

HIL/LHD/ENV/MoEF/988

Date: 20.11.2024

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: Compliance Report of EC conditions for Shrengdag (155.81 ha) Bauxite Mining project of M/s Hindalco Industries Limited located in Gumla, for the period April'2 $\frac{4}{9}$ to September'2 $\frac{4}{9}$.

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

Sir,

With reference to the above, we are submitting herewith the Compliance status report of EC conditions for **Shrengdag (155.81 ha)** Bauxite Mining project of **M/s Hindalco Industries Limited** located in Gumla, Jharkhand for the period April'2 4 to September'2 4.

The lease detail is a	s 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 Sincerely 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, mscb.cpcb@nic.in, zokolkatta.cpcb@nic.in, ranchijspcb@gmail.com, roranchi47@gmail.com

Corporate ID No.: L27020MH1958PLC011238

: Sherangdag Bauxite Mine (155.81 ha) Name of the Project

M/s Hindalco Industries Limited

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

: From 1st April' 2024 to 30th September'2024 **Period of compliance Report**

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 nonagricultural 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 is already 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/was carried out below ground water table and the same status will be maintain in future also.

Moreover, we are regularly monitoring 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 land

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

Siltation Pond

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 area etc. in consultation with local forest department. Total 5500 nos. saplings have been planted in the period from April'24 to September'24 within the lease. Total 28.50 ha areas have been planted till date.

In addition to this agricultural activity is going on reclaimed land as per the consent from landowners. Green belt development program is in progress with 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 Pond

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 – premonsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to MOEF, Central Ground water Authority and Regional Director Central Ground Water Board.

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



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 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 same NOC and photographs of Rainwater harvesting ponds are attached below.



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 report is 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 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**.



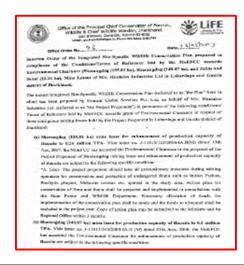
Washing Ramp and Oil and Grease Trap

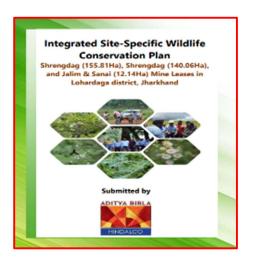
Condition xix: - The project proponent should take all precautionary measures during mining operation for conservation and protection of endangered fauna such as Indian Python, <u>Presbytis phayrei</u>, <u>Melsurus ursinus</u> etc. Spotted in the study area. Action plan for conservation of flora and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

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

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

We have also prepared Integrated Site-specific Wildlife Conservation in consultation with State Forest Department and obtained approval letter from Principal Chief Conservator of Forest, Wildlife & Chief Wildlife Warden, Jharkhand via Office Order No.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 guideline who are competent authority to approve the same. Based on present resource estimate and peak rated production capacity mentioned in EC, Mining operation is being carried out.

General Conditions: -

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

Reply: - Noted.

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

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

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

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

Condition iv: - Data on ambient air quality (RPM, SPM, SO₂, 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 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. 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 mask and dust respirators. Apart from PPEs distribution to all workers, we are also providing adequate safety training and conducting awareness session on Safety and health aspects on regular basis. Periodical Occupational health surveillance program of the workers is being carried out and records maintained as per statute.

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

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

Condition x: - The project authorities should inform to the Regional Office located at 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 being budgeted separately and its expenditure is being reported to the Ministry. The copy of the same is attached as **Annexure 5**. Now, the Regional Office of MoEF&CC is in Ranchi.

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

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

	Shrendag A Mines					
	Piezometer Reading					
S No	Month	Depth (meter)				
1	Apr-24	32.15				
2	May-24	33.00				
3	Jun-24	33.10				
4	Jul-24	34.93				
5	Aug-24	34.95				
6	Sep-24	35.92				

ENVIROCHECK

Lab: MIG, R-3 Housing Colony, Dhanbad, Pin-826001, State- Jharkhand.

Shrengdag A Bauxite Mine-Environmental Monitoring Report

April 2024





TEST REPORT

Test Report No.	: ENVJK/1184/APR/TR(W)24-25	Report Release Date	: 28.04.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	:Hindalco Industries Limited	Sample Ref. No. Location	: ENVJK/2024/AA/1709 : Near Weigh Bridge, Serengdag-A	
		Location	Bauxite Mines (155.81ha)	
		Sampling Date	: 15.04.2024 to 16.04.2024	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date	: 22.04.2024	
		Type of Sample	: Ambient Air	
		Sampling Procedure	; ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 22.04.2024 to 28.04.2024	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORM	IATION			
1	Average Temperature (°C) :	32	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	59	4	Weather Condition	: Clear

	Disciplin	e: ChemicalGroup: Atmospheric Pollut	ion	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part 23): 2006	76	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	41	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part 2): 2001	17.7	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part 6): 2006	35.2	80 (24hrs)
Ozone (O3)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22); 2019	0.017	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	USEPA Method – IO-3.5 (ICP-MS Method)	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	μg/m³	USEPA Method – TO-3 (GC-MS Method)	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	USEPA Method – TO-3A (GC-MS Method)	<0.5	01(Annual)

Reviewed by :

(Saswata Burman Roy, Dy. Quality Manager)

Authorised Signatory:

(Bapan Das, Dy. Technical Manager)

Page 1 of 1

Housing Kolkata Office: 63/B, Rastraguru Avenue, Kolkata - 700028 (033-25792891/25497490 envirocheck50@gmail.com

Jharkhan

826001



ISO 1601 (2017 & 60 1700) 2010 Certained Editoriancy

Lab : MIG, R-3 Housing Colony, Dhanbad, Pin - 826001, State - Jharkhand (9830067044 / (9304513737



TEST REPORT

Test Report No.	: ENVJK/1185/APR/TR(W)24-25	Report Release Date	: 28.04.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	:Hindalco Industries Limited	Sample Ref. No. Location	: ENVJK/2024/AA/1710 : BKB QuarrySerengdag-A Bauxite Mines (155.81ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 15.04.2024 to 16.04.2024 : 22.04.2024 : Ambient Air	
Mines Status	; Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 22.04.2024 to 28.04.2024	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFOI	RMATION			
1	Average Temperature (°C)	: 32	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear

	Disciplin	e: ChemicalGroup: Atmospheric Pollut	ion	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part 23): 2006	68	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	35	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	$\mu g/m^3$	IS 5182 (Part 2): 2001	8.2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part 6): 2006	24.8	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.011	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	USEPA Method – IO-3.5 (ICP-MS Method)	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	μg/m³	USEPA Method – TO-3 (GC-MS Method)	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	USEPA Method – TO-3A (GC-MS Method)	<0.5	01(Annual)

Reviewed by:

Bearl

(Saswata Burman Roy, Dy. Quality Manager)

Authorised Signatory:

(Bapan Das, Dy. Technical Manager)

Page 1 of 1

Jharkhan





TEST REPORT

Test Report No.	: ENVJK/1186/APR/TR(W)24-25	Report Release Date	: 28.04.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	:Hindalco Industries Limited	Sample Ref. No.	: ENVJK/2024/AA/1711	
		Location	: Mine Pit Quarry No.2A, Serengdag-A	
			Bauxite Mines (155.81ha)	
		Sampling Date	: 15.04.2024 to 16.04.2024	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date	: 22.04.2024	
		Type of Sample	: Ambient Air	
		Sampling Procedure	: ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 22.04.2024 to 28.04,2024	Sample Condition	: Scaled &Preserved	

MI	ETEOROLOGICAL INFOR	RMATION		V. 1	
	Average Temperature (°C)	: 32	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear

	Disciplin	e: ChemicalGroup: Atmospheric Pollut	ion	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	$\mu g/m^3$	IS 5182 (Part 23): 2006	68	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	31	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	$\mu g/m^3$	IS 5182 (Part 2): 2001	8.3	80 (24hrs)
Nitrogen Di-Oxide (NO2)	$\mu g/m^3$	1S 5182 (Part 6): 2006	25.1	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ⁵	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	$\mu g/m^3$	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/m³	USEPA Method – IO-3.5 (ICP-MS Method)	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	μg/m³	USEPA Method – TO-3 (GC-MS Method)	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	USEPA Method – TO-3A (GC-MS Method)	<0.5	01(Annual)

Reviewed by :

(Saswata Burman Roy, Dy. Quality Manager)

Authorised Signatory:

(Bapan Das, Dy. Technical Manager)

Page 1 of 1

Jharkhan

Housing S

826001

****End 208H29



ISB 9001 2015 8 380 15001 - 2018 Certainal Laboratory
Lab : MIG, R-3 Housing Colony, Dhanbad, Pin - 826001, State - Iharkhand (9830067044 / (9304513737



TEST REPORT

Test Report No.	: ENVJK/1187/APR/TR(W)24-25	Report Release Date	: 28.04.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	:Hindalco Industries Limited	Sample Ref. No. Location	: ENVJK/2024/AA/1712 : Mine Pit Quarry No.2B, Serengdag-A Bauxite Mines (155.81ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 15.04.2024 to 16.04.2024 : 22.04.2024	
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 22.04.2024 to 28.04.2024	Sample Condition	: Sealed &Preserved	

MI	ETEOROLOGICAL INFO	RMATION			
Ť.	Average Temperature (°C)	: 32	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear

	Disciplin	e: ChemicalGroup: Atmospheric Pollut	ion	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	$\mu g/m^3$	IS 5182 (Part 23): 2006	63	100 (24hrs)
Particulate Matter (PM2.5)	μg/m ³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	32	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part 2): 2001	7.8	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m ³	IS 5182 (Part 6): 2006	21.8	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.11	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	USEPA Method – IO-3.5 (ICP-MS Method)	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	μg/m³	USEPA Method – TO-3 (GC-MS Method)	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	USEPA Method – TO-3A (GC-MS Method)	<0.5	01(Annual)

Reviewed by:

Com

****End of Report****

(Saswata Burman Roy, Dy. Quality Manager)

Authorised Signatory:

(Bapan Das, Dy. Technical Manager)

Page 1 of 1

Jharkhan 826001





TEST REPORT

Test Report No.	: ENVJK/1180/APR/TR(W)24-25	Report Release Date	: 28.04.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	:Hindalco Industries Limited	Sample Ref. No. Location	: ENVJK/2024/AA/1705 : Near Banjari VillageSerengdag-A Bauxite Mines (155.81ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 16.04.2024 to 17.04.2024 : 22.04,2024	
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 22.04.2024 to 28.04.2024	Sample Condition	: Sealed &Preserved	

MI	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	:31	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear

	Disciplin	e: ChemicalGroup: Atmospheric Pollut	ion	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part 23): 2006	52	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	30	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part 2): 2001	6.5	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part 6): 2006	25.4	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	USEPA Method – IO-3.5 (ICP-MS Method)	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	μg/m³	USEPA Method – TO-3 (GC-MS Method)	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	USEPA Method – TO-3A (GC-MS Method)	<0.5	01(Annual)

Reviewed by:

(Saswata Burman Roy, Dy. Quality Manager)

Authorised Signatory:

- Maria

(Bapan Das, Dy. Technical Manager)

Page | of |

Housing Co

Jharkhand

826001

****End ROBBER



TC-11501

Lab: MIG, R-3 Housing Colony, Dhanbad, Pin - 826001, State - [harkhand & 9830067044 / & 9394513737

TEST REPORT

Test Report No.	: ENVJK/1181/APR/TR(W)24-25	Report Release Date	: 28.04.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	:Hindalco Industries Limited	Sample Ref. No.	: ENVJK/2024/AA/1706	
		Location	: Near Pauri Village Serengdag-A	
			Bauxite Mines (155.81ha)	
	And the second second	Sampling Date	: 16.04.2024 to 17.04.2024	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date	; 22.04.2024	
		Type of Sample	: Ambient Air	
		Sampling Procedure	: ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 22.04.2024 to 28.04.2024	Sample Condition	: Sealed &Preserved	

MI	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 31	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear

	Disciplin	e: ChemicalGroup: Atmospheric Pollut	ion	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part 23): 2006	52	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	33	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part 2): 2001	8.1	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m ³	IS 5182 (Part 6): 2006	20.8	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₁)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m ³	IS 5182 (Part- 22): 2019	0.011	1 (24hrs)
Nickel (Ni)	ng/m³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	USEPA Method – IO-3,5 (ICP-MS Method)	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	μg/m³	USEPA Method – TO-3 (GC-MS Method)	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	USEPA Method – TO-3A (GC-MS Method)	<0.5	01(Annual)

Reviewed by:

But -

(Saswata Burman Roy, Dy. Quality Manager)

Authorised Signatory:

San'

(Bapan Das, Dy. Technical Manager)

Page 1 of 1

Housing C

826001



(80 90) 2015 & (80 45)001, 2018 Fertiliod Liberatory Lab : MIG, R-3 Housing Colony, Dhanbad, Pin - 826001, State - Iharkhand (9830067044 / (9304513737



TEST REPORT

Test Report No.	: ENVJK/1182/APR/TR(W)24-25	Report Release Date	: 28.04.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	:Hindalco Industries Limited	Sample Ref. No.	: ENVJK/2024/AA/1707	
		Location	: Near Harup Village Serengdag-A	
			Bauxite Mines (155.81ha)	
		Sampling Date	: 16.04.2024 to 17.04.2024	
Address	; Lohardaga, Jharkhand-835302	Sample Received Date	: 22.04.2024	
		Type of Sample	: Ambient Air	
		Sampling Procedure	: ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 22.04.2024 to 28.04.2024	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	÷31	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear

	Disciplin	e: ChemicalGroup: Atmospheric Pollut	ion	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part 23): 2006	58	100 (24hrs)
Particulate Matter (PM2.5)	$\mu g/m^3$	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	32	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part 2): 2001	7	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m ³	IS 5182 (Part 6): 2006	25.4	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	USEPA Method – IO-3.5 (ICP-MS Method)	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	μg/m³	USEPA Method – TO-3 (GC-MS Method)	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	USEPA Method – TO-3A (GC-MS Method)	<0.5	01(Annual)

Reviewed by :

(Saswata Burman Roy, Dy. Quality Manager)

Authorised Signatory:

(Bapan Das, Dy. Technical Manager)

Page I of I

Jharkhand

826001

Housing Co



180 (2011) 2015 N (80 45) 011 - 2018 Corrafied Laboratory Lab: MIG, R-3 Housing Colony, Dhanbad, Pin - 826001, State - [harkhand \$ 9830067044 / \$ 9304513737



TEST REPORT

Test Report No.	: ENVJK/1183/APR/TR(W)24-25	Report Release Date	: 28.04.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	:Hindalco Industries Limited	Sample Ref. No.	: ENVJK/2024/AA/1708	
		Location	: Near Paintoli VillageSerengdag-A	
			Bauxite Mines (155.81ha)	
		Sampling Date	: 16.04.2024 to 17.04.2024	
Address	Lohardaga, Jharkhand-835302	Sample Received Date	: 22.04.2024	
		Type of Sample	: Ambient Air	
		Sampling Procedure	: ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 22.04.2024 to 28.04.2024	Sample Condition	: Sealed &Preserved	

MI	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	:31	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear

	Disciplin	e: ChemicalGroup: Atmospheric Pollut	ion	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part 23): 2006	58	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	31	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part 2): 2001	8.2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m ³	IS 5182 (Part 6): 2006	23.8	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.007	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	USEPA Method – IO-3.5 (ICP-MS Method)	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	μg/m³	USEPA Method – TO-3 (GC-MS Method)	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	USEPA Method – TO-3A (GC-MS Method)	<0.5	01(Annual)

Reviewed by:

(Saswata Burman Roy, Dy. Quality Manager)

Authorised Signatory:

(Bapan Das, Dy. Technical Manager)

Page 1 of 1

Housing

Jharkhan

826001

ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Shrengdag A Bauxite Mine-Environmental Monitoring Report

May 2024





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

ENGINEERING SERVICES PVT. LTD.

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

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



TG-03557

TEST REPORT

Test Report No.	: ELES/RNC/2024/2781	Report Release Date	: 23.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000747F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3050 : Near Weigh Bridge, Serengdag-A Bauxite Mines (155.81ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 14.05,2024 to 15.05,2024 : 18.05,2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 18.05.2024 to 23.05.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (%)	: 33	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 59	4	Weather Condition	; Clear

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022.	82	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	47	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-11/Sec- 1): 2023	16.4	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	μg/m ³	IS 5182 (Part- 6): 2022	36.1	80 (24hrs)	
Ozone (O ₃)	µg/m²	1S 5182 (Part- 9): 2019	<20.0	(00 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.019	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

The Decyment stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in per-approved familia. The results shown in the Test Report refer or relates only to the jubinalysis 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 a 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 provided any part of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions sales to prove permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction assues. Any interfaced attention & liability contents of the law. All the samples are retained for Jūdays from the Date content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fallest extern of the law. All the samples are retained for Jūdays from the Date of relative/issue of the Test Report. The samples from Regulatory backets are to be retained as specified. Any type of Observators or Compliants regarding the Report shall be done within Usdays from the Clair of Test Report tries schedule mentioned in Test Report to in 24board format. After the time period stated before, in compliants will be accepted. The rubbs Teste schedule mentioned in Test Report to in 24board format. After the time period stated before, in compliants will be accepted. The rubbs Teste schedule mentioned in Test Report to in 24board format.



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

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No. : ELES/RNC/2024/2781 Report Release Date : 23.05,2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400000747F

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by

AKASH KUMAR Quality Managar ELES PVT. LTD. ****End of Report****

Authorised Signatory

Pr. Deependra Kurnar Sining Pr. D Environmantal Engli ELES Pvr. Ltd. Technical Manager

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the jubinaries above by the Laboratory only. The information stated on the Test Report reflects the limitary done by the Laboratory at the time of envolvement 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, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and partialisation to the Test Report in unlawful and offenders may be protected to the fillest exact 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 illote within 15 days from the Dut of Test Report in the Institution and Test Report in the time period stated before, no complaints will be uncertained. The entire Time schedule mentioned in Test Report is in 24 hours format. Abbreviation used N/A (Not Applicable), IDL (Linear Descence Linear).



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

ENGINEERING SERVICES PVT. LTD.

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

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



CIN: U74999H2038PTC013125

TEST REPORT

Test Report No.	: ELES/RNC/2024/2782	Report Release Date	: 23.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000748F		

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3051 : BKB Quarry, Serengdag-A Bauxite Mines (155.81ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 14.05,2024 to 15.05,2024 : 18.05,2024 : Ambient Air	
Mines Status	; Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	- 18.05.2024 to 23.05.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
I	Average Temperature (aC) :33	2	Barometric Pressure (mmHg)	: 742
3	Relative Homidity (%) : 59	4	Weather Condition	; Clear

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	60	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	15 5182 (Part- 24): 2019	31	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- II/Sec- 1): 2023	9.7	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	28.1	80 (24hrs)	
Ozone (O _i)	µg/m³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₂)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	цg/m³	IS 5182 (Part- 22): 2019	0.017	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

The Document stated on Test Report, to mated by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results above in the Test Report refer or relates only to the information 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 reponded except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. One Report in full or in part shall not be published, advertise, used for any legal actions unless poor permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compression and particular assumes. Any unauthorized abstration & Italiciation of the content or appearance of the Test Report is unlawful and offenders may be prosecuted us the fullest extent of the law. All the samples are retained for Midary from the Date of release/issue of the Test Report. The samples from the Equitatory bodies are to be retained as specified. Any type of Observations or Compliants regarding the Reports shall be done within 15days from the Date of Test Report releases/issued. After the period stated before, no compliants will be accepted. This entire Time schedule mentioned in Test Report in in 24hours forms. Abbreviation used: N/A (Not Applicable), BIDL (Below Detection Limity, LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

Emali: info@elespl.co.in , eles.ranchi@amail.com

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



TG-12587

TEST REPORT

Test Report No.	: ELES/RNC/2024/2782	Report Release Date	: 23.05.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400000748F			

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C _e H ₆)	µg/m ^A	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

ARXISTA NUMAR Quality Manager ELES PVT, LTD

****End of Report****

Authorised Signatory
Dr. Deependra Kurmar Sinha
Ph. D Environmental Stag
ELES Pvt. Ltd. Technical Menos

Page 2 of 2

The Document stated as Test Report, is instead by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The residual shown in the Test Report refer or relates only to the jubinitaries 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 elsent. The Report cannot be reproduced except in full and any just of the report is not taken out of context, without prior written approval of the Laboratory. The Report is full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and particular issues. Any ununturious different for appearance of the Test Report. In an advertise are to be processed to the fallest 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 without 15 days from the Date of Test Report released/issued. After the time period visited before, no complaints will be accepted. The cannot Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDI. (Below Detection Limit). LDI. (Limit Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20A4ECE9713D124

ENGINEERING SERVICES PYT. ATD

Website: www.elespi.co.in

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/2783	Report Release Date	: 23.05.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400000749F			

CUSTOMER DET	CUSTOMER DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3052 : Mine Pit Quarry No.2A, Screngdag-A Bauxite Mines (155.81ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 14.05.2024 to 15.05.2024 : 18.05.2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	18.05.2024 to 23,05.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 33	2	Barometric Pressure (mmHg)	1742
3	Relative Humidity (%)	: 59	4	Weather Condition	‡ Clear

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	15 5182 (Part- 23): 2022	65	100 (24hrs)	
Particulate Matter (PM2,5)	μg/m³	IS 5182 (Part- 24): 2019	37	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-11/Sec- 1): 2023	9.1	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	26.7	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.014	1 (24hrs)	
Nickel (Ni)	ng/m³	1S 5182 (Part- 26): 2020	<6.0	20 (Annisal)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

The Dopument stated as Test Report, is assent by the Laboratory under Gosettal Tarms and Conditions, only on Company letter head in pre-approved forms. The results shown 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 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 cornect, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of Imbility, compensation and jurisdiction funders. Any unauthorized alteration & failinfication of the contains in the Test Report is unlimited and offender may be prosecuted in the failiest extent of the law. All the samples are retained for Jodays from the Date of releases from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints the Time although the Report is in 24bours formit. The entire Time although mentioned in Test Report is in 24bours formit although N/A (Not Applicable), BDL (Below Desection Linux), LDL (Leoner Detection Linux).

have been bounded Same Petros



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

ERING SERVICES PVT. LID.

