

HIL/LHD/ENV/MoEF&CC/069

Date: 16th May 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 Jalim & Sanai Bauxite Mining project of M/s Hindalco Industries Limited, Gumla Jharkhand for the period from October 2024 to March 2025.

Ref: Environmental Clearance Letter No. J-11015/138/2006-IA II (M), dated 10th April 2007.

Dear Sir,

With reference to the above, we are submitting herewith the Compliance status report of EC conditions for Jalim & Sanai Bauxite Mining project of M/s Hindalco Industries Limited, Gumla Jharkhand for the period from October 2024 to March 2025 for your kind perusal please.

The lease details are below:

Lease area (ha)	Production Capacity (MT)	Lease Period
12.14	50000	16.10.1974 to 31.03.2030

Hope you will find the same in order.

Thanking You

Yours faithfully, For **Hindalco Industries Limited**

Basuaev Gangopadhyay (AVP - Planning, Environment & Compliance)

Enclosure: - As Above

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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 T: +91 22 69477000/69477150 | F: +91 22 69477001/69477090 W: www.hindalco.com | E: hilinvestors@adityabirla.com

Name of the Project	:	Jalim Sanai Bauxite Mine (12.14 ha) M/s Hindalco Industries Limited
Environment Clearance No. & date	:	J-11015/138/2006-IA.II(M), dated 10.04.2007
Period of compliance Report	:	From 1 st October 2024 to 31 st March 2025

Specific Conditions

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

Reply: - Implementations of the stipulated conditions in NOC are fulfilled after which Consent to Operate (CTO) has been obtained from time to time. The current CTO is valid up to 31/03/2027. Production of bauxites is within limits specified in Consent to Operate.

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

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

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

Reply: - Since shallow depth mining is being carried out, hence there is no intersection with the groundwater table. In future also, working zones will be restricted to above ground water table. We undertake that no mining is/was carried out below ground water table and the same status will be maintained in future also.

Moreover, we regularly monitor the groundwater table through the installation of a piezometer. A copy of the water level report is attached herewith as **Annexure-1**.

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

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

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

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

mining operation. The mining is being carried out as per the approved mining plan. Monitoring and management of rehabilitated areas is being done through effective supervision. Data pertaining to backfilling is enclosed as **Annexure 4**.



Reclamation of the mined-out

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

Reply: - Overburden and waste rock are being used for concurrent backfilling, and topsoil is being spread on the backfilled area for reclamation. Currently, there is no OB dump present in the mine lease area. Monitoring and management of rehabilitated areas continues until vegetation becomes self-sustaining through supervision. Data pertaining to backfilling is enclosed as **Annexure 4.** Compliance status is being submitted to MoEF&CC on six monthly basis.

Condition vii: - Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from mine working. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted particularly after monsoon and maintained properly.

Garland drain (size, gradient and length) shall be constructed for mine pit and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper setting of silt material. Sedimentation pits should be constructed at the corners of the garland drains and desilted at regular intervals.

Reply: - To collect & manage rainwater during monsoon, part of mined out area is used as 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. Sump of adequate capacity is being provided and maintained as required. Photographs of the same is attached below.



Garland drains

De-Siltation Arrangement

Condition viii: - Plantation shall be raised in an area of 10.58 ha including a green belt of adequate width by planting the native species around the ML area, roads, reclaimed area etc. in consultation with the local DFO / Agriculture Department. The density of the trees should be around 1500 plants per ha.

Reply: - Progressive plantation of native species is being carried out in consultation with local forest department within mining lease, reclaimed area etc. During FY 2024-25, a total of 2250 nos. saplings have been planted in mining lease. Cumulative 5.51 ha areas have been planted till date. Green belt development program is in progress with progress of mining activities in a phased manner.



Plantation at Mines

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

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

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

Reply: - Spring water quality near Sherengdag village is being monitored. Analysis report is attached as **Annexure 2**.

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

Reply: - A detailed 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 our adjacent mine at Sherengdag Plateau, in consultation with the Central Ground Water Board.



Rainwater Harvesting Pond

Condition xii: - Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring should be carried out four times in a year – pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to MOEF, Central Ground water Authority and Regional Director Central Ground Water Board.

Reply: We are not using ground water for any mining purpose. Since Shallow depth mining is being carried out, hence there is no intersection of ground water table during the mining operation at present and in future also. A Piezometer has been installed for monitoring of ground water level. Water level and water quality reports are being sent regularly to the regional office of Ministry, CGWA and JSPCB. The same is attached herewith as **Annexure 1 & 2**.



Piezometer

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

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

However, we have obtained NOC for extraction of ground water from CGWA/ CGWB for drinking purpose only. The copy of the same NOC and photographs of Rainwater harvesting ponds are attached below.



NOC for Ground Water

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

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



Tarpaulin covered Vehicle

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

Reply: - Wet drilling is in practice.



Wet Drilling

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

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

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

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

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

Reply: - As of now there is no colony within the lease hold. However, Domestic Wastewater generated from mine office area is being collected through an individual Septic Tank and followed by Soak Pit. No wastewater is generated from our mining operation. However, only negligible amounts of effluent is being generated from workshops and Oil & grease trap system is already installed for Sherengdag group of mines to treat this effluent. The treated water is in a closed circuit and being reused for washing of vehicle in the workshop.

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



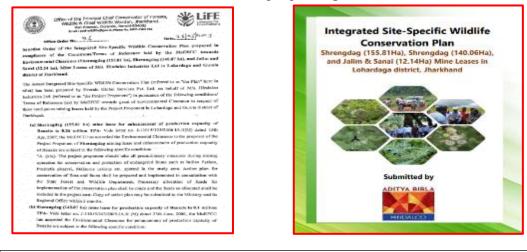
Washing Ramp and Oil and Grease Trap

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

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

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

We have also prepared Integrated Site-specific Wildlife Conservation in consultation with State Forest Department and obtained approval letter from Principal Chief Conservator of Forest, Wildlife & Chief Wildlife Warden, Jharkhand via Office Order No.26 dated 26.05.2023 for conservation and protection of flora and fauna in the core and buffer zone for Sherengdag Group of Mines.



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

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

Reply: - Mining Plan along with progressive mine closure plan has been approved by Indian Bureau of Mines. Final Mine Closure Plan will be submitted in due time as per applicable guidelines and timelines mentioned in MCDR/IBM guideline who are competent authority to approve the same. Based on present resource estimate and peak rated production capacity mentioned in EC, Mining operation is being carried out.

GENERAL CONDITIONS: -

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

Reply: - Noted.

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

Reply: - Calendar plan including excavation, quantum of mineral bauxite and waste is being done as per IBM approved mining scheme and in scientific manner. Data pertaining to excavation, quantum of mineral bauxite etc. are mentioned in report attached as **Annexure 4**.

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

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

Condition iv: - Data on ambient air quality (RPM, SPM, SO₂, and NO_x) should be regularly submitted to the Ministry including its Regional office located at Bhubneshwar and the State Pollution Control Board / Central pollution Control Board once in six months.

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

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

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



Water sprinkling through Tanker

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

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

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

Reply: - No wastewater is generated from our mining operation. However, only negligible amount of effluent is generated from workshops. Also, Oil & grease trap system is already installed for Sherengdag group of mines to treat this effluent. The treated water is in a closed circuit and being reused for washing of vehicle in the workshop.

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



Washing Ramp and Oil & Grease Trap

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

Reply: - All the workers have been provided with PPEs including dust masks and dust respirators. Apart from PPEs distribution to all workers, we are also providing adequate safety training and conducting awareness session on Safety and health aspects on a regular basis. The Periodical Occupational health surveillance program of the workers is being carried out and records maintained as per statute.

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

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

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

Reply: - This is an operating mine and hence the provision related to financial closure is not applicable. Now, the Regional office of MoEF&CC is in Ranchi.

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

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

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

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

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

Reply: - Six monthly reports on status of implementation of the stipulated environmental safeguards as per EC conditions, including monitoring report are being submitted to the MoEFCC, Zonal office of CPCB & JSPCB, Ranchi and uploaded on the website of the company. Now, the Regional Office of MoEF&CC is in Ranchi.

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

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

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

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

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

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

Annexure-1

<u>Piezometer Monitoring Report</u>

Mine: Jalim & Sanai Bauxite Mine (12.14 Ha)

S No	Month	Ground Water Level (BGL) in meter
1	Oct-24	36.45
2	Nov-24	36.50
3	Dec-24	36.35
4	Jan-25	36.37
5	Feb-25	36.40
6	Mar-25	36.51

ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT. LTD.

Plot No.30, Mansarovar Enclave, Tupudana, Hatia, Ranchi-834003, Jharkhand

Jalim&Sanai Bauxite Mine-Environmental Monitoring Report

October 2024



CONTENT

Hind	alco Industries : Jalim & Sanai Bauxite Mine Environmental Monitoring Report	October 2024
	Jalim & Sanai Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE	
1	Mine Pit Quarry No 2	
2	Nava PrathmikVidyalay (DhankaToli)	
3	Mine Pit Quarry No 3	
4	Near Colony	
	AMBIENT AIR QUALITY- BUFFER ZONE	
1	Near Banjari Village	
2	Near Pauri Village	
3	Near Harup Village	
4	Near Paintoli Village	





PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in , eles.ranchi@gmail.com Phone no.: 0651-2290103 Website : www.elespl.co.in



Test Report No.	: ELES/RNC/2024/6039	Report Release Date	: 17.10.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003932F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2024/AA/7112 : Mine Pit Quarry No 2, Jalim & Sanai Bauxite Mine (12.14ha) : 09.10.2024 to 10.10.2024 : 10.10.2024 : Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 10.10.2024 to 17.10.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

1	Average Temperature (°C)	: 29	2	Barometric Pressure (mmHg)	: 740
	Relative Humidity (%)	:61	4	Weather Condition	: Clear

Discipline : Chemic	al	Group :	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	63	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	1S 5182 (Part- 24): 2019	35	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	10.5	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	25.7	80 (24hrs)	
Ozone (O ₃)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₂)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m	IS 5182 (Part- 22): 2019	0.007	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C6H6)	µg/m3	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by Akash Kumar **Guality Manager**



Page 1 of 1

**** End of Report****

The Document stated as Test Report, is torough by the Laboratory and control Terms and Conditions, only in Company letter head in pro-approved format. The results shows in the Test Report refer or relates only to the jobranalysis dowe by the Laboratory only. The information must in the Test Report reflects the findings innue by the Laboratory at the time of involvement only and within the limits of aligned as part of the report is not takes on of control, wohen prior written approxed of the laboratory. The Report is full and as part of the report is not takes on of control, wohen prior written approxed of the laboratory. The Report shall not be published, advertise, used for any legal actions information prior permission frames being social from the Management of the Laboratory. American of the Kingert is full and any part of the report is not takes on of control, wohen prior written approval of the laboratory. The Report is full and any part of the report is not takes on of control, wohen prior written approval of the laboratory. The Report is full or is part shall not be published, advertise, used for any legal actions of the report of the report is not takes on the Centrol Management of the Laboratory. American is desses to the kontrol of labolity, compression and particles are toons. Any stransformation the Date of released in the Test Report is unitwold and affenders may be presented to the fullest extent of the laboratory reporting. Any types of Chestyntians of the Test Report is unitwold and affenders may be presented to the fullest extent of the law. All the complex retrained for Molecy. Drust the Date of released or all the report released/insteed. Alter the time period stated before, no compliants will be accepted. The more Test schedule manifored in Test Report is an 24 lacers format. Althorward, WA (Net Applicable) (BD), (Below Detuction Law), LDL (Lower Detuction Law)).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124

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3	Relative Humidity (%)	: 61	4	Weather Condition	: Clear

Discipline : Chemic	al	Group :	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	58	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	32	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	8.4	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	1S 5182 (Part- 6): 2022	23.1	80 (24hrs)
Ozone (O ₃)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m	IS 5182 (Part- 22): 2019	0.013	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annoal)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	96 (Annual)
Benzene (C ₆ H ₈)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by Akash Kumar Quality Manao

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental Engg.

Page 1 of 1

Technical Manager

The Document shard as Test Report, is issued by the Laboratory andre General Ferms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report rifer is relates only to the jubrandysis does by the Laboratory andre General Ferms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report rifer is relates only to the jubrandysis does by the Laboratory andre General Ferms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report rifer is relates only to the jubrandysis does by the Laboratory and is the information of dam provided on the report except the information which is provided by the class the class. The Report cannot be reproduced assage in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report is full and any part of the report is not taken out of context, without prior written approval of the Laboratory in the philished, advertise, used for any legal actions uthous prior permission has been scattered from the Management of the Laboratory. At the source of the fullest extent of the laboratory is no part ideal on the sequence of the report extended from the Management of the Laboratory. Attention is thrown to fine fullest extent of the law. All the complex are retained for 30days from the Daw of release/some of the Test Report relaxed instal. After the time period and offerdates are to be extended. Any type of Diservations or Compliants regarding the Report is all be done within 13days from the Date of Test Report relaxed instal. After the time period attent heffere, ne compliants will be antepled. The mains Time schedule manimed in Tau Report is a 24borar format. Abhreviation would be A (Nor Applicable), http://file.org/laborar beneficion. Limity



POT DEDOT

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in , eles.ranchi@gmail.com Phone no.: 0651-2290103 Website : www.elespl.co.in



Test Report No.	: ELES/RNC/2024/6041	Report Release Date	: 17.10.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003934F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure Sampling Procedure	: ELES/RNC/2024/AA/7114 : Mine Pit Quarry No 3, Jalim & Sanai Bauxite Mine (12.14ha) : 09.10.2024 to 10.10.2024 : 10.10.2024 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 10.10.2024 to 17.10.2024	Sampling Done By Sample Condition	: ELES PVI, Ltd. : Sealed & Preserved

1	Average Temperature (°C)	: 29	2	Barometric Pressure (mmHg)	: 740	
. 3	Relative Humidity (%)	: 61	4	Weather Condition	: Clear	

Discipline : Chemic	al	Group :	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23); 2022	61	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m)	IS 5182 (Part- 24): 2019	33	60 (24hrs)		
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	10.8	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	µg/m³	1S 5182 (Part- 6); 2022	26.4	80 (24hrs)		
Ozone (O ₃)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH3)	µg/m²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)		
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		
Benzene (C6H6)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)		

.train Reviewed by Akash Kumar

N. Authorised Signatory Dr. Deependra Kumar Sinha

****End of Report****

Gunity Manager

Ph. D. Environmental Engg. Technical Manager

Page 1 of 1
The Documuni stands of Test Report, is recealed by the Laboratory and constraint Terms and Conditions, only as Company latter head in pre-approval format. The trends shown in the Test Report toffer or relates only to the phylacelysis done by the Laboratory and Constraint Terms and Conditions, only as Company latter head in pre-approval format. The trends shown in the Test Report toffer or relates only to the phylacelysis done by the Laboratory and y trepersible for all the information on data provided on the report effects the findings done by the Laboratory at the time of pre-blockerent only and worker the limits of client's instructions. The Laboratory is responsible for all the information of data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report is full or in part shall not be published advertise, used for any legal actions onless prior permission his bern accord from the Management of the Laboratory. Attention of Databley, compression and jurisdiction more, Any acoustheriand alternation & falsoffications of the context or appearance of the Test Report is asterial and offenders may be provided to the fullest extent of the law. All the complex sterretained for Widey's from the Date of subscriptions of the Test Report released by the time period stated before, no compliants will be accepted. The antire Time schedule mentioned in Test Reports shall be done when Mahay from the Date of Test Report released by the Date period stated before, no compliants will be accepted. The antire Time schedule mentioned in Test Report is in 248-one format Athention meet, Strict Applicable, 1001, (Rehow Detection Limit), LDL (Lewer Detection Limit).



