

HIL/LHD/ENV/MoEF/716

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 October'23 to March'24.

Ref: Environmental Clearance letter no J-11015/241/2005-IA II (M) dated 14th 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 October'23 to March'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

Date: 23.05.2024

(Basudev Gangopadhyay)
AVP (Planning, Environment & Compliance)

Enclosure: - As Above

CC: ro.ranchi-mef@gov.in, mef@ori.nic.in, mef@nic.in, mef.or@nic.in, mscb.cpcb@nic.in, zokolkatta.cpcb@nic.in, ranchiispcb@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 October 2023 to 31st March 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-



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 FY 2023-24 a total of 3000 nos. of saplings have been planted in 1.20 ha. Total 18.13 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

Condition 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.

	N	O OBJE	CTION C						ाण पत्र) UND V	River De Ce	जल र और जेन्द्रीय Gow Minis partmen evelopm entral Gr	भारत सरक ल शिक्ष में संसाधन, नदी गंगा संस्कृष मंग्रीम जल श्र symment o stry of Jal it of Wate sent & Ga ound Wa	हिया विकास विभाग विभाग flindia Shakti r Resour nga Reju ter Autho	rvenatio
D	roject Name			Amtic	ani Da	unvite M	tining C	trojact/ f	90.95 H	-1		_		
	roject Nami						_			an, Chir	ndih T	ebsil . D	ishunre	
	llage:			Kujar		-wante N	my r	. opeca,	Block:	_	unpur	-0	pu	
	istrict:			Gum					State:	_	khand			
_	n Code:			Guill	-				Utale.	Jilai	N Hallu			
	ommunicat	ion Addres	55:			dustries 83530		d, Court	Road, I	Lohardag	ga, Loh	ardaga,	Loharda	iga,
A	ddress of C	GWB Reg	gional Offic							Region, Dak Bar				
1.	NOC No.:		CGWAN	OC/MIN/F	REN/2/2	2023/80	)44	2.	Date o	f Issuen	ice 2	7/07/202	23	
3.	Applicatio	n No.:	21-4/482	JH/MIN/2	019			1 4.	Category: Safe (GWRE 2022)			iafe		
5.	Project St	atus:	Existing (	Ground Wa	ater			6.	NOC Type: F		Renewal			
	Valid from	•••	06/09/20					8.	. Valid up to: 05/09/2025					
9.	Ground W		raction Pe				`.				_			
		Water	_		e Wate		-		watering		-		Total	
	m³/day	m³/ye		m³/day	√m	³/year		m³/day	-	n³/year	п	1 <sup>3</sup> /day	m*	/year
10	9.50 Details of	3467.		etion (Dec		o elevel					-			
	Details Of	ground W		xisting No		A annot	ures			To	tal Pro	posed h	lo :0	
			D			TW	MP	MPu	DW	DCB	BW	TW	MP	MP
	Abstraction	Structure			1	0	0	0	0	0	0	0	0	0
'DW	V- Dug Well; D	CB-Dug-cun	n-Bore Well	BW-Bore W	ell; TW-1	Tube Well	t MP-Mi	ne Pit;MPi	u-Mine Pu	mpa				
11.	Ground W	ater Abstr	raction/Re	storation (	harge	s paid (	Rs.):				69	36.00		
		Q,		,					overlea					

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.

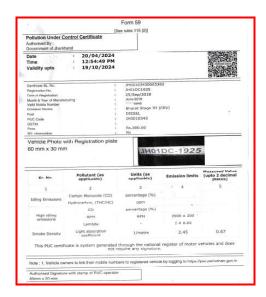
Condition 12- Vehicular emissions should be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of minerals. The vehicles should be covered with a tarpaulin and shall not be overloaded.

**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 and PUC Certificate are attached below.



Ore Transportation with tarpaulin covered truck.



PUC Certificate.

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

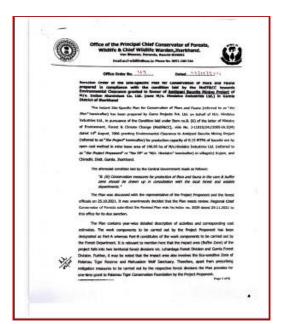
Condition 2- No change in the calendar plan including excavation, quantum of mineral bauxite and waste should be made.

