

Date: 20.11.2024

HIL/LHD/ENV/MoEF/AMTIPANI/993

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 Amtipani Bauxite Mining project of M/s Hindalco Industries Limited located in Dist- Gumla, Jharkhand for the period April'24 to September'24.

**Ref:** Environmental Clearance letter no J-11015/241/2005-IA II (M) dated 14<sup>th</sup> August 2006

Sir,

With reference to the above, we are submitting herewith the Compliance status report of EC conditions for **Amtipani** Bauxite mining project of **M/s Hindalco Industries Limited** located in Gumla, Jharkhand for the period April'24 to September'24.

The lease details are as below:

Lease area (ha)	Production Capacity (MT)	Lease Period	
190.95	150000	13.03.2006 to 12.03.2056	

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

Name of the Project : Amtipani Bauxite Mine (190.95 ha)

M/s Hindalco Industries Ltd

Environment Clearance No & date

: J - 11015/241/2005-IA.II (M), dated 14.08.2006.

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

#### **Specific Conditions**

Condition 1- All the conditions stipulated by the State Pollution Control Board in their NOC should be effectively implemented.

**Reply to Condition 1-** Implementations of stipulated conditions in NOC are full filled post which consent to operate has been granted by SPCB from time to time. The existing consent to operate is valid up to 31.12.2025. Productions of bauxite are within limits specified in Consent to Operate.

Condition 2- The mining operations shall not intersect the groundwater table. Prior approval of the MoEF and CGWA shall be obtained for mining below the water table.

**Reply to Condition 2-** 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 3- The environmental clearance is subject to approval of the state land use Department, Government of Jharkhand for diversion of agricultural land for non-agricultural use.

**Reply to Condition 3-** Land acquisition is being done with permission of competent authority of State Government i.e. concerned Deputy Commissioner (D.C.) under CNT Act. The land lease agreement has been made with raiyat (Landowner) after permission of the State Govt with provision of returning the land as per norms set by D.C. The compensation and facilities are being provided as per norms set in the agreement. Thus, land acquisition has the approval of the State Government.

Condition 4- Topsoil shall be stacked properly with proper slope with adequate measures and should be used for reclamation and rehabilitation of mined out areas.

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



Reclaimed area

Condition 5- The waste generated in the initial period shall be dumped temporarily and backfilled in the mined-out area. There shall be no permanent external OB dump in the project area. Concurrent backfilling should start from the fifth year onwards. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forests on six monthly basis.

**Reply to Condition 5-** Overburden and waste rock are being used for concurrent backfilling, and topsoil is being spread on the backfilled area for reclamation. Currently, there is no OB dump present in the mine lease area. Monitoring and management of rehabilitated areas is continuing until vegetation becomes self-sustaining through supervision. Data pertaining to backfilling is enclosed as **Annexure 4.** Compliance status is being submitted to MoEF&CC on six monthly basis.

Condition 6- Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from soil and mineral dump. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted particularly after monsoon and maintained properly. Garland drains (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 settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and desilted at regular intervals.

**Reply to Condition 6-** To collect & manage rainwater during monsoon, part of mined out area is used as a settling tank for the runoff. Rainwater stored is being used for watering the mine area, roads, green belt development and sprinkling as necessary.

Catch drains, Garland drains of appropriate size are being constructed in both around the mine pit to prevent runoff of water and flow of sediments directly into the agricultural field and water bodies, if applicable.





Retaining wall and siltation pit to prevent solid wash-off.



Garland drains around Mine pit.

Condition 7- Plantation shall be raised in an area of 79.3 ha including a green belt of adequate width by planting the native species around the ML area, roads, etc. in consultation with the local DFO/Agriculture Department. The density of the trees should be around 1500 plants per ha.

**Reply to Condition 7-** Progressive plantation of native species is being carried out in and around mining lease, reclaimed area etc. in consultation with local forest department on regular basis. During Apr'24 to Sep'24 total of 2825 nos. saplings have been planted in the mining premises. Cumulative 19.00 ha areas have been planted till date. In addition to this agricultural activity is going on in reclaimed land with the consent of landowners. The Green belt development programme is in progress with the progress of mining activities.



Plantation and Agricultural activity on reclaimed land and Safety zone

Condition 8- 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 to Condition 8-** 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 at Mines

Condition 9- Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring should be carried out four times in a year - pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to MOEF, Central Ground Water Authority and Regional Director Central Ground Water Board.

**Reply to Condition 9-** We are not using ground water for mining purposes. 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. A piezometer has been installed for monitoring of ground water level. The ground 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 Installed at Mine

sCondition 10- Prior permission from the competent authority should be obtained for the drawl of water from the surface water bodies.

**Reply to Condition 10-** 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 already obtained NOC for extraction of ground water from CGWA/ CGWB for drinking purpose only. The copy of same NOC is attached below.

D,	No roject Nam		CTION CE		CATE				UND		ABS	TRAC	TION	
_	roject Addr										ndih T	sheil . D	ishunre	
_	llage:			Kujan		manife i		opeti,	Block:		m, Chirodih, Tehsil - Bishunpur Bishunpur			
_	istrict:						State:		chand	1				
_	Pin Code:			Gumi	ed .				otate.	Jnan	unallu	and		
	ommunicat	ion Addre	955:	Hinda	ilco Ind	fustrie	Limites	I. Court	Road	Lohardag	ia. Lob	ardaga	Loharda	oga.
Ľ	on and thous	an Huure			hand -			, Court	· · · · · · ·	- Aller	,, 2011	anaagu,	LUI MITUR	9
1.	NOC No.		cGWA/NOC	/MIN/R	k Jai P	rakash	Bhawa	n, Fraz	Date o	Dak Bar of Issuen	glow, f	Patna, B 7/07/202	ihar - 80	
3.	Application	n No.:	21-4/482/JH	/MIN/20	019			14	Category: Safe (GWRE 2022)					
5.	Project St	atus:	Existing Grou	und Wa	iter			6.	NOC Type: Renewal					
	Valid from		06/09/2023					8.	Valid	Valid up to: 05/09/2025				
9.			traction Permit											
		Water		-	Water				waterin				Total	
-	m³/day	m³/y		day	/m	'/year	-	n³/day	-	n <sup>4</sup> /year	m	*/day	m,	/year
10	9.50 Details of	3467		m /De	<u> </u>	n ala			_		-			
10.	Details of	ground w	vater abstraction Total Exist		,	g struc	ures		_	7-4	al Dec	posed h	lo :0	
			DW DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MP
	Abstraction	Structur		0	1	0	0	0	0	0	0	0	0	0
			am-Bore Well; BW-	_		_	_	•						
			traction/Restor								80	36.00		

NOC for Ground water Extraction

Condition 11- The project proponent shall monitor the spring discharge on long term basis (at least one major spring) both in terms of quantity and quality of water and records maintained. Six monthly reports should be submitted to the Ministry of Environment and Forests and its Regional Office located at Bhubaneswar.

**Reply to Condition 11-** Water Monitoring of Spring is being conducted and Analysis report is attached as **Annexure 2**. Six monthly report is being submitted regularly. Now, the Regional office of MoEF&CC is in Ranchi.

Condition 12- Vehicular emissions should be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of minerals. The vehicles should be covered with a tarpaulin and shall not be overloaded.

**Reply to Condition 12-** 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. Photograph of Tarpaulin Covered Vehicle is attached below.



Ore Transportation with tarpaulin covered truck.

Condition 13- Drills should either be operated with dust extractors or should be equipped with a water injection system.

**Reply to Condition 13-** Wet drilling is in practice.



Wet drilling is in practice.

Condition 14- Blasting operation should be carried out only during the daytime. Controlled blasting should be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.

**Reply to Condition 14-** Blasting time is fixed during Lunch Time i.e. 1.00 PM -2.00 PM. Controlled blasting method is in practice. Ground vibration study has been conducted periodically. All efforts such as use of Nonel and delay, reduction in charge per delay etc. are being taken to mitigate impact of blasting.

Condition 15- Consent to operate should be obtained from SPCB prior to start of production of mine.

**Reply to Condition 15-** We have obtained Consent to operate prior to start of production. The existing consent to operate is valid up to 31.12.2025

Condition 16- Sewage treatment plants should be installed for the colony. ETP should also be provided for workshops and wastewater generated from mining operations.

**Reply to Condition 16-** 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 for treatment of 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 the mine lease area.

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

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





Oil and Grease Trap at Mines

Condition 17- Land ouster and land loser/affected people should be compensated and rehabilitated as per the National Policy on Resettlement and Rehabilitation of project Affected Families (NPRR), 2003

**Reply to Condition 17-** Land ouster and land loser/affected people are being compensated and rehabilitated as per statute/guidelines.

Condition 18- The higher benches of the excavated void to be converted into water reservoir shall be terraced and afforested to stabilize the slopes. Peripheral fencing shall be done along the excavated area.

**Reply to Condition 18-** Water reservoir/harvesting pond has been terraced and afforested to stabilize slopes. Peripheral fencing provided along excavated area.

Condition 19- A Final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.

**Reply to Condition 19-** 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 1- No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.

**Reply to Condition 1-** Noted

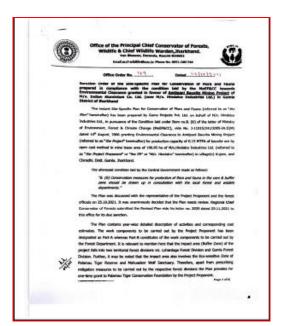
Condition 2- No change in the calendar plan including excavation, quantum of mineral bauxite and waste should be made.

**Reply to Condition 2-** 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 3- Conservation measures for protection of flora and fauna in the core & buffer zone should be drawn up in consultation with the local forest and wildlife departments.

**Reply to Condition 3-** We have prepared Site-Specific Wildlife Conservation Plan (WLCP) 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. 49 dated 02.12.2021 for conservation and protection of flora and fauna in the core and buffer zone for Amtipani Bauxite Mine.

A copy of same Approval letter has been submitted to your good office on 21.02.2022.





Site Specific Wildlife Conservation Plan

Condition 4- Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RPM, SPM, SO2, NOx monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.

**Reply to Condition 4-** 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 5- Data on ambient air quality (RPM, SPM, SO2 and NOx) should be regularly submitted to the Ministry including its Regional office located at Bhopal and the State Pollution Control Board / Central Pollution Control Board once in six months.

**Reply to Condition 5-** 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 6- Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading, and unloading and at transfer points should be provided and properly maintained.

**Reply to Condition 6-** Mobile water tanker with sprinkling facility has been provided along the haul roads, loading, unloading & at transfer points to suppress the dust generation.



Mobile water tanker for dust suppression

Condition 7- Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.

**Reply to Condition 7-** Noise monitoring is being done regularly. Workers engaged in the operation of HEMMs, etc., have also been provided with PPEs such as ear plugs and earmuffs. Monitoring of noise level is being conducted at various locations of the work zone area. Report is attached as **Annexure 2.** 

Condition 8- Industrial wastewater (workshop and wastewater from the mine) should be properly collected and treated so as to confirm to the standards prescribed under GSR 422 (E) dated 19th May 1993 and 31st December 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.

**Reply to Condition 8-** There is no industrial wastewater generation from mining operation. We are not discharging any wastewater outside the mine lease area. However, negligible amount of wastewater is generated in workshop from washing of vehicles and Oil & grease trap system is

already installed for treatment of this effluent. The treated water is in close circuit and being reused for washing of vehicles in the workshop.

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





Oil and Grease Trap at Mines

Condition 9- Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.

**Reply to Condition 9-** 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 10- 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 to Condition 10-** 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 attached herewith as **Annexure 3.** 

Condition 11- The project authorities should inform the Regional Office located at Bhubaneswar regarding the date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

**Reply to Condition 11-** This is an operating mine, hence provision related to financial closure not applicable. Currently, the Regional Office is in Ranchi.

Condition 12- The funds earmarked for environmental protection measures should be kept in a 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 Bhubaneswar.

**Reply to Condition 12-** 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 13- The project authorities should inform the Regional Office located at Bhubaneswar regarding the date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

**Reply to Condition 13-** This is an operating mine, hence provision related to financial closure not applicable. Currently, the Regional Office is in Ranchi.

Condition 14- The Regional Office of this Ministry located at Bhubaneshwar shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.

**Reply to Condition 14-** Noted and Agreed. Currently, the Regional Office of MoEF&CC is in Ranchi.

Condition 15- A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom and suggestion / representation has been received while processing the proposal.

**Reply to Condition 15-** Complied. A copy of clearance letter has already submitted.

Condition 16- State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and Collector's office/ Tehsildar's Office for 30 days.

**Reply to Condition 16-** Noted. The EC Letter has been submitted to JSPCB for display of same at its Regional office and other government offices.

Condition 17- The project authorities should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment and Forests at http://envfor.nic.in and a copy of the same should be forwarded to the Regional Office of this Ministry located Bhubaneswar.

**Reply to Condition 17-** 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. Now, the Regional office of MoEF&CC is in Ranchi.

#### **Annexure 1**

Piez	Piezometer Reading - Amtipani Bauxite Mine					
S No	Month	Depth (meter)				
1	Apr-24	33.84				
2	May-24	34.02				
3	Jun-24	33.57				
4	Jul-24	33.08				
5	Aug-24	32.35				
6	Sep-24	32.59				

## ENVIROCHECK

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

Amtipani Bauxite Mine-Environmental Monitoring Report

April 2024

## CONTENT

145	Hindalco Industries : Amtipani Bauxite Mine Environmental Monitoring Report April 2024
	Amtipani Bauxite Mine
	AMBIENT AIR QUALITY- CORE ZONE
1	Mine Entrance Gate
2	Near Mine Office/WB
3	Mines Near Quarry – 1F
4	Mines Near Quarry – 7C
	AMBIENT AIR QUALITY- BUFFER ZONE
1	Near PakriGada Village
2	Near Pol Pol Village
3	Near Shakhuapani Village
4	Near DipaKujam Village



₽ TC 11981

tab : MIG. 8-3 Housing Colony: Dhanbad, Pin - 826001, State - Burkhand \$ 9830067044 / \$ 9304513737

TEST REPORT

Test Report No.	: ENVJK/1123/APR/TR(W)24-25	Report Release Date	: 29.04.2024
Work Order No.	: 13612312113	Work Order Date	: 29.03.2024

CUSTOMER DETA	MLS	SAMPLE DETAILS			
Customer Name	; Hindalco Industries Limited	Sample Ref. No. Location	: ENVJK/2024/AA/1648 : Mine Entrance Gate Amtipani Bauxite Mine (190.95 ha)		
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 19.04.2024 to 20.04.2024 : 23.04.2024		
Missa Status	(December 1	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02		
Mines Status	: Operational	Sampling Done By	: ELES Pvt, Ltd,		
Period of Analysis	: 23.04.2024 to 29.04.2024	Sample Condition	: Sealed &Preserved		

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 55	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): 2006	78	100 (24hrs)			
Particulate Matter (PM2.5)	μg/m³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	40	60 (24hrs)			
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part 2): 2001	8.3	80 (24hrs)			
Nitrogen Di-Oxide (NO2)	µg/m³	IS 5182 (Part 6): 2006	22.7	80 (24hrs)			
Ozone (O <sub>3</sub> )	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)			
Ammonía (NH <sub>1</sub> )	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)			
Carbon Monoxide (CO)	mg/m <sup>1</sup>	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)			
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.016	1 (24hrs)			
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)			
Arsenic (As)	ng/m³	USEPA Method – IO-3.5 (ICP-MS Method)	<2.0	06 (Annual)			
Benzene (C <sub>6</sub> H <sub>6</sub> )	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:

Dan.

(Bapan Das, Dy. Technical Manager)

Page 1 of 1

Housin's



\$\$ NO.11501

Lab : MIG. R-3 Housing Colony, Dhanbad, Pin - 826001, State - Barkhand \$ 9830067044 / \$ 9304513737

### TEST REPORT

Test Report No.	: ENVJK/1124/APR/TR(W)24-25	Report Release Date	: 29.04.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024

CUSTOMER DETA	AILS	SAMPLE DETAILS			
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ENVJK/2024/AA/1649		
		Location	: Near Mine Office/WB		
			Amtipani Bauxite Mine (190.95 ha)		
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 20.04.2024 to 21.04.2024		
		Sample Received Date	: 23.04.2024		
		Type of Sample	: Ambient Air		
		Sampling Procedure	: ELES/DOC/SMPL/02		
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.		
Period of Analysis	: 23.04.2024 to 29.04.2024	Sample Condition	: Sealed & Preserved		

METEOROLOGICAL INFORMATION				
1 Average Temperature (°C) : 25	2	Barometric Pressure (mmHg)	: 742	
3 Relative Humidity (%) : 56	4	Weather Condition	: Clear	

	Disciplin	ne: ChemicalGroup: Atmospheric Pollu	tion	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part 23): 2006	57	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	31	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part 2): 2001	7.4	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m³	IS 5182 (Part 6): 2006	22.5	80 (24hrs)
Ozone (O <sub>1</sub> )	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH <sub>2</sub> )	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	1S 5182 (Part- 22): 2019	0.009	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 <sub>6</sub> H <sub>6</sub> )	µg/m³	USEPA Method – TO-3 (GC-MS Method)	<2.5	05(Annual)
Вепло-(а)-Рутепе	ng/m³	USEPA Method – TO-3A (GC-MS Method)	<0.5	01(Annual)

Reviewed by:

\*\*\*\*End of Report\*\*\*\*

(Saswata Burman Roy, Dy. Quality Manager)

Authorised Signatory:

Span.