Website: www.elespi.co.in

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



TEST REPORT

Test Report No.	; ELES/RNC/2024/2783	Report Release Date	: 23.05.2024	
Work Order No.	: 13612312113	Work Order Date	; 28.03,2024	
ULR No.	: TC135872400000749F			

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by

AKASH KUMAR Quality Managur FLES PVT LTD

End of Report

Authorised Signatory

Dr. Deependra Kumar Sinha Ph. D Environmental Engg. ELES Pyt. Ltd. Technical Marrow

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown at the Test Report refer or relates only to the jubiantslyes done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory is 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 cortiest, without prior written approval of the Lubotanovy. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been second from the Management of the Laboratory. Attention is drawn in the limitation of liability, compensation and jurisdiction issues. Any unauthorized aftermion & liability compensation and jurisdiction issues. content or appearance of the Test Ropon is unlawful and offenders may be prosecuted to the failest extent of the law. All the samples are retained for 30days from the Date of releasonssue of the Text 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 Tess Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule menumed in Test Report is in 24hours forms. Abbreviation used. N/A (Not Applicable), BOE (Below Detection Limit), LTE (Lower Desection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20A4ECE971301Z4

ENGINEERING SERVICES PVT. LTD.

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/2784	Report Release Date	: 23.05.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400000750F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3053 : Mine Pit Quarry No.2B, Serengdag-A Bauxite Mines (155.81ha)	
Address	Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	£ 14.05.2024 to 15.05.2024 £ 18.05,2024 £ Ambient Air	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	: 18.05.2024 to 23.05.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION				
1	Average Temperature (°C) : 33	2	Barometric Pressure (mml	fg) : 742	
3	Relative Humidity (%) ; 59	4	Weather Condition	: Clear	

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	68	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	38	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-11/Sec- 1): 2023	7.3	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m ³	IS 5182 (Parts 6): 2022	26.2	80 (24hrs)	
Ozone (O _y)	µg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)	
Ammonia (NHs)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (8hes)	
Lead (Pb)	µg/m³-	IS 5182 (Part- 22): 2019	0.15	J (24hrs)	
Nickel (Ni)	ng/m ¹	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m¹	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in per-approved format. The results shown in the Test Report refer or relater only to the jub/analysis done by the Laboratory ordy. The information stated on the Test Report reflects the limitings done by the Laboratory at the time of involvement only and within the limits of closm's instructions. The Laboratory is responsible for all the information or data provided on the report except the information which is provided by the elient. The Report cannot be reproduced except in full and arm part of the report is not taken out of context, without prior vortices approval of the Laboratory. The Report is full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction unless. Any unauthorized alternation & full-information of the law. All the samples are retained for Midays from the Date of the Test Report is unlawful and offenders may be prosecuted to the fullest restor of the law. All the samples are retained for Midays from the Date of Test Report. The samples from Regulatory behaviors are us be retained as specified. Any type of Observations regarding the Reports shall be done within 15days from the Date of Test Report (cleased issued. After the time period stated before, no compliants will be accepted. The entire Time schedule mentioned in Test Report is in 24boars format. Abbreviation used: N/A (Not Applicable), BDI. (Below Descripe Limit). (Linese Detection Limit)



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:-20AAECE971301Z4

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/2784	Report Release Date	: 23.05.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400000750F			

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m1	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by AKASH KUMAR Quality Managur ELES PVT LTD.

****End of Report***

Authorised Signatory

Dr. Deependra Kurnar Sinhu Ph. D Environmental Fong. ELES Pvt. Ltd. Technibal (Mpt)

Page 2 of 2

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 or relates only in 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 cornext, 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 second from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsafication 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 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodses are to be returned 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 Ten Report is in 24hours forms. Abbreviation used N/A (Not Applicable), BDI, (Below Detection Limit). LDI. (Lower Detection Limit).



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

ERING SERVICES PUT. LTD

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



TC-12587

TEST REPORT

Test Report No.	: ELES/RNC/2024/2785	Report Release Date	: 23.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000751F		

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	; Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3054 : Near Banjari Village Serengdag-A Bauxite Mines (155.81ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 14.05.2024 to 15.05.2024 : 18.05.2024	
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 18.05.2024 to 23.05.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 33	2	Barometric Pressure (mm	Hg) : 742
3	Relative Humidity (%) : 59	4	Weather Condition	: Clear

Discipline: 0	Chemical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	59	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m ¹	IS 5182 (Part- 24): 2019	35	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-11/Sec-1): 2023	7.8	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	27.5	80 (24hrs)	
Ozone (O ₁)	μg/m ³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₁)	μg/m ³	IS 5182 (Part- 25); 2018	<10.0	400.(24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.01	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page | of 2

The Discussions 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 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 cisent'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 sertion approved of the Laboratory. The Report to full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unrutherood alternation & Inheliteation of the content of appearance of the Teu Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are returned for Toldays from the Date all release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations of Computate regarding the Reports shall be done within 15tlass from the Date of Test Report released/insted, After the time period stated before, no complaints will be accepted. The entire Time schedule manufactured in Test Report is in 24/main forms. Abbreviation used: N/A (Not Applicable) BDI (Below Detection Limit), LDL (Lower Detection Limit).



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

NOTNEERING SERVICES PVT, LTD.

Website: www.elespi.co.in

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/2785	Report Release Date	: 23,05,2024	
Work Order No.	: 13612312113	Work Order Date	: 28,03,2024	
ULR No.	: TC135872400000751F	THORK OF OLD THE	1 adiobiavas	

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C _s H _s)	µg/m ¹	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

AKASH KUMAR Quality Managur ELES PVT LTD

*End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinna Ph. D Environmental Food. FLES Pvr. Ltd. Technical Mismw

Page 2 of 2

The Document stated as Test Report, is asseed by the Laboratory under General Terms and Conditions, only on Company letter head to pre-approved format. The results shown in the Test Report refer in relates only to the job analysis done by the Laboratory only. The information stand 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 entirest, without prior written approval of the Laboratory. The Report in full or in pure shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any amouthorized alteration & falsification of liability, compensation and jurisdiction issues. contem or appearance of the Test Report is onlawful and offenders may be prosecuted to the falless extent of the law. All the samples are retained for 30days from the Date of releasenssue 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/assed. 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), BDI. (Below Detection Limit), LDI. (Lower Detection Limit)



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

ENGINEERING SERVICES PUT. LTD

Email: Info@elespi.co.in . eles.canchi@amail.com Phone no.: 0651-2290103 Website : www.elespi.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2024/2786	Report Release Date	: 23.05.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400000752F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	- Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3055 : Near Pauri Village Serengdag-A Bauxite Mines (155.81ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 14.05.2024 to 15.05.2024 : 18.05.2024	
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	. 18.05.2024 to 23.05.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C) : 33	2	Barometric Pressure (mm	Hg) : 742	
3	Relative Humidity (%) : 59	4	Weather Condition	: Clear	

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	57	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24): 2019	30	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-11/Sec-1): 2023	9.8	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	18 5182 (Part- 6): 2022	23,4	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₁)	µg/m ¹	15 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ¹	IS 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m²	IS 5182 (Part- 22); 2019	0.005	(24hrs)	
Nickel (Ni)	ng/m²	IS 5182 (Part- 26): 2020	<6,0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

The Document stated as Test Report is install by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The rapidle allows in the Test Report refer or relates only to the jub/analysis done by the Laboratory only. The information stated on the Test Report pellects the findings done by the Laboratory at the one of involvement only and within the limits of client's instruments. 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 assignant of the report is not taken out of context, without price written approval of the Laboratory. The Report in full or in part shall on the published, advertise, used for any legal actions unless price permission, has been secured from the Management of the Laboratory. Attention is driven to the lability, compensation and jurisdiction issues. Any unauthorized distinction of the content or appearance of the Test Report is unlawful and offenders may be presecuted to the fallies extent of the law. All the samples are related for foldays from the Date of related heavy of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observatives or Compliants regarding the Report shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no compliants will be accepted. The artise Time schedule mentioned in Test Report is in 24-hours format. Abbreviation used: N/A (Not Applicable), BDI. (Below Descript Lumi), LDI. (Leaver Detection Lumi).



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

ENGINEERDYG SERVICES PVT. LTD.

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



TEST REPORT

Test Report No. : ELES/RNC/2024/2786 Report Release Date : 23.05.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

THE STATE OF THE S

: 28.03.2024

ULR No. : TC135872400000752F

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C _n H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

AKASH KUMAR Quality Manager ELES PVT LTD

****End of Report****

Authorised Signatory
Dr. Deependra Kulmar Smills
Ph. D Environmental Energ.
ELES PVI. Ltd. Technical Manne

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/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 occurred from the Management of the Laboratory. Attention is drawn us the limitation of Islandity, compensation and interaction & falsification & falsification of the content of the Test Report is unlawful and offenders may be prosecuted to the fallest extent of the law. All the samples are retained for Bidgey from the Date of release using of the Test Report. The samples from Regulatory bodies are to be retained as specialed. Any type of Observations or Compliants regarding the Reports shall be done within 13-days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedulo mensioned in Test Report is in 24bours format. Abbreviation used. N/A (Not Applicable): BDL (Below Detection Limit). LDL (Lower Detection Limit).



VIRONMENTAL LABORATO

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/2787	Report Release Date	: 23.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28,03,2024
ULR No.	: TC135872400000753F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3056 : Near Harup Village Serengdag-A Bauxite Mines (155.81ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 14.05.2024 to 15.05.2024 : 18.05.2024 : Ambient Air
Mines Status	z Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 18,05,2024 to 23,05,2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

MI	TEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 33	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear

Discipline: (Themical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	1S 5182 (Part- 23): 2022	58	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	32	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-11/Sec- 1): 2023	6.7	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	23.9	80 (24hrs)	
Ozone (O ₃)	µg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)	
Ammonia (NH ₁)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m ²	IS 5182 (Part- 22): 2019	< 0.002	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26); 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

The Document stated as Test Report, is usued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report notes or relates only to the Johismalysis 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 price written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Assention is drawn to the limitation of liability, compensation and jurisdiction issues. Any intention of alternation & fabrillication of the one hamagement of the Laboratory. Asteriors to draw to the management of the hamagement of the Laboratory. Asteriors to draw to the management of the law. All the samples are relained for 30days from the Plate of releases seem of the Test Report. The samples from Regulatory bedies 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/assauct. After the time period stated before, no complaints will be accepted. The entire Time schedule interdiment in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDI, (Below Detection Limit), (Linear Detection Limit)



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

ENGINEERING SERVICES PUT, LTD.

Website: www.elespi.co.in

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



75-12007

TEST REPORT

Test Report No.	: ELES/RNC/2024/2787	Report Release Date	: 23.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000753F		

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₅ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ⁵	ELES/GC/SOP/05; 2023	<0.5	01(Annual)	

Reviewed by AKASH KUMAR

Quality Managur ELES PVT LTD. ****End of Report****

Authorised Signatory

Dr. Deependra Kurner Sinha Ph. D Environmental Engg.

ELES Pvt. Ltd. Technical Manual

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/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 fail and any part of the report to not taken out of context, without printering approval of the Laboratory. The Report in fail or in part shall not be published, absertise, used for any legal actions unless prior permission has been second from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any anotherized alternation & falsification of the content or apparature of the Test Report is unlawful and offenders may be prosecuted to the fallest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to the remained 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 emire fine schedule mentioned in Test Report is in 28hours forms. Abbreviation used: N/A (Not Applicable), the Detection Limits). Dr. (Lower Detection Limits)



ENVIRONIMENTAL LABORATO

PLOT NO-30, MANSARDVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO: 20AAECE971301Z4

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

TEST REPORT

Test Report No.	: ELES/RNC/2024/2788	Report Release Date	: 23.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000754F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3057 : Near Paintoli Village Serengdag-A Bauxite Mines (155.81ha)
Address	: Lohardaga, Jharkhund-835302	Sampling Date Sample Received Date	: 14.05.2024 to 15.05.2024 : 18.05.2024
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 18.05.2024 to 23.05.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

MI	TEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 33	-2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear

Discipline: 0	Chemical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	15 5182 (Part- 23): 2022	65	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	34	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m ¹	IS 5182 (Part- II/Sec- 1): 2023	10.8	80 (24hrs)	
Nitrogen Di-Oxide (NOz)	µg/m³	IS 5182 (Part- 6): 2022	26.1	80 (24hrs)	
Ozone (O ₃)	μ <u>μ</u> /m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	HR/m3	15 5182 (Part- 25); 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	1S 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	1S 5182 (Part- 22): 2019	0.012) (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26); 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Ten Report refer or relines 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 respectable 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 scritten approval of the Lubbraiory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and particulation issues. Any unauthorized alteration & full-objection of the convent or appearance of the Test Report is unlawful and offenders may be prosecuted to the failest extent of the law. All the samples are retained for Midess 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 he done within 15days from the Date of Test Report released instead After the time period stated before, no complaints will be accepted. The entire Tune schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable). BDL (Below Detection Limit). LDL (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO:- 204AECE97130124

ENGINEERING SERVICES PUT. 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/2024/2788	Report Release Date	: 23.05.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400000754F			

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)	μg/m ^λ	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ^T	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

AKASH KOMAR Quality Managar ELES PVT. LTD

****End of Report****

Authorised Signatory

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Concisions, only on Company lener head in pre-approved format. The results shown in the Test Report refer or relates only to the jobbanalysis 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 lamins of client's instructions. 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 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, wivertise, 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 afteration & flatification 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 30days 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 Compliants regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no compliants will be accepted. The entire Time schedule mentaoned in Test Report is in 34baturs format. Archivestation used: N/A (Nin Applicable), BDI. (Below Desceion Limit), 101 (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE971301Z4

GINEERING SERVICES PVT. LTD

Emall: Info@elespl.co.in , eles.ranchi@gmail.com

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/2896	Report Release Date	: 28.05,2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000856F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2024/DW/3070 : 15.05.2024 : 18.05.2024	
Address	: Lohardaga, Jharkhand-835302	Type of Sample Source/Location of Sample	: Drinking Water : Near Office, Serengdag-A Bauxite Mines (155,81ha)	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01	
Period of Analysis	: 18.05,2024 to 28.05,2024	Sampling Done By Sample Condition	ELES Pvt. Ltd. Sealed & Preserved	

Discipline : Chemical	Discipline : Chemical Group :			the second section is a second section of the section of the second section of the section of the second section of the section of	ory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
pH (at 25.6 °C)	14.	APHA 24th Ed.2023, 4500-H	6.55	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 24 th Ed.2023, 2130 B	0.73	1.0	5.0
Taste		APHA 24th Ed.2023, 2160 C	Agreeable	Agrecable	Agreeable
Odour		IS 3025 (Part-5):2018	Agreeable	Agreeable	Agreeable
Colour	Hazen	APHA 24 th Ed.2023, 2120B&D	1.0	5	15
Total Dissolved Solids (TDS)	mg/L	APHA 24th Ed.2023, 2540B,C&D	47	500	2000
Chloride (as CI)	mg/L	APHA 24th Ed.2023, 4500 CI B	6.7	250	1000
Fluoride (as F)	mg/L	APHA 24th Ed.2023, 4500 F-D	BDL (DL: 0.1)	1.0	1.5
Total Alkalinity (as CaCOs)	mg/L	APHA 24th Ed.2023, 2320 B	8.2	200	600
Total Hardness (as CaCO ₃)	mg/L	APHA 24th Ed.2023, 2340 C	8.1	200	600
Sulphate (as SO ₄)	mg/L	APHA 24 ⁶ Ed,2023, 4500 SO ₄ ⁻² -E	BDL (DL: 1.0)	200	400

Page 1 of 4

The Document stated as Test Report, is usued by the Laboratory under General Terms and Conditions, only on Company lesses 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 dain 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 secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & fabilitization of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fallest extent of the law. All the samples are retained for Bildays 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 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entite Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable). IEEE (Below Detection Limit): LDL (Lower Detection Limit



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-534003 (IHARKHAND) GST NO:- 20AAECE9713D1Z4

ENGINEERING SERVICES PYT. LTD.

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

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



TU-FIRST

TEST REPORT

Test Report No. : ELES/RNC/2024/2896 Report Release Date : 28.05.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400000856F

Discipline : Chemic	al	Grou	p: Water		0500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Nitrate (as NO ₃)	mg/L	APHA 24 th Ed.2023, 4500 NO ₃ -B	0.69	45	No Relaxation
Phenolic Compound (as C ₄ 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	1.0
Calcium (as Ca)	mg/L	APHA 24th Ed.2023, 3500 Ca B	2.1	75	200
Anionic Surfactants (as MBAS)	mg/L	APHA 24th Ed.2023, 5540-C	BDL (DL: 0.025)	0.2	1.0
Discipline : Chemic	cal	Gre	oup: Residues i	n Water	
Aluminum (as Al)	mg/L	1S 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	1S 3025 (Part-57) : 2021	BDL (DL: 0.2)	0.5	2.4
Cadmium (as Cd)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.003)	0.003	No Relaxation
Total Chromium(as Cr)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.03)	0.05	No Relaxation
Copper (as Cu)	mg/L	APHA 24th Ed,2023; 3111B	BDL (DL: 0.03)	0.05	1.5
Cyanide (as CN)	mg/L	APHA 24th Ed,2023, 4500 CN-E	BDL (DL: 0.012)	0.05	No Relaxation
Iron (as Fe)	mg/L	APHA 24th Ed.2023; 3111B	0.079	1.0	1.0
Lead (as Pb)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.01)	0.01	No Relaxation
Manganese (as Mn)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.05)	0.1	0.3
Mercury (as Hg)	mg/L	1S 3025 (Part-48): 2019	BDL (DL: 0.001)	0.001	No Relaxation

Page 2 of 4

The Document stated as Test Report, is instead by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results above us the Test Report refler 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 secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & takification of the content or appearance of the Test Report is unlowful and offenders may be prosecuted to the fullest extent of the line. All the samples are retained for 30days 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 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 (birt Applicable), BDL (Below Detection Limit); LDL (Lawer Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20A4ECE9713D124

ENGINEERING SERVICES PVT. LTD.

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

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



10-1297

TEST REPORT

Test Report No.	: ELES/RNC/2024/2896	Report Release Date	: 28.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
III.R No.	: TC135872400000856F		

Discipline : Chemical		Group: Resid	ues in Water		ory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Selenium (as Se)	mg/L	IS 3025 (Part-56): 2019	BDL (DL; 0,01)	0,01	No Relaxation
Zinc (as Zn)	mg/L	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.1)	5	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				L	imit
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	
Chlorpyriphos	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)		30
Ethion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)		3.0
Malathion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)		190
Methyl parathion	μg/L	ELES/GC/SOP/01: 2023	(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)	9	0.03

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 Sormat. The results shown to the Test Report reflects we relates only to the polymatysis 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 secured from the Management of the Laboratory. Attention is drawn to the limitation of liability compensation and jurisdiction issues. Any unauthorized alteration & fabilitization 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 30days from the Date of release/issue of the Test Report. The samples from Regulatory bothes 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 person stated before, no complaints will be accepted. The



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

ENGINEERING SERVICES PVI. LTD.

Email: info@elespl.ca.ln , eles.ranchi@gmail.com

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



TIC-COME

TEST REPORT

Test Report No.	: ELES/RNC/2024/2896	Report Release Date	: 28.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
III D No.	· TC135877400000856F		

Pesticides				
Parameter	Unit	Test Protocol	Result	Limit
Alpha HCH	μg/L	ELES/GC/SOP/02: 2023	BDL (DL; 0.006)	0.01
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/t.	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	0.40
DDT(o,p and p,p-isomers of DDT,DDEand DDD)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	1.0
Discipline : Biological		Grou	p: Water	
Total Coliform (Qualitative)	Per 100 mL	IS 15185; 2021	Not Detected	Shall not be detected
Escherichia coli (Qualitative)	Per 100 mL	IS 15185; 2021	Not Detected	Shan not be detected

Remarks: I, pH and RFC done at Lab

AKARSinhika hiyi AR Quality Managar

ELES PVT. LTD

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha Ph. D Environment Bagg ELES Pvt. Ltd. Technica Memor

Page 4 of 4

The Document stated at 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 school so the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the term 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 provident has been secured from the Management of the Laboratory. Attention is drawn to the limitation of flability, compensation and jurisdiction issues. Any unauthorized alteration & Talsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the follow extent of the line. All the samples are relatived for 30days from the Date of release/issue of the Test Report is unappearance to be retained as specified. Any type of Observations or Complaints regulating 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 mantioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit); LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

Website: www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2024/2896	Report Release Date	: 28.05.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2024/DW/3070 : 15.05.2024 : 18.05.2024	
Address	: Lohardaga, Jharkhand-835302	Type of Sample Source/Location of Sample	: Drinking Water : Near Office, Serengdag-A Bauxite Mines (155.81ha)	
Mines Status	: Operational	Sampling Procedure	; ELES/DOC/SMPL/01	
Period of Analysis	: 18.05.2024 to 28.05.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

Discipline : Chemical		Group : Wate	r		atory Limit S 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable	Permissible Limit
Mineral Oil*	mg/L	CL-6, IS: 3025 (P-39)	BDL (DL: 0.1)	1.0	No Relaxation

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

Reviewed by

Quality Managar ELES PVT. LTD ****End of Report****

Authorised Signatory
Dr. Deependra Kumar Sinha
Ph. D Environmental Sogg
ELES Pvt. Ltd. Technical Man

Page 1 of 1

The Document stated as Test Report, it issued by the Laboratory under General Terms and Conditions, only on Company letter head in per-approved format. The results shown in the Test Report refer or relates only in the job analysis done by the Laboratory only. The information stated on the Test Report refer is relates 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, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the immitation of liability, compensation and jurisdiction issues. Any unauthorized afteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted in the fullest except of the law. All the samples are retained for 30days 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 Compliants regarding the Reports shall be done within 15 days from the Date of Test Report is in 24hours format. Abbreviation made. N/A (Not Applicable): BDL (Below Detoction Limit): CDI, (Lower Detection Limit)



PEOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:-20A4ECE9713D124

ENGINEERING SERVICES PVT. LTD.

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

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



TO THE

TEST REPORT

Test Report No.	: ELES/RNC/2024/2908	Report Release Date	: 28.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000868F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample	: ELES/RNC/2024/EF/3074 : 15,05,2024 : 18,05,2024 : Effluent Water : Serengdag-A Bauxite Mines (155,81 ha)	
Mines Status Period of Analysis	: Operational 18.05.2024 to 25.05.2024	Sampling Procedure Sample Collected By Sample Condition	ELES/DOC/SMPL/01 ELES Pvt. Ltd. Sealed & Preserved	

Discipline : Chemical		Group: Pollution & E	Discharge Limits - CPCI EPR, 1986 Schedule VI		
Parameter	Unit	Test Protocol	Result	Inland Surface Water	Land for Irrigation
pH (at 25.6°C)	12.1	APHA 24 th Ed.2023,4500-H	5.60	5.5-9,0	5.5-9.0
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16): 2023	239	-	346
Total Suspended Solids (TSS)	mg/L	IS 3025 (Part-17): 2022	8.2	100	200
Dissolved Oxygen (DO)	mg/L	IS 3025 (Part-38): 2019	6.5	-	-
Biochemical Oxygen Demand (BOD) (at 27 °C for 3 days)	mg/L	IS 3025 (Part-44): 2023	4.0	30	100
Chemical Oxygen Demand (COD)	mg/L	1S 3025 (Part-58): 2023	35	250	÷
Dissolved Phosphate (as P)	mg/L	1S 3025 (Part-31/Sec-1): 2022	BDL. (DL: 0.04)	5,0	
Fluoride (as F)	mg/L	1S 3025 (Part-60): 2019	0.347	2.0	1.5
Sulphide (as S)	mg/L	IS 3025 (Part-29): 2019	BDL (DL; 0.04)	2.0	*
Oil & Grease	mg/L	IS 3025 (Part-39): 2021	BDL (DL; 1.0)	10	10.

