

Date: 16th May 2025

HIL/LHD/ENV/MoEF&CC/059

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 Bagru (75.41 Ha) Bauxite Mining Project of M/s Hindalco Industries Limited, Lohardaga Jharkhand for the period from October 2024 to March 2025.

Ref: Environmental Clearance Letter No. J-11015/585/2007-IA II (M), dated 4th February 2011.

Dear Sir,

With reference to the above, we are submitting herewith the Compliance status report of EC conditions for Bagru (75.41 Ha) Bauxite Mining Project of M/s Hindalco Industries Limited, Lohardaga 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
75.41	85000	22.01.1974 to 31.03.2030

Hope you will find the same in order.

Thanking You

Yours faithfully,

For Hindalco Industries Limited

Basudev Gangopadhyay

AVP (Planning, Environment & Compliance)

Enclosure: - As Above

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

Name of the Project : Bagru Bauxite Mine (75.41 ha)

M/s Hindalco Industries Limited

Environment Clearance No & date : J – 11015/585/2007-IA.II (M), dated 04.02.2011

Period of compliance Report : From 1st October 2024 to 31st March 2025

CONDITIONS: -

Specific Conditions: -

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

Reply: - Implementations of stipulated conditions in NOC are fulfilled post which consent to operate have been obtained from time to time when mine was operational. However, mine has been non-operational since November 2013.

Condition ii: - The environmental clearance is subject to grant of forestry clearance for diversion of 19.56 ha forestland.

Reply: - Compensatory land for forest diversion has been identified and NOC from DFO, DC and Registrar has already been obtained. Registration and Mutation in favor of State Forest Department for CA land have been completed. Obtaining forest clearance is under process. FC proposal has been recommended by the DFO, CF, PCCF and PCCF (Nodal) had forwarded to Secretary Forest, Govt of Jharkhand for further needful action. Some Queries have been raised by Secretary Forest and subsequently reply has also been submitted. Presently, Mine is not in operation since November 2013.

Condition iii:- The mining operation shall be restricted to above ground water table and it should not intersect groundwater table. In case of working below ground water table, prior approval of the Ministry of Environment & Forest and Central Ground Water Authority shall be obtained for which a detailed hydro-geological study shall be carried out.

Reply: - No mining operation has been carried out during the above period. Mine has been non-operational since November 2013.

Condition iv: - The project proponent shall ensure that no natural water course and/or water resources shall be obstructed due to any mining operations.

Reply: - No mining operation was carried out during the above period. Mine has not been in operation since November 2013. No natural water course /water resource was obstructed /will be obstructed due to mining operation.

Condition v: - Topsoil should be temporarily stacked with proper slope at earmarked site(s) only with adequate measures and it should not be kept unutilized for a period of more than 3 years. The topsoil shall be used for land reclamation and rehabilitation of mined out areas.

Reply: - Sequential backfilling and reclamation of mined out area were exercised when mine was operational. No mining operation was carried out during the above period and as on date. Mine has been non-operational since November 2013.

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

Reply: - No mining operation was carried out during the above period and as on date. Cumulative 32.05 ha areas have been planted till date. Monitoring and management of rehabilitated areas is in progress through supervision. Old dumps are stabilized. There is no active external dump as Mine has not been in operation since November 2013. Currently, the MoEF&CC regional office is located at Ranchi.

Condition vii: - The void left unfilled in an area of 1.76 ha shall be converted into water body. The higher benches of excavated void/mining pit shall be traced and plantation done to stabilize the slopes. The slopes of higher benches shall be made gentler for easy accessibility by local people to use the water body. Peripheral fencing shall be carried out along the excavated area.

Reply: - The earlier mined out area converted into water body which still exist. No mining operation has been carried out during the above period and as on date. Mine has been non-operational since November 2013.

Condition viii :- Catch drains and siltation ponds of appropriate size shall be constructed around the working pit, sub-grade dump, and mineral dumps to arrest flow of silt and sediment directly into Chanpi Nallah, Sukri Nadi and others water bodies. 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 drains settling tanks and check dams of appropriate size, gradient and length shall be constructed for both around the mine pit and sub-grade dump to prevent run off of water and flow sediments directly into Chanpi Nallah, Sukri Nadi and other water

bodies and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years date) and maximum discharge in the area adjoin the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and desilted at regular intervals.

Reply: - Mine has been non-operational since November 2013. No mining operation was carried out during the above period and as on date. To collect and manage rainwater during monsoon rains, pit sumps were made, part of mined out area were used as settling tank. Settled water was used for sprinkling quarry, roads, green belt development, etc. Compliance with this provision will further continue post resumption of the mining operation. Water harvesting structure of adequate capacity exists in lease area to harvest rainwater.



Rainwater Harvesting Structure

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

Reply: - The dimensions of retaining wall of OB dumps are based on average rain fall. The dump is stabilized. The compliance to this provision was being practiced when mine was in operation and same will continue post resumption of mining operation. Mine has been non-operational since November 2013. No active external dump exists in the mine lease area.

Condition x: - Plantation shall be raised in an area of 50.11 ha including a 7.5m wide green belt in the safety zone around the mining lease by planting the native species around ML area, backfilled and reclaimed area, around water body, roads etc. in consultation with the local DFO/Agriculture Department. At least 1500 trees per year shall be planted with a tree density of 1000 trees per hectare.

Reply: - Plantation on Bagru plateau was carried out progressively. Till now 32.05 Ha areas are already planted.



Plantation at Mine

Bio-diversity Park - A classic bio park (Birsa Upvan) has been created to validate that all species can grow. We have also developed a tea garden, strawberry garden, spice garden, medicinal garden, Nakshatra Van, VR-DOME & butterfly garden to build a unique Bio-diversity Park.



Biodiversity Park at Bagru in reclaimed area

Condition xi:- Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as around crushing and screening plant, loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the AAQ parameters conform to the norms prescribed by the central Pollution Control Board in this regard.

Reply: - Mine has been non-operational since November 2013. No mining operation was carried out during the above period and as on date.



Mobile Water Tanker with Sprinkling Facility

Condition xii:- 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: - System is in place and same will continue in future post resumption of mining activity. Mine has not been in operation since November 2013. Rainwater harvesting pond and sump is already in place as water conservation measures.

Condition xiii:- 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 - premonsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to MOEF, its Regional Office, Bhubaneshwar; Central Ground Water Authority and Central Ground Water Board.

Reply: - Mine has been non-operational since November 2013. However, Regular monitoring of groundwater level and quality of the area is being carried out by establishing a network of existing wells/Piezometers. Reports are being sent regularly to the regional office of Ministry, CGWA and JSPCB. The Ground water level from October 2024 to March 2025 and quality Monitoring report of post-monsoon season and Winter season are attached as **Annexure** – 1 & 2.

Condition xiv: -The project authority shall obtain necessary prior approval of the competent authority for drawl of requisite quantity of water (surface water and ground water) for the project.

Reply: - Harvested rainwater during rainy season is being used for sprinkling on haul roads and raising plantation. No surface water from natural resource was/is being/will be used for mining operation. Mine is not in operation since November 2013. However, we have obtained NOC for ground water abstraction from CGWA/CGWB for drinking purposes only. A copy of NOC is attached below:



Ground Water NOC

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

Reply: - Mine has been non-operational since November 2013. No mining operation was carried out during the above period and as on date.

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

Reply: - Mine has been non-operational since November 2013. No mining operation was carried out from October 2024 to March 2025 and as on date. However, the blasting time is fixed during 1.00 PM - 2.00 PM (whenever will be done post resumption of mining operation). The controlled blasting method will be practiced once mine becomes operational. All efforts will be taken to mitigate the impact of blasting post resumption of mining activities.

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

Reply: - Mine has been non-operational since November 2013. No mining operation was carried out during the above period and as on date.

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

Reply: - The sewage water from domestic use is collected and treated in a Sewage Treatment Plant. No effluent is generated as Mine is not in operation since November 2013. However, Effluent treatment plant (ETP) has been installed in plateau for the entire Bagru group of Mines. The photographs of STP and ETP is enclosed below:





Sewage Treatment Plant (STP)



Effluent treatment plant (ETP)

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

Reply: - Mine has been non-operational since November 2013. No mining operation was carried out during the above period and as on date. Mine will be operative post obtaining renewed consent to operate and other clearances as applicable.

Condition xx:- Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

Reply: - We believe that the wellbeing of all the labours working within the site should be taken care of on a priority basis, so that they can work in a stress-free environment. Therefore, all the necessary infrastructure and basic facilities mentioned above are being taken care of.

Condition xxi:- The critical parameters such as RSPM (Particulate matter with size less than 10micron (i.e., PM10, PM2.5) and NOX in the ambient air within the impact zone, peak particle velocity at 300m distance or within the nearest habitation, whichever is closed shall be monitored periodically. Further, quantity of discharged water shall also be monitored [TDS, DO, PH and TSS]. The monitored data shall be uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the Company in public domain. The Circular No. J-20012/1/2006-IA.II (M) dated 27.05.2009 issued by Ministry of Environment and Forest, which is available on the website of the Ministry www.envfor.nic.in shall also be referred in this regard for its compliance.

Reply: - Regular Monitoring of AAQ and water quality is being carried out through an NABL accredited laboratory. Monitored data is being uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the Company in public domain. The Monitoring report for the period from October 2024 to March 2025 is attached as **Annexure 2**.

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

Reply: - Progressive mine closure plan along with mining scheme has been approved by IBM. FMCP (part area) has also been approved by IBM. Final mine closure plan (FMCP) for total lease area will be prepared 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, mining operations will be done post resumption of mining operations. Currently, Mine is not in operation since November 2013.

General Conditions: -

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

Reply: - Noted. Mine has been non-operational since November 2013.

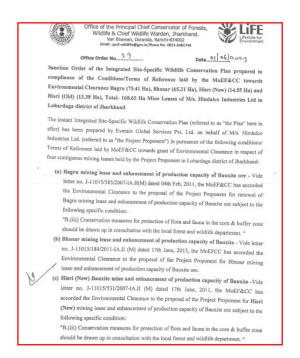
Condition ii: - No change in the calendar plan including excavation, quantum of mineral bauxite and waste should be made.

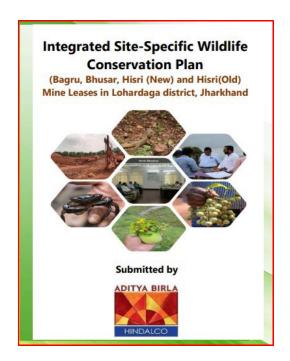
Reply: - The Mine is not in operation since November 2013. No mining operation was carried out during the above period and as on date. Data pertaining to excavation, quantum of mineral bauxite etc. are attached as **Annexure 4**. We agree to comply with the provision stipulated herein post resumption of mining operations.

Condition iii: - Conservation measures for protection of flora and fauna in the core and buffer zone should be drawn up in consultation with the local forest and wildlife department.

Reply: - Mine has been non-operational since November 2013. Suitable conservation measures were undertaken in the past when mine was operational as per plan submitted and is being done continuously.

Also, we have been granted letter of approval for the Integrated Site-specific Wildlife Conservation Plan via Office Order No.29 dated 01.06.2023 by PCCF, Wildlife, Ranchi. The same is enclosed below:





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

Reply: - Four ambient air quality monitoring stations in Core Zone as well as Buffer Zone have been established and regular monitoring is being carried out. Reports are being periodically furnished to SPCB/MoEF&CC. Monitoring reports are attached as above.

Condition v: - Data on ambient air quality (RPM, SPM, SO2, and NOx) 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: - Monitoring reports are attached as **Annexure-2**.

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

Reply: - The Mine is not in operation since November 2013. No mining operation was carried out during the above period and as on date. We agree to comply with the provision stipulated herein post resumption of mining operations.

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

Reply: - The Mine is not in operation since November 2013. No mining operation was carried out during the above period and as on date.

We agree to comply with the provision stipulated herein post resumption of mining operation as complied in past.

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

Reply: - The Mine is not in operation since November 2013. No mining operation was carried out during the above period and as on date.

However, Effluent treatment plant (ETP) has been installed for workshop effluent in plateau for entire Bagru group of Mines. Photograph of ETP is already attached as above.

Condition ix:- Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. 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: - The Mine is not in operation since November 2013. No mining operation was carried out during the above period and as on date.

We agree to comply with the provision stipulated herein post resumption of mining operation as complied in past.

Condition x:- 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: - Adhering to our environmental policies and in order to create more awareness at mines site regarding environment, separate Environmental Management Cell (EMC) has been constituted and is functioning effectively. Copy of the same is attached as **Annexure-3**.

Condition xi: - The project authorities should inform to the Regional Office located at Bhubaneshwar 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: - Mining Plan along with Progressive mine Closure Plan has been approved by IBM, Ranchi. This was an operating Mine, hence provision related to Financial closure is not applicable. Currently, the MOEF&CC Regional Office is located at Ranchi.

Condition xii: - 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 Bhubaneshwar.

Reply: - The funds earmarked for environmental protection measures is being budgeted. Annual expenditure is being reported to the Ministry as attached as **Annexure 5**.

Condition xiii: - The Regional Office of this Ministry located at Bhubaneshwar 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: - Being complied with. Currently, the MOEF&CC Regional Office is located at Ranchi.

Condition xiv: -The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored data (both in hard copies as well as by e-mail to the Ministry of Environment and Forests, its Regional office Bhubaneshwar, the respective Zonal office of Central Pollution Control Board the State Pollution Control Board. The proponent shall upload the status of compliance of the environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the Ministry of Environment and Forest, Bhubaneshwar, the respective zonal office of Central Pollution Control Board and the State Pollution Control Board.

Reply: - Six monthly reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored data are being submitted by e-mail to the Ministry of Environment and Forests, its Regional office Ranchi, the respective Zonal office of Central Pollution Control Board the State Pollution Control Board and uploaded in company's website.

Condition xv: -A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad / Municipal corporation, urban local body and the local NGO, if any, from whom and suggestions / representations if any were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.

Reply: - A copy of clearance letter has been sent to concerned Panchayat, Zila Parishad / Municipal corporation, urban local body and the local NGO.

Condition xvi: - State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre 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 xvii: - The environment statement for each financial year ending 31st March in Form V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection)Rules,1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the Regional Office of the Ministry of Environment and Forests, Bhubaneswar by e-mail.

Reply: - Environment statement is being submitted regularly to Member Secretary, JSPCB. Also, the status of compliance of EC is uploaded on the website of the company and sent to regional office of MoEF&CC and JSPCB, Ranchi on regular basis. Currently, the MOEF&CC Regional Office is located at Ranchi.

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

Reply: - Noted and already complied.

Piezometer Monitoring Report

Mine: Bagru Bauxite Mine (75.41 Ha)

S No	Month	Ground Water Level (BGL) in meter
1	Oct-24	34.43
2	Nov-24	34.45
3	Dec-24	34.24
4	Jan-25	34.57
5	Feb-25	34.82
6	Mar-25	35.12

ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Bagru Bauxite Mine-Environmental Monitoring Report

October 2024



CONTENT

Hind	alco Industries : Bagro Bauxite Mine Environmental Monitoring Report	October 2024
	Bagru Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE	
1	Entrance Gate (Ropeway Loading Station)	
2	Administrative Office	
3	Near Shiv Temple Compound	
4	Near Weigh Bridge	
	AMBIENT AIR QUALITY- BUFFER ZONE	
1	Near Daldaliya Village	
2	Aditya School Gangupara	
3	Ropeway unloading station	
4	Ropeway Angle Station	





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

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in , eles.ranchi@gmail.com

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TEST REPORT

Test Report No.	: ELES/RNC/2024/6185	Report Release Date	: 25.10.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400004076F			

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7214 : Entrance Gate (Ropeway Loading
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	Stn); Bagru Bauxite Mine(75.41ha) ; 14.10.2024 to 15.10.2024 ; 18.10.2024
Mines Status	: Non Operational		: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 18.10.2024 to 24.10.2024		: Sealed & Preserved

M	ETEOROLOGICAL INFORMATION			
T	Average Temperature (°C) : 27	2	Barometric Pressure (mm)	Hg) : 742
_	Relative Humidity (%) : 65	- 4	Weather Condition	: Partly Cloudy

Discipline: Chemic	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2022	63	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	33	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	1S:5182 (Part- 2/Sec1): 2023	10.5	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	24.2	80 (24hrs)
Ozone (O ₃)	µg/m³	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/m³	IS 5182 (Part-10); 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	1S 5182 (Part- 22); 2019	0.013	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 ₆ H ₆)	μg/m³	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

Quality Manager

****End of Report****

Dr. Webperch & Kulles Sinha

Ph. D. Environmental Engg.

