

HIL/LHD/ENV/MoEF&CC/067

Date: 16th May 2025

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

Sub: Six Monthly EC Compliance Report for Sherangdag (155.81 Ha) Bauxite Mining project of M/s Hindalco Industries Limited, Gumla Jharkhand for the period from October 2024 to March 2025.

Ref: Environmental Clearance letter no J-11015/125/2006-IA II (M) dated 13th April 2007.

Dear Sir,

With reference to the above, we are submitting herewith the Compliance status report of EC conditions for **Sherangdag (155.81 Ha) Bauxite Mining project of M/s Hindalco Industries Limited**, Gumla Jharkhand for the period from **October 2024 to March 2025** for your kind perusal please.

The lease details are below:

Lease area (ha)	Production Capacity (MT)	Lease Period
155.81	260000	16.10.1974 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: ro.ranchi-mef@gov.in, mef@ori.nic.in, mef@nic.in, mef.or@nic.in, mescb.cpcb@nic.in, zokolkatta.cpcb@nic.in, ranchijspcb@gmail.com, roranchi47@gmail.com

Name of the Project : **Sherangdag Bauxite Mine (155.81 ha)**
M/s Hindalco Industries Limited

Environment Clearance No. & date : **J-11015/125/2006-IA.II (M), dated 13.04.2007**

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

Specific Conditions: -

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

Reply: - Implementations of the stipulated conditions in NOC are fulfilled after which Consent to Operate (CTO) has been obtained from time to time. The current CTO is valid up to 31.12.2026. Production of bauxites is within limits specified in Consent to Operate.

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

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

Condition iii: - The exploration shall be completed within 2.5 years and thereafter the proponent shall come up with a firm proposal for mining, based on the estimated reserves. The reclamation plan, post mine land use and progressive greenbelt development plan shall also be prepared and submitted with the revised proposal.

Reply: - Required exploration has already been done. Mining plan/ Mining Scheme based on current reserves/resource estimate is duly approved by IBM. The reclamation plan, post mine land use and progressive greenbelt development plan have been covered in Mining Plan/Mining scheme which is approved by IBM.

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

Reply: - Mining is being done at shallow depth. Thus, there is no chance to intersect ground water table during mining operation. Working zone restricted to above ground water table. We undertake that no mining is/was carried out below ground water table and the same status will be maintained in future also.

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

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

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

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

Reply: - Topsoil is being stacked properly with proper slope as and when required for its use for reclamation and rehabilitation. Sequential backfilling and reclamation of the mined-out area are being exercised during mining operation. The mining is being carried out as per the approved mining plan. Monitoring and management of rehabilitated areas is being done through effective supervision. Data pertaining to backfilling is enclosed as **Annexure-4.**



Reclaimed area

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

Reply: - Overburden and waste rock from the mining pit are being used for back filling. Backfilling and plantation detail provided in **Annexure 4.** No external OB dump is in the project area. Monitoring and management of rehabilitated areas is continuous through supervision.

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

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

Reply: - To collect & manage rainwater during monsoon, part of mined out area is used as a settling tank for the runoff. Rainwater stored is being used for watering the mine area, roads, green belt development and sprinkling as necessary. Catch drains, Garland drains of appropriate size are being constructed in both around the mine pit to prevent runoff of water and flow of sediments directly into the agricultural field and water bodies, if applicable. Sump of adequate capacity is being provided and maintained as required. Photographs of the same is attached below.



Garland drain



De-siltation Arrangement

Condition ix: - Plantation shall be raised in an area of 70.68 ha including a green belt of adequate width by planting the native species around the ML area, roads, reclaimed area etc. in consultation with the local DFO / Agriculture Department. The density of the trees should be around 1500 plants per ha.

Reply: - Progressive plantation of native species is being carried in and out around mining lease, reclaimed areas etc. in consultation with the local forest department. During FY 2024-25, a total of 5654 nos. saplings have been planted within the mining lease. Cumulative 28.60 ha areas have been planted till date.

In addition to this agricultural activity is going on reclaimed land as per the consent of landowners. Green belt development program is in progress with the progress of mining activities in a phased manner.



Plantation at Mines

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

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



Rainwater Harvesting Ponds

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

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




Piezometer

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

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

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



सर्वोच्च न्यायालय
सर्वोच्च न्यायालय

महाराष्ट्र सरकार
जल संधि विभाग
जल संधि विभाग, नदी विकास
और जल संधि विभाग
केन्द्रीय जल संधि विभाग
Government of India
Ministry of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

(पूर्व निकासी हेतु अनापत्ति प्रमाण पत्र)
NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	Sherangad Bauxite Mining Project (155.81 Ha)								
Project Address:	Hindalco Industries Ltd, Court Road, Lohardaga, Dist - Lohardaga								
Village:	Sherangad			Block:			Ghaghra		
District:	Gumla			State:			Jharkhand		
Pin Code:									
Communication Address:	Hindalco Industries Ltd, Hindalco Complex, Court Road, Lohardaga, P.O - Lohardaga, Lohardaga, Lohardaga, Jharkhand - 853502								
Address of CGWB Regional Office:	Central Ground Water Board Mid Eastern Region, 6th k∓: 7th Floor, Lok Nayak Jay Prakash Bhawan, Fraser Road, Dak Banglow, Patna, Bihar - 800011								

1. **NOC No.:** CGWAI/NOC/MIN/REN/2/2023/8367

3. **Application No.:** 21-4486/JHM/Min/2019

7. **Project Status:** Existing Ground Water

7. **Valid from:** 12/12/2023

8. **Ground Water Abstraction Permitted:**

Fresh Water		Saline Water		Dewatering		Total	
m ³ /day	m ³ /year	m ³ /day	m ³ /year	m ³ /day	m ³ /year	m ³ /day	m ³ /year
9.50	3467.50						

2. **Date of Issuance:** 11/10/2023

4. **Category:** Safe

6. **(GWR 2022)**

6. **NOC Type:** Renewal

8. **Valid up to:** 11/12/2025

10. Details of ground water abstraction/dewatering structures

Total Existing No.-0	Total Proposed No.-0											
	DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu
Abstraction Structure "0"	0	0	1	0	0	0	0	0	0	0	0	0

"DW": Day Dug, "DCB": Deep Core Borehole, "BW": Borehole, "TW": Tube Well, "MP": Mine Pit/Mine Pumps

11. Ground Water Abstraction/Restoration Charges paid (Rs.):

12. Environment Compensation (if applicable) paid (Rs.):

6936.00

0.00

NOC for Ground Water

Condition xiii: - Water monitoring both for quality and quantity shall be carried out at four locations namely one spring and three streams. Six monthly report should be submitted to the Ministry of Environment and Forest and its Regional Office located at Bhubneshwar.

Reply: - Water quality of the Spring and streams is being monitored. Analysis report is attached as **Annexure 2**. Six monthly reports are being submitted regularly. Now, the Regional office of MoEF&CC is located in Ranchi.

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

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



Tarpaulin covered Truck

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

Reply: - Wet drilling is in practice.



Wet drilling

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

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

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

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

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

Reply: - The sewage water from domestic uses is being collected through individual Septic Tank and followed by Soak Pit.

No wastewater is generated from our mining operation. However, only negligible amount of effluent is being generated from workshop and Oil & grease trap system is already installed to treat this effluent. The treated water is in close circuit and being reused for washing of vehicle in the workshop.

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



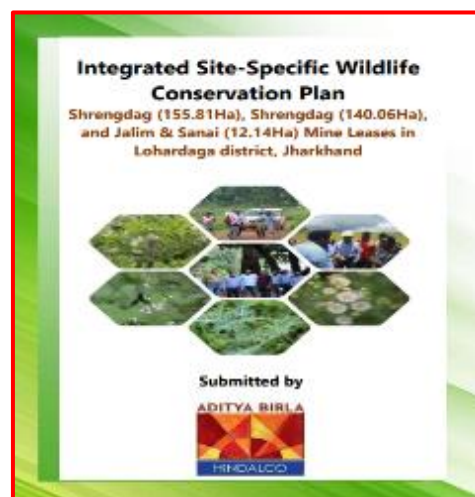
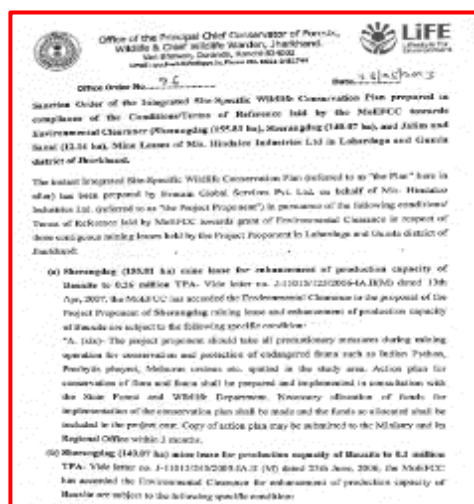
Washing Ramp and Oil and Grease Trap

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

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

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

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



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

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

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

General Conditions: -

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

Reply: - Noted.

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

Reply: - Calendar plan including excavation, quantum of mineral bauxite and waste is being done as per IBM approved mining scheme and in scientific manner.

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

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

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

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

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

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

Reply: - Water tankers have been provided for sprinkling of water on haul roads, at loading and unloading areas, and at transfer points to control fugitive dust emissions. Water spraying at loading, unloading, and transfer points is being done.



Water sprinkling through tanker.

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

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

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

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

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



Washing Ramp and Oil and Grease Trap

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Piezometer Monitoring Report

Mine: Sherangdag Bauxite Mine (155.81 Ha)

S No	Month	Ground Water Level (BGL) in meter
1	Oct-24	35.98
2	Nov-24	36.05
3	Dec-24	36.13
4	Jan-25	36.21
5	Feb-25	36.35
6	Mar-25	36.42

**ENVIRONMENTAL LABORATORIES & ENGINEERING
SERVICES PVT. LTD.**

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

Shrengdag A Bauxite Mine-Environmental Monitoring Report

October 2024



CONTENT

Hindalco Industries - Shreegadh A Bauxite Mine Environmental Monitoring Report - October 2024	
Shreegadh A Bauxite Mine	
AMBIENT AIR QUALITY- CORE ZONE	
1	Near Weigh Bridge
2	BKJ Quarry
3	Mine Pit Quarry No.1A
4	Mine Pit Quarry No.2B
AMBIENT AIR QUALITY- BUFFER ZONE	
1	Near Banjari Village
2	Near Paari Village
3	Near Haran Village
4	Near Paimoli Village





ENVIRONMENTAL LABORATORIES &

PLOT NO-20, MIRSAKOHAR ENCLAVE, TURMADANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAEC97130123

ENGINEERING SERVICES PVT. LTD.

Email: info@elegal.co.in, [elegal_ranchi@gmail.com](mailto:info@elegal.co.in)
Phone no.: 0653-2290103
Website: www.elegal.co.in



TEST REPORT

Test Report No. : ELES/RNC/2024/0021	Report Release Date : 17.10.2024
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TCL35872400003914F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/7094
Address	: Lohardaga, Jharkhand-835302	Location	: Near Weigh Bridge, Serangdag-A Bauxite Mines (155.81ha)
Mines Status	: Operational	Sampling Date	: 07.10.2024 to 08.10.2024
Period of Analysis	: 10.10.2024 to 17.10.2024	Sample Received Date	: 10.10.2024
		Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMP/02
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

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

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	71	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	30	60 (24hrs)
Sulphur Dioxide (SO ₂)	µg/m ³	IS 5182 (Part- 2/Sec): 2023	11.8	80 (24hrs)
Nitrogen Dioxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	26.4	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDEH Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.018	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ³	ELES/OC/SOP/06: 2023	<2.5	05 (Annual)
Benz(a)anthracene	ng/m ³	ELES/OC/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 Engg.

Page 1 of 1

Technical Manager

This Document issued as Test Report is issued by the Laboratory under General Terms and Conditions, jointly or Company letter head as per approved format. The sample shown in the Test Report only is subject only to the procedures done by the Laboratory only. The information stated in the Test Report reflects the findings done by the Laboratory at the time of analysis only and within the limits of stated parameters. The Laboratory is responsible for all the information or data provided in the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report is not to be used for any purpose other than the one for which it is issued. The Laboratory is not responsible for the consequences of the use of the information or data provided in the report. Any unauthorized alteration or falsification of the content or appearance of the Test Report is considered an offence and will be prosecuted to the fullest extent of the law. All the samples are retained by the Laboratory for the time of retention of the Test Report. The samples from Report are not to be used for any purpose other than the one for which it is issued. Any type of observation or complaint regarding the Report (apart from the one made within 7 days from the date of Test Report) shall be considered. After the time period stated in the report, no complaint will be accepted. The entire Test Report shall be destroyed in Test Report is a Confidential Document. Information used: N/A (Not Applicable), N/A (Not Applicable), N/A (Not Applicable), N/A (Not Applicable), N/A (Not Applicable).



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAKOVAR ENCLAVE, TUPUDANI
KATIA, RANCHI-834001 (JHARKHAND)
GST NO:- ZIMAFCE2130126

ENGINEERING SERVICES PVT. LTD.

Email: info@elapsol.co.in, elapsol@gmail.com
Phone No.: 0651-2290108
Website: www.elapsol.co.in



TEST REPORT

Test Report No. : ELES/RNC/2024/0022	Report Release Date : 17.10.2024
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC135872400003915F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/7095
Address	: Lohardigha, Jharkhand-835302	Location	: BKB Quarry, Serenglag-A Bauxite Mines (155.8ha)
Mines Status	: Operational	Sampling Date	: 07.10.2024 to 08.10.2024
Period of Analysis	: 10.10.2024 to 17.10.2024	Sample Received Date	: 10.10.2024
		Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMP/02
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 27	2	Barometric Pressure (mmHg)	: 760
3	Relative Humidity (%)	: 66	4	Weather Condition	: Partly Cloudy

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 23): 2022	58	100 (24hrs)
Particulate Matter (PM2.5)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 24): 2019	31	60 (24hrs)
Sulphur Dioxide (SO ₂)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 2/Sec1): 2023	8.4	80 (24hrs)
Nitrogen Dioxide (NO ₂)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 6): 2022	19.7	80 (24hrs)
Ozone (O ₃)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 9): 2019	<10.0	100 (8hrs)
Ammonia (NH ₃)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m^3	IS 5182 (Part- 10): 2019 (NDE Method)	<1.0	2 (8hrs)
Lead (Pb)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 22): 2019	0.011	1 (24hrs)
Nickel (Ni)	ng/m^3	IS 5182 (Part- 26): 2020	<5.0	20 (Annual)
Arsenic (As)	ng/m^3	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	$\mu\text{g}/\text{m}^3$	ELES/GC/SOP/06: 2023	<2.5	05 (Annual)
Benzo(a)Pyrene	ng/m^3	ELES/GC/SOP/05: 2023	<0.5	01 (Annual)

[Signature]

Received by
Akash Kumar
Quality Manager

****End of Report****

[Signature]

Authorized Signatory
Dr. Deependra Kumar Sinha
Ph. D. Environmental Engg.
Technique Manager

Page 3 of 3

(The document stated in Test Report is issued to the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer to values only at the laboratory stage by the Laboratory only. The information stated in the Test Report reflects the findings done by the Laboratory at the time of investigation only and without the intent of giving a guarantee. The Laboratory is responsible for all the information and data provided in the report, except the information which is provided by the client. The responsibility to represent sample in full and not part of the report is on laboratory of person without prior written approval of the Laboratory. The Report is full or in part shall not be published, reprinted, sold, or any legal action taken prior permission has been received from the Management of the Laboratory. Discretion is given to the Laboratory at the time of investigation and publication. Any unauthorised alteration or falsification of the content or suppression of the Test Report is considered as a violation and will be treated as per the policy of the firm. All the samples are analysed for 7 days from the date of submission of the Test Report. The samples from Regulatory bodies are to be analysed as specified. Any type of unreasonable delay in response regarding the Report shall be done within 7 days from the date of Test Report released/issued. After the time period stated below, an enquiry will be accepted. The exact Time schedule mentioned in Test Report is to follow. Enquiry information call: 0651-2290108 / 0651-2290109 / 0651-2290110 / 0651-2290111 / 0651-2290112 / 0651-2290113 / 0651-2290114 / 0651-2290115 / 0651-2290116 / 0651-2290117 / 0651-2290118 / 0651-2290119 / 0651-2290120 / 0651-2290121 / 0651-2290122 / 0651-2290123 / 0651-2290124 / 0651-2290125 / 0651-2290126 / 0651-2290127 / 0651-2290128 / 0651-2290129 / 0651-2290130 / 0651-2290131 / 0651-2290132 / 0651-2290133 / 0651-2290134 / 0651-2290135 / 0651-2290136 / 0651-2290137 / 0651-2290138 / 0651-2290139 / 0651-2290140 / 0651-2290141 / 0651-2290142 / 0651-2290143 / 0651-2290144 / 0651-2290145 / 0651-2290146 / 0651-2290147 / 0651-2290148 / 0651-2290149 / 0651-2290150 / 0651-2290151 / 0651-2290152 / 0651-2290153 / 0651-2290154 / 0651-2290155 / 0651-2290156 / 0651-2290157 / 0651-2290158 / 0651-2290159 / 0651-2290160 / 0651-2290161 / 0651-2290162 / 0651-2290163 / 0651-2290164 / 0651-2290165 / 0651-2290166 / 0651-2290167 / 0651-2290168 / 0651-2290169 / 0651-2290170 / 0651-2290171 / 0651-2290172 / 0651-2290173 / 0651-2290174 / 0651-2290175 / 0651-2290176 / 0651-2290177 / 0651-2290178 / 0651-2290179 / 0651-2290180 / 0651-2290181 / 0651-2290182 / 0651-2290183 / 0651-2290184 / 0651-2290185 / 0651-2290186 / 0651-2290187 / 0651-2290188 / 0651-2290189 / 0651-2290190 / 0651-2290191 / 0651-2290192 / 0651-2290193 / 0651-2290194 / 0651-2290195 / 0651-2290196 / 0651-2290197 / 0651-2290198 / 0651-2290199 / 0651-2290200 / 0651-2290201 / 0651-2290202 / 0651-2290203 / 0651-2290204 / 0651-2290205 / 0651-2290206 / 0651-2290207 / 0651-2290208 / 0651-2290209 / 0651-2290210 / 0651-2290211 / 0651-2290212 / 0651-2290213 / 0651-2290214 / 0651-2290215 / 0651-2290216 / 0651-2290217 / 0651-2290218 / 0651-2290219 / 0651-2290220 / 0651-2290221 / 0651-2290222 / 0651-2290223 / 0651-2290224 / 0651-2290225 / 0651-2290226 / 0651-2290227 / 0651-2290228 / 0651-2290229 / 0651-2290230 / 0651-2290231 / 0651-2290232 / 0651-2290233 / 0651-2290234 / 0651-2290235 / 0651-2290236 / 0651-2290237 / 0651-2290238 / 0651-2290239 / 0651-2290240 / 0651-2290241 / 0651-2290242 / 0651-2290243 / 0651-2290244 / 0651-2290245 / 0651-2290246 / 0651-2290247 / 0651-2290248 / 0651-2290249 / 0651-2290250 / 0651-2290251 / 0651-2290252 / 0651-2290253 / 0651-2290254 / 0651-2290255 / 0651-2290256 / 0651-2290257 / 0651-2290258 / 0651-2290259 / 0651-2290260 / 0651-2290261 / 0651-2290262 / 0651-2290263 / 0651-2290264 / 0651-2290265 / 0651-2290266 / 0651-2290267 / 0651-2290268 / 0651-2290269 / 0651-2290270 / 0651-2290271 / 0651-2290272 / 0651-2290273 / 0651-2290274 / 0651-2290275 / 0651-2290276 / 0651-2290277 / 0651-2290278 / 0651-2290279 / 0651-2290280 / 0651-2290281 / 0651-2290282 / 0651-2290283 / 0651-2290284 / 0651-2290285 / 0651-2290286 / 0651-2290287 / 0651-2290288 / 0651-2290289 / 0651-2290290 / 0651-2290291 / 0651-2290292 / 0651-2290293 / 0651-2290294 / 0651-2290295 / 0651-2290296 / 0651-2290297 / 0651-2290298 / 0651-2290299 / 0651-2290300 / 0651-2290301 / 0651-2290302 / 0651-2290303 / 0651-2290304 / 0651-2290305 / 0651-2290306 / 0651-2290307 / 0651-2290308 / 0651-2290309 / 0651-2290310 / 0651-2290311 / 0651-2290312 / 0651-2290313 / 0651-2290314 / 0651-2290315 / 0651-2290316 / 0651-2290317 / 0651-2290318 / 0651-2290319 / 0651-2290320 / 0651-2290321 / 0651-2290322 / 0651-2290323 / 0651-2290324 / 0651-2290325 / 0651-2290326 / 0651-2290327 / 0651-2290328 / 0651-2290329 / 0651-2290330 / 0651-2290331 / 0651-2290332 / 0651-2290333 / 0651-2290334 / 0651-2290335 / 0651-2290336 / 0651-2290337 / 0651-2290338 / 0651-2290339 / 0651-2290340 / 0651-2290341 / 0651-2290342 / 0651-2290343 / 0651-2290344 / 0651-2290345 / 0651-2290346 / 0651-2290347 / 0651-2290348 / 0651-2290349 / 0651-2290350 / 0651-2290351 / 0651-2290352 / 0651-2290353 / 0651-2290354 / 0651-2290355 / 0651-2290356 / 0651-2290357 / 0651-2290358 / 0651-2290359 / 0651-2290360 / 0651-2290361 / 0651-2290362 / 0651-2290363 / 0651-2290364 / 0651-2290365 / 0651-2290366 / 0651-2290367 / 0651-2290368 / 0651-2290369 / 0651-2290370 / 0651-2290371 / 0651-2290372 / 0651-2290373 / 0651-2290374 / 0651-2290375 / 0651-2290376 / 0651-2290377 / 0651-2290378 / 0651-2290379 / 0651-2290380 / 0651-2290381 / 0651-2290382 / 0651-2290383 / 0651-2290384 / 0651-2290385 / 0651-2290386 / 0651-2290387 / 0651-2290388 / 0651-2290389 / 0651-2290390 / 0651-2290391 / 0651-2290392 / 0651-2290393 / 0651-2290394 / 0651-2290395 / 0651-2290396 / 0651-2290397 / 0651-2290398 / 0651-2290399 / 0651-2290400 / 0651-2290401 / 0651-2290402 / 0651-2290403 / 0651-2290404 / 0651-2290405 / 0651-2290406 / 0651-2290407 / 0651-2290408 / 0651-2290409 / 0651-2290410 / 0651-2290411 / 0651-2290412 / 0651-2290413 / 0651-2290414 / 0651-2290415 / 0651-2290416 / 0651-2290417 / 0651-2290418 / 0651-2290419 / 0651-2290420 / 0651-2290421 / 0651-2290422 / 0651-2290423 / 0651-2290424 / 0651-2290425 / 0651-2290426 / 0651-2290427 / 0651-2290428 / 0651-2290429 / 0651-2290430 / 0651-2290431 / 0651-2290432 / 0651-2290433 / 0651-2290434 / 0651-2290435 / 0651-2290436 / 0651-2290437 / 0651-2290438 / 0651-2290439 / 0651-2290440 / 0651-2290441 / 0651-2290442 / 0651-2290443 / 0651-2290444 / 0651-2290445 / 0651-2290446 / 0651-2290447 / 0651-2290448 / 0651-2290449 / 0651-2290450 / 0651-2290451 / 0651-2290452 / 0651-2290453 / 0651-2290454 / 0651-2290455 / 0651-2290456 / 0651-2290457 / 0651-2290458 / 0651-2290459 / 0651-2290460 / 0651-2290461 / 0651-2290462 / 0651-2290463 / 0651-2290464 / 0651-2290465 / 0651-2290466 / 0651-2290467 / 0651-2290468 / 0651-2290469 / 0651-2290470 / 0651-2290471 / 0651-2290472 / 0651-2290473 / 0651-2290474 / 0651-2290475 / 0651-2290476 / 0651-2290477 / 0651-2290478 / 0651-2290479 / 0651-2290480 / 0651-2290481 / 0651-2290482 / 0651-2290483 / 0651-2290484 / 0651-2290485 / 0651-2290486 / 0651-2290487 / 0651-2290488 / 0651-2290489 / 0651-2290490 / 0651-2290491 / 0651-2290492 / 0651-2290493 / 0651-2290494 / 0651-2290495 / 0651-2290496 / 0651-2290497 / 0651-2290498 / 0651-2290499 / 0651-2290500 / 0651-2290501 / 0651-2290502 / 0651-2290503 / 0651-2290504 / 0651-2290505 / 0651-2290506 / 0651-2290507 / 0651-2290508 / 0651-2290509 / 0651-2290510 / 0651-2290511 / 0651-2290512 / 0651-2290513 / 0651-2290514 / 0651-2290515 / 0651-2290516 / 0651-2290517 / 0651-2290518 / 0651-2290519 / 0651-2290520 / 0651-2290521 / 0651-2290522 / 0651-2290523 / 0651-2290524 / 0651-2290525 / 0651-2290526 / 0651-2290527 / 0651-2290528 / 0651-2290529 / 0651-2290530 / 0651-2290531 / 0651-2290532 / 0651-2290533 / 0651-2290534 / 0651-2290535 / 0651-2290536 / 0651-2290537 / 0651-2290538 / 0651-2290539 / 0651-2290540 / 0651-2290541 / 0651-2290542 / 0651-2290543 / 0651-2290544 / 0651-2290545 / 0651-2290546 / 0651-2290547 / 0651-2290548 / 0651-2290549 / 0651-2290550 / 0651-2290551 / 0651-2290552 / 0651-2290553 / 0651-2290554 / 0651-2290555 / 0651-2290556 / 0651-2290557 / 0651-2290558 / 0651-2290559 / 0651-2290560 / 0651-2290561 / 0651-2290562 / 0651-2290563 / 0651-2290564 / 0651-2290565 / 0651-2290566 / 0651-2290567 / 0651-2290568 / 0651-2290569 / 0651-2290570 / 0651-2290571 / 0651-2290572 / 0651-2290573 / 0651-2290574 / 0651-2290575 / 0651-2290576 / 0651-2290577 / 0651-2290578 / 0651-2290579 / 0651-2290580 / 0651-2290581 / 0651-2290582 / 0651-2290583 / 0651-2290584 / 0651-2290585 / 0651-2290586 / 0651-2290587 / 0651-2290588 / 0651-2290589 / 0651-2290590 / 0651-2290591 / 0651-2290592 / 0651-2290593 / 0651-2290594 / 0651-2290595 / 0651-2290596 / 0651-2290597 / 0651-2290598 / 0651-2290599 / 0651-2290600 / 0651-2290601 / 0651-2290602 / 0651-2290603 / 0651-2290604 / 0651-2290605 / 0651-2290606 / 0651-2290607 / 0651-2290608 / 0651-2290609 / 0651-2290610 / 0651-2290611 / 0651-2290612 / 0651-2290613 / 0651-2290614 / 0651-2290615 / 0651-2290616 / 0651-2290617 / 0651-2290618 / 0651-2290619 / 0651-2290620 / 0651-2290621 / 0651-2290622 / 0651-2290623 / 0651-2290624 / 0651-2290625 / 0651-2290626 / 0651-2290627 / 0651-2290628 / 0651-2290629 / 0651-2290630 / 0651-2290631 / 0651-2290632 / 0651-2290633 / 0651-2290634 / 0651-2290635 / 0651-2290636 / 0651-2290637 / 0651-2290638 / 0651-2290639 / 0651-2290640 / 0651-2290641 / 0651-2290642 / 0651-2290643 / 0651-2290644 / 0651-2290645 / 0651-2290646 / 0651-2290647 / 0651-2290648 / 0651-2290649 / 0651-2290650 / 0651-2290651 / 0651-2290652 / 0651-2290653 / 0651-2290654 / 0651-2290655 / 0651-2290656 / 0651-2290657 / 0651-2290658 / 0651-2290659 / 0651-2290660 / 0651-2290661 / 0651-2290662 / 0651-2290663 / 0651-2290664 / 0651-2290665 / 0651-2290666 / 0651-2290667 / 0651-2290668 / 0651-2290669 / 0651-2290670 / 0651-2290671 / 0651-2290672 / 0651-2290673 / 0651-2290674 / 0651-2290675 / 0651-2290676 / 0651-2290677 / 0651-2290678 / 0651-2290679 / 0651-2290680 / 0651-2290681 / 0651-2290682 / 0651-2290683 / 0651-2290684 / 0651-2290685 / 0651-2290686 / 0651-2290687 / 0651-2290688 / 0651-2290689 / 0651-2290690 / 0651-2290691 / 0651-2290692 / 0651-2290693 / 0651-2290694 / 0651-2290695 / 0651-2290696 / 0651-2290697 / 0651-2290698 / 0651-2290699 / 0651-2290700 / 0651-2290701 / 0651-2290702 / 0651-2290703 / 0651-2290704 / 0651-2290705 / 0651-2290706 / 0651-2290707 / 0651-2290708 / 0651-2290709 / 0651-2290710 / 0651-2290711 / 0651-2290712 / 0651-2290713 / 0651-2290714 / 0651-2290715 / 0651-2290716 / 0651-2290717 / 0651-2290718 / 0651-2290719 / 0651-2290720 / 0651-2290721 / 0651-2290722 / 0651-2290723 / 0651-2290724 / 0651-2290725 / 0651-2290726 / 0651-2290727 / 0651-2290728 / 0651-2290729 / 0651-2290730 / 0651-2290731 / 0651-2290732 / 0651-2290733 / 0651-2290734 / 0651-2290735 / 0651-2290736 / 0651-2290737 / 0651-2290738 / 0651-2290739 / 0651-2290740 / 0651-2290741 / 0651-2290742 / 0651-2290743 / 0651-2290744 / 0651-2290745 / 0651-2290746 / 0651-2290747 / 0651-2290748 / 0651-2290749 / 0651-2290750 / 0651-2290751 / 0651-2290752 / 0651-2290753 / 0651-2290754 / 0651-2290755 / 0651-2290756 / 0651-2290757 / 0651-2290758 / 0651-2290759 / 0651-2290760 / 0651-2290761 / 0651-2290762 / 0651-2290763 / 0651-2290764 / 0651-2290765 / 0651-2290766 / 0651-2290767 / 0651-2290768 / 0651-2290769 / 0651-2290770 / 0651-2290771 / 0651-2290772 / 0651-2290773 / 0651-2290774 / 0651-2290775 / 0651-2290776 / 0651-2290777 / 0651-2290778 / 0651-2290779 / 0651-2290780 / 0651-