**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**

Piezometer Reading - Amtipani Bauxite Mine							
S No	Month	Depth (meter)					
1	Oct-23	32.34					
2	Nov-23	32.19					
3	Dec-23	31.98					
4	Jan-24	32.60					
5	Feb-24	33.22					
6	Mar-24	33.72					

# ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Amtipani Bauxite Mine-Environmental Monitoring Report



### CONTENT

Н	lindalco Industries : Amtipani Bauxite Mine	Environmental Monitoring Report	October 2023
	Amtipan	i Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE		
1	Mine Entrance Gate		
2	Near Mine Office/WB		
3	Mines Near Quarry - 1C		
4	Mines Near Quarry – 7C		
	AMBIENT AIR QUALITY- BUFFER ZON	E	
1	Near Pakri Gada Village		
2	Near Pol Pol Village		
3	Near Shakhuapani Village		
4	Near Dipa Kujam Village		







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

### ENGINEERING SERVICES PVI. LTD.

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

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

#### TEST REPORT

Test Report No.	: ELES/RNC/2023/4373	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3804 : Mine Entrance Gate Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 06.10.2023 to 07.10.2023 : 17.10.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 17.10.2023 to 23.10.2023	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION							
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 742		
3	Relative Humidity (%)	: 58	4	Weather Condition	: Clear		

Discipline: Chemica	d	Group : A	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	48	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): 2001; RA2022	6.1	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6): 2006; RA2022	23.4	80 (24hrs)	
Ozone (O <sub>3</sub> )	цg/m³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	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	<2.0	06 (Annual)	

Page 1 of 2

The Document stated as Test Report, is insured 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 appearance. 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 diretation & 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 related directly and offenders of release/issue of the Test Report. The samples from Regulatory bodies are to be retuined as specified. Any type of Observations or Camplaints 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/2023/4373	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

Discipline : Chemi	cal	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>5</sub> H <sub>6</sub> )*	μg/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)	

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

Reviewed by

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

Authorised Signatory

Dr. Deependra Kumar Sinha Ph. D. Environmental Engo. ELES Pvi. Ltd. Technical Manager

Page 2 of 2

The Document stated as Test Report, is assued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only 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 our of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. 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/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@gmall.com Phone no.: 0651-2290103 Website : www.elespl.co.in

### TEST REPORT

Test Report No.	: ELES/RNC/2023/4374	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3805 : Near Mine Office/WB Amtipani Bauxite Mine (190.95 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 06.10.2023 to 07.10.2023 : 17.10.2023
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 17.10.2023 to 23.10.2023	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORM	MATION			
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mm	Hg) : 742
3	Relative Humidity (%)	- 58	-4	Weather Condition	: Clear

Discipline : Chemica	al	Group: A	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	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-2): 2001; RA2022	7.8	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	μg/m <sup>3</sup>	IS 5182 (Part-6): 2006; RA2022	20.5	80 (24hrs)	
Ozone (O <sub>3</sub> )	µg/m³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.012	1 (24hrs)	
Nickel (Ni)	ng/m³	1S 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<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 time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or duta 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 unlessful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of relegaciessue 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), BOL (Below Detection Limit), LDL (Lower Detection Limit).



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

### ENGINEERING SERVICES PVT. LTD.

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

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

### TEST REPORT

Test Report No.	: ELES/RNC/2023/4374	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

Discipline : Chemi	cal	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>6</sub> H <sub>6</sub> )*	μg/m³	1S 5182 (Part-11)2006;RA2017	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)	

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

Reviewed by

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

**Authorised Signatory** 

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

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full 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 in unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are returned 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/assued. 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 (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

### TEST REPORT

Test Report No.	: ELES/RNC/2023/4375	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET	CUSTOMER DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3806 : Mines Near Quarry - 1C Amtipani Bauxite Mine (190.95 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 06,10,2023 to 07,10,2023 : 17,10,2023
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 17.10.2023 to 23.10.2023	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 58	4	Weather Condition	: Clear

Discipline : Chemica	d-	Group : A	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23); 2006; RA2022	48	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	1S 5182 (Part-2): 2001; RA2022	5.9	80 (24hrs)		
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6): 2006; RA2022	22,2	80 (24hrs)		
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	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	<2.0	06 (Annual)		

#### Page 1 of 2

The Document mated as Test Report, is insued by the Laboratory under General Terms and Conditions, only an 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 fludings done by the Laboratory at the time of envolvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided 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 utilawful 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 tehedule 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/2023/4375	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

Discipline : Chemi	cal	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>6</sub> H <sub>6</sub> )*	μg/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)	

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

Reviewed by

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

Authorised Signatory

Dr. Deependra Kunter oinha Ph. D. Environmental Enga ELES PVI. 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 growded 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 jurusdiction issues. Any ununthrized 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/ssue 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). LOL (Lower 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 Phane no.: 0651-2290103