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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

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



15-13887

TEST REPORT

Test Report No.	: ELES/RNC/2024/6186	Report Release Date	: 25.10.2024	
Work Order No.	: 13612312113	Work Order Date	: 28,03,2024	
ULR No.	: TC135872400004077F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7215 : Administrative Office Bagru Bauxite Mine (75.41ha)
Address	Sample Received Date	Sample Received Date	: 14.10.2024 to 15.10.2024 : 18.10.2024 : Ambient Air
Mines Status	: Non Operational	Type of Sample Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 18.10.2024 to 24.10.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 27	2	Barometric Pressure (mmHg)	: 742
-	Relative Humidity (%)	: 65	4):	Weather Condition	: Partly Cloudy

ıl	Group:	Group: Atmospheric Pollution		
Unit	Test Protocol	Result	Regulatory Limit	
µg/m³	IS 5182 (Part-23): 2022	58	100 (24hrs)	
µg/m³	IS 5182 (Part- 24): 2019	26	60 (24hrs)	
μg/m³	IS 5182 (Part- 2/Sec1): 2023	6.3	80 (24hrs)	
μg/m³	IS 5182 (Part- 6): 2022	21.8	80 (24hrs)	
ug/m ¹	1S 5182 (Part- 9): 2019	<20.0	. 100 (8hrs)	
-	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	0.009	1 (24hrs)	
ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
ng/m³	ELES/AIR/SOP/01: 2021	<2.0	66 (Annual)	
µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	
	ру/m³ ру/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- 9): 2019 μg/m³ IS 5182 (Part- 25): 2018 mg/m³ IS 5182 (Part- 10): 2019 (NDIR Method) μg/m³ μg/m³ IS 5182 (Part- 22): 2019 ng/m³ IS 5182 (Part- 26): 2020 ng/m³ ELES/AIR/SOP/01: 2021 μg/m³ ELES/GC/SOP/06: 2023	Unit Test Protocol Result μg/m³ IS 5182 (Part- 23): 2622 58 μg/m³ IS 5182 (Part- 24): 2019 26 μg/m³ IS 5182 (Part- 2/Sec1): 2023 6.3 μg/m³ IS 5182 (Part- 6): 2022 21.8 μg/m³ IS 5182 (Part- 6): 2019 <20.0	

Reviewed by Akash Kumar

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D. Environmental Engg.

Page 1 of 1

Technical Manager

The Decement stated or Test Report, is issued by the Laboratory under General Testes and Confirmen, only on Company letter head in pre-approved former. The results observe in the Test Report refer or relates, only to the private head door, by the Laboratory state. The information stated on the Test Report reflects the findings done by the Laboratory at the time of encoleroment only and within the limits of client's instructions. The Laboratory is responsible the all the information of this provided on the report, sample the information which is precised by the ideas. The Report sample the information which is precised by the ideas. The Report sample the information which is precised by the ideas. The Report sample is full and any part of the report is not related on the published advertise that they have been provided from the instruction of the Laboratory. The Report in full or in part shall not be published, advertise used for any legal actions unless provided and participation advertise used for any legal actions unless provided and participation. securing until the stay wight authors into price parameters as been accorded from the Management of the Canadamy. Attention is the top to parameter of the Canadamy and offenders may be provinted to the fallow enter of the companies of the Test Report is artisarbil and offenders may be provided to the fallow enter of the law. All the complex from Regulatory bodies are to be accounted to up type of Observations or Complexity regarding the Reports shall be flow within 15 days from the Daw of Test Report relations of the true partial stand before, no completes will be accorded. The extra Test schedule manifold in Test Report is to Selection format. Alternative and NA Com Applicable; MDL Observations Limits LDL (Lower Detection Limits)



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TO-time?

TEST REPORT

Test Report No.	; ELES/RNC/2024/6187	Report Release Date	: 25.10.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400004078F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7216 : Near Shiv Temple Compound Bagru Bauxite Mine (75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 14.10.2024 to 15.10.2024 : 18.10.2024
Mines Status	: Non Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 18.10,2024 to 24.10,2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Senled & Preserved

Mi	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 27	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 65	-4	Weather Condition	: Partly Cloudy

Discipline : Chemic	al	Group:	Atmospheric l	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	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 (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	8.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	19.5	80 (24hrs)
Ozone (O ₂)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (Shrs)
Ammonia (NH ₃)	µg/m³	IS 5182 (Part-25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m [†]	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	pg/m³	1S 5182 (Part- 22): 2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m³	(S 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C,H _a)	µg/m³	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 Quality Manager

****End of Report****

Dr. Deephendra & Sissa Sigha

Ph. D. Environmental Engg.

Page 1 of 1

The Discount stated or Test Report, is recent by the Laboratory under General Terms and Conditions, only on Company letter head to per approved former. The results shown in the Test Report later or related unity to the poll-later true by the Laboratory only. The information stated on the Test Harvest tellicine the findings three by the Laboratory at the time of involvement only and tellar or robus over to the polarathem date by the Laborators only. The information started on the Test Report reflects the tribings stone by the Laboratory of the time of involvences with and action that is not report, except to information which is provided by the claims the import as the report of the report of the report is not taken out of content without prior notices, approach of the Laboratory. The Report is that and any port of the report is not taken out of content without prior notices, and fire son legal actions unless prior permission has been accured from the Management of the Laboratory. Attention is drawn to the furnition of labelity, compensation and periodicions assumed from the following the following of the content of the comment or appearance of the Test Report is unlessful and offenders may be proceeded to the following of the law. All the samples may retained the Outer of reliance move of the Test Report. The samples from Regulatory bodies onto the retained as opening the Report of the law of reliance move of the Test Report reliance. After the most period stand before, no complaints will be accepted. The action Lower Report Report is an I flower Detection Limit.



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TOTIME

TEST REPORT

Test Report No.	: ELES/RNC/2024/6188	Report Release Date	: 25.10.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400004079F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7217 : Near Weigh Bridge Bagru Bauxite Mine (75:41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 14.10.2024 to 15.10.2024 : 18.10.2024 : Ambient Air
Mines Status	: Non Operational	Type of Sample Sampling Procedure	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 18.10.2024 to 24.10.2024	Sampling Done By Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFO	RMATION	- Labor		
T	Average Temperature (°C)	: 27	2	Barometric Pressure (mmHg)	; 742
3	Relative Humidity (%)	: 65	:4	Weather Condition	: Partly Cloudy

Discipline: Chemic	al	Group:	Atmospheric l	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/m³	IS 5182 (Part- 24): 2019	36	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- 2/Sec1): 2023	11.3	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	22.7	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₁)	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)	µg/m³	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/m³	ELES/AIR/SOP/01; 2021	<2.0	06 (Annual)
Benzene (C ₄ H ₆)	μg/m ⁰	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Authority Manager

****End of Report****

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Dr. Beepeinge Kamter Sinha Ph. D. Environmental Engg.

Technical Manage

Page Lof I

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TG-12887

TEST REPORT

Test Report No.	: ELES/RNC/2024/6189	Report Release Date	: 25.10.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400004080F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7218 : Near Daldaliya Village Bagru Bauxite Mine (75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 14.10.2024 to 15.10.2024 : 18.10.2024
Mines Status	: Non Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 18.10.2024 to 24.10.2024	Sampling Done By Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFORMAT	ON		
1	Average Temperature (°C) : 27	2	Barometric Pressure (mmH	i) :742
3	Relative Humidity (%) : 65	4	Weather Condition	: Partly Cloudy

Discipline: Chemic	lac	Group:	Atmospheric !	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2022	60	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part-24): 2019	30	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2/Sec1): 2023	10.9	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	20.2	80 (24hrs)
Ozone (O ₃)	μg/m³	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/m ¹	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.005	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 ₆ H ₆)	µg/m³	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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Reviewed by

****End of Report****

Dr. Dedptingis V. Signi-Binha Ph. D. Environmental Engg.

Akash Kumar Omality Manager

Page 1 of 1

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TEST REPORT

Test Report No.	: ELES/RNC/2024/6190	Report Release Date	: 25.10.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400004081F			

CUSTOMER DET	CUSTOMER DETAILS		11	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7219 : Aditya School Gangupara Bagru Bauxite Mine (75.41ha)	
Address	: Lohardaga, Jharkhand-835302 : Non Operational	Sampling Date Sample Received Date	: 14.10.2024 to 15.10.2024 : 18.10.2024	
Mines Status		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 18.10.2024 to 24.10.2024	Sampling Done By Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
I	Average Temperature (°C) : 27	2	Barometric Pressure (mm	Hg) : 742
3	Relative Humidity (%) : 65	4	Weather Condition	: Partly Cloudy

Discipline : Chemic	al	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	1S 5182 (Part- 23): 2022	64	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	30	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	1S 5182 (Part- 2/Sec1); 2023	6.6	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	17.5	80 (24hrs)	
Ozone (O ₃)	ug/m³	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/m³	(S 5182 (Part- 10): 2019 (NDIR Method)	1.05	2 (8hrs)	
Lead (Pb)	μg/m	IS 5182 (Part- 22): 2019	0.005	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m²	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C ₄ H ₄)	μg/m³	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 Occality Manager

****End of Report****

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

Technical Manager

Page 1 of 1

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10-0360

TEST REPORT

Test Report No.	: ELES/RNC/2024/6191	Report Release Date	: 25.10.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400004082F	THIS WAS A PROPERTY OF THE PARTY OF THE PART		

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7220 : Ropeway Unloading Station Bagru Bauxite Mine (75.41ha)	
Address	: Lohardaga, Tharkhand-835302	Sampling Date Sample Received Date	: 14.10.2024 to 15.10.2024 : 18.10.2024	
Mines Status	: Non Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 18.10.2024 to 24.10.2024	Sampling Done By Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 27	2	Barometric Pressure (mmHg)	:742
3	Relative Humidity (%)	: 65	4	Weather Condition	: Partly Cloudy

Discipline : Chemic	al	Group:	Group: Atmospheric Pollution		
Parameter Unit		Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	71	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	33	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- 2/Sec1): 2023	8.4	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	23.7	80 (24hrs)	
Ozone (O ₁)	µg/m³	(S 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₂)	µg/m²	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)	μg/m³	IS 5182 (Part- 22): 2019	0.017	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m²	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C _s H _e)	μg/m ¹	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ^t	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)	

Reviewed by Quality Manager

****End of Report****

Dr. Deeperal Skuller Sinha Ph. D. Environmental Engg.

Page 1 of 1

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TG-13587

TEST REPORT

Test Report No.	; ELES/RNC/2024/6192	Report Release Date	: 25.10.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400004083F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/7221
		Location	: Ropeway Angle Station
		1000	Bagru Bauxite Mine (75.41ha
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 14.10.2024 to 15.10.2024
rapulcas	Takini daga sun nimiti bissisa	Sample Received Date	: 18.10,2024
		Type of Sample	: Ambient Air
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Maria Personal Street	10 10 10 10 10 10 10 10 10 10 10 10 10 1	Sampling Done By	: ELES Pvt, Ltd.
Period of Analysis	: 18.10.2024 to 24.10.2024	Sample Condition	: Sealed & Preserved

MI	TEOROLOGICAL INFO	MATION			
1	Average Temperature (°C)	: 27	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	1.65	4	Weather Condition	: Partly Cloudy

Discipline: Chemic	al	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM18)	µg/m³	IS 5182 (Part- 23): 2022	66	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	31	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1); 2023	7.9	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	20.9	80 (24hrs)	
Ozone (O ₃)	µg/m ⁸	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	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)	1.02	2 (8hrs)	
Lead (Pb)	µg/m²	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 (C ₄ H ₄)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Henzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	
			-		

Reviewed by Akash Kumar Quality Manager

****End of Report****

Dr. Deependry wil his refinos

Ph. D. Environmental Engg.

Page Lof I

The Decomposition of the Report, is bound by the Laboratory under General Tortac and Conditions, only on Company latter based in pre-approved format. The results shown in the Test Report reflects the findings done by the Laboratory of the Laboratory only. The information material in the Test Report reflects the findings done by the Laboratory of the provided by the claim. The Report reflects the findings done by the Laboratory of the provided by the claim. The Report named in report of the impact of the information which is provided by the claim. The Report named in report of the impact of the information of the Indian may be provided by the claim. The Particle of the information of the Indian may be provided and in the Indian may be provided to the filled complete and particle in the Report of the Indian may be provided to the following the indian may be provided to the following of the complete to the Report to unlawful and effection of the laboratory of the Test Report to unlawful and effection on the Date of subsections of the Sport and Report to the Addition of the subsection of the Sport and Report and Indian may be provided to the following the Report of the Sport and Report and Report and Report and Indian may be provided to the following the Report of the Report and Re

ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Bagru Bauxite Mine-Environmental Monitoring Report

November 2024

CONTENT

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Hinda	den Industries : Bagru Bauxite Mine Environmental Monitoring Report November 2024
	Bagru Bauxite Mine
	AMBIENT AIR QUALITY- CORE ZONE
1	Entrance Gate (Ropeway Loading Station)
2	Administrative Office
3	Near Shiv Temple Compound
4	Near Weigh Bridge
1200	AMBIENT AIR QUALITY- BUFFER ZONE
1	Near Daldaliya Village
2	Aditya School Gangupara
3	Ropeway unloading station
4	Ropeway Angle Station
	Drinking Water
	Effluent Water
1	ETP
2	STP





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



TIC-12587

TEST REPORT

Test Report No.	: ELES/RNC/2024/6816	Report Release Date	: 25.11.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400004688F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/7959	
		Location	: Entrance Gate (Ropeway Loading	
			Str.); Bagru Bauxite Mine(75.41ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 17.11.2024 to 18.11.2024	
		Sample Received Date	: 19.11.2024	
		Type of Sample	: Ambient Air	
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMP1/02	
Period of Analysis	: 19.11.2024 to 25.11.2024	Sampling Done By	: ELES Pvt. Ltd.	
remod of Amalysis	: 19.11.2024 to 25.11.2024	Sample Condition	: Sealed & Preserved	

M	METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 742	
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/m³	IS 5182 (Part- 23); 2022	68	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m ¹	IS 5182 (Part- 24): 2019	35	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1); 2023	12.1	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	27.8	80 (24hrs)	
Ozone (O ₃)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₂)	μg/m ¹	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)	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/m³	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/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

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Reviewed by

****End of Report****

Authorised Signatory Akash Kumar

Page 1 of 1

The Decement mend as Test spire, a second by Involvementy codes Germal Terms and Continues, only on Company letter head in pro-approved formst. The results shown in the Test Report reflects that further pro-approved formst. The results shown in the Test Report reflects the findings show by the Laboratory at the toos, of involvement only and without the limits of client's inormation which is provided by the elient. The Report careed be reported except in full and any part of the report is not taken out of context, welfant provided of the Laboratory. The Report is full and any part of the report is not taken out of context, welfant provided of the Laboratory. advertise, used for any legal actions unless print permission, has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, comparisons and periodiction issues. Any considerated abstracts of flatilities or the law. All the complex say seasond for Mileys from the Date of relegacions of the Test Report. The complex from Regulatory loading on to be retained as specified. Any type of Observations or Completely regarding the Reports shall be shown within 15 days from the Date of Test Report released lossed. After the none period stand before, no completely well be excepted. The entire Time schedule mentioned in Test Report is in 26 forces from Address at the NA (Non-Applicable), BOL (Below Detection Limit), LDL (Lower Detection Limit).