TROT DEDODT

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE97130124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in , eles.ranchi@gmail.com Phone no.: 0651-2290103 Website : www.elespl.co.in



Test Report No.	: ELES/RNC/2024/6042	Report Release Date	: 17.10.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003935F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2024/AA/7115 : Near Colony; Jalim & Sanai Bauxite Mine (12.14ha) : 09.10.2024 to 10.10.2024 : 10.10.2024 : Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 10.10.2024 to 17.10.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

1	Average Temperature (%C)	: 29	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	:61	4	Weather Condition	: Clear

al	Group : Atmospheric Pollution				
Unit	Test Protocol	Result	Regulatory Limit		
µg/m ³	IS 5182 (Part- 23): 2022	55	100 (24hrs)		
µg/m ³	IS 5182 (Part-24): 2019	31	60 (24hrs)		
µg/m ¹	IS 5182 (Part- 2/Sec1): 2023	7.9	80 (24hrs)		
µg/m ³	IS 5182 (Part- 6): 2022	21.5	80 (24hrs)		
µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
µg/m³	IS 5182 (Part- 22); 2019	0.009	1 (24hrs)		
ng/m ³	IS 5182 (Part-26): 2020	<6.0	20 (Annual)		
ng/m*	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		
µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)		
	Unit μg/m³ μg/m³	Unit Test Protocol μg/m³ IS 5182 (Part- 23): 2022 μg/m³ IS 5182 (Part- 24): 2019 μg/m³ IS 5182 (Part- 2/Sec1): 2023 μg/m³ IS 5182 (Part- 6): 2022 μg/m³ IS 5182 (Part- 6): 2022 μg/m³ IS 5182 (Part- 6): 2022 μg/m³ IS 5182 (Part- 9): 2019 μg/m³ IS 5182 (Part- 25): 2018 mg/m³ IS 5182 (Part- 10): 2019 (NDIR Method) μg/m³ IS 5182 (Part- 22): 2019 ng/m³ IS 5182 (Part- 22): 2019 ng/m³ IS 5182 (Part- 26): 2020 μg/m³ IS 5182 (Part- 26): 2020	Unit Test Protocol Result μg/m³ IS 5182 (Part- 23): 2022 55 μg/m³ IS 5182 (Part- 24): 2019 31 μg/m³ IS 5182 (Part- 24): 2019 31 μg/m³ IS 5182 (Part- 24): 2019 31 μg/m³ IS 5182 (Part- 2/Sec1): 2023 7.9 μg/m³ IS 5182 (Part- 6): 2022 21.5 μg/m³ IS 5182 (Part- 6): 2019 <20.0		

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****End of Report****

Quality Manager

Authorised Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental Engg.

Page 1 of 1

Technical Manager

The Decement stated as Tair Report, is issued by the Laboratory under General Terms and Conditions, only an Company latter head in pre-opproval format. The results shown in the Tair Report The Dictional statut is from Report, is second by the Laboratory induc General Terms and Condition, only in Computy infor haid in pre-approach format. The results shows in the Trait Report rule or solutes of client's instructions. The Laboratory in responsible for all the information of data provided on the report, except the information which is provided by the caloratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the caloratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the caloratory and at the published, advertice, used for any legal actions unline prior permission has been something from the Managament of the Laboratory. Attention is drawn to the limitation of liability, comparison has been something from the Managament of the Laboratory. Attention is drawn to the limitation of liability, comparison and journalistic issues. Any semitherized alternation & fabric feature of the context or appearance of the Test Report is solve full and offenders may be protected to the failant onese of the law. All the complex are returned for Widew from the Date of relaxing of the Test Report legal true Report is solve to be returned as specified. Any type of Observations or Compliants regarding the Reports shall be done within 15 days from the Date of Test Report released issued. After the unite period stated believe, no complements will be accepted. The entire Time schedule mentioned in Test Reports and Tester. Althors taken and N.S. Dim Applicable J. BDI. On the Dentities Laboratory Laboratory.



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PLOTING-30, MANSAROWAR ENCLAVE, TUPLEDAMA HATTA, RANCHT-834003 (IRARISHANO) GET NO-2044ECE97130124

ENGINEERING SERVICES PVT. LTD. Email: info@elepsi.co.in , eles.ranchi@unsoil.com Phone no.: 0651-2290103

Webstra : www.eliczol.co.hr



	TES	TREPORT	
Test Report No.	: ELES/RNC/2024/6025	Report Release Date	: 17.10.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003918F		
CUSTOMER DET	TAILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2024/AA/7098 : Near Banjari Village Serengdag-A Bauxite Mines (1.55.81ha) : 07.10.2024 to 08.10.2024 : 10.10.2024 : Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 10.10.2024 to 17.10.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

METEOROLOGICAL INFORMATION

Ĩ.	Average Temperature (%)	:27	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 66	4	Weather Condition	: Partly Cloudy

Discipline : Chemic	al .	Group :	Atmospheric	Pollution
Parameter	Uun	Test Protocol	Result	Regulatory Limi
Particulate Matter (PM10)	µg/m ²	IS 5182 (Part- 23): 2022	59	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	31	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	7.1	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	22.7	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH1)	µg/m ²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ⁸	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ⁷	1S 5182 (Part- 22): 2019	0.006	1 (24hm)
Nickel (Ni)	ag/m*	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Acsenic (As)	^t mign	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (CaHa)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	(itanual)

Reviewed by Akash Kumar

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"****End of Report****

Quality Manager

Dr. Deependriz wulter-Sinha

Ph. D. Environmental Engg.

Page 1 of 1

Technical Manager-

The Distance stated as Test Report is point to the Laboratory under General Tests and Conditions, into we Company lature tood in provaperved, forme. The coulds shows as the Test Report after or relater only in the physical data by the Laboratory only. The adversaries used as the Text Report reflects the Redings dow by the Laboratory of the most of level-ternant only and within the locate of clearly increasing in terpreside for all the information or data provided on the report, energy the information which is provided by the cleant. The Report came is reproduced every to full and any part is the reset to not taken out of country, which peint without tape to all the Laboratory. The Report is full or as per shall be be peinded, offering, world in any legit scheme and prevention for here around from the Managerian of the Laboratory. Attentions of the Managerian and prevention of the Laboratory. The Report is full or as per shall be be peinded, increase they studied entry in the Annual of the Country from the Managerian of the Laboratory. Attentions of the Managerian of the Laboratory of the Managerian of the Laboratory of the Managerian of the Laboratory. The Report is full or as per shall be be peinded increase they studied entry in the Country of the Country of the Tory Report is stated by one of the Managerian of the Laboratory of the Peinder of the Managerian and the Managerian the Managerian of the Country of the Tory Report is stated by one of the Managerian of the Managerian Research of the Managerian of the State of the Tory Report. The semption from Regulatory bodies are to be related to the State of Country from the Country of the State Research of the New State of the Tory of Tory Report of the State Report & in Neuron Toront, Albiny mine and, 1974 (Net Approximate) 2024, 2016 Personal Linear, EDL Player Department Linear,



PLOT NO-30, MANEAROVAE ENCLAVE, TUPUČANA KATIA, RANCHI-634003 (IHABIIHAND) SET NO,- SIAARISETIBOIJI

ENGINEERING SERVICES PVT. LTD.

Email info@elexpl.co.in . elex.renchi@amol.com Phone no.: 0651-2290208 Website : www.cleupl.co.in



			TEST	REF	ORT		
Test Report No.	: ELES/R	NC/2024/6026	5	R	port Release Date	: 17.10.2024	
Work Order No.	: 1361231	2113		W	ork Order Date	: 28.03.2024	
ULR No.	: TC1358	72400003919F					
CUSTOMER DET	AILS			SA	MPLE DETAILS		
Customer Name Address Mines Status	ress : Lohardaga, Jharkhand-835302 Sampling Date Sample Received Da Type of Sample		ardaga, Jharkhand-835302		mpling Date mple Received Date pe of Sample mpling Procedure	: Near Pauri Bauxite Mi	ir D/SMPL/02
Period of Analysis METEOROLOGI			14	Sa	mple Condition	: Sealed & P	reserved
1 Average Temp		:27		2	Barometric Pressure	(mniHe) :	740
3 Relative Humic	the second s	: 66		4	Weather Condition	A REAL PROPERTY AND	Partly Cloudy
Discipline	: Chemica	1			Group :	Atmospheric	Pollution
Paramet	er	Unit		Test	Protocol	Result	Regulatory Limi
Particulate Matter (I	PM10)	µg/m ³	IS 5	182 (Part- 23): 2022	63	100 (24hrs)
Particulate Matter (I	PM2.5)	µg/m ³	IS 5	182 (Part- 24): 2019	34	60 (24hrs)
Sulphur Di-Oxide (S	SO ₂)	µg/m ³	IS 518	2 (Pa	rt- 2/Sec1): 2023	7.6	80 (24hrs)
Nirrogen Di-Oxide I	NO ₂)	µg/m ¹	IS 5	182	(Part- 6): 2022	23.1	80 (24hrs)
Ozone (O1)		µg/m ³	15.5	182	Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)		µg/m ¹	15.5	182 (Part- 25): 2018	<10.0	400 (24hrs)
Curbon Monoxide (CO)	mg/m ³			Part- 10): 2019 R Method)	<1.0	2 (8hrs)
Lead (Pb)		µg/m ¹	IS 51	182 ()	Part- 22): 2019	0.009	1 (24hrs)
Nickel (Ni)		ng/m ³	1S 5	182 (Part- 26): 2020	<6.0	20 (Annual)
Amenic (As)		ng/m	ELE	SAR	USOP/01: 2021	<2.6	06 (Annual)
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Reviewed by Akash Kumar

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****End of Report****

ELES/GC/SOP/06: 2023

ELES/GC/SOP/05: 2023

Amhorised Signatory Dr. Despendra Kumar Sinha Ph. D. Environmental Engg.

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Technical Manager

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PLOT NO-30, MANEAROVAR EXCLAVE, TUPUDANA HATVA, RANCH-E34003 (IHARKHAND) GET NO- ISIAAECEETIS0224 NGINEERLYG SERVICES PVT. LTD. Small: <u>jafo@elessi.co.in</u>. <u>eles.ranchi@amail.com</u> Phone no.: 0651-3290103

Website : www.elezpi.co.is



	TES	T REPORT	
Test Report No.	: ELES/RNC/2024/6027	Report Release Date	: 17.10.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003920F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure Sampling Done By	: ELES/RNC/2024/AA/7100 : Near Harup Village Serengdag-A Bauxite Mines (155.81ba) : 07.10.2024 to 08.10.2024 : 10.10.2024 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 10,10.2024 to 17.10.2024	Sample Condition	: Sealed & Preserved

I Average Temperature (°C) : 27 2 Barometric Pressure (mmHg) : 740 3 Relative Humidity (%) : 66 4 Weather Condition : Partly Cloudy

Discipline : Chemic	81	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	56	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part-24): 2019	31	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	µg/m ³	1S 5182 (Part- 2/Sec1): 2023	7.2	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	20.3	80 (24hrs)		
Ozone (O ₁)	µg/m ²	IS 5182 (Part- 9): 2019	<28.0	100 (8hrs)		
Ammonia (NH3)	µg/m ¹	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lend (Ph)	µg/m ³	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)		
Nickel (Ni)	ng/m²	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ngrim	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		
Benzene (CaHa)	µg/m ²	ELES/GC/SOP/06: 2023	<2.5	(05(Annual)		
Benzo-(a)-Pyyeoz	ng/m ²	ELES/GC/SOF/05: 2023	<0.5	01(Annusi)		

Reviewed by Akash Kumar Outsility Manager

Authorised Signatory Dr. Deependra Kumar Sinha

**** End of Report****

Ph. D. Environmental Engg.

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Technical Manager

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PLOT NO-30, MANSAROVAR ENCLAVE, TUNUGANA HATIA, RANCHI-EBAODE (IHARKHAND) GST NO-- 28AAECEP11F0123 ENGINEERING SERVICES PVT. LTD. Emoil: Infp@elessl.co.in., elex.ranchi@amail.com Phone.no.: 0651-2290103

Website I www.elespl.co.in



	TES	TREPORT	
Test Report No.	: ELES/RNC/2024/6028	Report Release Date	: 17.10.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003921F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindaleo Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure Sampling Done By	: ELES/RNC/2024/AA/7101 : Near Paintoli Village Serengdag-A Bauxite Mines (155.81ha) : 67.10.2024 to 08.10.2024 : 10.10.2024 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 10.10.2024 to 17.10.2024	Sample Condition	: Scaled & Preserved
METEOROLOGI	CAL INFORMATION		
1 Average Temp	erature (°C) : 27	2 Barometric Pressur	e (nmHg) : 740

a second contraction of the second s second second sec		Contraction of the second second second	
3 Relative Humidity (%) : 66	4	Weather Condition	: Partly Cloudy

Discipline : Chemic	al	Group :	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m ²	IS 5182 (Part- 23): 2022	62	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part-24): 2019	33	60 (24lirs)		
Sulphur Di-Oxide (SO2)	µg/m ²	18 5182 (Part- 2/Sec1): 2023	7.9	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	µg/m ³	15 5182 (Part- 6): 2022	21.4	80 (24hrs)		
Ozoné (O ₂)	ug/m ²	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NHa)	µg/m ³	18 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monotide (CO)	mg/m ²	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	µg/m²	IS 5182 (Part- 22): 2019	0.009	1 (24hm)		
Nickel (Ni)	ng/m ³	(S 5182 (Part-26): 2020	<6.0	20 (Annial)		
Arsenic (AE)	ng/m²	ELES/AIR/SOP/01: 2021	<2.5	06 (Annual)		
Benzene (C ₁ H ₄)	µg/m [*]	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Benzo-(a)-Pyrene	ng/m ¹	ELES/GC/SOP/05: 2023	<0.5	01(Annual)		

Revleyed by Akash Kumar

Quality Manager-

Dr. Deependra Kumar Sinna Ph. D. Environmental Engg.

****End of Report****

Technicar Manager

The Document worked as Test Report, is remaining by the Laboratory works Greened Tester and Combinens, but we Company from basis in proceeders. The results between its for Test Report offer or references why works protocologies in the Laboratory works Greened Tester and Combinens, but we Company from basis in proceeders by the Laboratory of the Concern much and while the Native of these of the Laboratory of the Concern works of the two proceeders of the Concerney. The Laboratory of the concern much and while the Native of these of the Concerney is impossible for the two proceeders or data provided on the Teste Report reflects the fully graves which is provided for the concern on the information which is provided for the concern of the Concerney of the concern of the concern of the concern of the concerney of the concerne of the concerney of the concerney of the

ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT. LTD.

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Plot No.30, Mansarovar Enclave, Tupudana, Hatia, Ranchi-834003, Jharkhand.

