Booking Number	EPIC- 251750
Sample(s) Code	251750	Sample Receipt (D/T)	24.04.2025/ 10:13

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)	22.04.2025/ 16:30	Sampling End (D/T)	22.04.2025/ 16:50
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)	29	Humidity %	57	Wind direction	0°-180°

Sampling Location(s) with GPS coordinate(s)			
S. Location A	Near Balsbhatan Village	GPS coordinate	23° 21' 28.04" / 84° 26' 45.27"

Date(s) of performance of the laboratory activities			
Test start date	24.04.2025/ 10:40	Test completion date	28.04.2025/ 13:30

--Test Result --

Sl	Test Parameters	Method used	Unit	Results	Limits	
					Acceptable Limit	Permissible Limit
1.	pH value at 25°C	IS 3025 (P-11) 2022	-	7.05	6.5-8.5	No relaxation
2.	Turbidity	IS 3025 (P-10) 1984	NTU	1.01	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	220.00	500	2000
7.	Chloride (as Cl)	IS 3025 (P-32) 2019	mg/l	19.71	250	1000
8.	Total Alkalinity(as CaCO ₃)	IS 3025 (P-23) 2019	mg/l	98.00	200	600
9.	Total Hardness (as CaCO ₃)	IS 3025 (P-21) 2009	mg/l	110.00	200	600
10.	Calcium (as Ca)	IS 3025 (P-40) 1991	mg/l	15.23	75	200
11.	Free Residual Chlorine	IS 3025 (P-26) 1986	mg/l	BDL(MDL-0.4)	0.2	1
12.	Sulphate (as SO ₄)	IS 3025 (P-24/Sec-1)2022	mg/l	2.00	200	400
13.	Nitrate (as NO ₃)	APHA 4500 B 2023	mg/l	1.48	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	17.49	30	100



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CIN:-U74999JH2022PTC019625
PAN:-AAHCE3631M
GST:-20AAHCE3631M1Z8

Accredited by:-
NABL Add certificate Number JC- 12887
(Jharkhand) Scope: Testing of Chemicals
Certified by:-
ISO 9001:2015 and ISO 45001:2018



TC-12887

Analytical Test Certificate

Unique Lab Report No.	TC1288725000000420	Discipline	Chemical
Report Unique ID	RL0140251750	Group	Water
Issue date/time	29.04.2025/ 10:39	Sub Group	Ground Water

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

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

-Test result End -

Prescribed Limit
Operational Status
Analysed by -Pratna Kumar/ Anjali Kumar

IS 10500:2021
Unit was Operational During sampling.



Checked by
(B.N. Kumar)
Technical Head

Verified & Issued by
(Anish Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



EPIC LabTech Private Limited

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CIN - U74900JH2022PTC018685 Accredited by >

PAN - AAHCE3611M

GST - 20AAHCE3611M1ZK

Reckless Scale 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	RL0140251750	Group	Water
Issue date/time	29.04.2025/ 10:39	Sub Group	Ground Water

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

References of Quality Management System (Steps of Traceability Chain)			
Customer Registration No.	EPIC/OTH/0140	Sample Booking Number	EPIC- 251750
Sample(s) Code	251750	Sample Receipt (D/T)	24.04.2025/ 10:13

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)	22.04.2025/ 16:30	Sampling End (D/T)	22.04.2025/ 16:50
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)	29	Humidity %	57	Wind direction	0°-180°

Sampling Location(s) with GPS coordinate(s)			
S. Location A	Near Baisbhatan Village	GPS coordinate	23° 21' 28.04"/ 84° 28' 45.27"

Data(s) of performance of the laboratory activities			
Test start date	24.04.2025/ 10:40	Test completion date	28.04.2025/ 13:30

--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



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CIN:-A74899JH2022PTC018685 Accredited by:-

PAN:-AAHCE3871M

GST:-28AAHCE3811M1Z3

Ranchi 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	RL0140251750	Group	Water
Issue date/time	29.04.2025/ 10:39	Sub Group	Ground Water

Report Issue to

MM/s - HINDALCO INDUSTRIES LIMITED

VILLAGE-COURT ROAD,
POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA,
STATE-JHARKHAND, INDIA 835302

MONITORING SITE: SHRENDAG B BAUXITE MINE

Contact Person

Contact Number

Email id

Order Date

Order Number

Mr. Ankit Das

+91 9971034775

ankit.das@adityabirla.com

31.03.2025/ 10:10

13612313868

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

--Test Result End --

Prescribed Limit

IS 10500:2021

Operational Status

Unit was Operational During sampling.

Analyzed by -Pratima Kumar/ Rajesh Kumar



[Signature]
Checked by
(R.K. Kumar)
Technical Head

[Signature]
29/4/25
Verified & Issue by
(Ankit Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



EPIC LabTech Private Limited

Add:-

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CIN:-U74999JH2022PTC096085

PAN:-AAHCE3610M

GST:-20AAHCE3610M1Z8

Accredited by:-

Archana's 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	RL0140251751	Group	Water
Issue date/time	29.04.2025/ 10:42	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: SHRENDAG B BAUXITE MINE

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

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0140	Sample Booking Number	EPIC- 251751
Sample(s) Code	251751	Sample Receipt (D/T)	24.04.2025/ 10:14

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)	22.04.2025/ 16:30	Sampling End (D/T)	22.04.2025/ 16:50
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)	29	Humidity %	57	Wind direction	0°-180°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Boishbhatan Village	GPS coordinate	23° 21' 28.04"/ 84° 26' 45.27"
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Date(s) of performance of the laboratory activities

Test start date	24.04.2025/ 10:40	Test completion date	28.04.2025/ 13:30
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--Test Result End --

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:- Pradina Kumar/ Anshu Kumar



Checked by
(B.N. Kumar)
Technical Head

Verified & Issued by
(Umesh Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



EPIC LabTech Private Limited



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CIN - U74999JH2022PTC019683
PAN - AAHCE3611M
GST - 22AAHCE3611MYZ

Accredited by -
NABL, vide certificate Number NC-1387
Jharkhand State Pollution Control Board
Certified by -
ISO 9001:2015 and ISO 45001:2018

TC-12887

Analytical Test Certificate

Unique Lab Report No.	TC1288725000000605	Discipline	Chemical
Report Unique ID	RL0173252186	Group	Atmospheric Pollution
Issue date/time	26.05.2025/ 13:13	Sub Group	Ambient Air Quality

Report Issue to

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

Contact Person
Contact Number
Email Id
Order Date
Order Number

Mr. Ankit Das
+91 9971034775
ankit.das@adityabirla.com
31.03.2025/ 10:10
13612313668

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0173	Sample Booking Number	EPIC-252186
Sample(s) Code	252186 (A) (B) (C) (D)	Sample Receipt (D/T)	20.05.2025/ 10:31

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	18.05.2025/ 11:29	Sampling End (D/T)	19.05.2025/ 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	Clear	Temperature (°C)	30	Humidity %	63	Wind direction	200°-20°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Mine Pit Quarry No 2B	GPS coordinate	23° 21' 46.93" / 84° 26' 18.68"
S. Location B	Near Baishathan Village	GPS coordinate	23° 21' 29.92" / 84° 26' 42.67"
S. Location C	Block 2A (Prohapat Village)	GPS coordinate	23° 21' 32.14" / 84° 26' 01.24"
S. Location D	Harup Block C (Proposed)	GPS coordinate	23° 21' 29.60" / 84° 26' 29.01"

Data(s) of performance of the laboratory activities

Test start date	20.05.2025/ 10:46	Test completion date	24.05.2025/ 11:25
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-Test Results-

Sl	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Particulate Matter (PM ₁₀)	IS:5182 (P-23) 2022	µg/m ³	93.03	85.01	74.00	77.01	100 (24 hr)
2.	Fine Particulate Matter (PM _{2.5})	IS 5182 (P-24) 2019	µg/m ³	42.14	40.21	30.46	34.28	60(24 hr)
3.	Sulphur Dioxide (SO ₂)	IS:5182 (P-02) 2023	µg/m ³	09.09	10.25	07.18	08.05	80(24 hr)
4.	Nitrogen Dioxide (NO ₂)	IS:5182 (P-06) 2022	µg/m ³	25.46	24.31	20.59	18.45	80(24 hr)
5.	Ammonia (NH ₃)	IS:5182 (P-25) 2018	µg/m ³	55.19	49.03	39.29	34.09	400(24 hr)
6.	Ozone (O ₃)	IS:5182 (P-09) 2019	µg/m ³	38.27	30.04	27.18	24.32	180(1 hr)
7.	Lead (Pb)	IS:5182(P-22) 2019	µg/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	1.0(24 hr)
8.	Nickel (Ni)	IS:5182(P-26) 2020	ng/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	-
9.	Arsenic (As)	USEPA IO 3.2-1999	ng/m ³	BDL (MDL-0.001)	BDL (MDL-0.001)	BDL (MDL-0.001)	BDL (MDL-0.001)	-

-Test Results End -

Prescribed Limit
Operational Status
Analyzed by - A.K. Sinha

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



Reviewed by
(R.K. Kumar)
Technical Head

Issued 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. Test performed at client's facility as per environmental conditions as method required and results relate only to the sample tested in prescribed Date & time. 4. The Test report shall not be reproduced full or in part & can't be used as proof in the court of law. 5. Any complaint about this report should be communicated in writing within 10 days of its issue. 6. Total liability of EPIC LabTech Pvt. Ltd. will be limited to involved amount only. 7. All disputes are subjected to Ranchi Jurisdiction and maximum liability of the laboratory does not exceed the testing and sampling charges. 8. 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. 9. When the results are from external provider are marked as * mark. 10. Abbreviation: BDL (Below Detectable Limit), MDL (Minimum Detectable Limit), LoQ (Limit of Quantitation).