Page 1 of 2

The Document timed in Test Report is issued by the Laboratory under Oesteral Torms 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/amilysis done by the Laboratory only. The information stated on the Test Report reflects the findings time by the Laboratory in 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 current be reproduced except in faill and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report is fall for in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized afternation & falsification of the content or appearance of the Test Report is unlawful and offenders may be possecuted to the fullest extent of the law. All the samples are creatined for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bedress are to be retained in 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 (Non Applicable); BDL (Below Detection Limit); LDR (Lower Desection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPLIDANA HATIA, RANCHI-834003 (JHARKHAND) 65T NO:- 20A4ECE9713D124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.ca.in , eles.ranchi@amail.com

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



TC-12587

TEST REPORT

Test Report No.	: ELES/RNC/2024/2908	Report Release Date	: 28.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
III R No.	· TC135872400000868F		

Discipline: Chemical		Group : Resid	Group: Residues in Water		ts - CPCB hedule VI
Parameter	Unit	Test Protocol	Result	Inland Surface Water	Land for Irrigation
Lead (as Pb)	mg/L	APHA 24th Ed.2023, 3111 B	BDL. (DL: 0.01)	0.1	1441
Manganese (as Mn)	mg/L	APHA 24th Ed.2023, 3111 B	BDL (DL: 0.05)	2.0	
Mercury (as Hg)	mg/L	IS 3025(Part-48): 1994; RA2019	BDL (DL: 0.001)	0.01	
Nickel (as Ni)	mg/L	APHA 24th Ed.2023, 3111 B	BDL (DL: 0.01)	3.0	
Zinc (as Zn)	mg/L	APHA 24th Ed.2023, 3111 B	BDL (DL: 0.1)	5.0	***

Remarks: pH done at Lab.

Reviewed by

Quality Manager ELES PVT LTD.

****End of Report***

Authorised Signatory
Dr. Deependra Kumar Sinha
Ph. D Environmental Engg.
ELES Pvt. Ltd. Tachnical Management

Page 2 of 2

The Document stated as Test Report, is usued by the Labormory under General Terms and Conditions, only on Company letter head in pre-approved format. The remains 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 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 is not taken out of context, southout prior written approval of the Laboratory. The Report in fail or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized discribing to the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fallest extent of the law. All the samples are retained for Hodays 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 15days from the Date of Test Report released/issued. After the time-period stated before, no complaints will be accepted. The limit. Time Schedule mentioned in Test Report is in 24hours format. Abbreviation used. N/A (Not Applicable), BDL (Below Detection Limit). LDL (Lower Detection Limit). LDL (Lower Detection Limit).

CONTENT

	Hindalco Industries : Shrengdag A Bauxite Mine Environmental Monitoring Report - June2024
	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 Banjari Village
2	Near Pauri Village
3.	Near Harup Village
4	Near Paintoli Village







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

ENGINEERING SERVICES PUT, LTD.

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



Website | www.elespl.co.in TC-128

TEST REPORT

Test Report No.	: ELES/RNC/2024/3381	Report Release Date	: 24.06.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001332F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	:: ELES/RNC/2024/AA/3832 :: Near Weigh Bridge, Screngdag-A Bauxite Mines (155.81ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 17.06.2024 to 18.06.2024 : 20.06.2024	
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 20.06.2024 to 24.06.2024	Sampling Done By Sample Condition	; ELES Pvt. Ltd. ; Sealed & Preserved	

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	:38	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear

Discipline: (Chemical	Group: Atm	ospheric Pollu	ition
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m ³	15 5182 (Part- 23); 2022	73	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	44	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-II/Sec- 1): 2023	13.5	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6); 2022	27,8	80 (24hrs)
Ozone (O ₃)	μg/m ³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)
Ammonia (NH ₁)	μg/m ¹	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.021	1 (24hrs)
Nickel (Ni)	ng/m*	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

The Document stated as Test Report, is asseed by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results above in the Test Report refer in relates only in the junits of ellent'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 provided management of the Laboratory. The Report is full or in part shall not be published, alvertise, used for any legal actions suless prior permission has been received from the Management of the Laboratory. Attention is drawn to the Tentation of Testification of the context 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 Johans from the Date of release/seaso of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for Johans from the Date of release/seaso of the Test Report in an appearance of the Test Report of the Report is an appearance of the Test Report of the Report in the Date of Test Report released/seased. After the time period shall be fore, no complaints will be accepted. The centure Time schedule incentioned in Test Report is in 24hours format. Abbreviation used. N/A (Not Applicable), BDI. (Below Detection Limit). LDI. (Lower Detections Limit)



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

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



TO HERE

TEST REPORT

Test Report No.	; ELES/RNC/2024/3381	Report Release Date	: 24.06.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001332F			

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₄ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)	

Quality Managor FLES PVT. LTD

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha Ph. D Environmental Engg. ELES Pvt. Ltd. Technical Manager

Page 2 of 2

The Document stated as Test Repirt, 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 cloent'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 writers approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. 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 uninvolut and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for Milays from the Data of release/issue of the Test Report. The samples lists Regulatory backet 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/ssued. After the time period stated before, no complaints will be accepted. The entire Time schedule. memioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDI, (Below Detection Limit), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/3382	Report Release Date	: 24.06.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001333F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3833 : BKB Quarry, Serengdag-A Bauxite Mines (155.81ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 17.06.2024 to 18.06.2024 : 20.06.2024	
Mines Status	; Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 20.06.2024 to 24.06.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 38	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	1.59	4	Weather Condition	: Clear

Discipline: (Chemical	Group: Atm	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23); 2022	55	100 (24brs)		
Particulate Matter (PM2,5)	μg/m³	IS 5182 (Part- 24): 2019	26	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- II/Sec- 1): 2023	11.2	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m ¹	IS 5182 (Part- 6): 2022	22.5	80 (24hrs)		
Ozone (O ₂)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH ₁)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	1S 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.009	1 (24hrs)		
Nickel (Ni)	ng/m³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		

Page 1 of 2

The Document stated in Test Report is insued by the Laboratory under General Terms and Conditions, unly on Company letter head in pre-approved format. The results shown in the Test Report relates only to the juntaments 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 disk provided on the report except the information which is provided by the client. The Report cannot be reportation of the laboratory. The Report is full us in part shall not be published, advertise, used for any legal actions unless grios permission has been accused from the Management of the Laboratory. Attention is detwo to the limitation of liability, compensation and jurisdiction issues. Any unauthorised alteration & falsification of the cuntant or appearance of the Test Report is unlowful and offenders may be prosecuted in the following the Report and for Stidays from the Date of release/issue of the Test Report. The amples from Regulatory basis are in the retained as specified. Any type of Observations of Complaint 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 course Time achievable mentioned in Test Report is in 24hours format. Abbreviation used NA (Net Applicable), BDI. (Below Detection Limit). LDI. (Lower Descention Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO:- 20AAECES713D124

ENGINEERING SERVICES PVT. LTD

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

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



TEST REPORT

Test Report No. : ELES/RNC/2024/3382 Report Release Date : 24.06.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400001333F

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	O1(Annual)	

AKASH KUMAR Quality Manager ELES PVT LTD

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha Ph. D Environmental Engg. ELES Pvt. Ltd. Technical Manager

Page 2 of 2

The Document strict as Test Report, is researchly the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report reflects the findings done by the Laboratory at the same 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 that and any part of the report is not taken out of context, without prior version approval of the Laboratory. The Report is full or in part shall not be published, advertise, used for any legal actions undess prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction source. Any manufactured alternation & fidely form 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 30days from the Date of release/issue of the Test Report. The samples from Regulatory budges 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/issue of the Report in in 34hours format. After such a period stated before, no complaints will be accepted. The centre Time schoolale mentioned in Test Report in in 34hours format. After such or selection Limits, LDE (Lower Descripe Limits).



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

ENGINEERING SERVICES PUT, 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/2024/3383	Report Release Date	: 24.06.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001334F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3834 : Mine Pit Quarry No.2A, Serengdag-A Bauxite Mines (155,81ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 17.06.2024 to 18.06.2024 : 20.06.2024	
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 20.06,2024 to 24.06,2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	RMATION			
4	Average Temperature (°C)	: 38	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear

Discipline: 0	Themical	Group: Atm	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	1S 5182 (Part- 23): 2022	62	100 (24hrs)	
Particulate Matter (PM2,5)	μg/m ⁷	IS 5182 (Part- 24): 2019	32	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- II/Sec- 1): 2023	8.6	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	20.5	80 (24hrs)	
Ozone (O ₃)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.011	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26); 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01; 2021	<2.0	06 (Annual)	

Page 1 of 2

The Diagrams stated as Test Report, is roused by the Laboratory under General Turns and Conditions, only on Company letter head or 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 inner of involvement only and within the limits of client's matrix, tions. 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 earned by reproduced except in full and any part of the report is not taken out of context, without prior written appearant of the Laboratory. The Report is full or in part shall not be published, advertise, used for any legal actions unless prior permission has been second from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alternation 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 30days from the Date of facious from the guidance from the part of the facious of the Test Report is facilitied. Any type of Observations in Complaints regarding the Reports shall be done within 15days from the Date of Test Report is cleared/sease/after the time period stand believe, no complaints will be accepted. The entire Time achiefule magnitude in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), Bi31 (Below Exception Limit), LDt. (Lawer December Limit).

Name Continues and Name States



$ENVIRONMENTAL\,LABORATORIES\, d$

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20A4ECE97130124

Website: www.elespl.ca.in

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



TEST REPORT

Test Report No. : ELES/RNC/2024/3383 Report Release Date : 24.06.2024 Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400001334F

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C _s H _{s.})	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m¹	ELES/GC/SOP/05: 2023	< 0.5	01(Armual)

Quality Manager ELES PVT. LTD.

End of Report**

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D Environmental Engg.

ELES Pvt. Ltd. Technical Manager

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relaxes only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflexes the findings done by the Laboratory as the since 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 logal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the lumination of liability, compensation and jurisdiction ossies. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlessful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of referee/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 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 Tes Report is in 24hours format. Abbreviation used. N/A (Not Applicable). BDI. (Below Desection Limit). LDI. (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD

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



Website : www.elespl.co.in 16.444

TEST REPORT

Test Report No.	: ELES/RNC/2024/3384	Report Release Date	: 24.06.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001335F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3835 : Mine Pit Quarry No.2B, Serengdag-A Bauxite Mines (155.81ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 17.06.2024 to 18.06.2024 : 20.06.2024	
Mines Status	Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 20,06.2024 to 24,06,2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd, : Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
-1	Average Temperature (°C) : 38	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%) : 59	4	Weather Condition	: Clear

Discipline: 0	Chemical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23); 2022	62	100 (24hrs)	
Particulate Matter (PM2,5)	μg/m³	IS 5182 (Part- 24): 2019	30	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- II/Sec- 1): 2023	8.5	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6); 2022	23.6	80 (24hrs)	
Ozone (O ₂)	µg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m°	IS 5182 (Part- 22); 2019	0.18	1 (24hrs)	
Nickel (Ni)	ng/m ¹	IS 5182 (Part- 26): 2020	<6.0	20 (Armual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01; 2021	<2.0	06 (Annual)	

Page 1 of 2

The Document name 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 of relates only to the job/analysis done by the Laboratory only. The information stated in the Test Report reflects the lindings done by the Laboratory of responsible for all the information or data provided on the report except the information which is provided by the client. The Report named be reproduced except in fall and any part of the report in not laboratory of context, without prior written approval of the Laboratory. The Report in fall in in part shall not be published, advertise, used for any legal uncions unless prior permission has been accurable how Mutagement of the Laboratory. Anomalon is drawn in the limitation of liability, compressions and jurisdiction issues. Any unmatherized afteration & fabrifications of the context of appearance of the Test Report is unlawful and offenders may be prosecuted to the failest extent of the law. All the samples are returned for 30 days from the Date of release/issue of the Test Report. The samples from Regulatory builter are to be retained as specified. Any type of Observations of 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 outer Tone schedule mentioned in Test Report is in 24 hours General, Abbreviation used. N/A (Not Applicable), 8DI. (Below Detection Limit), LDI. (Lewer Detection Limit)

Name Parameters and Street Parameter



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO:- 20A4ECE9713D124

ENGINEERING SERVICES PVT. LTD

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/3384	Report Release Date	: 24.06,2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024

ULR No. : TC135872400001335F

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)	μg/m [®]	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

AKASH KUMAR Quality Managar ELES PVT LTD

****End of Report****

Dr. Deependra Kumar Sinha Ph. D Environmental Engg ELES Pvt. Ltd. Technical Manager

Page 2 of 2

The Document stated as Test Report in asseed 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 in the jet/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, within a prior written appearant 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 sequent from the Management of the Laboratory. Attention is drawn to the Limitation of Italitity, compensation and jurisdiction issues. Any ununthorized alteration & falsorization of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law samples are returned for 30days from the Date of releases from the Date of the Test Report. The samples from Regulatory because of the Test Report is unappealing the Report shall be done within Lidays from the Date of Test Report released/asseed. After the time period shauld before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Athreviation used. N/A (Not Applicable), BDL (Below Descenter Limit), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PUT, LTB.

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/3385	Report Release Date	: 24.06.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001336F		

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3836 : Near Banjari Village Serengdag-A Banxite Mines (155,81ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 17,06,2024 to 18,06,2024 : 20,06,2024	
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 20.06.2024 to 24.06.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 38	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 59	4	Weather Condition	; Clear

Discipline: 0	Chemical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	56	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24): 2019	23	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-11/Sec- 1): 2023	6.7	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m ³	IS 5182 (Part- 6): 2022	11.2	80 (24hrs)	
Ozone (O ₅)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m"	IS 5182 (Part- 22): 2019	0.009	l (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

The Document stated as Test Report is usually by the Laboratory under General Terms and Conditions, only on Company latter head in pre-approved format. The results shown in the Test Report refer or traines only to the jobioralysis done by the Laboratory only. The inflammation stated on the Test Report refers the findings done by the Laboratory in the time of involvement only and within the lamin of client's insurations. The Laboratory is responsible for all the information or data provided on the report except the information which is growided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without providing appropriate of the Laboratory. The Report is full in the published, advertise, used for any tegal actions solves prior permission has been secured from the Management of the Laboratory. Amenging is discussed to the limitation of laboratory in the Test Report is unlimited and offenders may be protected to the fullest extent of the law. All the samples are returned for Dolary from the Date of release/issue of the Test Report is unlimited and offenders may be protected to the fullest extent of the law. All the samples are returned for Dolary from the Date of release/issue of the Test Report is unlimited. After the time period stated before, no complained will be accepted. The entire Time scientiale mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Descripto Limit), LDL (Lower Detection Limit).



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

Website: www.elespl.co.in

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



TEST REPORT

Test Report No. : ELES/RNC/2024/3385 Report Release Date : 24.06.2024 Work Order No. : 13612312113 Work Order Date : 28.03.2024 : TC135872400001336F ULR No.

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C _s H _s)	µg/m ^t	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by AKASH KUMAR Quality Manager ELES PVT. LTD.

****End of Report****

Dr. Wheeiser die Klassar Sinha Ph. D Environmental Engg. ELES Pyt Ltd. Technical Manager

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Toron and Conditions, only on Company Jerus head in pre-approved terms. The results shown in the Test Report refer or relines only in the inhumalysm done by the Laboratory only. The information sinted 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 current 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, adventise, used for any logal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and parasilicities issues. Any unauthorized alternation & fabilication 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 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained to specified. Any type of Observations or Complaints regarding the Reports shall be stone 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), LDL (Lower Detection Limit).



$VVIRONMENTAL\,LABORATO$

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- ZOAAECE9713D124

NGINEERING SERVICES PYT. LTD.

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/3386	Report Release Date	; 24.06.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001337F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	; Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/3837	
		Location	: Near Pauri Village Serengdag-A Bauxite Mines (155.81ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 17.06.2024 to 18.06.2024	
		Sample Received Date	: 20.06.2024	
		Type of Sample	: Ambient Air	
Mines Status	: Operational	Sampling Procedure	; ELES/DOC/SMPL/02	
Period of Analysis	: 20,06.2024 to 24.06.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Scaled & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 38	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	; 59	4	Weather Condition	: Clear

Discipline: 0	Chemical	Group: Atm	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23); 2022	65	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	34	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- II/Sec- 1): 2023	11.2	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m ^j	IS 5182 (Part- 6): 2022	26.8	80 (24hrs)		
Ozone (O ₂)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	1S 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.009	1 (24hrs)		
Nickel (Ni)	ng/m¹	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m*	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		

Page 1 of 2

The Discussint 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 always 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 timits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the esformation 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 contest, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any logal notions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction somes. Any smartherized alteration & falsification of the convent or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are relained for Yolays from the Date of rejease issue of the Test Report. The samples from Regulatory todies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall he dose within (5days from the Date of Test Report released/esseed After the time period stated before, no complaints will be accepted. The entire Time selectale mercioned in Test Report is in 24hours format. Afterwation used N/A (Not Applicable), BDI (Below Detection Limit). LDI (Linver Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No. : ELES/RNC/2024/3386 Report Release Date : 24.06.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400001337F

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)	

AKASH KUMAR Quality Managor ELES PVT LTD

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha

Ph. D Environmental Engg

ELES Pvt. Ltd. Technical Manager

Page 2 of 2

The Document stated as Test Report, is esseed 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 jubiantivas 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 common without prior written approved in the Laboratory. The Report in full or in part shall use be published, advertise, used for any legal actions indees prior permission has been except from the Namigement of the Laboratory. Attention is drawn to the testination of limitity, compensation and jurisdiction issues. Any unauthorized alteration & fabrification of the content or appearance in the Test Report is unlinwish and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of reasonables are to be retained as specified. Any type of Observations in Complainin regarding the Reports shall be done within 15 days from the Date of Test Report related/issued. After the time period stated before, no complaints will be accepted. The course Time achedule mentioned in Test Report is in 24 hours Inernal. Abbreviation used: N/A (Not Applicable), BDL (Below Dotection Limit). LDL (Linver Detection Limit)



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

ENGINEERING SERVICES PUT, 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/2024/3387	Report Release Date	; 24.06.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001338F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3838 : Near Harup Village Serengdag-A Bauxite Mines (155,81ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 17.06.2024 to 18.06.2024 : 20.06.2024
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 20.06.2024 to 24.06.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

Mi	ETEOROLOGICAL INFORM	ATION			
1	Average Temperature (%) :	38	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	59	4	Weather Condition	: Clear

Discipline: (Chemical	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23); 2022	55	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	29	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	1S 5182 (Part- II/Sec- 1): 2023	6.8	80 (24hrs)		
Nitrogen Di-Oxide (NO ₁)	μg/m³	IS 5182 (Part- 6): 2022	24.2	80 (24hrs)		
Ozone (O ₃)	µg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	IS 5182 (Part- 22); 2019	< 0.002	1 (24hrs)		
Nickel (Ni)	ng/m ⁷	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		

Page 1 of 2

The Document stated as Test Report, is resided by the Laboratory under General Terms and Conditions, only an Company letter head in pre-approved format. The results shown 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 reported except in full and any part of the report is not taken one of context, without prior written approval of the Laboratory. The Report is full or in part stall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention in drawn to the limitation of flat flats, compensation and jurisdiction essues. Any ununthorated alternation & flatification 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 Studys from the Date of releases show the different within industry bodies are to be returned as specified. Any type of Observation or Complaints regarding the Report shall be done within industry begins and the law and before, on complaints will be accepted. The entire Time schedule memorated in Test Report is in 24 hours format. Athresis format. Adversarian used. N/A (Not Applicable), BDL (Below Detection Limit). LDI (Linver Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 [JHARKHAND] GST NO:- 28446CE9713D124

ENGINEERING SERVICES PVT. LTD

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

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



TEST REPORT

Test Report No. : ELES/RNC/2024/3387 Report Release Date : 24.06.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400001338F

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)	

AKASH KUMAR Quality Manager ELES PVT. LTD.

****End of Report****

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

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Torms and Conditions, only on Campany lesser hand at pre-approved format. The results shown in the Test Report refer or relates only as the job under some 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 escept the information which is provided by the client. The Report cannot be reproduced except in fail and any part of the report is not taken out of context, without prior written approach of the Laboratory. The Report is full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unsustainted alteration & (abification of the Management of the Test Report is unlawful and offenders may be prosecuted to the fallest extent of the law. All the samples are retained for filled of release/issue of the Test Report. The samples from the Date of release/issue of the Test Report in the Date of Test Report relatives/issued. After the time period stated before, no complaints will be accepted. The entire Time schodule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDI. (Below Detection Limit), LDI. (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20A4ECE97130124

ENGINEERING SERVICES PVT. LTD.