Jalim&Sanai Bauxite Mine-Environmental Monitoring Report

November 2024



CONTENT

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Hind	alco Industries : Jalim & Sanai Bauxite Mine Environmental Monitoring Report	November 2024
200	Jalim & Sanai Bauxite Mine	1.1.4
	AMBIENT AIR QUALITY- CORE ZONE	
1. 1	Mine Pit Quarry No 2	100 17 8.84
2	Nava PrathmikVidyalay (DhankaToli)	
3	Mine Pit Quarry No 3	4.00
4	Near Colony	
	AMBIENT AIR QUALITY- BUFFER ZONE	
1	Near Banjari Village	
2	Nea/ Pauri Village	
3	Near Harup Village	
4	Near Paintoli Village	
	Drinking Water	





PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO: 20AAECE9713D1Z4

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in , eles.ronchi@gmail.com Phone no.: 0651-2290103 Website : www.elespi.co.in



Test Report No.	: ELES/RNC/2024/7029	Report Release Date	: 02.12.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400004898F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2024/AA/8235 : Mine Pit Quarry No 2, Jalim & Sanai Bauxite Mine (12.14ha) : 22.11.2024 to 23.11.2024 : 25.11.2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 25.11.2024 to 02.12.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

	Average Temperature (°C)	:24	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 46	4	Weather Condition	: Clear

Discipline : Chemic	al	Group :	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	68	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24); 2019	39	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	12.3	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	29.1	80 (24hrs)	
Ozone (O ₃)	µg'm ³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.010	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C6H6)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ²	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Nes & En coma Reviewed by **Jenta**

Authorised Signatory Akash Kumar

Owality Manager

****End of Report****

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO: 20AAECE9713D1Z4

GINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in , eles.ranchi@gmail.com Phone no.: 0651-2290103 Website : www.elespl.co.in



Test Report No.	: ELES/RNC/2024/7030	Report Release Dat	e : 02.12.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400004899F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure Sampling Done By	: ELES/RNC/2024/AA/8236 : Nava Prathmik Vidyalay(DhankaToli) Jalim & Sanai Bauxite Mine (12,14ha : 22.11.2024 to 23.11.2024 : 25.11.2024 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 25.11.2024 to 02.12.2024	Sample Condition	: Sealed & Preserved

HC (HHH11112) Relative Humidity (%) 3 :46 4 Weather Condition : Clear

al	Group :	Group : Atmospheric Pollution		
Unit	Test Protocol	Result	Regulatory Limit	
µg/m ³	IS 5182 (Part- 23): 2022	64	100 (24hrs)	
µg/m ³	IS 5182 (Part- 24): 2019	36	60 (24hrs)	
µg/m ³	IS 5182 (Part- 2/Sec1): 2023	10.8	80 (24hrs)	
µg/m ³	IS 5182 (Part- 6): 2022	25.4	80 (24hrs)	
µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
µg/m³	IS 5182 (Part- 22): 2019	0.017	1 (24hrs)	
ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
ng/m ¹	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	
	μg/m ³ μg/m ³ μg/m ³ μg/m ³ μg/m ³ μg/m ³ μg/m ³ ηg/m ³ ηg/m ³ ηg/m ³	Unit Test Protocol μg/m³ IS 5182 (Part- 23): 2022 μg/m³ IS 5182 (Part- 24): 2019 μg/m³ IS 5182 (Part- 24): 2019 μg/m³ IS 5182 (Part- 2/Sec1): 2023 μg/m³ IS 5182 (Part- 6): 2022 μg/m³ IS 5182 (Part- 6): 2022 μg/m³ IS 5182 (Part- 9): 2019 μg/m³ IS 5182 (Part- 25): 2018 mg/m³ IS 5182 (Part- 10): 2019 (NDIR Method) μg/m³ IS 5182 (Part- 22): 2019 ng/m³ IS 5182 (Part- 26): 2020 ng/m³ IS 5182 (Part- 26): 2020 μg/m³ IS 5182 (Part- 26): 2020 μg/m³ IS 5182 (Part- 26): 2020 μg/m³ IS 5182 (Part- 26): 2020	Unit Test Protocol Result μg/m³ IS 5182 (Part- 23): 2022 64 μg/m³ IS 5182 (Part- 24): 2019 36 μg/m³ IS 5182 (Part- 2/Sec1): 2023 10.8 μg/m³ IS 5182 (Part- 6): 2022 25.4 μg/m³ IS 5182 (Part- 6): 2019 <20.0	

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Authorised Signatory

Akash Kumar

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TEST DEPODT

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in , eles.ranchi@gmail.com Phone no.: 0651-2290103 Website : www.elespl.co.in



Test Report No.	: ELES/RNC/2024/7031	Report Release Date	: 02.12.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400004900F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2024/AA/8237 : Mine Pit Quarry No 3, Jalim & Sanai Bauxite Mine (12.14ha) : 22.11.2024 to 23.11.2024 : 25.11.2024 : Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 25.11.2024 to 02.12.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

1	Average Temperature (°C)	: 24	2	Barometric Pressure (mmHg)	: 740	
3	Relative Humidity (%)	: 46	4	Weather Condition	: Clear	

Discipline : Chemic	al	Group :	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23); 2022	69	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	38	60 (24hrs)		
Sulphur Di-Oxide (SO2)	µg/m³	IS 5182 (Part- 2/Sec1): 2023	12.2	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	29.6	80 (24hrs)		
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.19	2 (8hrs)		
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.016	1 (24hrs)		
Nickel (Ni)	ng/m³	IS 5182 (Part- 26); 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		
Benzene (C ₄ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)		

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Authorised Signatory Alush Kumar

Ounlity Manager

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in , eles.ranchi@gmail.com Phone no.: 0651-2290103 Website : www.elespl.co.in



EL ECONCIDOS (JOOS)		
: ELES/RNC/2024/7032	Report Release Date	: 02.12.2024
13612312113	Work Order Date	: 28.03.2024
: TC135872400004901F		
ILS	SAMPLE DETAILS	
Hindalco Industries Limited Lohardaga, Jharkhand-835302 Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2024/AA/8238 : Near Colony; Jalim & Sanai Bauxite Mine (12.14ha) : 22.11.2024 to 23.11.2024 : 25.11.2024 : Ambient Air : ELES/DOC/SMPL/02
25.11.2024 to 02.12.2024	Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved
	TC135872400004901F LS Hindalco Industries Limited Lohardaga, Jharkhand-835302 Operational	TC135872400004901F LS SAMPLE DETAILS Hindalco Industries Limited Sample Ref. No. Location Lohardaga, Jharkhand-835302 Sampling Date Sample Received Date Type of Sample Operational Sampling Procedure Sampling Done By

- A.	Average remperature (-C)	1.4M	- 4-	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 46	4	Weather Condition	: Clear
-					

Discipline : Chemic	al	Group :	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	65	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	36	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	10.2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	24.8	80 (24hrs)
Ozone (O ₁)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH1)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μgʻm'	IS 5182 (Part- 22): 2019	0.012	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C6H6)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Antelories & English 23 Reviewed hug ****End of Report**** **Ounlity Manager**

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Authorised Signatory Akash Kumar

Page 1 of 1 The Document stated as as Refer, note being the Laboratory under General Terms and Conditions, only on Company letter hand in pre-opproved format. The matchs shows in the Test Report order or relates only to the particulation by the Laboratory only. The information stated on the Test Report reflects the findings dense by the Laboratory at the time of involvement only and within the limits of class's instructions. The Laboratory is responsible for all the information or data provided on the report, escarpt the asternation which is provided by the class unnow be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall on the published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of laboratory, and permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of the extent of the test of the test of the relation of the relations of the relation of the relations of the relations of the test of the relations of the relation of the relation of the relation of the Laboratory. Attention is drawn to the limitation of the relation of the relations of the relation of the relat issues. Any anotherized absention & fideification of the cost at or appearance of the Test Report is unlewfid and offenders may be prosecuted to the fidlest extent of the law. All the samples are notational for 10days from the Date of reliase usau of the Test Report. The samples from Regulatory bodies are to be rationed as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Yest Report released issued. After the time period mated before, no complement will be accepted. The inner Time acbedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A/Not Applicable): BDL (Below Detection Limit): LDL (Lower Detection Limit)

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (MARKHAND) STT NO-20AAECE97130124

NE U74599017010PTC051725

Email: info@elespi.co.in, eles.ranchi@amail.com Phone no.: 0651-2290103 Website : www.elespil.co.in



	TES	T REPORT	
Test Report No.	: ELES/RNC/2024/7009	Report Release Date	: 02.12.2024
Work Order No.	: 13612312113	Work Order Date	: 28,03.2024
ULR No.	: TC135872400004878F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Oustomer Name Address Mines Status	: Hindalco Industries Limited : Lohardagu, Jharkhund-835302 : Operational	Sample Ref. No. Location Sampling Data Sample Received Date Type of Sample Sampling Procedure Sampling Done By	: ELES/RNC/2024/AA/8215 : Near Banjari Village Serengdag-A Bauxite Mines (155.81ha) : 20.11.2024 to 21.11.2024 : 25.11.2024 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 25.11.2024 to 02.12.2024	Sample Condition	: Sealed & Preserved

Relative Humidity (%)	1.47		4	Weather Condition	Clea
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Discipline : Chemio	nal	Group :	Atmospheric i	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m	i\$ 5182 (Part- 23): 2022	62	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	34	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	10.3	80 (24lurs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	24.8	80 (24lus)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH2)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	8.611	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₈ H ₆)	µg/m ¹	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ²	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

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Authorised Signatory Akash Kumar Guelay Manager

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IENTAL LAROR

PLOT NO-50, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 25AAECE97130124

Email: info@elespl.co.in , eles.ranchi@gmail.com Phone no.: 0651-2290103 Website : www.eleapl.co.in



	TES	TREPORT	
Test Report No.	: ELES/RNC/2024/7010	Report Release Date	: 02.12.2024
Work Order No.	: 13612312113	Work Order Data	: 28,03,2024
ULR No.	: TC135872400084879F		
CUSTOMER DET	TAILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindulco Industries Limited : Lohardage, Jhurkhand-835302	Sample Ref. No. Location Sampling Date. Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2024/AA/8216 : Near Pauri Village Serengdag-A Bauxite Mines (155.81ha) : 20.11.2024 to 21.11.2024 : 25.11.2024 : Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 25.11.2024 to 02.12.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

1	Average Temperature ("C)	: 24	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 47	4	Weather Condition	: Clear

Discipline : Chemic	:al	Group :	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Paniculate Matter (PM10)	ug m ²	15 51 62 (Part-23): 2022	άú	100 (24ins)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24); 2019	38	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	11.8	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	26.3	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CQ)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.015	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m²	ELE5/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₅ H ₄)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

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Authorised Signatory Akesh Kumar

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Page 1 of 1

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**** End of Report****

PLOT NO-30, MANSAROVAR ENCLAYE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO- 20445(E97130)E24

N: (74999.H2028PTC01113

ENVICESP

Email: info@elespl.co.in , eles.ronchi@amail.com Phone no.: 0651-2290103 Website : www.alespl.co.in



	TES	TREPORT	
Test Report No.	: ELES/RNC/2024/7011	Report Release Date	: 02.12.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400064880F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Data Sample Received Date Type of Sample Sampling Procedure Sampling Done By	: ELES/RNC/2024/AA/8217 : Near Harup Village Serengdag-A Bauxite Mines (155.81ha) : 20.11.2024 to 21.11.2024 : 25.11.2024 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 25.11.2024 to 02.12.2024	Sample Condition	: Sealed & Preserved

1	Average Temperature (°C)	: 24	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	:,47	.4	Weather Condition	: Clear

Discipline : Chemic	al l	Group :	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m	15 5182 (Pan- 23): 2022	64	100 (24nrs)
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part-24); 2019	36	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	10.3	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	22.7	80 (24lus)
Ozone (O1)	µg/m ⁹	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ¹	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ²	IS 5182 (Part- 10): 2019 (NDIR Method)	1.19	2 (8hrs)
Lead (Pb)	µg/m³	18 5182 (Part- 22): 2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ¹	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₄ H ₄)	µg/m ⁸	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

****End of Report****

Authorised Signatory Akesn Kumar

Geality Manager.

Page 1 of 1

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Reviewed by

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MENTAL LABORAT

PLOT NO-30, MANSAROVAR ENCLAVE, TUPODANA HATIA, RANCHI-834003 UHARRHAND] SET NO- 20AAECE97130121

NY: U74999042016PTC011225

SERVICES

Email: info@elespl.co.in , eles.ronchi@amail.com Phone no.: 0551-2290103 Website : www.ekspl.co.it



AND A REPORT OF A REPORT OF		TREPORT	CONTRACTOR AND A CONTRACTOR
Test Report No.	: ELES/RNC/2024/7012	Report Release Date	: 02,12,2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400004881F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/8218 : Near Paintoli Village Serengdag-A Bauxite Mines (155.81ha)
Address Mines Status	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 20.11.2024 to 21.11.2024 : 25.11.2024 : Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 25.11.2024 to 02.12.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

1	Average Temperature (*C)	: 24	2	Barometric Pressure (mmHg)	: 740	
3	Relative Humidity (%)	: 47	. 4	Weather Condition	: Clear	

Discipline : Chemic	28	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Farticulate Matter (PM10)	µg/m	15 5182 (Part- 23): 2022	59	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24); 2019	30	60 (24hrs)	
Sulphur Di-Oxide (SO ₅)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	8.3	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m³	1S 5182 (Part- 6): 2022	24.6	80 (24hrs)	
Ozone (O ₁)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m ³	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.18	2 (8hrs)	
Lead (Pb)	µg/m	IS 5182 (Part- 22): 2019	0.012	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C6H6)	ug/m3	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ¹	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

**** End of Report****

Authorised Signatory

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TEST REPORT

Test Report No.	: ELES/RNC/2024/7049	Report Release Date	: 02.12.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400004918F		and address for the

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date	: ELES/RNC/2024/DW/8255 : 23.11.2024	
		Sample Received Date	: 25.11.2024	
111.000	: Lohardaga, Jharkhand-835302	Type of Sample	: Drinking Water	
Address		Source of Sample	: Tap Water	
		Location of Sample	: Jalim Village	
2024-0-10000-001		1	(Jalim & Sanai Bauxite Mine)	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01	
Period of Analysis	: 25.11.2024 to 02.12.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

Discipline : Chemical		Group	Water	Regulatory Limit	
		Group	Group : Water		as per 1S 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
pH (at 24.8 °C)	3 II.	APHA 24th Ed.2023, 4500-H"	6.60	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 24th Ed.2023, 2130 B	0.49	1.0	5.0
Taste		APHA 24th Ed.2023, 2160 C	Agreeable	Agreeable	Agreeable
Odour	4	IS 3025 (Part-5) :2018	Agreeable	Agreeable	Agreeable
Colour	Hazen	APHA 24th Ed.2023, 2120B&D	1.3	5.0	15
Total Dissolved Solids (TDS)	mg/L	APHA 24th Ed.2023, 2540B,C&D	84.0	500	2000
Chloride (as Cl)	mg/L	APHA 24th Ed.2023, 4500 CI B	16.1	250	1000
Fluoride (as F)	mg/L	APHA 24 th Ed.2023, 4500 F-D	BDL (DL: 0.1)	1.0	1.5
Total Alkalinity (as CaCO ₃)	mg/L	APHA 24th Ed.2023, 2320 B	28.5	200	600
Total Hardness (as CaCO ₃)	mg/L	APHA 24th Ed.2023, 2340 C	34.4	200	600
Sulphate (as SO ₄)	mg/L	APHA 24th Ed.2023, 4500 SO4-2-E	1.86	200	400
Nitrate (as NO ₃)	mg/L	APHA 24 th Ed.2023, 4500 NO ₃ -B	BDL (DL: 0.5)	45	No Relaxation

Page 1 of 4

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ENVIRONMENTAL LABORATORIES & PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA

CIN: U74999/H2018PTC011125

HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in , eles.ranchi@gmail.com Phone no.: 0651-2290103 Website : www.elespl.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2024/7049	Report Release Date	: 02.12.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400004918F		