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CIN - U74999JH2022PTC018685
PAN - AANEE3011M
GST - 22AANEE3611M12X

Accredited by -
Bharat 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	RL0173252186	Group	Atmospheric Pollution
Issue date/time	26.05.2025/ 13:13	Sub Group	Ambient Air Quality

Report Issue to

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

Contact Person
Contact Number
Email Id
Order Date
Order Number

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

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0173	Sample Booking Number	EPIC-252186
Sample(s) Code	252186 (A) (B) (C) (D)	Sample Receipt (D/T)	20.05.2025/ 10:31

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	18.05.2025/ 11:29	Sampling End (D/T)	19.05.2025/ 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	Clear	Temperature (°C)	30	Humidity %	63	Wind direction	200°-20°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Mine Pit Quarry No 2B	GPS coordinate	23° 21' 46.93" / 84° 26' 18.88"
S. Location B	Near Baisbhatan Village	GPS coordinate	23° 21' 29.92" / 84° 26' 42.67"
S. Location C	Block 2A (Prohopat Village)	GPS coordinate	23° 21' 32.14" / 84° 26' 01.24"
S. Location D	Harup Block C (Proposed)	GPS coordinate	23° 21' 29.60" / 84° 26' 29.01"

Date(s) of performance of the laboratory activities

Test start date	20.05.2025/ 10:46	Test completion date	24.05.2025/ 11:25
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--Test Results--

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

--Test Results End--

Prescribed Limit
Operational Status
Analyzed by - A.K. Sinha

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



Reviewed by
(S.K. Kumar)
Technical Head





EPIC LabTech Private Limited

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CIN - U74999JH2022PTC019685
PAN - AAHCE3611M
GST - 22AAHCE3611M12X

Accredited by :-
NABL, acc. 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.	TC1288725000000606	Discipline	Chemical
Report Unique ID	RL0173252187	Group	Atmospheric Pollution
Issue date/time	26.05.2025/ 13:15	Sub Group	Ambient Noise

Report Issue to

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

Contact Person
Contact Number
Email Id
Order Date
Order Number

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

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0173	Sample Booking Number	EPIC-252187
Sample(s) Code	252187 (A) (B) (C) (D)	Sample Receipt (D/T)	20.05.2025/ 10:38

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	18.05.2025/ 11:29	Sampling End (D/T)	19.05.2025/ 09:12
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)	30	Humidity %	63	Wind direction	200°-20°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Mine Pit Quarry No 2B	GPS coordinate	23° 21' 46.93" / 84° 26' 18.88"
S. Location B	Near Baisthatan Village	GPS coordinate	23° 21' 29.92" / 84° 26' 42.67"
S. Location C	Block 2A (Prohapat Village)	GPS coordinate	23° 21' 32.14" / 84° 26' 01.24"
S. Location D	Harup Block C (Proposed)	GPS coordinate	23° 21' 29.80" / 84° 26' 29.01"

Date(s) of performance of the laboratory activities

Test start date	20.05.2025/ 10:56	Test completion date	24.05.2025/ 11:31
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--Test Results--

Sl	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	L _{eq} (Day time)	IS: 9989:1981	dB (A)	46.3	47.6	40.5	42.2	75
2.	L _{eq} (Night time)	IS: 9989:1981	dB (A)	36.3	39.3	34.2	37.2	70

--Test Results End --

Prescribed Limit
Operational Status
Analyzed by -A.K. Sinha

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



Reviewed by
(S.N. Kumar)
Technical Head

Issue by
(Anish Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



EPIC LabTech Private Limited



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CIN:-U74999JH2022PTC019685
PAN:-AABCE2361M
GST:-28AABCE2361M1ZV

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.	TC1288725000000606	Discipline	Chemical
Report Unique ID	RL0173252187	Group	Atmospheric Pollution
Issue date/time	26.05.2025/ 13:15	Sub Group	Ambient Noise

Report Issue to

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

Contact Person
Contact Number
Email Id
Order Date
Order Number

Mr. Ankit Das
+91 9871034775
ankit.das@adityabirla.com
31.03.2025/ 10:10
13612313868

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0173	Sample Booking Number	EPIC-252187
Sample(s) Code	252187 (A) (B) (C) (D)	Sample Receipt (D/T)	20.05.2025/ 10:36

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	18.05.2025/ 11:29	Sampling End (D/T)	19.05.2025/ 09:12
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)	30	Humidity %	63	Wind direction	200°-20°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Mine Pit Quarry No 2B	GPS coordinate	23° 21' 46.93" / 84° 26' 18.88"
S. Location B	Near Baishathan Village	GPS coordinate	23° 21' 29.92" / 84° 26' 42.67"
S. Location C	Block 2A (Prohapat Village)	GPS coordinate	23° 21' 32.14" / 84° 26' 01.24"
S. Location D	Harup Block C (Proposed)	GPS coordinate	23° 21' 29.60" / 84° 26' 29.01"

Data(s) of performance of the laboratory activities

Test start date	20.05.2025/ 10:56	Test completion date	24.05.2025/ 11:31
-----------------	-------------------	----------------------	-------------------

--Test Results--

Sl.	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	L_{eq} (Day time)	IS: 9989:1981	dB (A)	46.3	47.6	40.5	42.2	75
2.	L_{eq} (Night time)	IS: 9989:1981	dB (A)	36.3	39.3	34.2	37.2	70

--Test Results End--

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



Reviewed by
(B.N. Kumar)
Technical Head

Issued by
(Anish Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



EPIC LabTech Private Limited

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CIN: U74900JH2022PTC019685
PAN: AAHCE3611M
GST: 20AAHCE3611M1ZK

Accredited by -
NABL with 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.	TC1286725000000716	Discipline	Chemical
Report Unique ID	RL02062525012	Group	Atmospheric Pollution
Issue date/time	20.06.2025/ 17:11	Sub Group	Ambient Air Quality

Report Issue to

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

Contact Person Mr. Ankit Das
Contact Number +91 9971034775
Email id ankit.das@adityabirla.com
Order Date 31.03.2025/ 10:10
Order Number 13612313888

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0206	Sample Booking Number	EPIC-2525012
Sample(s) Code	2525012 (A) (B) (C) (D)	Sample Receipt (D/T)	17.06.2025/ 10:34

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	15.06.2025/ 11:45	Sampling End (D/T)	16.06.2025/ 08:32
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)	32	Humidity %	58	Wind direction	20°-200°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Mine Pit Quarry No 2B	GPS coordinate	23° 21' 46.93" / 84° 26' 18.88"
S. Location B	Near Baisbhatan Village	GPS coordinate	23° 21' 29.92" / 84° 26' 42.67"
S. Location C	Block 2A (Prohapat Village)	GPS coordinate	23° 21' 32.14" / 84° 26' 01.24"
S. Location D	Harup Block C (Proposed)	GPS coordinate	23° 21' 29.60" / 84° 26' 29.01"

Date(s) of performance of the laboratory activities

Test start date	17.06.2025/ 10:50	Test completion date	20.06.2025/ 15:51
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--Test Results--

Sl	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Particulate Matter (PM ₁₀)	IS-5182 (P-23) 2022	µg/m ³	80.96	77.06	68.28	65.04	100 (24 hr)
2.	Fine Particulate Matter (PM _{2.5})	IS 5182 (P-24) 2019	µg/m ³	37.69	36.58	31.04	28.27	60(24 hr)
3.	Sulphur Dioxide (SO ₂)	IS-5182 (P-02) 2023	µg/m ³	07.83	08.22	06.26	06.66	80(24 hr)
4.	Nitrogen Dioxide (NO ₂)	IS-5182 (P-06) 2022	µg/m ³	22.20	21.14	19.03	17.97	80(24 hr)
5.	Ammonia (NH ₃)	IS-5182 (P-25) 2018	µg/m ³	49.03	50.00	39.29	35.06	400(24 hr)
6.	Ozone (O ₃)	IS-5182 (P-09) 2019	µg/m ³	32.19	31.12	29.33	24.32	180(1 hr)
7.	Lead (Pb)	IS-5182(P-22) 2019	µg/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	1.0(24 hr)
8.	Nickel (Ni)	IS-5182(P-26) 2020	ng/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	-
9.	Arsenic (As)	USEPA IO 3.2:1999	ng/m ³	BDL (MDL-0.001)	BDL (MDL-0.001)	BDL (MDL-0.001)	BDL (MDL-0.001)	-

--Test Results End --

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



Reviewed by
(B.N. Kumar)
Technical Head

Issued by
(Anish Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.

Ranchi, Jharkhand Page 3 of 3

Contracted Notes | 1. The laboratory accepts responsibility for content of this report | 2. Test performed at laboratory's permanent facility - at specific environmental conditions 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 - U74999JH2022PTC019685
PAN - AAHCE3011M
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	RL02062525012	Group	Atmospheric Pollution
Issue date/time	20.06.2025/ 17:11	Sub Group	Ambient Air Quality

Report Issue to

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

Contact Person
Contact Number
Email Id
Order Date
Order Number

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

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0206	Sample Booking Number	EPIC-2525012
Sample(s) Code	2525012 (A) (B) (C) (D)	Sample Receipt (D/T)	17.06.2025/ 10:34

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	15.06.2025/ 11:45	Sampling End (D/T)	16.06.2025/ 08:32
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)	32	Humidity %	58	Wind direction	20°-200°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Mine Pit Quarry No 2B	GPS coordinate	23° 21' 46.93" / 84° 26' 18.88"
S. Location B	Near Baishbhatan Village	GPS coordinate	23° 21' 29.92" / 84° 26' 42.67"
S. Location C	Block 2A (Prohopat Village)	GPS coordinate	23° 21' 32.14" / 84° 26' 01.24"
S. Location D	Harup Block C (Proposed)	GPS coordinate	23° 21' 29.60" / 84° 26' 29.01"

Date(s) of performance of the laboratory activities

Test start date	17.06.2025/ 10:50	Test completion date	20.06.2025/ 15:51
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-Test Results-

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

-Test Results End-

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

Operational Status Unit was Operational During sampling.

Analysed by - Archana Gorain.



Reviewed by
(R.N. Kumar)
Technical Head





EPIC LabTech Private Limited

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CIN:- U74999JH2022P1C016685 Accredited by:-

Jharkhand State Pollution Control Board

RAN - AANCE3415M

GST:- 20AAHCE3671M1Z4

Certified by:-

ISO 9001:2015 and ISO 45001:2018

Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical
Report Unique ID	RL02062525013	Group	Atmospheric Pollution
Issue date/time	20.06.2025/ 17:13	Sub Group	Work Zone Noise

Report Issued to

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

Contact Person
Contact Number
Email Id
Order Date
Order Number

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

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0206	Sample Booking Number	EPIC-2525013
Sample(s) Code	2525013 (A) (B)	Sample Receipt (D/T)	17.06.2025/ 10:37

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D)	15.06.2025	Sampling End (D)	15.06.2025
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)	32	Humidity %	56	Wind direction	20°-200°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Mine Pit Quarry No 28	GPS coordinate	23° 21' 45.58" / 84° 26' 19.15"
S. Location B	Bauxite Mines (140.07 Ha)	GPS coordinate	23° 21' 43.57" / 84° 26' 11.36"

Date(s) of performance of the laboratory activities

Test start date	17.06.2025/ 10:50	Test completion date	20.06.2025/ 16:00
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--Test Results--

Sl	Test Parameters	Method used	Unit	Results		Limits
				A	B	
1.	L_{eq}	IS: 9989:1981	dB (A)	71.6	73.5	85

--Test Results End--

Prescribed Limit
Operational Status

NIOSH - Publication No. 98-126 in 1972, Table 1-1
Unit was Operational During sampling.