(Bapan Das, Dy. Technical Manager)

Page 1 of 1

Jharkhand 825001





### TEST REPORT

Test Report No.	: ENVJK/1125/APR/TR(W)24-25	Report Release Date	: 30.04.2024	
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/1650	
		Location	: Mines Near Quarry - 1F	
			Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 17.04.2024 to 18.04.2024	
		Sample Received Date	: 23.04.2024	
		Type of Sample	: Ambient Air	
		Sampling Procedure	: ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 23.04.2024 to 30.04.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION			
1 Average Temperature (°C) : 25	2	Barometric Pressure (mmHg)	: 742
3 Relative Humidity (%) : 56	4	Weather Condition	: Clear

Discipline:	Chemical	Group: Atm	ospheric Pol	lution
Parameter	Unit	Unit Test Protocol		Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part 23): 2006	69	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	38	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	µg/m³	IS 5182 (Part 2): 2001	8.2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part 6): 2006	24.5	80 (24hrs)
Ozone (O <sub>5</sub> )	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH <sub>1</sub> )	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.005	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	USEPA Method – IO-3.5 (ICP-MS Method)	<2.0	06 (Annual)
Benzene (C <sub>6</sub> H <sub>6</sub> )	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:

\*\*\*\*End of Report\*\*\*\*

(Saswata Burman Roy, Dy. Quality Manager)

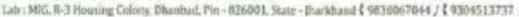
Authorised Signatory:

(Bapan Das, Dy. Technical Manager)

Page 1 of 1









### TEST REPORT

Test Report No.	: ENVJK/1126/APR/TR(W)24-25	Report Release Date	: 30.04.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024

CUSTOMER DET/	CUSTOMER DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ENVJK/2024/AA/1651 : Mines Near Quarry – 7C Amtipani Bauxite Mine (190.95 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 19.04.2024 to 20.04.2024 : 23.04.2024
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 23.04.2024 to 30.04.2024	Sample Condition	: Sealed &Preserved

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature ("C)	: 25	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 56	4	Weather Condition	: Clear

Discipline:	Chemical	Group: Atr	nospheric Pol	lution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part 23): 2006	65	100 (24hrs)
Particulate Matter (PM2.5)	μg/m <sup>3</sup>	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	39	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	µg/m³	IS 5182 (Part 2): 2001	8.5	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m³	IS 5182 (Part 6): 2006	28.4	80 (24hrs)
Ozone (O <sub>3</sub> )	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH <sub>2</sub> )	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	0.013	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m <sup>3</sup>	USEPA Method – IO-3.5 (ICP-MS Method)	<2.0	06 (Annual)
Benzene (C <sub>6</sub> H <sub>6</sub> )	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

Kolkata Office: 63/8, Rastraguru Avenue, Kolkata - 700028 ( 033-25792893/25497490 Kmail envirocheckS0@gmuil.com



₩ TC HIST

Lab : 3000, 8:3 Housing Colony, Discrimit. Pre - 826003, State - Discriming \$ 9850067044 / \$ 9304515787

### TEST REPORT

Test Report No.	: ENVJK/1139/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 Sampling Date	: ENVJK/2024/AA/1664 : Near PakriGada Village : 17,04,2024 to 18,04,2024
Address	: Lohardaga, Jhurkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 22.04.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Amlysis	: 22.04.2024 to 28.04.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMAT	ION			
1	Average Temperature (°C) : 29	2	Barometric Pressure (mmHg)	:742	
3	Relative Humidity (%) : 61	4	Weather Condition	Clear	

	Disciplin	e: ChemicalGroup: Atmospheric Pollut	ion	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m <sup>3</sup>	IS 5182 (Part 23): 2006	63	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	34	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	µg/m³	IS 5182 (Part 2): 2001	9,1	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	IS 5182 (Part 6): 2006	26.5	80 (24hrs)
Ozone (O <sub>1</sub> )	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH <sub>3</sub> )	µg/m³	JS 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/m²	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m²	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m²	USEPA Method – IO-3.5 (ICP-MS Method)	<2.0	06 (Annual)
Benzene (C <sub>s</sub> H <sub>e</sub> )	jig/m <sup>1</sup>	USEPA Method - TO-3 (GC-MS Method)	<2.5	05(Annual)
Вепло-(а)-Ругепе	ng/m²	USEPA Method - TO-3A (GC-MS Method)	< 0.5	01(Annual)

Reviewed by:

(Saswata Burman Roy, Dy. Quality Manager)

Authorised Signatory:

San.

(Bapan Das, Dy. Technical Manager)

Page 1 of 1

Jharkhand

Mar Color



Lab : MIG, R-3 Housing Colony, Dhanhad, Pin - 826001, State - Barkband & 9830067044 / \$ 9304513737

### TEST REPORT

Test Report No.	: ENVJK/1140/APR/TR(W)24-25	Report Release Date	: 28.04.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ENVJK/2024/AA/1665
		Location	: Near Pol Pol Village
	_	Sampling Date	: 17.04.2024 to 18.04.2024
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
NAME AND POST OF PERSONS ASSESSED.		The second secon	The state of the s

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 29	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 61	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	56	100 (24hrs)
Particulate Matter (PM2.5)	pg/m³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	32	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m <sup>3</sup>	IS 5182 (Part 2): 2001	8.5	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part 6): 2006	24.1	80 (24hrs)
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part- 9): 2019	<20.	100 (8hrs)
Ammonia (NH <sub>3</sub> )	μg/m <sup>3</sup>	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 <sup>1</sup>	IS 5182 (Part- 22): 2019	<0.0	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)	<2.6	06 (Annual)
Benzene (C <sub>6</sub> H <sub>6</sub> )	μg/m <sup>3</sup>	USEPA Method – TO-3 (GC-MS Method)	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	USEPA Method – TO-3A (GC-MS Method)	<0.1	01(Annual)

Reviewed by:

(Saswata Burman Roy, Dy. Quality Manager)

Authorised Signatory:

Than'

(Bapan Das, Dy. Technical Manager)

Page 1 of 1

\*\*\*\* End of Rep

Jharkhand

ouring (a)



190 9mm1.2015.8 star (\*1em) - 2mm Control Columnsory

Lab : MNG, 8-3 Housing Column. Obserbed. Pin - 826001. State - [harkband € 9830067044 / € 9304513737



## TEST REPORT

Test Report No.	: ENVJK/1141/APR/TR(W)24-25	Report Release Date	: 28.04.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ENVJK/2024/AA/1666 : Near Shakhuapani Village : 17.04.2024 to 18.04.2024
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 22.04,2024 : Ambient Air : 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

METEOROLOGICAL INFORMATION				
.1	Average Temperature (°C) : 30	2	Barometric Pressure (mmH	g) : 742
3	Relative Humidity (%) : 62	. 4	Weather Condition	: Clear

	Disciplin	e: ChemicalGroup: Atmospheric Pollut	ion	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	1S 5182 (Part 23): 2006	68	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	36	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part 2): 2001	7.4	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	1S 5182 (Part 6): 2006	24.1	80 (24hrs)
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NHs)	μg/m <sup>3</sup>	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.009	1 (24hrs)
Nickel (Ni)	ng/m³	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 <sub>6</sub> H <sub>6</sub> )	μg/m <sup>1</sup>	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

\*\*\*\*End of Repor

Jharkhand

826001



\*

Lab / MIG. R-3 Housing Colony, Dhanbad. Pin - 826001, State - thankhand \$ 9830067044 / \$ 9304513737

### TEST REPORT

Test Report No.	: ENVJK/1142/APR/TR(W)24-25	Report Release Date	: 28.04.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ENVJK/2024/AA/1667 : Near DipaKujam Village : 17.04.2024 to 18.04.2024
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 22.04.2024 : Ambient Air : 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 INFORMATION			
1	Average Temperature (°C) : 31	2	Barometric Pressure (mmH	g) ±742
3	Relative Humidity (%) : 59	4	Weather Condition	: Clear

Discipline: ChemicalGroup: Atmospheric Pollution						
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m <sup>3</sup>	IS 5182 (Part 23): 2006	58	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	33	60 (24hrs)		
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m <sup>3</sup>	IS 5182 (Part 2): 2001	7.2	80 (24hrs)		
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part 6): 2006	23.1	80 (24hrs)		
Ozone (O <sub>3</sub> )	μg/m <sup>3</sup>	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH <sub>3</sub> )	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	USEPA Method – IO-3.5 (ICP-MS Method)	<2.0	06 (Annual)		
Benzene (C <sub>6</sub> H <sub>6</sub> )	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

\*\*\*\*Ending Report

Jharkhand

Spiring Co

# ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Amtipani Bauxite Mine-Environmental Monitoring Report

May 2024



## CONTENT

	Hindalco Industries : Amtipani Bauxite Mine Environmental Monitoring Report Ma	y2024
	Amtipani Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE	
1	Mine Entrance Gate	
2	Near Mine Office/WB	
3	Mines Near Quarry – 1F	
4	Mines Near Quarry – 7C	
	AMBIENT AIR QUALITY- BUFFER ZONE	
1	Near PakriGada Village	
2	Near Pol Pol Village	
3	Near Shakhuapani Village	
4	Near DipaKujam Village	
	Drinking Water	





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



TO-13M1

### TEST REPORT

Test Report No.	: ELES/RNC/2024/2696	Report Release Date	: 20.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000665F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3002 : Mine Entrance Gate Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 11.05.2024 to 12.05.2024 : 15.05.2024 : Ambient Air	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	: 15.05.2024 to 20.05.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

Mi	TEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 34	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 60	4	Weather Condition	: Clear

Discipline: 6	Chemical	Group: Atm	ospheric Polls	ition
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	41	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part-1l/Sec-1): 2023	8.7	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part- 6): 2022	24.1	80 (24hrs)
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH <sub>3</sub> )	μg/m³	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.014	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

#### 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 stated on the Test Report reflects the findings done by the Laboratory at the unite 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 mouses. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest execut of the law. All the samples are returned for Midgys 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 membraned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable): BDL (Below Descrion Limit); LDL (Lower Descrion 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.elespi.co.in



TOTAK

### TEST REPORT

Test Report No.	: ELES/RNC/2024/2696	Report Release Date	: 20.05,2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400000665F	1		

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>6</sub> H <sub>6</sub> )	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

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 lotter head in pre-approved format. The results shown in the Test Report refer or relaces only to the jubianalysis 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 restrictions. 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 actors 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 common 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 Judays 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 Report is 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 Applicables, BDI. (Below Detection Limit), LDI. (Lewer 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-13567

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/2697	Report Release Date	: 20.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000666F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3003 : Near Mine Office/WB Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 11.05.2024 to 12.05.2024 : 15.05.2024 : Ambient Air	
Mines Status : Operational		Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	: 15.05.2024 to 20.05.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (*C) : 34	2	Barometric Pressure (mml	fg) : 742
3	Relative Humidity (%) : 60	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	34	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	µg/m³	IS 5182 (Part-11/Sec- 1): 2023	8.1	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m³	IS 5182 (Part- 6): 2022	23.7	80 (24hrs)	
Ozone (O <sub>3</sub> )	μg/m <sup>8</sup>	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH <sub>3</sub> )	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	0.0011	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AlR/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 relates only to the jobianalysis 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 limitation of liability, compensation and jurisdiction issues. Any unauthorized aftertains & Obstituation of the content or appearance of the Test Report is unlawful and offenders may be prospected to the fullest extent of the law. All the samples are returned for Johays from the Date of test Report released limited. After the time period stated before, no complaints will be accepted. The entire Time subschile measurement of the Report is in 24hours format. Abbreviation used. N/A (Not Applicables, BDI. (Below Detection Limit), LDI. (Lower Detection Limit).



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

## ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No. : ELES/RNC/2024/2697 Report Release Date : 20.05.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400000666F

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>a</sub> H <sub>a</sub> )	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. 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 above in the Test Report refer or relates only to the jubinatelysis 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 connot be reproduced except in full and any part of the report is not taken out of context, without prior written appearance 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 & flability and offenders may be prosecuted to the fulliest extent of the law. All the namples are retained for Robays 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 mentained 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



TC-13907

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/2698	Report Release Date	: 20.05.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400000667F			

CUSTOMER DET	CUSTOMER DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3004 : Mines Near Quarry – 1F Amtipani Bauxite Mine (190.95 ha
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 11.05.2024 to 12.05.2024 : 15.05.2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 15.05.2024 to 20.05.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 34	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%) : 60	4	Weather Condition	: Clear

Discipline: 0	Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	61	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	34	60 (24hrs)		
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part-II/Sec- 1): 2023	7.9	80 (24hrs)		
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part- 6): 2022	23.5	80 (24hrs)		
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH <sub>3</sub> )	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m <sup>2</sup>	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.008	1 (24hrs)		
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/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 relates only to the joblanalysis done by the Laboratory serily. 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 earnor 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 liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlowful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of retained may be found 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@gmail.com

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



70-1382

### TEST REPORT

Test Report No.	: ELES/RNC/2024/2698	Report Release Date	: 20.05.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400000667F			

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>6</sub> H <sub>6</sub> )	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)	

AKASITI BIMAR Quality Managur ELES PVT. LTD.

\*\*\*\*End of Report\*\*\*\*

Authorised Signatory

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

### 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 allowed in the Test Report refer or relates only to the jobranalysis 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 waters 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 appearance of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the context or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the low. 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 schodule manusioned in Test Report is in 24bears 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@elespi.co.in , eles.ranchi@gmail.com

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



TC-15581

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/2699	Report Release Date	: 20.05.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400000668F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3005 : Mines Near Quarry – 7C Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 11.05.2024 to 12.05.2024 : 15.05.2024	
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 15.05.2024 to 20.05.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 34	2	Barometric Pressure (mmH)	g) : 742
3	Relative Humidity (%) : 60	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	33	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part- II/Sec- 1): 2023	7.9	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part- 6): 2022	25.3	80 (24hrs)	
Ozone (O <sub>3</sub> )	μg/m³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH <sub>3</sub> )	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	0.01	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 1 of 2

The Document stated as Text 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 Text Report refer or relates only in the jobianalysis done by the Laboratory only. The information stated on the Text 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 secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction mouses. Any unauthorized alteration & fabrilication of the content or appearance of the Text Report is unlawful and offenders may be presecuted to the fallest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Text 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 Text Report released/issued. After the time period stated before, no compliants will be accepted. The entire Time schedule mentioned in Text Report is in 24bours format. Abbreviation used: N/A (Not Applicables), BERL (Relow Detection Limit); LDL (Lawer 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



10-12587

### TEST REPORT

Test Report No.	: ELES/RNC/2024/2699	Report Release Date	: 20.05.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400000668F	1		

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

Reviewed by

Quality Manager FLES PVT, LTD. \*\*\*\*End of Report\*\*\*\*

Authorised Signatory

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

## 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 as pre-approved format. The results shown in the Test Report sefer or relates only to the jubinarilysis 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 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 Mattagement of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction insizes. Any unauthorized alteration & faisification of the consens or appearance of the Test Report is unlawful and offenders may be provided to the falliest 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 Report is 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 mentioned in Test Report is in 24boars format. Abbreviation used. N/A (Not Applicable), BDI. (Below Decessor Limit), LDI. (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA MATIA, RANCHI-834003 (IHARKHAND) GST NO:- 20AAEC89713D1Z4



Email: Info@elesal.co.in . eles.ranch/@amel.com

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



### TEST REPORT

Test Report No.	: ELES/RNC/2024/2680	Report Release Date	: 18.65.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000649F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/2971 : Near Pakri Gada Village : 10.05,2024 to 11.05,2024	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 13.05.2024 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvl Ltd.	
Period of Analysis	: 13.05.2024 to 18.05.2024	Sample Condition	: Scaled & Preserved	

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	:33	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: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	59	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24); 2019	32	60 (24hrs)		
Sulphur Di-Oxide (SO <sub>2</sub> )	µg/m³	IS 5182 (Part-II/Sec-1): 2023	8.5	80 (24hrs)		
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	IS-5182 (Part- 6): 2022	24.9	80 (24hrs)		
Ozone (O <sub>3</sub> )	μ <u>α</u> /m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH <sub>1</sub> )	μ <u>μ</u> /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	< 0.002	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 I of 2

The Document stated as Test Report, is usual by the Laboratory under General Terms and Constitution, only on Company letter head in pre-approved format. The results above in the Test Report selects on the policicallyst done by the Laboratory only. The influences stated on the Test Report selects the Initiags share by the Laboratory of the test of involvement only and votion the lowes of allows's automation. The Laboratory is required for all the report as not taken out of common without prior written approval of the Laboratory. The Report is full or in part shall not be published, advertise, used for any legal actions college prior permission has been secured from the Management of the Laboratory. Attention is drawn to the Emission of liability, compensated and prioritization innoval. Any anarchitect alteration & Calaboratory and efficiency of the Test Report is universal and efficience and prioritization of the laboratory appearance of the Test Report is universal and efficience and to the fullest extent of the laboratory are retained for 15 days from the Date of existing from Regulatory bodies are to be retained as specified. Any type of Conventions or Completel Test Report in the Report released/manel. After the tone period stated before, no completes well be appeared. The entire Test Report in Test Report format. Abstraction and No. (No. Applicable): BDL (Below Detection Limit, L.D. (Lower Deportion Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPLIDANA HATIA, RANCHI-834003 (JHARKHAND) GET NO-20148CE97130124

### ENGINEERING SERVICES PVY, LTD.

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

Phone no.: 0651-2290303 Website: www.elespi.co.in



#### TEST REPORT

Test Report No.	: ELES/RNC/2024/2680	Report Release Date	: 18.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
LT R No.	- TC (38872480000649E		

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

AKACHHAUMAR Quality Manager

ELES PVT. LTD.

\*\*\*\*End of Report\*\*\*\*

Authorised Signatory

Ph D Environmental Fogg.

ELES Pvt. Ltd. Technical Manual

Page 2 of 2

The Document stated at Test Report, it issued by the Laboratory under General Terms and Conditions, only on Company home head in pre-approved format. The results shown in the Test Report reflects the findings done by the Laboratory only. The milestration stated on the Test Report reflects the findings done by the Laboratory at the once of servicement only and within the limits of ellect a introducement. The Laboratory is temperative for all the information or data provided on the report, energy the information which is provided by the citera. The Report cannot be reportated entry in full and any part of the report is not taken out of centers, without prior written approval of the Laboratory. The Report is full or in part shall only be published, advertise, used for any legal actions values prior perturbish has been secured from the Management of the Laboratory. Attention is drawn to the familiary compensation and jurisdiction mass. Any annutational elements of the Test Report is actionful and offenders may be presecuted to the fallest entry of the law. All the samples are retained for Moleys from the Date of Test Report to action of the Report released made to be retained as specified. Any type of Observations of Complaints regarding the Reports shall be done within 15-best from the Date of Test Report released made NA (Not Applicable), IEE. (Record Detection Limit), LEE. (Lower Description Limit)



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (HARRIYAND) 65T NO-201480597130184



Email: Info@elessi.co.ir., eles ranchi@pmail.com

Phone no.: 0651-2290109 Website : www.elespi.co.in



#### TEST REPORT

Test Report No.	: ELES/RNC/2024/2681	Report Release Date	18,05.2024
Work Order No.	: 13612312113	Work Order Date	28.63.2024
ULR No.	: TC135872400000650F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/2972 : Near Pol Pol Village : 10.05.2024 to 11.05.2024
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 13.05.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 13.05.2024 to 18.05.2024	Sample Condition	: Sealed & Preserved

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

Discipline:	Chemical	Group: Atm	ospheric Pollu	rtion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	60	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	32	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	µg/m³	IS 5182 (Part-II/Sec-1): 2023	8.5	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m³	IS 5182 (Part- 6): 2022	24.7	80 (24hrs)
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH <sub>3</sub> )	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)	ug/m³	IS 5182 (Part- 22): 2019	0.009	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Purt-26): 2020	< 6.0	20 (Annual)
Amenic (As)	ng/m²	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

The Document stand as Test Roport, is issued by the Laboratory under Countries and Conditions, only on Company letter lead to got approved format. The results above to the Test Report refer to relates only as the job leads to digit a sustruction. The Laboratory is responsible for all the report refer to relates only and within the limits of client a sustruction. The Laboratory is responsible for all the report to the taken out of context, without prior written approved of the Laboratory. The Report is full or or part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attenuate is those to the formation of liability, compensation and paradiction towards and interested alteration & Oblification of the contents or appearance of the Test Report is unlessful and influence may be presecuted to the full for the fact and the management of the Test Report is unlessful and influence may be presecuted to the full formation of the law. All the complex are remained for Philaps from the Date of releases these of the Test Report. The samples from Regulatory bodies are so be returned as specified. Any type of Observations or Complains regarding the Reports shall be done within 15days from the Date of Test Report at Report refereed/count. After the time period shall before, on complaints will be accepted. The entire Time schedule mentioned in Test Report to its Test Report telescoles and NA (Not Applicable), ROL (Record Decision Limit), LDL (Lower Decision Limit).