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/3388	Report Release Date	: 24.06.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001339F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3839 : Near Paintoli Village Serengdag-A Bauxite Mines (155.81ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 17.06.2024 to 18.06.2024 : 20.06.2024
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 20.06.2024 to 24.06.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

MI	ETEOROLOGICAL INFORMA	TION			
1	Average Temperature (°C) 3	8	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%) : 5	9	4	Weather Condition	: Clear

Discipline: (Chemical	Group: Atm	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23); 2022	69	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part-24): 2019	38	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	1S 5182 (Part- II/Sec- 1); 2023	11.2	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	23.8	80 (24hrs)		
Ozone (O ₂)	μg/m²	15 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	μg/m²	IS 5182 (Part- 22): 2019	0.005	1 (24hrs)		
Nickel (Ni)	ng/m ⁵	15 5182 (Part+ 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		

Page | of 2

The Document stated as Test Report, is unused by the Laboratory under General Terms and Conditions, only on Conspany 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 referes the information of the provided by the claim. The Report cannot be reproduced except to full and any part of the report is not taken out of contest, without prior written approval of the Laboratory. The Report is full or in part shall not be published, adverture, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the fundation of liability, compensation and jurisdiction issues. Any unusubserved abstracts of the Test Report is unlessful and inferedors may be prosecuted to the follows extent of the law. All the samples are retained for follows from the One of research space and the Test Report in the amplies from Regulatory bodies are to be retained as specified. Any type of Observations or Complianto reputring the Reports shall be done writin 15-days from the Date of Test Report reference issued for Management and before, no compliants will be accepted. The antitive Time schedule mentionness on Test Report is in 34-hours format. Abbreviation used: N/A (Not Applicable), BDJ. (Relow Describes Lemit), LDI. (Lower Detection Limit)



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

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/3388	Report Release Date	: 24.06.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

ULR No. : TC135872400001339F

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C_6H_6)	ug/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0,5	01(Annual)	

AKASH KUMAR Quality Managar ELES PVT. LTD

****End of Report****

Dr. Deependra Kumar Sinha.
Ph. D Environmental Engg.
ELES Pvt. Ltd. Technical Manager

Page 2 of 2

The Document stated as Test Report, is assued 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 in the jubismaly/in done by the Laboratory only. The information stated on the Test Report reflects the fieldings 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 unfers prior permission has been vectured from the Management of the Laboratory Artention is drawn to the limitation of liability, compensation and jurisdation issues. Any unimbersed alteration & fails fication of the content of the Test Report is unlawful and offenders may be prosecuted to the failest extent of the law. All the samples are resumed for Modays from the Date of release/issue of the Test Report is unlawful and offenders are to be returned 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 pursod stated before, no complaints will be accepted. The emite Time schedule mentioned in Test Report is in 24boars format. Abbreviation used: N/A (Not Applicable) Bibl. (Below Describes Limit). LDt. (Lower Detection Limit)

CONTENT

	Hindalco Industries : Shrengdag A Bauxite Mine Environmental Monitoring Report July2024
	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 Banjari Village
2	Near Paiari Village
3	Near Harup Village
4	Near Paintoli Village





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

ENGINEERING SERVICES PUT, LTD

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

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



PL-FIRM

TEST REPORT

Test Report No.	: ELES/RNC/2024/4137	Report Release Date	: 24.07.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002072F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/4736 : Near Weigh Bridge, Serengdag-A Bauxite Mines (155.81ha)	
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 16.07.2024 to 17.07.2024 : 19.07.2024	
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 19.07.2024 to 24.07.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
T	Average Temperature (°C) : 29	2	Barometric Pressure (mm)	Hg) = 740
3	Relative Humidity (%) : 66	4	Weather Condition	: Cloudy

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	72	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	39	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-II/Sec- 1); 2023	12.5	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5)82 (Part- 6): 2022	27.3	80 (24hrs)	
Ozone (O ₃)	µg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)	
Ammonia (NH ₁)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22); 2019	0.021	I (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

The Document stand as Test Report is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the jubianalysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory in the time of tovolsoment only setd within the limits of client's estructions. The Laboratory is responsible for all the esformation 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 provided approval of the Laboratory. The Report in full or in part shall not be published, advertuse, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention in drawn to the limitation of liability, compensation and jurisdiction issues. Any unsudorized alternation & falsification of the regions of the Test Report is unlawful and offenders may be presecuted in the fallest extent of the law. All the samples are retained for 30 days from the Data of release issue of the Test Report. The samples from Regulatory bodies are to be recained as specified. Any type of Observations or Complianta regarding the Reports shall be done within Usdays from the Data of Test Report is in 24 hours format. Abhreviation used. N/A (Not Applicable), BDI. (Helow Detection Limit). LDI. (Lower Detection Limit)



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO--20AAECE87130124

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/4137	Report Release Date	: 24.07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28,03,2024	
TILR No.	· TC135872400002072F			

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₅ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)	

Reviewed by AKASH KUMAR Quality Manager ELES PVT, LTD

****End of Report***

Dr. Deependra Kumar Sinha
Ph. D Environmental Engg.
ELES Pvt. Ltd. Technical Manager

Page 2 of 2

The Disciment stated as Text Report, is issued by the Laboratory taider General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Text Report refer or retines only in the informations dote by the Laboratory mily. The information stated on the Text Report reflects the findings done by the Laboratory in the time of involvement only and within the limits of client's instructions. The Laboratory in 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 enless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of lability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Text Report is enlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for Možays from the Date of release/vision of the Text 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 Text Report is an 2-shared for the time period shared before, on complaints will be accepted. The entire Time schedule mentioned in Text Report is an 2-shared format. Abbreviation used NA (Not Applicable), BDI. (Bessor Detection Limit), LDI. (Lorser Detection Limit).



ENVIRON/MENTAL LABORAT

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

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

Website: www.elespl.co.in



TC-taker

TEST REPORT

Test Report No.	: ELES/RNC/2024/4138	Report Release Date	; 24.07,2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002073F		

CUSTOMER DET	CUSTOMER DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/4737 : BKB Quarry, Serengdag-A Bauxite Mines (155.81ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 16.07.2024 to 17.07.2024 1 19.07.2024
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 19.07,2024 to 24.07,2024	Sampling Done By Sample Condition	; ELES Pvt. Ltd. ; Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 29	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%) : 66	4	Weather Condition	: Cloudy

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	50	100 (24hrs)	
Particulate Matter (PM2,5)	µg/m³	IS 5182 (Part- 24): 2019	27	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- II/Sec- 1): 2023	8.8	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	(\$ 5182 (Part- 6): 2022	20.2	80 (24hrs)	
Ozone (O ₃)	µg/m³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₂)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m [®]	IS 5182 (Part- 22): 2019	0.011	1 (24hrs)	
Nickel (Ni)	ng/m1	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01; 2021	<2.0	06 (Annual)	

Page 1 of 2

The Decement stated as Test Report, is asseed by the Laboratory under General Terms and Conditions, only on Company letter fixed in pre-approved format. The results shows in the Test Report refer or tolates only to the jubiantlysts done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laborators at the zone of involvement only and within the limits of client's insuractions. The Laboratory is responsible for all the information or data provided on the expect. except the information which is provided by the client. The Regard cannot be reproduced except to full and any part of the report is not taken and of context, without price written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless proce permission has been secured from the Management of the Laboratory. Attention is drawn to the function of liability, compression and paradiction issues. Any unauthorized alteration & Inhibitional of the content or appearance of the Test Report is unlawful and offenders may be prosecuted in the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retinated as specified. Any type of Observations or Complaints regarding the Reports shall be done within 1 ldays from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24 hours format. Abbreviation used: N/A (Not Applicable), BDI. (Below Detaction Limit). LDI. (Lower Detaction Limit)



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

ENGINEERING SERVICES PVT. LTD

Email: info@elespi.co.in , eles.ranchi@amaii.com

Phone na.: 0651-2290103 Website: www.elespl.co.in



TEST REPORT

ULR No.	: TC135872400002073F	Work Order Date	. AUTOMATA	-
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
Test Report No.	: ELES/RNC/2024/4138	Report Release Date	: 24.07.2024	

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by

AKASH KUMAR Quality Managar ELES PVT. LTD. ****End of Report****

Dr. Deependra Kumar Sinha
Ph. D Environmental Engg.
ELES Pvt. Ltd. Technical Manager

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The sesuits 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 refers 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 contest, without prior written approval of the Laboratory. The Report is that for in part shall not be published, advertise, used for any legal amons unless prior permusion has been secured from the Management of the Laboratory. Attention is drain to the lumination of liability, comprehension and jurisdiction issues. Any unauthorized alteration & falsification of the current or appearance of the Test Report is unlawful and offiniders may be prosecuted to the follow extent of the law. All the samples are retained for 30days from the Date of release/scale of the Test Report. The samples than Regulatory bothes are to be retained as specified. Any type of Observations or Complaints regarding the Report shall be done within 15days from the Date of Test Report released/issued. After the cine puriod 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), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD

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

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



10-11587

TEST REPORT

Test Report No.	: ELES/RNC/2024/4139	Report Release Date	: 24.07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400002074F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/4738 : Mine Pit Quarry No.2A, Serengdag-A Bauxite Mines (155.81ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 16.07.2024 to 17.07.2024 : 19.07.2024 : Ambient Air	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	: 19.07.2024 to 24.07.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 29	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%) : 66	4	Weather Condition	: Cloudy

Discipline: (Chemical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	62	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	33	60 (24ters)	
Sulphur Di-Oxide (SO ₂)	μg/m³	1S 5182 (Part-11/Sec-1); 2023	9.6	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m ²	IS 5182 (Part- 6): 2022	22.4	80 (24hrs)	
Ozone (O ₅)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₂)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m	1S 5182 (Part- 22): 2019	0.013	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

The Document stoled as Test Report is issued by the Laboratory under Octional 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 intelligence done by the Laboratory only. The information stated on the Test Report reflects the floatings done by the Laboratory at the time of involvement only and within the limits of closer's instructions. The Laboratory is responsible for all the information or data provided on the report, escept the information which is provided by the elicit. 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 secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and provide out. Any unauthorized alternation of the comment of the Test Report is unlowful and infrenders may be prosected in the fullest extent of the law. All the samples are retained for Maloys from the Date of indexwiseous of the Test Report. The samples from Regulatory besties are to be retained as specified. Any type of Observations of Complaints regarding the Report shall be dated within 15 days, from the Date of Test Report released/issued. After the time period stand before, no complaints will be accepted. The entire I me schedule management is in 24 hours format. Abbreviation used: N/A (Not Applicable): BDI. (Below Described I amit). LDI. (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD

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

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



10-1358

TEST REPORT

Test Report No.	; ELES/RNC/2024/4139	Report Release Date	: 24.07.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002074F		

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)	μg/m ^T	ELES/GC/SOP/06; 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)	

AKASP KUMAR Quality Managur ELES PVT LTD

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha Ph. D Environmental Engg. ELES Pvt. Ltd. Technical Manager

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report reflects the fluidings 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, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory Attention is drawn to the laboratory of the provided in the Information of the Test Report is unlawful and offenders may be processed to the fallest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bedies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15 days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule membered in Test Report is in 24boxes format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20A46CE9713D124

ENGINEERING SERVICES PVI. LTD

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/4140	Report Release Date	: 24.07.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002075F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/4739 : Mine Pit Quarry No.2B, Serengdag-A Bauxite Mines (155.81ha)	
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 16.07.2024 to 17.07.2024 : 19.07.2024 : Ambient Air	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	19,07,2024 to 24,07,2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 29	2	Barometric Pressure (mm)	lg) :740
3	Relative Humidity (%) : 66	4	Weather Condition	: Cloudy

Discipline: 0	Chemical	Group: Atm	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part- 23): 2022	59	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	15 5182 (Part- 24): 2019	28	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- II/Sec- 1): 2023	7.1	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	22.2	80 (24hrs)		
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.012	1 (24hrs)		
Nickel (Ni)	ng/m³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		

Page 1 of 2

The Document stated as Test Report is assent 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-postlysis done by the Laboratory only. The information stated on the Test Report refers the formation of data provided by the Laboratory at the time of investment only and within the limits of client's instructions. The Laboratory is responsible for all the information of data provided on the report except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken on in custom, without provided in the Laboratory. The Report is full or in part shall not be published, advertises, used for any legal actions unless provided must be customed in the Laboratory. Attention is during the distriction of the laboratory of the laborator



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

ENGINEERING SERVICES PVT. LTD

Email: [nfo@elespl.cq.in , eles.ranchi@gmail.com

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



TEST REPORT

Test Report No. : ELES/RNC/2024/4140 Report Release Date : 24.07.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400002075F

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₈)	µg/m¹	ELES/GC/SOP/06: 2023	<2.5	05(Armual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

AKASH KUMAR Quality Managar ELES PVT LTD

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha Ph. D Environmental Engg. ELES Pvt. Ltd. Technical Manager

Page 2 of 2

The Discussion in the Test Report refer or relates only to the Johannitysis done by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved Johann. The results shown in the Test Report refer or relates only to the johannitysis done by the Laboratory only. The information stated on the Test Report reflects the findings alone by the Laboratory at the time of involvement only and within the limits of cheet'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 secured from the Management of the Laboratory. Attention is drawn to the limitation of Inhility, compensation and jurisdiction issues. Any unauthorized alteration 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 30days from the Date of releases 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/nated. After the time period stated before, to complaints will be accepted. The entire Time schedule transferred in Test Report is in 24bours format. Abbreviation used. N/A (Not Applicable), BDI (Below Detection Limit). LDI (Lower Detection Limit)



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

ENGINEERING SERVICES PVT. LTD.

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

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



TO-HISSEY

TEST REPORT

Test Report No.	: ELES/RNC/2024/4141	Report Release Date	: 24.07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28,03.2024	
ULR No.	: TC135872400002076F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/4740 : Near Banjari Village Screngdag-A Bauxite Mines (155.81ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 16.07.2024 to 17.07.2024 : 19.07.2024	
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 19.07.2024 to 24.07.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 29	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%) : 66	4	Weather Condition	: Cloudy

Discipline: 0	Chemical	Group: Atm	ospheric Pollu	ition
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	15 5182 (Part- 23); 2022	55	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	29	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	1S 5182 (Part- II/Sec- 1): 2023	8.3	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m ¹	IS 5182 (Part- 6): 2022	22.7	80 (24hrs)
Ozone (O ₃)	μg/m³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₂)	μg/m [*]	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.007	1 (24hrs)
Nickel (NI)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m²	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

The Decement stated at Test Report is usual by the Laboratory under General Terms and Conductors, only on Company letter head in pre-approved format. The results shown to the Test Report refer or referent only in the job/analysis done by the Laboratory serly. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and writes the lumin of client's instructions. The Laboratory is responsible for all the information of data provided on the report, except the information which is provided by the client. The Report current be reproduced except in full and any part of the report is not taken one of critical sortion approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Mannatament of the Laboratory Attention is drawn to the limitation of labelity, compression and jurisdiction issues. Any unautherized alternation & falsification of the content or appearance of the Test Report is unlessful and effenders may be prosecuted to the falsification is successful and offenders may be prosecuted to the falsification of the law. All the samples are retained for Midney from the Date of release/assue of the Test Report. The samples from Regulatory bodder 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/assued. After the same period stated before, no complaints will be accepted. The same Time subschale nucleased before, the Content of Laboratory Date Date Observation Limit.



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

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

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



70.12587

TEST REPORT

Test Report No.	: ELES/RNC/2024/4141	Report Release Date	: 24.07.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002076F		

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C ₀ H ₀)	ug/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³.	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)

Reviewed by

AKASH KUMAR Quality Manager ELES PVT. LTD.

End of Report

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

Page 2 of 2

The Document stated as Test Report, is assued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shows in the Test Report refer or relates only to use job/analysis done by the Laborstory 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 centext, without price scriften approval of the Laboratory. The Report is full or in part shall set be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized attention & fulsification 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 numbers are retained for Kidnys from the Date of release/time of the Test Report. The samples from Regulatory hodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall he dame within 15days from the Disc 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 (Net Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit)



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

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/4142	Report Release Date	; 24.07.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03,2024
ULR No.	: TC135872400002077F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	ELES/RNC/2024/AA/4741 Near Pauri Village Screngdag-A Bauxite Mines (155.81ha)
Address	Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	; 16.07,2024 to 17.07.2024 : 19.07,2024
Mines Status	- Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 19.07.2024 to 24.07.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 29	3	Barometric Pressure (mmHg)	±740
-	Relative Humidity (%) : 66	4	Weather Condition	Cloudy

Discipline: 0	hemical	Group: Atm	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μ <u>u</u> /m³	IS 5182 (Part- 23); 2022	59	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	.32	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- II/Sec- 1): 2023	9.4	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6); 2022	22.8	80 (24hrs)	
Ozone (O ₅)	μg/m ⁸	18 5182 (Part- 9); 2019	<20.0	100 (8hrs)	
Ammonia (NH ₁)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	15.5182 (Part- 22); 2019	8.007	1 (24hrs)	
Nickel (Ni)	ng/m ³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m²	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

The Document stated as Test Report is insuled by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved formin. The results shown, in the Test Report refer to relate social to the Johannalysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory of the information of the Internation of International In



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

ENGINEERING SERVICES PVT. LTD.

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

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



TC-hisk?

TEST REPORT

Test Report No.	: ELES/RNC/2024/4142	Report Release Date	: 24.07,2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002077F		

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C ₆ H ₆)	ug/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

AKASH KUMAR Quality Manager ELES PVT LTD

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha Ph. D Environmental Engg. ELES Pvt. Ltd. Technical Manager

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only in Contrarny lengt head to pre-approved format. The results shown to 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 region, except the information which is provided by the client. The Report named be reproduced except to full and any part of the report is not taken out of contact, without prior written approval of the Laboratory. The Report is full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the immission of liability, compensation and jurisdiction essues. Any unsurfaceted afternation & falsification of the content of appearance of the Test Report is unlawful and offenders may be protected to the fullest extent of the law. All the samples are retained for Jodays from the Date of referencement of the Test Report. The samples from Regulatory butters are to be retained in specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issaud. After the time period stated before, no complaints will be accepted. The entire Time schedule mentanced in Test Report is in 24baura spenial. Abhreviation uses: Ni A (Nos Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/4143	Report Release Date	t 24.07,2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002078F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	- Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/4742 : Near Harup Village Serengdag-A Bauxite Mines (155.81ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 16.07.2024 to 17.07.2024 : 19.07.2024
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	19.07.2024 to 24.07.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

ME	TEOROLOGICAL INFORMATION			
1	Average Temperature (%) : 29	2	Barometric Pressure (mmHg)	: 740
_	Relative Humidity (%) : 66	4	Weather Condition	: Cloudy

Discipline: (hemical	Group: Atm	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	JS 5182 (Part- 23): 2022	51	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	25	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part- II/Sec- 1): 2023	6.5	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	18.1	80 (24hrs)		
Ozoné (O ₂)	μg/m³	15 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH ₁)	μg/m³	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monaxide (CO)	mg/m [†]	IS 5182 (Part-10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	(S 5182 (Part- 22): 2019	< 0.002	1 (24hrs)		
Nickel (Ni)	ng/m³	1S 5182 (Part+ 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m ²	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		

Page 1 of 2

The Document states as Test Report, is issued by the Luboratory under Gorsen's Terms and Conditions, only un Company letter head in pre-approved format. The results shown in the Test Report referent the findance done by the Luboratory as the time of involvement only and within the limits of client's instructions. The Luboratory is responsible for all the information of data provided on the report, except the information which is provided by the elient. The Report cannot be reproduced except in full and any part of the Luboratory. The Report is full of the Luboratory of the Luboratory. The Report in full of the purity of the Luboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction instant. Any consultantized affectation of the Conference of the Test Report is unlessed into a determined of the full report is unlessed from Regulatory business and the fullest extent of fine law. All the samples are rotated for Stokaye from the Date of the Test Report. The samples from Regulatory business are to be recaited as specified. Any type of Orservations or Complaints regarding the Report shall be done within 15 days from the Date of Test Report releases/smed. After the care partial shelder to complaints will be accepted. The cutter I me straight mentalized in Test Report is in 24 hours format. After the care partial shelder before no complaints will be accepted. The cutter I me straight mentalized in Test Report is in 24 hours format. After the care partial shelder before no complaints will be accepted. The cutter I me straighted mentalized in Test Report is in 24 hours format. After the care partial sheld before no complaints will be accepted. The cutter I me straighted mentalized in Test Report is in 24 hours format. After the care partial sheld before the complaints will be accepted.



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

ING SERVICES PVT. LTD.

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

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



TEST REPORT

Report Release Date : 24,07,2024 : ELES/RNC/2024/4143 Test Report No. ± 28.03.2024 Work Order Date Work Order No. : 13612312113

: TC135872400002078F ULR No.

Discipline: Chemical		Group; Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C,H,)	µg/m ¹	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ¹	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

AKARTIPROMAR

Quality Manag_r FLES PVT LTD. ***End of Report***

Dr. Deependra Kumar Sinha Ph. D Environmental Engg.

ELES Pvt. Ltd. Technical Manage

Page 2 of 2

The Document ented to Test Report, is insued by the Laboratory under General Terms and Conditions, only in Company letter head in pre-approved format. The results shown in the Tun Report refer as relates only to the job/analysis done by the Laboratory only. The information straid on the Tun 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 to 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 secored from the Management of the Laboratory Assention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & felsefication of the content or appearance of the Test Report is unlawful and affendors may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/essay of the Test Report. The number from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Report school be during within 15days from the Date of Test Report released/assaid. After the time period stated before, an complaints will be accepted. The entire Time schoolmentioned in Test Report is in Jahours format. Abbreviation used: WA (Nat Applicable), BDL (Below Descenan Limit). LDL (Lower Descenan Limit)



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

ENGINEERING SERVICES PUT. LTD

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/4144	Report Release Date	: 24.07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400002079F			

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/4743 : Near Paintoli Village Screngdag-A Bauxite Mines (155,81ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 16.07.2024 to 17.07.2024 : 19.07.2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 19.07.2024 to 24.07.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

Mi	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) . 29	12	Barometric Pressure (mmHg	:740
3	Relative Humidity (%) : 66	4	Weather Condition	: Cloudy

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	1S 5182 (Part- 23): 2022	61	100 (24hrs)
Particulate Matter (PM2.5)	µg/m²	IS 5182 (Part- 24): 2019	32	60 (24hrs)
Sulphur DisOxide (SO ₂)	μg/m ³	IS 5182 (Part-11/Sec-1): 2023	8.9	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	22.1	80 (24hrs)
Ozone (O ₁)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₅)	μg/m³	1S 5182 (Part- 25); 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS-5182 (Part-10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m"	IS-5182 (Part- 22): 2019	0.008	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

The Discinness search is Test Report, a tested by the Laboratory arrive General Terms and Conditions, only on Company letter head in pre-approved format. The results shaped on the Test Report reflects the individual state of involvement only and within the forms of client's instruction. The Laborators is responsible for all the information or data proyided on the report occept the minimum on which is provided by the client. The Report cases to reproduced except in fall and any part of the report is not taken only of context, without previously of the Laboratory. The Report in fall or in part shall not be published advertise, used for any legal accurate arrives prior permission has been sequired from the Management of the Laboratory. Attention is drawn to the formation of liability compensation used arrival above. Any anauthorized attenuance, (illustration of the content of appearance of the Test Report is unknown and offenders may be presecuted to the fallest extent of the law. All the samples are retained for Sidays from the Date of Petalogous of the Test Report is unknown and offenders are to be normally as specified. Any type of Observations or Complaints regarding the Report shall be done within Lidays from the Date of Test Report reflects determined and NA (Not Applicable). BED. (Below Descripe Limit 13X) (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD

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

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



TE-UNET

TEST REPORT

Test Report No.	: ELES/RNC/2024/4144	Report Release Date	: 24.07.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002079F		

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C ₆ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

AKASH KUMAR Quality Managur ELES PVT LTD

****End of Report****

Dr. Deependra Kumar Sinha
Ph. D Environmental Engg.