Analysed by - Archana Gogoi



Reviewed by
(B.N. Kumar)
Technical Head

12
12/06/2025
Issued by
(Ankit Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand





EPIC LabTech Private Limited

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Jharkhand - 834003, India

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☎ 93049 73994

✉ epiclabtech@gmail.com

CIN:- U74999JH2022PTC019685

PAN:- AANCE3611M

GST:- 22AAHCE3611M12X

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.	TC1288725000000895	Discipline	Chemical
Report Unique ID	RL02332529032	Group	Atmospheric Pollution
Issue date/time	19.07.2025/ 17:40	Sub Group	Ambient Air Quality

Report Issue to

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

Contact Person
Contact Number
Email Id
Order Date
Order Number

Mr. Ankit Das
+91 9971034775
ankit.das@adityabirla.com
31.03.2025/ 10:10
13612313668

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0233	Sample Booking Number	EPIC-2529032
Sample(s) Code	2529032 (A) (B) (C) (D)	Sample Receipt (D/T)	16.07.2025/ 10:24

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	14.07.2025/ 12:48	Sampling End (D/T)	15.07.2025/ 09:39
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)	25	Humidity %	75	Wind direction	90°-270°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Mine Pit Quarry No 2B	GPS coordinate	23° 21' 46.93" / 84° 26' 18.88"
S. Location B	Near Baisbhatan Village	GPS coordinate	23° 21' 29.92" / 84° 26' 42.67"
S. Location C	Block 2A (Prohopat Village)	GPS coordinate	23° 21' 32.14" / 84° 26' 01.24"
S. Location D	Harup Block C (Proposed)	GPS coordinate	23° 21' 29.60" / 84° 26' 29.01"

Date(s) of performance of the laboratory activities

Test start date	16.07.2025/ 10:44	Test completion date	19.07.2025/ 17:10
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-Test Results-

Sl	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Particulate Matter (PM ₁₀)	IS-5182 (P-23) 2022	µg/m ³	76.54	73.73	64.40	61.60	100 (24 hr)
2.	Fine Particulate Matter (PM _{2.5})	IS 5182 (P-24) 2019	µg/m ³	33.92	33.04	27.68	24.30	60(24 hr)
3.	Sulphur Dioxide (SO ₂)	IS-5182 (P-02) 2023	µg/m ³	06.16	07.73	06.42	06.83	80(24 hr)
4.	Nitrogen Dioxide (NO ₂)	IS-5182 (P-06) 2022	µg/m ³	21.40	19.32	17.22	15.11	80(24 hr)
5.	Ammonia (NH ₃)	IS-5182 (P-25) 2018	µg/m ³	45.90	46.22	35.70	31.87	400(24 hr)
6.	Ozone (O ₃)	IS-5182 (P-09) 2019	µg/m ³	28.23	27.14	25.69	29.99	180(1 hr)
7.	Lead (Pb)	IS-5182(P-22) 2019	µg/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	1.0(24 hr)
8.	Nickel (Ni)	IS-5182(P-26) 2020	ng/m ³	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	-
9.	Arsenic (As)	USEPA IO 3.2-1999	ng/m ³	BDL (MDL-0.001)	BDL (MDL-0.001)	BDL (MDL-0.001)	BDL (MDL-0.001)	-

-Test Results End -

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

Operational Status Unit was Operational During sampling.

Analysed by - Vishal Mangaraj



Reviewed by
(B.N. Kumar)
Technical Head

Issue by
(Vishal Das)
Laboratory Head

Authorized Signatory

EPIC LabTech Pvt. Ltd.

Ranchi, Jharkhand



EPIC LabTech Private Limited

Address:-

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Jharkhand - 834005, India

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CIN:-U74999JH2022PTC019485 Accredited by -

PAN:-AAHCE3811M

GST:-28AAHCE3811M1ZK

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	RL02332529032	Group	Atmospheric Pollution
Issue date/time	19.07.2025/ 17:40	Sub Group	Ambient Air Quality

Report Issue to

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

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

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0233	Sample Booking Number	EPIC-2529032
Sample(s) Code	2529032 (A) (B) (C) (D)	Sample Receipt (D/T)	16.07.2025/ 10:24

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	14.07.2025/ 12:48	Sampling End (D/T)	15.07.2025/ 09:39
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)	25	Humidity %	75	Wind direction	90°-270°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Mine Pit Quarry No 2B	GPS coordinate	23° 21' 46.93" / 84° 26' 18.88"
S. Location B	Near Baisbhatan Village	GPS coordinate	23° 21' 29.92" / 84° 26' 42.67"
S. Location C	Block 2A (Prohopat Village)	GPS coordinate	23° 21' 32.14" / 84° 26' 01.24"
S. Location D	Harup Block C (Proposed)	GPS coordinate	23° 21' 29.80" / 84° 26' 29.01"

Date(s) of performance of the laboratory activities

Test start date	16.07.2025/ 10:44	Test completion date	19.07.2025/ 17:10
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--Test Results--

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

--Test Results End--

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



Reviewed by
(H.N. Kumar)
Technical Head





EPIC LabTech Private Limited

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Jharkhand - 834005, India

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✉ epiclabtech@gmail.com

CIN - U74999JH2022PTC009685

PAN - AAHCE3671M

GST - 20AAHCE3611M1Z8

Accredited by:-

NABL, acc. certificate Number NC-13987

Jharkhand State Pollution Control Board

Certified by:-

ISO 9001:2015 and ISO 45001:2018



TC-12887

Analytical Test Certificate

Unique Lab Report No.	TC1288725000000896	Discipline	Chemical
Report Unique ID	RL02332529033	Group	Water
Issue date/time	19.07.2025/ 17:43	Sub Group	Drinking Water

Report Issue to

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

Contact Person
Contact Number
Email Id
Order Date
Order Number

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

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0233	Sample Booking Number	EPIC-2529033
Sample(s) Code	2529033	Sample Receipt (D/T)	18.07.2025/ 10:25

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	14.07.2025/ 14:08	Sampling End (D/T)	14.07.2025/ 14:28
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)	25	Humidity %	75	Wind direction	90°-270°
-------------------	--------	------------------	----	------------	----	----------------	----------

Sampling Location(s) with GPS coordinate(s)

S. Location A	Canteen	GPS coordinate	23° 21' 28.04" / 84° 26' 45.27"
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Date(s) of performance of the laboratory activities

Test start date	18.07.2025/ 10:45	Test completion date	19.07.2025/ 17:00
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--Test Result--

Sl	Test Parameters	Method used	Unit	Results	Limits	
					Acceptable Limit	Permissible limit
1.	pH value at 25°C	IS 3025 (P-11) 2022	-	6.99	6.5-8.5	No relaxation
2.	Turbidity	IS 3025 (P-10) 1984	NTU	0.91	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	159.00	500	2000
7.	Chloride (as Cl)	IS 3025 (P-32) 2019	mg/l	12.34	250	1000
8.	Total Alkalinity (as CaCO ₃)	IS 3025 (P-23) 2019	mg/l	68.00	200	600
9.	Total Hardness (as CaCO ₃)	IS 3025 (P-21) 2009	mg/l	100.00	200	600
10.	Calcium (as Ca)	IS 3025 (P-40) 1991	mg/l	12.65	75	200
11.	Free Residual Chlorine	IS 3025 (P-26) 1986	mg/l	BDL(MDL-0.4)	0.2	1
12.	Sulphate (as SO ₄)	IS 3025 (P-24/Sec-1) 2022	mg/l	1.74	200	400
13.	Nitrate (as NO ₃)	APHA 4500 B 2023	mg/l	0.89	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	15.54	30	100



EPIC LabTech Private Limited

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CIN - U74999JH2022PTC059685
PAN - AANHC3811M
GST - 20AANHC3811M12X

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



TC-12887

Analytical Test Certificate

Unique Lab Report No.	TC1288725000000896	Discipline	Chemical
Report Unique ID	RL02332529033	Group	Water
Issue date/time	19.07.2025/ 17:43	Sub Group	Drinking Water
Report Issue to			
M/s - HINDALCO INDUSTRIES LIMITED VILLAGE-COURT ROAD, POST OFFICE-LOHARDAGA, DIST.-LOHARDAGA, STATE-JHARKHAND, INDIA 835302 MONITORING SITE: SHRENDAG B BAUXITE MINE	Contact Person Contact Number Email Id Order Date Order Number	Mr. Ankit Das +91 9971034775 ankit.das@adityabirla.com 31.03.2025/ 10:10 13612313868	

Group - Residues and Contaminants in Water

Sub Group - Trace Metals Elements

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

--Test result End--

Prescribed Limit
Operational Status
Analysed by -Pratima Kumari

IS 10500:2021

Unit was Operational During sampling.



Reviewed by
(R.N. Kumar)
Technical Head

Issued by
(Dinesh Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



Page 2 of 2

Contractual Notes | 1. The laboratory accepts responsibility for content of this report | 2. Test performed at laboratory's permanent facility at specific environmental conditions as method required and results relate only to the sample tested as 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". |
Abbreviations - BDL (Below Detectable Limit), MDL (Minimum Detectable Limit), LoQ (Limit of Quantitation).



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CIN:-U74999JH2022PTC018685
PAN:-AAHCE3011M
GST:-28AAHCE3611M1ZK

Accredited by:-
Jharkhand State Pollution Control Board
Certified by:-
ISO 9001:2015 and ISO 43001:2018

Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical
Report Unique ID	RL02332529033	Group	Water
Issue date/time	19.07.2025/ 17:43	Sub Group	Drinking Water

Report Issue to

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

Contact Person
Contact Number
Email Id
Order Date
Order Number

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

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0233	Sample Booking Number	EPIC-2529033
Sample(s) Code	2529033	Sample Receipt (D/T)	16.07.2025/ 10:25

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	14.07.2025/ 14:08	Sampling End (D/T)	14.07.2025/ 14:28
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)	25	Humidity %	75	Wind direction	90°-270°
-------------------	--------	------------------	----	------------	----	----------------	----------

Sampling Location(s) with GPS coordinate(s)

S. Location A	Canteen	GPS coordinate	23° 21' 28.04" / 84° 26' 45.27"
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Data(s) of performance of the laboratory activities

Test start date	16.07.2025/ 10:45	Test completion date	19.07.2025/ 17:00
-----------------	-------------------	----------------------	-------------------

--Test Result--

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



EPIC LabTech Private Limited

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Jharkhand - 834005, India

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✉ epiclabtech@gmail.com

CIN: - U74999JH2022PTC016685
PAN: - AARCE3611M
GST: - 20AAHCE3611M1Z3

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	RL02332529033	Group	Water
Issue date/time	19.07.2025/ 17:43	Sub Group	Drinking Water

Report Issue to

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

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

15.	Gamma- HCH(Lindane)	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	2.0	No relaxation
16.	Malathion	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	100.0	No relaxation
17.	Methyl parathion	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.2)	0.3	No relaxation
18.	Monocrotophos	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	1.0	No relaxation
19.	Phorate	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	2.0	No relaxation
20.	DDT (o, p and p, p-isomer of DDT, DDE and DDD)	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	1.0	No relaxation
21.	Endosulfan (alpha, beta, and sulphate)	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.05)	0.4	No relaxation

--Test result End--

Prescribed Limit	IS 10500:2021
Operational Status	Unit was Operational During sampling.
Analysed by - Vishal Mangraj	



[Signature]
Reviewed by
(B.N. Kumar)
Technical Head

[Signature]
Issued by
(Anish Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand





EPIC LabTech Private Limited

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CIN - U74999JH2022PTC018685
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	RL02332529034	Group	Water
Issue date/time	19.07.2025/ 17:46	Sub Group	Drinking Water

Report Issue to

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

Contact Person
Contact Number
Email Id
Order Date
Order Number

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

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0233	Sample Booking Number	EPIC-2529034
Sample(s) Code	2529034	Sample Receipt (D/T)	16.07.2025/ 10:25

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	14.07.2025/ 14:08	Sampling End (D/T)	14.07.2025/ 14:28
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)	25	Humidity %	75	Wind direction	90°-270°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Canteen	GPS coordinate	23° 21' 28.04" / 84° 26' 45.27"
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Date(s) of performance of the laboratory activities

Test start date	16.07.2025/ 10:45	Test completion date	19.07.2025/ 17:00
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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
Operational Status
Analysed by - Sujata Kumari

IS 10500:2021
Unit was Operational During sampling.