# $ENVIRONMENTAL\,LABORATO$

PLOT NO-30, MANSAROVAR ENCLAYE, TURUDANA HATIA, RANCHI-894003 (IHARUHANO) GST NO-2004 ECESTLEDIZA

Empli: Info@elesol.co.in . eles.randi/@gmail.com Phone no.: 0651-2290103

Website : www.efespi.co.in



TEST REPORT

: 18.05.2024 Test Report No. : ELES/RNC/2024/2681 Report Release Date : 28.03.2024 Work Order No. Work Order Date 13612312113

ELR No. : TC135872400000650F

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C <sub>t</sub> H <sub>t</sub> )	μg/m³	ELES/GC/SOP/06: 2023	<2,5	05(Annual)
Benzo-(a)-Pyrene	ng/m <sup>8</sup>	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 Komar Strain Ph. D. Environmental Eng.

ALES PVE Ltd. Technical Menor to

Page 2 of 2

The Document more as Ten Report, is issued by the Laboratory under Corneal Terms and Conditions, only on Company fetter head as pro-approved formst. The results above in the Test Report refer or relates only to the job headysts down by the Laboratory only. The references stated on the Test Report reflects the findings done by the Laboratory is responsible for all the information or data provided on the report. except the information which is provided by the claim. The Report sament he 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 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 to the legislator of Fabrillay, compensation and jurisdiction tours. Any accompensation at fabrillation of the commence appearance of the Text Report is unlessful and efficulars may be prosecuted to the fullest extent of the law. All the samples are received for EMsys from the Thin of release/true of the Test Report. The complex from Regulatory bed as use to be retained as specified. Any type of Observation or Complexes regarding the Reports shall he done within 15favy from the Date of Test Report released/sexed. After the time period stated helicus, an complaints will be accepted. The enter Time schedule mentioned in Test Report is to 2 Storag Dema. Abbreviation used: NA OSs; Applicable), BDL (Below Detection Lines), LDL (Lawer Desection Lines).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-EBIDOS (INARKHAND) GST NO- 20A4ECES718DLOV

### ENGINEERING SERVICES PVT. LTD.

Email: info@elessi co.in . eles ranchi@amail.com

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



#### TEST REPORT

Test Report No.	: ELES/RNC/2024/2682	Report Release Date	: 18.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000651F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/2973 : Near Shakhuapani Village : 10.05.2024 to 11.05.2024
Address	: Loharduga, Jhurkhand-835302	Sample Received Date Type of Sample	: 13.05.2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 13.05.2024 to 18.05.2024	Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFO	MATION			
1 Average Temperature (°C)	: 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)	hiim <sub>3</sub>	IS 5182 (Part- 23): 2022	60	100 (24hrs)	
Particulate Matter (PM2.5)	μ <u>w</u> /m³	1S 5182 (Part- 24): 2019	33	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m <sup>3</sup>	IS 5182 (Part- II/Sec- 1): 2023	7.1	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>1</sub> )	µg/m³	IS 5182 (Part- 6): 2022	23.5	80 (24hrs)	
Ozone (O <sub>5</sub> )	µg/m²	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)	
Ammonia (NH <sub>3</sub> )	µg/m²	IS 5182 (Part-25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m <sup>s</sup>	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Leid (Pb)	μg/m <sup>1</sup>	IS 5182 (Part- 22): 2019	0.008	1, (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26); 2020	<6.0	20 (Annual)	
Amenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	56 (Annual)	

### Page 1 of 2

The Document stated as Test Report, is smoothly the Laboratory under Goustal Terms and Conditions, only on Company Setter head to pre-approved format. The results shown as the Test Report retier or relates only to the jobiouslysis done by the Laboratory saily. 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 ellent's competitions. The Laboratory is responsible for all the information or data provided on the report, entered the information which is provided by the ellent. The Report common be reproduced except in full and any part of the report is not taken out of context, without prior netters approved of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions which prior permission has been occured from the Management of the Laboratory. Attention is drawn to the lumination of inhibity, compensation and prinderston mater. Any consultance of all the samples are retained for Military from the Data of splantations of the Test Report is unlawful and offenders may be pronocated to the fullian extent of the law. All the samples are retained for Military of Splantations of the Test Report. The complex time Regulatory bodies are to be retained as specified. Any type of Observations of Complexity regarding the Report shall be done within 15 days from the Data of Test Report refersed/small. After the time period should before, no completely will be accepted. The other Tests substale membered in Test Report is in Discuss Terms. Abbreviation used 10% (Nos Applicables, HIDL (Rickow Description Limit), LDL (Lower Description Limit).



PLOT NO-30, MANSAROVIAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHANO) GST NO- JOAASCES7180124



Empli: Info@elespl.co.in , eles.ranchi@ampli.com

Phone no.: 0651-2290103 Wabsite : www.elespl.co.lo



#### TEST REPORT

Test Report No.	: ELES/RNC/2024/2682	Report Release Date	: 18.05.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400000651F		The second secon	

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C <sub>4</sub> H <sub>4</sub> )	µg/m²	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	nu/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

AKAShpirewiki B

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

Authorised Signatory

Dr. Deependra Komun Sinau Ph. D Environmental Ship

ELES Pvt. Ltd. Technical Llane

Page 2 of 2

The Discussest stated as Test Report, as assent by the Laboratory under General Turns and Catalisians, only on Company Setter hand in pro-approved forms. The results above in the Test Report refer or release unity to the percentage of the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and writes the limits of claser's moractions. The Laboratory is responsible for all the information or data provided on the supers, except the information which is provided by the elient. The Report cannot be reposliced except to full and my part of the report is not taken out of context, seahout prior section approval of the Laboratory. The Report is full or in part shall not be politicled, advertise, used for any legal actions online prior principles from the Standard from the Standard of the Laboratory. Attention is drawn to the Similation of Hability, economical and jurisdiction issues. Any seastherized alternation & Date Section of the Laboratory of the Test Report is selected and offendard may be prospected to the failure extent of the Lab.. All the samples are returned for Dates from the Date of educacionae of the Ten Report. The samples from Regulatory bodies not to be retroved as specified. Any type of Observations or Complaints regarding the Reports shall he door writes 15days from the Date of Test Report released/second. After the time period stand before, no complaints will be accepted. The event Time urhedule ingentional to Yest Report in to 24 hours format. Abbreviation used: NVA (New Applicable); BOIL (Nelson Detection Lossit); EDIL (Lossit); EDI



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARIOIANO) GET NO:- 20AAECERT130124



Emoil: info@elesal.co.in . eles.ranchi@pmail.com

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/2683	Report Release Date	: 18.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000652F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/2974 : Near Dipa Kujam Village : 10.05.2024 to 11.05.2024
Address	: Lohardaga, Jharkhand-835302	Type of Sample	: Ambient Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 13.05.2024 to 18.05.2024	Sample Condition	: Sealed & Preserved

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

Discipline:	Chemical	Group: Atm	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m²	IS 5182 (Part- 23): 2022	61	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	35	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	µg/m²	15 5182 (Part-II/Sec-1): 2023	7.6	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m³	IS 5182 (Part- 6); 2022	24,7	80 (24hrs)	
Ozone (O <sub>3</sub> )	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH <sub>3</sub> )	µg/m²	IS 5182 (Part-25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Loud (Pb)	µg/m²	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 I of 2

The Document stand as Test Report, is installed by the Laboratory under Control Terms and Conditions, only on Company letter bend in the improved forms. The results of the Test Report refer or relates only and within the basis of client's institutions. 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 cament be enproduced except in full and any part of the report is not taken out of context, without print written approval of the Laboratory. The Report in that for the published, advertice, used for any logal actions unless prior permission has been accorded from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and particleion issues. Any unsubtrived absorbing the name of the name of the Test Report is unless full and of frienders may be promisted to the finitest extent of the law. All the samples are saturated to 30 feels and of release base of the Test Report is unless fully business are to be retained as specified. Any type of Observations in Complaints regarding the Reports shall be since within 155ays from the Date of Test Report in the Test Report released from No. (One Applicable), 1911. (Delease Described Linear), LOC (Linear Described Linear).



PLOT NO-30, MANSAROVAR ENCLAYE, TUPUDANIA HATIA, RANCHI-634003 (HARISHAND) 63T NO:-20A4ECE97330374



Empir info@elexpl.co.in . elex.ranchi@amail.com

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



### TEST REPORT

Test Report No.	: ELES/RNC/2024/2683	Report Release Date	: 18.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03,2024
ULR No.	: TC135872490000652F		

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>4</sub> H <sub>0</sub> )	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)	

AKASHI WARAR Quality Managur FLES PVT, LTD.

\*\*\*\*End of Report\*\*\*\*

Authorised Signatory

Ph. D Environmental Enga ELES Pvt. Ltd. Technical Mann

Page 2 of 2

The Decument status as Test Report, is among by the Laboratory under General Terms and Conditions, only on Company letter head is pre-approved liamned. The results about in the Test Report series on the polytometric description of the Laboratory only. The collemnance status on the Test Report reflects the findings done by the Laboratory in the time of involvement only and within the limits of claims a mitraction. The Laboratory is expensible for all the information or data provided by the claim. 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 as in part shall set be published, advertise, used for any legal scrimes unline prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and parishetion mater. Any scaudiorized alteration de falsification of the Management of the Test Report is unlawful and effenders may be proported to the fullest events of the law. All the samples are reserved for Reports of the Report of the Test Report. The samples from Regulatory bodies are to be retained an appearance of the Law. All the samples are required for Reports shall be done within 15 days from the Osca of Test Report reference/fromat. After the time period stated before, no compliance will be accepted. The entire Time actividate mentioned in Test Report is in 24 hours December 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-13981

### TEST REPORT

Test Report No.	: ELES/RNC/2024/2893	Report Release Date	: 28.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000853F		

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2024/DW/3015 : 12.05.2024 : 15.05.2024	
Address	: Lohardaga, Jharkhand-835302	Type of Sample Source/Location of Sample	: Drinking Water : Near Store Room, Amtipani Bauxite Mines (190,95ha)	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01	
Period of Analysis	: 15.05.2024 to 23.05.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

Discipline : Chemical		Group :	Water	Regulatory Limit as per IS 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
pH (at 25.5 °C)	*	APHA 24th Ed.2023, 4500-H	6.53	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 24th Ed.2023, 2130 B	0.12	1.0	5.0
Taste	9	APHA 24th Ed.2023, 2160 C	Agreeable	Agreeable	Agreeable
Odour	37	IS 3025 (Part-5) :2018	Agreeable	Agreeable	Agreeable
Colour	Hazen	APHA 24th Ed.2023, 2120B&D	1.0	5	15
Total Dissolved Solids (TDS)	mg/L	APHA 24th Ed.2023, 2540B,C&D	112	500	2000
Chloride (as Cl)	mg/L	APHA 24th Ed.2023, 4500 Cl B	9.64	250	1000
Fluoride (as F)	mg/L	APHA 24th Ed.2023, 4500 F-D	BDL (DL: 0.1)	1.0	1.5
Total Alkalinity (as CaCO <sub>3</sub> )	mg/L	APHA 24th Ed.2023, 2320 B	76.2	200	600
Total Hardness (as CaCO <sub>3</sub> )	mg/L	APHA 24th Ed.2023, 2340 C	69.6	200	600
Sulphate (as SO <sub>4</sub> )	mg/L	APHA 24th Ed.2023, 4500 SO <sub>4</sub> t2-E	BDL (DL: 1.0)	200	400

Page 1 of 4

The Document stated in Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer 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 unainthorized alteration & fulsification 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 3/hdays 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:- 20AAECE971301Z4

### GINEERING SERVICES PVT. LTD.

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

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



### TEST REPORT

: 28.05.2024 : ELES/RNC/2024/2893 Report Release Date Test Report No. : 28,03,2024 Work Order Date : 13612312113 Work Order No.

: TC135872400000853F ULR No.

Discipline : Chemica	d	Grou	p: Water		0500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Nitrate (as NO <sub>3</sub> )	mg/L	APHA 24th Ed.2023, 4500 NO <sub>3</sub> -B	BDL (DL: 0.5)	45	No Relaxation
Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025 (Part 43/Sec1): 2022	BDL (DL: 0.001)	0.001	0.002
Free Residual Chlorine (RFC)	mg/L	1S 3025 (Part-26): 2021	BDL (DL: 0.1)	0.2	1.0
Calcium (as Ca)	mg/L	APHA 24th Ed.2023, 3500 Ca B	18.5	75	200
Anionic Surfactants (as MBAS)	mg/L	APHA 24th Ed.2023, 5540-C	BDL (DL: 0.025)	0.2	1.0
Discipline : Chemic	al	Gro	oup: Residues i	n Water	
Aluminum (as Al)	mg/L	IS 3025 (Part-55) :2003; RA2019	BDL (DL: 0.02)	0.03	0.2
Arsenic (as As)	mg/L	IS 3025 (Part-37): 2022	BDL (DL: 0.005)	0.01	No Relaxation
Boron (as B)	mg/L	IS 3025 (Part-57): 2021	BDL (DL: 0.2)	0.5	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	IS 3025 (Part-48): 2019	BDL (DL: 0.001)	0.001	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 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 elient'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 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 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.

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/2024/2893
 Report Release Date
 : 28.05.2024

 Work Order No.
 : 13612312113
 Work Order Date
 : 28.03.2024

ULR No. : TC135872400000853F

Discipline : Chemical		Group: Resid	ues in Water	- CONTRACTOR OF THE PARTY OF TH	ory Limit	
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 24th 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				Li	mit	
Alachlor	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)		20	
Atrazine μg/		ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	2.0		
Butachlor	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	1	125	
Chlorpyriphos	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)		30	
Ethion μg/		ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	3.0		
Malathion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	190		
Methyl parathion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.1)	0	.30	
Monocrotophos μg/L		ELES/GC/SOP/01: 2023	BDL (DL: 0.5)			
Phorate	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)		2.0	
Phorate Sulphone	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)		**	
Dieldrin	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.01)	0	0.03	

Page 3 of 4

The Document stated in Test 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 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 partialization issues. Any unauthorized alteration defalsification 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 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 Descetion Limit), LDI. (Lower Descetion Limit).



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

### ENGINEERING SERVICES PVT. LTD.

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

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



TIC-12087

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/2893	Report Release Date	: 28.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000853F		

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/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	0.40	
DDT(o,p and p,p-isomers of DDT,DDEand DDD)	pg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	1.0	
Discipline : Biological		Grou	p: Water		
Total Coliform (Qualitative) Per 100 mL		IS 15185: 2021	Not Detected	Shall not be detected	
Escherichia coli (Qualitative)	Per 100 mL	IS 15185; 2021	Not Detected	Shall not be detected	

Remarks: L. pH and RFC done at Lab.

AKASTANKO WAR

Quality Managar FLES PVT, LTD. \*\*\*\*End of Report\*\*\*\*

Dr. Deependra Komar Sinhu

Ph. D Environmental Engg.
ELES Pvt. Ltd. Technical Manager

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 written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Amention is drawn to the limitation of liability, compensation and jarrisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 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 segarding 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@gmail.com

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

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/2893	Report Release Date	: 28.05.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

CUSTOMER DET	TAILS	SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2024/DW/3015 : 12.05.2024 : 15.05.2024 : Drinking Water	
Mines Status	: Operational	Source/Location of Sample Sampling Procedure	: Near Store Room, Amtipani Bauxite Mines (190.95ha) : ELES/DOC/SMPL/01	
Period of Analysis	: 15.05.2024 to 23.05.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

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

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

ARAISWELLOW MAR Quality Manager

ELES PVT. LTD.

\*\*\*\*End of Report\*\*\*\*

Authorised Signatory
Dr. Deependra Kumar Sinha
Ph. D Environmental Engg.
ELES Pvt. Ltd. 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 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 & 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 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).

# ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Amtipani Bauxite Mine-Environmental Monitoring Report

June 2024



### CONTENT

333	Hindalco Industries: Amtipani Bauxite Mine Environmental Monitoring Report - June2024
	Amtipani Bauxite Mine
	AMBIENT AIR QUALITY- CORE ZONE
1.	Mine Entrance Gate
2	Near Mine Office/WB
3	Mines Near Quarry – 1F
4	Mines Near Quarry – 7C
	AMBIENT AIR QUALITY- BUFFER ZONE
1	Near PakriGada Village
2	Near Pol Pol Village
3	Near Shakhuapani Village
4	Near DipaKujam Village







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



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/2024/3397
 Report Release Date
 : 24.06.2024

 Work Order No.
 : 13612312113
 Work Order Date
 : 28.03.2024

ULR No. : TC135872400001348F

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3848 : Mine Entrance Gate Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 18.06.2024 to 19.06.2024 : 20.06.2024 : 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. : Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 39	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%) : 57	4	Weather Condition	: Clear

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	68	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	40	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part-II/Sec-1): 2023	8.9	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part- 6): 2022	25.3	80 (24hrs)
Ozone (O <sub>3</sub> )	μg/m <sup>3</sup>	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)
Ammonia (NH <sub>3</sub> )	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	1S 5182 (Part- 22): 2019	0.012	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

#### Page 1 of 2

The Document stated as Test Report, as 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 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 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 secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsisfication of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest examt of the law. All the samples are retained for 30days from the Date of release/conse 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 24bours format. Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limit); LDL (Lower Detection Limit).

terry Standardment State Paristic



PLOT NO-30, MANSAROVAR ENCLAVE, TUPLIDANA HATIA, RANCHI-834008 (JHARKHANO) GST NO:- 20AAECE97130124

### ENGINEERING SERVICES PVT. LTD.

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

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



### TEST REPORT

Test Report No.	: ELES/RNC/2024/3397	Report Release Date	: 24.06.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001348F			

Discipline: Chemical		Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C <sub>6</sub> H <sub>6</sub> )	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 Manager

Page 2 of 2

The Document stated as Test Report, is issued by the Luboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or refers or refers or refers only to the jubilizatives 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 secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, componitation and jurisdiction issues. Any unauthorized alteration & fabrication of the content or appearance of the Test Report is subawful and offenders may be prosecuted to the fallest extent of the law. All the samples are betained 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 Report is before, no compliants 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, TLIPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:-20AAECE9713D124

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



### TEST REPORT

Test Report No.	: ELES/RNC/2024/3398	Report Release Date	: 24.06.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001349F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3849 : Near Mine Office/WB Amtipani Bauxite Mine (190.95 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 18.06.2024 to 19.06.2024 : 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	MATION			
1	Average Temperature (°C)	: 39	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 57	4	Weather Condition	: Clear

Discipline: 0	Chemical	Group: Atm	ospherie Pollu	ition
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/m³	IS 5182 (Part- 24): 2019	32	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part- II/Sec- 1): 2023	7.8	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part- 6): 2022	24.2	80 (24hrs)
Ozone (O <sub>3</sub> )	µg/m³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH <sub>3</sub> )	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	0.008	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

#### 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 jubianalysis done by the Laboratory only. The unimmation 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 secured from the Management of the Laboratory. Attention to 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 fullest extent of the law. All the samples are retained for Jüdaya from the Date oil 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:- 20AAECE97130124

### ENGINEERING SERVICES PVT. LTD.

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

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



10:48

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/3398	Report Release Date	: 24.06.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001349F		

Discipline: Chemical		Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C <sub>s</sub> H <sub>e</sub> )	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

Quality Managor ELES PVT, LTD. \*\*\*\*End of Report\*\*\*\*

Authorised Signatory

Dr. Deependra Kumar Sinha Ph. D Environmental Engg.