Discipline : Chemical Group : Water			Regulatory Limit as per 1S10500:2012		
Parameter Un		Test Protocol	Result	Acceptable	Permissible
Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part 43/Sec1): 2022	BDL (DL: 0.001)	0.001	0.002
Free Residual Chlorine (RFC)	mg/L	IS 3025 (Part-26): 2021	BDL (DL: 0.1)	0.2(Min)	1.0(Min)
Calcium (as Ca)	mg/L	APHA 24th Ed.2023, 3500 Ca B	9.0	75	200
Anionic Surfactants (as MBAS)	mg/L	APHA 24 th Ed.2023, 5540-C	BDL (DL: 0.025)	0.2	1.0
Discipline : Chemic	al	Gro	oup : Residues i	n Water	
Aluminum (as Al)	mg/L	IS 3025 (Part-55) :2003; RA2019	BDL (DL: 0.02)	0.03	0.2
Arsenic (as As)	mg/L	IS 3025 (Part-37): 2022	BDL (DL: 0.005)	0.01	No Relaxation
Boron (as B)	mg/L	IS 3025 (Part-57) : 2021	BDL (DL: 0.2)	0.5	1,0
Cadmium (as Cd)	mg/L	APHA 24 ^m Ed.2023; 3111B	BDL (DL: 0.003)	0.003	No Relaxation
Total Chromium (as Cr)	mg/L	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.03)	0.05	No Relaxation
Copper (as Cu)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.03)	0.05	1.5
Cyanide (as CN)	mg/L	APHA 24 th Ed.2023, 4500 CN-E	BDL (DL: 0.012)	0.05	No Relaxation
Iron (as Fe)	mg/L	APHA 24th Ed.2023; 3111B	0.102	1.0	No Relaxation
Lead (as Pb)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.01)	0.01	No Relaxation
Manganese (as Mn)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.05)	0.1	0.3
Mercury (as Hg)	mg/L	1S 3025 (Part-48): 2019	BDL (DL: 0.001)	0.001	No Relaxation
Selenium (as <mark>Se)</mark>	mg/L	IS 3025 (Part-56): 2019	BDL (DL: 0.01)	0.01	No Relaxatio

Page 2 of 4

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TEST REPORT

Test Report No.	: ELES/RNC/2024/7049	Report Release Date	: 02.12.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400004918F	- th	

Discipline : Chemical		Group : Residues in Water		Regulatory Limit as per IS10500:2012	
Parameter Un		Test Protocol	Result	Acceptable Limit	Permissible
Zinc (as Zn)	mg/L	APHA 24th Ed 2023; 3111B	BDL (DL: 0.1)	5.0	15
Polynuclear Aromatic Hydrocarbons (PAH)	µg/L	ELES/GC/SOP/04: 2023	BDL (DL: 0.05)	0.1	No Relaxation
Polychlorinated biphenyls (PCB)	μg/l.	ELES/GC/SOP/03: 2023	BDL (DL: 0.1)	0.5	No Relaxation
Pesticides				Li	mit
Alachlor	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	-	20
Atrazine	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	2	.0
Butachior	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	125	
Chlorpyriphos	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	30	
Ethion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	3.0	
Malathion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	190	
Methyl parathion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.1)	0.30	
Monocrotophos	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	1.0	
Phorate	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	2.0	
Phorate Sulphone	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	14	
Dieldrin	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.01)	0.03	
Alpha HCH	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.006)	0.01	
Beta HCH	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	0	.04

Page 3 of 4

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124

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TEST REPORT

Test Report No.	: ELES/RNC/2024/7049	Report Release Date	: 02.12.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400004918F			

Pesticides					
Parameter Unit		Unit Test Protocol		Limit	
Delta HCH	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	0.04	
Gamma HCH (Lindane)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	2.0	
Endosulfan (alpha, beta and sulphate)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	0.40	
DDT(o,p and p,p-isomers of DDT) (DDE and DDD)	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	1.0	
Discipline : Biological		Grou	p : Water		
Total Coliform (Qualitative)	Per 100 mL	IS 15185: 2021	Not Detected	Shall not be deterred	
Escherichia coli (Qualitative)	Per 100 mL	IS 15185: 2021	Not Detected	 Shall not be detected 	

Reviewed by Akash Kumar Quality Manager

End of Report*

Authorised Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental Engg. Technical Manager

Page 4 of 4

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TEST REPORT

Test Report No.	: ELES/RNC/2024/7049	Report Release Date	: 02.12.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2024/DW/8255 : 23.11.2024 : 25.11.2024
Address	: Lohardaga, Jharkhand-835302	Type of Sample Source of Sample Location of Sample	: Drinking Water : Tap Water : Jalim Village (Jalim & Sanai Bauxite Mine)
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01
Period of Analysis	: 25.11.2024 to 02.12.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

Discipline : Chemical		Group : Wa	Group : Water		Regulatory Limit as per IS 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit	
Mineral Oil*	mg/L	IS 3025 (Part-39): 2021, Clause 6 Infrared Spectroscopic method.	BDL (DL: 0.01)	0.5	No Relaxation	

Remarks: (*) Parameters are outsourced to other Lab.

Reviewed by Akash Rumar Quality Manager

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental Engg. Technical Manager

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ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT. LTD.

Plot No.30, Mansarovar Enclave, Tupudana, Hatia, Ranchi-834003, Jharkhand.

Jalim&Sanai Bauxite Mine-Environmental Monitoring Report

December 2024



CONTENT

Hind	alco Industries : Jalim & Sanai Bauxite Mine Environmental Monitoring Report	December 2024
	Jalim & Sanai Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE	
1	Mine Pit Quarry No 2	
2	Nava PrathmikVidyalay (DhankaToli)	
3	Mine Pit Quarry No 3	
4	Near Colony	
	AMBIENT AIR QUALITY- BUFFER ZONE	
1	Near Banjari Village	
2	Near Pauri Village	
3	Near Harup Village	
4	Near Paintoli Village	





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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D1Z4

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in , eles.ranchi@gmail.com Phone no.: 0651-2290103 Website : www.elespl.co.in



Test Report No.	: ELES/RNC/2024/7474	Report Release Date	: 18.12.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400005331F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2024/AA/8711 : Mine Pit Quarry No 2, Jalim & Sanai Bauxite Mine (12.14ha) : 08.12.2024 to 09.12.2024 : 12.12.2024 : Ambient Air : ELES/DOC/SMPL/02 ELES/DOC/SMPL/02
Period of Analysis	: 12.12.2024 to 18.12.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

1	Average Temperature (*C)	:18	2	Barometric Pressure (mmHg)	: 725	
3	Relative Humidity (%)	: 46	4	Weather Condition	: Clear	

Discipline : Chemic	ai	Group :	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	76	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5382 (Part- 24): 2019	44	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- 2/Sec1): 2023	15.1	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	33.5	80 (24hrs)	
Ozone (O ₁)	µg/m ³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.016	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C ₆ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ²	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Allente Reviewed by Akash Kumar Quality Manager

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental F.

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO:- 20AAECE9713D124

ENGINEERING SERVICES PVT. LTD.

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Test Report No.	: ELES/RNC/2024/7475	Report Release Dat	e : 18.12.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400005332F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure Sampling Done By	: ELES/RNC/2024/AA/8712 : Nava Prathmik Vidyalay(DhankaToli) Jalim & Sanai Bauxite Mine (12.14ha) : 08.12.2024 to 09.12.2024 : 12.12.2024 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 12.12.2024 to 18.12.2024	Sample Condition	: Sealed & Preserved

1	Average Temperature (*C)	:18	2	Barometric Pressure (mmHg)	: 725
3	Relative Humidity (%)	: 46	4	Weather Condition	: Clear

Discipline : Chemic	al	Group :	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	66	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	34	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	11.3	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m³	IS 5182 (Part- 6): 2022	23.7	80 (24hrs)	
Ozone (O ₃)	µg/m³	1S 5182 (Part- 9); 2019	<20.0	100 (8hrs)	
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.019	I (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C ₆ H ₆)	µg/m ¹	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by Quality Manager

Authorised Signatory Dr. Deependra Rumar Sinha

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Ph. D. Environmental Engg.

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Technical Manager

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	TES	T REPORT	
Test Report No.	: ELES/RNC/2024/7476	Report Release Date	: 18.12.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400005333F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2024/AA/8713 : Mine Pit Quarry No 3, Jalim & Sanai Bauxite Mine (12.14ha) : 08.12.2024 to 09.12.2024 : 12.12.2024 : Ambient Air : ELES/DOC/SMPL/02 : ELES Det 114
Period of Analysis	: 12.12.2024 to 18.12.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

1	Average Temperature (%C)	: 18	2	Barometric Pressure (mmHg)	: 725
3	Relative Humidity (%)	: 46	4	Weather Condition	: Clear

Discipline : Chemic	al	Group :	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	82 (Part- 23): 2022 78			
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	45	60 (24hrs)		
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	13.7	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	µg/m³	IS 5182 (Part- 6): 2022	33.3	80 (24hrs)		
Ozone (O ₃)	µg/m ⁸	1S 5182 (Part- 9); 2019	<20.0	100 (8hrs)		
Ammonia (NH2)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.32	2 (8hrs)		
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.021	1 (24hrs)		
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		
Benzene (C6H6)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)		

Reviewed by Akash Kumar Quality Manager

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Authorised Signatory Dr. Deependra Kumar Sinha ****End of Report****

Ph. D. Environmental Enga

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Technical Manager

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	TES	T REPORT	
Test Report No.	: ELES/RNC/2024/7477	Report Release Date	: 18.12.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400005334F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	Sampling Done By		: ELES Pvt. Ltd. : Sealed & Preserved
METEOROLOGI	CAL INFORMATION		
1 Average Temp	erature (°C) :18	2 Barometric Pressu	re (mmHg) : 725
3 Relative Humi	dity (%) : 46	4 Weather Condition	n : Clear
Disciplin	e : Chemical	Group	: Atmospheric Pollution

Discipline : Chemic	al	Group :	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit			
Particulate Matter (PM10)	articulate Matter (PM10) µg/m ³		70	100 (24hrs)			
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	38	60 (24hrs)			
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	11.5	80 (24hrs)			
Nitrogen Di-Oxide (NO2)	µg/m ³	1S 5182 (Part- 6): 2022	22.9	80 (24hrs)			
Ozone (O ₃)	µg/m²	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)			
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)			
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.24	2 (8hrs)			
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.019	1 (24hrs)			
Nickel (Ni)	ng/m ¹	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)			
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)			
Benzene (C6H6)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)			
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)			

Akeriewed by

****End of Report****

Quality Manager

Authorised Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental Engo

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3N: U74999000018PTC011125

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D324

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TEST REPORT

Test Report No.	: ELES/RNC/2024/7338	Report Release Date : 14.12.2024				
Work Order No.	: 13612312113	Work Order Date : 28,03.2024				
ULR No.	: TC135872400005200F		2311000 (2010) (2010)			
CUSTOMER DET	AILS	SAMPLE DETAILS				
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2024/AA/8651 : Near Banjari Village Serengdag-A Bauxite Mines (155.81ha) : 06.12.2024 to 07.12.2024 : 09.12.2024 : Ambient Alr : ELES/DOC/SMPL/02			
Period of Analysis	: 09.12.2024 to 14.12.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved			

	Average Temperature (°C) : 19	2	Barometric Pressure (mmHg)	: 725
3	Relative Humidity (%) : 47	4	Weather Condition	: Clear

Discipline : Chemic	al	Group :	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit			
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	68	100 (24hrs)			
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	39	60 (24hrs)			
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	12.8	80 (24hrs)			
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	28.1	80 (24hrs)			
Ozone (O ₃)	µg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)			
Ammonia (NH3)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)			
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)			
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.018	1 (24hrs)			
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)			
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)			
Benzene (C6Ha)	µg/m ²	ELES/GC/SOP/06: 2023	<2.5	05(Annual)			
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)			

Reviewed by Akash Kumar

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Dr. Deependra Kumar Sinha Ph

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ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT. LTD.

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Email: info@elespl.co.in , eles.ranchi@gmail.com Phone no.: 0651-2290103 Website : www.elespl.co.in



			TEST	REP	20	ORT		
Test Report No.	: ELES/F	UNC/2024/7339	ų.	Re	p	ort Release Date	: 14.12.2024	
Work Order No.	: 1361231	2113		Work Order Date : 28.03.2024				
ULR No.	: TC1358	72400005201F	0.					
CUSTOMER DET	AILS			SA	N	IPLE DETAILS		
Customer Name Address Mines Status	 a "ULL CORRECTOR 	o Industries Lim ga, Jharkhand-8 nul			Location : Near Pauri Villa Bauxite Mines (Sampling Date : 07.12.2024 to 0 Sample Received Date : 09.12.2024 Type of Sample : Ambient Air Sampling Procedure : ELES/DOC/SM			Village Serengdag-A nes (155.81ha) to 08.12.2024 r /SMPL/02
Period of Analysis			4	Sampling Done By Sample Condition : Sealed & Preserved			Charles Charles	
METEOROLOGI I Average Temp		: 19		2	T	Barometric Pressure	(mmHe) :	125
3 Relative Humis	and the second se	:48		4	-	Weather Condition	: Clear	
Disciplin	e : Chemic	al				Group :	Atmospheric l	Pollution
Paramet	and a second second	Unit		Test Protocol			Result	Regulatory Limi
Particulate Matter (I	PM10)	µg/m ³	IS 5	182 (1	Pi	urt- 23): 2022	70	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	Sec. 1	IS 5182 (Part-24): 2019		41	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 518	IS 5182 (Part- 2/Sec1): 2023		14.0	80 (24hrs)	
Nitrogen Di-Oxide	5 () () () () () () () () () (µg/m ³	THE SECTION	ALL PRICES	-	art- 6): 2022	28.7	80 (24hrs)
Ozone (O ₃)	16226 211	μg/m ³	1000 C	22003	-	urt- 9): 2019	<20.0	100 (8hrs)
2000 C		COM	01		7			STE/ NT/ 19/

IS 5182 (Part- 25): 2018

IS 5182 (Part-10): 2019

(NDIR Method)

IS 5182 (Part- 22): 2019

IS 5182 (Part-26): 2020

ELES/AIR/SOP/01: 2021

ELES/GC/SOP/06: 2023

ELES/GC/SOP/05: 2023

are-sarg
by
IBF

µg/m³

mg/m'

ug/m

ng/m³

ng/m3

µg/m3

ng/m

Ammonia (NH3)

Lead (Pb)

Nickel (Ni)

Arsenic (As)

Benzene (C₆H₄)

Benzo-(a)-Pyrene

Carbon Monoxide (CO)

Authorised Signatory

<10.0

< 1.0

0.021

<6.0

<2.0

2.5

<0.5

400 (24hrs)

2 (8hrs)

1 (24hrs)

20 (Annual)

06 (Annual)

05(Annual)

01(Annual)

Dr. Deependra Kumar Sinha

Page 1 of 1

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Ph. D. Environmental Engo Technical Manager

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST ND:- 20AAECE9713D124

ENGINEERING SERVICES PVT. LTD.