Website: www.elespl.co.in

#### TEST REPORT

Test Report No.	: ELES/RNC/2023/4376	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3807 : Mines Near Quarry – 7C Amtipani Bauxite Mine (190,95 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 06.10,2023 to 07,10.2023 : 17.10.2023
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 17.10.2023 to 23,10.2023	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFORMA	ATION	- Comme		
1	Average Temperature (°C) : 2	25	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	8	4	Weather Condition	: Clear

Discipline : Chemica	d	Group : A	tmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m <sup>3</sup>	IS 5182 (Part-23): 2006; RA2022	48	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-2): 2001; RA2022	5.6	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6): 2006; RA2022	19.7	80 (24hrs)
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	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	<2.0	06 (Annual)

Page 1 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Condinions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the jub/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken 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 jurisdiction, issues. Any unauthorized alternation & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fulliest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15 days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24 hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

### ENGINEERING SERVICES PVT. LTD.

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

Website: www.elespl.co.in

#### TEST REPORT

Test Report No.	: ELES/RNC/2023/4376	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

Discipline : Chemi	eal	Group:	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C <sub>6</sub> H <sub>6</sub> )*	μg/m³	1S 5182 (Part-11)2006;RA2017	<1.0	05(Annual)
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)

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

Reviewed by

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

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

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written appeared of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alternation & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the 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 (Lawer Detection Limit).



PLOT NO-30, MANSARIOVAN ENCLAVE TUFUDANA MATIA: RANCHI-834003 (IMARKHAND) GET NO-20AAECE97130124 ENGINEERING SERVICES PYT. LTM.

Email: Infa@eiesal.co.in , eles ranchi@amail.com Phone no.; 0651-2290103 Website : Www.eiespl.co.in

### TEST REPORT

Test Report No.	: ELES/RNC/2023/4369	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	; Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/3800 : Near Pakri Gada Village : 05.10.2023 to 06.10.2023	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 17.10.2023 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sample Drawn By	: ELES Pvt. Ltd.	
Period of Analysis	: 17.10.2023 to 23.10.2023	Sample Condition	: Sealed & Preserved	

	ETEOROLOGICAL INFOR		100	The second secon	m 10
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 58	4	Weather Condition	: Clear
5	Longitude	: 84°14'52.25"N	6	Latitude	: 23°17'41.21"E

Discipline : Chemica	il	Group: A	Atmospheric l	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	54	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-2): 2001; RA2022	6.4	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6): 2006; RA2022	23.8	80 (24hrs)
Ozone (O <sub>3</sub> )	µg/m³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22); 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m <sup>1</sup>	ELES/AIR/SOP/01	<2.0	06 (Annual)

Page 1 of 2

The Document stated at 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 of releases only to the job analysis dorse by the Laboratory only. The information stated on the Test Report reflects the findings durie by 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 fall and any part of the report is not taken out of courses, without prior witten approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal occurs sories prior permission has been secured from the Management of the Laboratory. Attendion is drawn to the limitation of liability, compensation and jurisdiction issues. Any manifestived attention & falsification of the content of the fallout extent of the law. All the samples are retained for 30days from the Date of releases some 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 drawn in the durie within 15thrs from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned to Test Report to adversariation used. W/A (Not Applicable); BDL (Below Extendion Limit), LDL (Livier Detection Limit).



FLOT NO-30, MANSAROVAR ENCLAVE, YUPUDANA HATIA: RANCHI-834003 (JHARKHANO) GST NO:-20142559130124 ENGINEERING SERVICES PIT. ATIL.

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

### TEST REPORT

Test Report No.	: ELES/RNC/2023/4369	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

Discipline : Chemi	cal	Group:	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C <sub>6</sub> H <sub>6</sub> )*	μg/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)
Benzo-(a)-Pyrene®	ng/m³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)

Remarks: (")-Parameters are outsourced to other Lab.

Reviewed by

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

Authorised Signatory

Fig. 2 min 1 Sept. 2 Company of the Company of Sept. 2 Company of Sept. 2 Company of the Company

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 estructions. 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 jurisdiction issues. Any unauthorized alteration & Takisfication of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30-bays 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 taken within 15days from the Date of Test Report released/issued. After the time period stand before, no complaints will be accepted. The entire Time schedule ammoned in Test Report is in 34-born format. Abbreviation used, TMA (Not Applicable), HDL (Below Description Limit); LDL (Lower Description Limit).