ELES Pvt. Ltd. Technical Manan

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 jobiumalysis 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 in 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 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/assue 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 (Nos Applicables, BDL (Below Detection Limit), LDL (Lawer 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-13887

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/3399	Report Release Date	: 24.06.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001350F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3850 : Mines Near Quarry – 1F Amtipani Bauxite Mine (190.95 ha
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 18.06.2024 to 19.06.2024 : 20.06.2024 : 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. : Sealed & Preserved

MI	ETEOROLOGICAL INFOR	MATION				
1	Average Temperature (°C)	: 39	2	Barometric Pressure (mmHg)	: 742	
3	Relative Humidity (%)	: 57	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	59	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	31	60 (24hrs)		
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	1S 5182 (Part-11/Sec- 1): 2023	7.2	80 (24hrs)		
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part- 6): 2022	23.8	80 (24hrs)		
Ozone (O <sub>3</sub> )	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH <sub>2</sub> )	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	1S 5182 (Part- 22): 2019	0.009	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 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 shawn 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 & 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 samples are retained for Jödays from the Date of release/issue of the Yest 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 Desection Limit). LDL (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



10:1988

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/3399	Report Release Date	: 24.06.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
III.R No.	: TC135872400001350F	7		

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>6</sub> H <sub>6</sub> )	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. Deependra Kurnar 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 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 consest, 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 coment 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 30thays from the Date of relative from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15thays from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The emitted time mentioned in Test Report is in 24hours format. Abbreviation used: WA (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.elespi.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2024/3400	Report Release Date	: 24.06.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001351F	17		

CUSTOMER DET	CUSTOMER DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3851 : Mines Near Quarry – 7C Amtipani Bauxite Mine (190.95 ha
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 18.06.2024 to 19.06.2024 : 20.06.2024 : 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. : Sealed & Preserved

MI	TEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 39	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%) : 57	4	Weather Condition	: Clear

Discipline: 0	Chemical	Group: Atm	ospheric Pollu	ition	
Parameter	Unit	Test Protocol	Result	Regulatory Limi	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	59	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	31	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part-11/Sec-1): 2023	7.1	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part- 6): 2022	24.9	80 (24hrs)	
Ozone (O <sub>2</sub> )	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH <sub>3</sub> )	µg/m³	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m <sup>3</sup>	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.009	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

The Document stated as Test Report, is insued by the Laboratory under General Terms and Conditions, only on Company lotter head in pre-approved format. The results above in the Test Report refer or relates only to the jobranalysis 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 everyt 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 unumberized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be proceduded to the fullest extent of the law. All the samples are retained for 36days from the Date of released issued to the 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 Desection Limit), LDL (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: www.elespl.co.in



### TEST REPORT

Test Report No.	: ELES/RNC/2024/3400	Report Release Date	: 24.06,2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001351F			

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C <sub>t</sub> H <sub>6</sub> )	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 Managur ELES PVT LTD.

\*\*\*\*End of Report\*\*\*\*

Dr. Delegrised Sindaterar Sinha Ph. D Environmental Engg. ELES Pvt. Ltd. Technical Manager

Page 2 of 2

The Document stated as Fest Report, is issued 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 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 current or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest essent of the law. All the samples are retained for 40days 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 emire Time schedule mentioned in Test Report is in 24hours format. Afterestation used. N/A (Not Applicable), BDL (Below Desection Limit), LDL (Lower Detection Limit).



PLCIT NO-30, MANSAROVAR ENCLAVE, TUPUDANA MATIA, RANCHI-834003 (IHARKHAND) DIT NO.- 204A80037130114

### ENGINEERING SERVICES PYT. LYD.

Empli: info@elespi.co.in. eles roncivi@ommi.com

Rhone no.: 0681-2290103 Website | www.elespi.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2024/3393	Report Release Date	: 24.06.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03,2024
ULR No.	: TC135872400001344F		

CUSTOMER DET	CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/3844 : Near Pakri Gada Village : 17.06.2024 to 18.06,2024	
Address	; Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 20.06.2024 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 20.06.2024 to 24.06.2024	Sample Condition	: Sealed & Preserved	

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

Discipline: (	Discipline: Chemical		ospheric Pollu	tion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Purt- 23): 2022	57	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	30	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m <sup>2</sup>	IS 5182 (Part-II/Sec- 1): 2023	7.9	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m <sup>1</sup>	IS 5182 (Part- 6): 2022	24.1	80 (24hrs)
Ozone (O <sub>1</sub> )	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH <sub>3</sub> )	μg/m <sup>†</sup>	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	0,1>	2 (8hrs)
Lead (Pb)	µg/m³	1S: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 record by the Laboratory under General Terms and Construction, only in Company letter hand in pre-approved formin. The results above in the Test Report reflects the findings alone 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 above to source time. 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 one of concept, without prior writers approved of the Laboratory. The Report is full or in part shall not be published, adventure, used for any legal actions unless prior permission has been recursed from the Management of the Laboratory. Attention is driven to the horizontes of liability, compensation and jurisdiction instead. Any unsufficient above to the findings from the Date contact or appearance of the Test Report is unlessful and offenders may be processed to the fulfact extern of the law. All the samples are returned for Reports that the date within 15 laws from the Date of Test Report Part of the Report of the time part of stand before, no complicate will be accepted. The entire Time sithed demonstrated in Test Report is in Test Report forms. Abboration used: N/A (Non Applicable) fall II. (Below Detection Limit) LDL (Lower Emertion Limit)



PLOT NO-3C, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-B38003 (SKARKHAND) GST NO-3SARSESFILBULIA



Small info@eiespl.co.in . eles.ranchi@amail.com

Phone no.: 0651-2290107 Website: www.elespi.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2024/3393	Report Release Date	: 24.06.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001344F			

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C <sub>6</sub> H <sub>6</sub> )	jug/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 Managur ELES PVT, LTD.

\*\*\*\*End of Report\*\*\*\*

Authorised Signatory

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

Page 2 of 2

The Donasters stated as Test Report, in issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved forms. The results shown in the Test Report relief or reliefs outly 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 squaterment only and orition 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 alient. The Report cannot be reproduced except in full and any part of the report is not taken out of content, without prior written approach of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions address prior parasisson has been recurred from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and production makes. Any analytically attention of the computer of the Test Report is unfascial and officulers may be prosecuted to the full extent of the insec. All the numbers are retained for Johlays from the Date of relocutions of the Test Report, The named is Report priorities are by the Reports shall be done within 15 days from the Date of relocutional or Test Report priorities on Test Report priorities and Test Report priorities are the strength of the magnitude of Test Report priorities and North Applicable). BOL (Relocution Compliants will be accepted. The strength members of the Test Report formal. Abbreviation used NOR (Not Applicable). BOL (Relocution Compliants will be accepted. The strength members of the Test Report formal. Abbreviation used NOR (Not Applicable). BOL (Relocution Compliants). D.L. (Locution Compliants).



PLOT NO 30, MANSAROVAN ENCLAVE, FUPUDANA HATIA RANCHI-BBADOS (SHARRHAND) 357 NO - 204 ASCEST LEGIZE



Email: <u>Info@elessi.co.in</u> , eles.co.ohi@amail.com Phone nn : 0851-2250103

Website : www.eleapl.tp.in



TEST REPORT

Test Report No.	: ELES/RNC/2024/3394	Report Release Date	: 24.06.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001345F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/3845 : Near Pol Pol Village : 17.06.2024 to 18.06.2024
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 20.06.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 20.06.2024 to 24.06.2024	Sample Condition	: Sealed & Preserved

IETEOROLOGICAL INFORMATION			
Average Temperature (*C) : 38	2	Barometric Pressure (mmHg)	:742
Relative Humidity (%) : 59	4	Weather Condition	; Clear

Discipline: 0	Discipline: Chemical		ospheric Pollu	tion
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	30	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part-II/Sec- 1): 2023	7.2	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part- 6): 2022	24.9	80 (24hrs)
Ozone (O <sub>2</sub> )	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH <sub>2</sub> )	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/m1	IS 5182 (Part- 26); 2020	<6.0	20 (Annual)
Arsenie (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

The Document status as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved Seynas. The results alterests in the Test Report refer or celaser only in the jobilisedynis done by the Laboratory only. The information stated on the Test Report reflects the findings flowe by the Laboratory at the time of involvement only and within the limits of client's connections. The Laboratory is responsible for all the enforcement or data provided on the report, except the information which is previded by the client. The Report cannot be reproduced except in full and any part of the report is oct taken our of correct, 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 geter permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of lightliny, compensation and particles issues. Any unauthorized alteration & falsification of the contains of appearance of the Text Report is unfamilial and offenders may be presecuted to the foliast extent of the low. All the samples are retained for 30days from the Date of values have of the East Report. The samples from Regulatory hodies are to be retained as specified. Any type of Observations or Complaints regarding the Report what he dawn within 15days from the Date of East Report released/respect. After the time period stand before, no complaints will be accepted. The entire Time subadale mentioned in Test Report to in 34hours former. Abbreviation used: N/A (Not Applicable); BDL (Refers Detected Limit); LDL (Lovery Detection Limit).



PLOT NO-BO, MANSABOVAR EVOLAVE, TUPCIDANA MATIA, RANCHI-B3-0003 (THERKHEND) DET NO:- 204/ASCRETIROSS

### SYGNEERING SERVICES PV7. LTD.

From Info@election in electronical@smoll.com

Phone no.: 0681-2290303 Websitz runnweinspl.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2024/3394	Report Release Date	: 24.06.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001345F		

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C <sub>4</sub> H <sub>6</sub> )	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m <sup>3</sup>	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

AKASYFKOWAR Quality Managur ELES PVT. LTD.

\*\*\*\*End of Report\*\*\*\*

Authorised Signatory
Dr. Deependra Kumar Sinha

Ph. D Environmental Engg.
ELES Pvt. Ltd. Technical Manuscr

Page 2 of 2

The Document stated as Tast Report, is smued by the Laboratory under General Terms and Conditions, only in Company letter head in pro-approved format. The results shown in the Test Report rather or ratains only in the jubicanilysis done by the Laboratory under The information stated on the Test Report raffects the findings does 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 estimate be reproduced encept in full and any part of the report is not taken out of content, without provided any approval of the Laboratory. The Report is tall 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 deport to the limitation of bathley, compressions and jurisdiction issues. Any unsuffering distribution of the matter of the law Report is unlawful and effections may be provided to the falses extent of the law. All the samples are retained for Molays then the Date of interesting of the Test Report. The samples from Regulatory bodies are to be retained as aposition. Any type of Observations or Compliants regarding the Reports shall be done within 15days from the Date of Test Report released to the time period stated britter, no compliants will be accepted. The entire Time setuplishment of its Test Report is in 24hours forms. Abbreviation and NA (Not Applicables BID), (British Dentire) Limit), LDC (Lasser Detection Limit).



PLOT NO-3D MANSAROVAR ENCLAVE, TUPUDANA HATIL RANCHI-E34003 (JHARKHAND) BIT NO-25A4ECEST LSOLDS



Email: Info:# 6/250.co.in . elec.remini@printl.com Phone no. - 0651-2290103 Website I work sizial co.in



TEST REPORT

Test Report No.	: ELES/RNC/2024/3395	Report Release Date	: 24,06.2024
Work Order No.	: 13612312113	Work Order Date	: 28,03.2024
ULR No.	: TC135872400001346F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/3846 : Near Shakhuapani Village : 17.06.2024 to 18.06.2024
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 20.06.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 20.06.2024 to 24.06.2024	Sample Condition	: Sealed & Preserved

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

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	58	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	-31	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part-II/Sec- 1): 2023	6.9	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m³	IS 5182 (Part- 6): 2022	24.2	80 (24hrs)
Ozone (O <sub>3</sub> )	μg/m <sup>8</sup>	1S 5182 (Part- 9): 2019	<20.0	100 (Shrs)
Ammonia (NH <sub>2</sub> )	μg/m <sup>3</sup>	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	0.007	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenie (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

The Document stand at Test Report, is issued by the Laboratory under Gaussil Terms and Conditions, only on Company letter head at pre-approved firmtat. The exactly aboves in the Test Report reflects the feedings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and my part of the report is not taken out of content, without prior scriber approval of the Laboratory. The Report is full or in part shall not be published, advention, used for any legal actions unless prior permission has been accused from the Management of the Laboratory. Accustion to the limitation of fabrilley, compensation and jurisdiction instant. Any unauthorized alteration is fabrilled and of includes may be prosecuted to the follow. All the amplies are retained for alternation of the Test Report is unstanded or distributed as a better within 15 days thou the Date of Test Report interactions used. After the time period stated before, no complaints will be accepted. The entire Time actionals managed in Test Expert is in 24 ment forms. Abbusiness used. N/A (No. Applicable), BOL (Below Detection Limit), LDL (Limits Devotion Limit).



PLOT NO-SC. MANSASONAR ENCLAVE. TUPHDANA HATIA, BANCHI-ESADES (PHARKHAND) UNT NO-JUAN-CESTLINGS



Empli info@eletal.co.ip., elez.roccii@ampli.com Phone no.: 0621-2290108 Wapsite: www.eletal.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2024/3395	Report Release Date	: 24.06.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001346F		

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (CsH4)	ug/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Вепдо-(а)-Ругепе	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

AKASH KUMAR Quality Managur ELES PVT, LTD.

\*\*\*\*End of Report\*\*\*\*

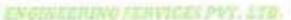
Authorised Signatory
Dr. Deependra Kumar Sinha
Ph. D Environmental Engg.
ELES Pvt. Ltd. Technical Manager

Page 2 of 2

The Document stated as Test Report, is usuad by the Laboratory under General Terms and Conditions, only on Company better head in pre-approved format. The results shown in the Test Report refer or relates only in the politicalysis done by the Laboratory only. The information stated us the Test Report reflects the findings done by the Laboratory at the time of invelvement only and warm the limits of client's standarding. The Laboratory is responsible for all the exhibition 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 content, without price written approval of the Laboratory. The Report is full in the published, advertise, used for any legal account inferior prior permission has been recurred from the histogramms of the Laboratory. Attention to the impattion of lability, comprehense and bettakened assemble are retained alteration d. (abilitation of the authors of the Test Report is unlawful and different may be princepted to the follow enters of the lab. All the samples are retained for bildays from the Date of reinsurfaces of the Test Report. The samples from Regulatory bodies are as be retained as specified. Any type of Observations or Compliants regarding the Reports shall be done within 15 for the part of Test Report released/stated. After the test period stated before, no compliants will be accepted. The current Time scholake excepted in Test Report Remail. Abbreviation and NA (Nas Applicable), BEL (Reliew Detection Linear), LDL (Lower Detection Linear).



PLOT NO-30, MINISAROVAR ENCLAVE, TURIDANA HATIA, RANCHI-834008 (HABRHAND) 637 NO-20XALCEPTINIZA



Email: Info@elasol.co.in : electronchiffigmail.com

Phone no.: 0653-2290103 Website: www.eleph.co.lit



TEST REPORT

Test Report No.	: ELES/RNC/2024/3396	Report Release Date	: 24.06.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001347F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/3847 : Near Dipa Kujam Village : 17.06.2024 to 18.06.2024
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 20.06.2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 20.06,2024 to 24.06,2024	Sample Condition	: Sealed & Preserved

ME	TEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: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	1S 5182 (Part- 23): 2022	57	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	32	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	µg/m²	IS 5182 (Part-II/Sec- 1): 2023	7.4	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part- 6): 2022	23.8	80 (24hrs)	
Ozone (O <sub>3</sub> )	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH <sub>1</sub> )	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)	
Lend (Pb)	µg/m²	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	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 immor. The results alarme in the Test Report refer or retates only to the polytechysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the nine of involvement only and within the immiss of client's respectations. The Laboratory is responsible for all the information or data provided on the report, encapt the information which is provided by the client. The Report excees he reproduced except to full and any part of the report is not taken out of content, without prior actions appeared of the Laboratory. The Report is full or in part shall not be published, advertise, used lie any legal actions solves prior permission has been recurred from the Management of the Laboratory. Amendment is drawn to the limitation of liability, compensation and jurisdiction insues. Any invanishment absention & fabrification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the full-stratement of the law. All the samples are retained for Folders from the Date of retained on the Test Report. The samples from Regulatory budget are to be retained as specified. Any type of Observations or Complaints regarding the Report released/mand. After the time period stated before, no complaints will be accepted. The armost Time schedule reservated in Test Report as in Microsian content. Note Applicables, Etcl. (Below Direction Limit), E.D. (Lewer Detection Limit).



PLOT NO-10, MEANSANOVAR ENCLAVE, TUPUDAMA NATIA, RANCHI-BARDOS (ZHARIOHAND) RET NO-2004/CERTESOTA



Ernall (vib Deletol co.ln , eles ranch (Romoli com Phone no.: 0663-2230168 Website I www.elespi.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2024/3396	Report Release Date	: 24.06.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

ULR No. : TC135872400001347F

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C <sub>5</sub> H <sub>6</sub> )	μg/m²	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 ELES PVT, LTD.