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



TC-11567

TEST REPORT

Test Report No.	: ELES/RNC/2024/6817	Report Release Date	: 25.11.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400004689F		TO SERVICE STATE OF THE SERVIC	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7960 : Administrative Office Bagru Bauxite Mine (75.41ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 17.11.2024 to 18.11.2024 : 19.11.2024 : Ambient Air	
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	: 19.11.2024 to 25.11.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

M	ETEOROLOGICAL INFOR	MATION			
	Average Temperature (°C)	; 25	2	Barometric Pressure (mmHg)	: 742
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/m³	IS 5182 (Part- 23): 2022	62	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	32	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2/Sec1): 2023	7,9	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	23.1	80 (24hrs)	
Ozone (O ₃)	μg/m ⁵	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)	µg/m³	IS 5182 (Part- 22): 2019	0.005	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 ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

****End of Report****

Reviewed by

Authorised Signatory Akash Kumar

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Page 1 of 1

The Decement stated as Tell Series I, in 1984 I. the Laboratory of the Central Terms and Conditions, only on Company letter band at pre-approved farmer. The results shown in the Test Report units or others only in the judy allows one by the Laboratory and the interesting attention of the per-approved farmer. The results shown in the Test Report sellices the findings done by the Laboratory at the time of involvement only and within the forms of client's mornatorie. The Laboratory is that and any part of the capta is not taken out of connect, whiches processed on the Laboratory. The Report is full or in part shall not be published solventian, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Aftertion is drawn in the limitation of Emility, componention and jurislanse issues. Any according actions after a per-approved for the Laboratory. After a per-approved in the follows accorded to the follows accorded to the fallows accorded to the follows accorded to the follows accorded to the follows accorded to the follows accorded to the fallows accorded to the follows accorded to the follows accorded to the follows accorded to the follows accorded to the fallows accorded to the follows ac



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TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2024/6818	Report Release Date	: 25.11.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400004690F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	:ELES/RNC/2024/AA/7961	
		Location	: Near Shiv Temple Compound Bagru Bauxite Mine (75,41ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 17.11.2024 to 18.11.2024	
		Sample Received Date	: 19,11,2024	
		Type of Sample	: Ambient Air	
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	: 19.11.2024 to 25.11.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATIO	ON		
1	Average Temperature (°C) : 25	2	Barometric Pressure (mmF	g) :742
3	Relative Humidity (%) : 51	4	Weather Condition	: Clear

Discipline : Chemic	at	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	63	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³:	1S-5182 (Part- 24): 2019	34	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	7.2	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	1S 5182 (Part- 6): 2022	18.5	80 (24hrs)	
Ozone (O _i)	μg/m³	18 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m²	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)	μg/m³	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 (C ₆ H ₆)	µg/m³	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

****End of Report****

Authorised Signatory
Akash Kumar
Guality Manager

Page Lof 1

The Discusses several as the Report of most began becoming under Contents and Conditions, only on Company letter hand in pre-approved format. The results shown in the Test Report refers the findings done by the Laboratory at the same of involvations in the Test Report refers the findings done by the Laboratory at the same of involvations in the Institute of the report, except the information which is provided by the client. The Report content is reproduced except in full cost are part of the report, except the information which is provided by the client. The Report content is reproduced except in full cost are part of the report, which is report in full cost are part of the report, except the information of the content in the part attains unless price personalism has been account from the Management of the Laboratory. Attentions of the finitions of infullies, companions and justification is seen. Any situation and describes the finite of the finite content of the law. All the complex are returned for Manya from the Date of telescopicated of the Test Report released to the indicates within 15 days from the Date of Test Report released to the time period content to complete will be integrated. The sensor Time schedule mentioned in Test Report is at 2 Bases from the Manya from the Date of Test Report released to the time period content from Limits.

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

ENGINEERING SERVICES PVT. LTD.

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TC-12587

TEST REPORT

Test Report No.	: ELES/RNC/2024/6819	Report Release Date	: 25.11.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400004691F		NAME OF THE PARTY	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7962 : Near Weigh Bridge	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	Bagru Bauxite Mine (75.41ha) : 17.11.2024 to 18.11.2024 : 19.11.2024	
Mines Status	: Non Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 19.11.2024 to 25.11.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	METEOROLOGICAL INFORMATION				
Î	Average Temperature (°C) : 25	2	Barometric Pressure (mm	Hg) : 742	
3	Relative Humidity (%) : 51	4	Weather Condition	; Clear	

Discipline : Chemic	iai iai	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	80	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	42	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	13.8	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	25.2	80 (24hrs)	
Ozone (O ₃)	μg/m³	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/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.2	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.027	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m¹	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C _n H _b)	µg/m ¹	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

****End of Report****

Reviewed &

Authorised Signatory Akash Kumar Opality Manager

Page 1 of 1

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



TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2024/6820	Report Release Date	: 25.11.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400004692F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7963 : Near Daldaliya Village	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	Bagru Bauxite Mine (75.41ha) : 17.11.2024 to 18.11.2024 : 19.11.2024	
Mines Status	: Non Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 19.11.2024 to 25.11.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Scaled & Preserved	

M	METEOROLOGICAL INFORMATION					
1	Average Temperature (°C) : 25	2	Barometric Pressure (mmHg	742		
3	Relative Humidity (%) : 51		Weather Condition	Clear		

Discipline : Chemis	cal	Group:	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	64	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	32	60 (24hrs)	
Sulphur Di-Oxide (SO ₃)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	11.4	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	24.1	80 (24hrs)	
Ozone (O ₃)	μg/m³	15 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/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.009	1 (24hrs)	
Nickel (Ni)	ng/m¹	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	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/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

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****End of Report****

Authorised Signatory Akash Kumar

Page 1 of 1

The theorems stand as N. Output is more bytest abstance under General Lerus and Conditions, only on Company letter hand as pre-approved formst. The results shows as the Yest Expert reflects the findings through the bytes Laboratory as the time of inconvenient only and within the families and therefore the findings through the appropriate provided by the claimatory as the time of inconvenient only and within the families and the report of the expert reflects the appropriate affirmation which is provided by the claimators of the provided by the claimators of the families are reported except in tail and any part of the expert is not taken use of contains, without prior setting approval of the Laboratory. The Report in fall or in part while on be published, advertice, used for any legal actions calcar prior permission has been separate from the Management of the Laboratory. Attention is drawn to the limitation of likelity, compensation and particulation in the Management of the Laboratory. Attention is drawn to the limitation of the law. All the complex are returned for Nilayo from the Data of infrared board of the Test Report from Regulatory bodies are to be contained by the provision of Consequence or Compliants regulating the Report while he does within (Stayo from the Data of Test Report released board. After time period spiral before, an compliants will be accepted. The areas Time whichde means the Report is in Alborat formst. Abbreviation and M.A./Nor.Applicables, BEE (Below Detection Limit), LDE (Concer Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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TO STREET

TEST REPORT

Test Report No.	: ELES/RNC/2024/6821	Report Release Date	: 25.11.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400004693F	THE CONTRACT OF THE CONTRACT O		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/7964
		Location	: Aditya School Gangupara Bagru Bauxite Mine (75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 17.11.2024 to 18.11.2024
	The state of the s	Sample Received Date	: 19.11.2024
		Type of Sample	: Ambient Air
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 19.11,2024 to 25.11,2024	Sampling Done By	: ELES Pvt, Ltd.
renton on runnyara	10.25 Chaves to 22.11.2025	Sample Condition	: Sealed & Preserved

M	METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 742	
3	Relative Humidity (%)	: 51		Weather Condition	: Clear	

Discipline : Chemic	cal	Group:	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	64	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	33	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	9.1	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	1S 5182 (Part- 6): 2022	23.4	80 (24hrs)		
Ozone (O ₁)	µg/m³	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)	1.05	2 (8hrs)		
Lead (Pb)	μg/m	1S 5182 (Part- 22): 2019	0.008	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 ₄ H ₆)	µg/m³	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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Reviewed by

****End of Report****

Authorised Signatory

Akash Kumar

Page 1 of 1

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

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TC-13967

TEST REPORT

Test Report No.	: ELES/RNC/2024/6822	Report Release Date	: 25.11.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400004694F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/7965	
		Location	: Ropeway Unloading Station Bagru Bauxite Mine (75.41ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 17.11.2024 to 18.11.2024	
		Sample Received Date Type of Sample	: 19.11.2024 : Ambient Air	
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	: 19.11.2024 to 25.11.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

M	TEOROLOGICAL INFORMATION				
1	Average Temperature (°C) : 25	2	Barometric Pressure (mm	Hg) : 742	
3	Relative Humidity (%) : 51		Weather Condition	: Clear	

Discipline: Chemic	al	Group:	Group: Atmospheric Pollution		
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/m³	IS 5182 (Part- 24): 2019	36	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	10.2	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	22.8	80 (24hrs)	
Ozone (O ₁)	µg/m³	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/m³	1S 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m¹	1S 5182 (Part- 22); 2019	0.012	I (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 ₆ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m²	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

****End of Report****

Reviewed by

Authorised Signatory Akash Kumar Quality Managor

Page 1 of 1

Page 1 of 1
The December sound is Test port, a compage the information under General Lerius and Conditions, only on Company letter head in prosupproved forms. The results shown in the first hipport refer or relates only no the published. The Laboratory enth. The softenment ment on the Lat Report refer to the report, except the information which is provided by the Laboratory at the term of nonthermous only and within the institute of client's minute of client's monatories. The Report is not the information which is provided by the report of the Laboratory. The Report in full or in past shall not be published, advantage, used the angle actions extend principles and returned in a Wagel actions extend to the fall-less extend from the Shangarment of the Laboratory. Anastron is drown to the fall-less extend of the content or approximate of the Laboratory and officially compensation and provided association of the content of the



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TEST REPORT

Test Report No.	: ELES/RNC/2024/6823	Report Release Date	: 25.11.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400004695F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7966 : Ropeway Angle Station Bagru Bauxite Mine (75.41ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 17.11.2024 to 18.11.2024 : 19.11.2024 : Ambient Air	
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	: 19.11.2024 to 25.11.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 25	2	Barometric Pressure (mmHg	: 742
3	Relative Humidity (%) : 51	121	Weather Condition	: Clear

Discipline : Chemic	cal	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	66	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	35	60 (24hrs)	
Sulphur Di-Oxide (SO ₇)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	13.3	80 (24hrs)	
Nitrogen Di-Oxide (NO ₁)	μg/m³	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 ₁)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.08	2 (8hrs)	
Lead (Pb)	µg/m	IS 5182 (Part- 22): 2019	0.009	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 ₀ H ₀)	pg/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

****End of Report****

Authorised Signatory Akash Kumar

Quality Manager

Page 1 of 1

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TC-Y286T

TEST REPORT

Test Report No.	: ELES/RNC/2024/6927	Report Release Date	: 29.11.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400004797F		TALL PARTY OF THE

CUSTOMER DETAILS		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/2024/DW/7972 : 18.11.2024 : 19.11.2024 : Drinking Water : Tap Water : Office	
Mines Status	: Operational	Sampling Procedure	(Bagru Bauxite Mines) : ELES/DOC/SMPL/01	
Period of Analysis	: 19.11.2024 to 28.11.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Scaled & Preserved	

Discipline : Chemical		Group:	Water	ory Limit		
a real fame a sometiment		Group;		as per IS 10500:201		
Parameter	Unit	Test Protocol		Result	Acceptable Limit	Permissible Limit
pH (at 24,7°C)	5	APHA 24th Ed.2023, 45	00-H ⁺	7.13	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 24th Ed.2023, 21	30 B	0.66	1.0	5.0
Taste	J. E.	APHA 24th Ed.2023, 21	60 C	Agreeable	Agreeable	Agreeable
Odour	18:	IS 3025 (Part-5) :20	18	Agreeable	Agreeable	Agreeable
Colour	Hazen	APHA 24th Ed.2023, 212	0B&D	1.0	5.0	15
Total Dissolved Solids (TDS)	mg/L	APHA 24 th Ed.2023, 2540	B,C&D	324	500	2000
Chloride (as CI)	mg/L	APHA 24th Ed.2023, 450	CIB	6.93	250	1000
Fluoride (as F)	mg/L	APHA 24 th Ed.2023, 450	0 F-D	BDL (DL: 0.1)	1.0	1.5
Total Alkalinity (as CaCO ₃)	mg/L	APHA 24 th Ed 2023, 23	20 B	168	200	600
Total Hardness (as CaCO ₁)	mg/L	APHA 24th Ed.2023, 23	40 C	141	200	600
Sulphate (as SO ₄)	mg/L	APHA 24th Ed.2023, 4500	SO ₄ -E	3.96	200	400
Nitrate (as NO ₃)	mg/L	APHA 24th Ed.2023, 4500	NO ₅ -B	2.88	45	No Relaxation

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TEST REPORT

Test Report No. : ELES/RNC/2024/6927 Report Release Date : 29.11.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400004797F

Discipline: Chemi	cal	Gro	up: Water	Regulatory Limit as per IS10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Phenolic Compound (as C _n H ₃ OH)	mg/L	IS 3025 (Part 43/Sec1): 2022	BDL (DL: 0.001)	0.001	0,002
Free Residual Chlorine (RFC)	mg/L	15 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	37.5	75	200
Anionic Surfactants (as MBAS)	mg/L	APHA 24th Ed.2023, 5540-C	BDL (DL: 0.025)	0.2	1.0
Discipline : Chemi	cal	Gr	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	1S 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	APHA 24th Ed.2023; 3111B	BDL (DL: 0.03)	0.05	1.5
Cyanide (as CN)	mg/L	APHA 24th Ed.2023, 4500 CN-E	BDL (DL: 0.012)	0.05	No Relaxation
Iron (as Fe)	mg/L	APHA 24th Ed.2023; 3111B	0.086	1.0	No Relaxation
Lend (as Pb)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.01)	0.03	No Relaxation
Manganese (as Mn)	mg/L	APHA 24 th 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: 0.61)	0.01	No Relaxation

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-234003 (JHARKHAND) GST NO:- 20AAECE9713D124

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TEST REPORT

Test Report No. : ELES/RNC/2024/6927 Report Release Date : 29.11.2024 Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400004797F

Discipline: Chemical		Group : Resi	dues in Water		ory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
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 Pesticides					mit
Alachlor	μg/L	ELES/GC/SOP/01: 2023	BDL (DL; 0.5)	2	0
Atrazine	μg/L	ELES/GC/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/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)		
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)	0.0	14

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TEST REPORT

Work Order Date

Test Report No. : ELES/RNC/2024/6927 Report Release Date : 29.11.2024 Work Order No. : 13612312113

ULR No. : TC135872400004797F

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)	pg/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	EL III	
Escherichia coli (Qualitative)	Per 100 mL	IS 15185: 2021	Not Detected	Shall not be detected	

Reviewed by Akash Kumar Gyality Manager

****End of Report****

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

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TEST REPORT

Test Report No.	: ELES/RNC/2024/6927	Report Release Date	: 29.11.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

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/2024/DW/7972 : 18.11,2024 : 19.11,2024 : Drinking Water : Tap Water : Office	
Mines Status	: Operational	Sampling Procedure	(Bagru Bauxite Mines) : ELES/DOC/SMPL/01	
Period of Analysis	: 19.11.2024 to 29.11.2024	Sampling Done By Sample Condition	: ELES Pvt, Ltd. : Sealed & Preserved	

Discipline: Chemical		Group: Wa	ter	Regulatory Li as per IS 10500;	
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 Kumar Quality Manager ****End of Report****

Authorised Signatory

Dr. Despendra Kumar Sinha Ph. D. Environmental Enga.