ELES Pvt. Ltd. Technical Manager

Page 2 of 2

The Discussion usual 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 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 reportation for 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 secured from the Management of the Laboratory. Attention is drawn to the imitation of liability, compensation and jurisdation usues. Any unusufforcing alteration & faintification of the content of the Test Report is unliability and offenders may be prosected to the fullest extent of the law. All the samples are returned for 30 days from the Date of telesse lange of the Test Report. The samples from the Date of telesse lange of the Test Report in the Report released/image. After the time period stated before, no complaints regarding the Reports shall be done within 15 days from the Date of Test Report released/image. After the time period stated before, no complaints regarding the Reports of the samples are returned for Test Report in a Salvaya formus. Attribution used: N/A (Not Applicable), BDL (Release Detection Limit), LDL (Leoser Detection Limit).

CONTENT

	Hindalco Industries : Shrengdag A Bauxite Mine Environmental Monitoring Report August 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 Banjari Village
2	Near Pauri Village
3	Near Harup Village
4	Near Paintoli Village
	Drinking Water
	Effluent Water





PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAFCE9713D124

ENGINEERING SERVICES PVT. LTD.

Website: www.elespl.co.in

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



Test Report No.	: ELES/RNC/2024/4761	Report Release Date	; 22.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002680F		

TEST REPORT

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/5444	
		Location	: Near Weigh Bridge, Serengdag-A	
	Andrew Control of the		Bauxite Mines (155.81ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 12.08.2024 to 13.08.2024	
		Sample Received Date	: 14.08.2024	
	and the same of th	Type of Sample	: Ambient Air	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	: 14.08.2024 to 22.08.2024	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	14.08.2024 to 22.08.2024	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 27	2	Barometric Pressure (mml-	lg) :740
3	Relative Humidity (%) : 69	4	Weather Condition	; Cloudy

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	65	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	34	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-11/Sec-1): 2023	10.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	25.1	80 (24fers)
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	1S 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	1S 5182 (Part- 22): 2019	0.014	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

The Discontent stated as Test Report, is issued by the Laboratory under General Terms and Concinents, only on Company letter head in pre-approved format. The results shown in the Test Report refer of relates only to the jubiantilysis 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 secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the contant 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 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 he 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), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD

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

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



TEST REPORT

Test Report No. : ELES/RNC/2024/4761 Report Release Date : 22.08.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400002680F

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C6H6)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by

AKASH KUMAR Quality Manager ELES PVT, LTD ****End of Report****

Authorised Signatory
Dr. Deependra Kumar Sinha

Ph. D Environmental Engg.

ELES Pvt. Ltd. Technical Manager

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the oracle 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 convext, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unanthorized alteration & falsification of the content of appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extern of the law. All the samples are retained for idulated by 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 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), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

Website: www.elespi.co.in

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



TEST REPORT

Test Report No.	; ELES/RNC/2024/4762	Report Release Date	: 22.08.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400002681F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/5445 : BKB Quarry, Serengdag-A Bauxite Mines (155.81ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 12.08.2024 to 13.08.2024 : 14.08.2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	= 14.08.2024 to 22.08.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

MI	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	= 27	2	Barometric Pressure (mmHg)	; 740
3	Relative Humidity (%)	: 69	4	Weather Condition	: Cloudy

Discipline: 0	Chemical	Group: Atm	ospheric Pollu	tion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	43	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	22	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- II/Sec- 1): 2023	7.1	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	17.5	80 (24hrs)
Ozone (O ₃)	μg/m ⁷	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.007) (24hrs)
Nickel (Ni)	ng/m³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

The Document stated as Test Report is instead 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 jobiusalysis 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 secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction assues. Any unumbersee distribution of the content of 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 Midays from the Date of release/issue of the Test Report. The samples from Regulatory bodies see to be returned as specified. Any type of Observations or Complains regarding the Reports shall be done within Usdays from the Date of Test Report (eleased/issued, After the time period stated before, no complains will be accepted. The entire Time schedule mentioned in Test Report is in 24bours forest. Abbreviation used: N/A (Not Applicable), BDL (Below Desection Limit). DR. (Lower Detection Limit)



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

ENGINEERING SERVICES PVT. LTD.

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

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



TC-53587

TEST REPORT

Test Report No.	: ELES/RNC/2024/4762	Report Release Date	: 22.08.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
Control of the contro	The latest and the second second			

ULR No. : TC135872400002681F

Discipline	: Chemical	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Вепло-(а)-Ругене	ng/m³	ELES/GC/SOP/05; 2023	<0.5	01(Annual)		

AKASH KUMAR Quality Managar ELES PVT, LTD

****End of Report****

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

Page 2 of 2

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 or relates only to the job analysis done by the Laboratory only. The information strited 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 secured from the Management of the Laboratory. Attention is drawn in the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content of appearance of the Test Report is unlawful and offenders may be prosecuted to the fallest extent of the law. All the samples are related for 30days from the Date of release/source 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/sourced. 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). LDL (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE971301Z4

ENGINEERING SERVICES PVT. LTD.



Phone no.: 0651-2290103

Website: www.elespi.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2024/4763	Report Release Date	: 22.08.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400002682F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/5446 : Mine Pit Quarry No.2A, Serengdag-A Bauxite Mines (155,81ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 12.08.2024 to 13.08.2024 : 14.08.2024
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 14.08,2024 to 22.08,2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

MI	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 27	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 69	4	Weather Condition	: Cloudy

Discipline: 0	Chemical	Group: Atm	ospheric Pollu	ition
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	58	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	29	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- II/Sec- 1): 2023	7.3	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	19.5	80 (24hrs)
Ozone (O ₃)	μg/m³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	1S 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.009	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m²	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

The Documens stated as Tess Report, in could by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved forms. The results shown in the Test Report refer or relates only to the jobianalysis 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 cornext, without prior written approval of the Laborators. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory Ameriton is drawn to the limitation of Itability, compensation and surisdiction issues. Any unauthorized alteration & falsification of the content of 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 release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regulatory bodies are to be retained as specified. 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 24bours format. Abbreviation used: N/A (Not Applicable), BDI, (Below Detection Limit), LDI, (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No. : ELES/RNC/2024/4763 Report Release Date : 22.08.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400002682F

Discipline: Chemical		Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06; 2023	<2.5	05(Annual)		
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)		

AKASH KUMAR Quality Manager ELES PVT LTD

****End of Report****

Authorised Signatory
Dr. Deependra Kumar Sinha
Ph. D Environmental Engg.
ELES Pvt. Ltd. Technical Manual

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/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 repredicted except in full and any part of the report is not taken out of contest, without prior writen approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alternation & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the line. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are in 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/sessed. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24fours format. Abbreviation used N/A (Not Applicable). Biol. (Below Detection Limit), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD

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



Website : www.elespl.ca.in

TEST REPORT

Test Report No.	: ELES/RNC/2024/4764	Report Release Date	: 22.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002683F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/5447 : Mine Pit Quarry No.2B, Serengdag-A Bauxite Mines (155.81ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 12.08.2024 to 13.08.2024 ; 14.08.2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 14.08.2024 to 22.08.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

MI	ETEOROLOGICAL INFOR	MATION				
4	Average Temperature (°C)	: 27	2	Barometric Pressure (mmHg)	: 740	
3	Relative Humidity (%)	: 69	4	Weather Condition	: Cloudy	

Discipline:	Chemical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	55	100 (24hrs)	
Particulate Matter (PM2:5)	μg/m³	IS 5182 (Part- 24): 2019	24	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- II/Sec- 1): 2023	6.8	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part- 6): 2022	19.4	80 (24hrs)	
Ozone (O ₂)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH _s)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ⁵	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.009	1 (24hrs)	
Nickel (Ni)	ng/m³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2,0	06 (Annual)	

Page 1 of 2

The Decement 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 reflect only to the polyanalysis 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 post-ided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report is full or in part shall not be published, advertise, used for any legal actions 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 & full finders may be prosecuted to the fullest extent of the law. All the samples are retained of 30 days from the Date of release/issue of the Test Report is unlawful and offenders may be presecuted 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 Observances 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 a 24 hours 25 man. Abbreviation used. N/A (Non Applicable), BDL (Below Desection Limit), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/4764	Report Release Date	: 22.08.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
Selection Co.				

ULR No. : TC135872400002683F

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05; 2023	< 0.5	01(Annual)	

AKASH KUMAR Quality Manager ELES PVT. LTD.

****End of Report****

Dr. Denvironmental Engg
ELES Pvt. Ltd. Technical Mannost

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The miorimation 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 reposlaced except in full and any part of the report is not taken out of contest, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any fegal 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 & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fallest extent of the law. All the samples are retained for 30 days from the Date of release to the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15 days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24 hours format. Abbreviation used N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

Phone no.: 0551-2290103 Website: www.elespl.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2024/4765	Report Release Date	: 22.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002684F		

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/5448 : Near Banjari Village Serengdag-A Bauxite Mines (155.81ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 12.08.2024 to 13.08.2024 : 14.08.2024	
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 14.08.2024 to 22.08.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

M	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	.: 27	2	Barometric Pressure (mmHg)	2.740
3	Relative Humidity (%)	: 69	4	Weather Condition	: Cloudy

Discipline: 0	Chemical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	47	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	24	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part- II/Sec- 1): 2023	7.5	80 (24hrs)	
Nitrogen Di-Oxide (NO ₁)	µg/m³	IS 5182 (Part- 6): 2022	19,3	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Pan- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.006	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Condispons, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only so the jubianalysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory or 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 carries be reproduced except in full and any part of the report is not taken out of cornext, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory Attention is drawn to the limitation of labeling, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content of the Test Report is unlawful and offenders may be prosecuted to the falsification of the law. All the samples are retained for 30days 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 (fidays from the Date of Test Report released/issued After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned as Test Report in a 24hours format. Abbreviation used: N/A (Non Applicable), BIOL (Below Detection Limit). LDL (Lower Detection Limit)



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

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

: 28.03.2024

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



TEST REPORT

Work Order Date

Test Report No. : ELES/RNC/2024/4765 Report Release Date : 22.08.2024 Work Order No. : 13612312113

ULR No. : TC135872400002684F

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ¹	ELES/GC/SOP/05; 2023	< 0.5	01(Annual)	

AKASH KUMAR Quality Manager ELES PVT LTD

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha Ph. D Environmental Engg. ELES Pvt. Ltd. Technical Mannon

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 to pre-appeared format. The results shows 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 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, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized attention & 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 sampley are retained for 30days 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 Compliants regarding the Reports shall be done within 15days from the Duje of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Ten Report is in 24hours format. Abbreviation used: N/A (Not Applicable). BDL (Below Detection Limit). LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PUT. LTD.

Website: www.elespl.co.in

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/4766	Report Release Date	: 22.08.2024
Work Order No.	: 13612312113	Work Order Date	± 28.03.2024
ULR No.	: TC135872400002685F		

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/5449 : Near Pauri Village Serengdag-A Bauxite Mines (155.81ha)	
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 12.08.2024 to 13.08.2024 : 14.08.2024	
Mines Status	Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 14.08.2024 to 22.08.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 27	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 69	4	Weather Condition	; Cloudy

Discipline: (Chemical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	53	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	26	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- II/Sec- 1): 2023	7.8	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	20.1	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.005	1 (24lus)	
Nickel (Ni)	ng/m³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

The Document stated as Test Report is usual by the Luboratory under Gottern Terms and Conditions, only on Company letter head in pre-approved forms. The results shown in the Test Report refer or relates only to the job/ambyars done by the Luboratory only. The information stated on the Test Report reflects the findings done by the Luboratory at the time of involvement only and within the limits of client's instructions. The Luboratory 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 Luboratory. The Report in full or in part shall not be published advertise, used for any legal actions unless prior permission has been secured from the Management of the Luboratory. Attention is drawn to the lumination of liability, compensation and privately insistence of the Test Report is unlawful and offenders may be prosecuted to the follows determined and attendance of the Test Report is unlawful and offenders may be prosecuted to the follows. All the samples are retained for Bodays from the Date of Test Report is part of the results and the follows from the Date of Test Report in the samples from Regulatory budges are 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 not abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No. : ELES/RNC/2024/4766 Report Release Date : 22.08.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400002685F

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m²	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by AKASH KUMAR Quality Manager ELES PVT, LTD.

****End of Report****

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

Page 2 of 2

The Document stated as Test Report, is asseed 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, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of limitity, compensation and jurisdiction issues. Any unauthorized alteration & full-statement of appearance of the Test Report is unlawful and offenders may be prosecuted to the fallest exent of the law. All the samples are retained for 30 days from the Date of selection between the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Compliants regarding the Reports shall be done within 15 lays from the Date of Test Report released/issued. After the time period stated before, no compliants will be accepted. The entire Time schedule measured in Test Report is in 24 hours format. Abbreviation used N/A (Noi Applicable), BDE (Below Detection Limit), LDE (Lower Desection Limit).



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

ENGINEERING SERVICES PVT. LTD.

Website | www.elespl.co.in

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/4767	Report Release Date	: 22.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002686F		

CUSTOMER DET	CUSTOMER DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/5450
		Location	: Near Harup Village Serengdag-A Bauxite Mines (155.81ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 12.08.2024 to 13.08.2024
		Sample Received Date	: 14.08.2024
Andrew Street	Later second	Type of Sample	: Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	= 14.08,2024 to 22,08,2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION				
1	Average Temperature (°C) : 27	2	Barometric Pressure (mm)	Hg) : 740	
3	Relative Humidity (%) : 69	4.	Weather Condition	: Cloudy	

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	44	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	21	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part- II/Sec- 1): 2023	5.5	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	15.2	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₁)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	1S 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m ³	IS 5182 (Part- 22): 2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved formst. The results shown in the Test Report refer or relates only to the Jobianalysis done by the Laboratory only. The information saited on the Test Report reflects the findings done by the Laborators at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data growled 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 secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and paradiction issues. Any unsufficized alteration & falsification of the content of 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 Milays from the Date of release/issue of the Ten Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall he done within 15days from the Date of Test Report released/osseed. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours forms. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/4767	Report Release Date	: 22.08.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03,2024	
ULR No.	: TC135872400002686F	-		

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C _s H _s)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

AKASH KUMAR Quality Manager

ELES PVT. LTD

****End of Report****

Authorised Signatory
Dr. Deependra Kumar Simo...
Ph. D Environmental Engg.
ELES Pvt. Ltd. Technical Mana

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the jobranalysis alone 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 soltion the limits of chem's instructions. The Laboratory is responsible for all the information or data provided on the report, except inc 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 secured from the Management of the Laboratory. Attention is drawn to the fundation of liability, compensation and jurisdiction usuaes. Any unauthorized alteration & falsification of she coment or appearance of the Test Report is unlawful and offenders may be prosecuted as the fullist extent of the law. All the samples are retained for 30days 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 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule minimized in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Description Limit), LDL (Liwer Detection Limit).



PLOT NO-3D, MANSAROVAR ENCLAYE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D1Z4

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No.	; ELES/RNC/2024/4768	Report Release Date	: 22.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024

ULR No. : TC135872400002687F

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/5451 : Near Paintoli Village Serengdag-A Bauxite Mines (155.81ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 12.08.2024 to 13.08.2024 : 14.08.2024	
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	14,08,2024 to 22.08,2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	TEOROLOGICAL INFORMATION				
1	Average Temperature ("C) : 27	2	Barometric Pressure (mm	Hg) : 740	
3	Relative Humidity (%) ; 69	4	Weather Condition	: Cloudy	

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	53	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	26	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-11/Sec- 1): 2023	7.4	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	19.6	80 (24hrs)
Ozone (O ₃)	μg/m³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m ¹	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m²	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.006	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

The Document stated as Test Report is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relines only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory is 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 common 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 inless 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 & falsification of the content of appearance of the Test Report is unlawful and offenders may be prosecuted to the failest extent of the law. All the samples are retained for 30days 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 released/issued After the timp period stand before, no complaints will be accepted. The entire Time achievable mentioned in Test Report is a 24hours format. Abbreviation used N/A (Not Applicable), BDL (Below Detection Limit), LDL (Linver Detection Limit).



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

ENGINEERING SERVICES PVT. LTD

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

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



TEST REPORT

Test Report No. : ELES/RNC/2024/4768 Report Release Date : 22.08,2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400002687F

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ⁴	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by

AKASH KUMAR Quality Manager ELES PVT LTD. ****End of Report****

Dr. Deependra Kumar Sinha Ph. D Environmental Engg ELES Pvt. Ltd. Technical Manno

Page 2 of 2

The Document stated at 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 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 repredicted 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 onless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of Itability, compensation and jurisdiction issues. Any unauthorised alteration & following from the Date of release/issue of the Test Report is unlawful and offenders may be prosecuted to the full-security in the samples are retained for 30 days from the Date of release/issue of the Test Report is unlawful and offenders are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15 days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule minusoid in Test Report is in 24 hours format. Abbreviation used: N/A (Not Applicable). BDL (Below Detection Limit). LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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



TIG-1356

TEST REPORT

Test Report No.	: ELES/RNC/2024/4811	Report Release Date	: 24.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002730F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2024/DW/5453 : 13.08.2024 : 14.08.2024 : Drinking Water	
Address	: Lohardaga, Jharkhand-835302	Source of Sample Location of Sample	: R.O Water : Near Entrance Gate (Serengdag-A Bauxite Mines)	
Mines Status	; Operational	Sampling Procedure	: ELES/DOC/SMPL/01	
Period of Analysis	: 14.08.2024 to 24.08.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

Discipline : Chemical		Group:	Water		ory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
pH (at 24.6 °C)	~	APHA 24th Ed.2023, 4500-H	6.68	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 24 th Ed.2023, 2130 B	0.84	1.0	5.0
Taste	3	APHA 24th Ed.2023, 2160 C	Agreeable	Agreeable	Agreeable
Odour	rigin	IS 3025 (Part-5) :2018	Agreeable	Agreeable	Agreeable
Colour	Hazen	APHA 24th Ed.2023, 2120B&D	1.0	5.0	15
Total Dissolved Solids (TDS)	mg/L	APHA 24th Ed.2023, 2540B,C&D	55	500	2000
Chloride (as Cl)	mg/L	APHA 24th Ed.2023, 4500 Cl B	9.5	250	1000
Fluoride (as F)	mg/L	APHA 24th Ed.2023, 4500 F-D	BDL (DL: 0.1)	0.1	1.5
Total Alkalinity (as CaCO ₃)	mg/L	APHA 24th Ed.2023, 2320 B	11.0	200	600
Total Hardness (as CaCO ₇)	mg/L:	APHA 24th Ed.2023, 2340 C	19.3	200	600
Sulphate (as SO ₄)	mg/L	APHA 24th Ed.2023, 4500 SO ₄ -2-E	2.0	200	400
Nitrate (as NO ₃)	mg/L	APHA 24 th Ed.2023, 4500 NO ₅ -B	1.10	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 reflects 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 pain shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of leability, compensation and jourisdiction issues. Any unauthorized aftertains & 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 30days 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 15days from the Date of Test Report refersed/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). LDL (Lower Detection Limit)



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

ENGINEERING SERVICES PVT. LID.

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/2024/4811 Report Release Date : 24.08.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400002730F

Discipline: Chemic	al	Gro	ap: Water		ory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Phenolic Compound (as C _b H ₃ OH)	mg/L	IS 3025 (Part 43/Sec1): 2022	BDL (DL: 0.001)	0.001	0.002
Free Residual Chlorine (RFC)	mg/L	IS 3025 (Part-26): 2021	0.27	0.2(Min)	1.0(Min)
Calcium (as Ca)	mg/L	APHA 24th Ed.2023, 3500 Ca B	4.6	75	200
Anionic Surfactants (as MBAS)	mg/L	APHA 24th Ed.2023, 5540-C	BDL (DL: 0.025)	0.2	1.0
Discipline : Chemic	cal	Gre	oup : Residues i	n Water	
Aluminum (as Al)	mg/L	IS 3025 (Part-55) (2003; RA2019	BDL (DL: 0.02)	0.03	0.2
Arsenic (as As)	mg/L	IS 3025 (Part-37): 2022	BDL (DL; 0.005)	0,01	No Relaxation
Boron (as B)	mg/L	1S 3025 (Part-57): 2021	BDL (DL: 0.2)	0.5	1.0
Cadmium (as Cd)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.003)	0.003	No Relaxation
Total Chromium (as Cr)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.03)	0.05	No Relaxation
Copper (as Cu)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL; 0.03)	0.05	1.5
Cyanide (as CN)	mg/L	APHA 24th Ed.2023, 4500 CN-E	BDL (DL: 0.012)	0.05	No Relaxation
Iron (as Fe)	mg/L	APHA 24th Ed.2023; 3111B	0.073	1.0	No Relaxation
Lead (as Pb)	mg/L	APHA 24th Ed.2023; 3111B	BDL, (DL: 0.01)	0.01	No. Relaxation
Manganese (as Mn)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL; 0.05)	0.1	0.3
Mercury (as Hg)	mg/L	IS 3025 (Part-48): 2019	BDL (DL: 0.001)	100.0	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 as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter field in pre-approved format. The results shown in the Test Report refer or relates only in 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 of data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & fabrilication of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fulless extent of the law. All the samples are retained for 30days 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 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time substitute mentioned in Test Report is in 24boars format. Abbreviation used. N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.



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

TEST REPORT

: 24.08.2024 Report Release Date Test Report No. : ELES/RNC/2024/4811 : 28.03.2024 Work Order Date Work Order No. : 13612312113

: TC135872400002730F ULR No.

Discipline : Chemical		Group: Resid	ues in Water		ory Limit 0500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit	
Zinc (as Zn)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.1)	5.0	15	
Polynuclear Aromatic Hydrocarbons (PAH)	µg/L	ELES/GC/SOP/04: 2023	BDL (DL: 0.05)	0.1	No Relaxation	
Polychlorinated biphenyls (PCB)	μg/L	ELES/GC/SOP/03: 2023	BDL (DL; 0.1)	0.5	No Relaxation	
Pesticides				Li	mit	
Alachior	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)		20	
Atrazine	pg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	2	0.0	
Butachlor	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	125		
Chlorpyriphos	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	30		
Ethion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	3	3.0	
Malathion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	1	90	
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)	- 3	(,0	
Phorate	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	3	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 statud as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory is 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 secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized attention & latsification of the content or appearance of the Text 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 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 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 to Test Report to in 24hours formin. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit): LDL (Lower Detection Linuit)



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

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No. : ELES/RNC/2024/4811 Report Release Date : 24.08.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400002730F

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) (o,p DDE and p,p 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	Phalles a bad do see I
Escherichia coli (Qualitative)	Per 100 mL	IS 15185: 2021	Not Detected	Shall not be detected

Remarks: 1, pH and RFC done at Lab.