\*\*\*\*End of Report\*\*\*\*

Authorised Signatory

Dr. Deependre Kurnar Sinha Ph. D Environmental Engg SLES Pvt. Ltd. Technical Manar \*\*

Page 2 of 2

The Document stand as Test Report, is remain by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The remain shows in the Test Report reflects the findings done by the Laboratory as the time of avoid-content only and within the foreign of client's instructions. The Laboratory is responsible for all the information or data provided on the report, succept 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 grier permission has been secured from the Management of the Laboratory. Attention, is drawn to the limitation of liability, transportant and jurisdiction insues. Any unauthorized alteration & falcilitation of the centers or apparation of the Test Report is unlessful and offenders may be preserved to the full or expendition of the laboratory and the law Report is unlessful and offenders may be preserved to the full of the law. All the samples are retained for Disease of release from the Laboratory. The samples from Regulatory bodies are in the remaining period stated before, no complaints will be incapted. The entire Tree achievable missioned in Test Report is in 24bours formal. Addressed in No. (No. Applicators), 8001. (Reserved Department, Limit). LDL (Lower Department, Limit)

# ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Amtipani Bauxite Mine-Environmental Monitoring Report

July 2024



# CONTENT

	Hindalco Industries: Amtipani Bauxite Mine Environmental Monitoring Report July2024
	Amtipani Bauxite Mine
	AMBIENT AIR QUALITY- CORE ZONE
1	Mine Entrance Gate
2	Near Mine Office/WB
3	Mines Near Quarry – 1F
4	Mines Near Quarry – 7C
	AMBIENT AIR QUALITY- BUFFER ZONE
1	Tear PakriGada Village
2	Near Pol Pol Village
3	Near Shakhuapani Village
4	Near DipaKujam Village







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

### ENGINEERING SERVICES PVT. LTD.

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

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



TC-13M1

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/4149	Report Release Date	: 24.07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400002084F			

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/4748 : Mine Entrance Gate Amtipani Bauxite Mine (190.95 ha)
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

METEOROLOGICAL INFORMATION	
1 Average Temperature (°C) : 30	2 Barometric Pressure (mmHg) : 741
3 Relative Humidity (%) : 64	4 Weather Condition : Partly Cloudy

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	64	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	35	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part-11/Sec- 1): 2023	7.1	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part- 6): 2022	20.4	80 (24hrs)	
Ozone (O <sub>1</sub> )	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH <sub>3</sub> )	µg/m³	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m <sup>1</sup>	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.010	1 (24hrs)	
Nickel (Ni)	ng/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 issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The rends shown in the Test Report refer or velates 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 price 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 finbility, compensation and parisdiction issues. Any unauthorized alteration & falsification of the context 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 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 15tims from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule measuremed in Test Report is in 24hors format. Abbreviation used. N/A (Non Applicables, 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.elespi.co.in



TC-036

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/4149	Report Release Date	: 24.07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400002084F			

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C <sub>4</sub> H <sub>6</sub> )	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 Managar

Quality Manager ELES PVT, LTD. \*\*\*\*End of Report\*\*\*\*

Authorised Signatory

Dr. Deependra Kumar Sinha Ph. D Environmental Engg.

ELES Pvt. Ltd. Technical Manage

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 refaces only to the jobianalysis done by the Laboratory only. The information stated as the Test Report refaces 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 causes 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 utaniferation & falsification of the coment 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 likelys from the Date of Test Report is unlawful and offenders may be prosecuted 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, on 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 (IHARKHAND) GST NO:- 20AAECE9713D1Z4

### ENCINEERING SERVICES PVT. LTD.

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

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



TC-13367

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/4150	Report Release Date	: 24.07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400002085F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/4749 : Near Mine Office/WB Amtipani Bauxite Mine (190.95 ha)	
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	

METEOROLOGICAL INFORMATION			
1 Average Temperature (°C) : 30	2	Barometric Pressure (mmHg)	: 741
3 Relative Humidity (%) : 64	4	Weather Condition	: Partly Cloudy

Discipline: 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/m³	IS 5182 (Part- 24): 2019	27	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part- II/Sec- 1): 2023	7.3	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m³	IS 5182 (Part- 6): 2022	19.8	80 (24hrs)	
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH <sub>3</sub> )	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 <sup>3</sup>	1S 5182 (Part- 22): 2019	0.004	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 Discurrent stated at Test 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 flodings done by the Laboratory at the time of involvement only and soften 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 aumint be reproduced except in full and any part of the report is not taken and 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 & falsification 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 recurred for intenseciation 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, in complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used N/A (Not Applicable), HDL (Below Detection Limit), LDL (Lower Detection Limit).



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

### ENGINEERING SERVICES PVT. LTD.

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

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



TC-13587

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/4150	Report Release Date	: 24.07.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002085F		

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C <sub>8</sub> H <sub>8</sub> )	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 Manager

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 poc-approved format. The results also in the Test Report refer or referes only as the joblanslysis stone by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of monitoring only and within the lamits 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 retrieve 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 & fabrification of the centure of relaxationates of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for Midnys from the Date of real 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 remainsed 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 (IHARKHAND) GST NO:- 20AAECE97130124

### ENGINEERING SERVICES PVT. LTD.

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

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



TC-13887

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/4151	Report Release Date	: 24.07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400002086F			

CUSTOMER DET	CUSTOMER DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/4750 : Mines Near Quarry – 1F Amtipani Bauxite Mine (190.95 ha)
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

METEOROLOGICAL INFORMATION		
1 Average Temperature (*C) : 30	2 Barometric Pressure (mmHg) : 741	
3 Relative Humidity (%) : 64	4 Weather Condition : Partly	Cloudy

Discipline: 0	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	IS 5182 (Part- 24): 2019	34	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m <sup>1</sup>	IS 5182 (Part-II/Sec- 1): 2023	6.3	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part- 6): 2022	21.2	80 (24hrs)	
Ozone (O <sub>3</sub> )	µg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)	
Ammonia (NH <sub>3</sub> )	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	1S 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 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 and within the limits of client's instructions. 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 price 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 lumination of liability, compensation and jurisdiction issues. Any unsuffering abertain & falsification of the context 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 refease/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 religional. After the time period stated before, to complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDI. (Believe Detection Limit), LDI. (Lower Detection Limit).



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

### ENGINEERING SERVICES PVT. LTD.

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

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



10-11007

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/4151	Report Release Date	: 24.07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400002086F			

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C <sub>6</sub> H <sub>6</sub> )	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 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 formst. The cessals shown in the Test Report refer or relates only us the jubility six 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 sentim 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 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 untuitivisted alteration & falsification of the common 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 30klays from the Date of refused and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30klays from the Date of refused from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15dans 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 24hours formst. Abbreviation used: N/A (Not Applicable): BDL (Below Detection Limit); LDL (Lewer Detection Limit).



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

### ENGINEERING SERVICES PVT. LTD.

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

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



10-1100

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/4152	Report Release Date	: 24.07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400002087F	- //		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/4751 : Mines Near Quarry – 7C Amtipani Bauxite Mine (190.95 ha)	
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) : 30	2	Barometric Pressure (mmHg)	: 741
3	Relative Humidity (%) : 64	4	Weather Condition	: Partly Cloudy

Discipline: (	hemical	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/m³	1S 5182 (Part- 24): 2019	31	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part- II/Sec- 1): 2023	7.4	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part- 6): 2022	19.8	80 (24hrs)	
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH <sub>3</sub> )	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 Discussest stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved forms. The results almost in the Test Report refer or relates only as the joblanalysis alone by the Laboratory at the time of involvement only and within the limits of circu a 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 connext, 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 & fabrillation of the contact of the Test Report is unlawful and offenders may be proveded to the foliest extent of the law. All the samples are returned for 30days from the Date of schools from the Date of 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 Desection Limit), LDL (Lower Desection 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 HMT

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/4152	Report Release Date	: 24.07.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002087F		

Discipline: Chemical		Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C <sub>6</sub> H <sub>6</sub> )	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 Managur ELES PVT, LTD

\*\*\*\*End of Report\*\*\*\*

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

Page 2 of 2

The Document stated as Tint 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 referes to the job/analyses 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 alteration & falsification of the Context or appearance of the Test Report is unlawful and offenders may be prosecuted to 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 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 (HARKHAND) GET NO-304AECES7130134



Email: info@glespl.co.in , eles ranchi@ameil.com

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



72:010

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/4097	Report Release Date	: 22.07.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TCJ35872400002032F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/4692 : Near Pakri Gada Village : 15.07.2024 to 16.07.2024
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 17.07.2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 17.07.2024 to 22.07.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 28	2	Barometric Pressure (mmHg) : 741	
3	Relative Humidity (%) : 67	4	Weather Condition : Cloud	dy

Discipline: (	Chemical	Group: Atm	ospheric Pollu	rtion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	1S 5182 (Part- 23): 2022	55	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	28	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	µg/m³	IS 5182 (Part- II/Sec- 1): 2023	6.7	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m³	IS 5182 (Part- 6): 2022	22.2	80 (24hrs)
Ozone (O <sub>3</sub> )	jug/m²	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH <sub>1</sub> )	μg/m <sup>1</sup>	(S 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/m²	IS 5182 (Part- 22): 2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m <sup>3</sup>	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arienic (As)	ng/m <sup>5</sup>	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

#### Page 1 of 2

The Document stand as Tan Report, is issued by the Laboratory under General Terms and Conditions, only of Company letter head in pre-approved formia. The results shown in the Test Report refer or misses only as the jubinosity of the Laboratory only. The information stand on the Test Report reflects the findings done by the Laboratory at the sine of invasivement only and wrom the limits of client's instruction. The Laboratory is responsible for all the information at data provided on the report, encept 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 consent, without provided approval of the Laboratory. The Report is full or in part shall not be published, adventure, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. American is drawn to the limitation of Habber, compensation and for any legal actions where a permission has been secured from the Management of the Laboratory. American is drawn to the limitation of Habber, compensation and far the samples are retained for Midney from the Date of Feel Report is untracted and affective may be preserved at specified. Any type of Observations of Complaints regarding the Reports shall be some units of the Test Report for the Report reinsend/smoot. After the time period stand before, in complaints will be account. The enter Time schedule continued in Test Report in a 15th as forms. Afterward to the time and the continue Limit. LDL (Limit Benefic Limit)



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (HARKHAND) BST NO-20AAECEST130124



Email: info@elesol.co.in . eles.ronchi@email.com

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/4097	Report Release Date	: 22.07.2024	
Work Order No.	: 13612312113	Work Order Date	; 28.03.2024	
ULR No.	: TC135872400002032F			

Discipline: Chemical		Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C <sub>b</sub> H <sub>k</sub> )	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\*\*\*\*

Dr. Deependra Kumar Sinha

Ph. D Environmental Engg.

ELES Pvt. Ltd. Technical Manager

Page 2 of 2

The Decement stand as Test Report, is issued by the Laboratory under General Tests and Conditions, solly as Company labor band in pre-approved forms. The results obspect in the Test Report retire or relient only and verbin the laboratory with the individual state of the Laboratory as the finite of involvement only and verbin the laboratory as compossible for all the information or data provided on the report, except the information which is provided by the client. The Report cases be reproduced except to full and any part of the report is not taken out of context, without prior writter approval of the Laboratory. The Report is full or in part shall not be published, advertise, used for any legal actions orders prior permission has been secured from the Idanogeness of the Laboratory. According to design to the limitation of liability, compromision and printfaction issues. Any unumformed aboration it fall cations of the content of the Test Report is unlawful and offenders may be printed as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15 days from the Data of the Laborator forms. Although the state of the test Report is in Marchanos and the Report are part of the Test Report in the Report reinsent/lessed. After the time period stated before, no complaints will be suraged. The arrows Time rehabile remainment in Test Report is in Marchanos and N/A (Nos Applicable), BOL (Below Discussion Limit).



PLOT NO-30, ARANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARNHANO) BET NO-30AAECESTISOIZA



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

Phone no.: 0631-2290103 Website: www.elespi.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2024/4098	Report Release Date	: 22.07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400002033F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/4693 : Near Pol Pol Village : 15.07.2024 to 16.07.2024
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 17.07.2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 17.07.2024 to 22.07.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFOR	MATION				
T	Average Temperature (°C)	: 28	2	Barometric Pressure (mmHg	:741	
3	Relative Humidity (%)	: 67	4	Weather Condition	: Cloudy	

Discipline:	Chemical	Group: Atm	ospheric Pollu	tion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	1S 5182 (Part- 23): 2022	52	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	26	60 (24hrs)
Sulphur Di-Oxide (\$O <sub>2</sub> )	μg/m³	IS 5182 (Part-II/Sec- 1): 2023	6.5	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part- 6): 2022	16.1	80 (24hrs)
Ozone (O <sub>1</sub> )	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Animonia (NH <sub>3</sub> )	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)	11g/m³	IS 5182 (Part- 22): 2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsmic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

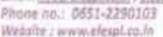
The Document stand as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved hierait. The results shown in the Test Report softer or eclases only to the jet-landges done by the Laboratory only. The information stand on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the little of client's instruction. The Laboratory is responsible for all the information or data provided on the report, except the information which is presided by the client. The Report cannot be reproduced except in full and any legit account interest in not taken not of content, without produced except in full and any legit account solves proving normalism has been secured from the Management of the Laboratory. Attention is down to the limitation of liability, companying and production transe. Any unsufficient different in the content or appearance of the Test Report is unleaded and officialism only be pronocated to the fallows means of the law. All the samples are returned for Midage from the Disagration and the Test Report. The samples from the Observations of the Laboratory of the Test Report. The samples from the Observation of the Laboratory of the Security Bodies regarded as the returned as specified. Any type of Observations or Complaints regarding the Reports shall be done within 1 fallow. These of Test Report released learned. After the time period stand before, no complaints will be accepted. The name Time schedule remained in Test Report in a Zabrant Document Attention on WA (Not Applicatory), BD). (Below December Limit), LCI, (Limite December Limit)



PLOT NG-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-8340G3 (JHARKHAND) GST NO- 20A4ECE3713D124

### ENGINEERING SERVICES PVT. LTD.

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





COLUMN SELECTION SELECTION

### TEST REPORT

Test Report No.	: ELES/RNC/2024/4098	Report Release Date	: 22.07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400002033F			

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>s</sub> H <sub>6</sub> )	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 Managur ELES PVT\_LTD

\*\*\*\*End of Report\*\*\*

Dr. Deependra Kumar Sinha Ph. D Environmental Engg. ELES Pvl. Ltd. Technical Manage

Page 2 of 2

The Decement strind as Test Report, is issued by the Laboratory under General Terms and Configures, only on Company letter head to pre-approved forms. The results show to the Test Report refer or relies only to the jobians/yet done by the Laboratory only. The information stated on the Test Report refers the findings done by the Laboratory at the inner of involvement only and within the limits of claims's instructions. The Laboratory is emportable for all the relicitation or data provided by the elect. The Report cannot be reproduced except in full and any part of the report is not below out of content, without provided by the claims. The Report is that had not be published, advertise, used for any legal actions unless grate permission has been occord from the Management of the Laboratory. Attention is drawn to the limitation of Hability, compression and heriodiction issues. Any anarchorized elements of the common in appearance of the Test Report is unlesself and difference may be presented to the Effect extent of the law. All the samples are ensured for Reports shall be done within 15 that Report the Report released/smoot as to be retained as specified. Any type of Observations or Complexity regarding the Reports shall be done within 15 that I have form the Date of Test Report released/smoot and the tops period stated before, no completes will be accepted. The entire Time schedule mean means at the Report to a 14 hours format. Abbreviation and 50.0 (Not Applicable), BOS. (Note Observed Complexity will be accepted. The entire Time schedule means and the Report to a 14 hours format. Abbreviation and 50.0 (Not Applicable), BOS. (Note Observed Complexity will be accepted. The entire Time schedule means and the Report to a 14 hours format.



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHANO) GST NO-200ASCERTISO224

### ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/4099	Report Release Date	: 22.07.2024
Work Order No.	: 13612312113	Work Order Date	; 28.03.2024
ULR No.	: TC135872400002034F		

CUSTOMER DET	CUSTOMER DETAILS		
Customer Name	Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/4694 : Near Shakhuapani Village : 15.07.2024 to 16.07.2024
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 17.07.2024 : Amblent Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 17.07.2024 to 22.07.2024	Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION			
1 Average Temperature (°C) : 28	2	Barometric Pressure (mm)	Hg) : 741
3 Relative Humidity (%) : 67	4	Weather Condition	: Cloudy

Discipline:	Chemical	Group: Atm	Group: Atmospheric Pollution			
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	IS 5182 (Part-24): 2019	29	60 (24hrs)		
Sulphur Di-Oxide (SO <sub>2</sub> )	µg/m³	IS 5182 (Part-II/Sec- 1): 2023	6.2	80 (24hrs)		
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m³	IS 5182 (Part- 6): 2022	18.5	80 (24hrs)		
Ozone (O <sub>1</sub> )	µg/m³	15 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH <sub>3</sub> )	µg/m <sup>1</sup>	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	<0.002	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 Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only an Company letter head in pre-approved format. The results shown as the Test Report refer or relates only to the judicialisms 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 elient's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the altern. The Report content be reproduced except in full and any part of the report is not taken out of content, without point written approval of the Laboratory. The Report in full or in part stall not be published, advertion, until for any legal actions unless going permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of fine content or approximate of the Test Report is unlessful and offenders may be presected to the fullest extent of the law. All the samples are extented for Date of references of the Test Report. The samples from Regulatory hodics are to be remained to specified. Any type of Observations or Compliants regarding the Report stall be done within 15days from the Date of Test Report released most After the time period stated before, no compliants will be accepted. The surrey Table schedule must used in Test Report or 24hours format. Anteriorism used. NA (Not Applicator), EEU, (Release Dominion Limit), LEU, I Lesser Dominion Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATTA, RANCHI-E34003 (HARKHAND) GST NO.-26AAFCEST180124

### 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/2024/4099	Report Release Date	: 22.07.2024	
Work Order No.	; 13612312113	Work Order Date	: 28.03.2024	
ULR No.	+ TC135877400002034F			

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>0</sub> H <sub>4</sub> )	µg/m <sup>1</sup>	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 Managor ELES PVT\_LTD

\*\*\*\*End of Report\*\*\*

Ph. D Environmental Engg.

ELES Pvt. Ltd. Technical Manager

Page 2 of 2

The Discussion stand as Tast Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pie-approved iternat. The results shown in the Test Report rafes on visit the feedings done by the Laboratory at the same of involvement only and writin the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, among 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 content, without prior written approval of the Laboratory. The Report in full or in part shall not be published, aftertine, used for any legal actions unless prior permission has been second from the Management of the Laboratory. Attention is driven to the fendation of fability, compensation and jurisdiction insure. Any analytic and attention of the second of society from the Date of measurement of the Test Report is unlessful and offenders may be provided as specified. Any type of Observations or Compliante regarding the Reports shall be done within 15 days from the Date of Test Report released/manel. After the new period stated before, no compliants will be accepted. The occurre Two schooling next limits. LDL (Lewer Demonstra) Limits.