Reviewed by
(S.N. Kumar)
Technical Head

Issued by
(Gimesh Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand





EPIC LabTech Private Limited

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CIN - U74999JH2022PTC018685
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.	TC1288725000001067	Discipline	Chemical
Report Unique ID	RL02652535043	Group	Atmospheric Pollution
Issue date/time	29.08.2025/ 18:00	Sub Group	Ambient Air Quality

Report Issue to

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

Contact Person
Contact Number
Email Id
Order Date
Order Number

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

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0265	Sample Booking Number	EPIC-2535043
Sample(s) Code	2535043 (A) (B) (C) (D)	Sample Receipt (D/T)	25.08.2025/ 11:48

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	23.08.2025/ 12:49	Sampling End (D/T)	24.08.2025/ 09:40
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)	25	Humidity %	70	Wind direction	200°-20°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Mine Pit Quarry No 2B	GPS coordinate	23° 21' 46.93"/ 84° 26' 18.88"
S. Location B	Near Baishathan Village	GPS coordinate	23° 21' 29.92"/ 84° 26' 42.67"
S. Location C	Block 2A (Prohapat Village)	GPS coordinate	23° 21' 32.14"/ 84° 26' 01.24"
S. Location D	Harup Block C (Proposed)	GPS coordinate	23° 21' 29.00"/ 84° 20' 29.01"

Date(s) of performance of the laboratory activities

Test start date	25.08.2025/ 12:08	Test completion date	29.08.2025/ 17:00
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--Test Results--

Sl.	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Particulate Matter (PM ₁₀)	IS-5182 (P-23) 2022	µg/m³	75.99	72.98	64.00	60.97	100 (24 hr)
2.	Fine Particulate Matter (PM _{2.5})	IS 5182 (P-24) 2019	µg/m³	33.42	32.42	26.99	24.01	60(24 hr)
3.	Sulphur Dioxide (SO ₂)	IS-5182 (P-02) 2023	µg/m³	06.36	06.93	06.46	06.49	80(24 hr)
4.	Nitrogen Dioxide (NO ₂)	IS-5182 (P-06) 2022	µg/m³	20.33	18.17	16.02	13.86	80(24 hr)
5.	Ammonia (NH ₃)	IS-5182 (P-25) 2018	µg/m³	45.58	45.90	35.38	26.69	400(24 hr)
6.	Ozone (O ₃)	IS-5182 (P-09) 2019	µg/m³	27.86	26.78	25.33	20.63	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
(E.N. Kumar)
Technical Head

Issued by
(Animesh Das)
Laboratory Head

Authorized Signatory

EPIC LabTech Pvt. Ltd. Page 1 of 1

Contractual Notes : 1. The Laboratory accepts responsibility for content of this report. 2. Test performed at laboratory's permanent facility at specific environmental condition as method required and results relate only to the sample tested at 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 claims 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:-U74999JH2022PTC016685
PAN:-AAHCE3612M
GST:-20AAHCE3611M12X

Accredited by:-
Jharkhand State Pollution Control Board
Certified by:-
ISO 9001:2015 and ISO 43001:2018

Amplified Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical
Report Unique ID	RL02652535043	Group	Atmospheric Pollution
Issue date/time	29.08.2025/ 18:00	Sub Group	Ambient Air Quality

Report Issue to

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

Contact Person
Contact Number
Email Id
Order Date
Order Number

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

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0265	Sample Booking Number	EPIC-2535043
Sample(s) Code	2535043 (A) (B) (C) (D)	Sample Receipt (D/T)	25.08.2025/ 11:48

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	23.08.2025/ 12:49	Sampling End (D/T)	24.08.2025/ 09:40
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)	25	Humidity %	70	Wind direction	200°-20°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Mine Pit Quarry No 2B	GPS coordinate	23° 21' 46.93"/ 84° 26' 18.88"
S. Location B	Near Baishathan Village	GPS coordinate	23° 21' 29.92"/ 84° 26' 42.67"
S. Location C	Block 2A (Prohopat Village)	GPS coordinate	23° 21' 32.14"/ 84° 26' 01.24"
S. Location D	Harup Block C (Proposed)	GPS coordinate	23° 21' 29.60"/ 84° 20' 29.01"

Date(s) of performance of the laboratory activities

Test start date	25.08.2025/ 12:08	Test completion date	29.08.2025/ 17:00
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--Test Results--

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

--Test Results End--

Prescribed Limit
Operational Status
Analysed by - Vishal Mangaraj

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



Reviewed by
(E.N. Kumar)
Technical Head





EPIC LabTech Private Limited



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CIN:-U74999JH2022PTC010685

PAN:-AAHCE3613M

GST:-20AAHCE3613M1ZK

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.	TC1288725000001068	Discipline	Chemical
Report Unique ID	RL02652535044	Group	Water
Issue date/time	29.08.2025/ 18:03	Sub Group	Ground Water

Report Issue to

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

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0265	Sample Booking Number	EPIC-2535044
Sample(s) Code	2535044	Sample Receipt (D/T)	25.08.2025/ 11:49

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	23.08.2025/ 17:30	Sampling End (D/T)	23.08.2025/ 17:40
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)	25	Humidity %	70	Wind direction	200°-20°
-------------------	--------	------------------	----	------------	----	----------------	----------

Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Baishathan Village	GPS coordinate	23° 21' 28.04" / 84° 26' 45.27"
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Date(s) of performance of the laboratory activities

Test start date	25.08.2025/ 12:20	Test completion date	29.08.2025/ 15:30
-----------------	-------------------	----------------------	-------------------

--Test Result--

Sl.	Test Parameters	Method used	Unit	Results	Limits	
					Acceptable Limit	Permissible limit
1.	pH value at 25°C	IS 3025 (P-11) 2022	-	7.15	6.5-8.5	No relaxation
2.	Turbidity	IS 3025 (P-10) 1984	NTU	1.21	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	211.00	500	2000
7.	Chloride (as Cl)	IS 3025 (P-32) 2019	mg/l	17.99	250	1000
8.	Total Alkalinity (as CaCO ₃)	IS 3025 (P-23) 2019	mg/l	95.00	200	600
9.	Total Hardness (as CaCO ₃)	IS 3025 (P-21) 2009	mg/l	108.00	200	600
10.	Calcium (as Ca)	IS 3025 (P-40) 1991	mg/l	14.75	75	200
11.	Free Residual Chlorine	IS 3025 (P-26) 1986	mg/l	BDL(MDL-0.4)	0.2	1
12.	Sulphate (as SO ₄)	IS 3025 (P-24/Sec-I) 2022	mg/l	1.89	200	400
13.	Nitrate (as NO ₃)	APHA 4500 B 2023	mg/l	1.36	45	No relaxation
14.	Phenolic Compound	IS 3025 (P-43/Sec-I) 2022	mg/l	BDL(MDL-0.001)	0.001	0.002
15.	Magnesium (as Mg)	APHA 3500 Mg E 2023	mg/l	16.05	30	100



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CIN - U74999(JK2022PTC015685)
PAN - AAPICE3611M
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. TC1288725000001068
Report Unique ID RL02662535044
Issue date/time 29.08.2025/ 18:03

Discipline Chemical
Group Water
Sub Group Ground Water

Report Issue to

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

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

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	0.2
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 - Pappu Kumar



Reviewed by
(S.N. Kumar)
Technical Head

Issued by
(Anish Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



Page 2 of 2

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



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CIN - U74999JH2022PTC010603 Accredited by -

PAN - AAHCE3811M

GST - 20AAHCE3811M1Z8

Madhya Pradesh 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	RL02652535044	Group	Water
Issue date/time	29.08.2025/ 18:03	Sub Group	Ground Water

Report Issue to

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

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

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0265	Sample Booking Number	EPIC-2535044
Sample(s) Code	2535044	Sample Receipt (D/T)	25.08.2025/ 11:49

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	23.08.2025/ 17:30	Sampling End (D/T)	23.08.2025/ 17:40
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)	25	Humidity %	70	Wind direction	200°-20°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Baishbhatan Village	GPS coordinate	23° 21' 28.04" / 84° 26' 45.27"
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Date(s) of performance of the laboratory activities

Test start date	25.08.2025/ 12:20	Test completion date	29.08.2025/ 15:30
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--Test Result--

Sl	Test Parameters	Method used	Unit	Results	Limits	
					Acceptable Limit	Permissible Limit
1.	Fluoride (as F)	APHA 4500 F-C 2023	mg/l	BDL(MDL-0.1)	1.0	1.5
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
14.	Ethion	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	3.0	No relaxation



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CIN - U74999JH2022PTC019683
PAN - AAHCE3611M
GST - 20AAHCE3611M1ZK

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Bharat State Pollution Control Board
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ISO 9001:2015 and ISO 45001:2018

Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical
Report Unique ID	RL02652535044	Group	Water
Issue date/time	29.08.2025/ 18:03	Sub Group	Ground Water

Report Issue to

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

Contact Person
Contact Number
Email Id
Order Date
Order Number

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

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

--Test result End--

Prescribed Limit
Operational Status

IS 10500-2021
Unit was Operational During sampling.