Email: info@elespl.co.in , eles.ranchi@gmail.com Phone no.: 0651-2290103 Website : www.clespl.co.in

	TES	T REPO	ORT		
Test Report No.	: ELES/RNC/2024/7340	Rep	ort Release Date	: 14.12.2	024
Work Order No.	Vork Order No. : 13612312113 Work Order Date		rk Order Date	: 28.03.2	024
ULR No.	: TC135872400005202F				
CUSTOMER DET	AILS	SAI	MPLE DETAILS		
Customer Name : Hindalco Industries Limited Sample Ref. No. Location Address : Lohardaga, Jharkhand-835302 Sampling Date Mines Status : Operational Sampling Procede Neider Status : Operational Sampling Done B		ation pling Date ple Received Date e of Sample pling Procedure	: ELES/RNC/2024/AA/8653 : Near Harup Village Serengdag-A Bauxite Mines (155.81ha) : 07.12.2024 to 08.12.2024 : 09.12.2024 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. : Sealed & Preserved		
		Sampling Done By Sample Condition			
METEOROLOGI	CAL INFORMATION				
1 Average Temp	and the second provide the second	2	Barometric Pressure	(mmHg)	: 725
3 Relative Humin		4	Weather Condition		: Clear

Discipline : Chemic	al	Group :	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	71	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	43	60 (24hrs)		
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	13.6	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	24.9	80 (24hrs)		
Ozone (O ₁)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH _j)	µg/m ³	IS 5182 (Part-25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.32	2 (8hrs)		
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)		
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		
Benzene (C6H6)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)		

Reviewed by Akash Kumar Guality Managar

Dr. Deependra Kumal Sinha

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Ph. D. Environmental Engg. Technical Manager

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124

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			TEST	REF	PO	DRT		
Test Report No.	: ELES/R	NC/2024/7341	l	Report Release Date : 14.12.2024				
Work Order No.	: 1361231	2113		W	or	k Order Date	: 28.03.2024	
ULR No. : TC135872400005203F								
CUSTOMER DET	AILS			SA	N	IPLE DETAILS		
Customer Name : Hindalco Industries Limited Address : Lohardaga, Jharkhand-835302 Mines Status : Operational Period of Analysis : 09.12.2024 to 14.12.2024		Sample Ref. No. : ELES/RNO. Location : Near Painto Bauxite Mi : 06.12.2024 Sample Received Date : 09.12.2024 Type of Sample : Ambient A		: Near Paintol Bauxite Mine	ur.			
		11 10/10/20	14.12.2024		Sampling Done By Sample Condition		: ELES Pvt. Ltd. : Sealed & Preserved	
METEOROLOGI	CAL INFOR	MATION		-				
1 Average Temp	erature (°C)	: 19		2	T	Barometric Pressur	e (mmHg) : '	725
3 Relative Humic	fity (%)	: 47		4		Weather Condition		Clear
Discipline	: Chemica	1			1	Group :	Atmospheric	Pollution
Paramet	er	Unit		Test	P	rotocol	Result	Regulatory Limit
Particulate Matter (I	PM10)	µg/m ³	IS 51	S 5182 (Part-23): 2022		n-23): 2022	65	100 (24hrs)
Particulate Matter (I	PM2.5)	µg/m ³	IS 51	IS 5182 (Part- 24): 2019		34	60 (24hrs)	
		µg/m ³	IS 5182	2 (Pa	rt-	2/Sec1): 2023	12.8	80 (24hrs)
		1S 5182 (Part- 6): 2022		CRAMMENT CREMENCES	26.1	80 (24hrs)		
Ozone (O ₃)		µg/m ³			-	urt- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₅)		µg/m ³				rt- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (0	(0)	mg/m ³			_	rt- 10): 2019	132	2 (Shrs)

 ALLING
Reviewed by
Akash Kumar
Cuplity Manager

mg/m*

µg/m²

ng/m

ng/m'

Hg/m

ng/m

Lead (Pb)

Nickel (Ni)

Arsenic (As)

Benzene (C6H6)

Benzo-(a)-Pyrene

1.32

0.019

<6.0

<2.0

<2.5

<0.5

2 (8hrs)

1 (24hrs)

20 (Annual)

06 (Annual)

05(Annual)

01(Annual)

****End of Report****

(NDIR Method)

IS 5182 (Part- 22): 2019

IS 5182 (Part- 26): 2020

ELES/AIR/SOP/01: 2021

ELES/GC/SOP/06: 2023

ELES/GC/SOP/05: 2023

Authorised Signatory Dr. Deependra Rumar Sinha Ph. D. Environmental Engg.

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ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT. LTD.

Plot No.30, Mansarovar Enclave, Tupudana, Hatia, Ranchi-834003, Jharkhand.

Jalim&Sanai Bauxite Mine-Environmental Monitoring Report

January- 2025



CONTENT

alco Industries : Jalim & Sanai Bauxite Mine Environmental Monitoring Report	January 2025
Jalim & Sanai Bauxite Mine	
AMBIENT AIR QUALITY- CORE ZONE	
Mine Pit Quarry No 2	
Nava PrathmikVidyalay (DhankaToli)	
Mine Pit Quarry No 3	
Near Colony	
AMBIENT AIR QUALITY- BUFFER ZONE	
Near Banjari Village	
Near Pauri Village	
Near Harup Village	
Near Paintoli Village	
Surface Water	
Soil	nau l
	Jalim & Sanai Bauxite Mine AMBIENT AIR QUALITY- CORE ZONE Mine Pit Quarry No 2 Nava PrathmikVidyalay (DhankaToli) Mine Pit Quarry No 3 Near Colony AMBIENT AIR QUALITY- BUFFER ZONE Near Banjari Village Near Pauri Village Near Pauri Village Near Pauri Village Surface Water Surface Water





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Test Report No.	: ELES/RNC/2025/0560	Report Release Date	: 24.01.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000000551F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2025/AA/0406 : Mine Pit Quarry No 2, Jalim & Sanai Bauxite Mine (12.14ha) : 15.01.2025 to 16.01.2025 : 17.01.2025 : Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 17.01.2025 to 24.01.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

1	Average Temperature (°C) : 19	2	Barometric Pressure (mmHg)	: 725	
3	Relative Humidity (%) : 51	4	Weather Condition	: Clear	

Discipline : Chemic	al	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23); 2022	72	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	40	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	16.7	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	15 5182 (Part- 6): 2022	30.2	80 (24hrs)	
Ozone (O ₂)	µg/m ³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)	
Ammonia (NH3)	µg/m"	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ⁸	IS 5182 (Part- 22): 2019	0.016	1 (24hrs)	
Nickel (Ni)	ng/m ¹	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m'	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by Quality Manager

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D. Environmental Enon

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TEST DEPODT

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ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in , eles.ranchi@gmail.com Phone no.: 0651-2290103 Website : www.elespl.co.in



Test Report No.	: ELES/RNC/2025/0561	Report Release Dat	e : 24.01.2025		
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024		
ULR No.	: TC1358725000000552F				
CUSTOMER DET	AILS	SAMPLE DETAILS			
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2025/AA/0407 : Nava Prathmik Vidyalay(DhankaToli) Jalim & Sanai Bauxite Mine (12.14ha) : 15.01.2025 to 16.01.2025 : 17.01.2025 : Ambient Air : ELES/DOC/SMPL/02		
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.		
Period of Analysis	: 17.01.2025 to 24.01.2025	Sample Condition	: Sealed & Preserved		

1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 725
3	Relative Humidity (%)	:51	4	Weather Condition	: Clear

Discipline : Chemic	al	Group :	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m ²	IS 5182 (Part- 23): 2022	70	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	31	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	14.2	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	26.5	80 (24hrs)		
Ozone (O3)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ²	IS 5182 (Part- 10): 2019 (NDIR Method)	I.19	2 (8hrs)		
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.022	1 (24hrs)		
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		
Benzene (CsHa)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)		
			0	1		

Reviewed by Akash Kumar

Dr. Authorised Signalo Sinha Ph. D. Environmental Engg.

tratity Manager

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TEST DEPODT

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124

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Test Report No.	: ELES/RNC/2025/0562	Report Release Date	: 24.01.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000000553F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2025/AA/0408 : Mine Pit Quarry No 3, Jalim & Sanai Bauxite Mine (12.14ha) : 15.01.2025 to 16.01.2025 : 17.01.2025 : Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 17.01.2025 to 24.01.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 725
3	Relative Humidity (%)	: 51	4	Weather Condition	: Clear

Discipline : Chemic	al	Group :	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit			
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23); 2022	73	100 (24hrs)			
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	41	60 (24hrs)			
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1); 2023	10.9	80 (24hrs)			
Nitrogen Di-Oxide (NO2)	µg/m³	IS 5182 (Part- 6): 2022	35.1	80 (24hrs)			
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)			
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)			
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.22	2 (8hrs)			
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.028	1 (24hrs)			
Nickel (Ni)	ng/m³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)			
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)			
Benzene (C6H4)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)			
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)			

Reviewed by A1 Quality Manager

Authorised Signatory: Dr. Deependra Kumar Sinha

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124

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Test Report No.	: ELES/RNC/2025/0563	Report Release Date	: 24.01.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000000554F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2025/AA/0409 : Near Colony; Jalim & Sanai Bauxite Mine (12.14ha) : 15.01.2025 to 16.01.2025 : 17.01.2025 : Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 17.01.2025 to 24.01.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 725	
3	Relative Humidity (%)	: 51	4	Weather Condition	: Clear	

Discipline : Chemic	cal	Group :	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	68	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	32	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1); 2023	9.8	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	21.5	80 (24hrs)	
Ozone (O ₃)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH3)	µg/m ²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.15	2 (8hrs)	
Lead (Pb)	µg/m³	1S 5182 (Part- 22): 2019	0.022	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26); 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C6H4)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by Akash Kumar Quality Manager

Authorised Signatory Dr. Deependra Kumar Sinha

****End of Report****

Ph. D. Environmental Engg. Technical Manager

Page 1 of 1
Page 1



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO- 20AAECE97130124

ENGINEERING SERVICES PVT. LTD.



Email: info@elespl.co.in , eles.ranchi@gmail.com Phane no.: 0651-2290103 Website : www.elespl.co.in

Test Report No.	: ELES/RNC/2025/0519	Report Release Date	: 22.01.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000000510F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindaleo Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2025/AA/0331 : Near Banjari Village Serengdag-A Bauxite Mines (155.81ha) : 13.01.2025 to 14.01.2025 : 15.01.2025 : Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 15.01.2025 to 21.01.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

1.00	STRUKTOR STUDIE	Ch174(3) # # 3(5) 7				
1	Average Temperature (%C)	:18	2	Barometric Pressure (mmHg)	: 725	
3	Relative Humidity (%)	: 55	4	Weather Condition	; Clear	

Discipline : Chemic	cal .	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	74	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	42	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m ³	1S 5182 (Part- 2/Sec1): 2023	14.5	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	1S 5182 (Part- 6): 2022	26.2	80 (24hrs)	
Ozone (O3)	µg/m ⁸	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₂)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ²	1S 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ¹	IS 5182 (Part- 22): 2019	0.024	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6,0	20 (Annual)	
Arsenic (As)	ng/m	ELES/AIR/SOP/01: 2021	<2.0	(Isuana) 06	
Benzene (C ₆ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by Akash Kumer Quality Menage/

Authorised Signatory. Dr. Deependra Kumar Sinha

4

****End of Report****

Ph. D. Environmental Engg. Technical Manager

Page 1 of 1

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ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranchi@gmail.com Phone no.: 0651-2290103 Website : www.elespl.co.in



	CONTRACTOR CONTRACTOR CONTRACTOR	TREPORT	P. BUSING SHARES
Test Report No.	: ELES/RNC/2025/0520	Report Release Date	: 22.01.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000000511F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2025/AA/0332 : Near Pauri Village Serengdag-A Bauxite Mines (155.81ha) : 13.01.2025 to 14.01.2025 : 15.01.2025 : Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	of Analysis : 15.01.2025 to 21.01.2025 Sampling Done By Sample Condition		: ELES Pvt. Ltd. : Sealed & Preserved

STATISTICS IN COMPANY AND INC.

L	Average Temperature (°C)	:18	2	Barometric Pressure (mmHg)	: 725	
3	Relative Humidity (%)	: 55	4	Weather Condition	: Clear	

Discipline : Chemic	al	Group :	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	65	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	37	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m³	IS 5182 (Part- 2/Sec1): 2023	12.6	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	1S 5182 (Part- 6): 2022	24.2	80 (24hrs)	
Ozone (O ₂)	µg/m ³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)	
Ammonia (NH ₂)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	нg/m	IS 5182 (Part- 22): 2019	0.024	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ing/m*	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (CeHa)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ¹	ELES/GC/SOP/05; 2023	<0.5	01(Annual)	
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Line Reviewed by Quality Manager

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D. Environmental Engg.

Page 1 of 1

"=""End of Report" ###

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Email: <u>info@elespl.co.in</u>, <u>eles.ranchi@amail.com</u> Phone no.: 0651-2290103 Website : www.elespl.co.in



	TES	T REPORT		
Test Report No.	: ELES/RNC/2025/0521	Report Release Date	: 22.01.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC1358725000000512F			
CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2025/AA/0333 : Near Harup Village Serengdag-A Bauxite Mines (155.81ha) : 13.01.2025 to 14.01.2025 : 15.01.2025 : Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 15.01.2025 to 21.01.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

	Average Temperature (°C) : 18	2	Barometric Pressure (mmHg)	: 725	
3	Relative Humidity (%) : 55		Weather Condition	: Clear	

Discipline : Chemie	ral	Group :	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2022	68	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	37	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	11.5	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	26,1	80 (24hrs)	
Ozone (O ₁)	µg/m ³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 2019 (NDIR Method)	1.28	2 (8hm)	
Lead (Pb)	μ <u>8</u> /m ³	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)	
NickeI (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Amenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C ₄ H ₄)	µg/m ³	ELES/GC/SOP/06: 2023	<3.5	05(Annual)	
Benzo-(a)-Pyrene	ag/m ²	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by Akash Kumar Quality Menager

Authorised Signatory

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Dr. Deopendra Kumar Sinha

Ph. D. Environmental Energ.

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ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in , eles.ranchi@amail.com Phane no.: 0651-2290103 Website : www.elespl.co.in



		I REPORT	
Test Report No.	: ELES/RNC/2025/0522	Report Release Date	: 22.01.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000000513F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2025/AA/0334 : Near Paintoli Village Serengdag-A Bauxite Mines (155.81ha) : 13.01.2025 to 14.01.2025 : 15.01.2025 : Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 15.01.2025 to 21.01.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

TEST DEPORT

METEOROLOGICAL INFORMATION

1	Average Temperature (°C)	18	2	Barometric Pressure (mmHg)	: 725
3	Relative Humidity (%)	: 55	4	Weather Condition	: Clear

Discipline : Chemio	cal.	Group :	Atmospheric	Pollation
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	69	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	40	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1); 2023	13.3	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	1S 5182 (Part- 6): 2022	23.5	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.22	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.024	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C _s H _s)	µg/m ³	ELES/GC/SOP/06: 2023	<1.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOF/05: 2023	<0.5	01(Annual)

1.000 Reviewed by Akash Kumar

Quality Menager

Authorised Signatory Dr. Deependra Kumar Sinha

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TEST REPORT

Test Report No.	: ELES/RNC/2025/0611	Report Release Date	: 27.01.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC1358725000000593F			

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2025/SW/0416 : 16.01.2025 : 17.01.2025
Address	: Lohardaga, Jharkhand-835302	Type of Sample Location of Sample	: Surface Water : Near Paintoli Village, Jalim & Sanai Bauxite Mine (12.14ha)
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01
Period of Analysis	: 17.01.2025 to 24.01.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

Discipline : Chemical		Group :	Water	Tolerance Limits
Parameter	Unit	Test Protocol	Result	ns per IS 2296-1992 Class C (Inland Surface Water)
pH (at 24.7 °C)		1S 3025 (Part-11) : 2022	6.98	6.5-8.5
Temperature	°C	1S 3025 (Part 9): 2023	18.0	-
Chemical Oxygen Demand (COD)	mg/L	IS 3025 (Part-58): 2023	18.3	
Biochemical Oxygen Demand (BOD) (@ 20°C for 5 days)	mg/L	APHA 24th Ed.2023; 5210B	2.8	3.0
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16): 2023	424	1500
Total Suspended Solids (TSS)	mg/L	IS 3025 (Part-17): 2022	382	÷
Oil & Grease	mg/L	IS 3025 (Part-39): 2021	BDL (DL: 0.1)	0.1
Calcium (as Ca)	mg/L	IS 3025 (Part-40): 2019	42.6	77.0

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TEST REPORT

Test Report No.	: ELES/RNC/2025/0611	Report Release Date	: 27.01.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000000593F		

Discipline : Chemica	al	Group : Residues in	Water	Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per 1S 2296-1992 Class C (Inland Surface Water)
Aluminum (as Al)	mg/L	1S 3025 (Part-55) :2003; RA2019	BDL (DL: 0.02)	
Iron (as Fe)	mg/L	APHA 24 th Ed.2023; 3111B	1.208	50

Remarks: pH & Temperature done at site.