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCH-834003 (JHARKHAND) GST NO-30AA6C83718D124

### ENGINEERING SERVICES PVT. LTD.

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

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



.79-1709

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/4100	Report Release Date	: 22.07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400002035F			

CUSTOMER DET	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	- Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/4695 : Near Dipa Kujam Village : 15.07,2024 to 16.07,2024		
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 17.07.2024 : Ambient Air		
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.		
Period of Analysis	: 17.07.2024 to 22.07.2024	Sample Condition	: Sealed & Preserved		

METEO	ROLOGICAL INFORMATION			
Aver	age Temperature (°C) : 28	2	Barometric Pressure (mmHg)	: 741
3 Relat	ive Humidity (%) : 67	4	Weather Condition	: Cloudy

Discipline:	Chemical	Group: Atm	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	IS 5182 (Part- 24): 2019	28	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>1</sub> )	μg/m³	IS 5182 (Part-II/Sec-1): 2023	6,1	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	IS 5182 (Part- 6): 2022	20.5	80 (24hrs)	
Ozone (O <sub>3</sub> )	µg/m³	15 5182 (Part- 9); 2019	<20.0	100 (8hrs)	
Ammonia (NH <sub>3</sub> )	µg/m²	IS 5182 (Part-25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m <sup>2</sup>	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.004	1 (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 Discussers stated as Test Report, is mound by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The senature aboves in the Test Report reflects the findings done by the Laboratory at the time of associations which is provided by the client. The Report cannot be reproduced except in full and any legal unions which is not taken out of contain, without prior serious approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal unions unless prior permission has been steamed from the Management of the Laboratory. Assertion is drawn to the limitation of liability, compensation and jorisdation insure. Any unsufferied alteration & full function of the seniors or the Test Report is instantial and influence may be presented to the full test and the samples are required for the Date of release to the Test Report is instantial and influence are in the Laboratory. The samples from Regulatory todays are to be estated as specified. Any type of Conservations or Language the Report is shall be slong within 15 days them the Date of released to the Date of the Test Report. The samples from Regulatory todays are to be estated as specified. Any type of Conservations or Language the Report is shall be slong within 15 days them the Date of Test Report released intended a field. (Bellow Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPLIDANA MATIA, RANCHI-834003 (JHARKHAND) GST NO-30AAECEFTISOIZA

### 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/2024/4100	Report Refease Date	: 22.07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400002035F			

Discipline: Chemical		Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C <sub>t</sub> H <sub>t</sub> )	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 Decement stated as Test Report, is stought by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved forms. The structure is the Test Report refer or relates only to the jubinosity does by the Laboratory and the time of involvement only and within the limits of client's instructions. The Laboratory is exponsible 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 section 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 extend from the Management of the Laboratory. Attention is drawn to the Instances of liability, compensation and particulation issues. Any anauthorized alteration in the National Additional and extended and extended to the fallost extent of the law. All the samples are returned and extended and extended and extended to the fallost extent of the law. All the samples are returned from the stone within 15 days. Bloom the Context Report released issued. After the sine period stand believe, no compliants will be accepted. The militer Years schedule and on Test Report released issued. After the sine period stand believe, no compliants will be accepted. The militer Years schedule and on Test Report released issued. After the sine period stand believe, no compliants will be accepted. The militer Years schedule and on Test Report released issued. After the sine period stand believe, no compliants will be accepted. The militer Years schedule

# ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Amtipani Bauxite Mine-Environmental Monitoring Report

August 2024



### CONTENT

	Amtipani Bauxite Mine
	AMBIENT AIR QUALITY- CORE ZONE
1	Mine Entrance Gate
2	Near Mine Office/WB
3	Mines Near Quarry – 1F
4	Mines Near Quarry - 7C
	AMBIENT AIR QUALITY- BUFFER ZONE
1	Near PakriGada Village
2	Near Pol Pol Village
3	Near Shakhuapani Village
4	Near DipaKujam Village
	Drinking Water





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

### RING SERVICES PVT. LTD.

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

: ELES/RNC/2024/4801 Test Report No. Report Release Date : 23.08.2024 Work Order No. : 13612312113

ULR No. : TC135872400002720F

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/5494 : Mine Entrance Gate Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 13.08.2024 to 14.08.2024 : 16.08.2024 : Ambient Air	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	: 16.08.2024 to 23.08.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

1	Average Temperature (°C) : 27	2	Barometric Pressure (mmHg)	: 741
3	Relative Humidity (%) : 66	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	55	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	30	60 (24hrs)		
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part-11/Sec-1): 2023	6.4	80 (24hrs)		
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m³	IS 5182 (Part- 6): 2022	16.2	80 (24hrs)		
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH <sub>3</sub> )	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 Conditions, only on Company letter head in pre-approved formst. The results shown in the Test Report select or relates only in the jobiusalyses 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 & folialistication 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 Jödays 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:- 20AAECE9713D1Z4

### ENGINEERING SERVICES PVT. LTD.

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

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



10-1356

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/4801	Report Release Date	: 23.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002720F		

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>5</sub> H <sub>6</sub> )	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 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 at Test Report, is irrued by the Laboratory under General Terms and Conditions, only in Company letter head in pro-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 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 contest, without prior written approval of the Laboratory. The Report is full or it part shall not be published, adventise, 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 & initiation of the content or appearance of the Test Report is unlineful and offenders may be prosecuted to the fullest extent of the law. All the samples are rationed to 30days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Tane schedule mentioned in Test Report is in 24bours forms. 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:- 20AAECE97130124

### ENGINEERING SERVICES PVT. LTD.

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

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



TC-19887

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/4802	Report Release Date	: 23.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002721F		

CUSTOMER DET	CUSTOMER DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/5495 : Near Mine Office/WB Amtipani Bauxite Mine (190.95 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 13.08.2024 to 14.08.2024 : 16.08.2024
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 16.08.2024 to 23.08.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C) : 27	2	Barometric Pressure (mmHg)	: 741	
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	IS 5182 (Part- 24); 2019	35	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part- II/Sec- 1): 2023	8.8	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m³	IS 5182 (Part- 6): 2022	21.3	80 (24hrs)	
Ozone (O <sub>3</sub> )	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH <sub>2</sub> )	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.009	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26); 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

### 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 as the jobianals as done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of invalvement 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 unsuffurned alteration & fatialization 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 Jödays 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:- 20AAECE97130124

### ENGINEERING SERVICES PVT. LTD.

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

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



TG-1388

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/4802	Report Release Date	: 23.08.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400002721F			

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>5</sub> H <sub>6</sub> )	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 Kurnar 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 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 contest, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and partial client issues. Any unauthorized alteration & following from the Contest 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 Report shall be done within 15days from the Date of Test Report released issued. After the time period stated before, no complaints will be accepted. The other Time schedule mentioned in Test Report is in 34bours format. Abbreviation used. N/A (Nos Applicable), BDL (Below Desection Limit), LDL (Lower Desection 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/2024/4803 Report Release Date : 23.08.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400002722F

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/5496 : Mines Near Quarry – 1F Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 13.08.2024 to 14.08.2024 : 16.08.2024	
Mines Status	; Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 16.08.2024 to 23.08.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION				
1	Average Temperature (°C) : 27	2	Barometric Pressure (mml	dg) : 741	
3	Relative Humidity (%) : 66	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	48	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	23	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part-11/Sec- 1): 2023	5.5	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	1S 5182 (Part- 6): 2022	17.4	80 (24hrs)	
Ozone (O <sub>3</sub> )	µg/m³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH <sub>3</sub> )	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/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 field in pre-approved format. The results shown in the Test Report refer or relates only as 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 fir 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 unlawful and infenders may be procedured to the fullest extent of the law. All the samples we retained for Jüdays from the Date of 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 menticiped in Test Report is in 24hoors format. Abbrevistion used. N/A (Nee 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.elespi.co.in



TEST REPORT

Test Report No. : ELES/RNC/2024/4803 Report Release Date : 23.08.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400002722F

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>6</sub> H <sub>6</sub> )	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
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 bead in pre-approved format. 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 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 switch 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 dt fabrification of the 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 10days from the Date of release 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:- 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/2024/4804 Report Release Date : 23.08.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400002723F

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/\$497 : Mines Near Quarry – 7C Amtipani Bauxite Mine (190.95 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 13.08.2024 to 14.08.2024 : 16.08.2024 : Ambient Air	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	: 16.08.2024 to 23.08.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	TEOROLOGICAL INFO	MATION			
1	Average Temperature (°C)	: 27	2	Barometric Pressure (mmHg)	: 741
	Relative Humidity (%)	: 66	4	Weather Condition	: Cloudy

Discipline: (	Themical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m²	IS 5182 (Part- 23): 2022	67	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	36	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part- II/Sec- 1): 2023	9.1	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part- 6): 2022	22.5	80 (24hrs)	
Ozone (O <sub>1</sub> )	µg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)	
Ammonia (NH <sub>3</sub> )	µg/m²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.011	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 Document stated as Test Report, is insued by the Laboratory under General Terms and Cooditions, solv on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the informations done by the Laboratory of the information of this provided on the 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 fundation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for Midays from the Date of release/issue 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 be done within 15days from the Date of Test Report released/issued. After the time petiod stated before, no complaints will be accepted. The entire Time schedule municional in Test Report is in 24hours format. Abbreviation used. N/A (Not Applicable); BDA, (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

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



TO-13867

### TEST REPORT

Test Report No.	: ELES/RNC/2024/4804	Report Release Date	: 23.08.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400002723F			

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C <sub>6</sub> H <sub>6</sub> )	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 Sinna
Ph. D Environmental Engg.
ELES Pvt. Ltd. Technical Manager

Page 2 of 2

The Discussest stated as Test Report, is insued by the Laboratory under General Terms and Conditions, only on Company letter bead in pre-approved format. The results shown in the Test Report refer or relates only to the poblicallysis 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 price written appearance of the Laboratory. The Report in full or so part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Amendon is drawn to the limitation of liability, compensation and jurisdiction usues. Any unauthorized alternion & 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 released to the fullest extent of the law. All the samples are retained for 30days from the Date of released to the fullest extent of the law. All the samples are retained for 30days from the Date of released insured. After the time period 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), HDI. (Below Descript Limit), LDI. (Lower Descripts Limit)



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (HARKHAND) GETNO-2014/EER7150124

### ENGINEERING SERVICES PUT, LTD.

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



70 (88)

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/4757	Report Release Date	: 22.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002676F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/5440 : Near Pakri Gada Village : 12.08.2024 to 13.08.2024
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 14.08.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 14.08.2024 to 22.08.2024	Sample Condition	: Sealed & Preserved

MI	TEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 27	2	Barometric Pressure (mmF)	(g) :741
3	Relative Humidity (%) : 68	- 4	Weather Condition	: Cloudy

Discipline: (	Themical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protecol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m <sup>3</sup>	15 5182 (Part- 23): 2022	43	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	24	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	1S 5182 (Part-11/Sec-1): 2023	5.6	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m³	IS 5182 (Part- 6): 2022	18.1	80 (24hrs)	
Ozone (O <sub>1</sub> )	µg/m <sup>1</sup>	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH <sub>3</sub> )	µg/m <sup>5</sup>	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	<0.002	1 (24hrs)	
Nickel (Ni)	ng/m³ :	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Assenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

The Document traval as Terr Report, is record by the Laboratory actor General Terris and Combinent, solls on Company Series hand in pre-approved forward The conditions of the Terr Report retires only in the polished of the Laboratory only. The information stated as the Text Report reflects the firstings done by the Laboratory in Company in the Text Report reflects the firstings done by the Laboratory in Company in the Text Report reflects the firstings done by the Laboratory in the Indian and any part of the report is not taken out of content, without prior approval of the Laboratory. The Report is fall or as part shall not be published, edvertise, used for any legal actions solves prior participants has been account from the Management at the Laboratory. Assertion is consist in the laboratory of the Text Report is accounted and offenders may be parameters and paradiction issues. Any sausthorned discretion & fall the text of colours of approximate of the Text Report is accounted and offenders may be parameted as appointed for the Laboratory and the Report of the Report of the Report of the Text Report. The samples from Regultury bottlers are to be returned as appointed by the samples are recognition with the samples and Complaints regarding the Reports shall be done within 13000 from the Case of Text Report, relaxable and 1500 (Text of Common Limit 2.2), [Lawrer Datason Limit).



PLOT NO-SO, MANSARQVAR ENCLAVE, TUPUDANA HATIA, RANCHI-334003 (IHARKHAND) 637 NO.- 30AAECESTLEDEN

### ENGINEERING SERVICES PVT. LTD.

Email: Info@elesol.co.in , ejes runthi@amail.com

Phone no.: 0651-2290108 Website: evenualization in



#### TEST REPORT

Test Report No.	: ELES/RNC/2024/4757	Report Release Date	: 22.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002676F		

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C <sub>8</sub> H <sub>6</sub> )	yzg/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 Managur ELES PVT. LTD.

\*\*\*\*End of Report\*\*\*\*

Dr. Deependra Kumar Sinho
Ph. D Environmental Engg
ELES Pvt. Ltd. Technical Menogor

Page 2 of 2

The Decement mand as Test Report, is tensed by the Laboratory under Georgia Terms and Conditions, only an Company latter hand as you approved forms. The results above to the Test Report refer or returns used within the limits of claims is networked on the Laboratory and the tense of irreducement andy and within the limits of claims is networked except to responsible for all the information or data provided on the report, except the information which is provided by the claim. The Report attends be reproduced except in full and any part of the report is not taken out of control, without prior within approval of the Laboratory. The Report in full or in part than not be published, adventure, used for any legal account actions prior participants are part than been sociated from the Management of the Laboratory. Attention is discuss to the limitation of limitation of limitation and participation system. Any analyses are related for the Management of the Test Report in cultavial and officialists may be prosecuted as the following course of the test Report. The samples from Regulatory bodies are to be retained as appetited. Any type of Observations or Compliants regarding the Reports shall be their social form the Date of Test Report or a Second form. After the jump period stated before the compliants will be computed. The party Time published and their Second forms before the Date of Test Report or a Second form. After the jump period stated before the compliants will be computed. The party Time published and the Date of Test Report or a Second form. After the party than After the party than the provided and the first test the party than the provided than the provided and the party than the provided than the party than the provided tha



PLOT NO-35, MANSAROVAE ENCLAVE, TUPUDANA HATTA, RANCHI-834003 (HARKHAND) GST NO- POAMECES7180124

Email: info@elesol.co.in , eles.conshiftymoli.com Phone No.: 0651-2230103 Website: www.elespi.co.in



#### TEST REPORT

Test Report No.	: ELES/RNC/2024/4758	Report Release Date	: 22.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002677F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/5441 : Near Pol Pol Village : 12:08:2024 to 13:08:2024
Address	: Lohardaga, Jharkhand-835302 : Operational	Sample Received Date Type of Sample Sampling Procedure Sampling Done By	: 14.08.2024 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Mines Status	: Operationiii	The state of the s	
Period of Analysis	; 14,08.2024 to 22.08.2024	Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION	
1 Average Temperature (%) : 27	2 Barometric Pressure (mmHg) : 741
3 Relative Humidity (%) : 68	4 Weather Condition : Cloudy

Discipline: (	hemical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	pg/m³	IS 5182 (Part- 23); 2022	41	100 (24hrs)	
Particulate Manter (PM2.5)	pg/m <sup>1</sup>	IS 5182 (Part- 24); 2019	19	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	µg/m³	15 5182 (Pirt-11/Sec-1): 2023	5.2	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	ug/m³	1S 5182 (Part- 6): 2022	14.8	80 (24hrs)	
Ozone (O <sub>3</sub> )	pg/m <sup>3</sup>	1S 5182 (Part- 9); 2019	<20.0	100 (8hrs)	
Ammonia (NH <sub>3</sub> )	µg/m <sup>1</sup>	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	ma/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	pg/m²	IS 5182 (Part- 22): 2019	< 0.002	1 (24hni)	
Nickel (NO	ng/m³	IS 5182 (Part-26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m <sup>3</sup>	ELES/AIR/SOP/01: 2021	<2.0	06 (Annut)	

Page 1 of 2

The Document stored as Test Report, is maked by the Laboratory under General Terms and Conditions, unly on Company lotter head in pre-approved format. The results shown in the Test Report rules or selecter only so the job/analysis done by the Laboratory only. The indicension stated on the Test Report reflects the findings done by the Laborators at the time of involvement only sock within the limits of classe's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the class. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without present writer appeared of the Laboratory. The Report in full or in part shall but be published, adverted, used for any legal actions unless print permission has been secured from the Management of the Laboratory Attention is drawn to the limitation of liability, cooperation and paradiation nature. Any unauthorised alteration is dealers on the numbers of appearance of the Test Report is unlawful and offunders may be presented in the fallow extent of the law. All the samples are required for Judays from the Comis substantiated the Test Report. The samples from Regulatory today are to be received as specified. Any type of Omervations or Complisions regarding the Reports shall be about the first for the same of the first period stand before, an complaints will be accepted. The course Tone achoduly maximal or Loss Report to in Library Emperiod and July (No. Applicable). BDL (Bakes December Limit) LTL (Library December Limit).



PLOT NO 30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARRHAND) OST WID- TO A RECEPT LINGUES

Email: info@elesal.co.it. eles carchi@amail.com

Phone no.: 0631-1290103 Website: www.elespt.co.in



### TEST REPORT

Test Report No.	: ELES/RNC/2024/4758	Report Release Date	: 22.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002677F		

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C <sub>a</sub> H <sub>a</sub> )	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 Managor ELES PVT LTD

\*\*\*\*End of Report\*\*\*\*

Authorised Signatory

Dr. Deependra Kumar Sinha Ph D Environmental Tago

ELES Pvt. Ltd. Technical Menastor

Page 2 of 2

The Document stated as Test Report, is second by the Laboratory under Commit Torres and Conditions, only on Company latter band to pre-approved farmer. The results above in the Test Report reflects the findings done by the Laboratory ands. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and walnot the limits of client's introcutors. The Laboratory is responsible for all the nelscenation or data provided on the report, ancept the information which is provided by the client. The Report current be reproduced except in full and say part of the report is not taken one of moment, without print subside approval of the Laboratory. The Report to full or in part shall not be published, advertor, used for any legal actions unless print permission has been secured from the Shiragement of the Laboratory. Amendood to drawn to the territorium of Hability, companyation and paradiction results. Any unauthorized afternion & Rebullication of the comment of appearance of the Ten Report it univertal and officedure may be presented in the full respect to the law. All the samples are retained for Nobeys Brook the Data of columnisms of the Test Report. The samples from Regulatory hadnes are to be returned at operated. Any tops of Observations or Complaints regarding the Reports shall be dead soldies. I Mayor from the Date of Test Report released/march. After the time period stand believe, an inequilities will be surround. The critics Time according exercised in Text Expert is in Editoria former. Although the country and Adv Applicable), EDL (Brian Decides Lond), EDL (Lover Decides Lond).