TEST REPORT

Test Report No.	: ELES/RNC/2024/6023	Report Release Date	: 17.10.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003916F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	Hindalco Industries Limited	Sample Ref. No.	ELES/RNC/2024/AA/7090
Address	Luhardaga, Bunkhird-835302	Location	Mine Pit Quarry No.2A, Serangdang-A Bauxite Mines(155.81ha)
		Sampling Date	07.10.2024 to 08.10.2024
		Sample Received Date	10.10.2024
Mines Status	Operational	Type of Sample	Ambient Air
		Sampling Procedure	ELES/DOC/SMP/02
		Sampling Done By	ELES Pvt. Ltd.
Period of Analysis	10.10.2024 to 17.10.2024	Sample Condition	Sealed & Preserved

METEOROLOGICAL INFORMATION

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

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	63	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	35	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- 3/Sec): 2021	7.9	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	23.7	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.009	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Handwritten signature: *Handwritten signature*

Reviewed by
Anish Kumar
Quality Manager

****End of Report****

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



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MAKASAROHAR ENCLAVE, TUPRIDAMA
HATHA, RANCHI-834003 (JHARKHAND)
GST NO:- 22AAJCE3713D134

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, sales@elespl.co.in
Phone no.: 0651-2290203
Website: www.elespl.co.in



TEST REPORT

Test Report No. :	ELES/RNC/2024/6024	Report Release Date :	17.10.2024
Work Order No. :	I3612312113	Work Order Date :	28.03.2024
ULR No. :	TC135872400003917F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	Hindalco Industries Limited	Sample Ref. No.	ELES/RNC/2024/AA/7097
Address	Lotachadga, Jharkhand-835302	Location	Mine Pit Quarry No.2B, Seringlaig-A Bauxite Mines(155,81ha)
		Sampling Date	07.10.2024 to 08.10.2024
		Sample Received Date	10.10.2024
Mines Status	Operational	Type of Sample	Ambient Air
Period of Analysis	10.10.2024 to 17.10.2024	Sampling Procedure	ELES/DOC/SMP/02
		Sampling Done By	ELES Pvt. Ltd.
		Sample Condition	Sealed & Preserved

METEOROLOGICAL INFORMATION

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

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM ₁₀)	µg/m ³	IS 5182 (Part- 23): 2022	66	100 (24hrs)
Particulate Matter (PM _{2.5})	µg/m ³	IS 5182 (Part- 24): 2019	34	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	7.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	26.3	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NIDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.011	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	96 (Annual)
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05 (Annual)
Benz(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01 (Annual)


Reviewed by
Akash Kumar
Quality Manager

****End of Report****


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

Page: 1 of 1

This Document issued as Test Report, is owned by the Laboratory under General Terms and Conditions, only the Company letter head is pre-approved format. The results shown in the Test Report shall be utilized only in the job mentioned in the Laboratory only. The information shown on the Test Report reflects the findings done by the Laboratory at the time of measurement only and is not a guarantee of the client's satisfaction. The Laboratory is responsible for all the information or data provided in the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. This Report is full in its part shall not be published, otherwise, will be any legal action initiated or prosecution has been initiated from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is considered and offenders may be prosecuted in the future course of the law. All the samples are retained for future from the Date of release of the Test Report. The samples that Regulatory bodies are to be retained as required. Any type of Observation or Complaint regarding the Report shall be done within (Three) days from the Date of Test Report release/issuance, after the said period stated before, no complaint will be accepted. The entire Test Report shall be issued as Test Report in a Document format. Information such as N/A (Not Applicable), W/D (Below Detection Limit), L/D (Above Detection Limit).



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAVAR ENCLAVE, TUPUDANA
MAYTA, BANCH-834033 (JHARKHAND)
GST NO:- 28AAIC237140124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.com, eles.nanch@gmail.com
Phone no.: 0831-2290109
Website: www.elespl.com



TEST REPORT

Test Report No. :	ELES/RNC/2024/6026	Report Release Date :	17.10.2024
Work Order No. :	13612312113	Work Order Date :	28.03.2024
ULR No. :	TC13587240003919F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name :	Hindalco Industries Limited	Sample Ref. No. :	ELES/RNC/2024/AA/7099
Address :	Lohardaga, Jharkhand-835302	Location :	Near Punari Village Screengadga-A Boudie Mines (155.817m)
		Sampling Date :	07.10.2024 to 08.10.2024
Mining Status :	Operational	Sample Received Date :	10.10.2024
		Type of Sample :	Ambient Air
Period of Analysis :	10.10.2024 to 17.10.2024	Sampling Procedure :	ELES/DOC/SMP/02
		Sampling Done By :	ELES Pvt. Ltd.
		Sample Condition :	Sealed & Preserved

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

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 23): 2022	63	100 (24hrs)
Particulate Matter (PM2.5)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 24): 2019	34	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 2/Sec1): 2023	7.6	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 6): 2022	23.1	80 (24hrs)
Ozone (O ₃)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 9): 2019	<0.0	100 (8hrs)
Ammonia (NH ₃)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m^3	IS 5182 (Part- 10): 2019 (NDOH Method)	<1.0	2 (8hrs)
Lead (Pb)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 22): 2019	0.009	1 (24hrs)
Nickel (Ni)	ng/m^3	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m^3	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	$\mu\text{g}/\text{m}^3$	ELES/OC/SOP/06: 2023	<2.5	05 (Annual)
Benzo-(a)-Pyrene	ng/m^3	ELES/OC/SOP/05: 2023	<0.5	01 (Annual)



Reviewed by
Akash Kumar
Quality Manager

****End of Report****



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

Page 1 of 1

This Document issued as Test Report, is issued by the Laboratory under System/ Terms and Conditions, only on Computer Generated format and is applicable only when the results shown in the Test Report are released only to the jurisdiction given by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of measurement only and within the limits of stated specifications. The Laboratory is responsible for all the information is data provided on the report, except the information where is provided by the client. The Report cannot be reproduced except in full and any part of the report is not valid out of context, without prior written approval of the Laboratory. The Report is not to be used for any publication without the prior written approval of the Laboratory. Attention is drawn to the fact that the Laboratory is not responsible for the use of the results for any purpose other than the purpose for which the results were generated. The results are valid only for the time of measurement of the Test Report is submitted and shall not be used for any other purpose. All the samples are stored for 30 days from the date of measurement of the Test Report. The samples from the clients shall be returned as specified. Any type of observations or complaints regarding the Report shall be done within 15 days from the date of Test Report release and after the time period of time before no complaint will be accepted. The entire Test Report shall be submitted to the Report on 30 days from the date of measurement and N/A (Not Applicable) shall be used for the purpose of the Report. (If the results are not as specified, the entire Test Report shall be submitted to the Report on 30 days from the date of measurement and N/A (Not Applicable) shall be used for the purpose of the Report.)



TEST REPORT

Test Report No. :	ELIS/RNC/2024/6027	Report Release Date :	17.10.2024
Work Order No. :	13612312113	Work Order Date :	28.03.2024
U.R. No. :	TC135872400003920F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ILES/RNC/2024/AA/7100
Address	: Lohardaga, Jharkhand-835302	Location	: Near Harup Village Serengday-A Bauxite Mines (155.8°E)
		Sampling Date	: 07.10.2024 to 08.10.2024
		Sample Received Date	: 10.10.2024
Mines Status	: Operational	Type of Sample	: Ambient Air
		Sampling Procedure	: ILES/DOC/SMP1/02
Period of Analysis	: 10.10.2024 to 17.10.2024	Sampling Done By	: ILES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION

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

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM ₁₀)	µg/m ³	IS 5182 (Part- 23): 2022	56	100 (24hrs)
Particulate Matter (PM _{2.5})	µg/m ³	IS 5182 (Part- 24): 2019	31	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	7.2	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	20.3	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NENR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)
Nickel (Ni)	µg/m ³	IS 5182 (Part- 26): 2020	<0.0	20 (Annual)
Arsenic (As)	µg/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05 (Annual)
Benz(a)-Pyrene	ng/m ³	ELES/GC/SOP/03: 2023	<0.5	01 (Annual)

Reviewed by
Aakash Kumar
Quality Manager

End of Report


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



ENVIRONMENTAL LABORATORIES &

PLOT NO-32, BHANSARWAR ENCLAVE, TURADWAR
HATIA, RANCHI-834001 (JHARKHAND)
GST NO.: 25AAEE07130304

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.mrsh@gmail.com
Phone no.: 0651-2296100
Website: www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2024/6028	Report Release Date : 17.10.2024
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC135M724/00039211/	


CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/7101
Address	: Lohardaga, Jharkhand-855302	Location	: Near Painoli Village Seringdog-A Bauxite Mines (155.81ha)
Mines Name	: Operational	Sampling Date	: 07.10.2024 to 08.10.2024
Period of Analysis	: 10.10.2024 to 17.10.2024	Sample Received Date	: 10.10.2024
		Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/5MPL/02
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

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

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	62	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	33	60 (24hrs)
Sulphur Dioxide (SO ₂)	µg/m ³	IS 5182 (Part- 2:Sec3): 2023	7.9	80 (24hrs)
Nitrogen Dioxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	21.4	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	600 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NIDR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.009	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/ATR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05 (Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	03 (Annual)


Reviewed by
Akash Kumar
Quality Manager

****End of Report****


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

Page 1 of 1

The information stated in this Report is issued by the Laboratory under General Terms and Conditions, which are compulsory terms used in pre-approved format. The results shown in this Test Report refer to values only to the parameters done by the Laboratory only. The information stated in this Test Report refers to findings done by the Laboratory at the time of investigation only and within the limits of stated accreditation. The Laboratory is responsible for all the information is given provided in this report, except the information which is provided by the client. The Report cannot be reproduced without the full and free prior of the report is considered out of context, without prior written approval of the Laboratory. The Report is full as it part shall not be withheld, modified, used for any legal action without prior permission from the Laboratory. The Laboratory is liable for the accuracy of the information, interpretation and analysis results. Any unauthorised alteration or interference of the content or appearance of the Test Report is strictly prohibited and shall be considered as a violation of the terms. All the samples are required for 30 days from the date of release date of the Test Report. The samples that Regulatory authorities to be removed as specified. Any type of alteration or tampering regarding the Report is to state within 10 days from the date of Test Report released/issued. After the time period passed within no complaint will be accepted. The entire Test schedule mentioned in Test Report is to follow strictly. All the information is to be kept confidential. For any information, call 0651-2296100, 9913130000 (Toll Free). Email: info@elespl.co.in, eles.mrsh@gmail.com

"Save Environment, Save Future"

**ENVIRONMENTAL LABORATORIES & ENGINEERING
SERVICES PVT. LTD.**

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

Shrengdag A Bauxite Mine-Environmental Monitoring Report

November 2024



CONTENT

Houtain Industries : Shrenglag A Bauxite Mine Environmental Monitoring Report November 2024	
Shrenglag A Bauxite Mine	
AMBIENT AIR QUALITY- CORE ZONE	
1	Near Weigh Bridge
2	BK3 Quarry
3	Mine Pit Quarry No.2A
4	Mine Pit Quarry No.2B
AMBIENT AIR QUALITY- BUFFER ZONE	
1	Near Banjari Village
2	Near Paori Village
3	Near Harup Village
4	Near Palenki Village
Drinking Water	
Effluent Water	





ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT. LTD.

PLOT NO-3E, MAHARODAR ENCLAVE, TUPUDANA
MATAI, RAUNCHI-834002 (JHARKHAND)
GST NO:- 20AAEC87230124

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



TEST REPORT

Test Report No. : ELES/RNC/2024/7005	Report Release Date : 02.12.2024
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC135872400004874F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited.	Sample Ref. No.	: ELES/RNC/2024/AA/8211
Address	: Lohardaga, Jharkhand-835302	Location	: Near Weigh Bridge, Serengday-A Bauxite Mines (155.81ha)
		Sampling Date	: 20.11.2024 to 21.11.2024
Mines Status	: Operational	Sample Received Date	: 25.11.2024
		Type of Sample	: Ambient Air
Period of Analysis	: 25.11.2024 to 02.12.2024	Sampling Procedure	: ELES/DOC/SMP/02
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

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

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	82	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	46	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- 2/Sec-I): 2023	13.3	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	30.8	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	800 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.22	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.032	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2023	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05 (Annual)
Benz(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01 (Annual)



****End of Report****

Authorised Signatory
Alokesh Kumar
Quality Manager

The Document stated is True & Valid as per the Laboratory under General Terms and Conditions, only in a Company letter head & pre-approved format. The results shown in the Test Report shall be valid only in the pre-approved format of 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 involvement. The Laboratory is responsible for all the information as data provided on the report except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report or full or any part shall not be published, otherwise, used for any legal action without prior permission has been issued from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any misquoting, alteration & falsification of the content or appearance of the Test Report is considered a criminal offence may be proceeded to the fullest extent of the law. All the samples are retained for 30 days from the date of submission of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Obstruction or Complaint regarding the Report shall be done within 15 days from the date of Test Report release/issuance. After the time period elapses, no objection will be accepted. The above Terms & Conditions mentioned in Test Report is a General Term & Condition used by us for all Applications, 2023, Haryana (Institute) Annex 1.28, (Lower Distance) Annex



ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT. LTD.

PLOT NO-30, MANSARDHAR ENCLAVE, TUPUZDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAEC9712012#

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



TEST REPORT

Test Report No. :	ELES/RNC/2024/7007	Report Release Date :	02.12.2024
Work Order No. :	13612312113	Work Order Date :	28.03.2024
ULR No. :	TC135872400004876F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name :	Hindalco Industries Limited	Sample Ref. No. :	ELES/RNC/2024/AA/8213
Address :	Lohardaga, Jharkhand-835302	Location :	Mine Pit Quarry No.2A, Serengul-A Bauxite Mines(135.81ha)
Mines Status :	Operational	Sampling Date :	20.11.2024 to 21.11.2024
Period of Analysis :	25.11.2024 to 02.12.2024	Sample Received Date :	25.11.2024
		Type of Sample :	Ambient Air
		Sampling Procedure :	ELES/DOC/SMPL/02
		Sampling Done By :	ELES Pvt. Ltd.
		Sample Condition :	Sealed & Preserved

METEOROLOGICAL INFORMATION

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

Discipline : Chemical

Group : Atmospheric Pollution

Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 23): 2022	68	100 (24hrs)
Particulate Matter (PM2.5)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 24): 2019	39	60 (24hrs)
Sulphur Di-Oxide (SO_2)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 2/Sec 1): 2023	10.3	80 (24hrs)
Nitrogen Di-Oxide (NO_2)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 6): 2022	26.9	80 (24hrs)
Ozone (O_3)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH_3)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m^3	IS 5182 (Part- 10): 2019 (NDIR Method)	1.19	2 (8hrs)
Lead (Pb)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 22): 2019	0.013	1 (24hrs)
Nickel (Ni)	ng/m^3	IS 5182 (Part- 26): 2020	<6.0	10 (Annual)
Arsenic (As)	ng/m^3	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C_6H_6)	$\mu\text{g}/\text{m}^3$	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo(a)-Pyrene	ng/m^3	ELES/GC/SOP/05: 2023	<0.5	01(Annual)



****End of Report****

Authorised Signatory
Ajaysh Kumar
Quality Manager

Page 1 of 1

The Document (including this Report) is issued as a reference only under Quoted Terms and Conditions, only as a Company letter head is pre-approved format. The results shown in the Test Report are for reference only and are not to be used for any other purpose. The information stated in this Test Report reflects the findings done by the Laboratory at the time of Commissioning only and within the limits of what is specified. The Laboratory is responsible for all the information or data provided in the report, except the information which is provided by the client. The Report cannot be reproduced except in full and in part of the report is not taken out of context, without prior written approval of the Laboratory. This report in full or in part shall not be published, exhibited, used for any legal action unless prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction clause. Any consequential damages or liability or of the results or appearance of the Test Report is wholly and exclusively may be provided in the latest version of the law. All the samples are returned to client from the time of submission of the Test Report. The samples from Regulatory bodies are to be returned as specified. Any type of observations or Complaint regarding the Report shall be done within 15 days from the time of Test Report release/issuance. After the time period of above, no responsibility will be accepted. The entire Terms schedule mentioned in Test Report is as Quoted Terms. (Notwithstanding to N/A/Not Applicable), EHS, (Hazard Detection Term), ULR (Lower Detection Limit).

[illegible]



TEST REPORT

Test Report No.	: ELES/RNC/2024/7010	Report Release Date	: 02.12.2024
Work Order No.	: I3612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400004879F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RMC/2024/AA/8216
Address	: Lohardaga, Jharkhand-815302	Location	: Near Pauri Village Serronag-A Bauxite Mines (155.81ha)
		Sampling Date	: 20.11.2024 to 21.11.2024
		Sample Received Date	: 25.11.2024
Mines Status	: Operational	Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMPLE/02
Period of Analysis	: 25.11.2024 to 02.12.2024	Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION

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

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM ₁₀)	µg/m ³	IS 5182 (Part- 23): 2022	66	100 (24hrs)
Particulate Matter (PM _{2.5})	µg/m ³	IS 5182 (Part- 24): 2019	38	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	11.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	16.3	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDHR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.015	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AB/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05 (Annual)
Benzo (a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01 (Annual)

Reviewed by

Authorised Signatory
Anshu Kumar
Quality Manager

End of Report

Page 1 of 1

[illegible]



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, NANSAROVAR ENCLAVE, TUMKUR
NATTA, RANCHI-834001 (JHARKHAND)
GST NO.: 20AAEE87330224

ENGINEERING SERVICES PVT. LTD.

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



TEST REPORT

Test Report No. : ELES/RNC/2024/7011	Report Release Date : 02.12.2024
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC135872400004080F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	Hindalco Industries Limited	Sample Ref. No.	ELES/RNC/2024/AA/8217
Address	Lohardaga, Jharkhand-835302	Location	Near Harup Village Serangdag-A (Bauxite Mines (155.81 ha))
		Sampling Date	20.11.2024 to 21.11.2024
Mines Status	Operational	Sample Received Date	25.11.2024
		Type of Sample	Ambient Air
Period of Analysis	25.11.2024 to 02.12.2024	Sampling Procedure	ELES/DOC/SAMPL-07
		Sampling Done By	ELES Pvt. Ltd.
		Sample Condition	Sealed & Preserved

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

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 25): 2022	64	100 (24hrs)
Particulate Matter (PM2.5)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 24): 2019	36	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 2/Sec1): 2023	10.3	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 6): 2022	22.7	80 (24hrs)
Ozone (O ₃)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 9): 2019	<10.0	100 (8hrs)
Ammonia (NH ₃)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m^3	IS 5182 (Part- 10): 2019 (NDIR Method)	1.19	2 (8hrs)
Lead (Pb)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m^3	IS 5182 (Part- 26): 2020	<5.0	20 (Annual)
Arsenic (As)	ng/m^3	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	$\mu\text{g}/\text{m}^3$	ELES/GC/SOP/06: 2023	<2.5	03 (Annual)
Benzo-(a)-Pyrene	ng/m^3	ELES/GC/SOP/05: 2023	<0.5	01 (Annual)



****End of Report****


Authorized Signatory
Akash Kumar
Quality Manager

Page 1 of 1

The Disclaimer given for this Report is as per the Laboratory under General Terms and Conditions, only on Company letter head is pre-approved format. The results shown in this Test Report are valid only for the purpose of the test. The Laboratory is responsible for all the information in data provided on the report, except the information which is provided by the client. The Report cannot be reproduced, stored in full and any part of the report is not valid use of content, without prior written approval of the Laboratory. The Report is full or in part shall not be published, written, used for any legal action unless such permission has been received from the Management of the Laboratory. Attention is drawn to the limitations of field test, as per Indian and international norms. Any modification observed in the location of the customer or separation of the Test Report is not valid and laboratory may be generated in the future action of the law. All the samples are received by 05hrs from the date of release time of the Test Report. The samples that Regulatory bodies are to be received as specified. Any type of Obstruction or Complaints regarding the Report shall be done within 15days from the date of Test Report released issued. After the time period stated before, no complaint or file is accepted. The entire Test reports mentioned in Test Report is the property of Environmental Laboratories and Engineering Services Pvt. Ltd. (Hindalco Industries Group) Ltd. (Hindalco Industries Group).

[illegible]



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA
HATIA, BANCHI-834013 (JHARKHAND)
GST NO:- 20AAKCB718D128

ENGINEERING SERVICES PVT. LTD.

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



TEST REPORT

Test Report No. : ELES/RNC/2024/7045	Report Release Date : 02.12.2024
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC135872400004914F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	Hindaleo Industries Limited	Sample Ref. No.	ELES/RNC/2024/DW/R251
Address	Lohardaga, Jharkhand-835302.	Sampling Date	23.11.2024
		Sample Received Date	25.11.2024
		Type of Sample	Drinking Water
		Source of Sample	R.O Water
Mines Status	Operational	Location of Sample	Near Entrance Gate (Sermagdag-A Bauxite Mines)
Period of Analysis	25.11.2024 to 02.12.2024	Sampling Procedure	ELES/DOC/SMPL/01
		Sampling Done By	ELES Pvt. Ltd.
		Sample Condition	Sealed & Preserved

Discipline : Chemical		Group : Water		Regulatory Limit as per IS 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
pH (at 24.8°C)	-	APHA 24 th Ed.2023, 4500-H ⁺	6.57	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 24 th Ed.2023, 2130 B	0.96	1.0	5.0
Taste	-	APHA 24 th Ed.2023, 2160 C	Agreeable	Agreeable	Agreeable
Odour	-	IS 3025 (Part-3) :2018	Agreeable	Agreeable	Agreeable
Colour	Hazen	APHA 24 th Ed.2023, 2120B&D	1.0	5.0	15
Total Dissolved Solids (TDS)	mg/L	APHA 24 th Ed.2023, 2540B,C&D	48.6	500	2000
Chloride (as Cl)	mg/L	APHA 24 th Ed.2023, 4500 Cl B	12.1	250	1000
Fluoride (as F)	mg/L	APHA 24 th Ed.2023, 4500 F-D	BDL (DL: 0.1)	1.0	1.5
Total Alkalinity (as CaCO ₃)	mg/L	APHA 24 th Ed.2023, 2320 B	14.8	200	600
Total Hardness (as CaCO ₃)	mg/L	APHA 24 th Ed.2023, 2340 C	18.2	200	600
Sulphate (as SO ₄)	mg/L	APHA 24 th Ed.2023, 4500 SO ₄ ²⁻ -E	2.64	200	400
Nitrate (as NO ₃)	mg/L	APHA 24 th Ed.2023, 4500 NO ₃ -B	0.82	45	No Relaxation

Page 1 of 4

The Document stated as Test Report, is issued by the Laboratory under Defined Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relate only to the parameters 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 out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertised, used for any legal action unless prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorised alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 15days from the date of submission 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/issued. 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); LDU, Lower Detection Limit.

"Data Unavailable, Not A Issue"



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA
NATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAEC2971J0124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles_ranchi@gmail.com
Phone no.: 0661-2290103
Website : www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2024/7045	Report Release Date : 02.12.2024
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC135872400004914F	

Discipline : Chemical		Group : Water		Regulatory Limit as per IS10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part 43/Sec I): 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 24 th Ed 2023, 3500 Ca B	4.4	75	200
Atomic Surfactants (as MBAS)	mg/L	APHA 24 th Ed 2023, 5540-C	BDL (DL: 0.025)	0.2	1.0
Discipline : Chemical		Group : Residues in Water			
Aluminium (as Al)	mg/L	IS 3025 (Part-35): 2003; RA2019	BDL (DL: 0.02)	0.03	0.2
Arsenic (as As)	mg/L	IS 3025 (Part-37): 2022	BDL (DL: 0.005)	0.01	No Relaxation
Boron (as B)	mg/L	IS 3025 (Part-57): 2021	BDL (DL: 0.2)	0.5	1.0
Cadmium (as Cd)	mg/L	APHA 24 th Ed 2023; 3111B	BDL (DL: 0.003)	0.003	No Relaxation
Total Chromium (as Cr)	mg/L	APHA 24 th Ed 2023; 3111B	BDL (DL: 0.03)	0.05	No Relaxation
Copper (as Cu)	mg/L	APHA 24 th Ed 2023; 3111B	BDL (DL: 0.05)	0.05	1.5
Cyanide (as CN)	mg/L	APHA 24 th Ed 2023, 4500 CN-E	BDL (DL: 0.012)	0.05	No Relaxation
Iron (as Fe)	mg/L	APHA 24 th Ed 2023; 3111B	0.082	1.0	No Relaxation
Lead (as Pb)	mg/L	APHA 24 th 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	IS 3025 (Part-4R): 2019	BDL (DL: 0.001)	0.001	No Relaxation
Selenium (as Se)	mg/L	IS 3025 (Part-56): 2019	BDL (DL: 0.01)	0.01	No Relaxation

Page 2 of 4

The Document, titled 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 shall be released only to the laboratory's client 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 out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, sold, or used for any legal actions unless prior permission has been obtained from the Management of the Laboratory. Attention is drawn to the limitation of liability, representation and presentation issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of collection 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 10 days from the Date of Test Report received/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 Detection Limit); LDI (Lower Detection Limit).



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSADEVAR ENCLAVE, TUPADANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAEC97130129

ENGINEERING SERVICES PVT. LTD.

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



TEST REPORT

Test Report No. : ELES/RNC/2024/7045	Report Release Date : 02.12.2024
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC135872400004914F	

Discipline : Chemical		Group : Residues in Water		Regulatory Limit as per IS10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Zinc (as Zn)	mg/L	APHA 24 th 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/01: 2023	BDL (DL: 0.1)	0.5	No Relaxation
Pesticides				Limit	
Alachlor	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	20	
Atrazine	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	2.0	
Butachlor	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	125	
Chlorpyrifos	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 Sulphoxe	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)	0.04	

Page 3 of 4

The Document stated in 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 relate only to the analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of investigation 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 out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertised, used for any legal action unless prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & distribution of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 180 days from the Date of submission of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reporters 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 Test schedule mentioned in Test Report is in 24 hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LD (Lower Detection Limit).

"Your Environment. Our Passion"



ENVIRONMENTAL LABORATORIES &

PLOT NO-ED, MANSAROVAR ENCLAVE, TUPUDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAJCE2873BD124

ENGINEERING SERVICES PVT. LTD.