Reviewed by AKASH KUMAR Quality Manager

ELES PVT LTD

****End of Report****

Authorised Signatory
Dr. Deependra Kumar Sini III.
Ph. D Environmental Engs.
ELES Pvt. Ltd. Technical Manus

Page 4 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 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 vertices approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jorisdiction 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 retuned for 30days 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 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): BDI. (Below Detection Limit): LDI. (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2024/4811	Report Release Date	: 24.08.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2024/DW/5453 : 13.08.2024 : 14.08.2024 : Drinking Water	
Mines Status	: Operational	Source of Sample Location of Sample Sampling Procedure	: R.O Water : Near Entrance Gate (Serengdag-A Bauxite Mines) : ELES/DOC/SMPL/01	
Period of Analysis	: 14.08.2024 to 24.08.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

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

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

Reviewed by AKASH KUMAR Quality Manager

ELES PVT. LTD.

****End of Report****

Dr. Deependra Kumar Sinha Ph. D Environmental Enga ELES Pvt. Ltd. Technical Man

Page 1 of 1

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/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, adversise, 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 & fabrification 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 36days from the Date of release/usue 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): LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD

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

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



TC-1558T

TEST REPORT

Test Report No.	: ELES/RNC/2024/4813	Report Release Date	: 24.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002732F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2024/EF/5455 : 12,08.2024 : 14.08.2024 : Effluent Water	
		Source of Sample Sampling Procedure	: Serengdag-A Bauxite Mines (155.81 ha) : ELES/DOC/SMPL/01 : ELES Pvt. Ltd.	
Mines Status	: Operational	Sampling Done By	TO AND THE PROPERTY OF THE PARTY OF THE PART	
Period of Analysis	: 14.08.2024 to 24.08.2024	Sample Condition	: Sealed & Preserved	

Discipline : Chemical		Group: Pollution & Environment		Discharge Limits – CPC EPR, 1986 Schedule VI	
Parameter	Unit	Test Protocol	Result	Inland Surface Water	Land for Irrigation
pH (at 24.6°C)	-	APHA 24th Ed.2023,4500-H	6.46	5.5-9.0	5.5-9.0
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16): 2023	328	-	**
Total Suspended Solids (TSS)	mg/L	IS 3025 (Part-17): 2022	10.8	100	200
Dissolved Oxygen (DO)	mg/L	1S 3025 (Part-38): 2019	6.8	7	-
Biochemical Oxygen Demand (BOD) (at 27 °C for 3 days)	mg/L	IS 3025 (Part-44): 2023	5.4	30	100
Chemical Oxygen Demand (COD)	mg/L	IS 3025 (Part-58): 2023	38.4	250	-
Dissolved Phosphate (as P)	mg/L	1S 3025 (Part-31/Sec-1): 2022	BDL (DL: 0.5)	5.0	~
Fluoride (as F)	mg/L	IS 3025 (Part-60); 2019	0.585	2.0	1.5
Sulphide (as S)	mg/L	IS 3025 (Part-29): 2019	BDL (DL: 0.04)	2.0	100
Oil & Grease	mg/L	IS 3025 (Part-39): 2021	BDL (DL: 1.0)	10	10

Page 1 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information usated on the Test Report reflects the findings done by the Laboratory at the limit 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 tinken 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 permassion has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation, and jurisdiction issues. Any anauthorized 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 released/issued. After the time period stated before, no 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); LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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



TC-13587

TEST REPORT

Test Report No. : ELES/RNC/2024/4813 Report Release Date : 24.08.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400002732F

Discipline : Chemi	cal	Group: Residues in Water		Discharge Limits - CPCB EPR, 1986 Schedule VI	
Parameter	Unit	Test Protocol	Result	Inland Surface Water	Land for Irrigation
Lead (as Pb)	mg/L	APHA 24th Ed,2023, 3111 B	BDL (DL; 0.01)	0.1	700
Manganese (as Mn)	mg/L	APHA 24th Ed.2023, 3111 B	0.070	2.0	100
Mercury (as Hg)	mg/L	IS 3025(Part-48): 1994; RA2019	BDL (DL: 0.001)	0.01	+
Nickel (as Ni)	mg/L	APHA 24th Ed,2023, 3111 B	BDL (DL: 0.01)	3.0	And
Zinc (as Zn)	mg/L	APHA 24th Ed.2023, 3111 B	BDL (DL: 0.1)	5.0	***

Remarks: pH done at Lab.

AKASH KUMAR Quality Managor

ELES PVT. LTD.

****End of Report****

Dr. Deependra Kumar Sinita Ph. D Environmental Engg. ELES Pvt. Ltd. Technical Manager

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/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 of in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & fidsification of the content of appearance of the Test Report is inflawful and offenders may be prosecuted to the fullest extent of the law. All the samples are returned for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are so 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 (Nos Applicable): BDL (Below Detection Limit); LDL (Lower Detection Limit).

CONTENT

- 1	lindalco Industries: Shrengdag A Bauxite Mine Environmental Monitoring Report September 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 Banjari Village
2	Near Pauri Village
3	Near Harup Village
4	Near Paintoli Village
	AMBIENT NOISE
	WORKZONE NOISE
	Spring Water
1	Tongra Garha
	Stream Water
1	Up Stream (Kachaki Nadi)
2	Down Stream (Kachaki Nadi)
3	Down Stream (Kachaki Nadi) Up Stream (Serengdag Nadi) Down Stream (Serengdag Nadi)
4	Down Stream (Serengdag Nadi)



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

ENGINEERING SERVICES PVT. LTD.

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

Phone no.: 0651-2290103

Website: www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2024/5505	Report Release Date	: 28.09.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400003410F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	ELES/RNC/2024/AA/6351 Near Weigh Bridge, Serengdag-A Bauxite Mines (155.81ha)	
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 16.09.2024 to 17.09.2024 : 20.09.2024	
Mines Status	Operational	Type of Sample Sampling Procedure	: Ambient Air ELES/DOC/SMPL/02	
Period of Analysis	: 20.09.2024 to 28.09.2024	Sampling Done By Sample Condition	ELES Pvt. Ltd. Sealed & Preserved	

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature ("C)	3.29	1.2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 61	4	Weather Condition	: Clear

Discipline: Chemic	al	Group:	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μy/m³	IS 5182 (Part- 23): 2022	74	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	39	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1); 2023	11.8	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	µg/m³	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/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	µg/m¹	IS 5182 (Part- 22): 2019	0.18	1 (24hrs)		
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01; 2021	<2.0	06 (Annual)		
Benzene (C _c H ₆)	μg/m ⁵	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Benzo-(a)-Pyrene	ng/m ¹	ELES/GC/SOP/05: 2023	<0.5	01(Annual)		

Reviewed by Quality Managor

****End of Report****

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

reenmeat Manager

Page I of I

The Document round in Toro Report to Sound by the Lattermay under Commit Toron and Conditions, only on Company latter hand in pre-appropriat forms. The results shown in the Yant Report refer to relien only to the just analysis done by the Laboratory only. The information stated on the Cost Report reflects the Godings done by the Laboratory at the torse of involvement only and within the lines of client's instruction. The Laboratory is responsible for all the information or links provided in the expert, except the tellumination which is provided by the client. The Report manus be expressional recogn in full and use part of the rupor in our taken out of context, without prior written approval of the Laboratory. The Report in full or in part of the published. advertise, used for one legal access outlier peak permission has been secured from the Management of the Laboratory. Astertise is drawn to the Institutes of Inhibit, prosperation and introduction owards Amy strainformed alteration in Inhibit contents of the Innibit and officeriors may be presented as the follow content of the Innibit are content of the Innibit and officeriors may be presented as the follow of the Innibit and officeriors are to the Innibit and officeriors of the Innibit and officeriors are to be retained as specified. Any type of Observations or Complaints regarding the Report along the draw within 15thys from the Data of Total Report released agent. After the time, period stated before, in complaints will be accepted. The emiss Time schedule intermined in Total Repair in in 74hours format. Althreymous word: No A (Not Applicable), BDL (Bolow Dengtion Line): LDL (Lower Dengtion Line).



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

ENGINEERING SERVICES PVT. LTD.

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

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



TC-13667

TEST REPORT

Test Report No.	: ELES/RNC/2024/5506	Report Release Date	: 28.09.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400003411F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	; Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/6352 : BKB Quarry, Serengdag-A Bauxite Mines (155.81ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 16.09.2024 to 17.09.2024 : 20.09.2024 : Ambient Air	
Mines Status	: Operational	Sampling Procedure	1 ELES/DOC/SMPL/02	
Period of Amalysis	: 20.09.2024 to 28.09.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION			7.2
1	Average Temperature (°C)	: 29	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 61	4	Weather Condition	: Clear

Discipline : Chemic	al	Group:	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	51	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	25	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	5.7	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	µg/m³	15 5182 (Part- 6): 2022	16.2	80 (24hrs)		
Ozone (O ₂)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH ₁)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.003	1 (24hrs)		
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		
Benzene (C ₀ H ₀)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)		
				-		

Reviewed by

Quality Manager

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D. Environmental Engg

Page 1 of 1

Technical Manager

The procurem stand as Tash Sepect, a mound by the Laboratory under General Toron and Conditions, only or Company better hand as pre-approved format. The transits shown in the Tast Report reflects the findings shore by the Laboratory at the time of implement only and within the lambs of chart's interpretation. The Laboratory is transmitted for all the inference or show provided as the respect except the information which is provided by the observations. The Report materials are part of the respect to the findings are part of the report of the first provided by the observation of the Laboratory. The Report is the first provided by the observation of the Laboratory of the report of the first provided by the observation of the Laboratory of the report of the first provided adverses; used for any logal actions unline proviperation has been secured from the Management of the Laboratory. Amounts a drawn to the footness of the first provided and termine of fidelitation of the content of the content of the content of the content of the first provided and provided and provided and the first provided to the Laboratory of the content of the first provided and provided and the content of the first provided and provided and the first provided and the content of the second of the first provided and the content of the second of the first provided and the content of the second of the first provided and the content of the second of the first provided and the content of the second of the first provided and the content of the second of the first provided and the content of the second of the first provided and the content of the second of the first provided and the content of the second of the first provided and the content of the second of the first provided and the content of the second of the first provided and the content of the second of th



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

ENGINEERING SERVICES PVT. LTD.

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

Phone na.: 0651-2290103 Website: www.elespl.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2024/5507	Report Release Date	: 28.09.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400003412F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/6353 : Mine Pit Quarry No.2A,	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	Serengdag-A Bauxite Mines(155.81ha) : 16.09.2024 to 17.09.2024 : 20.09.2024	
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 20.09.2024 to 28.09.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

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

Discipline : Chemic	al	Group:	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	15 5182 (Part- 23); 2022	51	100 (24hrs)
Particulate Matter (PM2,5)	μg/m³	IS 5182 (Part- 24): 2019	24	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	6.1	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	1S 5182 (Part- 6): 2022	17.4	80 (24hrs)
Ozone (O ₃)	μg/m ¹	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₂)	μg/m³	1S-5182 (Part-25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m ²	IS 5182 (Part- 22): 2019	0.007	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m"	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C _s H ₆)	μg/m ³	ELES/GC/SOP/06: 2023	<2,5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by

****End of Report****

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

Page 1 of 1

Technical Manager

The Document stand at Test Report, is usually the Laboratory under General Torms and Conditions, only on Congruey least bead in gra-approved forms. The results doctors in the Laboratory with The information until no the Test Report reflects the findings show by the Laboratory at the term of construction of the laboratory at the term of construction with the beam of characters are supported in the tablestance. The Laboratory is responsible for all the information of date tapes, except the information which is provided by the client. The Report absorbed except on full and any part of the report is not indicated weather approved of the Laboratory. The Report in full and only part of the report is not indicated weather approved of the Laboratory. The Report in full and only part of the report is not indicated weather approved of the Laboratory. The Report in this of is a supply and substantial advantages in the Laboratory at the Laboratory of the supply and advantages of the Laboratory. Advantages in the laboratory of the content or approximate of the Laboratory. Advantages and the provided to the full to except of the law. All the samples are retained for Todays from the Date of Formation of the Too Report in Report in the stand sufficient way by provided to the full to except of the law. All the samples from heighting should be about a full formation of the Too Report in the same pound stand further, no compliants will be accepted. The arms: Time schedule numbered in Too Report in the Too Report in the Constitute Laboratory.



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

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/5508	Report Release Date	: 28.69.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003413F		

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/6354 : Mine Pit Quarry No.2B, Serengdag-A Bauxite Mines(155.81hn)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 16.09,2024 to 17.09,2024 : 20.09,2024	
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 20.09.2024 to 28.09.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION				
1	Average Temperature (°C)	:29	2	Barometric Pressure (mmHg)	; 740	
3	Relative Humidity (%)	:61	4	Weather Condition	: Clear	

Discipline : Chemic	al	Group:	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	59	100 (24hrs)		
Particulate Matter (PM2,5)	µg/m ¹	IS 5182 (Part- 24): 2019	28	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- 2/Sec1): 2023	5.4	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	23.1	80 (24hrs)		
Ozone (O ₃)	μg/m [±]	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	µg/m²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Ph)	µg/m²	IS 5182 (Part- 22): 2019	0.004	1 (24hrs)		
Nickel (Ni)	ng/m	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		
Benzene (C ₆ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)		

Reviewed by
Akaah Kumar

****End of Report****

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

Page 1 of 1

Technical Manager

The Discontent stand on Lieu Report is consent by the Laboratory seeder District Terms and Conditions, only on Company with head of pre-approved forms. The results shown in the Term Report action on trainers only to the judy-managest dense by the Laboratory only. The information stands on the Term Report reflects the findings done by the Laboratory or the terms of plants in a terms of plants in the provided on the report except the information which to provided by the colors and the terms of plants in the provided on the report except the information which to provided by the colors and the report of the Laboratory. The Report is full and any gast of the terms of the terms approved of the Laboratory. The Report is full or to part shall not be published, advantage, and he may be appropriate to the part by the plants of the laboratory of the Laboratory. Attention to depose to the Institute of Redulty, compensation and particularly management of the Laboratory. Attention to depose to the Institute of Redulty, compensation and particularly management of the Laboratory of the Laboratory of the Report is substituted to the Institute of Redulty, compensation and particularly management of the Laboratory of the Laboratory of the Report is substituted to the Institute of Redulty, compensation and particularly management of the Laboratory of the Laboratory of the Report of the Report of the Institute of the Institute of Redulty of the Institute of Redulty of the Institute of Redults of the Institute



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

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/5509	Report Release Date	: 28.09.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
and the sale	The latest the same of the sam			

ULR No. : TC135872400003414F

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/6355 : Near Banjari Village Serengdag-A	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	Bauxite Mines (155.81ha) : 16.09.2024 to 17.09.2024	
10.0	0	Sample Received Date Type of Sample Sampling Procedure	: 20.09.2024 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 20.09.2024 to 28.09.2024	Sample Condition	: Sealed & Preserved	

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

Discipline : Chemic	ent .	Group:	Atmospheric !	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	51	100 (24hrs)
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24): 2019	21	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	1S 5182 (Part- 2/Sec1): 2023	5.2	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part+ 6): 2022	16.7	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	15 5182 (Part- 22): 2019	0.006	1 (24hrs)
Nickel (Ni)	ng/m ⁷	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	μg/m²	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

A Reviewed by Quality Managar

****End of Report****

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

Page 1 of 1

Technical Manager

The Document many is Test Report, is inseed by the Laborary under General Towns and Conditions, only on Company letter band in pre-approved formed. The country drown in the Test Report refer or relates only to the principalities done by the Laboratory and a The information maked on the Test Report reflects the findings done by the Laboratory at the time of provincement only and within the Taxon of alters's multipations. 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 experiment except or full and any pair of the report to not indeed out of context, without prior written approval of the Laboratory. The Report in full or in pair shall not be published.

Adversion, used for any legal actions unless prior posteriories has been account them the Management of the Laboratory. Attention is drawn or the Sentition of Building, compensation and provided on issues. Air insection and attention & Friedlich into a context or approximate of the Tors Report is unlessful and offenders may be provided by the fallow exceed of the Lor. All the samples are terminal for hitteys from the Date of releasements of the Test Report. The temples from Begulatory bridges are to be commend as specified. Any type of Observations or Complaints regarding the Reports stial by done within 15days from the Disc of Test Report referred would After the two period mand before on complaints will be accepted. The critic their disc attended in Test Report to be I distance correct. Abbreviation meet No.A. (Not Applicable), 2011. (Below Streeting Limit), Lift (Lower Detection Limit)



PLOT NO-30, MANSAROVAR ENCLAYE, TUPLIDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:+20A4ECE9713D12M

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/2024/5510	Report Release Date	: 28.09.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400003415F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/6356	
		Location	Near Pauri Village Serengdag-A Bauxite Mines (155,81ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	± 16.09.2024 to 17.09.2024	
		Sample Received Date	: 20.09.2024	
	VT. 12	Type of Sample Sampling Procedure	- Ambient Air - ELES/DOC/SMPL/02	
Mines Status	: Operational	The state of the s		
Period of Analysis	: 20.09.2024 to 28.09.2024	Sampling Done By Sample Condition	: ELES Pvt, Ltd. : Sealed & Preserved	

M	ETEOROLOGICAL INFOR	MATION				
1	Average Temperature (°C)	:29	2	Barometric Pressure (mmHg)	: 740	
3	Relative Humidity (%)	:61	-4-	Weather Condition	: Clear	

al	Group: Atmospheric Pollution				
Unit	Test Protocol	Result	Regulatory Limit		
μg/m³	IS 5182 (Part- 23): 2022	58	100 (24hrs)		
µg/m³	IS 5182 (Part- 24): 2019	24	60 (24hrs)		
μg/m³	IS 5182 (Part- 2/Sec1); 2023	6.1	80 (24hrs)		
μg/m³	IS 5182 (Part- 6): 2022	18.4	80 (24hrs)		
μg/m³-	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
μg/m²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
mg/m³	IS 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (8hrs)		
μg/m³	IS 5182 (Part- 22): 2019	0.604	1 (24hrs)		
ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		
µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
ng/m	ELES/GC/SOP/05: 2023	<0.5	01(Annual)		
	μg/m³	Unit Test Protocol μg/m³ (S 5182 (Part- 23): 2022 μg/m³ (S 5182 (Part- 24): 2019 μg/m³ (S 5182 (Part- 24): 2023 μg/m³ (S 5182 (Part- 2/Sec1): 2023 μg/m³ (S 5182 (Part- 6): 2022 μg/m³ (S 5182 (Part- 9): 2019 μg/m³ (S 5182 (Part- 25): 2018 mg/m³ (S 5182 (Part- 10): 2019 (NDIR Method) μg/m³ (S 5182 (Part- 22): 2019 ng/m³ (S 5182 (Part- 22): 2019 ng/m³ (S 5182 (Part- 22): 2019 ng/m³ (S 5182 (Part- 22): 2020 ng/m³ (S 5182 (Part- 26): 2020 ng/m³ (S 5182 (Part- 26): 2021 μg/m³ (S 5182 (Part- 26): 2021	Unit Test Protocol Result μg/m³ IS 5182 (Part- 23): 2022 58 μg/m³ IS 5182 (Part- 24): 2019 24 μg/m³ IS 5182 (Part- 2/Sec1): 2023 6.1 μg/m³ IS 5182 (Part- 6): 2022 18.4 μg/m³ IS 5182 (Part- 9): 2019 <20.0		

Reviewed by

Quality Manager

****End of Report****

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

Page 1 of 1

Technical Manager

The Discountry stated as Year Report, in bound by the Laboratory scalar General Terms and Containing, only in Company letter hand in pre-approved format. The tendes shown in the Laboratory of the Containing season of the Report reflects the findings date by the Laboratory of the time of involvement only and within the lamin of containing manners of the approved of the report, except the information which is provided by the client The Report to the approved of the report of the Laboratory in this and any part of the Laboratory is except in this and any part of the Laboratory and any part of the Laboratory of the client the Report to the Laboratory and any part of the Laboratory. The Report is fail as the published salarying, and for any legal actions solved pair permission has been amounted than the Management of the Laboratory. Attention is the way to the immunous of liability, companious and application interest, and tendent of the fair and the containing of the Laboratory and application of the containing of the Laboratory and application of the containing of the Laboratory and applications are applicated and applications and applications are applicated and applications and applications are presented as a present of the law and the salary and applications are applied to the law and applications are applied to the law and applications are presented as a present of the law and applications are presented as a present of the law and applications are presented as a present of the law and applications are applied to the law and applications and applications are presented as a present of the law and applications are applied to the law a



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

ENGINEERING SERVICES PVT. LTD.

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

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



10:1344

TEST REPORT

Test Report No.	: ELES/RNC/2024/5511	Report Release Date	: 28.09.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400003416F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/6357	
		Location	: Near Harup Village Serengdag-A Bauxite Mines (155.81ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 16.09.2024 to 17.09.2024	
		Sample Received Date	: 20.09.2024	
	50 X X	Type of Sample	: Ambient Air	
Mines Status	; Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	: 20.09.2024 to 28.09.2024	Action by the bear and	: ELES Pvt. Ltd. : Sealed & Preserved	

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

Discipline : Chemic	al	Group:	Atmospheric l	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	50	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	25	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ¹	IS 5182 (Part- 2/Sec1): 2023	5.1	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m ³	IS 5182 (Part- 6): 2022	17,5	80 (24hrs)
Ozone (O ₃)	µg/m²	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	1S 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m [±]	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C6H6)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by

Alexante Kurnur

****End of Report****

Dr. Deelpeitala Skulling Sinha

Ph. D. Environmental Engg.