Technical Manager

Page 1 of 1

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TC-42587

TEST REPORT

Test Report No.	: ELES/RNC/2024/6929	Report Release Date	: 29.11.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400004799F		

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2024/EF/7974 : 18.11.2024 : 19.11.2024	
Address	: Lohardaga, Jharkhand-835302	Type of Sample Source of Sample	: Effluent Water : Work Shop Effluent - Bagro	
Mines Status	: Non Operational	Sampling Procedure Sampling Done By	Bauxite Mines (75.41 ha) : ELES/DOC/SMPL/01 : ELES Pvt. Ltd.	
Period of Analysis	: 19.11.2024 to 28.11.2024	Sample Condition	: Sealed & Preserved	

Discipline : Chemical		Group: Pollution & 1	Environment	Discharge Limits – CP6 EPR, 1986 Schudule V	
Parameter	Unit	Test Protocol	Result	Inland Surface Water	Land for Irrigation
pH (at 24.7 °C)	121	APHA 24th Ed.2023,4500-H	7.94	5.5-9.0	5.5-9.0
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16): 2023	542		(84)
Total Suspended Solids (TSS)	mg/L	IS 3025 (Part-17); 2022	15.2	100	200
Dissolved Oxygen (DO)	mg/L	IS 3025 (Part-38): 2019	5.9		**
Biochemical Oxygen Demand (BOD) (at 27 °C for 3 days)	mg/L	IS 3025 (Part-44); 2023	7.4	30	100
Chemical Oxygen Demand (COD)	mg/L	IS 3025 (Part-58): 2023	41.9	250	**
Dissolved Phosphate (as P)	mg/L	IS 3025 (Part-31/Sec-1): 2022	BDL (DL: 0.5)	5.0	
Fluoride (as F)	mg/L	IS 3025 (Part-60); 2019	0.392	2.0	1.5
Sulphide (as S)	mg/L	IS 3025 (Part-29): 2019	BDL (DL: 0.04)	2.0	
Oil & Grease	mg/L	IS 3025 (Part-39): 2021	BDL (DL: 1.0)	10	10

Page 1 of 2

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

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TC-43687

TEST REPORT

Test Report No.	: ELES/RNC/2024/6929	Report Release Date	: 29.11.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

ULR No. : TC135872400004799F

Discipline : Chemical		Group: Residues in Water		Discharge Limits – CPCB EPR, 1986 Schedule VI	
Parameter Unit		Test Protocol Res		Inland Surface Water	Land for Irrigation
Lead (as Pb)	mg/L	APHA 24th Ed.2023, 3111 B	BDL (DL: 0.01)	0.1	74
Manganese (as Mn)	mg/L	APHA 24th Ed.2023, 3111 B	0.125	2.0	
Mercury (as Hg)	mg/L	IS 3025 (Part-48): 2019	BDL (DL: 0.001)	0.01	-
Nickel (as Ni)	mg/L	APHA 24 th Ed.2023, 3111 B	BDL (DL: 0.01)	3.0	1
Zinc (as Zn)	mg/L	APHA 24th Ed.2023, 3111 B	0.133	5.0	**

Reviewed by Akash Kumar Gwallty Monager

****End of Report****

Dr. Deuthorised Signaturna Ph. D. Environmental Engg.

Technical Manager

Page 2 of 2

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TC-1359T

TEST REPORT

Test Report No.	: ELES/RNC/2024/6930	Report Release Date	: 29.11.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400004800F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2024/EF/7975 : 18.11.2024 : 19.11.2024	
Address	: Lohardaga, Jharkhand-835302	Type of Sample Source of Sample	: Effluent Water : STP Outlet- Bagru Bauxite Mines (75.41 ha)	
Mines Status	: Non Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/01 : ELES Pvt. Ltd.	
Period of Analysis	: 19.11.2024 to 28.11.2024	Sample Condition	: Scaled & Preserved	

Discipline : Chemical		Group: Pollution & Environ	ment	Discharge Limits – CPCB EPR, 1986 Schedule VI	
Parameter	Unit	Test Protocol	Result	Inland Surface Water	Land for Irrigation
pH (at 24.7 °C)	27	APHA 24th Ed.2023,4500-H*	6.57	5.5-9.0	5.5-9.0
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16): 2023	472	(.75	
Total Suspended Solids (TSS)	mg/L	1S 3025 (Part-17): 2022	30.8	100	200
Biochemical Oxygen Demand (BOD) (at 27 ℃ for 3 days)	mg/L	1S 3025 (Part-44): 2023	9.2	30	100
Chemical Oxygen Demand (COD)	mg/L	1S 3025 (Part-58): 2023	49.6	250	==
Calcium (as Ca)	mg/L	IS 3025 (Part-40): 2019	19.1)#e	**
Oil & Grease	mg/L	IS 3025 (Part-39); 2021	1.8	10	10
Discipline : Chemical		Group : Resi		ues in Water	
Aluminum (as Al)	mg/L	IS 3025 (Part-55): 2003, RA2019	BDL (DL: 0.02)	546	×
Iron (as Fe)	mg/L	APHA 24th Ed.2023, 3111B	0.264	3.0	=

Page 1 of 2

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) 53T NO:- 20AAECE97130124

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TIC-13587

TEST REPORT

Test Report No. : ELES/RNC/2024/6930 Report Release Date : 29.11.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400004800F

Discipline : Biological		Group : Pollution & Environment		Discharge Limits – CPCB EPR, 1986 Schedule VI	
Parameter	Unit	Test Protocol	Result	Inland Surface Water	Land for Irrigation
Favcal Coliform	MPN/100ml	APHA 24th Ed.2023, 9221E	5.40×10 ³		-

Reviewed by

Akash Kumar Guality Manager ****End of Report****

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

Page 2 of 2

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ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Bagru Bauxite Mine-Environmental Monitoring Report

December 2024



CONTENT

Hind:	alco Industries : Bagru Bauxite Mine Environmental Monitoring Report	December 2024
	Bagru Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE	
1.	Entrance Gate (Ropeway Loading Station)	
2	Administrative Office	
3	Near Shiv Temple Compound	
4	Near Weigh Bridge	
	AMBIENT AIR QUALITY- BUFFER ZONE	
1	Near Daldaliya Village	
2	Aditya School Gangupara	
3	Ropeway unleading station	
4	Ropeway Angle Station	





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

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TEST REPORT

Test Report No.	: ELES/RNC/2024/7519	Report Release Date	: 21.12.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400005374F			

CUSTOMER DET	CUSTOMER DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/8823
		Location	: Entrance Gate (Ropeway Londing
			Stn); Bagru Bauxite Mine(75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 11.12.2024 to 12.12.2024
Marketon.	s agos that congress a sand declaration (1000) and a	Sample Received Date	: 14,12.2024
		Type of Sample	: Ambient Air
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/02
are aller a se		Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 14.12.2024 to 21.12.2024	Sample Condition	: Scaled & Preserved

MI	ETEOROLOGICAL INFOR	MATION				
.1	Average Temperature (°C)	: 18	2	Barometric Pressure (mmHg)	: 728	
3	Relative Humidity (%)	: 45	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/m [‡]	IS 5182 (Part- 24): 2019	41	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	13,8	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	24.3	80 (24hrs)	
Ozone (O ₅)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₁)	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	IS 5182 (Part- 22): 2019	0,022	1 (24hrs)	
Nickel (Ni)	ng/m³	1S 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 ₄)	pg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m²	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by Akash Kumar

Quality Manager

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D. Environmental Enop. Technical Manager

Page 1 of 1

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TC-13887

TEST REPORT

Test Report No.	: ELES/RNC/2024/7520	Report Release Date	: 21.12.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400005375F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindulco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/8824 : Administrative Office Bagru Bauxite Mine (75.41ha)	
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 11.12.2024 to 12.12.2024 : 14:12.2024	
Mines Status	: Non Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 14,12,2024 to 21,12,2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 18	2	Barometric Pressure (mmHg	728
3	Relative Humidity (%) : 45	4	Weather Condition	: Clear

Discipline : Chemic	ent	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	1S-5182 (Part-23): 2022	68	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ¹	IS 5182 (Part- 24): 2019	36	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	11.3	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	26.5	80 (24hrs)	
Ozone (O ₁)	μg/m³	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/m²	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m ²	IS 5182 (Part- 22): 2019	0.008	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/m³	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

****End of Report****

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

Akash Kumar Ovallty Manager

Page 1 of 1

Technical Manager

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TC-1398T

TEST REPORT

Test Report No.	: ELES/RNC/2024/7521	Report Release Date	: 21.12.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400005376F			

AILS	SAMPLE DETAILS	
: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/8825
	Location	: Near Shiv Temple Compound Bagru Bauxite Mine (75.41ha)
: Lohardaya, Jharkhand-835302	Sampling Date	: 11.12.2024 to 12.12.2024
THE STATE OF THE S	Sample Received Date	: 14.12.2024
	Type of Sample	: Ambient Air
: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/02
: 14.12.2024 to 21.12.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved
	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Non Operational	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Lohardaga, Jharkhand-835302 : Non Operational : Non Operational Sampling Date Type of Sample Sampling Procedure Sampling Done By

MI	METEOROLOGICAL INFORMATION					
1	Average Temperature ("C)	: 18	2	Barometric Pressure (mmHg)	: 728	
3	Relative Humidity (%)	:45	4	Weather Condition	: Clear	

Discipline : Chemic	al	Group:	Group: Atmospheric Pollution		
Parameter Unit		Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	65	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	33	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec 1): 2023	10.8	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	25.4	80 (24hrs)	
Ozone (O ₃)	µg/m³	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/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1,0	2 (8hrs)	
Lead (Pb)	μg/m³	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 (C _c H ₆)	µg/m³	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 Kumer Quality Manager

****End of Report****

Karles

Dr. Deependra Rumar Sinha Ph. D. Environmental Engo.

or cityliolille

Page 1 of 1 Technical Manager

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TO-12887

TEST REPORT

Test Report No.	: ELES/RNC/2024/7522	Report Release Date	: 21.12.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400005377F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/8826	
		Location	: Near Weigh Bridge Bagru Bauxite Mine (75.41ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 11.12.2024 to 12.12.2024	
100000000000000000000000000000000000000	THE REAL PROPERTY OF THE PARTY	Sample Received Date	: 14.12.2024	
		Type of Sample	: Ambient Air	
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
Berte Latt Controls	- 14 12 2024 21 12 2024	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 14.12.2024 to 21.12.2024	Sample Condition	: Sealed & Preserved	

Mi	ETEOROLOGICAL INFOR	MATION				
1	Average Temperature ("C)	:18	2	Barometric Pressure (mmHg)	: 728	
3	Relative Humidity (%)	:45	4	Weather Condition	: Clear	

Discipline : Chemic	al	Group:	Group: Atmospheric Pollution		
Parameter Unit		Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	87	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	48	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	16.3	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	1S 5182 (Part- 6): 2022	28.9	80 (24hrs)	
Ozone (O ₃)	µg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)	
Ammonia (NH ₁)	μg/m³	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	IS 5182 (Part- 22): 2019	0.033	1 (24hrs)	
Nickel (Ni)	ng/m²	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C ₄ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m²	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	
TOTAL CONTROL OF THE PARTY OF T	100-5000				

Reviewed by

Akash Kumar

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha

Ph. D. Environmental Engg.

Page 1 of 1

Technical Manager

The Discussion stated or Tool Report, to cound by the Laboratory order Countril Torris and Conditions, only on Company latter based in prospeptived factors. The country of the Laboratory order Countril Torris and Conditions, only on Company latter based in prospeptived factors. The country of the Laboratory or the Laboratory or the Laboratory or the Laboratory or the countril to all the information or data provided on the expert, except the information which is provided by the client. The Report except to require accept to the laboratory. The Report is Laboratory or the laboratory. The Report is Laboratory or the laboratory or the laboratory or the laboratory of the Laboratory or the laboratory. The Report is Laboratory or the laboratory of the laboratory of



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TG-43687

TEST REPORT

Test Report No.	: ELES/RNC/2024/7523	Report Release Date	: 21.12.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
III D No.	· TC115877400005378F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/8827 : Near Daldaliya Village Bagru Bauxite Mine (75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	± 12.12.2024 to 13.12.2024 ± 14.12.2024
Mines Status	: Non Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 14.12.2024 to 21.12.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

METEOROLOGICAL INFORMATION				
1 Average Temperature (°C) : 19	2	Barometric Pressure (mmHg)	: 728	
3 Relative Humidity (%) :47	4	Weather Condition	: Clear	

Discipline : Chemic	al	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	66	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	34	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m ⁵	1S 5182 (Part- 2/Sec1); 2023	10.2	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	1S 5182 (Part- 6): 2022	22.8	80 (24hrs)	
Ozone (O ₃)	μg/m³	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/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.011	1 (24hrs)	
Nickel (Ni)	ng/m ¹	(S 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	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/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	



****End of Report****

Dr. Deependra Rumor Sinha Ph. D. Environmental Enga

Technical Manager

Page 1 of 1

The Document stated as Year Report, to issued by the Laboratory under Central Terms and Combitions, only on Company latter head to pre-approved former. The results shown in the Year Report scies or relates only to the private lysis done by the Laboratory only. The information stated on the Text Report reflects the findings done by the Laboratory or fire time of sees homest only and waters the limits of client's instructions. The Laboratory is responsible for all the information or date provided on the report, except the information which is provided by the alient. The Report water the limits of cheek's intractions. The Laboratory is responsible for all the information is that provided on the report, except the information which is provided by the alient. The Report cannot be reproduced account a story or full and any gest of the report in the alient out of content, without prior written approval of the Laboratory. The Report to full or so part shall not be published, advertise, much for any legal actions unless prior promotion has been secured from the Management of the Laboratory. Amention is described in the limitation of the content or appearance of the Test Report is antiseful and offenders may be pronounted to the follow extent of the law. All the samples are retained for Military from the Units of relations of the Test Report. The samples from Report is an indicate acc to be retained as specified. Any type of Observations or Compiliants regarding the Report whall be done within 15 days from the Date of Test Report relationship Date to the time period stated before, we complaints will be accepted. The carrier Time schedule reconnected at Test Report is in 20 mars from a different relation to the Content Applicable). BOL (Below Detection Limit), LDL (Lawse December Limit).



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TG-13567

TEST REPORT

Test Report No.	: ELES/RNC/2024/7524	Report Release Date	: 21.12.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
*17 45 KC	7001759774000053700		

ULR No. : TC135872400005379F

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/8828	
		Location	: Aditya School Gangupara Bagru Bauxite Mine (75.41ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 12.12.2024 to 13.12.2024	
r. tutti tiite	a moduli daga a milanina daya ay	Sample Received Date	: 14.12.2024	
		Type of Sample	: Ambient Air	
Mines Status	: Non Operational	Sampling Procedure	± ELES/DOC/SMPL/02	
Mile Vision - or	Company of the state of the sta	Sampling Done By	ELES Pvt. Ltd.	
Period of Analysis	: 14,12,2024 to 21.12,2024	Sample Condition	Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION				
1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 728	
3	Relative Humidity (%)	: 47	4	Weather Condition	; Clear	

Discipline : Chemic	al	Group:	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	62	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	30	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2/Sec1); 2023	11.5	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	20.8	80 (24hrs)
Ozone (O ₃)	μ <u>ψ</u> /m³	1S 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/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.09	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.011	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	96 (Annual)
Benzene (C ₆ H ₆)	µg/m³	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 Quality Manager

****End of Report****

Dr. Deligoned a security Sinha Ph. D. Environmental Engg.