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



TEST REPORT

Test Report No. : ELES/RNC/2024/7045	Report Release Date : 02.12.2024
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC135872400004914F	

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		Group : 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	

Reviewed by
Akash Kumar
Quality Manager

****End of Report****

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



ENVIRONMENTAL LABORATORIES &

PLOT NO-32, MANJAROVAR ENCLAVE, TUPSIDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO.: 20AAACE97180124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranchi@gmail.com
Phone no.: 0651-2290109
Website: www.elespl.co.in

TEST REPORT

Test Report No. : ELES/RNC/2024/7045	Report Release Date : 02.12.2024
Work Order No. : 13612312113	Work Order Date : 28.03.2024

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/DW/8251
Address	: Leihardaga, Barkhad-815302	Sampling Date	: 21.11.2024
		Sample Received Date	: 25.11.2024
		Type of Sample	: Drinking Water
Mines Status	: Operational	Source of Sample	: R.O Water
		Location of Sample	: Near Entrance Gate (Serengding-A Bauxite Mines)
Period of Analysis	: 25.11.2024 to 02.12.2024	Sampling Procedure	: ELES/DQC/SAMPL/01
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

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

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

Reviewed by
Akash Kumar
Quality Manager

****End of Report****

Authorised Signatory

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



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAKONAR ENCLAVE, TUPUDANA
NATIA, RANCHI-834003 (JHARKHAND)
GST NO- 33AAEC87130124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles-ranchi@gmail.com
Phone no.: 0655-2290103
Website: www.elespl.co.in



TEST REPORT

Test Report No. :	ELES/RNC/2024/7052	Report Release Date :	02.12.2024
Work Order No. :	13612312113	Work Order Date :	28.03.2024
ULR No. :	TC135872400004921F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name :	Hindalco Industries Limited	Sample Ref. No. :	ELES/RNC/2024/EF/8258
Address :	Lohardaga, Jharkhand-835302	Sampling Date :	21.11.2024
		Sample Received Date :	25.11.2024
		Type of Sample :	Effluent Water
Mines Status :	Operational	Source of Sample :	Seringdag-A Bauxite Mines (155.81 ha)
Period of Analysis :	25.11.2024 to 02.12.2024	Sampling Procedure :	ELES/DOC/SMP/01
		Sampling Done By :	ELES Pvt. Ltd.
		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 ⁺	5.98	5.5-9.0	5.5-9.0
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16): 2023	286	—	—
Total Suspended Solids (TSS)	mg/L	IS 3025 (Part-17): 2022	14.8	100	200
Dissolved Oxygen (DO)	mg/L	IS 3025 (Part-38): 2019	6.3	—	—
Biochemical Oxygen Demand (BOD) (at 27 °C for 3 days)	mg/L	IS 3025 (Part-44): 2023	5.8	30	100
Chemical Oxygen Demand (COD)	mg/L	IS 3025 (Part-58): 2023	48.0	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	0.294	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



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSARDHAR ENCLAVE, TUPLADANA
JALPA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAEC97130124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranchi@gmail.com
Phone no.: 0951-2290103
Website : www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2024/7052	Report Release Date : 02.12.2024
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC135872400004921F	

Discipline : Chemical		Group : Residues in Water		Discharge Limits - CPCB EPL 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 24 th Ed.2023, 3111 B	0.092	2.0	—
Mercury (as Hg)	mg/L	IS 3025(Part-4B): 1994; RA2019	BDL (DL: 0.001)	0.01	—
Nickel (as Ni)	mg/L	APHA 24 th Ed.2023, 3111 B	BDL (DL: 0.01)	3.0	—
Zinc (as Zn)	mg/L	APHA 24 th Ed.2023, 3111 B	0.140	5.0	—

Reviewed by
Quality Manager

****End of Report****

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

**ENVIRONMENTAL LABORATORIES & ENGINEERING
SERVICES PVT. LTD.**

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

Shrengdag A Bauxite Mine-Environmental Monitoring Report

December 2024



CONTENT

Himalaya Industries: Shrengdag A Bauxite Mine Environmental Monitoring Report		December 2024
Shrengdag A Bauxite Mine		
AMBIENT AIR QUALITY- CORE ZONE		
1	Near Weigh Bridge	
2	BKB Quarry	
3	Mine Pit Quarry No.2A	
4	Mine Pit Quarry No.2B	
AMBIENT AIR QUALITY- BUFFER ZONE		
1	Near Banjarl Village	
2	Near Pauri Village	
3	Near Harop Village	
4	Near Primali Village	





ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSARVAR ENCLAVE, TUPUDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 30AAGCE9713D124

ENGINEERING SERVICES PVT. LTD.

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/7336	Report Release Date	: 14.12.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
UIR No.	: TC115872400005198F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name:	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/8649
Address:	: Lohardaga, Jharkhand-835302	Location	: Mine Pit Quarry No.2A, Serungdag-A Bauxite Mines(153.8tha)
		Sampling Date	: 06.12.2024 to 07.12.2024
Mines Status:	: Operational	Sample Received Date	: 09.12.2024
		Type of Sample	: Ambient Air
Period of Analysis	: 09.12.2024 to 14.12.2024	Sampling Procedure	: ELES/DOC/SMP/02
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 725
3	Relative Humidity (%)	: 67	4	Weather Condition	: Clear

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 23): 2022	65	100 (24hrs)
Particulate Matter (PM2.5)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 24): 2019	32	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 2/Sec1): 2023	8.9	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 6): 2022	24.3	80 (24hrs)
Ozone (O ₃)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m^3	IS 5182 (Part- 10): 2019 (NIR Method)	<1.0	2 (8hrs)
Lead (Pb)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m^3	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m^3	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	$\mu\text{g}/\text{m}^3$	ELES/GC/SOP/08: 2023	<2.5	05 (Annual)
Benz(a)Pyrene	ng/m^3	ELES/GC/SOP/05: 2023	<0.5	01 (Annual)


Reviewed by
Akash Kumar
Quality Manager

****End of Report****


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

Page 1 of 1

The Document titled as Test Report, is issued by the Laboratory under General Terms and Conditions, only as Company letter head as pre-approved format. The results shown in the Test Report refer to values only as the information given 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 as they provided on the report, except the information which is provided by the client. The Report cannot be reproduced, copied or in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report is full in or part shall not be published, otherwise, used for any legal action, without prior written permission received from the Management of the Laboratory. Attention is drawn to the sections of liability, compensation and jurisdiction where. Any unauthorized alteration or falsification of the content or appearance of the Test Report is unethical and offenders may be prosecuted in the fullest manner of the law. All the samples are received for analysis from the time of submission of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of interference or tampering, regarding the Report shall be done within 15 days from the Date of Test Report release/issuance. After this time period passed to flow, no complaint will be accepted. The entire Test results recommended Test Report is in 4000mm format. All the reports issued in A (New Application), B (1), (2), (3), (4), (5), (6), (7), (8), (9), (10), (11), (12), (13), (14), (15), (16), (17), (18), (19), (20), (21), (22), (23), (24), (25), (26), (27), (28), (29), (30), (31), (32), (33), (34), (35), (36), (37), (38), (39), (40), (41), (42), (43), (44), (45), (46), (47), (48), (49), (50), (51), (52), (53), (54), (55), (56), (57), (58), (59), (60), (61), (62), (63), (64), (65), (66), (67), (68), (69), (70), (71), (72), (73), (74), (75), (76), (77), (78), (79), (80), (81), (82), (83), (84), (85), (86), (87), (88), (89), (90), (91), (92), (93), (94), (95), (96), (97), (98), (99), (100), (101), (102), (103), (104), (105), (106), (107), (108), (109), (110), (111), (112), (113), (114), (115), (116), (117), (118), (119), (120), (121), (122), (123), (124), (125), (126), (127), (128), (129), (130), (131), (132), (133), (134), (135), (136), (137), (138), (139), (140), (141), (142), (143), (144), (145), (146), (147), (148), (149), (150), (151), (152), (153), (154), (155), (156), (157), (158), (159), (160), (161), (162), (163), (164), (165), (166), (167), (168), (169), (170), (171), (172), (173), (174), (175), (176), (177), (178), (179), (180), (181), (182), (183), (184), (185), (186), (187), (188), (189), (190), (191), (192), (193), (194), (195), (196), (197), (198), (199), (200), (201), (202), (203), (204), (205), (206), (207), (208), (209), (210), (211), (212), (213), (214), (215), (216), (217), (218), (219), (220), (221), (222), (223), (224), (225), (226), (227), (228), (229), (230), (231), (232), (233), (234), (235), (236), (237), (238), (239), (240), (241), (242), (243), (244), (245), (246), (247), (248), (249), (250), (251), (252), (253), (254), (255), (256), (257), (258), (259), (260), (261), (262), (263), (264), (265), (266), (267), (268), (269), (270), (271), (272), (273), (274), (275), (276), (277), (278), (279), (280), (281), (282), (283), (284), (285), (286), (287), (288), (289), (290), (291), (292), (293), (294), (295), (296), (297), (298), (299), (300), (301), (302), (303), (304), (305), (306), (307), (308), (309), (310), (311), (312), (313), (314), (315), (316), (317), (318), (319), (320), (321), (322), (323), (324), (325), (326), (327), (328), (329), (330), (331), (332), (333), (334), (335), (336), (337), (338), (339), (340), (341), (342), (343), (344), (345), (346), (347), (348), (349), (350), (351), (352), (353), (354), (355), (356), (357), (358), (359), (360), (361), (362), (363), (364), (365), (366), (367), (368), (369), (370), (371), (372), (373), (374), (375), (376), (377), (378), (379), (380), (381), (382), (383), (384), (385), (386), (387), (388), (389), (390), (391), (392), (393), (394), (395), (396), (397), (398), (399), (400), (401), (402), (403), (404), (405), (406), (407), (408), (409), (410), (411), (412), (413), (414), (415), (416), (417), (418), (419), (420), (421), (422), (423), (424), (425), (426), (427), (428), (429), (430), (431), (432), (433), (434), (435), (436), (437), (438), (439), (440), (441), (442), (443), (444), (445), (446), (447), (448), (449), (450), (451), (452), (453), (454), (455), (456), (457), (458), (459), (460), (461), (462), (463), (464), (465), (466), (467), (468), (469), (470), (471), (472), (473), (474), (475), (476), (477), (478), (479), (480), (481), (482), (483), (484), (485), (486), (487), (488), (489), (490), (491), (492), (493), (494), (495), (496), (497), (498), (499), (500), (501), (502), (503), (504), (505), (506), (507), (508), (509), (510), (511), (512), (513), (514), (515), (516), (517), (518), (519), (520), (521), (522), (523), (524), (525), (526), (527), (528), (529), (530), (531), (532), (533), (534), (535), (536), (537), (538), (539), (540), (541), (542), (543), (544), (545), (546), (547), (548), (549), (550), (551), (552), (553), (554), (555), (556), (557), (558), (559), (560), (561), (562), (563), (564), (565), (566), (567), (568), (569), (570), (571), (572), (573), (574), (575), (576), (577), (578), (579), (580), (581), (582), (583), (584), (585), (586), (587), (588), (589), (590), (591), (592), (593), (594), (595), (596), (597), (598), (599), (600), (601), (602), (603), (604), (605), (606), (607), (608), (609), (610), (611), (612), (613), (614), (615), (616), (617), (618), (619), (620), (621), (622), (623), (624), (625), (626), (627), (628), (629), (630), (631), (632), (633), (634), (635), (636), (637), (638), (639), (640), (641), (642), (643), (644), (645), (646), (647), (648), (649), (650), (651), (652), (653), (654), (655), (656), (657), (658), (659), (660), (661), (662), (663), (664), (665), (666), (667), (668), (669), (670), (671), (672), (673), (674), (675), (676), (677), (678), (679), (680), (681), (682), (683), (684), (685), (686), (687), (688), (689), (690), (691), (692), (693), (694), (695), (696), (697), (698), (699), (700), (701), (702), (703), (704), (705), (706), (707), (708), (709), (710), (711), (712), (713), (714), (715), (716), (717), (718), (719), (720), (721), (722), (723), (724), (725), (726), (727), (728), (729), (730), (731), (732), (733), (734), (735), (736), (737), (738), (739), (740), (741), (742), (743), (744), (745), (746), (747), (748), (749), (750), (751), (752), (753), (754), (755), (756), (757), (758), (759), (760), (761), (762), (763), (764), (765), (766), (767), (768), (769), (770), (771), (772), (773), (774), (775), (776), (777), (778), (779), (780), (781), (782), (783), (784), (785), (786), (787), (788), (789), (790), (791), (792), (793), (794), (795), (796), (797), (798), (799), (800), (801), (802), (803), (804), (805), (806), (807), (808), (809), (810), (811), (812), (813), (814), (815), (816), (817), (818), (819), (820), (821), (822), (823), (824), (825), (826), (827), (828), (829), (830), (831), (832), (833), (834), (835), (836), (837), (838), (839), (840), (841), (842), (843), (844), (845), (846), (847), (848), (849), (850), (851), (852), (853), (854), (855), (856), (857), (858), (859), (860), (861), (862), (863), (864), (865), (866), (867), (868), (869), (870), (871), (872), (873), (874), (875), (876), (877), (878), (879), (880), (881), (882), (883), (884), (885), (886), (887), (888), (889), (890), (891), (892), (893), (894), (895), (896), (897), (898), (899), (900), (901), (902), (903), (904), (905), (906), (907), (908), (909), (910), (911), (912), (913), (914), (915), (916), (917), (918), (919), (920), (921), (922), (923), (924), (925), (926), (927), (928), (929), (930), (931), (932), (933), (934), (935), (936), (937), (938), (939), (940), (941), (942), (943), (944), (945), (946), (947), (948), (949), (950), (951), (952), (953), (954), (955), (956), (957), (958), (959), (960), (961), (962), (963), (964), (965), (966), (967), (968), (969), (970), (971), (972), (973), (974), (975), (976), (977), (978), (979), (980), (981), (982), (983), (984), (985), (986), (987), (988), (989), (990), (991), (992), (993), (994), (995), (996), (997), (998), (999), (1000), (1001), (1002), (1003), (1004), (1005), (1006), (1007), (1008), (1009), (1010), (1011), (1012), (1013), (1014), (1015), (1016), (1017), (1018), (1019), (1020), (1021), (1022), (1023), (1024), (1025), (1026), (1027), (1028), (1029), (1030), (1031), (1032), (1033), (1034), (1035), (1036), (1037), (1038), (1039), (1040), (1041), (1042), (1043), (1044), (1045), (1046), (1047), (1048), (1049), (1050), (1051), (1052), (1053), (1054), (1055), (1056), (1057), (1058), (1059), (1060), (1061), (1062), (1063), (1064), (1065), (1066), (1067), (1068), (1069), (1070), (1071), (1072), (1073), (1074), (1075), (1076), (1077), (1078), (1079), (1080), (1081), (1082), (1083), (1084), (1085), (1086), (1087), (1088), (1089), (1090), (1091), (1092), (1093), (1094), (1095), (1096), (1097), (1098), (1099), (1100), (1101), (1102), (1103), (1104), (1105), (1106), (1107), (1108), (1109), (1110), (1111), (1112), (1113), (1114), (1115), (1116), (1117), (1118), (1119), (1120), (1121), (1122), (1123), (1124), (1125), (1126), (1127), (1128), (1129), (1130), (1131), (1132), (1133), (1134), (1135), (1136), (1137), (1138), (1139), (1140), (1141), (1142), (1143), (1144), (1145), (1146), (1147), (1148), (1149), (1150), (1151), (1152), (1153), (1154), (1155), (1156), (1157), (1158), (1159), (1160), (1161), (1162), (1163), (1164), (1165), (1166), (1167), (1168), (1169), (1170), (1171), (1172), (1173), (1174), (1175), (1176), (1177), (1178), (1179), (1180), (1181), (1182), (1183), (1184), (1185), (1186), (1187), (1188), (1189), (1190), (1191), (1192), (1193), (1194), (1195), (1196), (1197), (1198), (1199), (1200), (1201), (1202), (1203), (1204), (1205), (1206), (1207), (1208), (1209), (1210), (1211), (1212), (1213), (1214), (1215), (1216), (1217), (1218), (1219), (1220), (1221), (1222), (1223), (1224), (1225), (1226), (1227), (1228), (1229), (1230), (1231), (1232), (1233), (1234), (1235), (1236), (1237), (1238), (1239), (1240), (1241), (1242), (1243), (1244), (1245), (1246), (1247), (1248), (1249), (1250), (1251), (1252), (1253), (1254), (1255), (1256), (1257), (1258), (1259), (1260), (1261), (1262), (1263), (1264), (1265), (1266), (1267), (1268), (1269), (1270), (1271), (1272), (1273), (1274), (1275), (1276), (1277), (1278), (1279), (1280), (1281), (1282), (1283), (1284), (1285), (1286), (1287), (1288), (1289), (1290), (1291), (1292), (1293), (1294), (1295), (1296), (1297), (1298), (1299), (1300), (1301), (1302), (1303), (1304), (1305), (1306), (1307), (1308), (1309), (1310), (1311), (1312), (1313), (1314), (1315), (1316), (1317), (1318), (1319), (1320), (1321), (1322), (1323), (1324), (1325), (1326), (1327), (1328), (1329), (1330), (1331), (1332), (1333), (1334), (1335), (1336), (1337), (1338), (1339), (1340), (1341), (1342), (1343), (1344), (1345), (1346), (1347), (1348), (1349), (1350), (1351), (1352), (1353), (1354), (1355), (1356), (1357), (1358), (1359), (1360), (1361), (1362), (1363), (1364), (1365), (1366), (1367), (1368), (1369), (1370), (1371), (1372), (1373), (1374), (1375), (1376), (1377), (1378), (1379), (1380), (1381), (1382), (1383), (1384), (1385), (1386), (1387), (1388), (1389), (1390), (1391), (1392), (1393), (1394), (1395), (1396), (1397), (1398), (1399), (1400), (1401), (1402), (1403), (1404), (1405), (1406), (1407), (1408), (1409), (1410), (1411), (1412), (1413), (1414), (1415), (1416), (1417), (1418), (1419), (1420), (1421), (1422), (1423), (1424), (1425), (1426), (1427), (1428), (1429), (1430), (1431), (1432), (1433), (1434), (1435), (1436), (1437), (1438), (1439), (1440), (1441), (1442), (1443), (1444), (1445), (1446), (1447), (1448), (1449), (1450), (1451), (1452), (1453), (1454), (1455), (1456), (1457), (1458), (1459), (1460), (1461), (1462), (1463), (1464), (1465), (1466), (1467), (1468), (1469), (1470), (1471), (1472), (1473), (1474), (1475), (1476), (1477), (1478), (1479), (1480), (1481), (1482), (1483), (1484), (1485), (1486), (1487), (1488), (1489), (1490), (1491), (1492), (1493), (1494), (1495), (1496), (1497), (1498), (1499), (1500), (1501), (1502), (1503), (1504), (1505), (1506), (1507), (1508), (1509), (1510), (1511), (1512), (1513), (1514), (1515), (1516), (1517), (1518), (1519), (1520), (1521), (1522), (1523), (1524), (1525), (1526), (1527), (1528), (1529), (1530), (1531), (1532), (1533), (1534), (1535), (1536), (1537), (1538), (1539), (1540), (1541), (1542), (1543), (1544), (1545), (1546), (1547), (1548), (1549), (1550), (1551), (1552), (1553), (1554), (1555), (1556), (1557), (1558), (1559), (1560), (1561), (1562), (1563), (1564), (1565), (1566), (1567), (1568), (1569), (1570), (1571), (1572), (1573), (1574), (1575), (1576), (1577), (1578), (1579), (1580), (1581), (1582), (1583), (1584), (1585), (1586), (1587), (1588), (1589), (1590), (1591), (1592), (1593), (1594), (1595), (1596), (1597), (1598), (1599), (1600), (1601), (1602), (1603), (1604), (1605), (1606), (1607), (1608), (1609), (1610), (1611), (1612), (1613), (1614), (1615), (1616), (1617), (1618), (1619), (1620), (1621), (1622), (1623), (1624), (1625), (1626), (1627), (1628), (1629), (1630), (1631), (1632), (1633), (1634), (1635), (1636), (1637), (1638), (1639), (1640), (1641), (1642), (1643), (1644), (1645), (1646), (1647), (1648), (1649), (1650), (1651), (1652), (1653), (1654), (1655), (1656), (1657), (1658), (1659), (1660), (1661), (1662), (1663), (1664), (1665), (1666), (1667), (1668), (1669), (1670), (1671), (1672), (1673), (1674), (1675), (1676), (1677), (1678), (1679), (1680), (1681), (1682), (1683), (1684), (1685), (1686), (1687), (1688), (1689), (1690), (1691), (1692), (1693), (1694), (1695), (1696), (1697), (1698), (1699), (1700), (1701), (1702), (1703), (1704), (1705), (1706), (1707), (1708), (1709), (1710), (1711), (1712), (1713), (1714), (1715), (1716), (1717), (1718), (1719), (1720), (1721), (1722), (1723), (1724), (1725), (1726), (1727), (1728), (1729), (1730), (1731), (1732), (1733), (1734), (1735), (1736), (1737), (1738), (1739), (1740), (1741), (1742), (1743), (1744



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUMUDANA
HATIA, RANCHI-834002 (JHARKHAND)
GST NO:- 20AAEE5713D524

ENGINEERING SERVICES PVT. LTD.

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



TEST REPORT

Test Report No. : ELES/RNC/2024/7339	Report Release Date : 14.12.2024
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC135872400005201F	

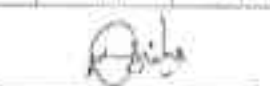
CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	Hindalco Industries Limited	Sample Ref. No.	ELES/RNC/2024/AA/8652
Address	Lohardaga, Jharkhand-835302	Location	Near Paul Village Serengday-A Bauxite Mines (155.81ha)
Mines Status	Operational	Sampling Date	07.12.2024 to 09.12.2024
Period of Analysis	09.12.2024 to 14.12.2024	Sample Received Date	09.12.2024
		Type of Sample	Ambient Air
		Sampling Procedure	ELES/DGC/SAMPL/02
		Sampling Done By	ELES Pvt. Ltd.
		Sample Condition	Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 725
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM ₁₀)	µg/m ³	IS 5182 (Part-23): 2022	70	100 (24hrs)
Particulate Matter (PM _{2.5})	µg/m ³	IS 5182 (Part-24): 2019	41	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part-2/Sec1): 2023	14.0	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part-6): 2022	28.7	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part-25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2019	0.021	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	05 (Annual)
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05 (Annual)
Benzo(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01 (Annual)


Reviewed by
Akshay Kumar
Quality Manager

****End of Report****


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

Page 1 of 1

The Government issued as Test Report, is issued by the Laboratory under General Terms and Conditions, every as Company letter head as per approved format. The results shown in the Test Report refer to values only to the information given by the Laboratory only. The information shown in the Test Report reflects the findings done by the Laboratory at the time of investigation only and within the limits of client's instructions. The Laboratory is responsible for all the information also provided in 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 valid nor of interest, without prior written approval of the Laboratory. The Report is full as per shall not be published, altered, used for any legal action unless prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitations of liability, compensation and jurisdiction issues. Any unauthorized alteration & tampering of the report or suppression of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are returned to Client from the time of submission of the Test Report. The samples from hazardous industries are to be returned as specified. And type of Discharge in Compliance regarding the Report shall be done within 15 days from the Date of Test Report acknowledgment. After the time period stated in test, no complaint will be accepted. The entire Test includes acknowledgment Test Report in official format (Information sheet, N/A, Test Application, B01, B02, B03, B04, B05, B06, B07, B08, B09, B10, B11, B12, B13, B14, B15, B16, B17, B18, B19, B20, B21, B22, B23, B24, B25, B26, B27, B28, B29, B30, B31, B32, B33, B34, B35, B36, B37, B38, B39, B40, B41, B42, B43, B44, B45, B46, B47, B48, B49, B50, B51, B52, B53, B54, B55, B56, B57, B58, B59, B60, B61, B62, B63, B64, B65, B66, B67, B68, B69, B70, B71, B72, B73, B74, B75, B76, B77, B78, B79, B80, B81, B82, B83, B84, B85, B86, B87, B88, B89, B90, B91, B92, B93, B94, B95, B96, B97, B98, B99, B100, B101, B102, B103, B104, B105, B106, B107, B108, B109, B110, B111, B112, B113, B114, B115, B116, B117, B118, B119, B120, B121, B122, B123, B124, B125, B126, B127, B128, B129, B130, B131, B132, B133, B134, B135, B136, B137, B138, B139, B140, B141, B142, B143, B144, B145, B146, B147, B148, B149, B150, B151, B152, B153, B154, B155, B156, B157, B158, B159, B160, B161, B162, B163, B164, B165, B166, B167, B168, B169, B170, B171, B172, B173, B174, B175, B176, B177, B178, B179, B180, B181, B182, B183, B184, B185, B186, B187, B188, B189, B190, B191, B192, B193, B194, B195, B196, B197, B198, B199, B200, B201, B202, B203, B204, B205, B206, B207, B208, B209, B210, B211, B212, B213, B214, B215, B216, B217, B218, B219, B220, B221, B222, B223, B224, B225, B226, B227, B228, B229, B230, B231, B232, B233, B234, B235, B236, B237, B238, B239, B240, B241, B242, B243, B244, B245, B246, B247, B248, B249, B250, B251, B252, B253, B254, B255, B256, B257, B258, B259, B260, B261, B262, B263, B264, B265, B266, B267, B268, B269, B270, B271, B272, B273, B274, B275, B276, B277, B278, B279, B280, B281, B282, B283, B284, B285, B286, B287, B288, B289, B290, B291, B292, B293, B294, B295, B296, B297, B298, B299, B300, B301, B302, B303, B304, B305, B306, B307, B308, B309, B310, B311, B312, B313, B314, B315, B316, B317, B318, B319, B320, B321, B322, B323, B324, B325, B326, B327, B328, B329, B330, B331, B332, B333, B334, B335, B336, B337, B338, B339, B340, B341, B342, B343, B344, B345, B346, B347, B348, B349, B350, B351, B352, B353, B354, B355, B356, B357, B358, B359, B360, B361, B362, B363, B364, B365, B366, B367, B368, B369, B370, B371, B372, B373, B374, B375, B376, B377, B378, B379, B380, B381, B382, B383, B384, B385, B386, B387, B388, B389, B390, B391, B392, B393, B394, B395, B396, B397, B398, B399, B400, B401, B402, B403, B404, B405, B406, B407, B408, B409, B410, B411, B412, B413, B414, B415, B416, B417, B418, B419, B420, B421, B422, B423, B424, B425, B426, B427, B428, B429, B430, B431, B432, B433, B434, B435, B436, B437, B438, B439, B440, B441, B442, B443, B444, B445, B446, B447, B448, B449, B450, B451, B452, B453, B454, B455, B456, B457, B458, B459, B460, B461, B462, B463, B464, B465, B466, B467, B468, B469, B470, B471, B472, B473, B474, B475, B476, B477, B478, B479, B480, B481, B482, B483, B484, B485, B486, B487, B488, B489, B490, B491, B492, B493, B494, B495, B496, B497, B498, B499, B500, B501, B502, B503, B504, B505, B506, B507, B508, B509, B510, B511, B512, B513, B514, B515, B516, B517, B518, B519, B520, B521, B522, B523, B524, B525, B526, B527, B528, B529, B530, B531, B532, B533, B534, B535, B536, B537, B538, B539, B540, B541, B542, B543, B544, B545, B546, B547, B548, B549, B550, B551, B552, B553, B554, B555, B556, B557, B558, B559, B560, B561, B562, B563, B564, B565, B566, B567, B568, B569, B570, B571, B572, B573, B574, B575, B576, B577, B578, B579, B580, B581, B582, B583, B584, B585, B586, B587, B588, B589, B590, B591, B592, B593, B594, B595, B596, B597, B598, B599, B600, B601, B602, B603, B604, B605, B606, B607, B608, B609, B610, B611, B612, B613, B614, B615, B616, B617, B618, B619, B620, B621, B622, B623, B624, B625, B626, B627, B628, B629, B630, B631, B632, B633, B634, B635, B636, B637, B638, B639, B640, B641, B642, B643, B644, B645, B646, B647, B648, B649, B650, B651, B652, B653, B654, B655, B656, B657, B658, B659, B660, B661, B662, B663, B664, B665, B666, B667, B668, B669, B670, B671, B672, B673, B674, B675, B676, B677, B678, B679, B680, B681, B682, B683, B684, B685, B686, B687, B688, B689, B690, B691, B692, B693, B694, B695, B696, B697, B698, B699, B700, B701, B702, B703, B704, B705, B706, B707, B708, B709, B710, B711, B712, B713, B714, B715, B716, B717, B718, B719, B720, B721, B722, B723, B724, B725, B726, B727, B728, B729, B730, B731, B732, B733, B734, B735, B736, B737, B738, B739, B740, B741, B742, B743, B744, B745, B746, B747, B748, B749, B750, B751, B752, B753, B754, B755, B756, B757, B758, B759, B760, B761, B762, B763, B764, B765, B766, B767, B768, B769, B770, B771, B772, B773, B774, B775, B776, B777, B778, B779, B780, B781, B782, B783, B784, B785, B786, B787, B788, B789, B790, B791, B792, B793, B794, B795, B796, B797, B798, B799, B800, B801, B802, B803, B804, B805, B806, B807, B808, B809, B810, B811, B812, B813, B814, B815, B816, B817, B818, B819, B820, B821, B822, B823, B824, B825, B826, B827, B828, B829, B830, B831, B832, B833, B834, B835, B836, B837, B838, B839, B840, B841, B842, B843, B844, B845, B846, B847, B848, B849, B850, B851, B852, B853, B854, B855, B856, B857, B858, B859, B860, B861, B862, B863, B864, B865, B866, B867, B868, B869, B870, B871, B872, B873, B874, B875, B876, B877, B878, B879, B880, B881, B882, B883, B884, B885, B886, B887, B888, B889, B890, B891, B892, B893, B894, B895, B896, B897, B898, B899, B900, B901, B902, B903, B904, B905, B906, B907, B908, B909, B910, B911, B912, B913, B914, B915, B916, B917, B918, B919, B920, B921, B922, B923, B924, B925, B926, B927, B928, B929, B930, B931, B932, B933, B934, B935, B936, B937, B938, B939, B940, B941, B942, B943, B944, B945, B946, B947, B948, B949, B950, B951, B952, B953, B954, B955, B956, B957, B958, B959, B960, B961, B962, B963, B964, B965, B966, B967, B968, B969, B970, B971, B972, B973, B974, B975, B976, B977, B978, B979, B980, B981, B982, B983, B984, B985, B986, B987, B988, B989, B990, B991, B992, B993, B994, B995, B996, B997, B998, B999, B1000, B1001, B1002, B1003, B1004, B1005, B1006, B1007, B1008, B1009, B1010, B1011, B1012, B1013, B1014, B1015, B1016, B1017, B1018, B1019, B1020, B1021, B1022, B1023, B1024, B1025, B1026, B1027, B1028, B1029, B1030, B1031, B1032, B1033, B1034, B1035, B1036, B1037, B1038, B1039, B1040, B1041, B1042, B1043, B1044, B1045, B1046, B1047, B1048, B1049, B1050, B1051, B1052, B1053, B1054, B1055, B1056, B1057, B1058, B1059, B1060, B1061, B1062, B1063, B1064, B1065, B1066, B1067, B1068, B1069, B1070, B1071, B1072, B1073, B1074, B1075, B1076, B1077, B1078, B1079, B1080, B1081, B1082, B1083, B1084, B1085, B1086, B1087, B1088, B1089, B1090, B1091, B1092, B1093, B1094, B1095, B1096, B1097, B1098, B1099, B1100, B1101, B1102, B1103, B1104, B1105, B1106, B1107, B1108, B1109, B1110, B1111, B1112, B1113, B1114, B1115, B1116, B1117, B1118, B1119, B1120, B1121, B1122, B1123, B1124, B1125, B1126, B1127, B1128, B1129, B1130, B1131, B1132, B1133, B1134, B1135, B1136, B1137, B1138, B1139, B1140, B1141, B1142, B1143, B1144, B1145, B1146, B1147, B1148, B1149, B1150, B1151, B1152, B1153, B1154, B1155, B1156, B1157, B1158, B1159, B1160, B1161, B1162, B1163, B1164, B1165, B1166, B1167, B1168, B1169, B1170, B1171, B1172, B1173, B1174, B1175, B1176, B1177, B1178, B1179, B1180, B1181, B1182, B1183, B1184, B1185, B1186, B1187, B1188, B1189, B1190, B1191, B1192, B1193, B1194, B1195, B1196, B1197, B1198, B1199, B1200, B1201, B1202, B1203, B1204, B1205, B1206, B1207, B1208, B1209, B1210, B1211, B1212, B1213, B1214, B1215, B1216, B1217, B1218, B1219, B1220, B1221, B1222, B1223, B1224, B1225, B1226, B1227, B1228, B1229, B1230, B1231, B1232, B1233, B1234, B1235, B1236, B1237, B1238, B1239, B1240, B1241, B1242, B1243, B1244, B1245, B1246, B1247, B1248, B1249, B1250, B1251, B1252, B1253, B1254, B1255, B1256, B1257, B1258, B1259, B1260, B1261, B1262, B1263, B1264, B1265, B1266, B1267, B1268, B1269, B1270, B1271, B1272, B1273, B1274, B1275, B1276, B1277, B1278, B1279, B1280, B1281, B1282, B1283, B1284, B1285, B1286, B1287, B1288, B1289, B1290, B1291, B1292, B1293, B1294, B1295, B1296, B1297, B1298, B1299, B1300, B1301, B1302, B1303, B1304, B1305, B1306, B1307, B1308, B1309, B1310, B1311, B1312, B1313, B1314, B1315, B1316, B1317, B1318, B1319, B1320, B1321, B1322, B1323, B1324, B1325, B1326, B1327, B1328, B1329, B1330, B1331, B1332, B1333, B1334, B1335, B1336, B1337, B1338, B1339, B1340, B1341, B1342, B1343, B1344, B1345, B1346, B1347, B1348, B1349, B1350, B1351, B1352, B1353, B1354, B1355, B1356, B1357, B1358, B1359, B1360, B1361, B1362, B1363, B1364, B1365, B1366, B1367, B1368, B1369, B1370, B1371, B1372, B1373, B1374, B1375, B1376, B1377, B1378, B1379, B1380, B1381, B1382, B1383, B1384, B1385, B1386, B1387, B1388, B1389, B1390, B1391, B1392, B1393, B1394, B1395, B1396, B1397, B1398, B1399, B1400, B1401, B1402, B1403, B1404, B1405, B1406, B1407, B1408, B1409, B1410, B1411, B1412, B1413, B1414, B1415, B1416, B1417, B1418, B1419, B1420, B1421, B1422, B1423, B1424, B1425, B1426, B1427, B1428, B1429, B1430, B1431, B1432, B1433, B1434, B1435, B1436, B1437, B1438, B1439, B1440, B1441, B1442, B1443, B1444, B1445, B1446, B1447, B1448, B1449, B1450, B1451, B1452, B1453, B1454, B1455, B1456, B1457, B1458, B1459, B1460, B1461, B1462, B1463, B1464, B1465, B1466, B1467, B1468, B1469, B1470, B1471, B1472, B1473, B1474, B1475, B1476, B1477, B1478, B1479, B1480, B1481, B1482, B1483, B1484, B1485, B1486, B1487, B1488, B1489, B1490, B1491, B1492, B1493, B1494, B1495, B1496, B1497, B1498, B1499, B1500, B1501, B1502, B1503, B1504, B1505, B1506, B1507, B1508, B1509, B1510, B1511, B1512, B1513, B1514, B1515, B1516, B1517, B1518, B1519, B1520, B1521, B1522, B1523, B1524, B1525, B1526, B1527, B1528, B1529, B1530, B1531, B1532, B1533, B1534, B1535, B1536, B1537, B1538, B1539, B1540, B1541, B1542, B1543, B1544, B1545, B1546, B1547, B1548, B1549, B1550, B1551, B1552, B1553, B1554, B1555, B1556, B1557, B1558, B1559, B1560, B1561, B1562, B1563, B1564, B1565, B1566, B1567, B1568, B1569, B1570, B1571, B1572, B1573, B1574, B1575, B1576, B1577, B1578, B1579, B1580, B1581, B1582, B1583, B1584, B1585, B1586, B1587, B1588, B1589, B1590, B1591, B1592, B1593, B1594, B1595, B1596, B1597, B1598, B1599, B1600, B1601, B1602, B1603, B1604, B1605, B1606, B1607, B1608, B1609, B1610, B1611, B1612, B1613, B1614, B1615, B1616, B1617, B1618, B1619, B1620, B1621, B1622, B1623, B1624, B1625, B1626, B1627, B1628, B1629, B1630, B1631, B1632, B1633, B1634, B1635, B1636, B1637, B1638, B1639, B1640, B1641, B1642, B1643, B1644, B1645, B1646, B1647, B1648, B1649, B1650, B1651, B1652, B1653, B1654, B1655, B1656, B1657, B1658, B1659, B1660, B1661, B1662, B1663, B1664, B1665, B1666, B1667, B1668, B1669, B1670, B1671, B1672, B1673, B1674, B1675, B1676, B1677, B1678, B1679, B1680, B1681, B1682, B1683, B1684, B1685, B1686, B1687, B1688, B1689, B1690, B1691, B1692, B1693, B1694, B1695, B1696, B1697, B1698, B1699, B1700, B1701, B1702, B1703, B1704, B1705, B1706, B1707, B1708, B1709, B1710, B1711, B1712, B1713, B1714, B1715, B1716, B1717, B1718, B1719, B1720, B1721, B1722, B1723, B1724, B1725, B1726, B1727, B1728, B1729, B1730, B1731, B1732, B1733, B1734, B1735, B1736, B1737, B1738, B1739, B1740, B1741, B1742, B1743, B1744, B1745, B1746, B1747, B1748, B1749, B1750, B1751, B1752, B1753, B1754, B1755, B1756, B1757, B1758, B1759, B1760, B1761, B1762, B1763, B1764, B1765, B1766, B1767, B1768, B1769, B1770, B17