Reviewed by Akash Kumar

Quality Manager

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental Engg. Technical Manager

Page 2 of 2

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TEST	REPORT
A. A.11.2 A.	RETORI

Test Report No.	: ELES/RNC/2025/0615	Report Release Date	: 27.01.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC1358725000000597F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date	: ELES/RNC/2025/SL/0420 : 16.01.2025	
		Sample Received Date	: 17.01.2025	
Address	: Lohardaga, Jharkhand-835302	Type of Sample	: Soil	
		Location of Sample	: Mine Pit Quarry No 2, Jalim & Sanai Bauxite Mine (12.14ha	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/05	
Period of Analysis	: 17.01.2025 to 24.01.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed	

Discipline : Chemical		Group : Pollution &	Environment
Parameter	Unit	Test Protocol	Result
pH (1:2) at 24.5 °C	19	1S 2720 (Part-26): 2021	5.84
Conductivity (1:2) at 24.5 °C	µS/cm	IS 14767: 2021	188
Total Organic Carbon (TOC)	%	Soil Testing in India: 2011 (Walkley & Black Method)	0.60
Available Phosphorus (as P)	kg/ha	Soil Testing in India; 2011	BDL (DL: 2.0)
Potassium (as K)	mg/kg	IS 9497: 2020	1350
Available Nitrogen	%	Soil Testing in India; 2011	5.8
Chloride (as Cl) (1:2)	%	ELES/SOIL/SOP/01: 2021	0.007
Arsenic (as As)	mg/kg	ELES/SOIL/SOP/28: 2023	BDL (DL: 0.01)
Cadmium (as Cd)	mg/kg	US EPA 3050 A&B : 1996	BDL (DL: 0.1)
Lead (as Pb)	mg/kg	US EPA 3050 A&B : 1996	BDL (DL: 0.1)

Page 1 of 2

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124 ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in , eles.ranchi@gmail.com Phone no.: 0651-2290103 Website : www.elespl.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2025/0615	Report Release Date	: 27.01.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC1358725000000597F			

Discipline : Chemical		Group : Pollution & Environment		
Parameter	Unit	Test Protocol	Result	
Magnesium (as Mg)	mg/kg	Soil Testing in India; 2011	1110	
Mercury (as Hg)	mg/kg	US EPA 7473 : 2007	BDL (DL: 0.01)	

Reviewed by

Quality Managar

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental Engg. Technical Manager

Page 2 of 2

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) 65T NO:- 20AAECE9713D124

NGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in , eles.ranchi@gmail.com Phone no.: 0651-2290103 Website : www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2025/0615	Report Release Date	: 27.01.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2025/SL/0420	
		Sampling Date	: 16.01.2025	
		Sample Received Date	: 17.01.2025	
Address	: Lohardaga, Jharkhand-835302	Type of Sample	: Soil	
		Location of Sample	: Mine Pit Quarry No 2, Jalim	
			& Sanai Bauxite Mine (12.14ba	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/05	
Period of Analysis	: 17.01.2025 to 24.01.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed	

Discipline : Chemical		Group : Pollution & Environment		
Parameter	Unit	Test Protocol	Result	
Selenium (as Se)	mg/kg	US EPA 3050 B : 1996	BDL (DL: 0.01)	

Reviewed by Akash Kumar Quality Manago/

End of Report*

Authorised Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental Engg. Technical Manager

Page 1 of 1

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ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT. LTD.

Plot No.30, Mansarovar Enclave, Tupudana, Hatia, Ranchi-834003, Jharkhand.

Jalim&Sanai Bauxite Mine-Environmental Monitoring Report

February 2025



CONTENT

Hind	alco Industries : Jalim & Sanai Bauxite Mine Environmental Monitoring Report	February 2025
	Jalim & Sanai Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE	
1	Mine Pit Quarry No 2	
2	Nava PrathmikVidyalay (DhankaToli)	
3	Mine Pit Quarry No 3	
4	Near Colony	
	AMBIENT AIR QUALITY- BUFFER ZONE	
1	Near Banjari Village	
2	Near Pauri Village	
3	Near Harup Village	
4	Near Paintoli Village	
	Drinking Water	





TEST DEPODT

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124

ENGINEERING SERVICES PVT. LTD.

Email: Info@elespl.co.in, eles.ranchi@gmail.com Phone no.: 0651-2290103 Website : www.elespl.co.in



Test Report No.	: ELES/RNC/2025/1385	Report Release Date	: 03.03.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001356F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2025/AA/1429 : Mine Pit Quarry No 2, Jalim & Sanai Bauxite Mine (12.14ha) : 22.02.2025 to 23.02.2025 : 24.02.2025 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 24.02.2025 to 03.03.2025	Sample Condition	: Sealed & Preserved

- 699	STEOROLOGICAL IN OR	distion,				_
1	Average Temperature (%C)	: 23	2	Barometric Pressure (mmHg)	: 725	
3	Relative Humidity (%)	: 56	:4):	Weather Condition	: Clear	

Discipline : Chemic	al	Group :	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	79	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m ³	1S 5182 (Part- 24): 2019	44	60 (24hrs)		
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	12.8	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	37.8	80 (24hrs)		
Ozone (O ₃)	µg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)		
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.24	2 (8hrs)		
Lead (Pb)	µg/m²	IS 5182 (Part- 22): 2019	0.031	1 (24hrs)		
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		
Benzene (C6H6)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)		

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Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranchi@gmail.com Phone no.: 0651-2290103 Website : www.elespl.co.in



Test Report No.	: ELES/RNC/2025/1386	Report Release Date	e : 03.03.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001357F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2025/AA/1430 : Nava Prathmik Vidyalay(DhankaToli) Jalim & Sanai Bauxite Mine (12.14ha : 22.02.2025 to 23.02.2025 : 24.02.2025 : Ambient Air : ELES/DOC/SMPL/02
a references recognises a		Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 24.02.2025 to 03.03.2025	Sample Condition	: Sealed & Preserved

TEST REPORT

1000	Average Temperature (°C) : 23	2	Barometric Pressure (mmHg)	: 725	
-	Relative Humidity (%) : 56	4	Weather Condition	: Clear	

Discipline : Chemic	al	Group :	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	65	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	34	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	11.8	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	24.2	80 (24hrs)	
Ozone (O ₁)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.31	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.019	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C6H6)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

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Authorised Signatory Akash Kumar

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ENGINEERING SERVICES PVT. LTD.

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Test Report No.	: ELES/RNC/2025/1387	Report Release Date	: 03.03.2025
Work Order No. : 13612312113		Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001358F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2025/AA/1431 : Mine Pit Quarry No 3, Jalim & Sanai Bauxite Mine (12.14ha) : 22.02.2025 to 23.02.2025 : 24.02.2025 : Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 24.02.2025 to 03.03.2025	Sampling Done By Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION

 1
 Average Temperature (°C)
 : 23
 2

 3
 Relative Humidity (%)
 : 56
 4

2 Barometric Pressure (mmHg) 4 Weather Condition

Discipline : Chemic	al	Group :	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	78	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	47	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	14.4	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	33.7	80 (24hrs)	
Ozone (O3)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.28	2 (8hrs)	
Lead (Pb)	µg/m ³	1S 5182 (Part- 22): 2019	0.033	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (CsH6)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

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: 725

: Clear

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ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranchi@amail.com Phone no.: 0651-2290103 Website : www.elespl.co.in



Test Report No.	: ELES/RNC/2025/1388	Report Release Date	: 03.03.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC1358725000001359F			
CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2025/AA/1432 : Near Colony; Jalim & Sanai Bauxite Mine (12.14ha) : 22.02.2025 to 23.02.2025 : 24.02.2025 : Ambient Air : ELES/DOC/SMPL/02 : FLES Dia Ltd	
Period of Analysis	: 24.02.2025 to 03.03.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

TTOT DEDODT

1	Average Temperature (°C) : 23	2	Barometric Pressure (mm)	Hg) : 725
_	Relative Humidity (%) : 56	4	Weather Condition	: Clear

Discipline : Chemic	al	Group :	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	1S 5182 (Part- 23): 2022	73	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	39	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	12,2	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	24.8	80 (24hrs)	
Ozone (O ₃)	μg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.23	2 (8hrs)	
Lead (Pb)	µg/m³	1S 5182 (Part- 22): 2019	0.027	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (CsH6)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

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Page 1 of 1

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TROT DEDODT

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO:- 20AAECE9713D124

ENGINEERING SERVICES PVT. LTD.

Email: <u>info@elespl.co.in</u>, <u>eles.runch/@amail.com</u> Phone no.: 0651-2290103 Website : www.elespl.co.in



Test Report No.	: ELES/RNC/2025/1377	Report Release Date	: 03.03.2025	
Work Order No.	: 13612312113	Work Order Date : 28.03.2024		
ULR No.	: TC1358725000001348F			
CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2025/AA/1421 : Near Banjari Village Serengdag-A Bauxite Mines (155.81ha) : 20.02.2025 to 21.02.2025 : 24.02.2025 : Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 24.02.2025 to 03.03.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

1	Average Temperature (PC) :2	21	2	Barometric Pressure (mmHg)	: 720
3	Relative Humidity (%) : 5	8	4	Weather Condition	: Clear

Discipline : Chemic	al	Group :	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	79	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	46	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	13.8	80 (24hrs)	
Nitrogen Di-Oxide (NO1)	µg/m ³	IS 5182 (Part- 6); 2022	28.1	80 (24hrs)	
Ozone (O ₂)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₂)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m	IS 5182 (Part- 22): 2019	0.022	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (CsHe)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124

NGINEERING SERVICES PVT. LTD.

Email: Info@etespl.co.in, eles.ranchi@arnoil.com Phone no.: 0651-2290103

Website : www.elespl.co.in



10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		T REPORT	- 01 03 3035
Test Report No.	: ELES/RNC/2025/1378	Report Release Date	: 03.03.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03,2024
ULR No.	: TC1358725000001349F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date	: ELES/RNC/2025/AA/1422 : Near Pauri Village Serengdag-A Bauxite Mines (155.81ha) : 20.02.2025 to 21.02.2025
Mines Status	: Operational	Sample Received Date Type of Sample Sampling Procedure	: 24.02.2025 : Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 24.02.2025 to 03.03.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

1	Average Temperature (°C)	: 21	2	Barometric Pressure (mmHg)	: 720
3	Relative Humidity (%)	: 60	-4	Weather Condition	: Clear

Discipline : Chemic	al	Group :	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	69	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	39	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	13.1	80 (24hrs)
Nitrogen Di-Oxide (NO7)	µg/m ³	IS 5182 (Part- 6): 2022	25.3	80 (24hrs)
Ozone (O ₂)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ³	15 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	1S 5182 (Part- 22): 2019	0.031	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2,0	06 (Annual)
Benzene (C _s H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

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VGINEERING SERVICES PV7. L7D. Email: info@elespl.co.in, eles.ranchi@gmail.com

Phone no.: 0651-2290103 Website : www.elespl.co.in



Test Report No.	: ELES/RNC/2025/1379	Report Release Date	: 03.03.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001350F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2025/AA/1423 : Near Harup Village Serengdag-A Bauxite Mines (155.81ha) : 20.02.2025 to 21.02.2025 : 24.02.2025 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 24.02.2025 to 03.03.2025	Sampling Done By Sample Condition	: Sealed & Preserved

1	Average Temperature (°C) : 21	2	Barometric Pressure (mmHg)	: 725
3	Relative Humidity (%) : 58	4	Weather Condition	; Clear

Discipline : Chemic	al	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	73	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	1S 5182 (Part- 24): 2019	40	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	12.6	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m³	IS 5182 (Part- 6): 2022	23.5	80 (24hrs)
Ozone (O ₁)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.31	2 (8hrs)
Lead (Pb)	µg/m	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C4H4)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

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ENGINEERING SERVICES PVY. LTD.

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Website : www.elespl.co.in



Test Report No.	: ELES/RNC/2025/1380	Report Release Date	: 03.03.2025			
Work Order No.	: 13612312113	Work Order Date : 28.03.2024				
ULR No.	: TC1358725000001351F					
CUSTOMER DET	AILS	SAMPLE DETAILS				
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2025/AA/1424 : Near Paintoli Village Serengdag-A Bauxite Mines (155.81ha) : 20.02.2025 to 21.02.2025 : 24.02.2025 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.			
Period of Analysis	: 24.02.2025 to 03.03.2025	2.2025 to 03.03.2025 Sampling Done By Sample Condition				

1 11.81				
1	Average Temperature (°C) : 21	2	Barometric Pressure (mmHg)	: 720
3	Relative Humidity (%) : 59	4	Weather Condition	: Clear

Discipline : Chemic	nl	Group :	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	77	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	43	60 (24hrs)		
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	12.4	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	26.2	80 (24hrs)		
Ozone (O ₁)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.22	2 (8hrs)		
Lead (Pb)	µg/m*	IS 5182 (Part- 22): 2019	0.029	1 (24hrs)		
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		
Benzene (CaHa)	µg/m³	ELES/GC/SOP/06: 2023	<1.5	05(Annunl)		
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)		

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TEST REPORT						
Test Report No.	: ELES/RNC/2025/1395	Report Release Date	: 03.03.2025			
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024			
ULR No.	: TC1358725000001366F					
CUSTOMER DET	AILS	SAMPLE DETAILS				
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample Location of Sample	: ELES/RNC/2025/DW/1439 : 21.02.2025 : 24.02.2025 : Drinking Water : TAP Water : Jalim Village (Jalim & Sanai Bauxite Mine)			
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01			
Period of Analysis	: 24.02.2025 to 03.03.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved			

Discipline : Chemical	Discipline : Chemical Group : V			Regulatory Limit as per IS 10500:2012	
Parameter	Unit Test Protocol		Result	Acceptable Limit	Permissible Limit
pH (at 24.9 °C)	-	APHA 24 th Ed.2023, 4500-H ⁺	6.57	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 24th Ed.2023, 2130 B	0.98	1.0	5.0
Taste		APHA 24th Ed.2023, 2160 C	Agreeable	Agreeable	Agreeable
Odour	-	IS 3025 (Part-5) :2018	Agreeable	Agreeable	Agreeable
Colour	Hazen	APHA 24th Ed.2023, 2120B&D	1.0	5.0	15
Total Dissolved Solids (TDS)	mg/L	APHA 24th Ed.2023, 2540B,C&D	312	500	2000
Chloride (as Cl)	mg/L	APHA 24th Ed.2023, 4500 CI B	15.0	250	1000
Fluoride (as F)	mg/L	APHA 24 th Ed.2023, 4500 F-D	BDL (DL: 0.1)	1.0	1.5
Total Alkalinity (as CaCO ₂)	mg/L	APHA 24th Ed.2023, 2320 B	128	200	600
Total Hardness (as CaCO3)	mg/L	APHA 24th Ed.2023, 2340 C	151	200	600
Sulphate (as SO4)	mg/L	APHA 24 th Ed.2023, 4500 SO4 ⁻² -E	7.82	200	400
Nitrate (as NO ₃)	mg/L	APHA 24th Ed.2023, 4500 NO3-B	4.16	45	No Relaxation