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Page I of I

The December stated as Tast Report, is around by the Laboratory under General Terms and Conditions, only as Company letter head in pre-approved former. The results shown in the Laboratory and a the former state of clients and the first happen reference that findings done by the Laboratory at the biest of involvement only and within the literal account in the Laboratory is required for all the information or data provided on the report, except the information which is provided by the officer. The Report current be reproduced everys in fell and any part of the report is not relate out of country, without prior written approval of the Laboratory. The Report is fell and any part of the report is not relate out of country, without prior written approval of the Laboratory. The Report is fell and not part shall ear be published, advertise, and for any legal actions sudgest poor permission has been secured from the Management of the Laboratory. Advantage to the limitation of hidder, companions and particular and extended for the fellow action is fell-bended on the full of the security of the country of the country of the Country in the Samples are permission for the Date of advances of the Test Report. The samples from Regulatory bodies are to be returned as specified. Any type of Observations or Compliants regarding the Report as in 19 hours formed. Abbreviation would NA (Not Applicable), (DDI (Richov Detection Lamit), LDI (Lawer Detection Lamit).



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TOURSET

TEST REPORT

Test Report No.	: ELES/RNC/2024/7525	Report Release Date	: 21.12.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
TH D No.	* T/C135977400005390E			

ULR No. : TC135872400005380F

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/8829 : Ropeway Unloading Station Bagru Bauxite Mine (75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 11.12.2024 to 12.12.2024 : 14.12.2024
Mines Status	: Non Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 14.12.2024 to 21.12.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Senled & Preserved

METEOROLOGICAL INFORMATION

	The state of the state of				
1	Average Temperature (°C)	: 18	2	Barometric Pressure (mmHg)	: 728
3	Relative Humidity (%)	: 45	4	Weather Condition	: Clear

Discipline : Chemic	al	Group:	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m²	IS 5182 (Part- 23); 2022	73	100 (24hrs)
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24); 2019	41	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	12.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	24.3	80 (24hrs)
Ozone (O ₃)	μg/m³	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/m³	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/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 ₆ H ₆)	μg/m³	ELES/GC/SOP/06; 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)

ARESIT WILLIAM
Quality Manager

****End of Report****

(Asinha)

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

Page 1 of 1

Technical Manager



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713DE24

ENGINEERING SERVICES PVT. LTD.

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TC-12887

TEST REPORT

Test Report No.	: ELES/RNC/2024/7526	Report Release Date	: 21.12.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
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ULR No. : TC135872400005381F

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/8830 : Ropeway Angle Station Bagru Bauxite Mine (75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 11.12.2024 to 12.12.2024 : 14.12.2024
Mines Status	; Non Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 14.12.2024 to 21.12.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

METEOROLOGICAL INFORMATION 1 Average Temperature (°C) : 18 2 Barometric Pressure (mmHg) : 728 3 Relative Humidity (%) : 45 4 Weather Condition : Clear

Discipline : Chemic	al	Group:	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	70	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	38	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2/Sec1): 2023	15.1	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	27.4	80 (24hrs)
Ozone (O ₃)	µg/m³	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/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.12	2 (8hrs)
Lead (Pb)	µg/m²	15 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 ^h	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C _h H _h)	µg/m³	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 Akanh Kumar

Quality May

****End of Report****

Authorised Signatory
Dr. Deependra Kumar Sinha

Ph. D. Environmental Enga

Page Lof 1

Technical Manager

The Discounts stated as Total Report, as somed by the Laboratory under Committee and Conditions, only on Company letter based in pre-approved format. The results shown in the Test Report refers it relates only to the job analysis stone by the Laboratory only. The information annual on the Test Report reflects the findings done be the Laboratory at the jone of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information of the provided on the report, surgest the information which is provided by the client. The Report named by reportant energy is full and any just of the segment is not asked on all contents, without prior notions approved of the Laboratory. The Report is full on in part shall not be published, advertise, used for any lapst account of the part of the content or approximate of the Laboratory. Approximate of the Laboratory and personal distributions of the full content of the content or approximate of the Laboratory approximate of the laboratory and personal distributions of the full content of the laboratory and personal distributions of the full content of the law. All the complete are retained for Biology, from the Date of relative full counted before the format as specified. Are type of Observations and Completions on Test Report is an all the other clients. The second of the full content of the law of Test Report released issued. After the time period stated before, no completions will be accepted. The aster Time schedule mentioned in Test Report is an Efficient furnar. Afterwantee used N/A/Not Applicables, BDL (Section Lower), LDL (Lower Direction Lower).

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ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Bagru Bauxite Mine-Environmental Monitoring Report

January- 2025



CONTENT

Hind:	deo Industries : Bagru Bauxite Mine Environmental Monitoring Report	January 2025
	Bagru Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE	
1	Entrance Gate (Ropeway Loading Station)	
2	Administrative Office	
3	Near Shiv Temple Compound	
4	Near Weigh Bridge	
	AMBIENT AIR QUALITY- BUFFER ZONE	
1 .	Near Daldaliya Village	
2	Aditya School Gangupara	
3	Ropeway unloading station	
4	Ropeway Angle Station	
	Soil	





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



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7043687

TEST REPORT

Test Report No.	: ELES/RNC/2025/0315	Report Release Date	: 15.01.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC1358725000000307F			

CUSTOMER DET	CUSTOMER DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/0118 : Entrance Gate (Ropeway Loading Stn); Bagru Bauxite Mine(75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 06.01.2025 to 07.01.2025 : 09.01.2025
Mines Status	: Non Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 09.01.2025 to 15.01.2025	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION				
1	Average Temperature (°C) : 19	2	Barometric Pressure (mmHg)	: 726	
3	Relative Humidity (%) : 57	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	77	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part-24): 2019	43	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2/Sec1): 2023	15.3	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6); 2022	26.7	80 (24hrs)	
Ozone (O ₃)	μg/m³	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/m³	IS 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part- 22); 2019	0.025	1 (24hrs)	
Nickel (Ni)	ng/m¹	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Amenic (As)	ng/m²	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C _s H _u)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m²	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	
- I The same of th					

Reviewed by

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D. Environmental Engg.

Akash Kumar Quality Manager

Page Lof 1.

Technical Manager

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

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TE-TAKET

TEST REPORT

Test Report No.	: ELES/RNC/2025/0316	Report Release Date	: 15.01.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	- TC1358725000000308F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/0119 : Administrative Office Bagru Bauxite Mine (75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sample Received Date	: 06.01.2025 to 07.01.2025 : 09.01.2025
Mines Status	: Non Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 09.01.2025 to 15.01.2025	Sampling Done By Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	:19	2	Barometric Pressure (mmHg)	: 726
3	Relative Humidity (%)	±57	4	Weather Condition	: Clear

Discipline: Chemic	al	Group :	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	65	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	33	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part- 2/Sec1): 2023	13.1	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m ³	IS 5182 (Part- 6): 2022	28.2	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m²	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)	µg/m³	IS 5182 (Part- 22); 2019	0.009	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 ₆ H ₆)	µg/m"	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

****End of Report****

Authorised Signatory
Dr. Deependra Kumar Sinha

Ph. D. Environmental Engo

Quality Manager Page 1 of 1

Technical Manager

The Decement stated as Test Expert, is issued by the Laboratory under General Terms and Confirmers, only on Company letter band in pre-approved familie. The remain shows in the Test Report refer or relates only to the polymeriyan dense by the Laboratory and the information stated on the Laboratory and the information stated on the Equation of the Indicated which is provided by the altern. The Report remains the improved on the report, except the information which is provided by the altern. The Report remains the reproduced accept to full and any part of the report is not related on provided on the report of the Laboratory. The Report remains the reproduced accept to full and any part of the report is not related on the report of the Laboratory. The Report is full and alternative of the laboratory of the Laboratory and part of the remains and part of the remains of the laboratory and part of the Laboratory and part of the Laboratory of the Laboratory and part of the laboratory of the Report of the Report



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TC-135EF

TEST REPORT

Test Report No.	: ELES/RNC/2025/0317	Report Release Date	: 15.01.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC1358725000000309F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2025/AA/0120
		Location	: Near Shiv Temple Compound Bagru Bauxite Mine (75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 06.01,2025 to 07.01,2025
C HALL GOS	and the second second	Sample Received Date	: 09.01,2025
		Type of Sample	: Ambient Air
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 09.01.2025 to 15.01.2025	Sampling Done By Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 726
_	Relative Humidity (%)	: 57	4	Weather Condition	; Clear

Discipline : Chemic	al	Group:	Atmospheric l	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	61	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	35	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- 2/Sec1): 2023	12.3	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6); 2022	22.8	80 (24hrs)
Ozone (O ₁)	µg/m³	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)	µg/m³	IS 5182 (Part- 22): 2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	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/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by

Report a in Misses format. Meteoration used: NA One Applicable; BDC (Below Dencine Lawre, LDL (Lower Dencine Lawre)

****End of Report****

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

Technical Manager

Akash Kumar Quality Menogr

The Dissensest statud on Yest Report, is assembly the Laboratory study General Terms and Constitution, early on Company latter hand to pre-approved fermal. The security shows in the Yest Report the constitution and the supply is constituted by the Laboratory only. The information about the Equity state found to the prosperior of the time of anothermore only and action to the prosperior of the time of anothermore only and action the laboratory of the Eaboratory is responsible for all the information on their provided in the information which is provided by the claim. The Export content by reproduced record in fall and are past of the open to not taken out of centures, without price vertice approval of the Laboratory. The Export is full or to part shall set be published, advantage, the first provided by the content of the Laboratory. Abstractory is the instantion of footblay, compensation and periodical interest. Also content in the fall of the content of appearance of the Vertice Report is defined only to the fall of the laboratory. Also there is a decreased in the laboratory. Also there are the fall of the laboratory of the laboratory of the laboratory. Also decreased in the laboratory of the laboratory of the laboratory of the laboratory. Also decreased to the fall of the laboratory of the laboratory of the laboratory of the laboratory. Also decreased to the fall of the laboratory of the tonstud for 30 Juys from the Date of references of the East Report. The complex from Regulatory bodies are to be retained as specified. Any type of Observations or Complexes regarding the Report visit believe within 15 Juys from the Date of Text Report visitant/sound. After the time period stated before, no complexity will be accepted. The censer Time solicitude monitoring in Text.

Page 1 of 1



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Phone no.: 0651-2290103 Website; www.elexpi.co.in



TC-1156)

TEST REPORT

Test Report No.	: ELES/RNC/2025/0318	Report Release Date	: 15.01.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
III.R No.	: TC1358725000000310F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/0121 : Near Weigh Bridge Bagru Bauxite Mine (75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 06.01.2025 to 07.01.2025 : 09.01.2025
Mines Status	: Non Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 09.01.2025 to 15.01.2025	Sampling Done By Sample Condition	: Sealed & Preserved

ME	TEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 726
***	Relative Humidity (%)	:57	4:	Weather Condition	: Clear

Discipline : Chemic	al	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	89	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m²	1S 5182 (Part- 24): 2019	53	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	14.6	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	33.1	80 (24hrs)	
Ozone (O ₃)	pg/m³	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/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.41	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.036	1 (24hrs)	
Nickel (Ni)	ng/m³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	rig/m³	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/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D. Environmental Engg.

Akash Kumar

Page 1 of 1

Technical Manager

The Document stand as Yard Report, is issued by the Laboratory under General Taxon and Conditions, only on Company latter head to pre-approved format. The results shown in the Test Report. celes or relates only to the job analysis done by the Laboratory only. The reformation could on the Test Report reflects the findings done by the Laboratory at the time of involvement only and refer or values only to the job analysis done by the Laboratory only. The information stand on the Test Report reflects the Enthropy to the Laboratory at the time of involvement only and within the horses of chem's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the alient. The Report cannot be regressioned occups in tall and see part of the report is not taken out of exercis, without prior version approved at the Indocentry. The Report is field or as part shell not be published, advanture, small for any logal across college prior permission has been secured from the Management of the Laboratory. Attention is therefore the labelity, compensation and permission may be measured to the follow executed and offended may be prosecuted to the follow execute of the law. All the campies are retained for Delays from the Det of observations of the Test Report. The complex from Regulatory bodies are to be retained as specified. Any type of Observations of Completion regressing the Report with the form within 15(1) or from the Oute of Test Report referred insent a period stated before, no completes well be accupted. The entire Time achieves accurate the Report is in 25(horse Because Because Limit).



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TC-HARD

TEST REPORT

Test Report No.	: ELES/RNC/2025/0319	Report Release Date	: 15.01.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000000311F		

CUSTOMER DET	AILS	SAMPLE DETAILS	H-CO COMMENT
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/0122 : Near Daldaliya Village Bagru Bauxite Mine (75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 06.01.2025 to 07.01.2025 : 09.01.2025
Mines Status	: Non Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 09.01.2025 to 15.01.2025	Sampling Done By Sample Condition	: Scaled & Preserved

Mi	METEOROLOGICAL INFORMATION					
1	Average Temperature (°C) : 19	2	Barometric Pressure (mmH	(g) : 727		
3	Relative Humidity (%) : 57	4	Weather Condition	: Clear		

Discipline : Chemic	al	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	71	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	1S 5182 (Part- 24): 2019	39	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2/Sec1): 2023	12.6	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	25.3	80 (24hrs)	
Ozone (O ₁)	µg/m³	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/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.014	1 (24hrs)	
Nickel (Ni)	ng/m³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	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/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by

Akash Kumar

****End of Report****

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

Technical Manager

Page 1 of 4

The Document ended on Test Report, is issued by the Laboratory under Constal Terms and Conditions, only on Company latter hand as pre-approved former. The results shown in the Year Report The Discourses mile to the polyment is seemed by the Laboratory widor Constall Terms and Conditions, only on Company letter hand at pre-approved letters. The months shown in the Fest Report sections mile to the polyments of the Laboratory with. The information stated on the Fest Report sections the findings done by the Laboratory at the time of accordioment only and southing the latinosis improved on the formation of alliest's improved by the client. The Report contest he expendenced enough in Ref. and are part of the report in our takes out of contest, without prior written approved of the Laboratory. The Report is fulfilled as the published, advantage to depend on the formation of feet laboratory of the Laboratory. The Report is the first three to depend on the locations of feet laboratory of the Laboratory. The Report is the location of the Laboratory of the facilities and the following section of the feet laboratory and provided in the Laboratory of the first laboratory of the first laboratory of the first laboratory of the feet laboratory of the first laboratory of



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TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2025/0320	Report Release Date	: 15.01.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000000312F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/0123 : Aditya School Gangupara Bagru Bauxite Mine (75.41ha)
Address	: Lohardaga, Jharkhund-835302	Sampling Date Sample Received Date	: 06.01.2025 to 07.01.2025 : 09.01.2025
Mines Status	: Non Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 09.01.2025 to 15.01.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	727
-	Relative Humidity (%)	:57	4	Weather Condition	; Clear

Discipline : Chemic	al	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	67	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	35	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- 2/Sec1): 2023	13.1	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6); 2022	24.4	80 (24hrs)	
Ozone (O ₁)	μg/m³	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/m³.	1S 5182 (Part- 10): 2019 (NDIR Method)	1.15	2 (8hrs)	
Lead (Ph)	μg/m³	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 (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

****End of Report****

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

Technical Manager

Page 1 of 1

The Discurrent stend to Test Report, is smoothly the Laboratory under General Terms and Conditions, only on Company latter head or pre-approved format. The create shows to the Year Report The Discordent stood to Test Report is smood by the Laboratory under Octaval Terms and Constitution only on Company latter head to pre-approved format. The manhs shown in the Test Report refer to relater only to the primariests dend by the Laboratory only. The information stated in the Laboratory dended in the Laboratory of the time of mentional units to the laboratory. The Laboratory is required by the all the adherent on this provided on the report, except the information which is provided by the client. The Report remains the improduced except in fall and any part of the report is not either our of control, without price section approved of the Laboratory. The Report in fall on its part which on the problems adverted, must be say legal actions before prior permission has been secured from the Management of the Laboratory. Attention is drawn to the formation of fall of loss dended in the laboratory and affect the properties of the Laboratory attention that the fall of loss of the laboratory is the fall of loss of the laboratory and the laboratory is the fall of loss of the laboratory of the loss of the laboratory is the fall of loss of the laboratory of the laboratory is the fall of loss of the laboratory of the laboratory is the fall of loss of the laboratory of the laboratory begins are to be retained as specified. Any type of Charrystians of Compliants eigenful the fall of the laboratory is at laboratory with the security of the assets Time schooled securities (Laboratory and India). After the time period state between Laborator Laboratory will be accepted. The assets Time schooled securities (Laboratory as Illinois forms).