ENVIRONMENTAL LABORATORIES &

PLOT NO.-38, MANSARVAR ENCLAVE, TUMUDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAECER73012V

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eres_ranchi@gmail.com
Phone no.: 0652-2290103
Website: www.elespl.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2024/7341	Report Release Date	: 14.12.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400065203F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/8654
Address	: Lahadaga, Jharkhand-835302	Location	: Near Paimoli Village Serengdag-A Bauxite Mines (155.81ha)
		Sampling Date	: 06.12.2024 to 07.12.2024
Mines Status	: Operational	Sample Received Date	: 09.12.2024
		Type of Sample	: Ambient Air
Period of Analysis	: 09.12.2024 to 14.12.2024	Sampling Procedure	: ELES/DOC/SMP/02
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

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

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 23): 2022	65	100 (24hrs)
Particulate Matter (PM2.5)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 24): 2019	34	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 2/Sec I): 2023	12.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 6): 2022	26.1	80 (24hrs)
Ozone (O ₃)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m^3	IS 5182 (Part- 10): 2019 (NDR Method)	1.32	2 (8hrs)
Lead (Pb)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 22): 2019	0.019	1 (24hrs)
Nickel (Ni)	ng/m^3	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m^3	ELES/AIR/SOP/01: 2023	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	$\mu\text{g}/\text{m}^3$	ELES/GC/SOP/06: 2023	<2.5	05 (Annual)
Benzo(a)Pyrene	ng/m^3	ELES/GC/SOP/05: 2023	<0.5	01 (Annual)

Reviewed by
Akash Kumar
Quality Manager

****End of Report****

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

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only in Compliance with laid or pre-approved format. The results shown in this Test Report refer to substances only to the parameters listed for the following only. The information provided in this Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of stated parameters. The Laboratory is responsible for all the information or data provided in the report, except the information which is provided by the client. The Report cannot be regarded as legal evidence, part of the report is not taken out of context, without prior written approval of the Laboratory. The Report is full or in part shall not be published, reprinted, used for any legal action without prior permission has been agreed from the Management of the Laboratory. Mention to determine the location of facility, composition and limitation given. Any unauthorized alteration & duplication of the content in preparation of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are stored for 15 days from the date of submission of the Test Report. The samples from Regulatory bodies are to be stored as specified. Any type of this contract is completely regarding the Report and the data within 15 days from the date of Test Report is considered. After this time period issued to the client, no complaint will be accepted. The entire Test results mentioned in Test Report is in English format. Information about: N/A (Not Applicable), BTL (Below Detection Limit), LTR (Above Detection Limit).

**ENVIRONMENTAL LABORATORIES & ENGINEERING
SERVICES PVT. LTD.**

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

Shrengdag A Bauxite Mine-Environmental Monitoring Report

January- 2025



CONTENT

Hindalco Industries : Shreegadh A Bauxite Mine Environmental Monitoring Report January 2025	
Shreegadh A Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE
1	Near Weigh Bridge
2	BKB Quarry
3	Mine Pit Quarry No.2A
4	Mine Pit Quarry No.2B
	AMBIENT AIR QUALITY- BUFFER ZONE
1	Near Banjari Village
2	Near Phari Village
3	Near Harup Village
4	Near Pintoli Village
	Surface Water
	Soil





ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANGARVAR ENCLAVE, TUPUDANA
NATIA, RANCHI-834001 (JHARKHAND)
GST NO:- 28AAFC2871A0124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranchi@gmail.com
Phone no.: 0651-2290109
Website : www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/0515	Report Release Date : 22.01.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC1358725000000506F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	Hindalco Industries Limited	Sample Ref. No.	ELES/RNC/2025/AA/0327
Address	Lohardaga, Jharkhand-835302	Location	Near Weigh Bridge, Serengdag-A Bauxite Mines (155.81ha)
Mines Status	Operational	Sampling Date	13.01.2025 to 14.01.2025
Period of Analysis	15.01.2025 to 21.01.2025	Sample Received Date	15.01.2025
		Type of Sample	Ambient Air
		Sampling Procedure	ELES/DOC/SMP/02
		Sampling Done By	ELES Pvt. Ltd.
		Sample Condition	Sealed & Preserved

METEOROLOGICAL INFORMATION

1. Average Temperature (°C) : 17	2. Barometric Pressure (mmHg) : 725
3. Relative Humidity (%) : 53	4. Weather Condition : Clear

Discipline : Chemical

Group : Atmospheric Pollution

Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 23): 2022	93	100 (24hrs)
Particulate Matter (PM2.5)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 24): 2019	56	60 (24hrs)
Sulphur Di-Oxide (SO_2)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 2/Sec1): 2023	17.3	80 (24hrs)
Nitrogen Di-Oxide (NO_2)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 6): 2022	37.1	80 (24hrs)
Ozone (O_3)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH_3)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m^3	IS 5182 (Part- 10): 2019 (NDIR Method)	1.42	2 (8hrs)
Lead (Pb)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 22): 2019	0.055	1 (24hrs)
Nickel (Ni)	ng/m^3	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m^3	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C_6H_6)	$\mu\text{g}/\text{m}^3$	ELES/GC/SOP/06: 2023	<2.5	05 (Annual)
Benzo-(a)-Pyrene	ng/m^3	ELES/GC/SOP/05: 2023	<0.5	01 (Annual)

Reviewed by
Akash Kumar
Quality Manager

****End of Report****

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

Page 1 of 1

This Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only as Customer Order Sheet is approved and signed. The results shown in the Test Report refer to values only by the Laboratory, from the Laboratory only. The information stated in the Test Report reflects the findings done by the Laboratory, at the time of measurement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided in the report, except the information which is provided by the client. The Report cannot be reproduced except in full and are part of the report, is not shown out of context, without prior written approval of the Laboratory. The Report is full as a part shall not be published, submitted, and the any legal action taken, will remain entirely from the client and the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration, modification of the content or signature of the Test Report is prohibited and offenders may be prosecuted in the fullest extent of the law. All the activities are limited to follow from the Date of collection of the Test Report. The samples from Engineering facilities are to be received as specified, any type of Alteration or Complaint regarding the Report shall be done within 15 days from the Date of Test Report (dated issued). After the time period stated before, no complaint will be accepted. The entire Terms and conditions mentioned in Test Report is to be followed. Alterations and / or / Not applicable. NDL (India) Document Control (2024) (India) Document Control.

TEST REPORT

Test Report No. :	ELES/RNC/2024/0516	Report Release Date :	22.01.2025
Work Order No. :	13612312113	Work Order Date :	28.03.2024
ULR No. :	TCL358725000000507F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELIS/RNC/2025/AA/0328
Address	: Lohardaga, Jharkhand-835302	Location	: BKB Quarry, Serlingga-A Bansite Mines (155.83ha)
		Sampling Date	: 13.01.2025 to 14.01.2025
		Sample Received Date	: 15.01.2025
Mines Status	: Operational	Type of Sample	: Ambient Air
		Sampling Procedure	: ELIS/EOC/SAMPL/02
Period of Analysis	: 15.01.2025 to 21.01.2025	Sampling Done By	: ELIS Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION

1	Average Temperature (°C)	17	2	Barometric Pressure (mmHg)	725
3	Relative Humidity (%)	85	4	Weather Condition	Clear

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 23): 2022	74	100 (24hrs)
Particulate Matter (PM2.5)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 24): 2019	36	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 2/Sec1): 2023	12.4	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 6): 2022	26.4	80 (24hrs)
Ozone (O ₃)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m^3	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 22): 2019	0.025	1 (24hrs)
Nickel (Ni)	ng/m^3	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m^3	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	$\mu\text{g}/\text{m}^3$	ELES/GC/SOP/06: 2023	<2.5	05 (Annual)
Benzo(a)-Pyrene	ng/m^3	ELES/GC/SOP/05: 2023	<0.5	01 (Annual)

Reviewed by
Akash Kumar
Quality Manager

****End of Report****


Authorized Signatory
Dr. Dhirendra Kumar Sinha
Ph. D. Environmental Engg.
Technical Manager



ENVIRONMENTAL LABORATORIES &

PLOT NO-38, MANSARVAR ENCLAVE, TULSIKANA
NETIA, RANCH-834003 (JHARKHAND)
GST NO: 20AAEC297130124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, els.ranchi@gmail.com
Phone no.: 0651-2290109
Website: www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/0518	Report Release Date : 22.01.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC1358725000000509F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name :	Hindalco Industries Limited	Sample Ref. No. :	ELES/RNC/2025/AA/0130
Address :	Lohandaga, Jharkhand-835302	Location :	Mine Pit Quarry No.2B, Srengdag-A Bauxite Mines(155.8ha)
Mines Status :	Operational	Sampling Date :	13.01.2025 to 14.01.2025
Period of Analysis :	15.01.2025 to 21.01.2025	Sample Received Date :	15.01.2025
		Type of Sample :	Ambient Air
		Sampling Procedure :	ELES/DOC/SMP/02
		Sampling Done By :	ELES Pvt. Ltd.
		Sample Condition :	Sealed & Preserved

METEOROLOGICAL INFORMATION			
1. Average Temperature (°C) :	17	2. Barometric Pressure (mmHg) :	723
3. Relative Humidity (%) :	55	4. Weather Condition :	Clear

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 23): 2022	88	100 (24hrs)
Particulate Matter (PM2.5)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 24): 2019	51	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 2/Sec1): 2023	15.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 6): 2022	36.1	80 (24hrs)
Ozone (O ₃)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m^3	IS 5182 (Part- 10): 2019 (NDIR Method)	1.38	2 (8hrs)
Lead (Pb)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 22): 2019	0.024	1 (24hrs)
Nickel (Ni)	ng/m^3	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m^3	ELES/AIR/SOP/01: 2021	<2.0	10 (Annual)
Benzene (C ₆ H ₆)	$\mu\text{g}/\text{m}^3$	ELES/GC/SOP/06: 2023	<2.5	60 (Annual)
Benz(a)-Pyrene	ng/m^3	ELES/GC/SOP/05: 2023	<0.5	61 (Annual)

Reviewed by
Akash Kumar
Quality Manager

****End of Report****

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

Page 1 of 1

This Document (that is, Test Report), is issued by the Laboratory under General Terms and Conditions, only as Company letter head in pre-approved format. The results shown in the Test Report shall be valid only to the information given by the Laboratory only. The information shown in the Test Report reflects the findings done by the Laboratory at the time of measurement and within the limits of stated uncertainty. The Laboratory is responsible for all the information in this report and on the same, except the information which is provided by the client. The client is responsible for any legal action taken upon permission has been received from the Management of the Laboratory. Attention is drawn to the inclusion of liability, compensation and jurisdiction clause. Any intentional alteration or falsification of the content or signature of the Test Report is strictly prohibited and offenders may be prosecuted to the fullest extent of the law. All the samples received for 15 days from the Date of submission of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Obstruction or Complaints regarding the Report shall be done within 15 days from the Date of Test Report released/issued. After the time period stated before no complaint will be accepted. The results/Findings mentioned in Test Report is in Indian Rupee. (Rounded to two (2) decimal places, N/A (Not Applicable), N/A (Below Detection Limit), L/T (At Limit of Detection)).



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO- 20AAECES7120129

ENGINEERING SERVICES PVT. LTD.

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



TEST REPORT

Test Report No.	: ELES/RNC/2025/0519	Report Release Date	: 22.01.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000000510F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalen Industries Limited	Sample Ref. No.	: ELES/RNC/2025/AA/0331
Address	: Lohantaga, Jharkhand-835302	Location	: Near Banjari Village Serongdag-A, Bauxite Mines (155.81ha)
Mines Status	: Operational	Sampling Date	: 13.01.2025 to 14.01.2025
Period of Analysis	: 15.01.2025 to 21.01.2025	Sample Received Date	: 15.01.2025
		Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMP/02
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

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

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	74	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	42	60 (24hrs)
Sulphur Dioxide (SO ₂)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	14.5	80 (24hrs)
Nitrogen Dioxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	26.2	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.024	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05 (Annual)
Benz(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01 (Annual)

Reviewed by
Anshu Kumar
Quality Manager

****End of Report****

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

Page 1 of 1

This document is the Test Report, as required, the Laboratory under Standard Terms and Conditions, only as Compliance with local or international standards. The results shown in the Test Report, shall be valid only in the jurisdiction, those by the Laboratory only. The information stated in the Test Report reflects the findings from the Laboratory or the type of Accreditation and not within the scope of client's instructions. The Laboratory is responsible for all the information or data provided in the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report is full or in part shall not be utilized, whether, used for any legal activity without prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction stated. Any word beyond statement in disavowal of the clients or appearance of the Test Report is voided and offenders may be prosecuted under Indian Penal Code, 1960. All the samples are retained for future tests for the duration of the Test Report. The samples from Regulatory bodies are to be treated as specified. Any type of Ownership or Compliance regarding the Report shall be determined 15 days from the date of Test Report collection. After this time period stated before, no complaint will be accepted. The entire Test includes mentioned in Test Report and Test Report Form (Information only) with this Application, 100% (Before Test Date) 100% (After Test Date) 100% (After Test Date) 100% (After Test Date).



ENVIRONMENTAL LABORATORIES &

PLOT NO-35, MANSARVAR ENCLAVE, TURUDANA
RASTA, RANCHI-834003 (JHARKHAND)
GST NO:- 25AAEEC97130124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranchi@gmail.com
Phone no.: 0651-2290107
Website : www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/0520	Report Release Date : 22.01.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC135872500000511F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	Hindalco Industries Limited	Sample Ref. No.	ELES/RNC/2025/AA/0332
Address	Loahadaga, Jharkhand-835302	Location	Near Pauri Village Serengdag-A Bauxite Mines (155.81m)
Mines Status	Operational	Sampling Date	13.01.2025 to 14.01.2025
Period of Analysis	15.01.2025 to 21.01.2025	Sample Received Date	15.01.2025
		Type of Sample	Ambient Air
		Sampling Procedure	ELES/DOC/SMP/02
		Sampling Done By	ELES Pvt. Ltd.
		Sample Condition	Sealed & Preserved

METEOROLOGICAL INFORMATION

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

Discipline : Chemical

Group : Atmospheric Pollution

Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	65	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	37	60 (24hrs)
Sulphur Dioxide (SO ₂)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	12.6	80 (24hrs)
Nitrogen Dioxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	24.2	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.024	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by
Akash Kumar
Quality Manager

****End of Report****

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

Page 1 of 1

The Document stated in Test Report, is issued by the Laboratory under Client Order and Certificate, only on Computer label based on pre-approved format. The results stated in the Test Report shall be valid only in the laboratory and for the Laboratory only. The information stated in the Test Report reflects the findings given by the Laboratory on the basis of environment only and shall not be taken as a basis of any other action. The Laboratory is responsible for all the information in the report, except the information which is provided by the client. The Report cannot be reproduced, copied or full and the part of the Report is not taken as a whole, without prior written approval of the Laboratory. The Report in full or in part shall not be published, otherwise used for any legal action without prior permission. The test result of the Test Report is valid only and should not be presented to the client under any form. All the samples are received by the Laboratory from the date of submission of the Test Report. The samples from Regulatory bodies are to be treated as standard. Any type of observation or Complaint regarding the Report shall be filed within 15 days from the date of Test Report submission. After the time period stated below, no complaint will be accepted. The entire Test results mentioned in Test Report is in 2025 format. (Information available in Test Report) (Information available in Test Report) (Information available in Test Report) (Information available in Test Report)



TEST REPORT

Test Report No.	: ELES/RNC/20250521	Report Release Date	: 22.01.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872500000512F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/WNC/2023/AA/0333
		Location	: Near Harup Village Serongdang-A Bancur Mines (155.811a)
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 13.01.2025 to 14.01.2025
		Sample Received Date	: 15.01.2025
		Type of Sample	: Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMP/02
Period of Analysis	: 15.01.2025 to 21.01.2025	Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION

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

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	68	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	37	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	11.5	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	26.1	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (N2DR Method)	1.28	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	29 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05 (Annual)
Benzo (a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01 (Annual)

Handwritten signature

Reviewed by
Ajay Kumar
Quality Manager

End of Report

Q. 10

Authorized Signature
Dr. Deependra Kumar Sainha
Ph. D. Environmental Engg.

Technical Manager



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TULSIKANA
NATIA, RANCHO-834001 (JHARKHAND)
GST NO.- 29AAEC2971J0124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranchi@gmail.com
Phone no.: 0661-2290109
Website: www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/0522	Report Release Date : 22.01.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
U.L.R No. : TC1358725000000513F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2025/AA/0334
Address	: Lohardaga, Jharkhand-835302	Location	: Near Painuli Village Sorongdog-A Bauxite Mines (155.81ha)
Mines Status	: Operational	Sampling Date	: 13.01.2025 to 14.01.2025
Period of Analysis	: 15.01.2025 to 21.01.2025	Sample Received Date	: 15.01.2025
		Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMP/02
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

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

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 23): 2022	69	100 (24hrs)
Particulate Matter (PM2.5)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 24): 2019	40	60 (24hrs)
Sulphur Dioxide (SO_2)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 2/Sec1): 2023	13.3	80 (24hrs)
Nitrogen Dioxide (NO_2)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 6): 2022	23.5	80 (24hrs)
Ozone (O_3)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH_3)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m^3	IS 5182 (Part- 10): 2019 (NDE Method)	1.22	2 (8hrs)
Lead (Pb)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 22): 2019	0.024	1 (24hrs)
Nickel (Ni)	ng/m^3	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m^3	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C_6H_6)	$\mu\text{g}/\text{m}^3$	ELES/GC/SOP/06: 2023	<2.5	05 (Annual)
Benzo(a)-Pyrene	ng/m^3	ELES/GC/SOP/05: 2023	<0.5	01 (Annual)

Reviewed by
Akash Kumar
Quality Manager

****End of Report****

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

Technical Manager

Page 1 of 1

The Information stated in Test Report is issued by the Laboratory under General Terms and Conditions, only if Company have been in pre-agreed format. The results shown in the Test Report shall be valid only if the information given by the Laboratory only. The information stated in the Test Report reflects the findings given by the Laboratory on the day of measurement only and within the limits of client's measurement. The Laboratory is responsible for all the information or data provided in 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 allowed to be copied, without prior written approval of the Laboratory. The Report is not to be put into circulation without written approval from the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction clauses, which are included within the report. The Laboratory is not responsible for the information or data provided in the report, which is not in accordance with the law. All the samples are stored for 30 days from the date of collection of the Test Report. The samples that require further analysis are to be received as specified. Any type of Laboratory or Company regarding the Report shall be done within 15 days from the date of Test Report released/issued. After this time period passed before, no complaint will be accepted. The entire Test Report shall be retained in Test Report as per Laboratory General Information such as: Test Application, 3001 (Other Detection Limit), 3002 (Other Detection Limit), 3003 (Other Detection Limit).



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA
KATIA, RANCHI-834003 (JHARKHAND)
GST NO: 20AAACE71A0124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranchi@gmail.com
Phone no.: 0661-2290203
Website : www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/0580	Report Release Date : 25.01.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC1358725000000570F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	Hindalco Industries Limited	Sample Ref. No.	ELES/RNC/2025/SW/0335
Address	Lebardaga, Jharkhand-835302	Sampling Date	13.01.2025
		Sample Received Date	15.01.2025
Mines Status	Operational	Type of Sample	Surface Water
		Location of Sample	Near Harhapat Village, Sermugda-A Bauxite Mines
Period of Analysis	15.01.2025 to 24.01.2025	Sampling Procedure	ELES/DOC/SMP/01
		Sampling Done By	ELES Pvt. Ltd.
		Sample Condition	Sealed & Preserved

Discipline : Chemical		Group : Water		Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
pH (at 24.6 °C)	-	IS 3025 (Part-11) : 2022	6.70	6.5-8.5
Temperature	°C	IS 3025 (Part-9) : 2023	18.0	-
Chemical Oxygen Demand (COD)	mg/L	IS 3025 (Part-58) : 2023	BDL (DL: 4.0)	-
Biochemical Oxygen Demand (BOD) (at 20°C for 5 days)	mg/L	APHA 24 th Ed.2023; §210B	BDL (DL: 1.0)	3.0
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16) : 2023	94.0	1500
Total Suspended Solids (TSS)	mg/L	IS 3025 (Part-17) : 2022	13.5	-
Oil & Grease	mg/L	IS 3025 (Part-39) : 2021	BDL (DL: 0.1)	0.1
Calcium (as Ca)	mg/L	IS 3025 (Part-40) : 2019	4.9	-



ENVIRONMENTAL LABORATORIES &

PLOT NO-32, MARSHAROVIA ENCLAVE, TUPUDANA
NATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAEC9713D124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranchi@gmail.com
Phone no.: 0653-2290103
Website: www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/0580	Report Release Date : 25.01.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC1358725000000570F	

Discipline : Chemical		Group : Residues in Water		Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2250-1992 Class C (Inland Surface Water)
Aluminum (as Al)	mg/L	IS 3025 (Part-55) :2003; RA2019	BDL (DL: 0.02)	—
Iron (as Fe)	mg/L	APHA 24 th Ed 2023; 3111B	0.246	30

Remarks: pH & Temperature done at site.

Reviewed by
Akash Kumar
Quality Manager

****End of Report****

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



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANGAROVAN ENCLAVE, TUPU/DANA
NATIA, RAIPUR-834003 (JHARKHAND)
GST NO.- 20AAFGC7130120

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranchi@gmail.com
Phone no.: 0661-3290103
Website : www.elespl.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2025/0581	Report Release Date	: 25.01.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
U/LR No.	: TC1358725000000571F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2025/91/0336
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 14.01.2025
		Sample Received Date	: 15.01.2025
		Type of Sample	: Soil
Miner Status	: Operational	Location of Sample	: Bapat Village, Sorengdag-A Bauxite Mines (155.81ha)
Period of Analysis	: 15.01.2025 to 24.01.2025	Sampling Procedure	: ELES/DOC/SOPL/05
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed

Discipline : Chemical		Group : Pollution & Environment	
Parameter	Unit	Test Protocol	Result
pH (1:2) at 24.5 °C	-	IS 2720 (Part-26): 2021	6.54
Conductivity (1:2) at 24.5 °C	µS/cm	IS 14767: 2021	194
Total Organic Carbon (TOC)	%	Soil Testing in India: 2011 (Walkley & Black Method)	0.63
Available Phosphorus (as P)	kg/ha	Soil Testing in India: 2011	5.2
Potassium (as K)	mg/kg	IS 9497: 2020	900
Available Nitrogen	%	Soil Testing in India: 2011	5.32
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)
Lead (as Pb)	mg/kg	US EPA 3050 A&B: 1996	BDL (DL: 0.1)

This 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 to analysis only to the job/analysis done by the Laboratory only. The information stated in the Test Report reflects the findings done by the Laboratory in the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided in the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertised, used for any legal actions without prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration or falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of release/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 release/issuance. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in Indian format. Abbreviations used: N/A (Not Applicable), BDL (Below Detection Limit), LRL (Lower Detection Limit).