Analysed by - Pappu Kumar



[Signature]
Reviewed by
(B.N. Kumar)
Technical Head

[Signature]
Issued by
(Anish Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand





EPIC LabTech Private Limited

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CIN - U74399JH2022PTC019885
PAN - AAHCE3611M
GST - 20AAHCE3611M1Z4

Accredited by -
Jharkhand State Pollution Control Board
Certified by -
ISO 9001:2015 and ISO 43001:2018

Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Biological
Report Unique ID	RL02652535045	Group	Water
Issue date/time	29.08.2025/ 18:06	Sub Group	Ground Water

Report Issue to

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

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

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0265	Sample Booking Number	EPIC-2535045
Sample(s) Code	2535045	Sample Receipt (D/T)	25.08.2025/ 11:49

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	23.08.2025/ 17:30	Sampling End (D/T)	23.08.2025/ 17:40
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)	25	Humidity %	70	Wind direction	200°-20°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Near Baishathan Village	GPS coordinate	23° 21' 28.04" / 84° 26' 45.27"
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Date(s) of performance of the laboratory activities

Test start date	25.08.2025/ 12:20	Test completion date	29.08.2025/ 15:30
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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
(R.K. 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: U74999JH2022PTC016685
PAN: AAHCE3611M
GST: 20AAHCE3611M1ZK

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.	TC1288725000001069	Discipline	Chemical
Report Unique ID	RL02652535046	Group	Water
Issue date/time	29.08.2025/ 18:09	Sub Group	Surface Water

Report Issue to

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

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0265	Sample Booking Number	EPIC-2535046
Sample(s) Code	2535046	Sample Receipt (D/T)	25.08.2025/ 11:50

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	23.08.2025/ 14:08	Sampling End (D/T)	23.08.2025/ 14:18
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)	25	Humidity %	70	Wind direction	200°-20°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Chapa Kona (Spring Water)	GPS coordinate	23° 22' 38.13" / 84° 26' 27.92"
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Date(s) of performance of the laboratory activities

Test start date	25.08.2025/ 12:05	Test completion date	29.08.2025/ 16:30
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--Test Result--

Sl	Test Parameters	Method used	Unit	Results	Limits
1.	pH value at 25°C	IS 3025 (P-11) 2022	-	6.61	-
2.	Turbidity	IS 3025 (P-10) 1984	NTU	1.53	-
3.	Colour	IS 3025 (P-04) 2021	Hazen	5	-
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	195.00	-
7.	Chloride (as Cl)	IS 3025 (P-32) 2019	mg/l	12.31	-
8.	Total Alkalinity (as CaCO ₃)	IS 3025 (P-23) 2019	mg/l	30.00	-
9.	Total Hardness (as CaCO ₃)	IS 3025 (P-21) 2009	mg/l	40.16	-
10.	Calcium (as Ca)	IS 3025 (P-40) 1991	mg/l	14.43	-
11.	Free Residual Chlorine	IS 3025 (P-26) 1988	mg/l	BDL(MDL-0.4)	-
12.	Sulphate (as SO ₄)	IS 3025 (P-24/Sec-1)2022	mg/l	1.8	-
13.	Nitrate (as NO ₃)	APHA 4500 B 2023	mg/l	1.88	-
14.	Phenolic Compound	IS 3025 (P-43/Sec-1) 2022	mg/l	BDL(MDL-0.001)	-



Page 1 of 2

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



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CIN: U74999JH2022PTC019683
PAN: AARCE3811M
GST: 20AAHCB3811M1Z1

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



TC-12887

Analytical Test Certificate

Unique Lab Report No.	TC1288725000001069	Discipline	Chemical
Report Unique ID	RL02652535048	Group	Water
Issue date/time	29.08.2025/ 18:09	Sub Group	Surface Water

Report Issue to

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

Contact Person
Contact Number
Email Id
Order Date
Order Number

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

Group - Residues and Contaminants in Water,

Sub Group - Trace Metals Elements

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-0.03)	-
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)	-

--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





EPIC LabTech Private Limited

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CIN - U74999JH2022PTC019663
PAN - AARCE5611M
GST - 20AAHCE5611M1Z9

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	RL02652535046	Group	Water
Issue date/time	29.08.2025/ 18:09	Sub Group	Surface Water

Report Issue to

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

Contact Person
Contact Number
Email Id
Order Date
Order Number

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

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0265	Sample Booking Number	EPIC-2535046
Sample(s) Code	2535046	Sample Receipt (D/T)	25.08.2025/ 11:50

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/RD36
Sampling Start (D/T)	23.08.2025/ 14:08	Sampling End (D/T)	23.08.2025/ 14:18
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)	25	Humidity %	70	Wind direction	200°-20°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Chapa Koria (Spring Water)	GPS coordinate	23°22' 38.13" / 84° 26' 27.92"
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Date(s) of performance of the laboratory activities

Test start date	25.08.2025/ 12:05	Test completion date	29.08.2025/ 16:30
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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.	Chlorpyrifos	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)	-



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CIN - U74999JH2022PTC019685 Accredited by -

PAN - AAHCE5811M

GST - 20AAHCE87611M1ZK

Jharkhand State Pollution Control Board

Certified by -

ISO 9001:2015 and ISO 43001:2018

Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical
Report Unique ID	RL02652535046	Group	Water
Issue date/time	29.08.2025/ 18:09	Sub Group	Surface Water

Report Issue to

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

Contact Person
Contact Number
Email Id
Order Date
Order Number

Mr. Ankit Das
+91 9971034775
ankit.das@adityabirla.com
31.03.2025/ 10:10
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14. Ethion	EPIC/LAB/SOP/WA/01/00	µg/l	BDL(MDL-0.5)	-
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.R. Kumar)
Technical Head

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



Page 2 of 2

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



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CMC-074999/H2022PTC019683

PAN: AANHC3611M

GST: 20AAHCE3611M12X

Accredited by:-

Jharkhand State Pollution Control Board

Certified by:-

ISO 9001:2015 and ISO 43001:2018

Analytical Test Certificate

Unique Lab Report No.	N/A	Discipline	Biological
Report Unique ID	RL02652535047	Group	Water
Issue date/time	29.08.2025/ 18:12	Sub Group	Surface Water

Report Issue to

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

Contact Person Mr. Ankit Das
Contact Number +91 9971034775
Email Id ankit.das@adityabirla.com
Order Date 31.03.2025/ 10:10
Order Number 13612313668

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0265	Sample Booking Number	EPIC-2535047
Sample(s) Code	2535047	Sample Receipt (D/T)	25.08.2025/ 11:50

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/006
Sampling Start (D/T)	23.08.2025/ 14:08	Sampling End (D/T)	23.08.2025/ 14:18
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)	25	Humidity %	70	Wind direction	200°-20°
-------------------	--------	------------------	----	------------	----	----------------	----------

Sampling Location(s) with GPS coordinate(s)

S. Location A	Chapa Kona (Spring Water)	GPS coordinate	23°22' 38.13" / 84° 26' 27.92"
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Date(s) of performance of the laboratory activities

Test start date	25.08.2025/ 12:05	Test completion date	29.08.2025/ 16:30
-----------------	-------------------	----------------------	-------------------

--Test Result--

Sl	Test Parameters	Method used	Unit	Results	Limits
1.	Total Coliform	IS 15185 2002	Per 100 ml	410	
2.	E.Coli	IS 15185 2002	Per 100 ml	330	

--Test result End --

Prescribed Limit

Operational Status

Analysed by - Sujata Kumari

Unit was Operational During sampling.



Reviewed by
(B.N. Kumar)
Technical Head

Issued by
(Umesh Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



EPIC LabTech Private Limited

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CIN - U74999JH2022PTC019585
PAN - AAHCE3811M
GST - 20AAHCE3811M1Z9

Accredited by:-
NABL with certificate Number TC - 13897
Jharkhand State Pollution Control Board
Certified by:-
ISO 9001:2015 and ISO 45001:2018



Analytical Test Certificate

Unique Lab Report No.	TC1288725000001245	Discipline	Chemical
Report Unique ID	RL02932538053	Group	Atmospheric Pollution
Issue date/time	20.09.2025/18:02	Sub Group	Ambient Air Quality

Report Issue to

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

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

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0293	Sample Booking Number	EPIC-2538053
Sample(s) Code	2538053 (A) (B) (C) (D)	Sample Receipt (D/T)	18.09.2025/ 11:04

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	16.09.2025/ 12:22	Sampling End (D/T)	17.09.2025/ 09:39
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 %	67	Wind direction	200°-20°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Mine Pit Quarry No 2B	GPS coordinate	23° 21' 48.93" / 84° 26' 18.88"
S. Location B	Near Baisbhatan Village	GPS coordinate	23° 21' 29.92" / 84° 26' 42.67"
S. Location C	Block 2A (Prohopat Village)	GPS coordinate	23° 21' 32.14" / 84° 26' 01.24"
S. Location D	Harup Block C (Proposed)	GPS coordinate	23° 21' 29.60" / 84° 26' 29.01"

Data(s) of performance of the laboratory activities

Test start date	18.09.2025/ 11:24	Test completion date	22.09.2025/ 13:00
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--Test Results--

Sl.	Test Parameters	Method used	Unit	Results				Limits
				A	B	C	D	
1.	Particulate Matter (PM ₁₀)	IS-5182 (P-23) 2022	µg/m³	61.92	62.85	65.83	63.29	100 (24 hr)
2.	Fine Particulate Matter (PM _{2.5})	IS 5182 (P-24) 2019	µg/m³	23.59	25.50	28.91	25.44	80(24 hr)
3.	Sulphur Dioxide (SO ₂)	IS-5182 (P-02) 2023	µg/m³	07.28	08.03	06.11	06.87	80(24 hr)
4.	Nitrogen Dioxide (NO ₂)	IS-5182 (P-06) 2022	µg/m³	22.36	20.18	18.04	16.95	80(24 hr)
5.	Ammonia (NH ₃)	IS-5182 (P-25) 2018	µg/m³	29.00	28.37	29.32	28.37	400(24 hr)
6.	Ozone (O ₃)	IS-5182 (P-09) 2019	µg/m³	19.18	19.54	18.82	18.86	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-20) 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
(S.N. Kumar)
Technical Head

Issue by
(Ankit Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.



EPIC LabTech Private Limited

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CIN - U74999JH2022PTC019683
PAN - AAKCE3611M
GST - 20AAHCE3611M1Z6

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

Analysical Test Certificate

Unique Lab Report No.	N/A	Discipline	Chemical
Report Unique ID	RL02932538053	Group	Atmospheric Pollution
Issue date/time	20.09.2025/18:02	Sub Group	Ambient Air Quality

Report Issue to

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

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

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0293	Sample Booking Number	EPIC-2538053
Sample(s) Code	2538053 (A) (B) (C) (D)	Sample Receipt (D/T)	18.09.2025/ 11:04

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	16.09.2025/ 12:22	Sampling End (D/T)	17.09.2025/ 09:39
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 %	67	Wind direction	200°-20°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Mine Pit Quarry No 2B	GPS coordinate	23° 21' 46.93" / 84° 26' 18.88"
S. Location B	Near Baishbhatan Village	GPS coordinate	23° 21' 29.92" / 84° 26' 42.67"
S. Location C	Block 2A (Prohopat Village)	GPS coordinate	23° 21' 32.14" / 84° 26' 01.24"
S. Location D	Harup Block C (Proposed)	GPS coordinate	23° 21' 29.60" / 84° 26' 29.01"

Date(s) of performance of the laboratory activities

Test start date	18.09.2025/ 11:24	Test completion date	22.09.2025/ 13:00
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-Test Results-

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

-Test Results End -

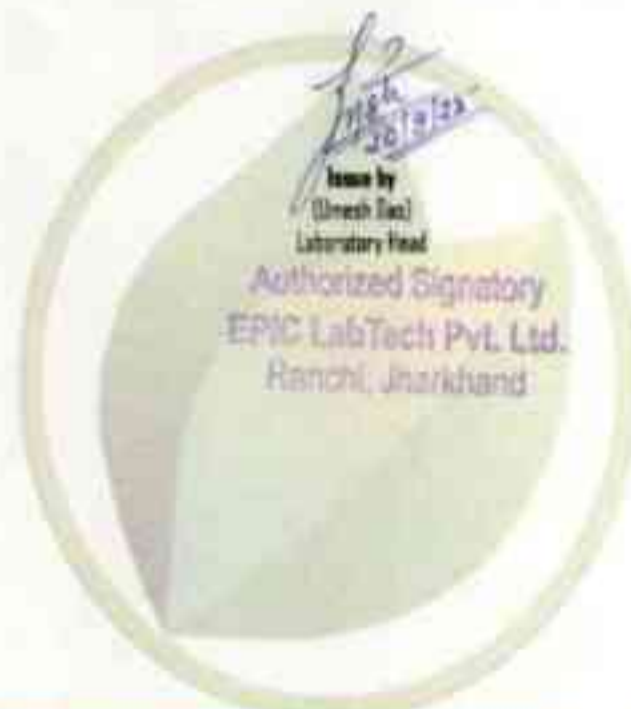
Prescribed Limit Environmental (Protection) Rules-1986, Schedule VII.