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TC-MARK

TEST REPORT

Test Report No.	: ELES/RNC/2025/0321	Report Release Date	: 15.01.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000000313F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/0124 : Ropeway Unloading Station Bagru Bauxite Mine (75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 06.01.2025 to 07.01.2025 : 09.01.2025
Mines Status	: Non Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 09.01.2025 to 15.01.2025	Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFO	RMATION			
1 Average Temperature (°C)	:19	2	Barometric Pressure (mmHg)	: 727
3 Relative Humidity (%)	:57	4	Weather Condition	: Clear

Discipline : Chemic	al	Group:	Atmospheric !	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	78	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	45	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	13.4	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	25.1	80 (24hrs)
Ozone (O ₃)	μg/m³	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)	µg/m³	IS 5182 (Part- 22): 2019	0.019	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 ₆ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ⁷	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by Akash Kumar Quality Manager

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D. Environmental Enga

Page Lof L

Technical Manager

The Dovoneers used as Test Report, is issued by the Laboratory scale: General Terms and Conditions, only on Company latter hand in pre-approved former. The results shown in the Test Report refer or relates only to the physical does by the Laboratory only. The information stated on the Test Report reflects the findings since by the Laboratory at the time of introductionally and within the limits of client's matricensors. The Laboratory is exponential for all the information or data provided on the export, except the information which is provided by the client. The Report is not represented except to full and my part of the report is not note out of cornect, without price written approved of the Laboratory. The Report is full or in part shall not be published. adverse, and for my legal actions collect prior permission has been secured from the Nanopercent of the Laboratory. Attention is drawn to the Assessment of liability, compensation and periodiction instance. Any unsufficient of alternative & Distribution of the content of appearance of the Torontal appearance and including many the processed to the fallow extent of the low. All the complex are returned for 2000ay from the Date of release more of the Lest Report. The surplus from Regulatory bodies are to be interest as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report of Date of Date of Test Report of Date of Date of Date of Date of Test Report of Date of Da



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TC-15587

TEST REPORT

Test Report No.	: ELES/RNC/2025/0322	Report Release Date	: 15.01.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000000314F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/0125 : Ropeway Angle Station Bagru Bauxite Mine (75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 06.01.2025 to 07.01.2025 : 09.01.2025
Mines Status	: Non Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 09.01,2025 to 15,01,2025	Sampling Done By Sample Condition	: Scaled & Preserved

Mi	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 727
3	Relative Humidity (%)	: 57	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	7.4	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24); 2019	41	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1); 2023	13.3	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	26.1	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m²	IS 5182 (Part-25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10); 2019 (NDIR Method)	1.20	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.018	1 (24hrs)
Nickel (Ni)	ng/m	IS 5182 (Part- 26); 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C _a H _a)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m1	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by Akash Kumar

Quality Manager

****End of Report****

Dr. Deependra Kumar Sinha Ph. D. Environmental Enog.

Page 1 of 1

Technical Manager

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



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10-13587

TEST REPORT

Test Report No.	: ELES/RNC/2025/0421	Report Release Date	: 20.01.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000000413F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2025/SL/0136 : 06.01.2025 : 09.01.2025
Address	: 1.ohardaga, Jharkhand-835302	Type of Sample Location of Sample	: Soil : Near Workshop, Bagru Bauxite Mines (75.41 ha)
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/05
Period of Analysis	: 09.01.2025 to 17.01.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed

Discipline: Chemical		Group: Pollution & 1	Environment
Parameter	Unit	Test Protocol	Result
pH (1:2) at 24.5 °C		IS 2720 (Part-26): 2021	7.23
Conductivity (1:2) at 24.5 °C	μS/cm	IS 14767: 2021	350
Total Organic Carbon (TOC)	%	Soil Testing in India: 2011 (Walkley & Black Method)	2.89
Available Phosphorus (as P)	kg/ha	Soil Testing in India; 2011	4.60
Potassium (as K)	mg/kg	IS 9497: 2020	800
Available Nitrogen	76)	Soil Testing in India; 2011	37.8
Chloride (as Cl) (1:2)	%	ELES/SOIL/SOP/01: 2021	0.010
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)
Lend (as Pb)	mg/kg	US EPA 3050 A&B: 1996	BDL (DL; 0.1)

Page 1 of 2

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10-11687

TEST REPORT

Test Report No.	: ELES/RNC/2025/0421	Report Release Date	: 20.01.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC1358725000000413F			

Discipline : Chemical		Group: Pollution & Environment	
Parameter	Unit	Test Protocol	Result
Magnesium (as Mg)	mg/kg	Soil Testing in India; 2011	2470
Mercury (as Hg)	mg/kg	US EPA 7473 : 2007	BDL (DL: 0.01)

Reviewed by Axash 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

Test Report No.	: ELES/RNC/2025/0421	Report Release Date	: 20.01.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2025/SL/0136 : 06.01.2025 : 09.01.2025
Address	: Lohardaga, Jharkhand-835302	Type of Sample Location of Sample	: Soil : Near Workshop, Bagru Bauxite Mines (75.41 ha)
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/05
Period of Analysis	: 09.01.2025 to 17.01.2025	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 Managar

****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.

Bagru Bauxite Mine-Environmental Monitoring Report

February 2025

CONTENT

Hind.	alco Industries : Bagra Bauxite Mine Environmental Monitoring Report	February 2025
	Bagru Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE	
1	Entrance Gate (Ropeway Loading Station)	
2	Administrative Office	
3	Near Shiv Temple Compound	
4	Near Weigh Bridge	
	AMBIENT AIR QUALITY- BUFFER ZONE	
1:	Near Daldaliya Village	
2	Aditya School Gangupara	
3	Ropeway unloading station	
4	Ropeway Angle Station	
	Drinking Water	
	Effluent Water	
1	ETP	
2	STP	
	Stack	





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TEST REPORT

Test Report No.	: ELES/RNC/2025/1118	Report Release Date	; 22.02.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001096F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2025/AA/1101
		Location	: Entrance Gate (Ropeway Loading
		D. HATHAIDON	Stn); Bagru Bauxite Mine(75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 12.02.2025 to 13.02.2025
		Sample Received Date	: 15.02.2025
		Type of Sample	: Ambient Air
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Destrict of Amelians	: 15.02.2025 to 22.02.2025	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	1 15.02.2025 to 22.02.2025	Sample Condition	: Sealed & Preserved

MI	METEOROLOGICAL INFORMATION					
1	Average Temperature ("C)	: 22	2	Barometric Pressure (mmHg)	: 726	
3	Relative Humidity (%)	: 58	4	Weather Condition	: Clear	

Discipline : Chemic	al	Group:	Group: Atmospheric Pollution		
Parameter Unit		Test Protocol	Result	Regulatory Limi	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23); 2022	81	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	47	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	13.6	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	35.1	80 (24hrs)	
Ozone (O ₃)	µg/m³	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/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.019	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 ₆ H ₆)	µg/m³	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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Page 1 of 1

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TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2025/1119	Report Release Date	: 22.02.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC1358725000001097F			

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/1102 : Administrative Office Bagru Bauxite Mine (75:41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 12.02.2025 to 13.02.2025 : 15.02.2025
Mines Status	: Non Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 15.02.2025 to 22.02.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (%)	: 22	2	Barometric Pressure (mmHg)	: 726
-	Relative Humidity (%)	: 58	4	Weather Condition	: Clear

Discipline : Chemic	al	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	65	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m²	IS 5182 (Part- 24): 2019	33	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	13.1	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m²	IS 5182 (Part- 6); 2022	28.2	80 (24hrs)		
Ozone (O ₃)	μg/m³	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/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.009	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 ₄ H ₆)	μg/m³	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

Quality Manager

Page I of 1

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TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2025/1120	Report Release Date	: 22.02.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC1358725000001098F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/1103 : Near Shiv Temple Compound Bagru Bauxite Mine (75.41ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 12.02,2025 to 13.02,2025 : 15.02,2025 : Ambient Air	
Mines Status	: Non Operational	Type of Sample Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	: 15.02.2025 to 22.02.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

ME	TEOROLOGICAL INFOR	MATION				
1	Average Temperature (°C)	: 22	2	Barometric Pressure (mmHg)	: 726	
-	Relative Humidity (%)	: 58	4	Weather Condition	: Clear	

Discipline : Chemic	al	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	68	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	37	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	10.2	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	24.1	80 (24hrs)	
Ozone (O ₃)	μg/m³	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/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	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 (C ₆ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene 5 Engin	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

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****End of Report****

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Akash Kumer

Page 1 of 1

Page 1 of 1

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TC-ESSE

TEST REPORT

Test Report No.	: ELES/RNC/2025/1121	Report Release Date	: 22.02.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC1358725000001099F			

CUSTOMER DET	AILS	SAMPLE DETAILS	n=-c-c
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/1104 : Near Weigh Bridge Bagru Bauxite Mine (75.41ba)
Address	: Lohardaga, Jhurkhand-835302	Sampling Date Sample Received Date	: 12.02.2025 to 13.02.2025 : 15.02.2025
Mines Status	: Non Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 15.02.2025 to 22.02.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION				
1	Average Temperature (°C) : 22	2	Barometric Pressure (mm	Hg) : 726	
3	Relative Humidity (%) : 58	4	Weather Condition	; Clear	

Discipline : Chemic	al	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	94	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	56	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2/Sec1): 2023	15.2	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	35.5	80 (24hrs)	
Ozone (O ₃)	μg/m³	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	IS 5182 (Part- 10): 2019 (NDIR Method)	1.39	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.031	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 ₆ H ₈)	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

****End of Report****

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

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TC-13567

TEST REPORT

Test Report No.	: ELES/RNC/2025/1122	Report Release Date	: 22.02.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001100F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2025/AA/1105
	the first and the first of the	Location	: Near Daldaliya Village Bagru Bauxite Mine (75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date	± 12.02.2025 to 13.02.2025
/1001632	- marine maked a sent training to a buller	Sample Received Date	: 15.02.2025
		Type of Sample	: Ambient Air
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 15.02.2025 to 22.02.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 22	2	Barometric Pressure (mm	Hg) : 727
	Relative Humidity (%) : 58	4	Weather Condition	: Clear

Discipline : Chemic	cal	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	75	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	42	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- 2/Sec1): 2023	11.8	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	27.1	80 (24hrs)	
Ozone (O ₁)	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/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	1S 5182 (Part- 22): 2019	0.018	I (24hrs)	
Nickel (Ni)	ng/m²	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	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/m²	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

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TC-1356?

TEST REPORT

Test Report No.	: ELES/RNC/2025/1123	Report Release Date	: 22.02.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC1358725000001101F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2025/AA/1106
		Location	: Aditya School Gangupara Bagru Bauxite Mine (75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 12.02.2025 to 13.02.2025
10000000	Control of the second of the s	Sample Received Date	: 15.02.2025
		Type of Sample	: Ambient Air
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Desired of Ameliada	: 15.02.2025 to 22.02.2025	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 15.02.2025 (0.22.02.2025	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORM	MATION			
1	Average Temperature (°C)	: 22	2	Barometric Pressure (mmHg)	: 727
3	Relative Humidity (%)	: 58	4	Weather Condition	: Clear

Discipline : Chemic	al	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	71	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	38	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	12.2	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	26.4	80 (24hrs)	
Ozone (O ₃)	µg/m³	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/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1,24	2 (8hrs)	
Lead (Pb)	hā,m,	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/m²	ELES/AJR/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/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

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TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2025/1124	Report Release Date	: 22.02.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC1358725000001102F		- Honoral Const	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2025/AA/1107	
		Location	: Ropeway Unloading Station Bagru Bauxite Mine (75.41ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 12.02.2025 to 13.02.2025	
		Sample Received Date	: 15.02.2025	
		Type of Sample	: Ambient Air	
Mines Status : Non Operational		Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	: 15.02.2025 to 22.02.2025	Sampling Done By	: ELES Pvt. Ltd.	
renou of Analysis	- 13/02/2023 IO 22/02/2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION				
1	Average Temperature (*C) : 22	2	Barometric Pressure (mm)	Hg) : 727	
3	Relative Humidity (%) : 56	4	Weather Condition	: Clear	

Discipline : Chemic	al	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/m³	1S 5182 (Part- 24): 2019	40	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	12.9	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	23.8	80 (24hrs)
Ozone (O ₃)	μg/m³.	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)	μg/m³	IS 5182 (Part- 22): 2019	0.014	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 ₆ H ₆)	μg/m³	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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TEST REPORT

Test Report No.	: ELES/RNC/2025/1125	Report Release Date	: 22.02.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC1358725000001103F		TARRAM MANAGEMENT	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/1108 : Ropeway Angle Station Bagru Bauxite Mine (75,41ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 12.02.2025 to 13.02.2025 : 15.02.2025	
Mines Status	: Non Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 15.02.2025 to 22.02.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 22	2	Barometric Pressure (mmHg)	: 727	
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/m³	IS 5182 (Part- 23): 2022	78	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	45	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1); 2023	13.6	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	29.5	80 (24hrs)	
Ozone (O ₃)	μg/m³	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/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.23	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.022	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 ₆ H ₆)	µg/m³	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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TEST REPORT

Test Report No.	: ELES/RNC/2025/1189	Report Release Date	: 24.02.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001161F		

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/1115 : 13.02.2025 : 15.02.2025 : Drinking Water : TAP Water : Office (Bagru Bauxite Mines)	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01	
Period of Analysis	: 15.02.2025 to 22.02.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

Discipline: Chemical	Discipline : Chemical			Regulatory as per IS 105	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
pH (at 24.7°C)	100	APHA 24" Ed.2023, 4500-H	6.55	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 24th Ed.2023, 2130 B	0.45	1.0	5.0
Taste	+:	APHA 24th Ed.2023, 2160 C	Agreeable	Agreeable	Agreeable
Odour		IS 3025 (Part-5) :2018	Agreeable	Agrecable	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	290	500	2000
Chloride (as CI)	mg/L	APHA 24th Ed.2023, 4500 Cl B	16.1	250	1000
Fluoride (as F)	mg/L	APHA 24th Ed.2023, 4500 F-D	BDL (DL: 0.1)	1,0	1.5
Total Alkalinity (as CaCO ₃)	mg/L	APHA 24 th Ed.2023, 2320 B	119	200	600
Total Hardness (as CaCO ₃)	mg/L	APHA 24th Ed.2023, 2340 C	138	200	600
Sulphate (as SO ₄)	mg/L	APHA 24th Ed.2023, 4500 SO ₄ -2-E	8.32	200	400
Nitrate (as NO ₃)	mg/L	APHA 24th Ed.2023, 4500 NO ₃ -B	5.46	45	No Relaxation

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TC-13887

TEST REPORT

: 24.02.2025 Report Release Date Test Report No. : ELES/RNC/2025/1189 Work Order Date : 28.03.2024 Work Order No. : 13612312113 : TC1358725000001161F ULR No.