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDARA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- ZDAAIC8713D124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranchi@gmail.com
Phone no.: 0652-2290203
Website: www.elespl.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2025/0581	Report Release Date	: 25.01.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872500000057IF		

Discipline : Chemical		Group : Pollution & Environment	
Parameter	Unit	Test Protocol	Result
Magnesium (as Mg)	mg/kg	Soil Testing in India: 2011	1710
Mercury (as Hg)	mg/kg	US EPA 7473 : 2007	BDL (DL: 0.01)

Reviewed by
Akash Kumar
Quality Manager

****End of Report****

Authorized Signatory
Ph. D. Environmental Engg.
Technical Manager

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 to values only to the job 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 out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, otherwise, used for any legal action unless prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration or falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Comments 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 Test schedule mentioned in Test Report is in 24 hours format. Adherence to and N/A (Not Applicable) DCL (Below Detection Limit), LDC (Lower Detection Limit).



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA
KATIA, RANCHI-834003 (JHARKHAND)
GST NO: 20AAEC297130124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranchi@gmail.com
Phone no.: 0652-2290103
Website: www.elespl.co.in

TEST REPORT

Test Report No. : ELES/RNC/2025/0581	Report Release Date : 25.01.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	Hindalco Industries Limited	Sample Ref. No.	ELES/RNC/2025/SL/0336
Address	Lohardaga, Jharkhand-835302	Sampling Date	14.01.2025
		Sample Received Date	15.01.2025
		Type of Sample	Soil
Mines Status	Operational	Location of Sample	Barpat Village, Serengding-A Bauxite Mines (135.81 ha)
Period of Analysis	15.01.2025 to 24.01.2025	Sampling Procedure	ELES/DOC/SAMPL/03
		Sampling Done By	ELES Pvt. Ltd.
		Sample Condition	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
Anshu Kumar
Quality Manager

****End of Report****

Authorised Signatory
Dr. Dipendra Kumar Barha
Ph. D. Environmental Engg.
Technical Manager

**ENVIRONMENTAL LABORATORIES & ENGINEERING
SERVICES PVT. LTD.**

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

Shrengdag A Bauxite Mine-Environmental Monitoring Report

February 2025



CONTENT

Hindalco Industries : Shrengdal A Bauxite Mine Environmental Monitoring Report February 2025	
Shrengdal A Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE
1	Near Weigh Bridge
2	BKB Quarry
3	Mine Pit Quarry No.2A
4	Mine Pit Quarry No.2B
	AMBIENT AIR QUALITY- BUFFER ZONE
1	Near Bagari Village
2	Near Pardi Village
3	Near Haras Village
4	Near Pirmoli Village
	Drinking Water-2
	Effluent Water
	Stack





ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MAKSAROVAR ENCLAVE, TUPUDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAEC97130124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles_ranchi@gmail.com

Phone no.: 0653-2290285

Website: www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/1373	Report Release Date : 03.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC1358725000001344F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	Hindalco Industries Limited	Sample Ref. No.	ELES/RNC/2025/AA/1417
Address	Lohardaga, Jharkhand-835302	Location	Near Weigh Bridge, Serongdag-A Bauxite Mines (155.81ha)
Mines Status	Operational	Sampling Date	20.02.2025 to 21.02.2025
Period of Analysis	24.02.2025 to 03.03.2025	Sample Received Date	24.02.2025
		Type of Sample	Ambient Air
		Sampling Procedure	ELES/DOC/SMP/02
		Sampling Done By	ELES Pvt. Ltd.
		Sample Condition	Sealed & Preserved

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

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 23): 2022	90	100 (24hrs)
Particulate Matter (PM2.5)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 24): 2019	54	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 2/Sec1): 2023	15.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 6): 2022	35.5	80 (24hrs)
Ozone (O ₃)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m^3	IS 5182 (Part- 10): 2019 (NDR Method)	1.27	2 (8hrs)
Lead (Pb)	$\mu\text{g}/\text{m}^3$	IS 5182 (Part- 22): 2019	0.059	1 (24hrs)
Nickel (Ni)	ng/m^3	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m^3	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	$\mu\text{g}/\text{m}^3$	ELES/GC/SOP/06: 2023	<2.5	05 (Annual)
Benzo-(a)-Pyrene	ng/m^3	ELES/GC/SOP/05: 2023	<0.5	01 (Annual)

Susma Yadav
Reviewed by

[Signature]
Authorized Signatory

****End of Report****

Page 1 of 1

This Document shall be Test Report as issued by the Laboratory under General Terms and Conditions, only in Computer/ Inkjet based in pre-printed format. The words shown in this Test Report refer to status only to the information given by the Laboratory only. The information stated on this Test Report reflect the findings given by the Laboratory at the time of analysis only and within the limits of client's instructions. The Laboratory is responsible for all the information in this provided as the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report is full or in part shall not be published without the written approval of the Laboratory. The Laboratory is not responsible for the use of the Report. The Report is issued only for the purpose of information and no other use. Any unauthorized alteration & fabrication of the report or appearance of the Test Report is considered and should be reported to the Laboratory at the time of the test. All the samples are retained for 15 days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Alteration or Completion regarding the Report shall be done within 15 days from the Date of Test Report release/issue. After the two period stated before, no completion will be accepted. The entire Test schedule mentioned in Test Report is in Indian (GMT), Addition in GMT, N/A (Not Applicable), DDC (Below Detection Limit), LOD (Lower Detection Limit).

“Sach & Environment, Sach & Future”



ENVIRONMENTAL LABORATORIES &

PLOT NO-36, MANSAROVAR ENCLAVE, TUPUDARA
NATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAEC297130124

EMAIL: info@elespl.co.in, sales@elespl.co.in
Phone no.: 0661-2290108
Website: www.elespl.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2025/1376	Report Release Date	: 03.03.2025
Work Order No.	: 13612312113	Work Order Date	: 29.03.2024
ULR No.	: TC1358725000001347F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2025/AA/1430
Address	: Lokardaga, Jharkhand-835302	Location	: Mine Pit Quarry No.2B, Seringdag-A Bauxite Mines(155.81ha)
		Sampling Date	: 20.02.2025 to 21.02.2025
Mines Status	: Operational	Sample Received Date	: 24.02.2025
Period of Analysis	: 24.02.2025 to 03.03.2025	Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMP/02
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

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

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	82	1011 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	48	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- 3/Sec1): 2023	12.9	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	34.4	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDR Method)	1.24	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.020	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	ng/m ³	ELES/GC/SOP/06: 2023	<2.5	05 (Annual)
Benz(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01 (Annual)

Suoma Yashar
Reviewed by

[Signature]
Authorized Signatory

****End of Report****

Page 1 of 1

This Document issued as Test Report, is issued by the Laboratory under General Terms and Conditions, only in Company letter head in pre-approved format. The responsibility to the Test Report rests on the client only in the information given 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 user is to be held responsible for all and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report is not to be put into use for political, commercial, legal or any legal action where prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction clause. Any modification/alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of submission of the Test Report. The samples after Regulatory bodies are as mentioned as specified. Any type of Alterations or Complains regarding the Report shall be done within 10 days from the Date of Test Report released/issued. After the time period stated as above, no complaints will be accepted. The entire Test results mentioned in the Report is in 24 hours format. Abbreviation used: M/A (For Application) R/R (For Reference) L/R (For Laboratory) L/R (For Laboratory) L/R (For Laboratory).



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANASAROVAR ENCLAVE, TURIDANA
NATIA, RANCH-834003 (JHARKHAND)
GST NO-20AAEECF73301M

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, els_ranchi@gmail.com
Phone no.: 0651-2290203
Website: www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/1377	Report Release Date : 03.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC1358725000001348F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2025/AA/1431
Address	: Laharidaga, Jharkhand-835302	Location	: Near Banjari Village Serungdag-A Bauxite Mines (155.81ha)
Mines Status	: Operational	Sampling Date	: 20.02.2025 to 21.02.2025
Period of Analysis	: 24.02.2025 to 03.03.2025	Sample Received Date	: 24.02.2025
		Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SAMPL/02
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 21	2	Barometric Pressure (mmHg)	: 720
3	Relative Humidity (%)	: 58	4	Weather Condition	: Clear

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	79	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	46	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- 2/Sec I): 2023	13.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	28.1	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.022	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<1.5	05 (Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01 (Annual)

Susma Yachar
Reviewed by

****End of Report****

[Signature]
Authorized Signatory
Aradhya Kumar

Page 1 of 1

This Document (entire Test Report) is issued by the Laboratory under General Terms and Conditions, only on Company letter head as pre-approved format. The results shown in the Test Report relate only to the job/analysis done by the Laboratory only. The laboratory does not do the Test Report without 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 in the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report is not to be put shall not be published, otherwise, used for any legal action without prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & distribution of the entire or any part of the Test Report is strictly prohibited and offenders may be prosecuted in the fullest extent of the law. All the samples are retained for 15 days from the Date of submission of the Test Report. The specific Risk Regulatory bodies are to be contacted in special field. Any type of Observation or Complaints regarding the Report shall be done within 15 days from the Date of Test Report released/issued. After the time period stated below, no complaint will be accepted. The entire Time schedule mentioned in Test Report is to be followed. Client: Address: [Address], Dist: [District], Pin: [Pin], State: [State], India. (If any change in address, it should be intimated to the Laboratory).



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, NANSAROVAR ENCLAVE, TURUPDANA
HATTA, RANCH-834003 (JHARKHAND)
GST NO:- 20AAECER7330124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, sales@elespl.co.in

Phone no.: 0651-2290103

Website : www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/1378	Report Release Date : 03.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TCL1358725000001349F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2025/AA/1422
Address	: Lohardaga, Jharkhand-833302	Location	: Near Pauri Village Soringding-A: Boudha Mines (155.81 ha)
Mines Status	: Operational	Sampling Date	: 20.02.2025 to 21.02.2025
Period of Analysis	: 24.02.2025 to 03.03.2025	Sample Received Date	: 24.02.2025
		Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMP/A02
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

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

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	69	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	39	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	25.3	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.031	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benz(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Summa Yodanis
Reviewed by

****End of Report****

A. J. J.
Authorised Signatory
Rakesh Kumar

Page 1 of 1

The document stated in 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 to values only as the job analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of evaluation only and within the limits of laboratory's instrumentation. 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 valid out of context, without prior written approval of the Laboratory. The Report is full in so far as it can be published, otherwise, used for any legal action where prior permission has been received from the Management of the Laboratory. Attention is drawn to the disclaimer of liability, compensation and jurisdiction clause. Any unexplained Abnormality or Interference of the customer or appearance of the Test Report is acknowledged and sufficient may be presented to the relevant parties of the law. All the samples are retained for 15 days from the date of release of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Report shall be done within 15 days from the date of Test Report released/issued. After this time period stated before, no complaint will be accepted. The date Time schedule mentioned in Test Report is in Indian Standard. Address: Plot No. 30, Nansarovar Enclave, Turupdana, Hatia, Ranch-834003 (Jharkhand). GST No: 20AAECER7330124. ULR: 13612312113.

"We're Environmental, You're Not"



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSARVAR ENCLAVE, TUPUDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAECER713D124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranchi@gmail.com
Phone no.: 0662-2290103
Website: www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/1379	Report Release Date : 03.03.2025
Work Order No. : 1361231213	Work Order Date : 28.03.2024
ULR No. : TC1358725000001350F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2025/AA/1423
Address	: Lahardaga, Jharkhand-833302	Location	: Near Himup Village Serengding-A Bauxite Mines (155.81ha)
Mines Status	: Operational	Sampling Date	: 20.02.2025 to 21.02.2025
Period of Analysis	: 24.02.2025 to 03.03.2025	Sample Received Date	: 24.02.2025
		Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMP/02
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

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

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM ₁₀)	µg/m ³	IS 5182 (Part- 23): 2022	73	100 (24hrs)
Particulate Matter (PM _{2.5})	µg/m ³	IS 5182 (Part- 24): 2019	40	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	12.6	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	23.5	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<6.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDR Method)	1.31	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05 (Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01 (Annual)

Susma Yadav
Reviewed by

[Signature]
Authorized Signatory

****End of Report****

Page 1 of 1

This Document is valid as Test Report, it is issued by the Laboratory under General Terms and Conditions, only on Company letter head or pre-approved format. The results shown in the Test Report refer to samples only as the Laboratory does by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of test/element only and within the limits of plant's operation. The Laboratory is responsible for all the information or data provided in the report, except the information which is provided by the client. This Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. This Report is full in its part shall not be published, otherwise, and for any legal action without prior permission has been issued from the Management of the Laboratory. Moreover it is given to the limitation of liability, compensation and jurisdiction otherwise, and for any legal action without prior permission has been issued from the Management of the Laboratory. Any unauthorized alteration or falsification of the content or signature of the Test Report is void and offenders may be prosecuted at the fullest extent of the law. All the samples are received for analysis from the Date of receipt of the Test Report. The samples from Regulatory bodies are to be retained as per fact. Any type of Observation or Complaint regarding the Report must 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 Test schedule mentioned in Test Report is to be observed. Address: Plot No. 30, Mansarovar Enclave, Tupudana Hatia, Ranchi-834003, Jharkhand. GST No. 20AAECER713D124. (ELES Pvt. Ltd.)

“Save Environment, Save Future”



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TULSIKARNI
HATIA, RANCH-834003 (JHARKHAND)
GST NO:- 20AAEC9733012R

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranch@gmail.com
Phone no.: 0653-2290103
Website: www.elespl.co.in



TEST REPORT

Test Report No. :	ELES/RNC/2025/1380	Report Release Date :	03.03.2025
Work Order No. :	13612312113	Work Order Date :	28.03.2024
ELR No. :	TCL358725000001351F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name :	Hindalco Industries Limited	Sample Ref. No. :	ELES/RNC/2025/AA/1434
Address :	Lohardaga, Jharkhand-835302	Location :	Near Paintoli Village Serengding-A Bauxite Mines (155.81ha)
Mines Status :	Operational	Sampling Date :	20.02.2025 to 21.02.2025
Period of Analysis :	24.02.2025 to 03.03.2025	Sample Received Date :	24.02.2025
		Type of Sample :	Ambient Air
		Sampling Procedure :	ELES/DOC/SMPL/02
		Sampling Done By :	ELES Pvt. Ltd.
		Sample Condition :	Sealed & Preserved

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

Discipline : Chemical		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/m ³	IS 5182 (Part- 24): 2019	43	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- 2/Sec 1): 2023	12.4	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	26.2	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.22	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.029	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05 (Annual)
Benz(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01 (Annual)


Reviewed by


Authorized Signatory
Anshu Sharma

****End of Report****

Page 1 of 1

This document stated in Test Report, is issued by the Laboratory under General Terms and Conditions, only as Company's service based on pre-approved Request. The results shown in the Test Report, shall be valid only to the parameters stated by the Laboratory only. The information stated in 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 in the report, except the information which is provided by the client. The Report cannot be regarded except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report is full or in part shall not be published, otherwise, even for any legal action unless prior permission has been received from the Management of the Laboratory. Agreement is given to the institution of liability, compensation and protection issues. Any modification and Alteration in the content or appearance of the Test Report is allowed and reference may be provided to the full text of the test. All the samples are retained for 30 days from the Date of release of the Test Report. The samples whose Regulatory limits are to be confirmed in specific, Any type of Observation or Complaints regarding the Report 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 Test schedule mentioned in Test Report is in 24 hours format. Acknowledgement: SOA (For Application), BGR (Before Submission Limit), LDR (Lower Detection Limit).



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TILPUDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 35AACCE971801279

ENGINEERING SERVICES PVT. LTD.

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



TEST REPORT

Test Report No.	: ELES/RNC/2025/1392	Report Release Date	: 03.03.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001363F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	Hindaleo Industries Limited	Sample Ref. No.	: ELES/RNC/2025/DW/1436
Address	Lohardaga, Jharkhand-835302	Sampling Date	: 20.02.2025
		Sample Received Date	: 24.02.2025
		Type of Sample	: Drinking Water
		Source of Sample	: TAP Water
Mines Status	Operational	Location of Sample	: Near Entrance Gate (Serengdag-A Bauxite Mines)
		Sampling Procedure	: ELES/DOC/SMPL/01
Period of Analysis	24.02.2025 to 03.03.2025	Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

Discipline : Chemical		Group : Water		Regulatory Limit as per IS 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
pH (at 24.9 °C)	-	APHA 24 th Ed.2023, 4500-H'	6.60	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 24 th Ed.2023, 2130 B	0.65	1.0	5.0
Taste	-	APHA 24 th Ed.2023, 2160 C	Agreeable	Agreeable	Agreeable
Odour	-	IS 3025 (Part-3) :2018	Agreeable	Agreeable	Agreeable
Colour	Hazen	APHA 24 th Ed.2023, 2120B&D	1.0	5.0	15
Total Dissolved Solids (TDS)	mg/L	APHA 24 th Ed.2023, 2540B,C&D	290	500	2000
Chloride (as Cl)	mg/L	APHA 24 th Ed.2023, 4500 Cl B	14.1	250	1000
Fluoride (as F)	mg/L	APHA 24 th Ed.2023, 4500 F-D	BDL (DL: 0.1)	1.0	1.5
Total Alkalinity (as CaCO ₃)	mg/L	APHA 24 th Ed.2023, 2320 B	122	200	600
Total Hardness (as CaCO ₃)	mg/L	APHA 24 th Ed.2023, 2340 C	133	200	600
Sulphate (as SO ₄)	mg/L	APHA 24 th Ed.2023, 4500 SO ₄ ²⁻ -E	11.2	200	400
Nitrate (as NO ₃)	mg/L	APHA 24 th Ed.2023, 4500 NO ₃ -B	4.5	45	No Relaxation

Page 1 of 4

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 relate only to the job/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 out of context without prior written approval of the Laboratory. The Report as full or in part shall not be published, altered, used for any legal action or for any other purpose without the prior written approval of the Management of the Laboratory. Attention is drawn to the limitations of liability, compensation and jurisdiction issues. Any misinterpreted alteration & falsification of the content or suppression of the Test Report is unlawful and a fraud may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of submission of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Report shall be done within 15 days from the Date of Test Report submission. After the time period stated before, no complaints will be accepted. The active Test schedule mentioned in Test Report is in 24 hours format: Affirmative (conf), N/A (Not Applicable), ND (Below Detection Limit), LCL (Lower Detection Limit).

Test Approved by: *[Signature]*



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANGAROVAR ENCLAVE, TUPLADANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO.: 35AAEC97LAD124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranchi@gmail.com
Phone no.: 0631-2290103
Website : www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/1392	Report Release Date : 03.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC1358725000001363F	

Discipline : Chemical				Regulatory Limit as per IS10500:2012	
Group : Water					
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part 43/Sec1): 2022	BDL (DL: 0.001)	0.001	0.002
Free Residual Chlorine (RPC)	mg/L	IS 3025 (Part-26): 2021	BDL (DL: 0.1)	0.2(Min)	1.0(Min)
Calcium (as Ca)	mg/L	APHA 24 th Ed.2023, 3500 Ca B	35.3	75	200
Anionic Surfactants (as MBAS)	mg/L	APHA 24 th Ed.2023, 5540-C	BDL (DL: 0.025)	0.2	1.0
Discipline : Chemical				Group : Residues in Water	
Aluminium (as Al)	mg/L	IS 3025 (Part-55): 2003; RA2019	BDL (DL: 0.02)	0.03	0.2
Arsenic (as As)	mg/L	IS 3025 (Part-37): 2022	BDL (DL: 0.005)	0.01	No Relaxation
Boron (as B)	mg/L	IS 3025 (Part-57): 2021	BDL (DL: 0.2)	0.5	1.0
Cadmium (as Cd)	mg/L	APHA 24 th Ed.2023; 3111D	BDL (DL: 0.003)	0.003	No Relaxation
Total Chromium (as Cr)	mg/L	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.03)	0.05	No Relaxation
Copper (as Cu)	mg/L	IS 3025 (Part 42): 2019	BDL (DL: 0.03)	0.05	1.5
Cyanide (as CN)	mg/L	APHA 24 th Ed.2023, 4500 CN-E	BDL (DL: 0.012)	0.05	No Relaxation
Iron (as Fe)	mg/L	APHA 24 th Ed.2023; 3111B	0.075	1.0	No Relaxation
Lead (as Pb)	mg/L	APHA 24 th 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	IS 3025 (Part-48): 2019	BDL (DL: 0.001)	0.001	No Relaxation
Selenium (as Se)	mg/L	IS 3025 (Part-56): 2019	BDL (DL: 0.01)	0.01	No Relaxation

Page 2 of 4

The Document stated in Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head or pre-approved format. The results shown in the Test Report refers or relates only to the job/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 out 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 received from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration or falsification of the content or appearance of the Test Report is inferential and offences may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release of the Test Report. The samples for Regulatory bodies are to be retained as specified. Any type of Observation or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Test analysis contained in Test Report is in Electronic format. Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limit); L/D (Lower Detection Limit).



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANGARWAR ENCLAVE, TUPUDANA
NATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 30AAFCR713012X

ENGINEERING SERVICES PVT. LTD.

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



TEST REPORT

Test Report No. : ELES/RNC/2025/1392	Report Release Date : 03.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC1358725000001363F	

Discipline : Chemical		Group : Residues in Water		Regulatory Limit as per IS10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Zinc (as Zn)	mg/L	APHA 24 th 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				Limit	
Alachlor	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	20	
Atrazine	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	2.0	
Butachlor	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	125	
Chlorpyrifos	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	30	
Edion	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)	140	
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	
Phenite	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	2.0	
Phenite Sulphoxe	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)	0.04	

Page 3 of 4

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only in Company letter head in pre-approved format. The results shown in the Test Report refer to values only to the information 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 out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertised, used for any legal actions unless prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 7days from the Date of submission 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 release/delivered. 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); LOD (Lower Detection Limit).



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TIPLIDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 35AAEC97130129

ENGINEERING SERVICES PVT. LTD.

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



TEST REPORT

Test Report No. : ELES/RNC/2025/1392	Report Release Date : 03.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC1358725000001363F	

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

Group : 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	

Remarks: pH done at Site.

Reviewed by

Aakash Kumar

Quality Manager

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Shukla

Ph. D. Environmental Engg.

Regulated Chemist

Page 4 of 4

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only as Company letter head is pre-approved format. The results shown in the Test Report refer or relate only to the job 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 out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertised, used for any legal action unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any inadvertent alteration or falsification of the content or appearance of the Test Report is unlawful and offences may be prosecuted to the fullest extent of the law. All the samples are returned free of charge from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be returned as specified. Any type of Observation or Complaints regarding the Report shall be done within 15 days from the Date of Test Report re-submission. After the time period stated before, no complaints will be accepted. The active Time schedule mentioned in Test Report is in 24 hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LD (Lower Detection Limit).



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSARDHAN ENCLAVE, TUPUDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAEECE97230124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranchi@gmail.com
Phone no.: 0651-22901103
Website: www.elespl.co.in

TEST REPORT

Test Report No. : ELES/RNC/2025/1392	Report Release Date : 03.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2025/DW/1436
Address	: Lahardaga, Jharkhand-835302	Sampling Date	: 20.02.2025
		Sample Received Date	: 24.02.2025
		Type of Sample	: Drinking Water
Miner Status	: Operational	Source of Sample	: TAP Water
		Location of Sample	: Near Entrance Gate (Serengdaj-A Bauxite Mines)
Period of Analysis	: 24.02.2025 to 03.03.2025	Sampling Procedure	: ELES/DOC/SMPL/01
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

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

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

Reviewed by

Akash Kumar
Quality Manager

****End of Report****

Authorised Signatory

Dr. Deepankar Kumar Singh
Pvt. Dir. Environmental Engg.
Technical Director

Page 1 of 1

The Document stated as Test Report, is issued by the Laboratory under strictest Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relate only to the job/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 without in full and any part of the report is not taken out of context without prior written approval of the Laboratory. The Report as full or in part shall not be published, advertised, used for any legal action unless prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction stated. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are required to follow the Date of Submission of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Objection or Complaint regarding the Report shall be done within 15 days from the Date of Test Report released/issued. After the time period stated before, no complaint will be accepted. The entire Time schedule mentioned in Test Report is in 24 hours format. Address/notes used: N/A (Not Applicable), DOR (Below Detection Limit), ELL (Lower Detection Limit).

"We are here to serve, not to confuse"



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANGADYAN ENCLAVE, TOPCADANA
NATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAACE871301224

ENGINEERING SERVICES PVT. LTD.

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

Phone no.: 0661-2790102

Website : www.elespl.co.in



TC-1287

TEST REPORT

Test Report No. :	ELES/RNC/2025/1294	Report Release Date :	28.02.2025
Work Order No. :	13612312113	Work Order Date :	28.03.2024
ULR No. :	TC1358725000001265F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name :	Hindalco Industries Limited	Sample Ref. No. :	ELES/RNC/2025/DW/1297
Address :	Luhardaga, Jharkhand-833362	Sampling Date :	20.02.2025
		Sample Received Date :	21.02.2025
		Type of Sample :	Drinking Water
		Source of Sample :	RO Water
Mines Status :	Operational	Location of Sample :	Near Entrance Gate (Serungling-A Bauxite Mines)
Period of Analysis :	21.02.2025 to 28.02.2025	Sampling Procedure :	ELES/DOC/SMP/01
		Sampling Done By :	ELES Pvt. Ltd.
		Sample Condition :	Sealed & Preserved

Discipline : Chemical		Group : Water		Regulatory Limit as per IS 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
pH (at 24.7 °C)	-	APHA 24 th Ed.2023, 4500-H ⁺	6.62	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 24 th Ed.2023, 2130 B	0.38	1.0	5.0
Taste	-	APHA 24 th Ed.2023, 2160 C	Agreeable	Agreeable	Agreeable
Odeur	-	IS 2025 (Part-5):2018	Agreeable	Agreeable	Agreeable
Colour	Hazen	APHA 24 th Ed.2023, 2120B&D	1.0	5.0	15
Total Dissolved Solids (TDS)	mg/L	APHA 24 th Ed.2023, 2540B,C&D	75	500	2000
Chloride (as Cl)	mg/L	APHA 24 th Ed.2023, 4500 Cl D	12.3	250	1000
Fluoride (as F)	mg/L	APHA 24 th Ed.2023, 4500 F-D	BDL (DL: 0.1)	1.0	1.5
Total Alkalinity (as CaCO ₃)	mg/L	APHA 24 th Ed.2023, 2320 B	26.7	300	600
Total Hardness (as CaCO ₃)	mg/L	APHA 24 th Ed.2023, 2340 C	34.2	200	600
Sulphate (as SO ₄)	mg/L	APHA 24 th Ed.2023, 4500 SO ₄ ⁻² -E	BDL (DL: 1.0)	200	400
Nitrate (as NO ₃)	mg/L	APHA 24 th Ed.2023, 4500 NO ₃ -B	0.74	45	No Relaxation

Page 1 of 4

The Disclaimer stated in Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head is pre-approved format. The results shown in the Test Report refer or relate only to the job/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 out of context without prior written approval of the Laboratory. The Report is full or in part shall not be published, otherwise, used for any legal action without prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, interpretation and jurisdiction issues. Any unauthorized alteration or falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of release/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 release/issue. After the time period stated before, no complaints will be accepted. The work Time schedule mentioned in Test Report is in 24 hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDC (Lower Detection Limit).

"Basis Environment, Basis Manager"



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANGARVAR ENCLAVE, TUMDANA
NATA, RANCHI-834003 (JHARKHAND)
GST NO:- 33AAEE97150126

ENGINEERING SERVICES PVT. LTD.

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

Phone no:- 9633-3290303

Website: www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/1294	Report Release Date : 28.02.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC1358725000001265F	

Discipline : Chemical		Group : Water		Regulatory Limit as per IS10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part 43/Sec1): 2022	BDL (DL: 0.001)	0.001	0.002
Free Residual Chlorine (RFC)	mg/L	IS 3025 (Part-26): 2021	BDL (DL: 0.1)	0.2(Min)	1.0(Min)
Calcium (as Ca)	mg/L	APHA 24 th Ed.2023, 3500 Ca-B	9.1	75	200
Anionic Surfactants (as MBAS)	mg/L	APHA 24 th Ed.2023, 5540-C	BDL (DL: 0.025)	0.2	1.0
Discipline : Chemical		Group : Residues in Water			
Aluminum (as Al)	mg/L	IS 3025 (Part-55): 2003, RA2019	BDL (DL: 0.02)	0.03	0.2
Arsenic (as As)	mg/L	IS 3025 (Part-37): 2022	BDL (DL: 0.005)	0.01	No Relaxation
Boron (as B)	mg/L	IS 3025 (Part-57): 2021	BDL (DL: 0.2)	0.5	1.0
Cadmium (as Cd)	mg/L	APHA 24 th Ed.2023, 3111B	BDL (DL: 0.003)	0.003	No Relaxation
Total Chromium (as Cr)	mg/L	APHA 24 th Ed.2023, 3111B	BDL (DL: 0.03)	0.05	No Relaxation
Copper (as Cu)	mg/L	IS 3025 (Part 42): 2019	BDL (DL: 0.03)	0.05	1.5
Cyanide (as CN)	mg/L	APHA 24 th Ed.2023, 4500 CN-E	BDL (DL: 0.012)	0.05	No Relaxation
Iron (as Fe)	mg/L	APHA 24 th Ed.2023, 3111B	0.072	1.0	No Relaxation
Lead (as Pb)	mg/L	APHA 24 th 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	IS 3025 (Part-48): 2019	BDL (DL: 0.001)	0.001	No Relaxation
Selenium (as Se)	mg/L	IS 3025 (Part-56): 2019	BDL (DL: 0.01)	0.01	No Relaxation

Page 2 of 4

The Document stated in 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 to analysis only as per job/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 out of context without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertised, used for any legal actions unless prior permission has been received from the Management of the Laboratory. Adherence is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorised alteration or falsification of the content or appearance of the Test Report is unlawful and offenders may be proceeded to the fullest extent of the law. All the samples are retained for 30 days from the Date of release of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observation or Complaint regarding the Reports shall be done within 15 days from the Date of Test Report release/delivery. 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 Detection Limit); LCL (Lower Detection Limit).