PLDT NO-30, MANSARDWAR ENCLAVE TURNDANA HATIA, RANCHI-834003 (IMARKHANO) 65T/10-26AA219/13D174

### ENGINEERING STRITCES PHY. ATP.

Email: Info@glesal.co.in , eles.ronco(Samail.com Phage no.: 0651-3290103 Website : www.elesol.co.in

### TEST REPORT

Test Report No.	: ELES/RNC/2023/4370	Report Release Date	: 22,11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date	: ELES/RNC/2023/AA/3801 : Near Pol Pol Village : 05.10.2023 to 06.10.2023 : 17.10.2023
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: [7,10,2023 to 23,10,2023	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 25	2	Barometric Pressure (mm	Hg) : 742
_	Relative Humidity (%) : 58	4	Weather Condition	: Clear

Discipline : Chemica	il li	Group: A	Atmospheric l	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	49	100 (24hrs)
Particulate Matter (PM2.5)	μg/m <sup>3</sup>	IS 5182 (Part- 24): 2019	29	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part-2): 2001; RA2022	6.2	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6); 2006; RA2022	19.1	80 (24hrs)
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH <sub>3</sub> )	µg/m³	IS 5182 (Part-25): 2018	<10.0	400 (24hrs)
Curbon Monoxide (CO)	mg/m³	(S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m³	1S 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m²	ELES/AIR/SOP/01	<2.0	06 (Annual)

Page I of 2

The Document stated is Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results thinwn in the Test Report reflects the finalings done by the Laboratory at the time of involvement only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the finalings done by the Laboratory at the time of involvement only and within the limits of elient is statuted in. 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 contest, without prior united 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 accorded from the Management of the Laboratory. Attention is drawn to the limitation of fishibity, compensation and jurisdiction issues. Any quantitative different from the Content or approximate of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for Solarys from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be mainted as specified. Any type of Observations or Complaints regarding the Reports shall be found while 13days from the Date of Test Report released/issued. After the time period strated before, no complaints will be accepted. The entire Time schedule membered in Test Report is in 34bourn formul. Address used. N/A (Not Applicable), BDL (Roloss Detection Limit), LDL (Lawer Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAYE, TUPUDANA HATIA, RANCHI-E34003 (IHARKHAND) 537 ND-20A4ECE3713D124 ENGINEERING SERVICES POT, A 171.

Email: info@elespl.co.in , eles.ranchi@amall.com. Phone na 0551-2290103 Website : www.elespl.co.in

### TEST REPORT

Test Report No.	: ELES/RNC/2023/4370	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

Discipline : Chemi	cal	Group:	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C <sub>6</sub> H <sub>6</sub> )*	μg/m³	IS 5182 (Part-I1)2006;RA2017	<1.0	05(Annual)
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)

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

Reviewed by

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

Authorised Signatory

· Descendra i umar sinhe

s 65 To 11d. Newholal 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 reflects the findings done by the Laboratory at the time of involvement only and written 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 elient. 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 of suppearance of the Test Report is unlewful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of reference/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 some 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), HDL (Helew Detection Limit), LDL (Lower Detection Limit).



FLIOT NO-30, MANSAROVAR ENCLAVE TURUDANA HATIA, KANCHI-BBADQB (JHANNAND) GST NO:- 2044ECESTIBDII4 ENGINEERING PERFECTS PTY, LYD.

Ermail: <u>Info@elesul.co.in</u>, <u>eles.ranchl@qmail.com</u> Prione ho.: 0651-2390103 Website i www.elesul.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/4371	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET/	AILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2023/AA/3802 : Near Shakhuapani Village : 06,10,2023 to 07,10,2023 : 17,10,2023 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sample Drawn By	: ELES Pvt Ltd.
Period of Analysis	: 17.10.2023 to 23.10.2023	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATIC	N		
1	Average Temperature (°C) : 25	2	Barometric Pressure (mm	tHg) : 742
3	Relative Humidity (%) : 58	4	Weather Condition	: Clear

Discipline: Chemica	al	Group: A	Atmospheric !	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	49	100 (24hrs)
Particulate Matter (PM2.5)	μg/m <sup>2</sup>	IS 5182 (Part- 24): 2019	22	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part-2): 2001; RA2022	5.9	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m <sup>3</sup>	IS 5182 (Part-6): 2006; RA2022	22.7	80 (24hrs)
Ozone (O <sub>3</sub> )	μg/m <sup>3</sup>	IS 5182 (Part-9); 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.008	1 (24hrs)
Nickel (Ni)	ng/m³	1S 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Page I 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 resolutions in the Test Report refer or relates only to the job multysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of treolyment 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 accurred from the Management of the Laboratory. Attention is drawn to the function of liability, compensation and jurisdiction issues. Any unauthorized alteration & Galorication of the constitution appropriate of the Test Report is unlawfull and offenders may be protected in the fullest extent of the law. All the samples are retained for foldays from the Date of relative/state of the Test Report. The samples from Regulatory begins are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be these within 15days from the Date of Visit Report released/stated. After the time period stated before, on complaints will be accepted. The order Time subsection neutrinosel in Test Report is in 24thours format. Additional control in Test Report is in 24thours format. Additional control in Test Report is in 24thours format. Additional control in Test Report is in 24thours format. Additional control in Test Report is in 24thours format.