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TEST REPORT

Test Report No.	: ELES/RNC/2025/1395	Report Release Date	: 03.03.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001366F		

Discipline : Chemic	al	Grou	p: Water	the second se	ory Limit 0500:2012
Parameter	Unit	Test Protocol	Result	Acceptable	Permissible
Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part 43/Sec1): 2022	BDL (DL: 0.001)	0.001	0.002
Free Residual Chlorine (RFC)	mg/L	IS 3025 (Part-26): 2021	BDL (DL: 0.1)	0.2(Min)	1.0(Min)
Calcium (as Ca)	mg/L	APHA 24th Ed.2023, 3500 Ca B	40.0	75	200
Anionic Surfactants (as MBAS)	mg/L	APHA 24 th Ed.2023, 5540-C	BDL (DL: 0.025)	0.2	1.0
Discipline : Chemic	al	Gro	up : Residues i	n Water	
Aluminum (as Al)	mg/L	IS 3025 (Part-55) :2003; RA2019	BDL (DL: 0.02)	0.03	0.2
Arsenic (as As)	mg/L	IS 3025 (Part-37): 2022	BDL (DL: 0.005)	0.01	No Relaxation
Boron (as B)	mg/L	IS 3025 (Part-57) : 2021	BDL (DL: 0.2)	0.5	1.0
Cadmium (as Cd)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.003)	0.003	No Relaxation
Total Chromium (as Cr)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.03)	0.05	No Relaxation
Copper (as Cu)	mg/L	IS 3025 (Part 42): 2019	BDL (DL: 0.03)	0.05	1.5
Cyanide (as CN)	mg/L	APHA 24 th Ed.2023, 4500 CN-E	BDL (DL: 0.012)	0.05	No Relaxation
Iron (as Fe)	mg/L	APHA 24th Ed.2023; 3111B	0.063	1.0	No Relaxation
Lead (as Pb)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.01)	0.01	No Relaxation
Manganese (as Mn)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.05)	0.1	0.3
Mercury (as Hg)	mg/L	IS 3025 (Part-48): 2019	BDL (DL: 0.001)	0.001	No Relaxation
Selenium (as Se)	mg/L	IS 3025 (Part-56): 2019	BDL (DL: 0.01)	0.01	No Relaxation

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TEST REPORT

Test Report No. : ELES/RNC/2025/1395			Report Release Date : 03.03.2025			
Work Order No. : 1361	2312113		Work Order D	ate :	28.03.2024	_
ULR No. : TC1	358725000	001366F			_	
Discipline : Chemical			Group : Resid	ues in Water		ory Limit 10500:2012
Parameter	Unit	Tes	st Protocol	Result	Acceptable Limit	Permissible Límit
Zinc (as Zn)	mg/L	APHA 24	h Ed.2023; 3111B	BDL (DL: 0.1)	5.0	15
Polynuclear Aromatic Hydrocarbons (PAH)	μg/L	ELES/G	C/SOP/04: 2023	BDL (DL: 0.05)	0.1	No Relaxation
Polychlorinated biphenyls (PCB)	μg/L	ELES/G	C/SOP/03: 2023	BDL (DL: 0.1)	0.5	No Relaxation
Pesticides					Li	mit
Alachlor	µg/L	ELES/G	C/SOP/01: 2023	BDL (DL: 0.5)	20	
Atrazine	µg/L	ELES/G	C/SOP/01: 2023	BDL (DL: 0.5)	2.0	
Butachlor	µg/L	ELES/GC/SOP/01: 2023		BDL (DL: 0.5)	125	
Chlorpyriphos	µg/L	ELES/GC/SOP/01: 2023		BDL (DL: 0.5)	30	
Ethion	µg/L	ELES/GC/SOP/01: 2023		BDL (DL: 0.5)	3.0	
Malathion	µg/L	ELES/G	C/SOP/01: 2023	BDL (DL: 0.5)	190	
Methyl parathion	µg/L	ELES/G	C/SOP/01: 2023	BDL (DL: 0.1)	0.30	
Monocrotophos	µg/L	ELES/G	C/SOP/01: 2023	BDL (DL: 0.5)	1.0	
Phorate	μg/L	ELES/GC/SOP/01: 2023		BDL (DL: 0.5)	2.0	
Phorate Sulphone	µg/L	ELES/GC/SOP/01: 2023		BDL (DL: 0.5)		
Dieldrin	µg/L	ELES/GC/SOP/02: 2023		BDL (DL: 0.01)	0	.03
Alpha HCH	µg/L	ELES/G	C/SOP/02: 2023	BDL (DL: 0.006)	0	.01
Beta HCH	μg/L	ELES/G	C/SOP/02: 2023	BDL (DL: 0.02)	0	.04

Page 3 of 4

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in , eles.ranchi@gmail.com Phone no.: 0651-2290103 Website : www.elespl.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2025/1395	Report Release Date	: 03.03.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001366F		

Pesticides					
Parameter	Unit	Test Protocol	Result	Limit	
Delta HCH	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	0.04	
Gamma HCH (Lindane)	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	2.0	
Endosulfan (alpha, beta and sulphate)	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	0.40	
DDT(o,p and p,p-isomers of DDT) (DDE and DDD)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	1,0	
Discipline : Biological		Grou	p: Water		
Total Coliform (Qualitative)	Per 100 mL	IS 15185: 2021	Not Detected	Shall not be detected	
Escherichia coli (Qualitative)	Per 100 mL	IS 15185: 2021	Not Detected	- Shall not be detect	

Remarks: pH done at Site.

Reviewed by

Akash Kumar Guality Manago: ****End of Report****

Authorised Signatory Dr. Deapandra Kumar Sinha Ph. D. Environmental Energy Technical Manager

Page 4 of 4

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124

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Email: info@elespl.co.in , eles.ranchi@gmail.com Phone no.: 0651-2290103 Website : www.elespl.co.in

TEST REFORT						
Test Report No.	: ELES/RNC/2025/1395	Report Release Date	: 03.03.2025			
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024			
CUSTOMER DET	TAILS	SAMPLE DETAILS				
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample Location of Sample	: ELES/RNC/2025/DW/1439 : 21.02.2025 : 24.02.2025 : Drinking Water : TAP Water : Jalim Village			
Mines Status	: Operational	Sampling Procedure	(Jalim & Sanai Bauxite Mine) : ELES/DOC/SMPL/01			
Period of Analysis	: 24.02.2025 to 03.03.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved			

TEST REPORT

Discipline : Chemical		Group : Water		Regulatory Limit as per IS 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Mineral Oil*	mg/L	IS 3025 (Part-39): 2021, Clause 6 Infrared Spectroscopic method.	BDL (DL: 0.01)	0.5	No Relaxation

Remarks: (*) Parameters are outsourced to other Lab.

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Akash Kumur Quality Monacco ****End of Report****

Page 1 of 1

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Save Environment Save Fortune

ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT. LTD.

Plot No.30, Mansarovar Enclave, Tupudana, Hatia, Ranchi-834003, Jharkhand.

Jalim&Sanai Bauxite Mine-Environmental Monitoring Report

March 2025



CONTENT

Hind	alco Industries : Jalim & Sanai Bauxite Mine Environmental Monitoring Report March 2025 Jalim & Sanai Bauxite Mine
	AMBIENT AIR QUALITY- CORE ZONE
1	Mine Pit Quarry No 2
2	Nava PrathmikVidyalay (DhankaToli)
3	Mine Pit Quarry No 3
4	Near Colony
	AMBIENT AIR QUALITY- BUFFER ZONE
1	Near Banjari Village
2	Near Pauri Village
3	Near Harup Village
4	Near Paintoli Village
	AMBIENT NOISE
	WORKZONE NOISE



TEST REPORT

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D1Z4

ENGINEERING SERVICES PVT. LTD.



Email: infa@elespl.co.in, eles.ranchi@amail.com Phone no.: 0651-2290103 Website : www.elespl.co.in

Test Report No.	: ELES/RNC/2025/2077	Report Release Date	: 26.03.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000002034F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2025/AA/2356 : Mine Pit Quarry No 2, Jalim & Sanai Bauxite Mine (12,14ha) : 17.03.2025 to 18.03.2025 : 20,03.2025 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 20.03.2025 to 26.03.2025	Sampling Done By Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION

 I
 Average Temperature (°C)
 : 28
 2
 Barometric Pressure (mmHg)
 : 720

 3
 Relative Humidity (%)
 : 59
 4
 Weather Condition
 : Clear

Discipline : Chemic	al	Group :	Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	$\mu g/m^3$	IS 5182 (Part- 23): 2022	86	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	41	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m³	1S 5182 (Part- 2/Sec1): 2023	14.3	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6); 2022	33.6	80 (24hrs)
Ozone (O ₁)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	1S 5182 (Part- 10): 2019 (NDIR Method)	1.22	2 (8hrs)
Lead (Pb)	µg/m³	1S 5182 (Part- 22): 2019	0.024	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m"	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by Akash Kumar ality Manage

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Dr. DeopendisdeSignateonha

****End of Report****

Ph. D. Environmental Engg. Technical Manager

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) G5T NO:- 20AAECE9713D1Z4

ENGINEERING SERVICES PVT. LTD.



Email: info@elespl.co.in. eles.ronchi@gmail.com Phone no.: 0651-2290103 Website : www.elespl.co.in

TEST REPORT					
Test Report No.	: ELES/RNC/2025/2078	Report Release Date	: 26.03.2025		
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024		
ULR No.	: TC1358725000002035F				

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/2357 : Nava Prathmik Vidyalay(DhankaToli Jalim & Sanai Bauxite Mine (12.14ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 17.03.2025 to 18.03.2025 : 20.03.2025 : Ambient Air	
Mines Status : Operational		Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	: 20.03.2025 to 26.03.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Scaled & Preserved	

METEOROLOGICAL INFORMATION

: 720 2 Barometric Pressure (mmHg) Average Temperature (°C) : 28 1 : Clear : 59 Weather Condition 4 Relative Humidity (%) 3

Test Protocol 1S 5182 (Part- 23): 2022	Result 71	Regulatory Limit
	71	100.02505200
10 5100 (0		100 (24hrs)
18 5182 (Part- 24): 2019	40	60 (24hrs)
IS 5182 (Part- 2/Sec1): 2023	12.7	80 (24hrs)
IS 5182 (Part- 6): 2022	28.2	80 (24hrs)
IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
IS 5182 (Part- 10): 2019 (NDIR Method)	1.24	2 (8hrs)
1S 5182 (Part- 22): 2019	0.015	1 (24hrs)
1S 5182 (Part- 26); 2020	<6.0	20 (Annual)
ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
ELES/GC/SOP/06: 2023	<2.5	05(Annual)
ELES/GC/SOP/05: 2023	<0.5	01(Annual)
	IS 5182 (Part- 6): 2022 IS 5182 (Part- 9): 2019 IS 5182 (Part- 25): 2018 IS 5182 (Part- 10): 2019 (NDIR Method) IS 5182 (Part- 22): 2019 IS 5182 (Part- 26): 2020 ELES/AIR/SOP/01: 2021 ELES/GC/SOP/06: 2023	IS 5182 (Part- 2/Sec1): 2023 12.7 IS 5182 (Part- 6): 2022 28.2 IS 5182 (Part- 9): 2019 <20.0

Reviewed by Akash Kumar

Ph. D. En

Authorised Signatory Dr. Deependra Kumar Sinha

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Page 1 of 1

Page 1 of 1
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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124

ENGINEERING SERVICES PVT. LTD.



Email: info@elespl.co.in, eles.ranchi@gmail.com Phone no.: 0651-2290103 Website : www.elespl.co.in

Test Report No.	: ELES/RNC/2025/2079	Report Release Date	: 26.03.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000002036F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure Sampling Done By	: ELES/RNC/2025/AA/2358 : Mine Pit Quarry No 3, Jalim & Sanai Bauxite Mine (12.14ha) : 17.03.2025 to 18.03.2025 : 20.03.2025 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 20.03.2025 to 26.03.2025	Sample Condition	: Sealed & Preserved

1	Average Temperature (°C) : 28	2	Barometric Pressure (mmHg)	: 720
-	Relative Humidity (%) : 59	4	Weather Condition	: Clear

Discipline : Chemic	al	Group :	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	75	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	51	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	12.3	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	30.8	80 (24hrs)
Ozone (O ₁)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (Shrs)
Ammonia (NH ₁)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.28	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.028	1 (24hrs)
Nickel (Ni)	ng/m	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C6H6)	µg/m?	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

attra sem Reviewed by Akash Kumar

****End of Report****

Authorised Signatory Dr. Deependra Rumar Sinha Ph. D. Environmental Enge

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ENGINEERING SERVICES PVT. LTD.



Email: info@elespl.co.in, eles.ranchi@amail.com Phone na.: 0651-2290103 Website : www.elespl.co.in

Test Report No.	: ELES/RNC/2025/2080	Report Release Date	: 26.03.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000002037F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure Sampling Done By	: ELES/RNC/2025/AA/2359 : Near Colony; Jalim & Sanai Bauxite Mine (12.14ha) : 17.03.2025 to 18.03.2025 : 20.03.2025 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 20.03.2025 to 26.03.2025	Sample Condition	: Sealed & Preserved

1	Average Temperature (°C) : 28	2	Barometric Pressure (mmHg)	: 720
3	Relative Humidity (%) : 59	4	Weather Condition	: Clear

Discipline : Chemic	al	Group :	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	76	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	15 5182 (Part- 24): 2019	43	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part-2/Sec1): 2023	13.7	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	1S 5182 (Part- 6): 2022	26.3	80 (24hrs)	
Ozone (O ₃)	µg/m ³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m³	15 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.18	2 (8hrs)	
Lead (Pb)	µg/m²	1S 5182 (Part- 22): 2019	0.022	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C ₈ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by Akash Kumar

Authorised Signatory

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Dr. Deependra Kumar Sinha

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124 ENGINEERING SERVICES PVT, LTD.

Email: <u>Info@elespl.co.in</u>, <u>eles.ranchi@gmail.com</u> Phone no.: 0651-2290103 Website : www.elespl.co.in



			TEST	REF	ORT		
Test Report No.	: ELES/RNC/2025/2013		Re	port Release Date	: 24.03.2025		
Work Order No.	: 13612312113		W	ork Order Date	: 28.03.2024		
ULR No.	: TC1358	3725000001971	F				
CUSTOMER DET	AILS			SA	MPLE DETAILS		
Customer Name Address	: Loharda	indalco Industries Limited ohardaga, Jharkhand-835302		Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure		: ELES/RNC/2025/AA/2155 : Near Banjari Village Serengdag-A Bauxite Mines (155.81ha) : 15.03.2025 to 16.03.2025 : 17.03.2025 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operatio	Marin	Sampling		npling Done By	: ELES Pvt. Ltd.	
Period of Analysis	; 17,03.20	25 to 24,03,202			mple Condition	: Sealed & Pre	served
METEOROLOGI Average Temp Relative Humid	erature (°C)	610 <u>10107</u> 680		2	Barometric Pressur Weather Condition	And the Real Property and the Real Property lies	720 Clear
Discipline	: Chemic	al		-	Group :	Atmospheric l	Pollution
Paramet		Unit		Test Protocol		Result	Regulatory Limi
Particulate Matter (I	PM10)	µg/m ³	IS 51	82 (Part- 23): 2022	72	100 (24hrs)
Particulate Matter (I	PM2.5)	µg/m ³	IS 51	82 (Part- 24): 2019	50	60 (24hrs)
Sulphur Di-Oxide (S	SO ₁)	µg/m ³	IS 5182	2 (Pa	rt- 2/Sec1): 2023	12.4	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	15 5	182 (Part- 6): 2022	30.7	80 (24hrs)
Ozone (O ₃)		µg/m ³	1S 5	1S 5182 (Part- 9): 2019		<20.0	100 (8hrs)
Ammonia (NH ₂)		µg/m ³	IS 51	182 (Part- 25): 2018		<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³		82 (Part- 10): 2019 (NDIR Method)		<1.0	2 (8hrs)
Lead (Pb)		µg/m ³	IS 51	82 (1	Part- 22): 2019	0.028	1 (24hrs)
Nickel (Nii)		ng/m ³	IS 51	82 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)		ng/m [®]	ELES	/AIF	/SOP/01:2021	<2.0	06 (Annual)
Benzene (C _a H _a)		µg/m ³	ELES	/GC	/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene		ng/m ³	ELES	VGC	/SOP/05: 2023	<0.5	01(Annual)

Reviewed by Akash Kumar

Sinks Authorised Signatory

Dr. Deepandra Kumar Sinha

****End of Report****

with or respect

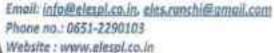
Ph. D. Environmental-Gagg

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO:- 20AAECE9713D124

ENGINEERING SERVICES PVT. LTD.