"Bharat Hi Vikasmantra Hai"



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANGROVE ENCLAVE, TUPADANA
NATIA, BANCHI-834003 (JHARKHAND)
GST NO - 20AAEC8733D126

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, sales@elespl.co.in
Phone no.: 0831-2280303
Website: www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/1294	Report Release Date : 28.02.2025
Work Order No. : I3612312113	Work Order Date : 28.03.2024
ULR No. : TC1358725000001265F	

Discipline : Chemical		Group : Residues in Water		Regulatory Limit as per IS10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Zinc (as Zn)	mg/L	APHA 24 th 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				Limit	
Alachlor	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	20	
Atrazine	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	2.0	
Butachlor	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	125	
Chlorpyrifos	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)	0.04	

Page 3 of 4

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 relate only to the job/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 out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertised, used for any legal action unless prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitations of liability, compensation and jurisdiction issues. Any unauthorized alteration or falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of release/issue of the Test Report. The sample 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 release/issue. After the time period stated before, no complaints will be accepted. The entire Test is subject to revision in Test Report in 24 hours format. Abbreviations used: N/A (Not Applicable); BDL (Below Detection Limit); LTEL (Lower Detection Limit).

"Save Environment, Save Future"



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, AGANSARDVAR ENCLAVE, TUPUDANA
HATIA, BANCHI-834003 (JHARKHAND)
GST NO: 20AAECCE9713D124

ENGINEERING SERVICES PVT. LTD.

Email: info@elersl.co.in, elers.ranchi@gmail.com
Phone no.: 0051-2290103
Website: www.elersl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/1294	Report Release Date : 28.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC1358725000001265F	

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		Group : 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	

Remarks: pH done at Site.

Reviewed by

Akash Kumar
Quality Manager

****End of Report****

Authorised Signatory

Ph. D. Environmental Engg.
Technical Manager



ENVIRONMENTAL LABORATORIES &

ENGINEERING SERVICES PVT. LTD.

PLDT NO-30, MANSAROVAR ENCLAVE, TUPUJAMAI
HATTA, RANCHI-834003 (JHARKHAND)
GST NO:- 25AAJCF97130129

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

TEST REPORT

Test Report No. : ELES/RNC/2025/1294	Report Release Date : 28.02.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2025/DW/1295
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 20.02.2025
		Sample Received Date	: 21.02.2025
		Type of Sample	: Drinking Water
		Source of Sample	: RO Water
		Location of Sample	: Near Entrance Gate (Serlingdaga-A Bauxite Mines)
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SAMPL/01
Period of Analysis	: 21.02.2025 to 28.02.2025	Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

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

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

Reviewed by
Akash Kumar
Quality Manager

****End of Report****

Authorized Signatory
Dr. Deependra Kumar Singh
Ph. D. Environmental Engg.
Technical Manager

Page 1 of 1

The Statement stated in 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 relate only to the job/analysis done by the Laboratory only. The information stated in 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 as full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report is full or in part shall not be published, advertised, used for any legal action unless prior permission has been obtained from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorised alteration & modification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of release of the Test Report. The samples given Regulatory bodies are to be retained as specified. Any type of Observation or Complaint regarding the Report shall be done within 15 days from the Date of Test Report release/issuance. After the time period stated before, no complaints will be accepted. The entire Test schedule mentioned in Test Report is in 24 hours format. Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limit); LDU (Lower Detection Limit).

"Your Satisfaction, Our Priority"



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPLUDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST No: 20AAEC8713J1Z9

ENGINEERING SERVICES PVT. LTD.

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



TEST REPORT

Test Report No. : ELES/RNC/2025/1391	Report Release Date : 03.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC1358725000001362F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	Hindalco Industries Limited	Sample Ref. No.	ELES/RNC/2025/03/1435
Address	Lohardaga, Jharkhand-831302	Sampling Date	20.02.2025
		Sample Received Date	24.02.2025
		Type of Sample	Effluent Water
Mines Status	Operational	Source of Sample	Serengding-A Bauxite Mines (155.81 ha)
Period of Analysis	24.02.2025 to 03.03.2025	Sampling Procedure	ELES/DOC/SMP/01
		Sampling Done By	ELES Pvt. Ltd.
		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 24.9 °C)	-	APHA 24 th Ed.2023,4500-H ⁺	8.82	5.5-9.0	5.5-9.0
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16): 2023	262	—	—
Total Suspended Solids (TSS)	mg/L	IS 3025 (Part-17): 2023	12.4	100	200
Dissolved Oxygen (DO)	mg/L	IS 3025 (Part-38): 2019	6.3	—	—
Biochemical Oxygen Demand (BOD) (at 27 °C for 3 days)	mg/L	IS 3025 (Part-44): 2023	3.2	30	100
Chemical Oxygen Demand (COD)	mg/L	IS 3025 (Part-58): 2023	23	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	0.216	2.0	—
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

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, with on Company letter head in pre-approved format. The results shown in the Test Report refer or relate only to the job/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 in the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of this report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertised, used for any legal actions unless prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitation of liability, representation and jurisdiction on issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is considered and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of Release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Comments 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 action time schedule mentioned in Test Report is in 24-hour format. Abbreviation used: N/A (Not Applicable); ND (Noble Detection Limit); LLD (Lower Detection Limit).



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSA ROVAR ENCLAVE, JUPUDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAEE87330124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranchi@gmail.com
Phone no.: 0651-2290109
Website: www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/1391	Report Release Date : 03.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC1358725000001362F	

Discipline : Chemical		Group : Residues in Water		Discharge Limits - CPCB EPB, 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 24 th Ed.2023, 3111 B	0.234	2.0	—
Mercury (as Hg)	mg/L	IS 3025(Part-48): 1999; RA2019	BDL (DL: 0.001)	0.01	—
Nickel (as Ni)	mg/L	APHA 24 th Ed.2023, 3111 B	0.140	3.0	—
Zinc (as Zn)	mg/L	APHA 24 th Ed.2023, 3111 B	0.263	5.0	—

Remarks: pH & DO done at Site.

Reviewed by

Akash Kumar
Quality Manager

****End of Report****

Authorized Signatory

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



ENVIRONMENTAL LABORATORIES &

PLOT NO-XI, MANSAROVAR ENCLAVE, TUPUDANA
HATIA, RANCHI-834001 (JHARKHAND)
GST NO-20AAEC971E0124

ENGINEERING SERVICES PVT. LTD.

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



TEST REPORT

Test Report No. : ELES/RNC/2025/1390	Report Release Date : 03.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
LLR No. : TC1358725000001361F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	Hindalco Industries Limited	Sample Ref. No.	ELES/RNC/2025/SM/1434
Address	Lohardaga, Jharkhand-835302	Location	Shrengdag A (140.07ha) Bauxite Mine DG (25 KVA)
Mines Status	Operational	Sampling Date	22.02.2025
Period of Analysis	24.02.2025 to 03.03.2025	Sample Received Date	24.02.2025
		Type of Sample	Flue Gas
		Sampling Procedure	ELES/DOC/SMPL/02(A)
		Sampling Done By	ELES Pvt. Ltd.
		Sample Condition	Sealed

GENERAL INFORMATION- (Data Provided by Customer)

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)	: 3.5
6	Height of Sampling Port from Ground Level (m)	: 3.5
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

FUEL CHARACTERISTICS DETAILS

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

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 relate only to the information given 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 instruction. 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 out of context, without prior written approval of the Laboratory. The Report is full or in part shall not be published, advertised, used for any legal action unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration or falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Objections or Complaints regarding the Reports shall be done within 15 days from the Date of Test Report release/issuance. After the time period stated below, no complaints will be accepted. The entire Test schedule mentioned in Test Report is in 24 hours format. Abbreviation used: N/A (Not Applicable), BCL (Below Detection Limit), LCL (Lower Detection Limit).



ENVIRONMENTAL LABORATORIES &

PLOT NO-50, MANGAROVAR ENCLAVE, TUPUDANA,
HATA, RANCHI-834003 (JHARKHAND)
GST NO: 20AAJCE87120129

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles-ranchi@gmail.com
Phone no.: 0651-2290107
Website: www.elespl.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2025/1390	Report Release Date	: 03.03.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001361F		

Discipline : Chemical

Group : Atmospheric Pollution

Parameter	Unit	Test Protocol	Results
Particulate Matter (PM)	mg/Nm ³	IS 11255(Part-3): 2023	36
Sulphur Di-Oxide (SO ₂)	mg/Nm ³	USEPA 6C: 2017	28
Oxides of Nitrogen (NO _x)	mg/Nm ³	USEPA 7E: 2020	75
Carbon Monoxide (CO)	mg/Nm ³	USEPA 10B: 2017	30
Carbon Di- Oxide (CO ₂)	%	USEPA 3A: 2017	4.8
Flue Gas Temperature	°C	IS 11255 (Part-3): 2018	140
Barometric Pressure	mmHg	IS 11255 (Part-3): 2018	740
Velocity of Flue Gas	m/sec	IS 11255 (Part-3): 2018	11.20
Quantity of Gas Flow	Nm ³ /hr	IS 11255 (Part-3): 2018	109



Reviewed by

****End of Report****

Authorized Signatory
Rajesh Kumar

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 as pre-approved format. The results shown in this Test Report refer to values only to the measurements 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 this report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, abstracted, used for any legal action unless prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and arbitration issues, any unauthorized alteration or falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of submission 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 Terms schedule mentioned in Test Report is in English format. Abbreviation used: N/A (Not Applicable), ND, (Below Detection Limit), LTL (Lower Detection Limit).

**ENVIRONMENTAL LABORATORIES & ENGINEERING
SERVICES PVT. LTD.**

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

Shrengdag A Bauxite Mine-Environmental Monitoring Report

March 2025



CONTENT

Hindalco Industries : Shrengdag A Bauxite Mine Environmental Monitoring Report		March 2025
Shrengdag A Bauxite Mine		
	AMBIENT AIR QUALITY- CORE ZONE	
1	Near Weigh Bridge	
2	BKB Quarry	
3	Mine Pit Quarry No.2A	
4	Mine Pit Quarry No.2B	
	AMBIENT AIR QUALITY- BUFFER ZONE	
1	Near Banjar Village	
2	Near Pauri Village	
3	Near Harup Village	
4	Near Paintoli Village	
	AMBIENT NOISE	
	WORKZONE NOISE	
	Spring Water	
1	Tosagra Gucha	
	Stream Water	
1	Up Stream (Kachuk Nadi)	
2	Down Stream (Kachuk Nadi)	
3	Up Stream (Serengdag Nadi)	
4	Down Stream (Serengdag Nadi)	





ENVIRONMENTAL LABORATORIES &

PLOT NO-83, MANSAVAR ENCLAVE, TUPUDANA
RATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAEECE9733DCE

ENGINEERING SERVICES PVT. LTD.

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

Phone no.: 0653-2290180

Website: www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/2009	Report Release Date : 24.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
U/LR No. : TC1358725000001967F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalen Industries Limited	Sample Ref. No.	: ELES/RNC/2025/AA/2151
Address	: Lohardaga, Jharkhand-835302	Location	: Near Weigh Bridge, Serengdag-A, Bauxite Mines (155.8 lha)
Mines Status	: Operational	Sampling Date	: 15.03.2025 to 16.03.2025
Period of Analysis	: 17.03.2025 to 24.03.2025	Sample Received Date	: 17.03.2025
		Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMPL/02
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 28	2	Barometric Pressure (mmHg)	: 720
3	Relative Humidity (%)	: 61	4	Weather Condition	: Clear

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	96	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	57	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	14.2	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	32.8	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.22	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.042	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05 (Annual)
Benz(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01 (Annual)

Reviewed by
Akash Kumar

Quality Manager

****End of Report****

Authorized Signatory

Dr. Deependra Kumar Singh

Ph. D. Environmental Engg.

Chief Executive Officer

Page 3 of 3

The Document (and its Test Report) is issued by the Laboratory under Internal Terms and Conditions, and our Company's name shall be printed on the Test Report. The Test Report shall be valid only for the information given by the Laboratory only. The information stated on the Test Report reflects the findings made by the Laboratory and is not a guarantee of the accuracy of the results. 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 valid out of context, without prior written approval of the Laboratory. The Report as full or in part shall not be published, or used, used for any legal action or other purpose and cannot be used without the written approval of the Management of the Laboratory. Any use of the Report in any form without the written approval of the Management of the Laboratory is prohibited and a violation may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of completion of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Alteration or tampering regarding the Report shall be done within 15 days from the Date of Test Report (release/issue). After the time period stated before, no complaint will be accepted. The entire Test includes mentioned in Test Report is in Indian Rupee (Indian Rupee and US Dollar) (Not Applicable); INR (Indian Rupee) (US Dollar); USD (United States Dollar).



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANJAROVA ENCLAVE, TURIDONGRA
HATIA, RANCHI-834015 (JHARKHAND)
GST NO:- 20AAACE97330128

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, rcs.ranchi@gmail.com
Phone no: 0652-2290103
Website: www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/2013	Report Release Date : 24.03.2025
Work Order No. : L3612312113	Work Order Date : 28.03.2024
ULR No. : TC1358725000001971F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	Hindalco Industries Limited	Sample Ref. No.	ELES/RNC/2025/AA/2155
Address	Lohardaga, Jharkhand-835302	Location	Near Bujuri Village Serengdip-A Bauxite Mines (135.81ha)
Mines Status	Operational	Sampling Date	15.03.2025 to 16.03.2025
Period of Analysis	17.03.2025 to 24.03.2025	Sample Received Date	17.03.2025
		Type of Sample	Ambient Air
		Sampling Procedure	ELES/DOC/SMPL/02
		Sampling Done By	ELES Pvt. Ltd.
		Sample Condition	Sealed & Preserved

METEOROLOGICAL INFORMATION

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

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM ₁₀)	µg/m ³	IS 5182 (Part- 23): 2022	72	100 (24hrs)
Particulate Matter (PM _{2.5})	µg/m ³	IS 5182 (Part- 24): 2019	50	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- 2/Sec13): 2023	12.4	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	30.7	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.028	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<1.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<1.5	05 (Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01 (Annual)

Reviewed by
Akash Kumar

Quality Manager

****End of Report****

Authorised Signatory
Dr. Deependra Kumar Shetha

Pr. D. Environmental Engg

Technical 34404991

Page 1 of 1

The document stated in Test Report, is issued by the Laboratory under General Terms and Conditions, only on Changing when have a... The information stated in the Test Report reflects the findings done by the Laboratory at the time of work performed only and not within the limits of client's instructions. The Laboratory is responsible for all the information in this report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertised, used for any report or other purposes without prior permission from the Management of the Laboratory. Attention is drawn to the fact that the Laboratory, its employees and personnel are not responsible for any consequences or damages arising from the use of the Test Report. The samples from Regulatory bodies are to be received as specified. Any report of observations or deviations regarding the Report shall be done within 10 days from the Date of Test Report is issued/issued. After the due period stated below, no complaint will be accepted. The order time schedule mentioned in Test Report is a (General) Approximate work. N/A (Not Applicable) BSL (Below Detection Limit) L.D. (Lower Detection Limit)



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSADEVAR ENCLAVE, TUPUDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAACE97130128

ENGINEERING SERVICES PVT. LTD.

Email:- info@elespl.com, eles_ranchi@elespl.com
Phone no.: 0651-2290101
Website :- www.elespl.com



TEST REPORT

Test Report No. : ELES/RNC/2025/2014	Report Release Date : 24.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC1358725000001972F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	Hindalco Industries Limited	Sample Ref. No.	ELES/RNC/2025/AA/2156
Address	Lohardaga, Jharkhand-835202	Location	Near Puri Village Sorongdag-A Bauxite Mines (155.81ha)
Mines Status	Operational	Sampling Date	15.03.2025 to 16.03.2025
Period of Analysis	17.03.2025 to 24.03.2025	Sample Received Date	17.03.2025
		Type of Sample	Ambient Air
		Sampling Procedure	ELES/DOC/SMP/02
		Sampling Done By	ELES Pvt. Ltd.
		Sample Condition	Sealed & Preserved

METEOROLOGICAL INFORMATION

1. Average Temperature (°C) : 28	2. Barometric Pressure (mmHg) : 729
3. Relative Humidity (%) : 60	4. Weather Condition : Clear

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM ₁₀)	µg/m ³	IS 5182 (Part- 23): 2022	73	100 (24hrs)
Particulate Matter (PM _{2.5})	µg/m ³	IS 5182 (Part- 24): 2019	42	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	10.9	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	24.8	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.024	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	66 (Annual)
Benzene (C ₆ H ₆)	ng/m ³	ELES/GC/SOP/06: 2023	<2.5	95(Annual)
Benzene(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	91(Annual)



Reviewed by
Akash Kumar
Quality Manager

****End of Report****



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

Page 1 of 1

Technical Manager

This document issued as Test Report, is issued by the Laboratory under General Terms and Conditions, which are displayed in our last as per page 1 and 2. The result shown in the Test Report is valid only in the parameters done by the Laboratory only. The laboratory result on the Test Report reflects the findings done by the Laboratory at the time of measurement only and within the limits of stated assumptions. The Laboratory is responsible for all the information of data provided in this report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. This Report is not to be published nor be put into use for any other purpose without the prior permission has been received from the Management of the Laboratory. Attention is drawn to the fact that the Laboratory, its employees and personnel do not, may not be held responsible for the consequences of the use of the Test Report in a criminal and/or civil manner. The Report is valid only for the purpose of the Test Report. The samples from Regulatory bodies are to be retained as specified. The type of Observations or Complaints regarding the Report shall be done within 15 days from the Date of Test Report released report. After the time period stated below, no complaints will be accepted. The entire Test Report document in the Report is in PDF format. All documents sent to A/A (Not Applicable), B/B (Not Applicable), C/C (Not Applicable), D/D (Not Applicable), E/E (Not Applicable), F/F (Not Applicable), G/G (Not Applicable), H/H (Not Applicable), I/I (Not Applicable), J/J (Not Applicable), K/K (Not Applicable), L/L (Not Applicable), M/M (Not Applicable), N/N (Not Applicable), O/O (Not Applicable), P/P (Not Applicable), Q/Q (Not Applicable), R/R (Not Applicable), S/S (Not Applicable), T/T (Not Applicable), U/U (Not Applicable), V/V (Not Applicable), W/W (Not Applicable), X/X (Not Applicable), Y/Y (Not Applicable), Z/Z (Not Applicable).



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAKVAR ENCLAVE, TURCADANA
NATA, RANCHI-834002 (JHARKHAND)
GST NO:- 20AAECB7130124

ENGINEERING SERVICES PVT. LTD.

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



TEST REPORT

Test Report No. : ELES/RNC/2025/2015	Report Release Date : 24.03.2025
Work Order No. : L3612512113	Work Order Date : 28.03.2024
ULR No. : TC1358725000001973F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	Hindalco Industries Limited	Sample Ref. No.	ELES-RNC/2025/KA/2157
Address	Lohardaga, Jharkhand-833302	Location	Near Harup Village Serongdog-A Bamate Mines (155.81ha)
Mines Status	Operational	Sampling Date	15.03.2025 to 16.03.2025
Period of Analysis	17.03.2025 to 24.03.2025	Sample Received Date	17.03.2025
		Type of Sample	Ambient Air
		Sampling Procedure	ELES/DOC/SAMPL/02
		Sampling Done By	ELES Pvt. Ltd.
		Sample Condition	Sealed & Preserved

METEOROLOGICAL INFORMATION

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

Discipline : Chemical		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/m ³	IS 5182 (Part- 24): 2019	43	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	12.2	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	25.3	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.37	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP06: 2023	<1.5	05 (Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP05: 2023	<0.5	01 (Annual)

Reviewed by
Akash Kumar

****End of Report****

Authorized Signatory
Dr. Deependra Kumar Singh
Pvt. Environmental Engg.
Technical Manager

The Disclaimer stated in Test Report is issued by the Laboratory under General Terms and Conditions, only as Company/Client is provided. The disclaimer in the Test Report refers to the accuracy of the information given by the Laboratory only. The information stated in the Test Report reflects the findings given by the Laboratory in the state of the equipment only and within the limits of client's instructions. The Laboratory is responsible for all the information in data provided in the report, except the information which is provided by the client. The Report cannot be regarded as a guarantee to full and any part of the report is not taken up as a contract without prior written approval of the Laboratory. The Report is not to be used for any other purpose, and for any legal action under any circumstances has been agreed from the Management of the Laboratory. Attention is drawn to the limitation of liability, acceptance and jurisdiction. The disclaimer and limitation of liability of the contract is agreement of the Test Report is subject and attention may be provided in the below section of the law. All the contracts are entered by the Client from the date of issuance of the Test Report. The sample from Regulatory bodies are to be retained as specified. Any type of Discrepancy or Complaints regarding the Report shall be only within 15 days from the date of Test Report (received/issued). After the stipulated period before, no complaints will be accepted. The current Time schedule mentioned in Test Report is in 24 hours format. All information used is a Client Agreement. 2023. (Below Disclaimer Limit) L3612512113. (Client Information) 2023.



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSADEVAR ENCLAVE, TIPUDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 30AAFC8713D124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eirs.ranchi@gmail.com
Phone no: 0651-2290109
Website: www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/2021	Report Release Date : 24.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC1358725000001979F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	Hindalco Industries Limited	Sampling Date	15.03.2025 to 16.03.2025
Address	Lohardaga, Jharkhand-835302	Sampling Received Date	17.03.2025
Mines Status	Operational	Type of Sample	Ambient Noise
		Sampling procedure	ELES/DOC/SMP/L/03
		Sampling Done By	ELES Pvt. Ltd.
		Period of Analysis	17.03.2025 to 22.03.2025

METEOROLOGICAL INFORMATION

1	Average Temperature (°C) : 28	2	Barometric Pressure (mmHg) : 720
3	Relative Humidity (%) : 61	4	Weather Condition : Clear

Discipline : Chemical		Group : Atmospheric Pollution			
Location	Unit	Test Protocol	Result		Regulatory Limit (Industrial Zone)
Near Mine Office, Serengdaga- A Bauxite Mines (155.81ha)	dB(A)	IS 9989: 2020	Time	L _{eq}	75 dB(A) Day Time & 70 dB(A) Night Time
			Day Time	64	
			Night Time	47	
Sample ID: ELES/RNC/2025/AN/2163					

Reviewed by
Akash Kumar,
Quality Manager

****End of Report****

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



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAKOTAR ENCLAVE, TUPUDARA,
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAEECE97230E24

ENGINEERING SERVICES PVT. LTD.

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



TEST REPORT

Test Report No. : ELES/RNC/2025/2058	Report Release Date : 25.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
U.L.R. No. : TC1358725010002015F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2025/SW/2189
Address	: Lohardaga, Jharkhand-835102	Sampling Date	: 15.03.2025
		Sample Received Date	: 17.03.2025
		Type of Sample	: Surface Water
		Source of Sample	: Up Stream
Mines Status	: Operations	Location of Sample	: Kanchhi Nadi, Serengding-A Bauxite Mines (155.81 ha)
Period of Analysis	: 17.03.2025 to 24.03.2025	Sampling Procedure	: ELES/DOC/SMPL/01
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

Discipline : Chemical		Group : Water		Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 3296-1992 Class C (Inland Surface Water)
pH (at 24.9 °C)	-	IS 3025 (Part-11) : 2022	6.84	6.5-8.5
Colour	Hazen	IS 3025 (Part-4) : 2021	3.4	300
Odour	-	IS 3025 (Part-5) : 2018	Unobjectionable	—
Turbidity	NTU	IS 3025 (Part-10) : 2023	8.68	—
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16) : 2023	142	1500
Total Alkalinity (as CaCO ₃)	mg/L	IS 3025 (Part-23) : 2023	51.0	—
Total Hardness (as CaCO ₃)	mg/L	IS 3025 (Part-21) : 2019	58.8	—
Sulphate (as SO ₄)	mg/L	IS 3025 (Part-24/Sec1) : 2022	9.2	400
Chloride (as Cl)	mg/L	IS 3025 (Part-32) : 2019	19.4	600
Fluoride (as F)	mg/L	IS 3025 (Part-60) : 2019	0.112	1.5
Nitrate (as NO ₃)	mg/L	APHA 24 ¹³ Ed.2023, 4300 NO ₃ -B	1.23	50

Page 1 of 4

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 relate only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory in the line 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 out of context, without prior written approval of the Laboratory. The Report as full or in part shall not be published, advertised, used for any legal action unless prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is considered and offenders may be prosecuted to the fullest extent of the law. All the samples are returned for free from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Objections or Complaints regarding the Reports shall be done within 15 days from the Date of Test Report release/issue. After the time period stated before, no complaint will be accepted. The entire Time schedule mentioned in Test Report is in 24 hours format. (Abbreviation used: N/A (Not Applicable), BOD (Biomass Oxygen Demand), TDS (Total Dissolved Solids), etc.)



ENVIRONMENTAL LABORATORIES &

PLOT NO-88, MANJANDHAR ENCLAVE, TUPLODAR
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAACE97330124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.com, eles_ranchi@gmail.com

Phone no.: 0661-2290303

Website : www.elespl.com



TC-0087

TEST REPORT

Test Report No.	: ELES/RNC/2025/2058	Report Release Date	: 25.03.2025
Work Order No.	: 15612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000002015F		

Discipline : Chemical		Group : Water		Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Free Residual Chlorine (RFC)	mg/L	IS 3025 (Part-26) : 2021	BDL (DL: 0.1)	—
Phenols Compounds (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part-43/Sec1): 2022	BDL (DL: 0.001)	0.005
Calcium (as Ca)	mg/L	IS 3025 (Part-40): 2019	15.7	—
Discipline : Chemical		Group : Residues in Water		
Aluminium (as Al)	mg/L	IS 3025 (Part-55): 2005:RA:2019	BDL (DL: 0.02)	—
Arsenic (as As)	mg/L	IS 3025 (Part 37):2022	BDL (DL: 0.005)	0.2
Boron (as B)	mg/L	IS 3025 (Part-57): 2021	BDL (DL: 0.2)	—
Cadmium (as Cd)	mg/L	APHA 24 th Ed.2023: 3111B	BDL (DL: 0.003)	0.01
Total Chromium (as Cr)	mg/L	APHA 24 th Ed.2023: 3111D	BDL (DL: 0.03)	0.05
Copper (as Cu)	mg/L	IS 3025 (Part 42): 2019	BDL (DL: 0.03)	1.5
Iron (as Fe)	mg/L	APHA 24 th Ed.2023: 3111B	0.260	50
Lead (as Pb)	mg/L	APHA 24 th Ed.2023: 3111B	BDL (DL: 0.01)	0.1
Manganese (as Mn)	mg/L	APHA 24 th Ed.2023: 3111B	BDL (DL: 0.05)	—
Mercury (as Hg)	mg/L	IS 3025 (Part-48): 2019	BDL (DL: 0.001)	—
Selenium (as Se)	mg/L	IS 3025(Part-56): 2019	BDL (DL: 0.01)	0.05
Zinc (as Zn)	mg/L	APHA 24 th Ed.2023: 3111B	BDL (DL: 0.1)	15



ENVIRONMENTAL LABORATORIES &

PLOT NO-80, MANGROVE ENCLAVE, TUPUJHAR
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAEE07130124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranchi@gmail.com
Phone no.: 0655-2290103
Website: www.elespl.co.in



TEST REPORT

Test Report No. :	ELES/RNC/2025/2058	Report Release Date :	25.03.2025
Work Order No. :	13612312113	Work Order Date :	28.03.2024
ULR No. :	TC1358725000002015F		

Discipline : Chemical		Group : Residues in Water		Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Cyanide (as CN)	mg/L	APHA 24 th Ed.2023, 4500 CN-E	BDL (DL: 0.012)	0.05
Polynuclear Aromatic Hydrocarbons (PAH)	µg/L	ELES/GC/SOP/04: 2023	BDL (DL: 0.05)	—
Pesticides				
Alachlor	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
Azinphos	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
Butachlor	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
Chlorpyrifos	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
Ethion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
Malathion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
Methidathion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.1)	—
Monocrotophos	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
Phorate	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
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)	—



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, NARASARAOJI ENCLAVE, TUPADANA
HATIA, RANCHI-834022 (JHARKHAND)
GST NO:- 20AAECERT130124

ENGINEERING SERVICES PVT. LTD.

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

Phone no.: 9833-3290103

Website: www.elespl.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2025/2058	Report Release Date	: 25.03.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358724000002015F		

Pesticides				Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Alpha HCH	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.006)	—
Beta HCH	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	—
Delta HCH	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	—
Gamma HCH (Lindane)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	—
Endosulfan (alpha, beta and sulphate)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	—
DDT (o,p and p,p-isomers of DDT) (DDE and DDD)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	—
Discipline: Biological		Group: Water		
Total Coliform	CFU/100 mL	IS 15785: 2021	2.36×10 ⁴	5000
Escherichia coli	CFU/100 mL	IS 15785: 2021	98.0	—

Remarks: pH & RPC done at site.