Discipline : Chemica	al	Grou	p: Water		ory Limit 0500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Phenolic Compound (as C ₆ H ₃ 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	36.5	75	200
Anionic Surfactants (as MBAS)	mg/L	APHA 24th Ed.2023, 5540-C	BDL (DL: 0.025)	0.2	1.0
Discipline: Chemic	al	Gro	up: Residues i	n Water	v=
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 24th Ed.2023, 4500 CN-E	BDL (DL: 0.012)	0.05	No Relaxation
Iron (as Fe)	mg/L	APHA 24 th Ed.2023; 3111B	0.089	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 24 th 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 Se)	mg/L	1S 3025 (Part-56): 2019	BDL (DL: 0.01)	0.01	No Relaxatio

Page 2 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/2025/1189	Report Release Date	: 24.02.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001161F		

Discipline: Chemical	Discipline: Chemical		Group: Residues in Water		ory Limit 0500:2012
	W. T.		Result	Acceptable	Permissible
Parameter	Unit	Test Protocol	The second second	Limit	Limit
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)	1	20
Atrazine	μg/L	ELES/GC/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/GC/SOP/01: 2023	BDL (DL: 0.5)	9	90
Methyl parathion	μ <u>α</u> /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)		
Dieldrin	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.01)	1	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

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TEST REPORT

Test Report No.	: ELES/RNC/2025/1189	Report Release Date	: 24.02.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024

ULR No.	: TC1358725000001161F
ELECTRIC PAGE	* T. T. T. T. D. L. W. D.

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 detected	

Remarks: pH done at Site.

Reviewed by

Altash Kumar Quality Managar ****End of Report****

Authorised Signatory

Dr. Deependra Komer Sinha Ph. D. Environmental Engg. Technical Manager

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TEST REPORT

Test Report No.	: ELES/RNC/2025/1189	Report Release Date	: 24.02.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024

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	: ELES/RNC/2025/DW/1119 : 13.02.2025 : 15.02.2025 : Drinking Water : TAP Water : Office	
Mines Status Period of Analysis	: Operational : 15.02.2025 to 24.02.2025	Sampling Procedure Sampling Done By Sample Condition	(Bagru Bauxite Mines) : ELES/DOC/SMPL/01 : ELES Pvt. Ltd. : Sealed & Preserved	

Discipline : Chemical		Caroun : Water		The second secon	ory Limit 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

Asset Numer Quality Manage ****End of Report****

Authorised Signatory

Dr. Deependra Kustar Sinha Ph. D. Environmental Engg. Technical Manager

Page 1 of 1

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TEST REPORT

Test Report No.	: ELES/RNC/2025/1185	Report Release Date	: 24.02.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC1358725000001157F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2025/EF/1115	
		Sampling Date	: 12.02.2025	
		Sample Received Date	: 15.02.2025	
1111	2 4 4 9 44 4 92 52 92	Type of Sample	: Effluent Water	
Address	: Lohardaga, Jharkhand-835302	Source of Sample	: Work Shop Effluent - Bagru	
		and the light	Bauxite Mines (75.41 ha)	
		Sampling Procedure	: ELES/DOC/SMPL/01	
Mines Status	: Non Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 15.02.2025 to 22.02.2025	Sample Condition	: Sealed & Preserved	

Discipline : Chemical Group : Pol			nvironment	Discharge Limi EPR, 1986 Sc	
Parameter	Unit	Test Protocol	Result	Inland Surface Water	Land for Irrigation
pH (at 24.7 °C)		APHA 24th Ed.2023,4500-H	8.29	5.5-9.0	5.5-9.0
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16): 2023	552	*	2.00
Total Suspended Solids (TSS)	mg/L	IS 3025 (Part-17): 2022	34.4	100	200
Dissolved Oxygen (DO)	mg/L	IS 3025 (Part-38): 2019	6.6		-
Biochemical Oxygen Demand (BOD) (at 27 °C for 3 days)	mg/L	1S 3025 (Part-44); 2023	5.1	30	100
Chemical Oxygen Demand (COD)	mg/L	IS 3025 (Part-58): 2023	51.1	250	-
Dissolved Phosphate (as P)	mg/L	IS 3025 (Part-31/Sec-1): 2022	BDL (DL: 0.5)	5.0	1.00
Fluoride (as F)	mg/L	IS 3025 (Part-60): 2019	0.872	2.0	
Sulphide (as S)	mg/L	IS 3025 (Part-29): 2019	BDL (DL: 0.04)	2.0	
Oil & Grease	mg/L	1S 3025 (Part-39): 2021	1.2	10	10

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TEST REPORT

Test Report No. : ELES/RNC/2025/1185 Report Release Date : 24.02.2025

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC1358725000001157F

Discipline: Chemical		Group : Residues in Water		Discharge Limits – CPCB EPR, 1986 Schedule VI	
Parameter	Unit	Test Protocol	Result	Inland Surface Water	Land for Irrigation
Lead (as Pb)	mg/L	APHA 24 th Ed.2023, 3111 B	BDL (DL: 0.01)	0.1	
Manganese (as Mn)	mg/L	APHA 24th Ed. 2023, 3111 B	0.348	2.0	24
Mercury (as Hg)	mg/L	IS 3025 (Part-48): 2019	BDL (DL: 0.001)	0.01	22
Nickel (as Ni)	mg/L	APHA 24th Ed.2023, 3111 B	BDL (DL; 0.01)	3.0	**
Zinc (as Zn)	mg/L	APHA 24th Ed.2023, 3111 B	0.109	5.0	<u> </u>

Remarks: pH & DO done at Site.

Reviewed by

Akash Kumar Quality Manager ****End of Report****

Authorised Signatory

Or. Deependra Kulmar Sinha Ph. D. Environmental Engg. Technical Managar

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TG-(200)

TEST REPORT

Test Report No.	: ELES/RNC/2025/1186	Report Release Date	: 24.02.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001158F		

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2025/EF/1116 : 12.02.2025 : 15.02.2025 : Effluent Water	
Address	: Lohardaga, Jharkhand-835302	Type of Sample Source of Sample	: STP Outlet-Bagru Bauxite Mines (75.41 ha)	
Mines Status	: Non Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/01 : ELES Pvt. Ltd.	
Period of Analysis	: 15.02.2025 to 22.02.2025	Sample Condition	; Sealed & Preserved	

Discipline : Chemical		Group: Pollution & Environment		Discharge Limits – CPCB EPR, 1986 Schedule VI	
Parameter	Unit	Test Protocol	Result	Inland Surface Water	Land for Irrigation
pH (at 24.7 °C)		APHA 24 th Ed 2023,4500-H	6.60	5.5-9.0	5.5-9.0
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16): 2023	448		77
Total Suspended Solids (TSS)	mg/L	IS 3025 (Part-17): 2022	20.4	100	200
Biochemical Oxygen Demand (BOD) (at 27 °C for 3 days)	mg/L	IS 3025 (Part-44): 2023	7.2	30	100
Chemical Oxygen Demand (COD)	mg/L	IS 3025 (Part-58): 2023	70.8	250	-
Calcium (as Ca)	mg/L	IS 3025 (Part-40): 2019	18.5	== :	**
Oil & Grease	mg/L	IS 3025 (Part-39): 2021	2.0	10	10
Discipline :	Chemical	Gro	up: Residue	s in Water	
Aluminum (as Al)	mg/L	IS 3025 (Part-55): 2003, RA2019	BDL (DL: 0.02)	***	
Iron (as Fe)	mg/L	APHA 24th Ed.2023, 3111B	0.233	3.0	**

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TC-13887

TEST REPORT

Test Report No.	: ELES/RNC/2025/1186	Report Release Date	: 24.02.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001158F		

Discipline : Biological		Group : Pollution & Environment		Discharge Limits – CPCB EPR, 1986 Schedule VI	
Parameter	Unit	Test Protocol	Result	Inland Surface Water	Land for Irrigation
Faecal Coliform	MPN/100ml	APHA 24th Ed.2023, 9221E	3.5×10 ³	Via:	- 12

Remarks: pH 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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70-13667

TEST REPORT

Test Report No.	: ELES/RNC/2025/1131	Report Release Date	: 22.02,2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001109F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/SM/1114 : Bagru (75.41 ha) Bauxite Mine DG (25 KVA)
Address Mines Status	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 13.02.2025 : 15.02.2025 : Flue Gas : ELES/DOC/SMPL/02(A)
Period of Analysis	: 15.02.2025 to 22.02.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Scaled

1	Particular of the Plant	: Bauxite Mines
2	Emission Due to	: Burning of HSD
3	Stack Connected to	: DG 25 KVA
4	Material of Construction of Stack	: MS
5	Stack Height from Ground Level (m)	: 11.0
6	Height of Sampling Port from Ground Level (m)	: 7.0
7	Inner Diameter of Stack at Sampling Point (m)	: 0.07
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: 25 KVA
10	Pollution Control System	: N/A
11	Ladder & Platform	; Temporary

FU	EL CHARACTERISTICS DETAILS		
1	Type of Fuel Used	: HSD	
2	Fuel Consumption	: N/A	
3	Calorific Value of Fuel (Kcal/Kg)	: N/A	

Page 1 of 2

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TEST REPORT

Test Report No. : ELES/RNC/2025/1131 Report Release Date : 22.02.2025

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC1358725000001109F

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Results
Particulate Matter (PM)	mg/Nm³	IS 11255(Part-1): 2023	32
Sulphur Di-Oxide (SO ₂)	mg/Nm³	USEPA 6C: 2017	40
Oxides of Nitrogen (NO _x)	mg/Nm ¹	USEPA 7E: 2020	81
Carbon Monoxide (CO)	mg/Nm ⁵	USEPA 10B: 2017	32
Carbon Di- Oxide (CO ₂)	%	USEPA 3A: 2017	4.4
Flue Gas Temperature	#C	IS 11255 (Part-3); 2018	134
Barometric Pressure	mmHg	IS 11255 (Part-3); 2018	720
Velocity of Flue Gas	m/sec	IS 11255 (Part-3): 2018	11.11
Quantity of Gas Flow	Nm³/hr	IS 11255 (Part-3); 2018	107

Reviewed by

****End of Report****

Authorised Signatory

Alcort Kumur Turker Manager

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/sensivis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory 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 client. The Report cannot be reproduced except in full and my part of the report is not taken our of contest, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been recursed from the Management of the Laboratory. Amention is drawn to the limitation of liability, compensation and jurisdiction issues. Any insulborized alternation & falsification of the content or appearance of the Test Report is inhawful and offenders may be provided to the fallest extent of the law. All the samples are retained for Jodays from the Date of releasement of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released listed. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit).

ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Bagru Bauxite Mine-Environmental Monitoring Report

March 2025



CONTENT

Hinda	alco Industries : Bagru Bauxite Mine Environmental Monitoring Report	March 2025
	Bagru Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE	
1	Entrance Gate (Ropeway Loading Station)	
2	Administrative Office	
3	Near Shiv Temple Compound	
4	Near Weigh Bridge	
	AMBIENT AIR QUALITY- BUFFER ZONE	
V = -	Near Daldaliya Village	
2	Aditya School Gangupara	
3.	Ropeway unloading station	
4	Ropeway Angle Station	
	AMBIENT NOISE	
	WORKZONE NOISE	S & ENGL



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

ENGINEERING SERVICES PVT. LTD.

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TC-12567

TEST REPORT

Test Report No.	: ELES/RNC/2025/1740	Report Release Date	: 19.03.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

ULR No. : TC1358725000001699F

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/1911 : Entrance Gate (Ropeway Loading Stn); Bagru Bauxite Mine(75.41ha)
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 10.03.2025 to 11.03.2025 : 12.03.2025
Mines Status	: Non Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 12.03.2025 to 19.03.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

M	METEOROLOGICAL INFORMATION				
1	Average Temperature (°C)	: 28	2	Barometric Pressure (mmHg)	: 720
3	Relative Humidity (%)	: 60	4	Weather Condition	: Clear

n1	Group:	Group : Atmospheric Pollution		
Unit	Test Protocol	Result	Regulatory Limit	
μg/m³	IS 5182 (Part- 23): 2022	76	100 (24hrs)	
μg/m ³	IS 5182 (Part- 24); 2019	41	60 (24hrs)	
μg/m ³	IS 5182 (Part-2/Sec1): 2023	13.3	80 (24hrs)	
μg/m	IS 5182 (Part- 6): 2022	32.6	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 ¹	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
µg/m³	IS 5182 (Part- 22): 2019	0.013	1 (24hrs)	
ng/m³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)	
ng/m¹	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
hã/m,	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	
	μg/m ³	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- 9); 2019 μg/m³ IS 5182 (Part- 25); 2018 mg/m³ IS 5182 (Part- 10); 2019 (NDIR Method) μg/m³ μg/m³ IS 5182 (Part- 22); 2019 ng/m³ IS 5182 (Part- 26); 2020 ng/m³ IS 5182 (Part- 26); 2021 μg/m³ ELES/AIR/SOP/01; 2021 μg/m³ ELES/GC/SOP/06; 2023	Unit Test Protocol Result μg/m³ IS 5182 (Part- 23): 2022 76 μg/m³ IS 5182 (Part- 24): 2019 41 μg/m³ IS 5182 (Part- 2/Sec1): 2023 13.3 μg/m³ IS 5182 (Part- 6): 2022 32.6 μg/m³ IS 5182 (Part- 6): 2019 <20.0	

Reviewed by Akash Kumar

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

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Pape I of I

The Discussest stated as Year Region, is issued by the Laboursey adder General Terms and Condesses, only on Company lower hand in Technical Management in the Test Report The Discount stated as Lett Report, is pound by the Laboratory under General Letters and Condesses, only we Company letter hand as philappoint to the polyments shows here he has Laboratory under the first mention of the Laboratory and the information of the Ton Report reflects the findings done by the Laboratory as the time of involvement only and within its limits of classes in contractions. The Laboratory is responsible for all the origination of a report of the information which is provided by the class. The Report cannot be reported except as full and any part of the upper is not ration out of content, wellow prior normal approval of the Laboratory. The Report is full for in part shall not be published, advertise, used for my legal actions industry prior particular to the Managament of the Laboratory. Attantom is developed to the full institution of labellity, composition and periodical advertise. See the laboratory of the full institution of the institution of the content of appearance of the Laboratory and so the full institution of the institution of the content or appearance of the Laboratory and so the full institution of the full low. All the complete we removed the Maley a form the Date of Tan Report. The samples from Regulatory bodies must be desired as quantified. Any type of Observations or Completions regarding the Report solar bedienes which be done within 15 days from the Date of Tan Report released assets. After the time proved stand before, we completely solar to the content of the Tan Report released assets. Report to at 24 hours former. Address among most N. A. (Not Applicable), 800, (Bakew Detection Land), LOI, (Lower Detection Land).