PLOT NO-30, MANSAROVAR ENCLÁVE, TUPUDIANA HATIR, RANCHI-ESKOOS (JHARKHANO) GET NO-20AAECESTISUZA



Empl: info@elespl.co.in . eles ranchi@gmail.com

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/4759	Report Release Date	: 22.08.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	· TC135872400002678F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/5442 : Near Shakhuapani Village : 12.08.2024 to 13.08.2024	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 14.08.2024 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 14.08.2024 to 22.08.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION			
1 Average Temperature (°C) : 27	2	Barometric Pressure (mmHg)	: 741
3 Relative Humidity (%) : 68	4	Weather Condition	Cloudy

Discipline:	Chemical	Group: Atm	ospheric Pollu	tion
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	24	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	µg/m³	IS 5182 (Part- II/Sec- 1): 2023	5.3	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m³	IS-5182 (Part-6): 2022	15.1	80 (24hrs)
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH <sub>3</sub> )	µg/m²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m <sup>2</sup>	IS 5182 (Part- 10): 2019 (NDH: Method)	<1.0	2 (8hrs)
Lead (Pb)	pg/m³	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsertic (As)	sg/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

#### Page 1 of 2

The Document matrix as Task Report, is sessed by the Laboratory under General Terms and Conditions, only on Company broad in gas approved forms. The country attends in the Term Report reflects the findings done by the Laboratory of the information stated on the Term Report reflects the findings done by the Laboratory is the supercalled for all the information or data provided in the report, except the information which is provided by the claims. The Report causes he reproduced except in fail and any part of the report is not taken out of country, without price services approved of the Laboratory. The Report in fail or in part stall not be published, advertise, used for any legal across unless price permission has been recorded from the Management of the Laboratory. Attendition is down to the furnished and offenders may be presented to the failest extent of the hard the samples are extended for Skidys from the Date of release laborator of the Term Report is unlessful and offenders may be presented to the failest extent of the hard. All the samples are extended for Skidys from the Date of Pent Report is the Report shall be done within 15-days from the Date of Pent Report inflamental to the resulted for Skidys from the Date of Pent Report inflamental to the resulted believe, no compliants of the samples. The more Term exhals the data within 15-days from the Date of Pent Report inflamental to the All the provise December Level. The more Term exhals the data within 15-days from the Date of Pent Report inflamental to the All these December Level. LDL (Level December December Level).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA MATRA, RANCHI-834003 (MARKHANO) GST NO-30A86CE97130124

### ENGINEERING SERVICES PVT. LTD.

Erroll: info@elesol.co.jg., eles raschi@gmail.com

Prione no.: 0651-2290108 Website: www.elespi.co.in



10/1985

### TEST REPORT

Test Report No.	: ELES/RNC/2024/4759	Report Release Date	: 22.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002678F		

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

AKASH KUMAR Quality Managor ELES PVT, LTD

\*\*\*\*End of Report\*\*\*\*

Authorised Signatory
Dr. Deependra Kurnar Sinhu
Ph. D Environmental Enga
ELES Pvt. Ltd. Technical Manager

Page 2 of 2

The Document stated as Tast Report, is insued by the Laboratory under General Terms and Continions, only in Company before least in pre-approved format. The similar allowed in the Test Report retire or reterms only not the potentially its document only and wither the Limits of elient is instructions. The Laboratory is temporable for all the advances or class provided on the report, energy the influences which is provided by the client. The Report commit be expected enough in full and any part of the report is not ration out of content, without prior or return approval of the Laboratory. The Report is this or in part shall not be published, adventure, used for any legal actions orders prior permission has been occurred from history afternoon as formation in facilities on flashifty, companions and jurisdiction issues. Any unauthorized allowance it falsalization of the history afternoon is formation of fashifty, companions and jurisdiction issues. Any unauthorized allowance is falsalization of the report in antiquital and officializes may be grouped and the following extent of the laboratory or retained for History from the Date of Independent of the Test Report. The samples form Regulatory bodges are to be retained as upstated. Any type of Observations or Compilators regarding the Reports shall be done within 15 days from the Date of Test Report retained to the Content of the time period stated before, no compilators will be accepted. The content Test substated in Test Report to a 24 from the Content Test Support to its 24 from the Content Support to its 24 from the Content Test Support to its 24 from the Content Test Su



PLOT NO-30, MANSAROVAR ENCURVE, TUPURANA HATTA, RANCHI 834003 (IRARKHAND) 65T NO-20AASCEST110124



Emoit info@elespi.co.in . eles conchi@gmoil.com

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/4760	Report Release Date	: 22.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002679F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/5443 : Near Dipa Kujam Village : 12.08.2024 to 13.08.2024	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure		
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 14.08.2024 to 22.08.2024	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	:27	2	Barometric Pressure (mmHg)	: 741
3	Relative Humidity (%)	: 68	4	Weather Condition	: Cloudy

Discipline:	Chemical	Group: Atm	ospheric Pollu	tion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m <sup>3</sup>	IS 5182 (Part- 23): 2022	42	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	21	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	µg/m³	IS 5182 (Part-II/Sec-1): 2023	5.4	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part- 6): 2022	17.1	80 (24hrs)
Ozone (O <sub>3</sub> )	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH <sub>3</sub> )	µg/m <sup>1</sup>	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)	pg/m²	TS 5182 (Part- 22): 2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m²	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	4.0	06 (Annual)

Page 1 of 2

The Document stated as Test Report, is instant by the Laboratory under General Terms and Conditions, only of Company better hand or pre-approved forms. The results shown in the Test Report refer of referes only to the publicatives done by the Laboratory as responsible for all the information or data provided on the report, aways the information which is provided by the client. The Report is described except in full and any part of the report is not taken out of antition, without prior some approval of the Laboratory. The Report in full or in part shall not be published, advertise, and for any legal actions unless prior permission has been natured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and periodicion research advantagement of the Laboratory. Attention is drawn to the limitation of liability, compensation and periodicion research. Any unusufformed alternation & fallinguation of the mounts or approximate of the Test Report is sudawith and offenders may be presented to the follow rates of the law. All the surples are returned life Report shall be done within 1 falling from the Date of Test Report. The samples from Regulatory boiles are to be remained as specified. Any type of Constructions or Compliants regarding the Reports shall be done within 1 falling from the Date of Test Report. The samples from No. (No. Applicables, BDI, (Ballow Document Lond. LDI.) (Long Document Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA MATIA, RANCHI-834003 (HARKHAND) GET NO-2644ECE8713D124



Email: info@elesel.co.in, eles ronchi@gmail.com

Phone no.: 0651-2250103 Website: www.elexpl.co.in



TE (388)

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/4760	Report Release Date	: 22.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002679F		

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>4</sub> H <sub>6</sub> )	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)	

AKASH KUMAR Quality Manag

\*\*\*\*End of Report\*\*\*\*

Authorised Signatury

Dr. Deependra Kumar Sinha

Ph. D Environmental Enga

ELES Pvt. Ltd. Technical Mistances

Page 2 of 2

The Discionant stand as Test Report, is issued by the Laboratory under Control Terms and Conditions, and, or Company Series for a president the findings done by the Laboratory only. The information stand on the Test Report reflects the findings done by the Laboratory only in the time of involvement only and within the limits of allest a surrections. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the short. The Report authors be repositived except in full and any part of the report is not taken out of contest, without prior writers approved of the Laboratory. This Report is full us to part shall not be published, advertise, used for any legal actions which is prevainted that has been recurred from the Management of the Laboratory. Afternoon is drawn to the immission of Rubbilly, compression and principles on mines. Any insufficient advertises the finding of relations of the finding of t



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-B34003 (JHARKHAND) GST NO-20AAECE9713D124

### ENGINEERING SERVICES PVT. LTD.

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

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



TG/13887

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/4815	Report Release Date	: 24.08.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400002734F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample Location of Sample	: ELES/RNC/2024/DW/5503 : 14.08.2024 : 16.08.2024 : Drinking Water : Tap Water : Store Room	
Mines Status	: Operational	Sampling Procedure	(Amtipani Bauxite Mines) : ELES/DOC/SMPL/01	
Period of Analysis	: 16.08.2024 to 24.08.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

Discipline : Chemical	Group:	Water	Regulatory Limit as per IS 10500:2012		
Parameter	Unit	Test Protocol			Permissible Limit
pH (at 24.6°C)	œ	APHA 24th Ed.2023, 4500-H	6.73	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 24th Ed.2023, 2130 B	0.38	1,0	5.0
Taste	(6)	APHA 24th Ed.2023, 2160 C	Agrecable	Agreeable	Agreeable
Odour	3.50	1S 3025 (Part-5) :2018	Agreeable	Agreeable	Agrecable
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	198	500	2000
Chloride (as Cl)	mg/L	APHA 24th Ed.2023, 4500 Cl B	18.1	250	1000
Fluoride (as F)	mg/L	APHA 24th Ed.2023, 4500 F-D	BDL (DL: 0.1)	1.0	1.5
Total Alkalinity (as CaCO <sub>3</sub> )	mg/L	APHA 24th Ed.2023, 2320 B	70.7	200	600
Total Hardness (as CaCO <sub>3</sub> )	mg/L	APHA 24th Ed.2023, 2340 C	96.8	200	600
Sulphate (as SO <sub>x</sub> )	mg/L	APHA 24th Ed.2023, 4500 SO <sub>4</sub> <sup>-2</sup> -E	10.8	200	400
Nitrate (as NO <sub>3</sub> )	mg/L	APHA 24th Ed.2023, 4500 NO <sub>3</sub> -B	4.3	45	No Relaxation

Page 1 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 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 & 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 36tdays 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 antire 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.elespi.co.in



TEST REPORT

Test Report No. : ELES/RNC/2024/4815 Report Release Date : 24.08.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400002734F

Discipline : Chemical Group : Water		Regulatory Limit as per IS10500:2012			
Parameter Unit		Test Protocol	Result	Acceptable Limit	Permissible Limit
Phenolic Compound (as C <sub>s</sub> H <sub>s</sub> OH)	mg/L	IS 3025 (Part 43/Sec1): 2022	BDL (DL: 0.001)	0.001	0.002
Free Residual Chlorine (RFC)	mg/L	1S 3025 (Part-26): 2021	0.35	0.2(Min)	1.0(Min)
Calcium (as Ca)	mg/L	APHA 24th Ed.2023, 3500 Ca B	25.6	75	200
Anionic Surfactants (as MBAS)	mg/L	APHA 24th Ed.2023, 5540-C	BDL (DL: 0.025)	0.2	1.0
Discipline : Chemic	cat	Gro	oup: Residues i	n Water	
Aluminum (as Al)	mg/L	IS 3025 (Part-55) :2003; RA2019	BDL (DL: 0.02)	0.03	0.2
Arsenic (as As)	mg/I.	IS 3025 (Part-37): 2022	BDL (DL: 0.005)	0.01	No Relaxation
Boron (as B)	mg/L	IS 3025 (Part-57) : 2021	BDL (DL: 0.2)	0.5	1.0
Cadmium (as Cd)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.003)	0.003	No Relaxation
Total Chromium (as Cr)	mg/L.	APHA 24th Ed.2023; 3111B	BDL (DL: 0.03)	0.05	No Relaxation
Copper (as Cu)	mg/L	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/I.	APHA 24th Ed.2023; 3111B	0.075	1.0	No Relaxation
Lead (as Pb)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.01)	0.01	No Relaxation
Manganese (as Mn)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.05)	0.1	0.3
Mercury (as Hg)	mg/L	IS 3025 (Part-48): 2019	BDL (DL: 0.001)	0.001	No Relaxation
Selenium (as Se)	mg/L	IS 3025 (Part-56): 2019	BDL (DL: 0.01)	0.01	No Relaxation

Page 2 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 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 fullest extent of the law. All the samples are retained for 30days from the Date of telemensure 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.

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/2024/4815 Report Release Date : 24.08.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400002734F

Discipline : Chemical		Group: Resid	lues in Water	Regulatory Limit as per IS10500:2012		
Parameter	eter 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	
Alachlor	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	2	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)		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)	1	.0	
Phorate	μg/L	ELES/GC/SOP/01; 2023	BDL (DL: 0.5)	2	.0	
Phorate Sulphone	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)			
Dieldrin	μg/L	ELES/GC/SOP/02: 2023	BDL, (DL: 0.01)	0.03		
Alpha HCH	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.006)	0.	01	
Beta HCH	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	0.	04	

Page 3 of 4

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or 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 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, 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 & fabrilleation 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/ususe 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/usused. 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), 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.elespi.co.in



TG-83587

### TEST REPORT

Test Report No.	: ELES/RNC/2024/4815	Report Release Date	: 24.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024

ULR No. : TC135872400002734F

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	P1 11 1
Escherichia coli (Qualitative)	Per 100 mL	IS 15185: 2021	Not Detected	Shall not be detected

Remarks: I. pH and RFC done at Lab.

Reviewed by

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

Authorised Signatory
Dr. Deependra Kumar Sinhu
Ph. D Environmental Engg.
ELES Pvt. Ltd. Technical Menagur

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 shawn in the Test Report refer or relates only to the Johianalysis 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 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. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & fabrilleation 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 Hidays 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 (JHARNHAND) GST NO:- 26AAECE9713D124

### 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/2024/4815	Report Release Date	: 24.08.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample Location of Sample	: ELES/RNC/2024/DW/5503 : 14.08.2024 : 16.08.2024 : Drinking Water : Tap Water : Store Room	
Mines Status	: Operational	Sampling Procedure	(Amtipani Bauxite Mines) : ELES/DOC/SMPL/01	
Period of Analysis	: 16.08.2024 to 24.08.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

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

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

Reviewed by

AKASH KUMAR Quality Manager ELES PVT\_LTD \*\*\*\*End of Report\*\*\*

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

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 as 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 de falsifications 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 Jódays from the Date of release/usese 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/usesed. 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).

# ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Amtipani Bauxite Mine-Environmental Monitoring Report

September 2024



### CONTENT

	Amtipani Bauxite Mine
	AMBIENT AIR QUALITY- CORE ZONE
1	Mine Entrance Gate
2	Near Mine Office/WB
3 4	Mines Near Quarry – 1F
4	Mines Near Quarry – 7C
	AMBIENT AIR QUALITY- BUFFER ZONE
	Near PakriGada Village
2	Near Pol Pol Village
3 4	Near Shakhuapani Village
4	Near DipaKujam Village
	AMBIENT NOISE
	WORKZONE NOISE
	SPRING WATER
1	Jhapa Jhuri Socies & Engloss



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

### ENGINEERING SERVICES PVT. LTD.

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

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



TG-13867

### TEST REPORT

Test Report No.	: ELES/RNC/2024/5513	Report Release Date	: 28.09.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400003418F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/6359 : Mine Entrance Gate Amtipani Bauxite Mine (190.95 ha)	
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. : Senled & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 27	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 66		Weather Condition	: Partly Cloudy

Discipline: Chemic	al	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	59	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	32	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part- 2/Sec1): 2023	5.7	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part- 6): 2022	18.1	80 (24hrs)	
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH <sub>3</sub> )	μg/m³	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.009	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C <sub>e</sub> H <sub>e</sub> )	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 Managur

\*\*\*\*End of Report\*\*\*\*

Dr. Deependra Rumar Sinha

Ph. D. Environmental Engo

Page 1 of 1

Technical Manager

The Consense stand as Test Report, is issued by the Laboratory under General Terrix and Conditions, only on Company letter hand in pre-approved format. The centre shown is the Test Report safet or relater only to the job analysis down by the Laboratory only. The information stand on the Test Report selects the findings show by the Laboratory at the same of involvement only and within the lemits of closes's instrumentom. The Laboratory is responsible for all the information or data provided on the report, succept the information which is provided by the closes. The Report cannot be reportanced except in full and any part of the report is not taken out of context, without prior within approval of the Laboratory. The Report is full on in part shall see 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, companions and parisdiction issues. Any manifestation of the fallies extent of the laws. All the context or appearance of the Test Report is somewhat and offenders very be provided to the fallies extent of the law. All the complex are returned for Nidaya from the Date of release large of the Report. The samples from Regulatory bodies are to be remained as specified. Any type of Observations or Compliants regarding the Reports shall be done within 15 days from the Date of Test Report released intends them to be format. Abbreviation used. N.A. (Not Applicable): HDL (Releas Deposits Limit), LDL (Lower Deposits Limit).



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 Website: www.eiespi.co.in



TC-13867

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/5514	Report Release Date	: 28.09.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400003419F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/6360 : Near Mine Office/WB Amtipani Bauxite Mine (190.95 ha)	
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. : Scaled & Preserved	

MI	METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 27	2	Barometric Pressure (mmHg)	: 742	
3	Relative Humidity (%)	: 66	:4	Weather Condition	: Partly Cloudy	

Discipline : Chemic	al	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	27	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	µg/m³	IS 5182 (Part-2/Sec1): 2023	5,8	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	1S 5182 (Part- 6): 2022	19.2	80 (24hrs)
Ozone (O <sub>3</sub> )	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH <sub>3</sub> )	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 <sup>3</sup>	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C <sub>5</sub> H <sub>6</sub> )	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by Akash Kumar Quality Manager

\*\*\*\*End of Report\*\*\*\*

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

Technical Manager

Page 1 of 1

The Document stated on Test Report, is issued by the Laboratory moder General Tantes and Conditions, only on Company latter hand in pre-approval format. The ration's observed on the Laboratory only. The information stated on the Laboratory at the feelings show by the Laboratory at the tank of injustrations stated on the report sufficient the feelings show by the Laboratory at the tank of injustrations and within the limits of client's instructions. The Laboratory is empossible for all the information or data provided on the report, except the information which is provided by the client. The Report at the report at the report is not taken our of contact, without prior written approval of the Laboratory. The Report in fall or in part shall not be published, advertise, small for any legal across unless prior parameters has been account from the Management of the Laboratory. Accounts in diams to the laborators of fall-flux more prior parameters and paraders on the Laboratory and the inferior of the Laboratory and the same format of the Laboratory and the laboratory and the fall-of-current of the law. All the samples are extended for Flodays flux the Drive of release times of the Test Report is antiewful and offenders may be provided to the fall-of-current or Completen required for Flodays flux the Drive of release times of the Test Report and part of the same period mand believe, no completes will be accepted. The same Time achievable summand in Test Report in its Fillings fluxes. Abbreviation used. N.A. (Not Applicable), BEE. (Helson Decume Limit), LDL (Longer 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



TE-13587

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/5515	Report Release Date	: 28.09.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400003420F		2010/10/20/04/	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/6361 : Mines Near Quarry – 1F	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	Amtipani Bauxite Mine (190.95 ha) : 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	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 27	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	1.66	4	Weather Condition	: Partly Cloudy

Discipline: Chemic	al	Group:	Atmospheric !	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	54	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	26	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part-2/Sec1): 2023	6.1	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part- 6): 2022	19.8	80 (24hrs)
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH <sub>3</sub> )	μg/m <sup>3</sup>	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.005	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C <sub>6</sub> H <sub>6</sub> )	μg/m <sup>7</sup>	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by

Akash Kumar \*\*\*\*End of Report\*\*\*\*

A finher

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

Page 1 of 1

Technical Manager

The Document stand or Test Report, to issued by the Laboratory under General Terms and Conditions, only on Company latter head in pre-approved forms. The results shows in the Test Report selects the findings done by the Laboratory at the time of involvement only and within the lemits of claim's interactions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the claims. The Report number by reproduced except in fall and any part of the report is not taken out of context, without price written approval of the Laboratory. The Report is fall or in part shall not be published, solvention, used for any legal actions authors price permission has been account from the Management of the Laboratory. Attention is drawn to the limitation of Rability, compression made price permission for any legal actions actions of the account or approximate of the Test Report to subswind and offendors may be prosecuted to the fallest extent of the law. All the complex from Regulatory bodies are to be retained as specified. Any type of Observations or Compliants regarding the Report shall be done within 15 days from the Date of Tax Report relaxed insections Lance (LEE, Chowse Determine Lance). LEE, Chowse Determine Lance)



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.elespi.co.in



TC-11587

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/5516	Report Release Date	: 28.09.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400003421F			

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/6362 : Mines Near Quarry – 7C Amtipani Bauxite Mine (190.95 ha)
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)	: 27	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 66	4	Weather Condition	: Partly Cloudy

Discipline : Chemic	al	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	57	100 (24hrs)	
Particulate Matter (PM2,5)	μg/m³	IS 5182 (Part- 24): 2019	25	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part- 2/Sec1): 2023	7.1	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part- 6): 2022	25.5	80 (24hrs)	
Ozone (O <sub>1</sub> )	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH <sub>3</sub> )	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	0.005	I (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m²	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m²	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)	

Reviewed by Akash Kumar

Quality Manager

\*\*\*\*End of Report\*\*\*\*

Dr. Deependra Kumar Sinha

Ph. D. Environmental Engg.