Reviewed by
Anash Kumar
Quality Manager

****End of Report****

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

Page 4 of 4

The Disclaimer stated in 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 relate only to the job/analysis done by the Laboratory only. The information stated in 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 in the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context without prior written approval of the Laboratory. The Report as full or in part shall not be published, otherwise, used for any legal actions unless prior permission has been granted from the Management of the Laboratory. Attention is drawn to the limitations of liability, interpretation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is subject to and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of release/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 release/issue. After the time period stated before, no complaints will be accepted. The expiry time schedule mentioned in Test Report is in 24 hours format. Abbreviations used: N/A (Not Applicable); BDL (Below Detection Limit); LDR (Lower Detection Limit).

"More Environmentally-Sound Business"



ENVIRONMENTAL LABORATORIES &

ENGINEERING SERVICES PVT. LTD.

PLOT NO-82, MANSAROVAR ENCLAVE, TUPKIDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 33AAECT9733D124

Email: info@elespl.co.in, eles.ranchi@gmail.com
Phone no.: 0651-2290303
Website: www.elespl.co.in

TEST REPORT

Test Report No. : ELES/RNC/2025/2058	Report Release Date : 25.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2025/SW/2189
Address	: Lohardaga, Jharkhand-835502	Sampling Date	: 15.03.2025
		Sample Received Date	: 17.03.2025
		Type of Sample	: Surface Water
		Source of Sample	: Up Stream
Mining Status	: Operational	Location of Sample	: Kanchiki Nadi, Serengdag-A, Bauxite Mines (155.61 ha)
		Sampling Procedure	: ELES-DOC/SMP/01
Period of Analysis	: 17.03.2025 to 25.03.2025	Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

Discipline : Chemical		Group : Water		Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Jellid Surface Water)
Taste	-	APHA 24 th Ed.2023, 2160C	N/A	--
Anionic Surfactants (as MBAS)	mg/L	APHA 24 th Ed.2023, 5540-C	BDL (DL: 0.025)	1.0
Mineral Oil*	mg/L	IS 3025 (Part-39):2021 (Infrared Spectroscopic Method)	BDL (DL: 0.05)	--

Remarks: 1. (*) Parameters are outsourced to other Lab.

Reviewed by
Anish Kumar
Quality Manager

****End of Report****

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



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAKOVAR ENCLAVE, TUPUDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAECI7150124

ENGINEERING SERVICES PVT. LTD.

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

Phone no.: 0653-2290103

Website : www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/2059	Report Release Date : 25.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC1358725000002016F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	Hindalco Industries Limited	Sample Ref. No.	ELES/RNC/2025/SW/2190
Address	Lohardaga, Jharkhand-835100	Sampling Date	15.03.2025
		Sample Received Date	17.03.2025
		Type of Sample	Surface Water
		Source of Sample	Down Stream
Mines Status	Operational	Location of Sample	Kanchki Nadi, Serengding-A Bauxite Mines (155.XI ha)
Period of Analysis	17.03.2025 to 24.03.2025	Sampling Procedure	ELES/DOC/SMPL/01
		Sampling Done By	ELES Pvt. Ltd.
		Sample Condition	Sealed & Preserved

Discipline : Chemical		Group : Water		Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
pH (at 24.9 °C)	-	IS 3025 (Part-11) : 2022	7.18	6.5-8.5
Colour	Hazen	IS 3025 (Part-4) : 2021	3.6	100
Odour	-	IS 3025 (Part-5) : 2018	Unobjectionable	—
Turbidity	NTU	IS 3025 (Part-10) : 2023	8.09	—
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16) : 2023	156	1500
Total Alkalinity (as CaCO ₃)	mg/L	IS 3025 (Part-23) : 2023	61.2	—
Total Hardness (as CaCO ₃)	mg/L	IS 3025 (Part-21) : 2019	64.7	—
Sulphate (as SO ₄)	mg/L	IS 3025 (Part-24/Sec1) : 2022	9.6	400
Chloride (as Cl)	mg/L	IS 3025 (Part-32) : 2019	15.5	600
Fluoride (as F)	mg/L	IS 3025 (Part-60) : 2019	0.131	1.5
Nitrate (as NO ₃)	mg/L	APHA 24 th Ed.2023, 4500 NO ₃ -B	2.16	50

Page 1 of 4

The Document stated in 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 exclusively to the analysis done by the Laboratory only. The information stated in the Test Report reflects the findings done by the Laboratory at the time of Government only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided in the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context without prior written approval of the Laboratory. The Report is full or in part shall not be published, advertised, used for any legal action unless prior permission has been received from the Management of the Laboratory. Attention is drawn to the provision of liability, compensation and jurisdiction issues. Any unauthorized alteration & circulation of this report or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of submission of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observation or Complaint regarding the Report shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Test Report mentioned in Test Report is in electronic format. Abbreviation used: N/A (Not Applicable), DCL (Below Detection Limit), LCL (Lower Detection Limit).



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAKAR ENCLAVE, TURUDANA
HATIA, RANCHI-834013 (JHARKHAND)
GST NO:- 20AAEC9730JLR

ENGINEERING SERVICES PVT. LTD.

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

Phone no: 0661-2290103

Website: www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/2059	Report Release Date : 25.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
CLR No. : TC1358725000002016F	

Discipline : Chemical		Group : Water		Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Free Residual Chlorine (RFC)	mg/L	IS 3025 (Part-26): 2021	BDL (DL: 0.1)	--
Phenols Compounds (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part-43/Sec1): 2022	BDL (DL: 0.001)	0.005
Calcium (as Ca)	mg/L	IS 3025 (Part-40): 2019	16.5	--
Discipline : Chemical		Group : Residues in Water		
Aluminum (as Al)	mg/L	IS 3025 (Part-55): 2003:RA2019	BDL (DL: 0.02)	--
Arsenic (as As)	mg/L	IS 3025 (Part 37):2022	BDL (DL: 0.005)	0.2
Boron (as B)	mg/L	IS 3025 (Part-57): 2021	BDL (DL: 0.2)	--
Cadmium (as Cd)	mg/L	APHA 24 th Ed.2023: 3111B	BDL (DL: 0.003)	0.01
Total Chromium (as Cr)	mg/L	APHA 24 th Ed.2023: 3111B	BDL (DL: 0.03)	0.05
Copper (as Cu)	mg/L	IS 3025 (Part 42): 2019	BDL (DL: 0.03)	1.5
Iron (as Fe)	mg/L	APHA 24 th Ed.2023: 3111B	0.232	50
Lead (as Pb)	mg/L	APHA 24 th Ed.2023: 3111B	BDL (DL: 0.01)	0.1
Manganese (as Mn)	mg/L	APHA 24 th Ed.2023: 3111B	BDL (DL: 0.05)	--
Mercury (as Hg)	mg/L	IS 3025 (Part-48): 2019	BDL (DL: 0.001)	--
Selenium (as Se)	mg/L	IS 3025(Part-56): 2019	BDL (DL: 0.01)	0.05
Zinc (as Zn)	mg/L	APHA 24 th Ed.2023: 3111B	BDL (DL: 0.1)	15

Page 2 of 4

The Disclaimer stated in Test Report is bound 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 relate only to the job/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 out of context without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertised, used for any legal action unless prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation, and jurisdiction issues. Any unauthorised alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of release/issue of the Test Report. The sample 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 scope/limits/analytes mentioned in Test Report is in different format: Acknowledgement: MHL (Heavy Detection Limit); LTL (Lower Detection Limit).

"More Sophistication, More Precision"



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANJAROVAR ENCLAVE, TUPUDAMA
NATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAEC57E3D124

ENGINEERING SERVICES PVT. LTD.

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

Phone no: 0653-2290103

Website: www.eles.in



TC-1287

TEST REPORT

Test Report No. : ELES/RNC/2025/2059	Report Release Date : 25.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC1358725000002016F	

Discipline : Chemical		Group : Residues in Water		Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Cyanide (as CN)	mg/L	AP51A 24 th Ed 2023, 4500 CN-E	BDL (DL: 0.012)	0.05
Polynuclear Aromatic Hydrocarbons (PAH)	µg/L	ELES/GC/SOP/04: 2023	BDL (DL: 0.05)	—
Pesticides				
Alachlor	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
Atrazine	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
Butachlor	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
Chlorpyrifos	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
Ethion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
Malathion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
Methyl parathion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.1)	—
Monocrotophos	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
Phorate	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
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)	—



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSARGAR ENCLAVE, TUPLODANA
HATIA, RANCHI-834022 (JHARKHAND)
GST NO:- 20AAEECE97130124

ENGINEERING SERVICES PVT. LTD.

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



TEST REPORT

Test Report No. :	ELES/RNC/2025/2059	Report Release Date :	25.03.2025
Work Order No. :	13612312113	Work Order Date :	28.03.2024
ULR No. :	TC1358725000002016F		

Pesticides				Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Alpha HCH	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.006)	—
Beta HCH	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	—
Delta HCH	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	—
Gamma HCH (Lindane)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	—
Endosulfan (alpha, beta and sulphate)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	—
DDT(o,p and p,p-isomers of DDT) (DDE and DDD)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	—
Discipline: Biological		Group: Water		
Total Coliform	CFU/100 mL	IS 15145: 2021	3.63×10 ³	5000
Escherichia coli	CFU/100 mL	IS 15145: 2021	1.01×10 ²	—

Remarks: pH & RTC done at site.

Reviewed by
Akash Kumar
Quality Manager

****End of Report****

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

Page 4 of 4

The Document titled 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 to data only to the job/analysis done by the Laboratory only. The information stated in 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 as data provided in the report, except the information which is provided by the client. The report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertised, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration or falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the date of submission of the Test Report. The samples from Regulatory bodies and 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 Test schedule mentioned in Test Report is in 24 hours format. Attention call: N/A (For Application, BDL, Below Detection Limit, LDI, Lower Detection Limit).



ENVIRONMENTAL LABORATORIES &

ENGINEERING SERVICES PVT. LTD.

PLOT NO-30, MANSAROVAR ENCLAVE, TUMU/DANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO.: 20AAEC237130124

Email: info@elespl.co.in, eles.ranchi@gmail.com
Phone no.: 0651-2250103
Website: www.elespl.co.in

TEST REPORT

Test Report No. : ELES/RNC/2025/2059	Report Release Date : 25.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2025/SW/2190
Address	: Lehundaga, Jharkhand-833302	Sampling Date	: 15.03.2025
		Sample Received Date	: 17.03.2025
		Type of Sample	: Surface Water
		Source of Sample	: Down Stream
Mines Status	: Operational	Location of Sample	: Kanchki Nadi, Serengdag-A Bamite Mines (155.81 ha)
		Sampling Procedure	: ELES/DOC/SMPL/01
Period of Analysis	: 17.03.2025 to 25.03.2025	Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

Discipline : Chemical		Group : Water		Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Taste	-	APHA 24* Ed.2023, 2160C	N/A	-
Anionic Surfactants (as MBAS)	mg/L	APHA 24* Ed.2023, 5540-C	BDL (DL: 0.025)	1.0
Mining Oil*	mg/L	IS 3025 (Part-39):2021 (Class B Inland Spectroscopic Method)	BDL (DL: 0.05)	-

Remarks: 1. (*) Parameters are nonstandard to other Lab

Reviewed by
Akash Kumar
Quality Manager

****End of Report****

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



ENVIRONMENTAL LABORATORIES &

PLD NO-30, MANSAROVAR ENCLAVE, TURIDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAACE97130124

ENGINEERING SERVICES PVT. LTD.

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

Phone no: 0652-2290203

Website: www.elespl.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2025/2060	Report Release Date	: 25.03.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
U.I.R No.	: TC1358725800002017F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2025/SW/2191
Address	: Lohardaga, Jharkhand-835102	Sampling Date	: 15.03.2025
		Sample Received Date	: 17.03.2025
		Type of Sample	: Surface Water
		Source of Sample	: Up Stream
Miner Status	: Operational	Location of Sample	: Serengdag Nadi, Serengdag-A Bauxite Mines (155.81 ha)
Period of Analysis	: 17.03.2025 to 24.03.2025	Sampling Procedure	: ELES/DOC/SMPL/01
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

Discipline : Chemical		Group : Water		Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
pH (at 24.9 °C)	-	IS 3025 (Part-11): 2022	6.71	6.5-8.5
Colour	Hazen	IS 3025 (Part-4): 2021	2.0	300
Odour	-	IS 3025 (Part-5): 2018	Unobjectionable	--
Turbidity	NTU	IS 3025 (Part-10): 2022	1.93	--
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16): 2023	160	1500
Total Alkalinity (as CaCO ₃)	mg/L	IS 3025 (Part-23): 2023	57.1	--
Total Hardness (as CaCO ₃)	mg/L	IS 3025 (Part-21): 2019	68.6	--
Sulphate (as SO ₄)	mg/L	IS 3025 (Part-24/Sec.): 2022	7.8	400
Chloride (as Cl)	mg/L	IS 3025 (Part-32): 2019	21.3	600
Fluoride (as F)	mg/L	IS 3025 (Part-60): 2019	0.120	1.5
Nitrate (as NO ₃)	mg/L	APHA 24 th Ed.2023, 4500 NO ₃ -B	1.25	50

Page 1 of 4

The Document titled as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Computer laser head in pre-approved format. The results shown in the Test Report refer to the 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 terms 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 out of context, without prior written approval of the Laboratory. The Report is valid in part shall not be published, otherwise, and for any legal actions unless prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration or falsification of the content or appearance of the Test Report is unlawful and offences may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of submission of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Comments regarding the Reports shall be done within 15 days from the Date of Test Report release/issuance. After the time period stated before, no samples will be accepted. The under time schedule mentioned in Test Report is in 24 hours format. Acknowledgement work to be completed within 30 days (Basis Duration Limit). 120 (Lower Duration Limit).

"Data is our foundation, Data is our power"



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAKONAR ENCLAVE, TUPUDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAECE97130134

ENGINEERING SERVICES PVT. LTD.

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

Phone no.: 0652-2250209

Website: www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/2060	Report Release Date : 25.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC1358725000002017F	

Discipline : Chemical		Group : Water		Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Free Residual Chlorine (RFC)	mg/L	IS 3025 (Part-26): 2021	BDL (DL: 0.1)	--
Phenols Compounds (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part-43/Sec1): 2022	BDL (DL: 0.001)	0.005
Calcium (as Ca)	mg/L	IS 3025 (Part-40): 2019	18.0	--
Discipline : Chemical		Group : Residues in Water		
Aluminum (as Al)	mg/L	IS 3025 (Part-55): 2003/RA2019	BDL (DL: 0.02)	--
Arsenic (as As)	mg/L	IS 3025 (Part 37):2022	BDL (DL: 0.005)	0.2
Boron (as B)	mg/L	IS 3025 (Part-57): 2021	BDL (DL: 0.2)	--
Cadmium (as Cd)	mg/L	APHA 24 th Ed.2023: 3111B	BDL (DL: 0.003)	0.01
Total Chromium (as Cr)	mg/L	APHA 24 th Ed.2023: 3111B	BDL (DL: 0.03)	0.05
Copper (as Cu)	mg/L	IS 3025 (Part 42): 2019	BDL (DL: 0.03)	1.5
Iron (as Fe)	mg/L	APHA 24 th Ed.2023: 3111B	0.285	50
Lead (as Pb)	mg/L	APHA 24 th Ed.2023: 3111B	BDL (DL: 0.01)	0.1
Manganese (as Mn)	mg/L	APHA 24 th Ed.2023: 3111B	BDL (DL: 0.05)	--
Mercury (as Hg)	mg/L	IS 3025 (Part-48): 2019	BDL (DL: 0.001)	--
Selenium (as Se)	mg/L	IS 3025(Part-56): 2019	BDL (DL: 0.01)	0.05
Zinc (as Zn)	mg/L	APHA 24 th Ed.2023: 3111B	BDL (DL: 0.1)	15

Page 2 of 4

The Document stated in 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/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 out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertised, used for any litigation unless prior permission has been secured from the Management of the Laboratory. Adherence is given to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of any content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Comments 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 Test schedule mentioned in Test Report is in 24-hour format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDR (Lower Detection Limit).

"Sewa & Satkarmam" "Seva Parivar"



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDAMA
KATIA, RANCH-434003 (HARAHAND)
GST NO: 20AAACE9713D124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, encl.ranch@elespl.co.in
Phone no.: 0651-2290183
Website: www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/2060	Report Release Date : 25.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC1358725000002017F	

Discipline : Chemical		Group : Residues in Water		Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Waters)
Cyanide (as CN)	mg/L	APHA 24 th Ed.2023, 4500 CN-E	BDL (DL: 0.012)	0.05
Polynuclear Aromatic Hydrocarbons (PAH)	µg/L	ELES/GC/SOP/04: 2023	BDL (DL: 0.05)	—
Pesticides				
Alachlor	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
Atrazine	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
Bifenthrin	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
Chlorpyrifos	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
Ethion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
Malathion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
Methyl parathion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.1)	—
Monocrotophos	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
Phorate	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
Phorate Sulphoxe	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	—
Dieldrin	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.01)	—

The information stated in Test Report, is issued by the Laboratory under General Terms and Conditions, only on Category letter head in pre-approved format. The results shown in the Test Report refer to values only to the job analysis done by the Laboratory only. The information stated in the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of their's competence. 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 out of context without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertised, used for any legal action without prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration or falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are returned for delays from the Date of submission 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/forwarded. After the above period stated before, no complaints will be accepted. The entire Test Schedule mentioned in Test Report is as follows: Initial, Mobilization and 30/60/90/120/150/180/210/240/270/300/330/360/390/420/450/480/510/540/570/600/630/660/690/720/750/780/810/840/870/900/930/960/990/1020/1050/1080/1110/1140/1170/1200/1230/1260/1290/1320/1350/1380/1410/1440/1470/1500/1530/1560/1590/1620/1650/1680/1710/1740/1770/1800/1830/1860/1890/1920/1950/1980/2010/2040/2070/2100/2130/2160/2190/2220/2250/2280/2310/2340/2370/2400/2430/2460/2490/2520/2550/2580/2610/2640/2670/2700/2730/2760/2790/2820/2850/2880/2910/2940/2970/3000/3030/3060/3090/3120/3150/3180/3210/3240/3270/3300/3330/3360/3390/3420/3450/3480/3510/3540/3570/3600/3630/3660/3690/3720/3750/3780/3810/3840/3870/3900/3930/3960/3990/4020/4050/4080/4110/4140/4170/4200/4230/4260/4290/4320/4350/4380/4410/4440/4470/4500/4530/4560/4590/4620/4650/4680/4710/4740/4770/4800/4830/4860/4890/4920/4950/4980/5010/5040/5070/5100/5130/5160/5190/5220/5250/5280/5310/5340/5370/5400/5430/5460/5490/5520/5550/5580/5610/5640/5670/5700/5730/5760/5790/5820/5850/5880/5910/5940/5970/6000/6030/6060/6090/6120/6150/6180/6210/6240/6270/6300/6330/6360/6390/6420/6450/6480/6510/6540/6570/6600/6630/6660/6690/6720/6750/6780/6810/6840/6870/6900/6930/6960/6990/7020/7050/7080/7110/7140/7170/7200/7230/7260/7290/7320/7350/7380/7410/7440/7470/7500/7530/7560/7590/7620/7650/7680/7710/7740/7770/7800/7830/7860/7890/7920/7950/7980/8010/8040/8070/8100/8130/8160/8190/8220/8250/8280/8310/8340/8370/8400/8430/8460/8490/8520/8550/8580/8610/8640/8670/8700/8730/8760/8790/8820/8850/8880/8910/8940/8970/9000/9030/9060/9090/9120/9150/9180/9210/9240/9270/9300/9330/9360/9390/9420/9450/9480/9510/9540/9570/9600/9630/9660/9690/9720/9750/9780/9810/9840/9870/9900/9930/9960/9990/10020/10050/10080/10110/10140/10170/10200/10230/10260/10290/10320/10350/10380/10410/10440/10470/10500/10530/10560/10590/10620/10650/10680/10710/10740/10770/10800/10830/10860/10890/10920/10950/10980/11010/11040/11070/11100/11130/11160/11190/11220/11250/11280/11310/11340/11370/11400/11430/11460/11490/11520/11550/11580/11610/11640/11670/11700/11730/11760/11790/11820/11850/11880/11910/11940/11970/12000/12030/12060/12090/12120/12150/12180/12210/12240/12270/12300/12330/12360/12390/12420/12450/12480/12510/12540/12570/12600/12630/12660/12690/12720/12750/12780/12810/12840/12870/12900/12930/12960/12990/13020/13050/13080/13110/13140/13170/13200/13230/13260/13290/13320/13350/13380/13410/13440/13470/13500/13530/13560/13590/13620/13650/13680/13710/13740/13770/13800/13830/13860/13890/13920/13950/13980/14010/14040/14070/14100/14130/14160/14190/14220/14250/14280/14310/14340/14370/14400/14430/14460/14490/14520/14550/14580/14610/14640/14670/14700/14730/14760/14790/14820/14850/14880/14910/14940/14970/15000/15030/15060/15090/15120/15150/15180/15210/15240/15270/15300/15330/15360/15390/15420/15450/15480/15510/15540/15570/15600/15630/15660/15690/15720/15750/15780/15810/15840/15870/15900/15930/15960/15990/16020/16050/16080/16110/16140/16170/16200/16230/16260/16290/16320/16350/16380/16410/16440/16470/16500/16530/16560/16590/16620/16650/16680/16710/16740/16770/16800/16830/16860/16890/16920/16950/16980/17010/17040/17070/17100/17130/17160/17190/17220/17250/17280/17310/17340/17370/17400/17430/17460/17490/17520/17550/17580/17610/17640/17670/17700/17730/17760/17790/17820/17850/17880/17910/17940/17970/18000/18030/18060/18090/18120/18150/18180/18210/18240/18270/18300/18330/18360/18390/18420/18450/18480/18510/18540/18570/18600/18630/18660/18690/18720/18750/18780/18810/18840/18870/18900/18930/18960/18990/19020/19050/19080/19110/19140/19170/19200/19230/19260/19290/19320/19350/19380/19410/19440/19470/19500/19530/19560/19590/19620/19650/19680/19710/19740/19770/19800/19830/19860/19890/19920/19950/19980/20010/20040/20070/20100/20130/20160/20190/20220/20250/20280/20310/20340/20370/20400/20430/20460/20490/20520/20550/20580/20610/20640/20670/20700/20730/20760/20790/20820/20850/20880/20910/20940/20970/21000/21030/21060/21090/21120/21150/21180/21210/21240/21270/21300/21330/21360/21390/21420/21450/21480/21510/21540/21570/21600/21630/21660/21690/21720/21750/21780/21810/21840/21870/21900/21930/21960/21990/22020/22050/22080/22110/22140/22170/22200/22230/22260/22290/22320/22350/22380/22410/22440/22470/22500/22530/22560/22590/22620/22650/22680/22710/22740/22770/22800/22830/22860/22890/22920/22950/22980/23010/23040/23070/23100/23130/23160/23190/23220/23250/23280/23310/23340/23370/23400/23430/23460/23490/23520/23550/23580/23610/23640/23670/23700/23730/23760/23790/23820/23850/23880/23910/23940/23970/24000/24030/24060/24090/24120/24150/24180/24210/24240/24270/24300/24330/24360/24390/24420/24450/24480/24510/24540/24570/24600/24630/24660/24690/24720/24750/24780/24810/24840/24870/24900/24930/24960/24990/25020/25050/25080/25110/25140/25170/25200/25230/25260/25290/25320/25350/25380/25410/25440/25470/25500/25530/25560/25590/25620/25650/25680/25710/25740/25770/25800/25830/25860/25890/25920/25950/25980/26010/26040/26070/26100/26130/26160/26190/26220/26250/26280/26310/26340/26370/26400/26430/26460/26490/26520/26550/26580/26610/26640/26670/26700/26730/26760/26790/26820/26850/26880/26910/26940/26970/27000/27030/27060/27090/27120/27150/27180/27210/27240/27270/27300/27330/27360/27390/27420/27450/27480/27510/27540/27570/27600/27630/27660/27690/27720/27750/27780/27810/27840/27870/27900/27930/27960/27990/28020/28050/28080/28110/28140/28170/28200/28230/28260/28290/28320/28350/28380/28410/28440/28470/28500/28530/28560/28590/28620/28650/28680/28710/28740/28770/28800/28830/28860/28890/28920/28950/28980/29010/29040/29070/29100/29130/29160/29190/29220/29250/29280/29310/29340/29370/29400/29430/29460/29490/29520/29550/29580/29610/29640/29670/29700/29730/29760/29790/29820/29850/29880/29910/29940/29970/30000/30030/30060/30090/30120/30150/30180/30210/30240/30270/30300/30330/30360/30390/30420/30450/30480/30510/30540/30570/30600/30630/30660/30690/30720/30750/30780/30810/30840/30870/30900/30930/30960/30990/31020/31050/31080/31110/31140/31170/31200/31230/31260/31290/31320/31350/31380/31410/31440/31470/31500/31530/31560/31590/31620/31650/31680/31710/31740/31770/31800/31830/31860/31890/31920/31950/31980/32010/32040/32070/32100/32130/32160/32190/32220/32250/32280/32310/32340/32370/32400/32430/32460/32490/32520/32550/32580/32610/32640/32670/32700/32730/32760/32790/32820/32850/32880/32910/32940/32970/33000/33030/33060/33090/33120/33150/33180/33210/33240/33270/33300/33330/33360/33390/33420/33450/33480/33510/33540/33570/33600/33630/33660/33690/33720/33750/33780/33810/33840/33870/33900/33930/33960/33990/34020/34050/34080/34110/34140/34170/34200/34230/34260/34290/34320/34350/34380/34410/34440/34470/34500/34530/34560/34590/34620/34650/34680/34710/34740/34770/34800/34830/34860/34890/34920/34950/34980/35010/35040/35070/35100/35130/35160/35190/35220/35250/35280/35310/35340/35370/35400/35430/35460/35490/35520/35550/35580/35610/35640/35670/35700/35730/35760/35790/35820/35850/35880/35910/35940/35970/36000/36030/36060/36090/36120/36150/36180/36210/36240/36270/36300/36330/36360/36390/36420/36450/36480/36510/36540/36570/36600/36630/36660/36690/36720/36750/36780/36810/36840/36870/36900/36930/36960/36990/37020/37050/37080/37110/37140/37170/37200/37230/37260/37290/37320/37350/37380/37410/37440/37470/37500/37530/37560/37590/37620/37650/37680/37710/37740/37770/37800/37830/37860/37890/37920/37950/37980/38010/38040/38070/38100/38130/38160/38190/38220/38250/38280/38310/38340/38370/38400/38430/38460/38490/38520/38550/38580/38610/38640/38670/38700/38730/38760/38790/38820/38850/38880/38910/38940/38970/39000/39030/39060/39090/39120/39150/39180/39210/39240/39270/39300/39330/39360/39390/39420/39450/39480/39510/39540/39570/39600/39630/39660/39690/39720/39750/39780/39810/39840/39870/39900/39930/39960/39990/40020/40050/40080/40110/40140/40170/40200/40230/40260/40290/40320/40350/40380/40410/40440/40470/40500/40530/40560/40590/40620/40650/40680/40710/40740/40770/40800/40830/40860/40890/40920/40950/40980/41010/41040/41070/41100/41130/41160/41190/41220/41250/41280/41310/41340/41370/41400/41430/41460/41490/41520/41550/41580/41610/41640/41670/41700/41730/41760/41790/41820/41850/41880/41910/41940/41970/42000/42030/42060/42090/42120/42150/42180/42210/42240/42270/42300/42330/42360/42390/42420/42450/42480/42510/42540/42570/42600/42630/42660/42690/42720/42750/42780/42810/42840/42870/42900/42930/42960/42990/43020/43050/43080/43110/43140/43170/43200/43230/43260/43290/43320/43350/43380/43410/43440/43470/43500/43530/43560/43590/43620/43650/43680/43710/43740/43770/43800/43830/43860/43890/43920/43950/43980/44010/44040/44070/44100/44130/44160/44190/44220/44250/44280/44310/44340/44370/44400/44430/44460/44490/44520/44550/44580/44610/44640/44670/44700/44730/44760/44790/44820/44850/44880/44910/44940/44970/45000/45030/45060/45090/45120/45150/45180/45210/45240/45270/45300/45330/45360/45390/45420/45450/45480/45510/45540/45570/45600/45630/45660/45690/45720/45750/45780/45810/45840/45870/45900/45930/45960/45990/46020/46050/46080/46110/46140/46170/46200/46230/46260/46290/46320/46350/46380/46410/46440/46470/46500/46530/46560/46590/46620/46650/46680/46710/46740/46770/46800/46830/46860/46890/46920/46950/46980/47010/47040/47070/47100/47130/47160/47190/47220/47250/47280/47310/47340/47370/47400/47430/47460/47490/47520/47550/47580/47610/47640/47670/47700/47730/47760/47790/47820/47850/47880/47910/47940/47970/48000/48030/48060/48090/48120/48150/48180/48210/48240/48270/48300/48330/48360/48390/48420/48450/48480/48510/48540/48570/48600/48630/48660/48690/48720/48750/48780/48810/48840/48870/48900/48930/48960/48990/49020/49050/49080/49110/49140/49170/49200/49230/49260/49290/49320/49350/49380/49410/49440/49470/49500/49530/49560/49590/49620/49650/49680/49710/49740/49770/49800/49830/49860/49890/49920/49950/49980/50010/50040/50070/50100/50130/50160/50190/50220/50250/50280/50310/50340/50370/50400/50430/50460/50490/50520/50550/50580/50610/50640/50670/50700/50730/50760/50790/50820/50850/50880/50910/50940/50970/51000/51030/51060/51090/51120/51150/51180/51210/51240/51270/51300/51330/51360/51390/51420/51450/51480/51510/51540/51570/51600/51630/51660/51690/51720/51750/51780/51810/51840/51870/51900/51930/51960/51990/52020/52050/52080/52110/52140/52170/52200/52230/52260/52290/52320/52350/52380/52410/52440/52470/52500/52530/52560/52590/52620/52650/52680/52710/52740/52770/52800/52830/52860/52890/52920/52950/52980/53010/53040/53070/53100/53130/53160/53190/53220/53250/53280/53310/53340/53370/53400/53430/53460/53490/53520/53550/53580/53610/53640/53670/53700/537



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAACE297130124

ENGINEERING SERVICES PVT. LTD.