Operational Status Unit was Operational During sampling.

Analysed by - Vishal Mangaraj




Reviewed by
(B.N. Kumar)
Technical Head





EPIC LabTech Private Limited

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CIN:-U74999JH2022PTC019685

PAN:-AAHCE3611M

GST:-20AAHCE3611M1Z1

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.	TC1288725000001246	Discipline	Chemical
Report Unique ID	RL02932538054	Group	Pollution & Environment
Issue date/time	22-09-2025/18:05	Sub Group	Soil/Sediments

Report Issue to

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

Contact Person Mr. Ankit Das
Contact Number +919971034775
Email Id ankit.das@adityabirla.com
Order Date 31.03.2025/ 10:10
Order Number 13612313868

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0293	Sample Booking Number	EPIC-2538054
Sample(s) Code	2538054	Sample Receipt (D/T)	18.09.2025/ 11:05

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	16.09.2025/ 16:20	Sampling End (D/T)	16.09.2025/ 16:30
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 %	67	Wind direction	200°-20°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Mines Pit Quarry No-2B	GPS coordinate	23° 21' 48.17" / 84° 26' 19.32"
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Date(s) of performance of the laboratory activities

Test start date	18.09.2025/ 12:00	Test completion date	22.09.2025/ 13:00
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--Test Result--

Sl	Test Parameters	Method used	Unit	Results	Limits
1.	pH value at 25.7°C	MAGI 2011	-	5.61	-
2.	Available Phosphorus	MAGI 2011	Kg/ha	11.20	-
3.	Available Potassium	MAGI 2011	Kg/ha	66.50	-
4.	Organic Carbon	MAGI 2011	%	1.77	-
5.	Electrical Conductivity	MAGI 2011	µs/cm	74.78	-
6.	Magnesium	MAGI 2011	mg/kg	24.32	-
7.	Nitrogen	MAGI 2011	%	0.16	-
8.	Arsenic (as As)	USEPA 3050 B 1996	mg/kg	BDL(MDL-0.005)	-
9.	Cadmium (as Cd)	USEPA 3050 B 1996	mg/kg	0.87	-
10.	Selenium (as Se)	USEPA 3050 B 1996	mg/kg	BDL(MDL-0.005)	-

--Test result End --

Operational Status

Unit was Operational During sampling.

Analyzed by - Ishika Singh



Reviewed by
(S.K. Kumar)
Technical Head

Issued by
(Ajayash Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



EPIC LabTech Private Limited

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Jharkhand - 834005, India

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✉ epiclabtech@gmail.com

CIN:-U74999(JH2022PTC019683)
PAN:-AAHCE9611M
GST:-20AAHCE9611M1ZK

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	RL02902538054	Group	Pollution & Environment
Issue date/time	22-09-2025/18:05	Sub Group	Soil/Sediments

Report Issue to

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

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

Customer Registration No.	EPIC/OTH/0293	Sample Booking Number	EPIC-2538054
Sample(s) Code	2538054	Sample Receipt (D/T)	18.09.2025/ 11:05

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	18.09.2025/ 16:20	Sampling End (D/T)	18.09.2025/ 16:30
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 %	67	Wind direction	200°-20°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Mines Pit Quarry No-28	GPS coordinate	23° 21' 48.17" / 84° 26' 19.32"
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Date(s) of performance of the laboratory activities

Test start date	18.09.2025/ 12:00	Test completion date	22.09.2025/ 13:00
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--Test Result--

Sl	Test Parameters	Method used	Unit	Results	Limits
1.	Chloride (as Cl)	EPIC/LAB/SOP/PE/01/00	%	0.047	-
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
(E.A. Kumar)
Technical Head

Issued by
(Omish Das)
Laboratory Head

Authorized Signatory
EPIC LabTech Pvt. Ltd.
Ranchi, Jharkhand



EPIC LabTech Private Limited

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CIN - U14309JH2022PTC019683
PAN - AAHCE3511M
GST - 20AAHCE3511M12X

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.	TC1288725000001247	Discipline	Chemical
Report Unique ID	RL02932538055	Group	Water
Issue date/time	22-09-2025/18:08	Sub Group	Surface Water

Report Issue to

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

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

References of Quality Management System (Steps of Traceability Chain)

Customer Registration No.	EPIC/OTH/0293	Sample Booking Number	EPIC-2538055
Sample(s) Code	2538055	Sample Receipt (D/T)	18.09.2025/ 11:06

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	18.09.2025/ 16:10	Sampling End (D/T)	18.09.2025/ 16:20
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team
Sampling method used	IS : 3025 (Part-1) 1987, R-2003		
Description/condition of sample	Receipt sample(s) were fit for analysis.		

Environmental Condition during sampling

Weather condition	Cloudy	Temperature (°C)	28	Humidity %	67	Wind direction	200°-20°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Mines Pit Quarry No.2B	GPS coordinate	23° 21' 41.78" / 84° 26' 20.54"
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Date(s) of performance of the laboratory activities

Test start date	18.09.2025/ 11:26	Test completion date	22.09.2025/ 12:55
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--Test Result--

Sl	Test Parameters	Method used	Unit	Results	Limits
1.	pH value at 25°C	IS 3025 (P-11) 2022	-	6.71	-
2.	Total Dissolved Solids (TDS)	IS 3025 (P-16) 2023	mg/l	130.00	-
3.	Calcium (as Ca)	IS 3025 (P-40) 1991	mg/l	8.6	-

Group - Residues and Contaminants in Water,

Sub Group - Trace Metals Elements

4.	Iron (as Fe)	APHA 3111 B 2023	mg/l	BDL(MDL-0.1)	-
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--Test result End --

Operational Status

Unit was Operational During sampling.

Analysed by- Pappu Kumar



Reviewed by
(B.R. Kumar)
Technical Head





EPIC LabTech Private Limited

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CIN: U74999JH2022PT1019683

PAN: AAHCE3811M

GST: 20AAHCE3811M1ZK

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	RL02932538055	Group	Water
Issue date/time	22-09-2025/18:08	Sub Group	Surface Water

Report Issue to

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

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

References of Quality Management System (Stage of Traceability Chain)

Customer Registration No.	EPIC/OTH/0293	Sample Booking Number	EPIC-2538055
Sample(s) Code	2538055	Sample Receipt (D/T)	18.09.2025/ 11:08

Sampling References

Type of Industry	Bauxite Mines	Ref. of Sampling Plan	EPIC/LAB/R/036
Sampling Start (D/T)	16.09.2025/ 16:10	Sampling End (D/T)	16.09.2025/ 16:20
Mode of Sampling	Conducted by Laboratory	Sample collected by	Mr. Akash Kumar & Team
Sampling method used	IS : 3025 (Part-1) 1987, R-2003		
Description/condition of sample	Receipt sample(s) were fit for analysis.		

Environmental Condition during sampling

Weather condition	Cloudy	Temperature (°C)	28	Humidity %	67	Wind direction	200°-20°
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Sampling Location(s) with GPS coordinate(s)

S. Location A	Mines Pit Quarry No.2B	GPS coordinate	23° 21' 41.78" / 84° 26' 20.54"
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Date(s) of performance of the laboratory activities

Test start date	18.09.2025/ 11:26	Test completion date	22.09.2025/ 12:55
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--Test Result--

Sl.	Test Parameters	Method used	Unit	Results	Limits
1.	Dissolve Oxygen (DO)	IS 3025 (P-38) 1989	mg/l	4.4	-
2.	Temperature	IS 3025 (P-09) 1986	°C	26.2	-
3.	BOD (3days at 27°C)	IS 3025 (P-44) 2000	mg/l	1.3	-
4.	COD	IS 3025 (P-58) 2006	mg/l	36.0	-
5.	Total Suspended Solids (TSS)	IS 3025 (P-17) 2022	mg/l	85.0	-
6.	Oil & Grease	IS 3025 (P39) 2021	mg/l	BDL(MDL-04)	-

Group - Residues and Contaminants in Water,

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

BDL(MDL-0.1)

--Test result End --

Operational Status Unit was Operational During sampling.

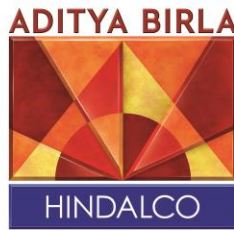
Analysed by - Pappu Kumar



Reviewed by
(S.N. Kumar)
Technical Head

[Signature]





Annexure 3

Date – 01.05.2025

Office Order

Environmental Cell has been re-constituted for Sherandag Group of Mines (Sherandag-155.81 ha, Serandag-77.89 ha and Jalim - Sanai-12.14 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 Hindalco Industries Limited

1. Mr. Akhilesh Sinha (Coordinator)
2. Mr. Sanjay Sharma (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.

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

Basudev Gangopadhyay
AVP (Planning, Environment & Compliance)

Annexure 4

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

Annexure 4

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

*Static information about the mines included in the above table



Basudev Gangopadhyay
AVP (Planning, Environment and Compliance)

Annexure-5

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

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

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

**Part of OB removed cost



Basudev Gangopadhyay
AVP (Planning, Environment & Compliance)

FORM "O"

(See Rule 29 F(2) and 291.)

(See Rule 29 F(2) and 29I.)

REPORT OF MEDICAL EXAMINATION UNDER RULE 29 B

(TO BE ISSUED IN TRIPLICATE)**

Certificate No:

Balaji-0973

Certified that LILKAN ORAON employed as Supervisor in SHRENGDAG BAUXITE MINES, Form-A No.
has been examined for an INITIAL medical examination. He appears to be 47 years of age.
The findings of the examining authority are given in the attached sheet. It is considered that LILKAN ORAON

- a. Is medically fit for any employment in mines.

- b. Is suffering from _____ and is medically unfit for
- (i) Any employment in mines, or
 - (ii) Any employment below ground, or
 - (iii) Any employment or work

- c. Is suffering from _____ and should get this disability *cured/controlled and should be again examined within a period of _____ months. He appear for re-examination with the result of test of _____ and the opinion of _____ specialist from _____. He may be permitted/not permitted to carry on his duties during this period.



LILKAN ORAON

Signature of the examining authority
Name and designation in Block Letter

DR. OM PRAKASH DUBEY
CHIEF MEDICAL OFFICER

Dr. Omprakash Duboy
Sr. Consultant

Hindalco Mines Divl., Lohardaga
Reg. No -33297, BR-2002

Place: **HINDALCO INDUSTRIES LTD., MINES DIVN., LOHARDAGA**

Date: 28/04/2025

*Delete whatever not applicable.