			TEST	REI	PORT		
Test Report No.	: ELES/RNC/2025/2014			Report Release Date : 24.03.2025			
Work Order No. : 13612312113		W	ork Order Date	: 28.03.2024			
ULR No.	: TC1358	725000001972	F				
CUSTOMER DET	AILS			SA	MPLE DETAILS		
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational		Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure		: Near Pauri Bauxite Mit : 15.03.2025 : 17.03.2025 : Ambient Ai : ELES/DOC	: ELES/RNC/2025/AA/2156 : Near Pauri Village Serengdag-A Bauxite Mines (155.81ha) : 15.03.2025 to 16.03.2025 : 17.03.2025 : Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis : 17.03.2025 to 24.03.2025		Sampling Done By Sample Condition			: ELES Pvt. Ltd. : Sealed & Preserved		
METEOROLOGI							
1 Average Temp		:28		2	Barometric Press	the second s	720
3 Relative Humic	lity (%)	: 60		4	Weather Condition	on ç C	Ilear
Discipline	e: Chemica	il.			Group	o : Atmospheric I	Pollution
Paramet	er	Unit		Test Protocol		Result	Regulatory Limit
Particulate Matter (I	PM10)	µg/m ³	IS 51	IS 5182 (Part- 23): 2022 IS 5182 (Part- 24): 2019		73	100 (24hrs) 60 (24hrs)
Particulate Matter (1	PM2.5)	µg/m ³	IS 51			42	
Sulphur Di-Oxide (S	SO ₂)	µg/m ³	IS 5182	182 (Part- 2/Sec1): 2023		10.9	80 (24hrs)
Nitrogen Di-Oxide ((NO ₂)	µg/m ³	IS 5	5182 (Part- 6): 2022		24.8	80 (24hrs)
Ozone (O ₃)		µg/m ³	IS 5	5182 (Part- 9): 2019		<20.0	100 (8hrs)
Ammonia (NH3)		µg/m³	IS 51	82 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (6	CO)	mg/m ³			Part- 10): 2019 R. Method)	<1.0	2 (8hrs)
111		µg/m³	IS 51	A MARKAN AND A MARKAN A		i (24hrs)	
and a second		a rest to the second			A STATE OF A		

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	Re	vles		_		-
	Alto	shi	Kazi	hār		

1.0

Nickel (Ni)

Arsenic (As)

Benzene (C.H.)

Benzo-(a)-Pyrene

ng/m*

ng/m

µg/m

ng/m3

۱'n

<5.0

< 2.0

<2.5

<0.5

20 (Annual)

06 (Annual)

05(Annual)

(Isunnal)

****End of Report****

IS 5182 (Part- 26): 2020

ELES/AIR/SOP/01: 2021

ELES/GC/SOP/06: 2023

ELES/GC/SOP/05: 2023

Authorised Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental Enga

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO:- 20AAECE9713D124 ENGINEERING SERVICES PVT. LTD. Email: info@elespl.co.in, eles.ranchi@gmail.com

Phone no.: 0651-2290103 Website : www.elespi.co.in



				TEST	REI	PORT		
Te	st Report No.	: ELES/RNC/2025/2015		Re	port Release Date	: 24.03.2025		
We	ork Order No.	: 13612312113		W	ork Order Date	: 28.03.2024		
UL	R No.	: TC1358	725000001973	F				
Ct	STOMER DET	and the second se			SA	MPLE DETAILS		
Ad	atomer Name dress nes Status	: Lohardag	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational : 17.03.2025 to 24.03.2025		Lo Sa Sa Ty Sa	mple Ref. No. cation mpling Date mple Received Date pe of Sample mpling Procedure	: ELES/RNC/2025/AA/2157 : Near Harup Village Serengdag- Bauxite Mines (155.81ha) : 15.03.2025 to 16.03.2025 : 17.03.2025 : Ambient Air : ELES/DOC/SMPL/02	
Pet	iod of Analysis				 Sampling Done By Sample Condition 		: ELES Pvt. Ltd. : Sealed & Preserved	
MI	TEOROLOGI	CAL INFO	RMATION					
1 Average Temperature (°C) : 28		2	Barometric Pressure	(mmHg) : 7	20			
3	Relative Humic	fity (%)	: 60		4	Weather Condition	:0	llear
	Discipline	e: Chemica	4			Group :	Atmospheric I	Pollution
	Paramet	er	Unit		Test	Protocol	Result	Regulatory Limi
Par	ticulate Matter (I	PM10)	µg/m ³	IS 5	\$ 5182 (Part- 23): 2022		77	100 (24hrs)
Par	ticulate Matter (I	PM2.5)	µg/m ³	IS 5	IS 5182 (Part- 24); 2019		43	60 (24hrs)
Sul	phur Di-Oxide (S	SO ₂)	µg/m ³	IS 518	(Pa	rt- 2/Sec1): 2023	12.2	80 (24hrs)
Nit	rogen Di-Oxide ((NO ₂)	µg/m ³	IS :	5182	(Part- 6): 2022	25.1	80 (24hrs)
Oz	one (O ₃)		µg/m ³	15.5	182 (Part- 9): 2019		<20.0	100 (8hrs)
An	imonia (NH3)		µg/m ³	IS 5	S 5182 (Part- 25): 2018		<10.0	400 (24hrs)
Ca	bon Monoxide (CO)	mg/m ³	IS 5	IS 5182 (Part- 10): 2019 (NDIR Method)		1.37	2 (8hrs)
Lei	id (Pb)		µg/m ³	IS 5	182 (1	Part- 22); 2019	<0.002	1 (24hrs)
Nit	kel (Ni)		ng/m*	IS 5	182 (Part- 26): 2020	<6.0	20 (Annual)
An	enic (As)		ng/m ³	ELE	S/AII	R/SOP/01: 2021	<2.0	06 (Annual)
Be	izene (C ₆ H ₆)		µg/m³	ELE	s/oc	/SOP/06: 2023	<2.5	05(Annual)
n.	nzo-(a)-Pyrene		ng/m)	ELE	S/GC	/SOP/05: 2023	<0.5	01(Annual)

Reviewed by Akash Kumar

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Thinks Authorised Signatory

****End of Report****

Dr. Deependra Kumar Sinha

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Lead (Pb)

Nickel (Ni)

Arsenic (As)

Benzene (CaHa)

Benzo-(a)-Pyrene

ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO:- 20AAECE9713D1Z4

ENGINEERING SERVICES PVT. LTD.

Email: info@elecol.co.in, eles.ranchi@amail.com Phone no.: 0651-2290103 Website : www.elespl.co.in



			TEST	REP	ORT			
Test Report No.	: ELES/F	: ELES/RNC/2025/2016		Re	port Release Date	: 24.03.2025		
Work Order No.	: 1361231	: 13612312113		W	ork Order Date	: 28.03.2024		
ULR No.	: TC1358	725000001974	F					
CUSTOMER DE	TAILS		_	SA	MPLE DETAILS			
Customer Name Address Mines Status		o Industries Lim ga, Jharkhand-8 nal			Location		: ELES/RNC/2025/AA/2158 : Near Paintoli Village Serengdag-/ Bauxite Mines (155.81ha) : 15.03.2025 to 16.03.2025 : 17.03.2025 : Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 17,03,20	25 to 24.03,202	15	Sampling Done By Sample Condition		: ELES Pvt. Ltd. : Sealed & Preserved		
METEOROLOG	ICAL INFO	RMATION						
1 Average Tem	perature (°C)	: 28	_	2	Barometric Pressure		720	
3 Relative Hurr	idity (%)	: 60		4	Weather Condition	Clear		
Discipli	ne : Chemic	al			Group :	Atmospheric l	Pollution	
Param	eter	Unit		Test	Protocol	Result	Regulatory Limit	
Particulate Matter	(PM10)	µg/m ³	IS 51	82 (Part- 23): 2022	73	100 (24hrs)	
Particulate Matter	(PM2.5)	µg/m ³	IS 5	182 (Part- 24): 2019	39	60 (24hrs)	
Sulphur Di-Oxide	(SO ₂)	µg/m ³	IS 518	2 (Part- 2/Sec1): 2023		11.7	80 (24hrs)	
Nitrogen Di-Oxid	(NO ₂)	µg/m ³	IS 5	182 (Part- 6): 2022	25.4	80 (24hrs)	
Ozone (O ₃)		µg/m²	IS 5	182 (Part- 9); 2019	<20.0	100 (8hrs)	
Ammonia (NH3)		µg/m³	IS 51	182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide	(CO)	mg/m ³		IS 5182 (Part- 10): 2019 (NDIR Method)		1.26	2 (8hrs)	

Reviewed by Alcash Kumze

0.031

<6.0

<2.0

2.5

<0.5

1 (24hrs)

20 (Annual)

06 (Annual)

05(Annual)

01(Annual)

Authorised Signatory Dr. Deependra Kumar Sinha

Complete Management

ug/m

ng/m

ng/m*

µg/m

m'an

****End of Report****

(NDIR Method)

IS 5182 (Part- 22): 2019

IS 5182 (Part- 26): 2020

ELES/AIR/SOP/01: 2021

ELES/GC/SOP/06: 2023

ELES/GC/SOP/05: 2023

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TTC	T DEDADT
11.5	T REPORT
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Test Report No.	: ELES/RNC/2025/2086	Report Release Date	: 26.03.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC1358725000002043F			

CUSTOMER DETAILS		SAMPLE DETAILS			
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sampling Date Sampling Received Date Type of Sample Sampling procedure Sampling Done By	: 17.03.2025 to 18.03.2025 : 20.03.2025 : Ambient Noise : ELES/DOC/SMPL/03 : ELES Pvt. Ltd.		
Mines Status	: Operational	Period of Analysis	: 20.03.2025 to 25.03.2025		

MI	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 28	2	Barometric Pressure (mmHg)	: 720
3	Relative Humidity (%)	: 59	4	Weather Condition	; Clear

Discipline : Chemical	Group : Atmospheric Pollution				
Location	Unit	Test Protocol	Resu	ılt	Regulatory Limit (Industrial Zone)
SWAT TO CAT THE TAXABLE			Time	Leq	_
Jalim & Sanai Bauxite Mines (12.14ha)	dB(A)	15 9989: 2020	Day Time	65	75 dB(A) Day Time
Sample ID: ELES/RNC/2025/AN/2365			Night Time	46	70 dB(A) Night Time

Reviewed by Akash Kumar Quality Manager

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental Engg. Technical Manager

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"Sava Environment, Save Putare"



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١.	Email: Info@elespi.co.in, eles.ronchi@gmail.com
1	Phone no.: 0651-2290103
1	Email: Info@elespl.co.in, eles.ranchi@gmail.com Phone no.: 0651-2290103 Website : www.elespl.co.in

TEST REPORT						
Test Report No.	: ELES/RNC/2025/2089	Report Release Date	: 26.03.2025			
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024			
ULR No.	: TC1358725000002046F					

CUSTOMER DET	TAILS	SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sampling Date Sampling Received Date Type of Sample Sampling procedure Sample Drawn By	: 18.03.2025 : 20.03.2025 : Workzone Noise : ELES/DOC/SMPL/03 : ELES Pvt. Ltd.	
Mines Status	: Operational	Period of Analysis	: 20.03 2025 to 25.03 2025	

MI	ETEOROLOGICAL INFORMATION			
I.	Average Temperature (°C) : 29	2	Barometric Pressure (mmHg)	: 720
3	Relative Humidity (%) : 60	4	Weather Condition	: Clear

Location	Unit	Test Protocol	Result		Regulatory Limit (Industrial Zone)	
Near Loader –			Time	\mathbf{L}_{eq}	_	
Jalim & Sanai Bauxite Mine (12.14ha)	dB(A)	IS 4758: 2017	Day Time	78	90 dB(A)	
Sample ID: ELES/RNC/2025/WN/2368						

Reviewed by Akash Kumar

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Akash Kumar Quality Managor

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental Engg. Technical Manager

Page 1 of 1

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Save Environment, Save Future"



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.

Basudev Gangopadhyay AVP (Planning, Environment & Compliance)

Annexure 4

	Production, Mined Out, Back Filled and Over Burden removal from October'24 to March'25							
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	86061	1.53	0.695	88218.66
3	Hisri (New) Bauxite Mine	14.55	100000	19.07.1981 to 31.03.2030	25362	0.345	0.10	30825.23
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	109753	2.12	7.6	332929.81
7	Sherangdag-A Bauxite Mine	155.81	260000	16.10.1974 to 31.03.2030	2989	0.02	0.02	2110.0
8	Serangdag-B Bauxite Mine	77.89	100000	04.10.1978 to 31.03.2030	35253	0.756	0.35	38119.67
9	Jalim & Sanai Bauxite Mine	12.14	50000	16.10.1974 to 31.03.2030	24760	0.13	0.08	12444.82
10	Gurdari Bauxite Mine	584.19	325000	23.03.1985 to 22.03.2035	105401	4.42	3.76	185747.47
11	Kujam - I Bauxite Mine	80.87	150000	13.03.2006 to 12.03.2056	NIL	NIL	2.54	NIL
12	Kujam - II Bauxite Mine	157.38	300000	24.03.2006 to 23.03.2056	61250	2.40	4.72	136798.61
13	Amtipani Bauxite Mine	190.95	150000	13.03.2006 to 12.03.2056	62240	4.047	6.423	255249.72

	Minerals & Minerals Limited							
14	Pakhar (109.507) Bauxite Mine	109.507	280000	26.07.2008 to 25.07.2058	112559	0.44	3.62	255124.1
15	Pakhar (15.58) Bauxite Mine	15.58	60000	28.04.1965 to 31.03.2030	5015	0.26	0.42	11644.5
16	Bimarla Bauxite Mine	134.526	300000	18.07.2009 to 17.07.2059	93500	3.956	5.37	156892.41
17	Amtipani Chirodih Bauxite Mine	130.01	450000	11.01.2017 to 10.01.2067	114100	5.43	5.133	233823.46

*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 2024-25

The composite cost during the year 2024-25 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 2024-25 (From Oct'24 to Mar'25)	Actual (in Rupees) FY 2024-25 (From Oct'24 to Mar'25)
1	Pollution Control and Environmental Monitoring	61,35,000.00	42,08,879.10
2	Reclamation/ Back filing & Rehabilitation**	5,62,80,000.00	5,32,33,879.71
3	Green belt, Plantation & Water sprinkling arrangement	73,42,000.00	43,51,560.28
4	Rural Development	2,75,00,000.00	3,13,06,810.81

**Part of OB removed cost

Basudev Gangopadhyay AVP (Planning, Environment & Compliance)