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

Phone no.: 0661-2290103

Website : www.elespl.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2025/2060	Report Release Date	: 25.03.2025
Work Order No.	: 136123/12113	Work Order Date	: 28.03.2024
ULR No.	: TCL158725000002017F		

Pesticides				Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Alpha HCH	µg/L	ELES/GC/SOP/02-2023	BDL (DL: 0.006)	--
Beta HCH	µg/L	ELES/GC/SOP/02-2023	BDL (DL: 0.02)	--
Delta HCH	µg/L	ELES/GC/SOP/02-2023	BDL (DL: 0.02)	--
Gamma HCH (Lindane)	µg/L	ELES/GC/SOP/02-2023	BDL (DL: 0.02)	--
Endosulfan (alpha, beta and sulphate)	µg/L	ELES/GC/SOP/02-2023	BDL (DL: 0.05)	--
DDT (o,p and p,p-isomers of DDT) (DDE and DDD)	µg/L	ELES/GC/SOP/02-2023	BDL (DL: 0.05)	--
Discipline: Biological		Group: Water		
Total Coliform	CFU/100 mL	IS 15185-2021	3.30 × 10 ⁵	5000
Escherichia coli	CFU/100 mL	IS 15185-2021	2.72 × 10 ⁵	--

Remarks: pH & RFC done at site.


Reviewed by
Anshu Kumar
Quality Manager

****End of Report****


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

Page 4 of 4

The Observer stated in 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 to data only to the job analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the date of assessment 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 out of context without prior written approval of the Laboratory. The Report in full or in part shall not be published, otherwise, legal for any legal actions without prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observation 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 Test schedule mentioned in Test Report is in 24 hours format. (Wherever stated N/A (Not Applicable), BDL (Below Detection Limit), LRL (Lower Detection Limit).

www.environmental-engineering.com



ENVIRONMENTAL LABORATORIES &

ENGINEERING SERVICES PVT. LTD.

PLOT NO-80, MANSAROVAR ENCLAVE, TUPUDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAACE8713D124

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

TEST REPORT

Test Report No. : ELES/RNC/2025/2060	Report Release Date : 25.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	Hindalco Industries Limited	Sample Ref. No.	ELES/RNC/2025/SW/2191
Address	Lohardaga, Jharkhand-833302	Sampling Date	15.03.2025
		Sample Received Date	17.03.2025
		Type of Sample	Surface Water
Mines Status	Operational	Source of Sample	Up Stream
		Location of Sample	Serengdaj Nadi, Serengdaj-A Bauxite Mines (155.81 ha)
		Sampling Procedure	ELES/DOC/SMPLE/II
Period of Analysis	17.03.2025 to 25.03.2025	Sampling Done By	ELES Pvt. Ltd.
		Sample Condition	Sealed & Preserved

Discipline : Chemical		Group : Water		Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 3296-1992 Class C (Inland Surface Water)
Turbidity	-	APHA 24 th Ed, 2023, 2160C	N/A	--
Anionic Surfactants (as MBAS)	mg/L	APHA 24 th Ed, 2023, 5540-C	BDL (DL: 0.025)	1.0
Mineral Oil*	mg/L	IS 3025 (Part-39):2021 (Clause 6 Infrared Spectroscopic Method)	BDL (DL: 0.05)	--

Remarks: 1. (*) Parameters are outsourced to other Lab.

Reviewed by
Akash Kumar
Quality Manager

****End of Report****

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



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MAKSARDVAR ENCLAVE, TUPUSANA
NATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAEE08713D126

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranchi@gmail.com
Phone no.: 0651-2290101
Website: www.elespl.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2025/2061	Report Release Date	: 25.03.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000002018F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2025/SW/2192
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 15.03.2025
		Sample Received Date	: 17.03.2025
		Type of Sample	: Surface Water
		Source of Sample	: Down Stream
Mines Status	: Operational	Location of Sample	: Serengdag Nadi, Serengdag-A Bauxite Mines (155.81 ha)
Period of Analysis	: 17.03.2025 to 24.03.2025	Sampling Procedure	: ELES/DOC/SMPL/01
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

Discipline : Chemical		Group : Water		Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
pH (at 24.9°C)	-	IS 3025 (Part-11) : 2022	6.94	6.5-8.5
Colour	Hazen	IS 3025 (Part-4) : 2021	2.2	300
Odour	-	IS 3025 (Part-5) : 2018	Unobjectionable	—
Turbidity	NTU	IS 3025 (Part-10) : 2023	1.70	—
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16) : 2023	168	1500
Total Alkalinity (as CaCO ₃)	mg/L	IS 3025 (Part-23) : 2023	63.2	—
Total Hardness (as CaCO ₃)	mg/L	IS 3025 (Part-21) : 2019	70.5	—
Sulphate (as SO ₄)	mg/L	IS 3025 (Part-24/Sec I) : 2022	8.2	400
Chloride (as Cl)	mg/L	IS 3025 (Part-32) : 2019	19.4	600
Fluoride (as F)	mg/L	IS 3025 (Part-60) : 2019	0.124	1.5
Nitrate (as NO ₃)	mg/L	APHA 24 th Ed.2023, 4500 NO ₃ -B	1.72	50

Page 1 of 4

The Document stated in Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head is pre-approved. Hence, The results shown in the Test Report shall be valid only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of performance only and within the terms 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 out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertised, used for any legal actions unless prior permission has been received from the Management of the Laboratory. Adherence is drawn to the limitation of liability, acceptance and jurisdiction clause. Any unauthorised alteration or falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. 3) the samples are retained for 10 days from the date of submission of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observation or Complaints regarding the Reports shall be done within 15 days from the Date of Test Report released/forwarded. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24 hours format. (Observation and: N/A (Not applicable) REU: (Re-use Detection Limit), LTR: (Lower Detection Limit).

“We are Environment, We are Better”



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAHOVAN ENCLAVE, TUPUDAHM
MATA, RANCHI-834003 (JHARKHAND)
GST NO:- 30AAEEC9713D126

ENGINEERING SERVICES PVT. LTD.

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

Phone no.: 0651-2292109

Website: www.elespl.co.in



TC-18007

TEST REPORT

Test Report No. : ELES/RNC/2025/2061	Report Release Date : 25.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC1358725000002018F	

Discipline : Chemical		Group : Water		Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 3296-1992 Class C (Inland Surface Water)
Free Residual Chlorine (RFC)	mg/L	IS 3025 (Part-26) : 2021	BDL (DL: 0.1)	--
Phenols Compounds (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part-43/Sec1) : 2022	BDL (DL: 0.001)	0.005
Calcium (as Ca)	mg/L	IS 3025 (Part-40) : 2019	18.8	--
Discipline : Chemical		Group : Residues in Water		
Aluminium (as Al)	mg/L	IS 3025 (Part-55) : 2003/RA2019	BDL (DL: 0.02)	--
Arsenic (as As)	mg/L	IS 3025 (Part-37):2022	BDL (DL: 0.005)	0.2
Boron (as B)	mg/L	IS 3025 (Part-57) : 2021	BDL (DL: 0.2)	--
Cadmium (as Cd)	mg/L	APHA 24 th Ed.2023: 3111B	BDL (DL: 0.003)	0.01
Total Chromium (as Cr)	mg/L	APHA 24 th Ed.2023: 3111B	BDL (DL: 0.03)	0.05
Copper (as Cu)	mg/L	IS 3025 (Part-42) : 2019	BDL (DL: 0.03)	1.5
Iron (as Fe)	mg/L	APHA 24 th Ed.2023: 3111B	0.178	50
Lead (as Pb)	mg/L	APHA 24 th Ed.2023: 3111B	BDL (DL: 0.01)	0.1
Manganese (as Mn)	mg/L	APHA 24 th Ed.2023: 3111B	BDL (DL: 0.05)	--
Mercury (as Hg)	mg/L	IS 3025 (Part-48) : 2019	BDL (DL: 0.001)	--
Selenium (as Se)	mg/L	IS 3025(Part-56): 2019	BDL (DL: 0.01)	0.05
Zinc (as Zn)	mg/L	APHA 24 th Ed.2023: 3111B	BDL (DL: 0.1)	15

Page 2 of 4

The Document stated in Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head on pre-approved format. The results shown in the Test Report refer or relate only to the information done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of environmental test 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 out of context, without prior written approval of the Laboratory. The Report is full or in part shall not be published, advertised, used for any legal actions unless prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitations of liability, compensation and jurisdiction issues. Any measurement obtained at laboratories of the client or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the date of submission of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Objections or Compliances regarding the Reports shall be done within 15 days from the Date of Test Report release/demand. After the time period stated before, no complaints will be accepted. The above Data schedule mentioned in Test Report is as follows: Demand, Acknowledgment, Work Order Application, BIX, Online Declaration, 1000, L20, Closure Declaration (only).

"Safeguarding Environment, Safeguarding Future"



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TIPLIDWAR
NATIA, RANCHO-834002 (JHARKHAND)
GST NO:- 20AAACE97130224

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, nites.cmrshi@gmail.com
Phone no.: 0531-3290103
Website : www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/2061	Report Release Date : 25.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
ULR No. : TC1358725000002018F	

Pesticides				Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Alpha HCH	µg/L	ELES/GC/SOP/02-2023	BDL (DL: 0.006)	—
Beta HCH	µg/L	ELES/GC/SOP/02-2023	BDL (DL: 0.02)	—
Delta HCH	µg/L	ELES/GC/SOP/02-2023	BDL (DL: 0.02)	—
Gamma HCH (Lindane)	µg/L	ELES/GC/SOP/02-2023	BDL (DL: 0.02)	—
Endosulfan (alpha, beta and sulphate)	µg/L	ELES/GC/SOP/02-2023	BDL (DL: 0.05)	—
DDT (o,p and p,p-isomers of DDT) (DDE and DDD)	µg/L	ELES/GC/SOP/02-2023	BDL (DL: 0.05)	—
Discipline: Biological		Group: Water		
Total Coliform	CFU/100 mL	IS 15185: 2021	2.27×10 ³	5000
Escherichia coli	CFU/100 mL	IS 15185: 2021	1.22×10 ³	—

Remarks: pH & RFC done at site.



Reviewed by
Arjun Kumar
Quality Manager

****End of Report****



Authorized Signatory
Dr. Deshpendra Kumar Sinha
Ph. D. Environmental Engg.
Technical Manager

Page 4 of 4

The Document issued as Test Report, is issued by the Laboratory under stated Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer to results only as the job analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of assessment 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 out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertising, used for any legal action unless prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorised alteration or falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of submission 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 issuance/issuance. After the time period stated herein, no complaints will be accepted. The online Data schedule mentioned in Test Report is in PDF format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDC (Lower Detection Limit).



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA
HATIA, RANCHI-834006 (JHARKHAND)
GST NO:- 20AAEE1571D124

ENGINEERING SERVICES PVT. LTD.

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

Phone no.: 0661-2290103

Website: www.elespl.co.in

TEST REPORT

Test Report No. : ELES/RNC/2025/2061	Report Release Date : 25.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2025/SW/2102
Address	: Lahardaga, Jharkhand-835302	Sampling Date	: 15.03.2025
		Sample Received Date	: 17.03.2025
		Type of Sample	: Surface Water
		Source of Sample	: Down Stream
Mines Status	: Operational	Location of Sample	: Serengdaj Nadi, Serengdaj-A Bauxite Mines (155.81 ha)
		Sampling Procedure	: ELES/DOC/SMP/01
Period of Analysis	: 17.03.2025 to 25.03.2025	Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

Discipline : Chemical		Group : Water		Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Turbidity	-	APHA 24 th Ed.2023, 2160C	N/A	—
Anionic Surfactants (as MBAS)	mg/L	APHA 24 th Ed.2023, 5540-C	BDL (DL: 0.025)	1.0
Mineral Oil*	mg/L	IS 3025 (Part-39):2021 (Class 6 Infrared Spectroscopic Method)	BDL (DL: 0.05)	—

Remarks: 1. (*) Parameters are outsourced to other Lab

Reviewed by
Akash Kumar
Quality Manager

****End of Report****

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



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MARSARVAR ENCLAVE, TUPUDANA
NATHA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAEC071301234

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranchi@gmail.com
Phone No.: 0662-2290208
Website : www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/2062	Report Release Date : 25.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024
CLR No. : TC1358725000002019F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	Hindalco Industries Limited	Sample Ref. No.	ELES/RNC/2025/SW/2193
Address	Luhadaga, Jharkhand-835302	Sampling Date	15.03.2025
		Sample Received Date	17.03.2025
		Type of Sample	Surface Water
		Source of Sample	Spring Water
Mines Status	Operational	Location of Sample	Tengra Garha, Seramtag-A Bauxite Mine (155.81 ha)
		Sampling Procedure	ELES/DOC/SMPL-01
Period of Analysis	17.03.2023 to 24.03.2023	Sampling Done By	ELES Pvt. Ltd.
		Sample Condition	Sealed & Preserved

Discipline : Chemical		Group : Water		Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
pH (at 24.9 °C)	-	IS 3025 (Part-11) : 2022	6.51	6.5-8.5
Colour	Hazen	IS 3025 (Part-4) : 2021	1.8	300
Odour	-	IS 3025 (Part-5) : 2018	Unobjectionable	--
Turbidity	NTU	IS 3025 (Part-10) : 2023	1.16	--
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16) : 2023	48.0	1500
Total Alkalinity (as CaCO ₃)	mg/L	IS 3025 (Part-23) : 2023	10.2	--
Total Hardness (as CaCO ₃)	mg/L	IS 3025 (Part-21) : 2019	15.6	--
Sulphate (as SO ₄)	mg/L	IS 3025 (Part-24/Sec1) : 2022	5.2	400
Chloride (as Cl)	mg/L	IS 3025 (Part-72) : 2019	9.7	600
Fluoride (as F)	mg/L	IS 3025 (Part-60) : 2019	BDL (DL: 0.1)	1.5
Nitrate (as NO ₃)	mg/L	APHA 24 th Ed.2023, 4500 NO ₃ -B	BDL (DL: 0.5)	50

Page 1 of 4

The Statement stated in Test Report, is issued by the Laboratory under General Terms and Conditions, only on Certificate being held in pre-approved format. The results shown in the Test Report refer to the analysis done by the Laboratory only. The information stated in the Test Report reflects the findings done by the Laboratory at the time of investigation only and within the limits of stated accreditation. The Laboratory is responsible for all the information or data provided in the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, altered, used for any legal action unless prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitations of liability, compensation and jurisdiction issues. Any disclaimer/ limitation & indemnification of the contract or appearance of the Test Report is subject to all conditions may be pronounced in the follow pages of the test. All the samples are retained for 30 days from the date of release 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 14 days from the date of Test Report submission. After the time period stated before, no complaints will be accepted. The next time should mentioned in Test Report is in 24 hours format. Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limit); LTL (Lower Detection Limit).

Signature of the authorized person



ENVIRONMENTAL LABORATORIES &

PLOT NO-36, MANJAROVAR ENCLAVE, TURUDANA
NATIA, RANCH-834003 (JHARKHAND)
GST NO:- 20AAEC87120124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles@elespl.com
Phone no.: 0862-2280289
Website: www.elespl.co.in



TEST REPORT

Test Report No. : ELES/RNC/2025/2062	Report Release Date : 25.03.2025
Work Order No. : 15612312113	Work Order Date : 28.03.2024
ULR No. : TC1358725000002019F	

Discipline : Chemical		Group : Water		Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Free Residual Chlorine (RPC)	mg/L	IS 3025 (Part-26) : 2021	BDL (DL: 0.1)	—
Phenols Compounds (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part-43/Sec1) : 2022	BDL (DL: 0.001)	0.005
Calcium (as Ca)	mg/L	IS 3025 (Part-60) : 2019	4.7	—

Discipline : Chemical		Group : Residues in Water		
Aluminum (as Al)	mg/L	IS 3025 (Part-55) : 2003/RA2019	BDL (DL: 0.02)	—
Arsenic (as As)	mg/L	IS 3025 (Part-37) : 2022	BDL (DL: 0.005)	0.2
Boron (as B)	mg/L	IS 3025 (Part-57) : 2021	BDL (DL: 0.2)	—
Cadmium (as Cd)	mg/L	APHA 24 th Ed.2023: 3111B	BDL (DL: 0.003)	0.01
Total Chromium (as Cr)	mg/L	APHA 24 th Ed.2023: 3111B	BDL (DL: 0.03)	0.05
Copper (as Cu)	mg/L	IS 3025 (Part-42) : 2019	BDL (DL: 0.03)	1.5
Iron (as Fe)	mg/L	APHA 24 th Ed.2023: 3111B	0.203	50
Lead (as Pb)	mg/L	APHA 24 th Ed.2023: 3111B	BDL (DL: 0.01)	0.1
Manganese (as Mn)	mg/L	APHA 24 th Ed.2023: 3111B	BDL (DL: 0.05)	—
Mercury (as Hg)	mg/L	IS 3025 (Part-48) : 2019	BDL (DL: 0.001)	—
Selenium (as Se)	mg/L	IS 3025 (Part-56) : 2019	BDL (DL: 0.01)	0.05
Zinc (as Zn)	mg/L	APHA 24 th Ed.2023: 3111B	BDL (DL: 0.1)	15

Page 2 of 4

The Document stated in This Report, is issued by the Laboratory under General Terms and Conditions, only on Company letterhead in pre-approved format. The results shown in the Test Report refer or relate only to the job/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 stated 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 out of context, without prior written approval of the Laboratory. The Report is full or in part shall not be published, advertising, used for any legal action unless prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any misstatement or alteration of information of the content or appearance of the Test Report is prohibited; and offenders may be prosecuted to the fullest extent of the law. All the samples are required for validation of the result or appearance of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observation or Complaints raised after the Date of release/issue of the Test Report, the samples from Regulatory bodies are to be retained as specified. Any type of Observation or Complaints regarding the Report 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 expiry time schedule mentioned in Test Report is in 24 hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDC (Lower Detection Limit).



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSARVAR ENCLAVE, TURLODARA
NADI, RANCH-834003 (JHARKHAND)
GST NO: 20AAEC9713D124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, etes.ranch@gmail.com
Phone no.: 0831-2280103
Website : www.elespl.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2025/2062	Report Release Date	: 25.03.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000002019F		

Discipline : Chemical		Group : Residues in Water		Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Cyanide (as CN)	mg/L	APEIA 24 th Ed.2023, 4500 CN-E	BDL (DL: 0.012)	0.05
Polynuclear Aromatic Hydrocarbons (PAH)	µg/L	ELES/GC/SOP/04: 2023	BDL (DL: 0.05)	--
Pesticides				
Alachlor	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	--
Atrazine	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	--
Butachlor	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	--
Chlorpyrifos	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	--
Ethion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	--
Malathion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	--
Methyl parathion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.1)	--
Monocrotophos	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	--
Phorate	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	--
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)	--

Page 3 of 4

This Document, titled as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Consignee's request in pre-approved format. The results shown in the Test Report refer only to the analysis done by the Laboratory only. The information stated in the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's limitations. The Laboratory is responsible for all the information or data provided in the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertised, used for any legal action unless prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction clause. Any unauthorized alteration & modification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of submission 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 release/issue. After the time period stated herein, no complaint will be accepted. The price/Time schedule mentioned in Test Report is in Indian Rupee. Abbreviation used: N/A (Not applicable); BDL (Below Detection Limit); LRL (Lower Detection Limit).

"Empowering Your Business, One Sample at a Time"



ENVIRONMENTAL LABORATORIES &

PLOT NO-38, MANGROVAN ENCLAVE, TAPLOHANA
HATA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAEC97130129

ENGINEERING SERVICES PVT. LTD.

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

Phone no: 0951-2290109

Website: www.elespl.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2025/2062	Report Release Date	: 25.03.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000002019F		

Pesticides				Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Alpha HCH	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.006)	--
Beta HCH	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	--
Delta HCH	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	--
Gamma HCH (Lindane)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	--
Endosulfan (alpha, beta and sulphate)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	--
DDT(o,p and p,p-isomers of DDT)(DDE and DDD)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	--
Discipline: Biological		Group: Water		
Total Coliform	CFU/100 mL	IS 15185: 2021	3.68×10^2	5000
Escherichia coli	CFU/100 mL	IS 15185: 2021	BDL (DL: 1.0)	--

Remarks: pH & RFC done in situ.

Reviewed by
Arash Kumar
Quality Manager

****End of Report****

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

Page 4 of 4

The Document stated in Test Report, is issued by the Laboratory under Standard Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relate only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory in 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 out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertised, used for any legal action unless prior permission has been received from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration or falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 15 days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observation or Complaints regarding the Reports shall be done within 15 days from the Date of Test Report release/issued. After the time period stated before, no complaints will be accepted. The entire Test schedule mentioned in Test Report is in 24 hours format. Abbreviation used: N/A, Dist. Application, BDL (Below Detection Limit), ULR (Lower Detection Limit).



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSARVAR ENCLAVE, TUPUDANA
NATU, RANCHI-834003 (JHARKHAND)
GST NO:- 35AAEC97130124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, elespl.ranchi@gmail.com
Phone no.: 0661-2290103
Website: www.elespl.co.in

TEST REPORT

Test Report No. : ELES/RNC/2025/2062	Report Release Date : 25.03.2025
Work Order No. : 13612312113	Work Order Date : 28.03.2024

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	Hindalco Industries Limited	Sample Ref. No.	ELES/RNC/2025/SW/2193
Address	Lohardaga, Jharkhand-833302	Sampling Date	15.03.2025
		Sample Received Date	17.03.2025
		Type of Sample	Surface Water
		Source of Sample	Spring Water
Mines Status	Operational	Location of Sample	Tengra Garha, Siringdaga-A Bauxite Mine (155.81ha)
		Sampling Procedure	ELES/DOC/SMP/01
Period of Analysis	17.03.2025 to 25.03.2025	Sampling Done By	ELES Pvt. Ltd.
		Sample Condition	Sealed & Preserved

Discipline : Chemical		Group : Water		Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS:2296-1992 Class C (Inland Surface Water)
Taste	-	APHA 24 th Ed.2023, 2160C	N/A	—
Anionic Surfactants (as MBAS)	mg/L	APHA 24 th Ed.2023, 5540-C	BDL (DL: 0.025)	1.0
Mineral Oil*	mg/L	IS 3025 (Part-39):2021 (Class B - Infrared Spectroscopic Method)	BDL (DL: 0.05)	—

Remark: 1, (*) Parameters are outsourced to other Lab.

Reviewed by
Akash Kumar
Quality Manager

****End of Report****

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



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANJAROVAR ENCLAVE, TURUDANA
HATTA, NAWCHI-280003 (JHARKHAND)
GST NO:- 28AAZCE9713D1J4

ENGINEERING SERVICES PVT. LTD.

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



TEST REPORT

Test Report No. :	ELES/RNC/2025/2026	Report Release Date :	24.03.2025
Work Order No. :	13612312113	Work Order Date :	28.03.2024
ULR No. :	TC1358725000001984F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name :	Hindalco Industries Limited	Sampling Date :	16.03.2025
		Sampling Received Date :	17.03.2025
Address :	Lohardaga, Jharkhand-835302	Type of Sample :	Workzone Noise
		Sampling procedure :	ELES/DOC/SMPL/03
		Sample Drawn By :	ELES Pvt. Ltd.
Mines Status :	Operational	Period of Analysis :	17.03.2025 to 22.03.2025

METEOROLOGICAL INFORMATION			
1	Average Temperature (°C) :	2	Barometric Pressure (mmHg) :
3	Relative Humidity (%) :	4	Weather Condition :
	29		720
	61		Clear

Location	Unit	Test Protocol	Result		Regulatory Limit (Industrial Zone)
Near Pocluin – Serenglag-A Bauxite Mines (155.81ha)	dB(A)	IS 4758: 2017	Time	L _{eq}	90 dB(A)
			Day Time	69	
Sample ID: ELES/RNC/2025/WN/2168					

Reviewed by
Akash Kumar
Quality Manager

****End of Report****

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



Annexure 3

Date – 01.05.2025

Office Order

Environmental Cell has been re-constituted for Sherandag Group of Mines (Sherandag-155.81 ha, Serandag-77.89 ha and Jalim - Sanai-12.14 ha Bauxite Mines). This cell consists of the following team members who will ensure compliance with the Environment Acts, Rules & Regulations in respect of the said mines of Hindalco Industries Limited

1. Mr. Akhilesh Sinha (Coordinator)
2. Mr. Sanjay Sharma (Geologist)
3. Mr. Girija Tamrakar (Environment Engineer)
4. Mr. Anand Prakash Tiwari (Environment Engineer)

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

Basudev Gangopadhyay
AVP (Planning, Environment & Compliance)

Annexure 4

Production, Mined Out, Back Filled and Over Burden removal from October'24 to March'25								
S No	Name of the Mines	Mining lease area (ha)	Production Capacity (MT)*	Lease Period*	Production (MT)	Mined out area (ha)	Backfilled area (ha)	Over burden (Cu.M)
1	Bagru Bauxite Mine	75.41	85000	22.01.1974 to 31.03.2030	NIL	NIL	NIL	NIL
2	Bhusar Bauxite Mine	65.31	280000	11.07.1981 to 31.03.2030	86061	1.53	0.695	88218.66
3	Hisri (New) Bauxite Mine	14.55	100000	19.07.1981 to 31.03.2030	25362	0.345	0.10	30825.23
4	Pakhar (8.09) Bauxite Mine	8.09	80000	16.05.1973 to 31.03.2030	NIL	NIL	NIL	NIL
5	Pakhar (35.12) Bauxite Mine	35.12	200000	17.04.1975 to 31.03.2030	NIL	NIL	NIL	NIL
6	Pakhar (115.13) Bauxite Mine	115.13	300000	19.07.1996 to 31.03.2030	109753	2.12	7.6	332929.81
7	Sherangdag-A Bauxite Mine	155.81	260000	16.10.1974 to 31.03.2030	2989	0.02	0.02	2110.0
8	Serangdag-B Bauxite Mine	77.89	100000	04.10.1978 to 31.03.2030	35253	0.756	0.35	38119.67
9	Jalim & Sanai Bauxite Mine	12.14	50000	16.10.1974 to 31.03.2030	24760	0.13	0.08	12444.82
10	Gurdari Bauxite Mine	584.19	325000	23.03.1985 to 22.03.2035	105401	4.42	3.76	185747.47
11	Kujam - I Bauxite Mine	80.87	150000	13.03.2006 to 12.03.2056	NIL	NIL	2.54	NIL
12	Kujam - II Bauxite Mine	157.38	300000	24.03.2006 to 23.03.2056	61250	2.40	4.72	136798.61
13	Amtipani Bauxite Mine	190.95	150000	13.03.2006 to 12.03.2056	62240	4.047	6.423	255249.72

Annexure 4

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

*Static information about the mines included in the above table



Basudev Gangopadhyay
AVP (Planning, Environment and Compliance)

Annexure-5

BREAK UP THE COST OF ENVIRONMENTAL MEASURES DURING THE YEAR 2024-25

The composite cost during the year 2024-25 for environmental protection & pollution control by Jharkhand Mines division of M/s Hindalco Industries Ltd & M/s Minerals & Minerals Ltd for implementation of the suggested measures in EC at our all the operating mines in the state of Jharkhand-namely Bagru (75.41 ha), Hisri New (14.55 ha), Bhusar (65.31 ha), Pakhar (115.13 ha), Pakhars (109.507 ha), Pakhar (15.58 ha), Pakhar (8.09 ha), Pakhar (35.12 ha), Sherangdag (155.81 ha), Serangdag (77.89 ha), Jalim & Sanai (12.14 ha), Bimarla Bauxite Mines (134.526 ha), Gurdari (584.19 ha), Amtipani (190.95 ha), Kujam I (80.87 ha) Kujam II (157.38 ha), and Amtipani Chirodih (130.01 ha) Bauxite mines.

S.No	Description	Budget (in Rupees) FY 2024-25 (From Oct'24 to Mar'25)	Actual (in Rupees) FY 2024-25 (From Oct'24 to Mar'25)
1	Pollution Control and Environmental Monitoring	61,35,000.00	42,08,879.10
2	Reclamation/ Back filing & Rehabilitation**	5,62,80,000.00	5,32,33,879.71
3	Green belt, Plantation & Water sprinkling arrangement	73,42,000.00	43,51,560.28
4	Rural Development	2,75,00,000.00	3,13,06,810.81

**Part of OB removed cost



Basudev Gangopadhyay
AVP (Planning, Environment & Compliance)