***One copy of the certificate shall be handed over to the person concerned and another copy shall be sent to the Manager of the mine concerned by registered post and the third copy shall be retained by the examining authority.*

Form 59

[See rules 115 (2)]

Pollution Under Control Certificate

Authorised By :
Government of Jharkhand

Date : 23/09/2025
Time : 14:18:23 PM
Validity upto : 22/03/2026



Certificate SL. No. : JH00103840001651
Registration No. : JH09BB5582
Date of Registration : 06/Sep/2016
Month & Year of Manufacturing : May-2016
Valid Mobile Number : *****5968
Emission Norms : BHARAT STAGE III
Fuel : DIESEL
PUC Code : JH0010384
GSTIN :
Fees : Rs.300.00
MIL observation : No

Vehicle Photo with Registration plate
60 mm x 30 mm



Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	2.45	0.05

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to <https://puc.parivahan.gov.in>

Authorised Signature with stamp of PUC Operator
60mm x 20 mm

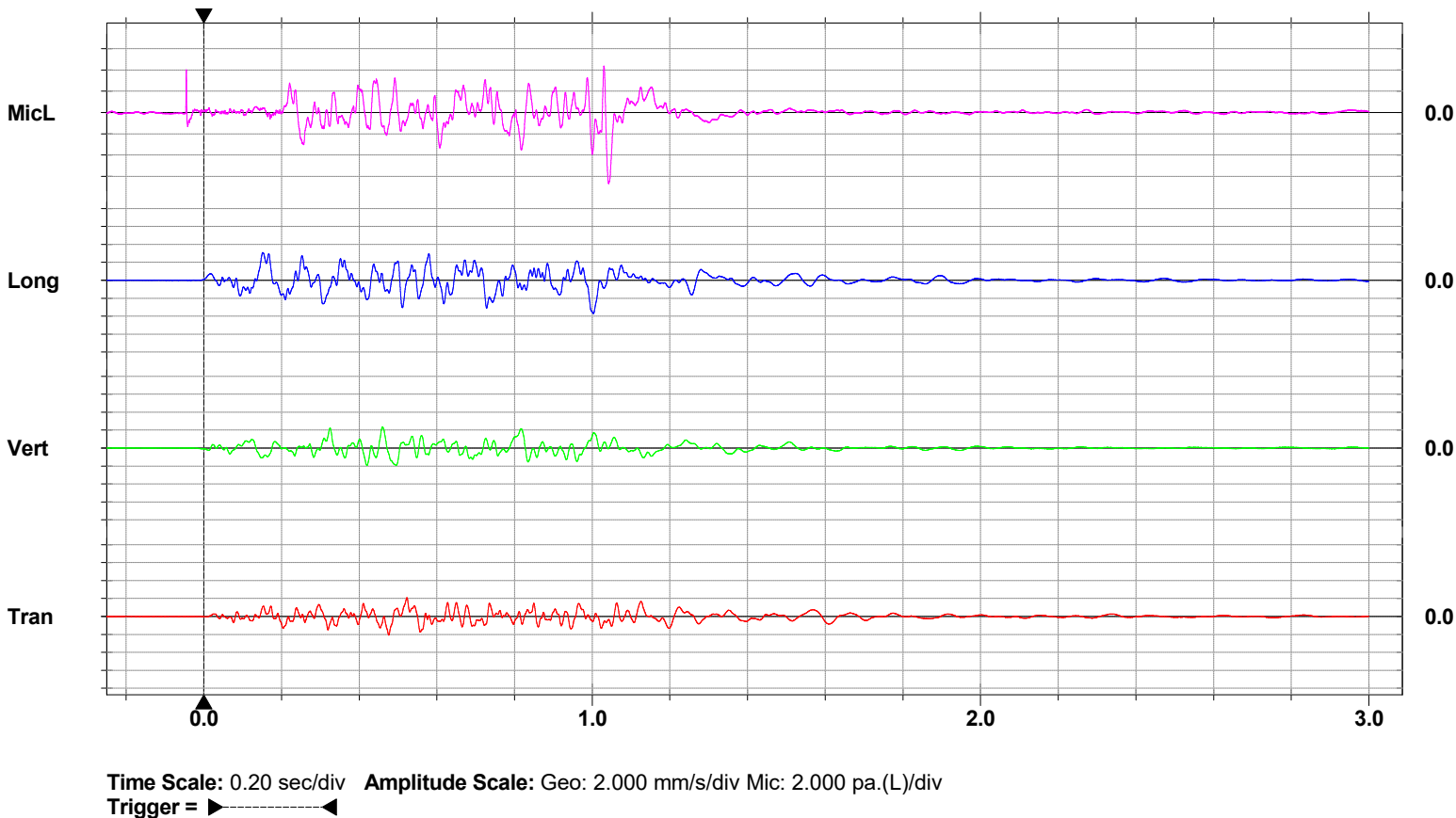
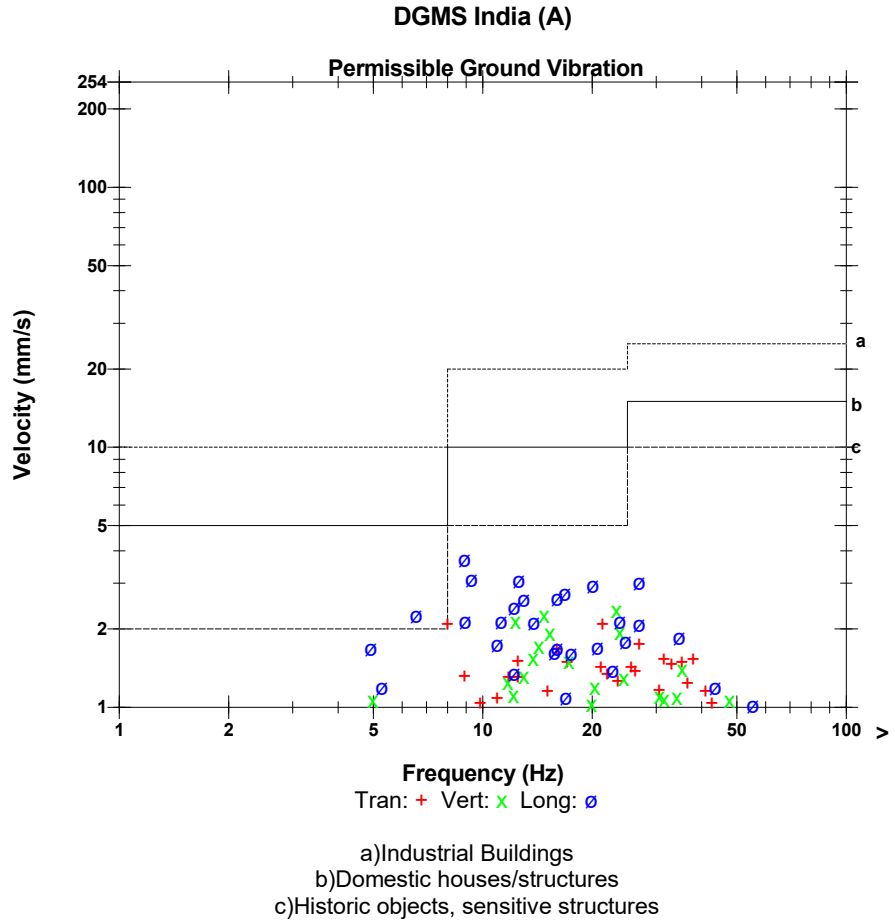
Date/Time Vert at 14:04:15 October 9,2025
Trigger Source Geo: 0.130 mm/s
Range Geo: 254.0 mm/s 3.0 sec at
Record Time 4096 sps Operator/SHD_B.MMB
Operator/Setup:

Serial Number UM22745 V 10-90GC Micromate ISEE
Battery Level 3.8 Volts
Unit Calibration December 18, 2024 by UES New Delhi
File Name UM22745_20250109140415.IDFW

Notes

Microphone Linear Weighting
PSPL 110.5 dB(L) at 1.042 sec
ZC Freq 10.7 Hz
Channel Test Passed (Freq = 20.5 Hz Amp = 1285 mv)

	Tran	Vert	Long	
PPV	2.097	2.365	3.712	mm/s
ZC Freq	21.3	23.3	8.9	Hz
Time (Rel. to Trig)	0.476	0.460	1.003	sec
Peak Acceleration	0.072	0.063	0.105	g
Peak Displacement	0.026	0.025	0.046	mm
Sensor Check	Passed	Passed	Passed	
Peak Vector Sum	4.105 mm/s at 1.003 sec			





Ref No: HIL/LHD/ENV/ SERANGDAG-B / 387

Date: 02.11.2023

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

Sub: Intimation of revalidated EC grant of Serangdag Bauxite Mine (Area: 77.89 Ha) of Hindalco Industries Limited, with production capacity of Bauxite 100000 TPA Villages: Serangdag, Hanrup and Paunri, Taluka: Bishunpur & Ghagra, District: Gumla, Jharkhand.

Sir,

We would like to bring this to your notice that revalidated EC has been granted for Serangdag-B Bauxite Mine by SEIAA, Jharkhand.

A copy of issued Environmental Clearance is attached along with this letter for your ready reference.

Thanking You,

Yours Sincerely
For Hindalco Industries Ltd

(Basudev Gangopadhyay)
AVP (Planning, Environment & Compliance)





Ref No: HIL/LHD/ENV/SERANGDAG-B/386

Date: 02.11.2023

To

The Member Secretary,
Jharkhand State Pollution Control Board,
TA Building, Dhurwa,
Ranchi (Jharkhand).

Sub: Intimation of revalidated EC grant of Serangdag Bauxite Mine (Area: 77.89 Ha) of Hindalco Industries Limited, with production capacity of Bauxite 100000 TPA near Villages: Serangdag, Hanrup and Paunri, Taluka: Bishunpur & Ghagra, District: Gumla, Jharkhand.

Sir,

We would like to bring this to your notice that revalidated EC has been granted for Serangdag-B Bauxite Mine by SEIAA, Jharkhand.

A copy of issued Environmental Clearance is attached along with this letter for your ready reference.

Thanking You,

Yours Sincerely
For Hindalco Industries Ltd

(Basudev Gangopadhyay)
AVP (Planning, Environment & Compliance)



o/c



Ref No: HIL/LHD/ENV/ SERANGDAG-B / 388

Date: 02.11.2023

To

Gram Panchayat Mukhiya,
Panchayat Bhawan, Aadar,
Block-Ghagra, Gumla.

Sub: Intimation of revalidated EC grant of Serangdag Bauxite Mine (Area: 77.89 Ha) of Hindalco Industries Limited, with production capacity of Bauxite 100000 TPA Villages: Serangdag, Hanrup and Paunri, Taluka: Bishunpur & Ghagra, District: Gumla, Jharkhand.

Sir,

We would like to bring this to your notice that revalidated EC has been granted for Serangdag-B Bauxite Mine by SEIAA, Jharkhand.

A copy of issued Environmental Clearance is attached along with this letter for your ready reference.

Thanking You,

Yours Sincerely
For Hindalco Industries Ltd

(Basudev Gangopadhyay)
AVP (Planning, Environment & Compliance)

पञ्चायती मुखिया
ग्राम-आदर पंचायत-आदर
घाघरा गुमला



o/c

Ref No: HIL/LHD/ENV/ SERANGDAG-B / 396

Date: 02.11.2023

To

Zilla Parishad,
Gumla, Jharkhand.