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

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TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2025/1741	Report Release Date	: 19.03.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
III D No	- TC1358725000001700E			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/1912 : Administrative Office Bagru Bauxite Mine (75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 10.03.2025 to 11.03.2025 : 12.03.2025
Mines Status	: Non Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 12.03.2025 to 19.03.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

MI	METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 28	2	Barometric Pressure (mmHg)	: 720	
3	Relative Humidity (%)	: 60	4	Weather Condition	: Clear	

Discipline : Chemic	al .	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	73	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	34	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	1S 5182 (Part- 2/Sec1): 2023	10.3	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m [‡]	IS 5182 (Part- 6): 2022	25.8	80 (24hrs)	
Ozone (O ₃)	µg/m³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₅)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.30	2 (8hrs)	
Lead (Pb)	μg/m³	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 (C ₀ H ₀)	μg/m³	ELES/GC/SOP/06: 2023	<2,5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	



****End of Report****

Authorised Signatory Dr. Deependra Rumar Sinha

The Decement stated as Test Report, to usual by the Laboratory under Gerard Terms and Conditions, only on Company letter head in pro-Expressed forms. The sende should be the laboratory and the sende should be should be sended should be should be sended should be should be sended should be should be should be sended should be s The Discounter stated as Two Report, to social by the Laboratory under General Terms and Conditions, only on Company letter head to pro-Approval Remain. The strains shown in the Two Report to taken only to the policiestry data, by the Laboratory with. The inflormation stated on the Term Report solidates the Strains of effects to contractions. The Laboratory is companied for all the information or data provided so the report to conformation which as provided by the client. The Report amount for reportanced course of fall and eny part of the report is not taken out of contract, without prior written approval of the Laboratory. The Report is fall and eny part of the report is not taken out of contract, without prior written approval of the Laboratory. The Report is fall and eny part of the report is not taken out of the Managament of the Laboratory. Attention of Report is the Report in the fall interests of Report in the Report is not before the low All the complex seasons. Any meanthful abstract and the fall has a provided abstration of Report in the fall of the Report in the fall of the remain of the Report in the Report in the fall of the Report in the fall of the Report in the fall of the remain of the Report in the fall of the remain of the Report in the Report in the fall of the remain of the Report in the Report in the fall of the remain of the Report in the Rep



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

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TIC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2025/1742	Report Release Date	: 19.03.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001701F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/1913 : Near Shiv Temple Compound Bagru Bauxite Mine (75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 10.03.2025 to 11.03.2025 : 12.03.2025 : Ambient Air
Mines Status	: Non Operational	Type of Sample Sampling Procedure	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 12.03.2025 to 19.03.2025	Sampling Done By Sample Condition	; Sealed & Preserved

MI	ETEOROLOGICAL INFOR	MATION				
1	Average Temperature (°C)	: 28	2	Barometric Pressure (mmHg)	: 720	
-	Relative Humidity (%)	: 60	4	Weather Condition	Clear	

Discipline: Chemic	al	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	71	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	40	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- 2/Sec1): 2023	13.6	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	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 (NH ₁)	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)	µg/m³	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 (C ₆ H ₆)	µg/m³	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 Alcash Kunus

****End of Report***

Dr. Dethoristeti Signano Sinha Ph. D. Environmental Engg.

Page 1 of 1

The Decisions stated as Test Report, is secured by the Laboratory under Control Terms and Conditions, only an Company letter head in pre-approved former. The results shown in the Test Report The Deciminal stated as Ties Report, is remail by the Laboratory under Constitutions and Conditions, only its Company better head in pre-approved formst. The residence of the Internation of the Laboratory of the Laboratory of the Laboratory of the Internation of the Tiest Report to the patients of the Internation of Internation International Internation International Internation International Internation International Internati



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TEST REPORT

Test Report No.	: ELES/RNC/2025/1743	Report Release Date	: 19.03.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001702F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/1914 : Near Weigh Bridge Bagru Bauxite Mine (75.41ha)
Address	: Lohardaga, Jharkhand-835302 Sampling Date Sample Received Date Type of Sample Sampling Procedure Sampling Done By	Sample Received Date	: 10.03.2025 to 11.03.2025 : 12.03.2025
Mines Status		: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 12.03.2025 to 19.03.2025	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 28	2	Barometric Pressure (mmH	(g) : 720
	Relative Humidity (%) : 60	4	Weather Condition	; Clear

Discipline : Chemic	nl	Group:	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	1S 5182 (Part-23): 2022	83	100 (24hrs)
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24): 2019	50	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- 2/Sec1): 2023	12.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	30.4	80 (24hrs)
Ozone (O ₁)	ug/m³	1S 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)	1.28	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.027	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 ₄ H ₄)	µg/m³	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

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha

Ph. D. Environmental Engg.

Page 1 of 1

Technical Manager

The Discourage stated as Tast Report, as issued by the Laboratory and a Circuit Terms and Conditions, only on Congrany letter based in procupation of forms. The conditions with a laboratory and a condition of the process of the laboratory and a condition of the laboratory and an interpretation second on the Tast Report reflects the limiting done by the Laboratory at the torse of processes only and reliable of about 5 instructions. The Laboratory is responsible for all the information or done processed on the tasternous which is processed by the alarm The Report of the improved of the Laboratory. The Report is full and one part shall not be published, asked for any legal actions indicate prior permission has been account from the Management of the Laboratory. American is drawn to the Report of the laboratory and the laboratory of the Tast Report is antisocial and referred to the Report of the Laboratory of the Report of the Laboratory of the Report of the Laboratory of the Report of retained for Miles from the Date of retemptions of the Last Espert. The samples from Regulatory Stelles are to be extended as openfied. Any type of Observations or Complaints regarding the Report solution of the Last Espert solution of the Last Espert solution of the Stelles from the Date of Last Espert solution. After the trees period stand before, no complaints will be accepted. The antire Tone achieved requirement of the Report is in 3 Money format. Address table work. N.A. Dan Applicable), ROL (Balow Districts Laws), LOL (Lower Districts Laws).



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TC-13567

TEST REPORT

Test Report No.	: ELES/RNC/2025/1744	Report Release Date	: 19.03.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC1358725000001703F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/1915 : Near Daldaliya Village Bagru Bauxite Mine (75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sample	: 10.03.2025 to 11.03.2025 : 12.03.2025
Mines Status	: Non Operational		: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 12,03,2025 to 19,03,2025	Sample Condition	: Sealed & Preserved

МІ	ETEOROLOGICAL INFOR	MATION			- CONTINUE C
	Average Temperature (°C)	77.7.7	2	Barometric Pressure (mmHg)	: 720
	Relative Humidity (%)	: 60	4	Weather Condition	; Clear

Discipline : Chemic	al	Group:	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	70	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24); 2019	35	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	12.2	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	26.5	80 (24hrs)
Ozone (O ₁)	µg/m³	1S 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/m²	1S 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ¹	1S 5182 (Part- 22): 2019	0.022	1 (24hrs)
Nickel (Ni)	ng/m	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C _n H _n)	μg/m'	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 Kamar

****End of Report****

Dr. Deependra Kinnal Sinha Ph. D. Environmental Engg

Page Lof I

Technical Manager

The Decement stated in Test Report, is issued by the Laboratory under General Terms and Conditions, only on Congruing letter hand in pre-opposed forms. The results shown in the Test Report refer to relate only to the justimely or the time of involvement only and apter or counts only so the junctional state by the information of the rest topout setting the problem by the information within the information of alest a more attention which is provided for all the information or data provided on the report, except the attention which is provided by the plant of the report Reports shall be done within 15days from the Date of that Report released based. After the time period stated before, no examples in will be accepted. The entire Time schedule measured in Test Report is se 24 better Konter, Abbrevisties used. N. A (Nos Applicable), 800. (Seine Detection Limit), LDL (Lower Detection Limit).



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

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TG-13587

TEST REPORT

Test Report No.	: ELES/RNC/2025/1745	Report Release Date	: 19.03.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
	CONTRACTOR			

ULR No. : TC1358725000001704F

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/1916 : Aditya School Gangupara Bagru Bauxite Mine (75.41ha)
Address	Type of Sample Sampling Procedure	Sample Received Date	: 10.03,2025 to 11.03,2025 : 12.03,2025
Mines Status		: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 12.03.2025 to 19.03.2025	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION			14017
-	Average Temperature (°C) : 28	2	Barometric Pressure (mml	łg) : 726
1	Relative Humidity (%) : 60	4	Weather Condition	: Clear

al	Group:	Group: Atmospheric Pollution		
Unit	Test Protocol	Result	Regulatory Limit	
µg/m ¹	IS 5182 (Part- 23): 2022	76	100 (24hrs)	
μg/m³	IS 5182 (Part- 24); 2019	42	60 (24hrs)	
μg/m³	IS 5182 (Part- 2/Sec1): 2023	13.8	80 (24hrs)	
μg/m³	IS 5182 (Part- 6): 2022	28.1	80 (24hrs)	
	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.22	2 (8hrs)	
μg/m ¹	1S 5182 (Part- 22): 2019	0.018	I (24hrs)	
ng/m ^T	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
ng/m ¹	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	
	μg/m ³	Unit Test Protocol μg/m² 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- 9): 2019 μg/m³ IS 5182 (Part- 25): 2018 mg/m³ IS 5182 (Part- 10): 2019 (NDIR Method) μg/m³ ng/m³ IS 5182 (Part- 22): 2019 ng/m³ IS 5182 (Part- 26): 2020 ng/m³ ELES/AIR/SOP/01: 2021 μg/m³ ELES/GC/SOP/06: 2023	Unit Test Protocol Result μg/m² IS 5182 (Part- 23): 2022 76 μg/m³ IS 5182 (Part- 24): 2019 42 μg/m³ IS 5182 (Part- 2/Sec1): 2023 13.8 μg/m³ IS 5182 (Part- 6): 2022 28.1 μg/m³ IS 5182 (Part- 6): 2019 <20.0	

Reviewed by Akash Kumar

****End of Report****

Dr. Deependra Komar Sinha Ph. D. Environmental Engg.

Page 1 of 1

Technical Manager

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ENGINEERING SERVICES PVT. LTD.

Email: info@elespi.co.in, eles.runchi@amail.com

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



TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2025/1746	Report Release Date	: 19.03.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001705F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/1917 : Ropeway Unloading Station Bagru Bauxite Mine (75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 10.03.2025 to 11.03.2025 : 12.03.2025 : Ambient Air
Mines Status	: Non Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvl. Ltd.
Period of Analysis	: 12.03.2025 to 19.03.2025	Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION			
1 Average Temperature (°C) : 28	2	Barometric Pressure (mml	Hg) : 720
3 Relative Humidity (%) : 60	4	Weather Condition	: Clear

Discipline : Chemic	al	Group:	Atmospheric !	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Maner (PM10)	µg/m ¹	IS 5182 (Part- 23): 2022	79	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24); 2019	44	60 (24hrs)
Sulphur Di-Oxide (SO ₇)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	11.5	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	25.5	80 (24hrs)
Ozone (O ₁)	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)	µg/m ⁵	1S 5182 (Part- 22); 2019	0.026	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 _a H _a)	µg/m"	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m²	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)
THE WHITE PROPERTY OF THE PARTY			0	

Reviewed by Akgah Kumar

Quality Manager

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D. Environmental Engg.

Page 1 of 1

Technical Manager

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TC-12587

TEST REPORT

Test Report No.	: ELES/RNC/2025/1747	Report Release Date	: 19.03.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
FOR PA NO.	TC1120022000001706F			

ULR No. : TC1358725000001706F

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	; ELES/RNC/2025/AA/1918 ; Ropeway Angle Station Bagra Bauxite Mine (75.41ha)
Address	: Lohardaga, Fharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 10.03.2025 to 11.03.2025 : 12.03.2025 : Ambient Air
Mines Status	: Non Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvl. Ltd.
Period of Analysis	: 12.03,2025 to 19.03,2025	Sample Condition	: Sealed & Preserved

Mi	ETEOROLOGICAL INFORMATION	10-		
1	Average Temperature (°C) : 28	2	Barometric Pressure (mmHg)	: 720
-	Relative Humidity (%) : 60	4	Weather Condition	; Clear

Discipline : Chemic	al	Group:	Atmospheric :	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS-5182 (Part- 23): 2022	83	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	48	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	12.9	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	27.3	80 (24hrs)
Ozone (O ₅)	µg/m³	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)	1.28	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 ₄ H ₆)	μg/m³	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

Altosh Kumar

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

Page 1 of 1
The Character stand as Test Report in count by the Laboratory order General Terms and Conditions, only on Chargeny Jerus head in Test Report from the Test Report The formation of the report of course by the Laboratory order terms was covering only for Company with need in prosperate terms. Increase of the first super-ration with the polymerism data by the Laboratory only. The information stend on the Test Report reflects the finiteless done by the Laboratory is the increasing only. The information of data provided on the report, except the information which is provided by the effect. The Report courses be reportable of except to full and not part of the report is not information within approval of the Laboratory. The Report is full or in your shall not be published.

Alterian to drawn to the finitiation of liability, companions and provided on the Laboratory. Attendion to the finitiation of liability, companions and provided on the Laboratory attendion of liability. some. Any unsufficient alternation of the content or appearance of the Teat Report is unlewful and offenders may be processed to the followers of the law. All the samples may named the Nobys flow the Date of release/some of the Tan Report. The samples from Regulatory budies are to be retained an openfied. Any type of Characteristic or Compliant expending the Reports shall be done within 15 days from the Date of Cast Report released wood. After the time period succed before, we compliant will be accepted. The center Time actuable recontented in 1 on Report to in Otherus former. Abbenvious med. N. A. (Not Applicable), UDL (Below Descrior Limit), LDL (Lower Descriors Limit).



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TQ-13887

TEST REPORT

Test Report No.	: ELES/RNC/2025/1750	Report Release Date	: 19.03.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001709F	311	

CUSTOMER DE	TAILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sampling Date Sampling Received Date Type of Sample Sampling procedure Sampling Done By	: 10.03,2025 to 11.03,2025 : 12.03,2025 : Ambient Noise : ELES/DOC/SMPL/03 : ELES Pvt. Ltd.
Mines Status	: Non Operational	Period of Analysis	: 12.03.2025 to 17.03.2025

MI	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 28	2	Barometric Pressure (mmHg)	: 720
3	Relative Humidity (%)	: 60	4	Weather Condition	: Clear

Discipline: Chemical	Discipline : Chemical Group : Atmospheric P					
Location	Unit	Test Protocol	Resu	dt	Regulatory Limit (Industrial Zone)	
Near Mine Office. Bagru Bauxite Mines (75.41ha)		IS 9989: 2020	Time	Leg		
	dB(A)		Day Time	63	75 dB(A) Day Time	
Sample ID: ELES/RNC/2025/AN/1921	ub(it)		Night Time	50	70 dB(A) Night Time	

Reviewed by Akash Kumar Quality Manager

****End of Report****

Dr. Deependra William Sinha Ph. D. Environmental Engg. Technical Manager

Page 1 of 1

The Decomen stated as Test Report is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the jub'analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory 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 client. The Report cannot be reproduced except in full and any part of the report is not taken our of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Amention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized afternation & fabrification of the content or appearance of the Test Report is underofit and offenders may be prosecuted in the fullest extent of the law. All the samples are retained for Midnys from the Date of felerase issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15 days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24 hours format. Abbreviation used. N/A (Not Applicable), BDL (Below Direction Limit).



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ENGINEERING SERVICES PVT. LTD.

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



TC-13567

TEST REPORT

Test Report No.	: ELES/RNC/2025/1748	Report Release Date	: 19.03.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC1358725000001707F			

CUSTOMER DET	TAILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sampling Date	: 11.03.2025	
Address	: Lohardaga, Jharkhand-835302	Sampling Received Date Type of Sample Sampling procedure Sample Drawn By	: 12.03.2025 : Workzone Noise : ELES/DOC/SMPL/03 : ELES Pvt. Ltd.	
Mines Status	: Non Operational	Period of Analysis	: 12.03,2025 to 17.03.2025	

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 30	2	Barometric Pressure (mmH	(g) : 720
3	Relative Humidity (%) : 62	4	Weather Condition	: Clear

Location	Unit	Test Protocol	Result		Regulatory Limit (Industrial Zone)
Bagru Crusher Site -			Time	L_{eq}	
Bagru Bauxite Mine (75.41ha)	dB(A)	IS 4758: 2017	Day Time	66	90 dB(A)
Sample ID: ELES/RNC/2025/WN/1919					

Reviewed by Akash Kumar Quality Manager

****End of Report****

Authorised Signatory

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

Page 1 of 1

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Annexure 3

Date - 01.05.2025

Office Order

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

- 1. Mr. Raj Sinha (Coordinator)
- 2. Mr. Malaya Prusty (Geologist)
- 3. Mr. Girija Tamrakar (Environment Engineer)
- 4. Mr. Anand Prakash Tiwari (Environment Engineer)

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

Basudev Gangopadhyay AVP (Planning, Environment & Compliance)

Annexure 4

	Production, Mined Out, Back Filled and Over Burden removal from 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)

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)