Page Lof I

Technical Manager

Page 1.01 I
The Document stated on Jean Report, in missed by the Labricatory order General Terms and Confidence, only on Company Jean hand in pre-appropriate forms. The control of the Report refers to the perhapsing states of the Labricatory of the Date information made on the Ten Report refers the Indiang state to the Labricatory is the time of tree-branch on the September of the Report refers the indiang state to pre-valued by the alternation of the Indiang state of the Labricatory. The Report refers to pre-valued by the alternation when the post-valued by the alternation when the pre-valued of the Laboratory. The Report is fulfill or in part shall not be published, subspices, sould be only began as fulfill or in part shall not be published, subspices, sould be only began as for the control of the contr



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

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/5512	Report Release Date	: 28.09.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400003417F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/6358
	A Thank Charles	Location	: Near Paintoli Village Serengdag-A
			Bauxite Mines (155.81ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 16.09,2024 to 17.09,2024
-100/00-		Sample Received Date	± 20,09.2024
		Type of Sample	: Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
		Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 20.09.2024 to 28.09.2024	Sample Condition	: Sealed & Preserved

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

Discipline : Chemic	al	Group:	Atmospherie !	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	57	100 (24hrs)
Particulate Matter (PM2,5)	µg/m³	IS 5182 (Part- 24): 2019	28	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1); 2023	6.1	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m ³	IS 5182 (Part- 6): 2022	17.3	80 (24hrs)
Ozoite (O ₂)	μg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hts)
Carbon Monoxide (CO)	mg/m²	IS 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m²	1S 5182 (Part- 22): 2019	0.005	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C _n H _n)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by

Akash Kumar

Quality Mirragor

****End of Report****

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

Page 1 of 1

Technical Manager

The Discussion stand as Lest Report, is issued by the Laboratory under General Lerms and Combining, only on Company lerns hand in pre-approved forms: The results shown as me feet flapointers of colors of the polyment of th



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

ENGINEERING SERVICES PVT, LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/5525	Report Release Date	: 28.09.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400003430F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sampling Date Sampling Received Date	: 16.09,2024 to 17.09,2024 : 20.09,2024	
Address	: Lohardaga, Jharkhand-835302	Type of Sample Sampling procedure Sampling Done By	: Ambient Noise : ELES/DOC/SMPL/03 : ELES Pvt. Ltd.	
Mines Status	: Operational	Period of Analysis	: 20.09.2024 to 28.09.2024	

M	ETEOROLOGICAL INFORMATIO	N		
1	Average Temperature (°C) : 29	2	Barometric Pressure (mml	lg) :740
3	Relative Humidity (%) : 61	4	Weather Condition	Clear

Discipline : Chemical	Group: Atmospheric Pollution				
Location	Unit	Test Protocol	Resu	ilt	Regulatory Limit (Industrial Zone)
Near Mine Office			Time	Leq	
Serengdag- A Bauxite Mines (155,81ha)	dB(A)	IS 9989: 2020	Day Time	67	75 dB(A) Day Time &
Sample ID: ELES/RNC/2024/AN/6371			Night Time	51	70 dB(A) Night Time



****End of Report***

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

Page 1 of 1

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 reflects the findings done by the Laboratory of the first control of 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, advertise, used for any legal actions unless prior permission has been recurred from the Management of the Laboratory Attention is drawn to the limitation of liability, compensation mid jurisdiction issues. Any usualtiorized alteration & fastification 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 30days 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 Compliants regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stored before, no compliants will be accepted. The entire Time schedule mentioned in Test Report is in 28hoors format. Abbreviation used: N/A (Not Applicable), 160%. (Below Detection Limit)



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

ENGINEERING SERVICES PVT. LTD.

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

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



TID-13887

TEST REPORT

Test Report No.	: ELES/RNC/2024/5529	Report Release Date	: 28.09.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003434F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sampling Date Sampling Received Date Type of Sample Sampling procedure Sample Drawn By	: 16.09.2024 : 20.09.2024 : Workzone Noise : ELES/DOC/SMPL/03 : ELES Pvt. Ltd.	
Mines Status	: Operational	Period of Analysis	: 20.09.2024 to 28.09.2024	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 27	2	Barometric Pressure (mmH	g) : 742
3	Relative Humidity (%) : 69	4	Weather Condition	: Rainy

Location	Unit	Test Protocol	Res	ult	Regulatory Limit (Industrial Zone)
Near Poclain —			Time	Leq	
Serengdag-A Bauxite Mines (155.81ha)	dB(A)	IS 4758; 2017	Day Time	76	90 dB (A)
Sample ID: ELES/RNC/2024/WN/6375			Day Time	70	



****End of Report****

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

Page 1 of 1

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions only on Company letter final in pre-approved format. The results shown in the Test Report selects 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 lame of involvement only and within the lambs of client's anstructions. 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 reported except in full and any part of the report is not taken out of context, without prior sentien approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the lamitation of liability, compensation and production issues. Any inhabitation of the context or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extern of the law. Any type of Observations or Complaints regarding the Reports shall be done within 15 days from the Dine of Test Report released/resized. After the time specified, Any type of Conservations will be accepted. The entire Time schedule mentioned in Test Report is in 24 format. Abbreviation used: N/A (Not Applicable) BISE (Below Descripto Limit), LEI (Lewer Descripto Limit).



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

ENGINEERING SERVICES PVT. LTD

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/5537	Report Release Date	: 28.09.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003442F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample Location of Sample	: ELES/RNC/2024/SW/6383 : 16.09,2024 : 20,09,2024 : Surface Water : Spring Water : Tengra Garha, Serengdag-A Bauxite Mine (155.81ha)	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01	
Period of Analysis	: 20.09,2024 to 28.09,2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

Discipline : Chemical		G	roup : Water	Tolerance Limits
Parameter	Unit Test Protocol		Result	as per 1S 2296-1992 Class C (Inland Surface Water)
pH (at 24.6 °C)		IS 3025 (Part-11): 2022	6.56	6.5-8.5
Colour	Hazen	IS 3025 (Part -4) ; 2021	3.0	300
Odour	-2	IS 3025 (Part-5) : 2018	Unobjectionable	-
Turbidity	NTU	IS 3025 (Part-10): 2023	1.08	-+
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16): 2023	70	1500
Total Alkalinity (as CaCO ₃)	mg/L	IS 3025 (Part-23): 2023	19.5	-
Total Hardness (as CaCO ₂)	mg/L	IS 3025 (Part-21): 2019	23.3	
Sulphate (as SO ₂)	mg/L	IS 3025 (Part-24/Sec1): 2022	BDL (DL: 1.0)	400
Chloride (as CI)	mg/L	IS 3025 (Part-32): 2019	11.6	600
Fluoride (as F)	mg/L	IS 3025 (Part-60): 2019	BDL (DL: 0.1)	1.5
Nitrate (as NO ₁)	mg/L	APHA 24th Ed.2023, 4500 NO ₃ -B	9.31	50

Page | 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 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 caunot be reproduced except in full and any part of the seport is not taken out of compat, without prior written approved of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions undess 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 alterations & falsification of the content or appearance of the Test Report is inflawful and offenders may be prosecuted in the fullest extent of the law. All the samples are retained for 30days 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 regulations 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 I time schedule mentioned in Test Report is in 24tours format. Abbreviation used. N/A (Not Applicable): BDI, (Below Observation Limit). EDI. (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD

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

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



TEST REPORT

Test Report No. : ELES/RNC/2024/5537 Report Release Date : 28.09.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400003442F

Discipline : Chemical		Group: Wa	ter	Tolerance Limits
Parameter	Unit	Unit Test Protocol		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)	
PhenoIs Compounds (as C ₀ H ₅ OH)	mg/L	1S 3025 (Part-43/Sec1); 2022	BDL (DL: 0.001)	0.005
Calcium (as Ca)	mg/L	IS 3025 (Part-40): 2019	3.11	(in)
Discipline: Cher	nical	Gre	oup : Residues	in Water
Aluminum (as Al)	mg/L	IS 3025 (Part-55): 2003;RA2019	BDL (DL: 0.02)	- a
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; 31)1B	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	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.03)	1,5
Iron (as Fe)	mg/L	APHA 24th Ed,2023; 3111B	0.234	50
Lead (as Pb)	mg/L	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.01)	0,1
Manganese (as Mn)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.05)	71
Mercury (as Hg)	mg/L	IS 3025(Part-48): 1994; RA2019	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 Decument stated in Test Report is issued by the Laboratory under General Terms and Conditions, only on Company lester hand in pre-approved formin. 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 finding 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 reportated except in full and any part of the report is not taken out of context, within prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Advantors is drawn to the limitation of liability, compensation and jurisdiction issues. Any insultionized alteration & laboratory 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 reclaimed & loadings from the Date of release/some of the Test Report. The samples from Regulatory bodies are to be retained in specified. Any type of Observations or Compilator regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before no compilators will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BER. (Below Detection Limit). LDL (Lower Detection Limit).



PLOT NO-30, MANSAROVAN ENCLAVE, TUPUDANA HATIA, RANCHI-834603 (IHARKHAND) 65T NO:- 20AAECE97130124

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No. : ELES/RNC/2024/5537 Report Release Date : 28.09.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400003442F

Discipline : Cher	mical	Group: Res	idues 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)	
Atrazine	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	les.
Butachlor	μg/L	ELES/GC/SOP/01: 2023	BDL (DL; 0.5)	-
Chlorpyriphos	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)	- 4
Methyl parathion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.1)	195
Monocrotophos	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	+
Phorale	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	19
Phorate Sulphone	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	-
Dieldrin	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.01)	1.5

Page 3 of 4

The Dissument 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 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 in full or in part shall not be published, observes used for any legal actions unless prior permission has been accorde from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alternation & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosequed to the liabest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained any specified. Any type of Observations or Complaints entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable): UOL (Below Detection Climit): LDL (Lower Descention Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No. : ELES/RNC/2024/5537 Report Release Date : 28.09.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400003442F

Pesticides				Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
АІрћа НСН	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.006)	14
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)	7-
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: Biolo	ogical	Gre	oup: Water	
Total Coliform	CFU/100 mL	IS 15185: 2021	1.86×10 ²	
Escherichia coll	CFLI/100 mL	IS 15185; 2021	BDL (DL: 1.0)	

Remarks: pH & REC done at Lab.

Reviewed by

****End of Report****

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

Page 4 of 4

The Document smed as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company latter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory andy. The information stated on the Test Report referes 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 in full or in part shall not be published, adventise, used for any legal actions unless prior permissions has been secured 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 Differ extent of the time. All the samples are retained for 10days from the Direct section in the done within 15days from the Date of Test Report released assued. After the time period stated before, no complaints will be accepted. The entire Time subsidies mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable); BDI. (Below Detection Limits; LDI. (Lower Detection Limits).



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

ENGINEERING SERVICES PVT. LTD.

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

1

TEST REPORT

Test Report No.	: ELES/RNC/2024/5537	Report Release Date	: 28.09.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date	: ELES/RNC/2024/SW/6383 : 16.09,2024	
Address	: Lohardaga, Jharkhand-835302	Type of Sample Source of Sample	: 20:09:2024 : Surface Water : Spring Water	
		Location of Sample	: Tengra Garha, Serengdag-A Bauxite Mine (155.81ha)	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01 : ELES Pvt. Ltd.	
Period of Analysis	; 20,09.2024 to 28,09.2024	Sampling Done By Sample Condition	: Scaled & Preserved	

Discipline : Chemical Group : Water			Tolerance Limits	
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Taste	4	APHA 24th Ed.2023, 2160C	N/A	-
Anionic Surfactants (as MBAS)	mg/L	APHA 24th 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: 0.01)	

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

las & Eng

Reviewed b

****End of Report****

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

Page | of I

The Document stated as Test Report, it issued by the Laboratory senior General Terms and Conditions, only on Company letter head to pre-approved format. The results shown in the Test Report reflects only to the prevalent done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory as 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 elicin. The Report cannot be reproduced except in full and any pair of the report is not taken one of context, without prior written approval of the Laboratory. The Report is full on the published advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Accetion is drawn to the limitation of liability, compression and president inside. Any around the resident or appearance of the Test Report is unlawful and offenders may be prosecuted to the fallon of the taw All the samples are retained for Status from the Date of released-based of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations of Complaints regurding the Report shall be done within 15days from the Pate of Test Report (eleased-bound. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Althoroughn used N/A (Not Applicable); BDL (Belows Detection Limit), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

Email: Info@elespl.co.in , eles.ranchi@amail.com

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



TG-13587

TEST REPORT

Test Report No.	: ELES/RNC/2024/5535	Report Release Date	: 28.09.2024	
Work Order No.	: 13612312113	Work Order Date	; 28.03.2024	
ULR No.	: TC135872400003440F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample Location of Sample	: ELES/RNC/2024/SW/6381 : 16.09.2024 : 20.09.2024 : Surface Water : Up Stream : Serengdag Nadi, Serengdag-A Bauxite Mines (155.81 ha)	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01	
Period of Analysis	: 20.09.2024 to 28.09.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Senled & Preserved	

Discipline : Chemical		· G	roup: Water	Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water
pH (at 24.6 °C)		1S 3025 (Part-11): 2022	6.57	6.5-8.5
Colour	Hazen	1S 3025 (Part -4): 2021	32.0	300
Odour	4	IS 3025 (Part-5) : 2018	Unobjectionable	77
Turbidity	NTU	1S 3025 (Part-10): 2023	82.2	-
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	43.4	**
Total Hardness (as CaCO ₂)	mg/L	1S 3025 (Part-21): 2019	54,4	h.
Sulphate (as SO ₄)	mg/L	IS 3025 (Part-24/Sec1): 2022	5.27	400
Chloride (as CI)	mg/L	IS 3025 (Part-32): 2019	14.5	600
Fluoride (as F)	mg/L	IS 3025 (Part-60): 2019	0.120	1.5
Nitrate (as NO ₃)	mg/L	APHA 24th Ed.2023, 4500 NO ₃ -B	1.29	50

Page 1 of 4

The Document stated as Test Report is assued by the Laboratory under General Terms and Conditions, only in Company letter head in pre-approved format. The results shown in the Test Report sefer or relates only to the job-landysis 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, advertise, used for any legal actions unless prior permission has been accored from the Management of the Laboratory. Attention is drawn to the limitation of lability, compression and jurisdiction towards Any unauthorized alternation & falsification of the content or appearance of the Test Report is inflawful and offenders may be prospensed to the falliest extent of the law. All the samples are retunned for 30 days from the Date of release/issue of the Test Report. The samples from Regulatory bedies use to be retained as specified. Any type of Observations or Complaints regulating 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 schedule manifold in Test Report is in 24 hours format. Abbreviation used: N/A (Not Applicable) BEM. (Below Detection Limit): LDC. (Lower Detection Limit)



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 2004ECE9713D124

ENGINEERING SERVICES PVT. LTD.

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



Website: www.elespi.co.in 10-13887

TEST REPORT

Test Report No. : ELES/RNC/2024/5535 Report Release Date : 28.09,2024
Work Order No. : 13612312113 Work Order Date : 28.03,2024

ULR No. : TC135872400003440F

Discipline : Chemical		Group: Wa	Group: Water		
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water	
Free Residual Chlorine (RFC)	mg/L	1S 3025 (Part-26): 2021	BDL (DL: 0.1)	-	
Phenols Compounds (as C ₄ 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	14.8		
Discipline : Cher	oup: 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)	н.	
Cadmium (as Cd)	mg/L	APHA 24th Ed,2023; 3111B	BDL (DL: 0.003)	0.01	
Total Chromium (as Cr)	mg/L	APHA 24th Ed 2023; 3111B	BDL (DL: 0.03)	0.05	
Copper (as Cu)	mg/L	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.03)	1.5	
Iron (as Fe)	mg/L	APHA 24th Ed.2023; 3111B	0.177	50	
Lead (as Pb)	mg/L	APHA 24th 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): 1994; RA2019	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 as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company Jetter head in pre-approved format. The results shown in the Test Report reflects the findings 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 inscructions. 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 within a prior written approval of the Laboratory. The Report is full or in part shall not be published, advertise, used for any legal actions unless prior permission that been secured from the Management of the Laboratory. Attention is drawn to the limitation of flability, compensation and jurisdiction issues. Any annutherized afteration & initialization of the context or appearance of the Test Report is instantial and offenders may be prosecuted to the fullost extent of the law. All the samples are scanned for 30days from the Date of referencessor of the Test Report. The samples from Regulatory bodies are to be (takined as specified. Any type of Observations or Complaints regarding the Report is in Laboratory format. Atheretical and After the time period stated before, no complaints will be accepted. The lamit.



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

ENGINEERING SERVICES PVY. LTD.

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

Website: www.elespl.ca.in



TEST REPORT

Test Report No. : ELES/RNC/2024/5535 Report Release Date : 28.09.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400003440F

Discipline: Chemical		Group: Res	idues 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 24th 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)	4
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)	
Chlorpyriphos	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	(%)
Ethion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	- w
Malathion	ng/L	ELES/GC/SOP/01; 2023	BDL (DL: 0.5)	àn.
Methyl parathion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.1)	-
Monocrotophos	μg/t.	ELES/GC/SOP/01; 2023	BDL (DL: 0.5)	25
Phorate	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	the
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)	200

Page 3 of 4

The Decommit stated as Test Report, is usued 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 tendy in 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 course 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 permossion has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized abstration & falsification of the council 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 release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Compliants regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time person stated before, no compliants will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used. N/A (Not Applicable), BDI. (Below Detection Limit). LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

Phone na.: 0651-2290103 Website: www.elespi.co.in



TEST REPORT

 Test Report No.
 : ELES/RNC/2024/5535
 Report Release Date
 : 28.09.2024

 Work Order No.
 : 13612312113
 Work Order Date
 : 28.03.2024

ULR No. : TC135872400003440F

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)	- 4
DDT(o,p and p,p-isomers of DDT) (DDE and DDD)	µу/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	-
Discipline: Biolo				
Total Coliforni	CFU/100 mL	IS 15185: 2021	4.18×10 ³	-
Escherichia coli	CFU/100 mL	IS 15185: 2021	2.09×10 ²	

Remarks: pH & RFC done at Lab.

Reviewed by

****End of Report****

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

Page 4 of 4

The Discussion stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Complainy letter head in pre-approved format. The results shown in the Test Report refer or relates only to the jubicatalysis 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, withing prior written appeared of the Laboratory. The Report is full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of furthirty, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is inflavoid and offenders may be prosecuted in the fallest extent of the law. All the samples are retained to 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 released issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 14 hours format. Abbreviation used. N/A (Not Applicable), BDI. (Below Decetion Limit). LDI. (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECEB713D124

ENGINEERING SERVICES PVT. LTD.

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

Website: www.elespl.co.ln

TEST REPORT

Test Report No.	: ELES/RNC/2024/5535	Report Release Date	: 28.09.2024	
Work Order No.	: 13612312113	Work Order Date	; 28.03.2024	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample Location of Sample	: ELES/RNC/2024/SW/6381 : 16.09.2024 : 20.09.2024 : Surface Water : Up Stream : Serengdag Nadi, Serengdag-/ Bauxite Mines (155.81 ha)	
Mines Status	; Operational	Sampling Procedure	: ELES/DOC/SMPL/01	
Period of Analysis	: 20.09.2024 to 28.09.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

Discipline : Chemical Group : Water			Tolerance Limits	
Parameter	Unit	Test Protocol	Result	as per 1S 2296-1992 Class C (Inland Surface Water)
Taste		APHA 24" Ed.2023, 2160C	N/A	-
Anionic Surfactants (as MBAS)	mg/L	APHA 24th Ed.2023, 5540-C	BDL (DL: 0.025)	1.0
Mineral Oil*	mg/L	1S 3025 (Part-39):2021 (Clause 6 Infrared Spectroscopic Method)	BDL (DL: 0.01)	

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

Reviewed

****End of Report****

Dr. Outperiord Rights Sinha Ph. D. Environmental Engg. Technical Manager

Page 1 of 1

The Document stated as Test Report, is usually by the Laboratory under General Towns and Conditions, only or Company letter bend in pre-approved forms. The results shown in the Tost Report refer or relates only to the job unalysis done by the Laboratory at the teste of involvement only and within the limits of clean's instructions. The Laboratory is responsible for all the information or data provided by the client. The Report cannot be reproduced except in full and are 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 genuission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and paradiction issues. Any unauthorized attention & falsification of the content of appearance of the Test Report is unless tast offenders may be prosecuted to the fullest except of the law. All the samples are retained for Toldays from the Date of related limits 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 colorsed/issued. Aller the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours formin. Abbreviation used. N/A (Not Applicable), BDL (Below Detection Limit). LDL (I ower Detection Limit)



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-654003 (JHARKHAND) GST NO:- 20AAECE9713D124

ENGINEEMING SERVICES PUT. LTD.

Email: Info@elespl.co.in . eles.ranchi@gmail.com

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/5536	Report Release Date	: 28.09.2024	
Work Order No.	; 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400003441F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited - Lohardaga, Jharkhand-835302	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample Location of Sample	: ELES/RNC/2024/SW/6382 : 16,09.2024 : 20,09.2024 : Surface Water : Down Stream : Serengdag Nadi, Serengdag-A Bauxite Mines (155,81 ha)	
Mines Status	: Operational	Sampling Procedure	ELES/DOC/SMPL/01	
Period of Analysis	: 20.09.2024 to 28.09.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

Discipline: Chemical		G	roup: 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	6.64	6.5-8.5	
Colour	Hazen	1S 3025 (Part -4): 2021	30.0	300	
Odour	-2	IS 3025 (Part-5): 2018	Unobjectionable	-	
Turbidity	NTU	IS 3025 (Part-10): 2023	78.1	-	
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16): 2023	182	1500	
Total Alkalinity (as CaCO ₁)	mg/L	IS 3025 (Part-23): 2023	69.4	**	
Total Hardness (as CaCO ₁)	mg/L	IS 3025 (Part-21): 2019	77.8	-	
Sulphate (as SO ₄)	mg/L	IS 3025 (Part-24/Sec1): 2022	5,52	400	
Chloride (as Cl)	mg/L	IS 3025 (Part-32): 2019	18.4	600	
Fluoride (as F)	mg/L	IS 3025 (Part-60): 2019	0.146	1.5	
Nitrate (as NO ₂)	mg/L	APHA 24th Ed.2023, 4500 NO ₃ -B	1.85	50	

Page | 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 to the Test Report refer or relates only to the job/analysis done by the Laboratory only. The inflammation 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 inflammation or data provided on the report, except the inflammation which is provided by the client. The Report among he reproduced except in full and any part of the report is not taken out of context without prior various approval of the Laboratory. The Report is full or in part shall not be published, whethere, used lay any logal 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 anauthorized alteration & indiffication 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 Jodays from the Date of references of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complians and the Reports shall be done within 15 days from the Date of Test Report released/moved. After the time period stated before, no complaints will be accepted. The entire time schedule maniformed in Ton Report is at 24 hours format. Abbreviation used: N/A (New Applicable); BDL (Relow Betection Limin). LDL (Lower Detection Limin)



PLOT NO-30, MANSAROVAR ENCLAVE, TUPLIDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 70AAECE97130124

ENGINEERING SERVICES PVT. LTD.