Sub: Intimation of revalidated EC grant of Serangdag Bauxite Mine (Area: 77.89 Ha) of Hindalco Industries Limited, with production capacity of Bauxite 100000 TPA Villages: Serangdag, Hanrup and Paunri, Taluka: Bishunpur & Ghagra, District: Gumla, Jharkhand.

Sir,

We would like to bring this to your notice that revalidated EC has been granted for Serangdag-B Bauxite Mine by SEIAA, Jharkhand.

A copy of issued Environmental Clearance is attached along with this letter for your ready reference.

Thanking You,

Yours Sincerely
For **Hindalco Industries Ltd**

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

(Basudev Gangopadhyay)
AVP (Planning, Environment & Compliance)





o/c

Ref No: HIL/LHD/ENV/ SERANGDAG-B / 389

Date: 02.11.2023

To

District Industries Centre,
Gumla, Jharkhand.

Sub: Intimation of revalidated EC grant of Serangdag Bauxite Mine (Area: 77.89 Ha) of Hindalco Industries Limited, with production capacity of Bauxite 100000 TPA Villages: Serangdag, Hanrup and Paunri, Taluka: Bishunpur & Ghagra, District: Gumla, Jharkhand.

Sir,

We would like to bring this to your notice that revalidated EC has been granted for Serangdag-B Bauxite Mine by SEIAA, Jharkhand.

A copy of issued Environmental Clearance is attached along with this letter for your ready reference.

Thanking You,

Yours Sincerely
For **Hindalco Industries Ltd**

(Basudev Gangopadhyay)
AVP (Planning, Environment & Compliance)



Hindalco Industries Limited
Mines Division, Court Road, Lohardaga 835302, Jharkhand, India
T: +91 6526 224112/224015/223113 | E: hindalco@adityabirla.com | W: www.hindalco.com
Registered Office: Ahura Centre, 1st Floor, B Wing, Mahakali Caves Road, Andheri (East), Mumbai 400 093, India
T: +91 22 6691 7000 | F: +91 22 6691 7001
Corporate ID No.: L27020MH1958PLC011238



Ref No: HIL/LHD/ENV/ SERANGDAG-B /385

Date: 02.11.2023

To
The Deputy Commissioner,
Office of the Deputy Commissioner (District General Branch),
New Collectorate Building Nag-01, Room No.-09,
Gumla, Pin 835207 (Jharkhand)

Sub: Intimation of revalidated EC grant of Serangdag Bauxite Mine (Area: 77.89 Ha) of Hindalco Industries Limited, with production capacity of Bauxite 100000 TPA Villages: Serangdag, Hanrup and Pauri, Taluka: Bishunpur & Ghagra, District: Gumla, Jharkhand.

Sir,

We would like to bring this to your notice that revalidated EC has been granted for Serangdag-B Bauxite Mine by SEIAA, Jharkhand.

A copy of issued Environmental Clearance is attached along with this letter for your ready reference.

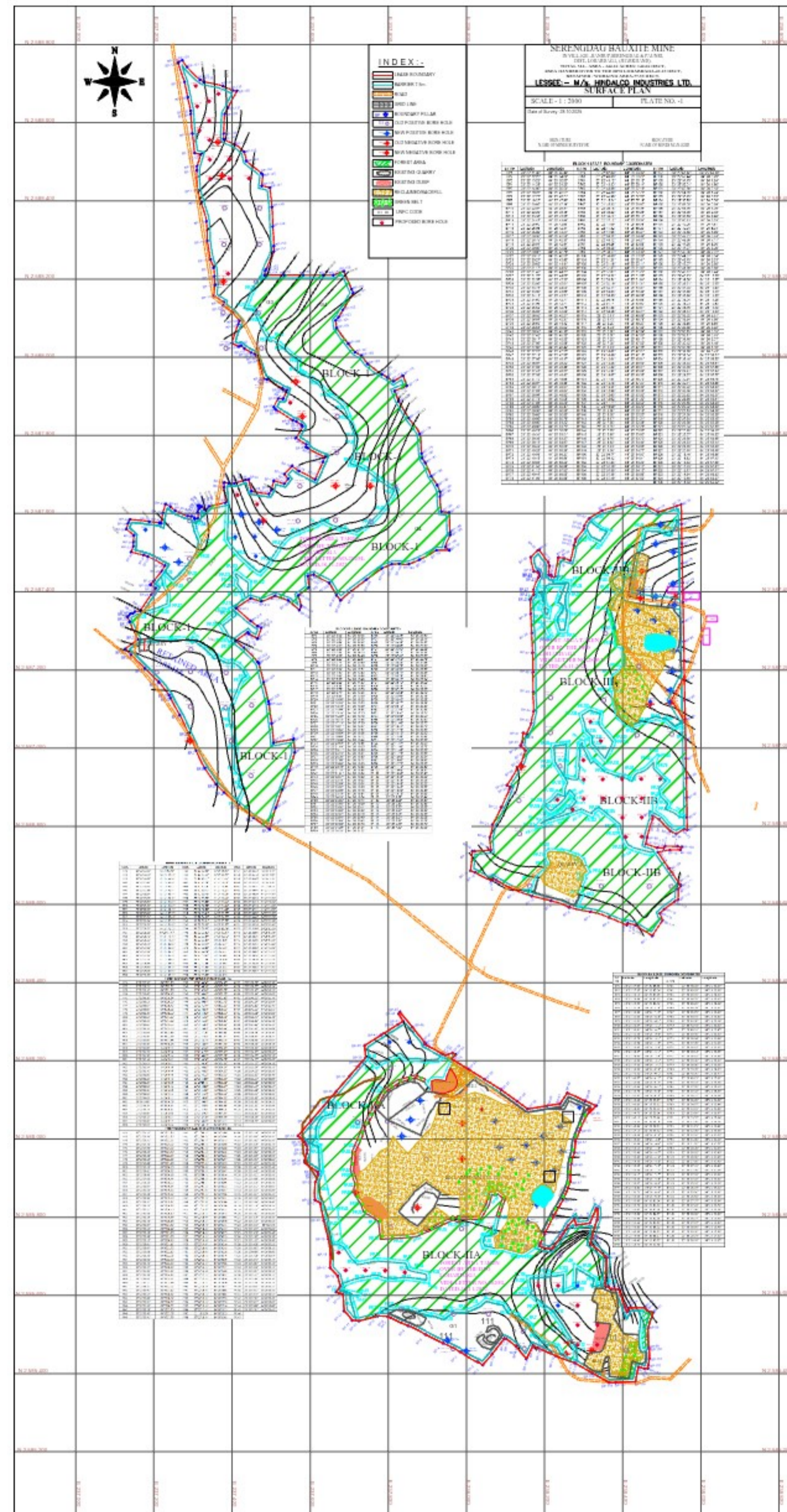
Thanking You,

Yours Sincerely
For Hindalco Industries Ltd

(Basudev Gangopadhyay)
AVP (Planning, Environment & Compliance)



Hindalco Industries Limited
Mines Division, Court Road, Lohardaga 835302, Jharkhand, India
T: +91 6526 224112/224015/223113 | E: hindalco@adityabirla.com | W: www.hindalco.com
Registered Office: Ahura Centre, 1st Floor, B Wing, Mahakali Caves Road, Andheri (East), Mumbai 400 093, India
T: +91 22 6691 7000 | F: +91 22 6691 7001
Corporate ID No.: L27020MH1958PLC011238





Annexure - 11

Ref: HIL/JH/DFO-LOHARDAGA/WLCP Fees/143

Date: 27.06.2025

To,
Divisional Forest Officer,
Lohardaga, Jharkhand

Sub: Payment of Rs. 387.344 Lakhs (Rupees Three Hundred Eighty-Seven Lakhs Thirty-Four Thousand Four Hundred Only) towards Wildlife Conservation Plan fees as per sanctioned order by PCCF, Wildlife, Ranchi for our all-bauxite mines of Hindalco Industries Limited and Minerals & Minerals Limited in Lohardaga Forest Division, Jharkhand.

Ref: (i) Your Letter no. 597 dated 10.06.2025 (ii) Your Letter no. 598 dated 10.06.2025
(iii) Your Letter no. 599 dated 10.06.2025

Dear Sir,

The Wildlife Conservation Plans for following Bauxite mines of Hindalco Industries Ltd and Minerals & Minerals Limited have been approved by PCCF, Wildlife, Ranchi. Subsequently, we have received the demand notes from your good office as per the allocated fund mentioned in the sanctioned/approved documents.

As per the demand note received from your good office, a total amount of an amount of **Rs. 387.344 Lakhs (Rupees Three Hundred Eighty-Seven Lakhs Thirty-Four Thousand Four Hundred Only)** has to be paid to the Divisional Forest Officer, Lohardaga as per the sanctioned budget mentioned in the approved report according to the EC condition.

Therefore, we are submitting three demand drafts amounting to **Rs. 387.344 Lakhs (Rupees Three Hundred Eighty-Seven Lakhs Thirty-Four Thousand Four Hundred Only)** against the Wildlife Conservation Plan for the following bauxite mines of Hindalco Industries Ltd. and Minerals & Minerals Limited. The details of the bank drafts are as follows:

S. No.	Your reference Letter No	Amount in Demand note	Mining Project	Demand Draft (DD) In Favour of	Amount (Rs)	DD No. dated
	597 dated 10.06.2025	246.684 Lakhs	Bagru, Bhusar, Hisri New and Hisri Old, Pakhar (115.13 Ha), Pakhar (109.507 Ha), Pakhar (15.577 Ha) Shrengdag (155.81 Ha), Serengdag (140.07 Ha), Jalim & Sanai (12.14 Ha)	Range Officer of Forest, Lohardaga	246.684 Lakhs	567891 dated 19.06.2025
	599 dated 10.06.2025	124.560 Lakhs	Amtipani, Gurdari, Kujam-I and Kujam-II	Range Officer of Forest, Banari	124.560 Lakhs	567890 dated 19.06.2025
3	598 dated 10.06.2025	16.10 Lakhs	Amtipani Chirodih (130.01 Ha)	Range Officer of Forest, Banari	16.10 Lakhs	642410 dated 20.06.2025
Total		387.344 Lakhs	-		387.344 Lakhs	-

Please acknowledge the receipt.

Thanking You,
Sincerely Yours,

(Basudev Gangopadhyay)
AVP (Planning, Environment & Compliance)

Encl: As above

Hindalco Industries Limited

Mines Division, Court Road, Lohardaga 835302, Jharkhand, India | T: +91 6526 223163
Corporate Office: 6th & 7th Floor, Birla Birla Centurion, Pandurang Budhakar Marg, Worli, Mumbai-400030, India
T: +91 22 66626666/626105555 | F: +91 22 62610400/62610500
Registered Office: 21st Floor, One Unity Center, Senapati Bapat Marg, Prabhadevi, Mumbai - 400013, India
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W: www.hindalco.com | E: hilinvestors@adityabirla.com