Page 1 of 1

Technical Manager

The Decisions stand in Test Report, is issued by the Laboratory unles General Terms and Conditions, only or Company letter head in prospersed forms. The results shown in the Test Report refer or return only to the philanolysis done by the Laboratory only. The information stand on the Test Report reflects the findings done by the Laboratory at the time of involvement only and section the limits of chem's instructions. The Laboratory is responsible for all the information or data provided on the report, energy the information which is provided by the client. The Report control to organization for the report in full and any part of the report is not taken and of control, without prior section appearant of the Laboratory. The Report is in full or or part shall not be published, information and information and included a superior of the Laboratory of the limitation of the control and prior to order to the Laboratory. Any attention of the laboratory of the control of the control of the control of the laboratory is undertical and offenders may be provised to the follows exist of the law. All the samples are standed for Moleys from the Date of relative of the Test Report to order to the relative with the samples from Regulatory budges are to be retained as specified. Any type of Observations or Compliants regarding the Reports shall be done within 15 days from the Same Sciencial Reports related instand. After the time period stated bettern, not compliants will be accepted. The same Time Sciencial Reports to an Molecular Control. (Linear Deports 1.10), (Lower Deports 1.10).



PERFECT AND AND ADDRESS AND AD HATTIX, HANCHS-EDITINE LINEARCHEAST

Emeli inip@akupt.ea.lo; pies conchi@omoli.com Phone no.: 6651-2250109 Ministry www.salensf.ne.lis



### TEST REPORT

Test Report No.	: ELES/RNC/2024/5350	Report Release Date	: 23.09.2024
Work Order No.	: 13612312113	Work Order Date	- 29.63.2024
ULR No.	: TC135872400003263F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Costomer Name Address	: Hindalco industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date	: ELES/RNC/2024/AA/6184 : Near Pakri Gada Village : 14.09.2024 to 15.09.2024 : 16.09.2024
Mines Status	; Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvc. Ltd.
Period of Analysis	: 16.09.2024 to 23.09.2024	Sample Condition	: Smird & Preserved

ME	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	:742
1	Relative Hamidity (%)	. 72	- 4	Weather Conflition	: Rainy

Discipline: Chemic	al	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	jig/m³	IS 5182 (Part- 23): 2022	38	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	15 5182 (Part- 24): 2019	17	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	µg/m³	IS 5182 (Part- 2/Sec1): 2023	<5.0	50 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m³	IS 5182 (Part- 6): 2022	13.8	80 (24hrs)	
Ozone (O <sub>1</sub> )	µg/m <sup>8</sup>	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH <sub>3</sub> )	µg/m²	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22); 2019	< 0.002	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AJR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C <sub>i</sub> H <sub>i</sub> )	jig/m²	ELES/GC/SOP/06; 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m"	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by Axash Kumar disselity Managar

\*\*\*\*End of Report\*\*\*\*

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

Technical Manager

Page I of I

The Discourse stand in Tim Rigids, is beautiful the Laboratory under Council Terms and Conditions, only an Company active head in pre-approved former. The country above in the Tool Report raths or relates and to the job bendy in Area by the Enterstay only. The information street on the East Reject inflicts the Design show by the Laborators at the same of annihilation and an area of the same of the same of annihilation and the inflicts the Enterstay is an area of the same of the whereby, and for any logal services and as prior personation has been second from the Management of the Laboratory. Attention to decrease the limitation of thirdly, compression, and particulations from Any nearforced election & Millian court of appearance of the Tain Report is universal and offenders may be presented to the fallow court of the law. All the samples we season for Military from the Date of princes income of the Tairi Report. This samples from Regulatory busines are to be contained as openified. Now type of Elbournations or Completes regarding the Report of the Report related install for the new point stand business. As a companies will be accupant. The more from autobate mentioned in Tairi Report to the Policy Service Addressed more for A (Not Applicated), MDC (South Elbournation Limit), (Lower Education Limit).



PEUT ATS DE ANNACAMONNE ENCLAND, EUPLIDADA HATTA, RANCHEZHOUS (INNAKHUNG) STAD- SUASCEDI MIZZE

### ENGINEERING STRVICES FOR LEG

Emili: <u>InfolExistation</u> in <u>nietzwichi@pmol.com</u>

Phone so: 0652-2390109 Middle: universitapi.do in



TEST REPORT

Test Report No.	: ELES/RNC/1014/5351	Report Release Dute	1 23.09.2024
Work Order No.	: 13612312113	Work Order Date	28.03.2024
ULR No.	: TC135872400003264F		

CUSTOMER DET		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/6185 : New Pol Pol Village : 14.09.2024 to 15.09.2024
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 16.09.2024 : Ambiem Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	ELES/DOC/SMP1/02 ELES Pvr. Ltd.
Period of Analysis	: 16.09,2024 to 23,09,2024	Sample Condition	Scaled & Preserved

Mil	ETEOROLOGICAL INFORMATION	
1	Average Temperature (°C) : 26	2 Barometric Pressure (mmHg) : 742
3	Relative Humidity (%) : 72	4 Wenther Condition Rainy

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	31	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	1\$ 5182 (Part- 24): 2019	15	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	µg/m³	1S 5182 (Part- 2/Sec1): 2023	<5.0	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m³	IS 5182 (Part- 6): 2022	15.5	80 (24hrs)	
Ozone (O <sub>j</sub> )	µg/m³	15 5182 (Part- 9): 2019	<20.0	100 (Shrs)	
Ammonia (NH <sub>1</sub> )	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m²	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/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/m²	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C <sub>4</sub> H <sub>4</sub> )	µg/m²	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 Akhah Kumus Guelley Managas

\*\*\*\* End of Report\*\*\*\*

( Alien

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

Technical Manager

Page 1 of 1

The Discount stand in Tiot Report to invest by the Laboratory under County Town and Conditions, only as Company here hard by peraperved forms. The results shows at the Discounty of the Laboratory unity. The information signed on the Tion Report reflects the findings date by the Laboratory of the contraction of size of size of sizes of



ALUTHO-SO, STANSAROVAN ENGLISTE TO FLYWING HATUL BANCHO AS 4000 EMADEGRAPOS STATE DISCOUNTY WILLIAM



Sincil Job Guirry to In. Ver renol/Emmol.com Phone on: 0511-2290108

Michigan consolidate (no. 6)



#### TEST REPORT

Test Report No.	: ELES/RNC/2024/5352	Report Release Date	: 23.09.2024
Work Order No.	: 13512312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003265F		

CUSTOMER DET	CUSTOMER DETAILS		
Customer Name	: Hindaico industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/6186 : Near Shakmuapani Village : 14.09.2014 to 15.09.2024
Address	: Lohurdiga, Jhackhand-835302	Sample Received Date Type of Sample	: 16.09.2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/D1
Period of Analysis	: 16.09.2024 to 23.09.2024	Sample Condition	Sealed & Preserved

M	ETEOROLOGICAL INFORMATION		
1	Average Temperature (°C) : 26	2 Barometric Pressure (mmHg) : 742	
3	Relative Humidity (%) : 72	4 Weather Condition : Rainy	

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	pg/m1	IS 5182 (Part- 23): 2022	51	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	26	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	µg/m³	IS 5182 (Part-2/Sec1): 2023	5.8	80 (24hrs)	
Nitrogen Di-Oxide (NO.)	jig/m³	IS 5182 (Part- 6): 2022	16.3	80 (24brs)	
Ozone (O <sub>1</sub> )	µg/m²	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH <sub>3</sub> )	µg/m²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m²	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)	
Nickel (NI)	ng/m <sup>1</sup>	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C <sub>4</sub> H <sub>4</sub> )	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(u)-Pyrene	ng/m²	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by

Akasin Kulmar Sually Managar \*\*\*\*End of Report\*\*\*\*

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

Page I of I

The Doymerr stand in Tast Rayer, is been by the Latermany under General Terms and Conditions, only on Company latter head in procuposes; themse. The results shown in the Tast Rayers to the relief of the philosophic time by the Laboratory and. The relicension shade on the Text Report referre the lindings does by the Laboratory of the long of the classes and the philosophic time of the laboratory of the laboratory of the laboratory of the relicension of the philosophic time of the laboratory of th counted for Philips from the Date of palance week of the Torr Report The samples from Appointury beckers on the normal in appointed way upper of Characterian or Completing the Appoint that the drive region of the samples from the Characterian and Torr Report referred manufactors are in the first on a programme of the samples from the counter from the programme of the samples from the counter fr



HATTA KANCH-ENGER (MARKHAN) OFF NO MARKET HOUSE

### ENGINEERING SERVICES PVT. LYD.

Email: Injulialentententen etas sunchtillannikeam Proma ema: 0001-3200200 Westella : www.elenot.co.ln



TEST REPORT

Test Report No.	: ELES/RNC/2024/5353	Report Release Date	: 23.09.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003266F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Addresa	: Hindulco industries Limited : Lohardaga, Thurkhund-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2024/A-A/6187 : Near Dipa Kujam Village : 14.09.2024 to 15.09.2024 : 16.09.2024 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sampling Done By	ELES/DOC/SMPL/02	
Period of Analysis	: 16.09.2024 to 23.09.2024	Sample Condition	Sealed & Preserved	

METEOROLOGICAL INFORMATION			
1 Average Temperature (°C) : 26	2	Barometric Pressure (mmHg)	: 742
3 Relative Humidity (%) : 72	4	Weather Condition	: Rainy

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	48	100 (24hrs)	
Particulate Maner (PM2.5)	µg/m <sup>3</sup>	IS 5182 (Part- 24): 2019	24	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part- 2/Sec1): 2023	6.2	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m³	IS 5182 (Part- 6): 2022	19.4	80 (24hrs)	
Ozone (O <sub>1</sub> )	µg/m <sup>3</sup>	IS 5182 (Part- 9): 2019	<20.0	100 (Shrs)	
Ammonia (NH <sub>3</sub> )	μg/m²	TS 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	0.007	1 (24hrs)	
Nickel (NI)	ngim <sup>2</sup>	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C <sub>4</sub> H <sub>6</sub> )	pg/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 Akasin Kumas

Cluelity Managar

\*\*\*\*End of Report\*\*\*\*

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

Technical Manager

Page 1 of 1

The Developer stand on For Report, is issued by the Laboratory under General Tames and Combinuous, only on Company below band to pre-approved former. The results shown in the Tata Report subserved for the philosophyse does by the Laboratory and the adventures sent of the Combinuous standard or the Combinuous standard for the facilities of the facilities of the information which is pre-vised by the client. The Report caused by incompanies of the input is not adventure or data provided on the appropriate countries of the Laboratory or field standard by the client. The Report caused by incompanies of the input is not adventure, which point account approval of the Laboratory. The Report is districted in the input is not pre-vised from the Uniqueness of the Laboratory. Abstraction in the Indian prior parameters and parameters of the Laboratory of the contribution of the contribu



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

### NGINEERING 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/2024/5526	Report Release Date	: 28.09.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003431F		The second secon

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sampling Date Sampling Received Date Type of Sample Sampling procedure Sampling Done By	: 16.09.2024 to 17.09.2024 : 20.09.2024 : Ambient Noise : ELES/DOC/SMPL/03 : ELES Pvt. Ltd.	
Mines Status	: Operational	Period of Analysis	: 20.09.2024 to 28.09.2024	

METEOROLOGICAL INFORMATION				
1	Average Temperature (°C) : 27	2	Barometric Pressure (mm	Hg) : 742
3	Relative Humidity (%) : 66		Weather Condition	: Partly Cloudy

Discipline : Chemical	Group : Atr	nospheric	Pollution		
Location	Unit	Test Protocol	Rest	ılt	Regulatory Limit (Industrial Zone)
Near Mine Office			Time	Leg	
Amtipani Bauxite Mine (190.95 ha)	dB(A)	(A) IS 9989: 2020	Day Time	68	75 dB(A) Day Time
Sample ID: ELES/RNC/2024/AN/6372	dB(A)		Night Time	42	70 dB(A) Night Time

Reviewed by

\*\*\*\*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 refer or relates only to the jub/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of effects'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 seturcthorized alteration & faisification of the content or appearance of the Test Report is unknowful and offenders may be presecuted 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 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



TQ-13587

### TEST REPORT

Test Report No.	: ELES/RNC/2024/5530	Report Release Date	: 28.09.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003435F		

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	

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 28	2	Barometric Pressure (mml	fg) : 742
3	Relative Humidity (%) : 66	-	Weather Condition	: Partly Cloudy

Location	Unit	Test Protocol	Res	ult	Regulatory Limit (Industrial Zone)
Mines Near Quarry - 7C			Time	$L_{eq}$	
Amtipani Bauxite Mine (190.95 ha)	dB(A)	dB(A) IS 4758: 2017	Cass market		90 dB (A)
Sample ID: ELES/RNC/2024/WN/6376			Day Time	74	J. S. Mir (ct)

Reviewed by

\*\*\*\*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 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 at the time of involvement only and soften 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 smanthorized 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 we retained for Jodays 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 at 24bours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) 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/2024/5538 Report Release Date : 28.09.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400003443F

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/6384 : 16.09.2024 : 20.09.2024 : Surface Water : Spring Water : Jhapa Jhuri, Amtipani Bauxite Mine (190.95 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	6.61	6,5-8.5
Colour	Hazen	IS 3025 (Part -4): 2021	4.0	300
Odour	91	IS 3025 (Part-5): 2018	Unobjectionable	
Turbidity	NTU	IS 3025 (Part-10): 2023	0.46	-
Total Dissolved Solids (TDS)	mg/L	1S 3025 (Part-16): 2023	78	1500
Total Alkalinity (as CaCO <sub>3</sub> )	mg/L	IS 3025 (Part-23): 2023	23.8	**
Total Hardness (as CaCO <sub>5</sub> )	mg/L	IS 3025 (Part-21): 2019	29.1	***
Sulphate (as SO <sub>4</sub> )	mg/L	IS 3025 (Part-24/Sec1): 2022	BDL (DL: 1.0)	400
Chloride (as Cl)	mg/L	1S 3025 (Part-32): 2019	13.5	600
Fluoride (as F)	mg/L	IS 3025 (Part-60): 2019	0.128	1.5
Nitrate (as NO <sub>3</sub> )	mg/L	APHA 24th Ed.2023, 4500 NO <sub>3</sub> -B	10.0	50

Page 1 of 4

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis dose by the Laboratory only. The information stated on the Test Report reflects the findings dose by the Laboratory at the titue 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 weitien 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 afternion & faisification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the low. All the samples are retained for Júdays from the Date of release/issue 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 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 Desection Limit); LDL (Lower Desection 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-1386

#### TEST REPORT

Test Report No. : ELES/RNC/2024/5538 Report Release Date : 28.09.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400003443F

Discipline : Chemica	1	Group: Wa	iter	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 <sub>6</sub> H <sub>5</sub> 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	7.0	
Discipline : Cher	mical	Gr	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)	540
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 24th Ed.2023; 3111B	BDL (DL: 0.03)	1.5
Iron (as Fe)	mg/L	APHA 24th Ed.2023; 3111B	0.205	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)	24
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	BD1. (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 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 jub/analysis done by the Laboratory undy. The information statud 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 suckess prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any immithorized 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 Judgys from the Date of release issue of the resulting 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 (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



TC-1358

#### TEST REPORT

Test Report No. : ELES/RNC/2024/5538 Report Release Date : 28,09,2024

Work Order No. : 13612312113 Work Order Date : 28,03,2024

ULR No. : TC135872400003443F

Discipline : Che	mical	Group: Res	idues in Water	Tolerance Limits
Parameter Unit		Test Protocol	Result	as per 1S 2296-1992 Class C (Inland Surface Water
Cyanide (as CN)	mg/L	APHA 24 <sup>th</sup> 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)	2,000
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)	
Malathion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	
Methyl parathion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.1)	
Monocrotophos	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	(**)
Phorate	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	-
Phorate Sulphone	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	-
Dieldrin	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.01)	**

Page 3 of 4

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 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 innutherized alternation & labsification of the content or appearance of the Test Report is unlawful and obtenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30thays from the Unite of release/issue of the Test Report is unlawful and obtenders may be prosecuted 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 schudule 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.runchi@gmail.com

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



TC-1398

### TEST REPORT

Test Report No. : ELES/RNC/2024/5538 Report Release Date : 28.09.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400003443F

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)	296
Gamma HCH (Lindane)	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	
Endosulfan (alpha, beta and sulphate)	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	-
DDT(o,p and p.p-isomers of DDT) ( DDE and DDD)	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	
Discipline: Biole	ogical	Gro	oup: Water	
Total Coliform	CFU/100 mL	1S 15185: 2021	51.0	**
Escherichia cali	CFU/100 mL	IS 15185: 2021	BDL. (DL: 1.0)	44

Remarks: pH & RFC done at Lab.

vies &

Reviewed

\*\*\*\*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 issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the jub/analysis stone 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 & labsification 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 Midays from the Date of release/issue of the Test Report is unlawful and offenders may be presecuted to the fallest extent of the law. All the samples are retained for Midays from the Date of release/issue of the 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 (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/2024/5538	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/6384 : 16.09.2024 : 20.09.2024 : Surface Water : Spring Water : Jhapa Jhuri, Amtipani Bauxite Mine (190.95 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 : 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	1S 3025 (Part-39):2021 (Clause 6 Infrared Spectroscopic Method)	BDL (DL: 0.01)	744

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

Reviewed by a PIT 11th Ball

\*\*\*\*End of Report\*\*\*\*

Dr. Deependra Rumar 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 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 wenters 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 abstraction & 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 returned for Management of the Test Report. The samples from Regulatory bodies are to be returned as specified. Any type of Observations or Complaints regarding the Reports shall be done such in 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule memoried in Test Report to the Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule memoried in Test Report to the Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule memoried in Test Report to the Report released to the Report Detection Limit).



#### **Annexure 3**

Date - 06.11.2024

#### **Office Order**

Environmental Cell has been re-constituted at Amtipani Bauxite Mine (Area 190.95 ha) comprising below mentioned team members. The team will ensure compliance with the Environment Act, Regulation & Rule in respect of the said mines of Hindalco Industries Limited.

- 1. Mr. Yogendra Lilhare (Coordinator)
- 2. Mr. Susovan Samanta (Geologist)
- 3. Mr. Ankit Das (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

<sup>\*</sup>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) cription 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

<sup>\*\*</sup>Part of OB removed cost.

Basudev Gangopadhyay AVP (Planning, Environment & Compliance)