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

Website: www.elespi.ca.in



TEST REPORT

Test Report No. : ELES/RNC/2024/5536 Report Release Date : 28.09,2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400003441F

Discipline : Chemical	1	Group: Wa	ter	Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per 15 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 _s H _s 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	19.4	-
Discipline : Chemical Group				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 24th Ed,2023; 3111B	BDL (DL: 0.003)	0.01
Total Chromium (as Cr)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.03)	0.05
Copper (as Cu)	mg/L	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.03)	1.5
Iron (as Fe)	mg/L	APHA 24th Ed,2023; 3111B	0.174	50
Lead (as Pb)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.01)	0.1
Manganese (as Mn)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.05)	**
Mercury (as Hg)	mg/L	1S 3025(Part-48): 1994; RA2019	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 24th Ed.2023; 3111B	BDL (DL: 0.1)	15

Page 2 of 4

The Document stated in Test Report, in 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 relians only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the fludings 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 in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any analithorized afternation & Talsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the failest extent of the law. All the samples are retained for Talsification of the Date of release/issue of the Fell Report. The samples from Regulatory bodies are to be retained as appealined. 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 cannot are released in Test Report is in 24boars formit. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit): LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No. : ELES/RNC/2024/5536 Report Release Date : 28.09.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400003441F

Discipline : Cher	mical	Group: Res	idues 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 24th 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)	4
Pesticides			200	
Alachlor	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	- 14
Atrazine	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	
Butachlor	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	i e
Chlorpyriphos	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	-
Ethion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	-
Malathion	pg/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

The Document stated as Test Report, is usuad by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report reflect or relates only to the job/modysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the internation of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information of data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of convext, without prior worten 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 accord from the Management of the Laboratory. Attention is drawn to the limitation of Intelliget, compensation and jurisdiction issues. Any unauthorized alteration & Indistriction of the consent of 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 36 days from the Date of telegraphics from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Report shall be done willow 15 days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The clients Cime schedule manifested in Test Report is in 24 hours formit. Abtreviation used: N/A (Not Applicable); IDI. (Helow Detection Limit). LDI. (Lower Denetion Limit)



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

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No. : ELES/RNC/2024/5536 Report Release Date : 28.09.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400003441F

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	pg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	144
Delta HCH	μg/L	ELES/GC/SOP/02: 2023	BDL (DL; 0.02)	2
Gamma HCH (Lindane)	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	= 51
Endosulfan (alpha, beta and sulphate)	μg/L	ELES/GC/SOP/02: 2023	BDL (DL; 0.05)	4
DDT(o,p and p.p-isomers of DDT) (DDE and DDD)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	-
Discipline: Biok	ogical	Gre	oup: Water	
Total Coliform	CFU/100 mL	1S 15185: 2021	1.02×10 ³	
Escherichia coli	CFU/100 mL	IS 15185: 2021	85.0	-

Remarks: pH & RFC done at Lab.

Reviewed by

****End of Report****

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

Page 4 of 4

The Deciment stated is 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 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 fail 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, afvertise, 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, composistion and jurisdiction issues. Any unumborized alterntion & falsification of the content or appearance of the Test Report is unlawful and offenders may be projected to the fullest extent of the law. All the samples are retained for 30 days from the Date of refernse issue of the Test Report. The samples from Regulatory hodges 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 referred 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 (Non Applicable), BDL (Below Detection Limit), LDL (Lawer Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20A4ECE9713D124

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/2024/5536	Report Release Date	: 28.09.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

CUSTOMER DETAILS		SAMPLE DETAILS		
Address	; Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample Location of Sample	: ELES/RNC/2024/SW/6382 : 16.09,2024 : 20,09,2024 : Surface Water : Down Stream : Serengdag Nadi, Serengdag-A Bauxite Mines (155,81 ha)	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01	
Period of Analysis	: 20.09.2024 to 28.09.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : 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 24th 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: 0.01)	-

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

ries & Engl

Reviewed by

****End of Report****

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

Page | of |

The Document stated at Ten Report is insued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report reflects the findings done by the Laboratory only. The information stated on the Tent 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 of data provided on the report, except the estimation which is provided to the client. The Report cannot be reproduced except in full and any part of the report is not taken on all or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of fiability, compensation must jurisdiction issues. Any unauthorized alternation of the total or appearance of the Test Report is autuated and offenders may be prosecuted to the taillest extent of the law. All the samples are retained for 19th part of the fact Report. The samples from Regulatory bother are to be retained as specified. Any type of Observations or Complaints regarding the Report shall be done within 15days from the Date of Test Report released/assets. After the time priori stand before, no complaints will be accepted. The control Time schedule mentioned in Test Report is in 24boars format. Abbreviation used. N.A.(Not Applicable), BDI. (Believ Description Limit), LDI. (Lower Description Limit).



PLOT NO-30, MANSARDVAR ENCLAVE, TUPUDANA HATIA, BANCHI-834003 (JHARKHAND) GST NO:- Z0AAECE97130124

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/2024/5533	Report Release Date	± 28.09.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003438F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample Location of Sample	: ELES/RNC/2024/SW/6379 : 16.09.2024 : 20.09.2024 : Surface Water : Up Stream : Kanchki Nadi, Serengdag-A Bauxite Mines (155.81 ha)	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01	
Period of Analysis	: 20.09.2024 to 28.09.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

Discipline: Chemical		G	roup: Water	Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water
pH (at 24.6 °C)		1S 3025 (Part-11): 2022	6.59	6.5-8.5
Colour	Hazen	IS 3025 (Part -4) ; 2021	16.0	300
Odour	0-	IS 3025 (Part-5): 2018	Unobjectionable	
Turbidity	NTU	1S 3025 (Part-10): 2023	46.5	part .
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16): 2023	140	1500
Total Alkalinity (as CaCO ₃)	mg/L	IS 3025 (Part-23): 2023	39.0	-
Total Hardness (as CaCO ₁)	mg/L	IS 3025 (Part-21): 2019	48.6	
Sulphate (as SO ₄)	mg/L	IS 3025 (Part-24/Sec1): 2022	6.92	400
Chloride (as CI)	mg/L	IS 3025 (Part-32): 2019	17.4	600
Fluoride (as F)	mg/L	IS 3025 (Part-60): 2019	0.118	1.5
Nitrate (as NO ₁)	mg/L	APHA 24th Ed,2023, 4500 NO) -B	1.08	50

Page 1 of 4

The Discontine waterd as Test Report, it issued by the Laboratory under General Terms and Conditions, only on Company limit beat 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 time 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 of this 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 indices prior permission has been secured from the Management of the Laboratory. Attention is driven to the limitation of liability, compensation and invisitetion issues. Any unauthorized alternation & faithful time the Laboratory of the Laboratory is unlawful and offenders may be proventiall to the fullest extent of the law. All the samples are retained for 30days from the Direct of releasefissing of the Laboratory bridges from the Direct of releasefissing of Observations or Compliants regarding the Report is due to the Laboratory holdes are to be retained as specified. Any type of Observations or Compliants regarding the Report is all the done within 15days from the Date of Test Report released/issued. After the time period stated before, no compliants with the accepted. The emits Time schedule mentioned in Test Report is in 2-theory format. Abbreviation used: N/A (Not Applicable), BDI, (Below Defection Limit), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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



TC-1358

TEST REPORT

Test Report No. : ELES/RNC/2024/5533 Report Release Date : 28.09.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400003438F

Discipline : Chemical		Group : Wa	ter	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	12.4	-
Discipline : Chen	nical	Gre	up : Residues	in Water
Aluminum (as AI)	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 24th 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	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.03)	1.5
Iron (as Fe)	mg/L	APHA 24 th Ed.2023: 3111B	0.182	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): 1994; RA2019	BDL (DL; 0,001)	7
Selenium (as Se)	mg/L	IS 3025(Part-56); 2019	BDL (DL: 0.01)	0.05
Zinc (as Zn)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.1)	15

Page 2 of 4

The Document stated as Test Report, is usuad by the Laboratory under General Teens and Conditions, only on Company letter bend 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 anyidyement 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 regreduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report is full or in part shall not be published, advertise, used for any legal actions 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 & liability attention of the content or appearance of the Test Report is unbawful and offenden may be prosecuted to the falliest extent of the law. All the samples are returned for Sibbity from the Date of veleax/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 3 days from the Date of Test Report released issued. After the time period stated before, no complaints will be accepted. The entire Firm Schuldle mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable). EDA. (Below Detection Limit). LDI. (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD

Email: Info@elespl.cq.In , eles.ranchi@gmail.com

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



1

TEST REPORT

Test Report No. : ELES/RNC/2024/5533 Report Release Date : 28.09.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400003438F

Discipline : Cher	mical	Group: Res	idues in Water	Tolerance Limits
Parameter Unit		rameter Unit Test Protocol		as per IS 2296-1992 Class C (Inland Surface Water)
Cyanide (as CN)	mg/L	APHA 24th 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)	7
Pesticides				
Alaehlor	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)	- 4
Chlorpyriphos	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	
Ethion	pg/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)	44

Page 3 of 4

The Document stated as Test Report, as issued by the Laboratory under General Tesms and Conditions, only on Company tetter head in pre-approved format. The results shown in the Test Report refer or returns 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 is part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the implication of liability, compensation and jurisdiction issues. Any unauthorized alteration & talsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted at the fullest extent of the law. All the samples are recursed for 10days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be returned as specified. Any type of Observations or Complaints regulating 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 in 14boars forms. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lawer Detection Limit).



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

ENGINEERING SERVICES PUT. LTD.

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

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



TEST REPORT

Test Report No. : ELES/RNC/2024/5533 Report Release Date : 28.09.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400003438F

Pesticides				Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Alphu HCH	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.006)	
Beta HCH	pg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	e e
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)	1
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)	4
Discipline: Biolo	ogical	Gre	oup: Water	
Total Coliform	CFU/100 mL	15 15185: 2021	9.68×10 ²	-
Escherichia colt	CFU/100 mL	IS 15185: 2021	46.0	er-

Remarks: pH & RFC done at Lab.

Reviewed by

****End of Report****

Ph. D. Environmental Engg. Technical Manager

Page 4 of 4

The Document stated as Test Report is assued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved formit. The results shown in the Test Report refer or relates only to the just analysis done by the Laboratory only. The information stated on the Test Report reflects the fundings 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 secured from the Management of the Laboratory. Amount in demon to the limitation of liability, compensation and prinsidiction issues. Any unauthorized alteration & Indiany from the Date of release issue of the Test Report is unliawful and offenders may be provided to the fullest extent of the law. All the samples are returned to Datays 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 Complianis regarding the Reports shall be done within 15days from the Date of Test Report released issued. After the time period shall before, no complaints will be accepted. The entire Time schedule mentioned in Ten Report is in 24hours formal. Abbreviation used. N/A (Nos Applicable); BDL (Belins Detection Limit), LDL (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-934003 (JHARKHAND) GST NO-20A4ECE97130124

ENGINEERING SERVICES PVT. LTD.

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

Website: www.elespl.cp.in

TEST REPORT

Test Report No.	: ELES/RNC/2024/5533	Report Release Date	: 28.09.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample Location of Sample	: ELES/RNC/2024/SW/6379 : 16.09.2024 : 20.09.2024 : Surface Water : Up Stream : Kanchki Nadi, Serengdag-A Bauxite Mines (155.81 ha)	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01	
Period of Analysis	: 20.09.2024 to 28.09.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : 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 24th Ed.2023, 2160C	N/A	-
Anionic Surfactants (as MBAS)	mg/L	APHA 24th 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: 0.01)	-

Remarks: I. (*) Parameters are outsourced to other Lah.

ies & En

Reviewed by

****End of Report***

Ph. D. Environmental Engg. Technical Manager

Page 1 of 1

The Discussion stated as Test Report to issued by the Laboratory under General Terms and Conditions, only on Company littler head as pre-approved format. The results shown in the Test Report relies of relates only to the job analysis done by the Laboratory only. The information stated on the Test Report reflects the Godones done by the Laboratory at the time of an observation unity and within the limits of client's instruction. The Laboratory is responsible for all the information or data provided on the report except the disformation 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 approved of the Laboratory. The Report is full or in part shall not be published advertise, used for any legal setting unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability compensation until jurisdiction issues. Any unmanderized alternation & fabrification 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 30 days from the Date of release issue of the Test Report is unlawful and offenders which are to be returned as specified. Any type of Observations in Complaints regarding the Reports shall be done within 15 days from the Date of Test Report released issued. After the time period stand before, no complaints will be accepted. The entire Tone settingly in Test Report formation used: N/A (Not Applicable), IEEE of December Limit), LDL (Lawer Descript Limit).



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

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.ln , eles.ranchi@gmall.com Phone no.: 0651-2290103

Website: www.elespi.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2024/5534	Report Release Date	: 28.09.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400003439F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample Location of Sample	: ELES/RNC/2024/SW/6380 : 16.09.2024 : 20.09.2024 : Surface Water : Down Stream : Kanchki Nadi, Serengdag-A Bauxite Mines (155.81 ha)	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/0)	
Period of Analysis	: 20.09,2024 to 28.09,2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

Discipline: Chemical			roup : 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	6.72	6.5-8.5
Colour	Hazen	IS 3025 (Part -4) / 2021	18.0	300
Odour	- 5	IS 3025 (Part-5): 2018	Unobjectionable	+
Turbidity	NTU	IS 3025 (Part-10): 2023	34.1	-
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16): 2023	165	1500
Total Alkalinity (as CaCO ₃)	mg/L	IS 3025 (Part-23): 2023	75.9	-
Total Hardness (as CaCO ₂)	mg/L	IS 3025 (Part-21): 2019	83.6	-
Sulphate (as SO ₄)	mg/L	IS 3025 (Part-24/Sec1): 2022	7.46	400
Chloride (as Cl)	mg/L	IS 3025 (Part-32): 2019	33.9	600
Fluoride (as F)	mg/L	IS 3025 (Part-60); 2019	0.126	1.5
Nitrate (as NO ₃)	mg/L	APHA 24th Ed.2023, 4500 NO ₃ -B	1.19	50

Page 1 of 4

The Document stated as Test Report is insued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved formit. 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 advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsefication of the cannot be appearance of the Test Report is unlawful and offenders may be prosecuted to the failest extent of the law. All the samples are retained for 30days 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 will be accepted. The entire Time schedule mentioned in Test Report is in Záhoura format. Abbreviation used, N/A (Not Applicable), BDI. (Below Detection Limit). LDI. (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE97230124

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No. : ELES/RNC/2024/5534 Report Release Date : 28.09.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400003439F

Discipline : Chemical		Group: Wa	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 ₀ H ₄ OH)	mg/L	IS 3025 (Part-43/Sec1): 2022	BDL (DL: 0.001)	0.005
Culcium (as Ca)	mg/L	IS 3025 (Part-40): 2019	22,6	-
Discipline : Cher	nical	Gre	oup : Residues	in Water
Aluminum (as Al)	mg/L	IS 3025 (Part-55); 2003;RA2019	BDL (DL: 0.02)	-
Arsenic (as As)	mg/L	1S 3025 (Part 37):2022	BDL (DL: 0.005)	0.2
Beron (as B)	mg/L	15 3025 (Part-57): 2021	BDL (DL: 0.2)	- 4
Cadmium (as Cd)	mg/L	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.003)	0.01
Total Chromium (as Cr)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.03)	0.05
Copper (as Cu)	mg/L	APHA 24" Ed.2023; 3111B	BDL (DL: 0.03)	1,5
Iron (as Fe)	mg/L	APHA 24th Ed.2023; 3111B.	0.156	50
Lead (as Pb)	mg/L	APHA 24th 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): 1994; RA2019	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 24th Ed.2023; 3111B	BDL (DL: 0.1)	15

Page 2 of 4

The Document striked as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only in the job analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the lame of involvement only and within the lumin 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 accounted from the Managament of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alternion & talsification 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 50days from the Date of refense uses 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 Eddays from the Date of Test Report relaxed issued. N/A (Net Applicable), BDL (Below Detection Limit). LDL (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO:- 20A4ECE9713D1Z4

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No. : ELES/RNC/2024/5534 Report Release Date : 28.09.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400003439F

Discipline : Che	mical	Group: Res	Group: Residues in Water			
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)		
Cyanide (as CN)	mg/L	APHA 24th 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)	14		
Butachlor	μg/L	ELES/GC/SOP/01: 2023	S/GC/SOP/01: 2023 BDL (DL: 0.5)			
Chlorpyriphos	μg/L	ELES/GC/SOP/01; 2023	BDL (DL: 0.5)	-		
Ethion	μġ/L	ELES/GC/SOP/01: 2023	S/GC/SOP/01: 2023 BDL (DL: 0.5)			
Malathion	µу/L	ELES/GC/SÓP/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	(DL: 0.5)	Ω.		
Phorate	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	i i i		
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

The Document stated as Ten Report is usued by the Laboratory under General Terms and Conditions, only on Compuny 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 uncolventent 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 enformation which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report is full or in part shall not be published advertise, used for any legal actions inless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction rouses. Any unauthorized alteration & fallocation 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 Italiays from the Date of relative to the Test Report. The amples 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/stated. After the time period stated before, so complaints will be accepted. The antitre Time schedule mentioned in Test Report is in 24 hours format. Abbreviation used. N/A (Not Applicable), BDI. (Below Detection Limit), LDI. (Lower Detection Limit).



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

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/5534	Report Release Date	: 28.09.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

ULR No. : TC135872400003439F

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)	3-4
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)	- 4
DDT(o,p and p.p-isomers of DDT) (DDE and DDD)	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	
Discipline: Biolo	gical	Gro	up: Water	
Total Coliform	CFU/100 mL	IS 15185: 2021	7.77×10 ²	
Escherichia coli	CFU/100 mL	IS 15185; 2021	54.0	-

Remarks: pH & RFC done at Lab.

IVES & Eno

Reviewed b

****End of Report****

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

Page 4 of 4

The Document stated as Test Report, is assued 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 in relates only to the jub mulysis 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 reporteduced 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 secured from the Management of the Luboratory. Attention is drawn to the limitation of flability, compensation and jurisdiction issues. Any smarthorized alteration & fulsification of the content or appearance of the Test Report is unliveful and offenders may be prosecuted to the fullest extent of the last. All the samples are retained for Mulays 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 15days from the Date of Test Report released/assued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours former. Abbreviation used: N/A (Not Applicable): BDU (Below Detection Limit): LDI, (Lower Detection



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

ENGINEERING SERVICES PVT. LTD.

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

Website: www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2024/5534	Report Release Date	: 28.09.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample Location of Sample	: ELES/RNC/2024/SW/6380 : 16.09.2024 : 20.09.2024 : Surface Water : Down Stream : Kanchki Nadi, Serengdag-A Bauxite Mines (155.81 ha)	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01	
Period of Analysis	= 20.09.2024 to 28.09.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Scaled & Preserved	

Discipline : Chemic	Gro	up: Water	Tolerance Limits	
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Taste	13.5	APHA 24th Ed.2023, 2160C	N/A	-
Anionic Surfactants (as MBAS)	mg/L	APHA 24th Ed.2023, 5540-C	BDL (DL: 0.025)	1.0
Mineral Oil*	mg/L	1S 3025 (Part-39);2021 (Clause 6 Infrared Spectroscopic Method)	BDL (DL: 0.01)	-

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

Reviewed

****End of Report****

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

Page 1 of 1

The Document stated as Test Report is osseed by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report retains only to the Johnston by the Laboratory only. The information usued on the Test Report retains the findings does by the Laboratory at the time of involvement only and within the finite of client's instructions. The Laboratory is responsible for all the internations of data provided on the report except the information which is provided by the effect. The Report cannot be reproduced except in full and any part of the report is not taken out of cornect, withing prior written approval of the Laboratory. The Report in full or to part shall not be repulsibled, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Antenness is destroited to the laboratory. Antenness is destructed in the destruction of the content of operations of the Test Report is unlessful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for follows from the Dote of releases issued as specified. Any type of Observations or Complaints regarding the Report situal by dots within 15days from the Dote of Test Report released issued. After the time period stated before, no complaints will be accepted. The entere Time schedule mentioned in Test Report is in 24boars format. Abbreviation used. N/A (Not Applicable), BDI. (Below Detection Limit), LDI. (Lower Detection Limit).



Annexure 3

Date - 22.11. 2024

Office Order

Environmental Cell has been re-constituted at Sherengdag Bauxite Mine (Area 155.81 ha) comprising below mentioned team members. The team will ensure compliance of Environment Act, Regulation & Rule in respect of the said mines of Hindalco Industries Limited.

- 1. Mr. Ashish Kumar Mohanta (Coordinator)
- 2. Mr. Sanjay Sharma (Geologist)
- 3. Ms. Abhilasha Singh-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 act rule and regulation for the above mine.

Basudev Gangopadhyay

AVP (Planning, Environment & Compliance)

Annexure 4

	Production, Mined Out, Back Filled and Over Burden removal from April'24 to September'24										
S No	Name of the Mines	Mining lease area (ha)	Production Capacity (MT)*	Lease Period*	Production (MT)	Mined out area (ha)	Back filled 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	82481	0.25	0.57	191521.65			
3	Hisri (New) Bauxite Mine	14.55	100000	19.07.1981 to 31.03.2030	63197	0.45	0.35	26905.95			
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	96744	4.29	8.89	365249.34			
7	Sherangdag-A Bauxite Mine	155.81	260000	16.10.1974 to 31.03.2030	6200	0.23	0.2	10200.00			
8	Serangdag-B Bauxite Mine	77.89	100000	04.10.1978 to 31.03.2030	49850	0.96	0.85	104303.82			
9	Jalim & Sanai Bauxite Mine	12.14	50000	16.10.1974 to 31.03.2030	12450	0.14	0.12	13050.63			
10	Gurdari Bauxite Mine	584.19	325000	23.03.1985 to 22.03.2035	96115	4.69	2.46	185023.98			
11	Kujam - I Bauxite Mine	80.87	150000	13.03.2006 to 12.03.2056	7175	0.97	0.43	21377.24			
12	Kujam - II Bauxite Mine	157.38	300000	24.03.2006 to 23.03.2056	49120	5.28	3.56	137098.55			
13	Amtipani Bauxite Mine	190.95	150000	13.03.2006 to 12.03.2056	87109	2.153	0.987	225462.85			

	Minerals & Minerals Limited									
14	Pakhar (109.507) Bauxite Mine	109.507	280000	26.07.2008 to 25.07.2058	147714.95	2.06	2.60	160334.49		
15	Pakhar (15.58) Bauxite Mine	15.58	60000	28.04.1965 to 31.03.2030	NIL	NIL	NIL	NIL		
16	Bimarla Bauxite Mine	134.526	300000	18.07.2009 to 17.07.2059	78750	4.44	7.35	116233.81		
17	Amtipani Chirodih Bauxite Mine	130.01	450000	11.01.2017 to 10.01.2067	140900	4.25	1.50	235195.494		

^{*}Static information about the mines included in the above table

Basudev Cangopadhyay
AVP (Planning, Environment and Compliance)

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

The composite cost during the year 2023-24 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 Apr'24 to Sep'24)	Actual (in Rupees) FY 2024-25 (From Apr'24 to Sep'24)
1	Pollution Control & Environment monitoring	61,35,000.00	53,47,442.83
2	Reclamation/ Back filing & Rehabilitation**	5,62,80,000.00	5,60,24,564.93
3	Green belt, Plantation & Water sprinkling arrangement	73,42,000.00	69,41,114.17
4	Rural Development	2,75,00,000.00	2,05,55,592.67

^{**}Part of OB removed cost.

Basudev Gangopadhyay AVP (Planning, Environment & Compliance)