PLOT NO-30, MANSAROVAR ENCLAVE TUMBOANA HATIA, RANCHEBBBOB (HARKHAND) GST NO: 28A45CE9711D124 ENGINEERING SERVICES PVT, 400.

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

#### TEST REPORT

Test Report No.	: ELES/RNC/2023/4371	Report Release Date	: 22.11.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C <sub>6</sub> H <sub>6</sub> )*	μg/m²	(S 5182 (Part-11)2006;RA2017	<1.0	05(Annual)
Benzo-(a)-Pyrene*	ng/m1	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)

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

Reviewed by

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

Authorised Signatory

Principle Technical Manager

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Tesns and Conditions, only on Company letter head in pre-approved forms. The results shown in the Test Report reflects the findings dose 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 rat 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 types are retained afternation & full finding of release issues 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 is in 3-thours format. Abbreviation used N/A (Not Applicable), BDI. (Below Detection Limit), LDL (Lower Detection Limit)



PLOT NO-30, MANSARDVAR ENCLAVE, TURUDANA MATIR, RANCHI-834003 (JHARKHAND) GST.NO:- JDAASCESTIBDIZA

### ENGINEERING SERVICES PYT 1,70.

Empli: Info@elespl.co.in , eles.ranchi@ampil.com Phane no.: 0651-2290103 Website: www.elespl.co.in

### TEST REPORT

Test Report No.	: ELES/RNC/2023/4372	Report Release Date	: 22.11.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	; ELES/RNC/2023/AA/3803 ; Near Dipa Kujam Village ; 06.10,2023 to 07.10,2023
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 17.10.2023 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES Pvt. Ltd.
Period of Analysis	: 17.10.2023 to 23.10.2023	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORM	AATION			
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	±742
3	Relative Humidity (%)	: 58	4	Weather Condition	: Clear

Discipline : Chemica	il	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	48	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-2): 2001; RA2022	<5.0	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part-6): 2006; RA2022	17.3	80 (24hrs)
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (Shrs)
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): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22); 2004; RA2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m³	)S-5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (Az)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)

### Page 1 of 2

The Decument stated as Test Report, is sound by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report reflect or relates andy 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 writin 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 jurisdiction issues. Any unauthorized attention & data ficulties or apparatuse of the Test Report is individually and offenders may be prosecuted to the fullest extent of the law. All the accepts at the Test Report Tire 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 related Authorises used N/A (Not Applicable). BUL (Fellow Description Limit) LDL (Lower Detection Limit)



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

### ENGINEERING SERVICES FVY, 1-76.

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

### TEST REPORT

Test Report No.	: ELES/RNC/2023/4372	Report Release Date	: 22.11.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

Discipline : Chemi	cal	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C <sub>6</sub> H <sub>6</sub> )*	μg/m <sup>3</sup>	(S 5182 (Part-11)2006;RA2017	<1.0	05(Annual)
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	< 0.5	01(Annual)

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

Reviewed by

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

Authorised Signatory

C Daupendre Kunter binbe Philipping in the second at 55 mm our Technical Muneger

Page 2 of 2

The Document stated as 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 dose 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 involvement of the copert 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. Amendon in drawn in the limitation of liability, compensation and jurisdiction issues. Any ununthorized alteration & falsification of the content or appearance of the Test Report is unlessful and offenders may be prosecuted to the fullest extent of the limit. All the samples are retained for 30days from the Date of release-fissue of the Test Report. The samples from Regulatory budies are to be retained as specified. Any type of Observations or Complaints regarding the Report shall be time within Usdays from the Date. The part released issued. After the time period stated before, no complaints will be accepted. The center Time schedule mentioned to Test Report is in 20ments. Abbreviations used: N/A (Not Applicable), EDL (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

November- 2023



### CONTENT

Hi	ndalco Industries : Amtipani Bauxite Mine	Environmental Monitoring Report	November- 2023			
	Amtipa	ni Bauxite Mine				
	AMBIENT AIR QUALITY- CORE ZONE					
1	Mine Entrance Gate					
2	Near Mine Office/WB					
3	Mines Near Quarry - 1C					
4	Mines Near Quarry – 7C					
	AMBIENT AIR QUALITY- BUFFER ZONE					
1	Near Pakri Gada Village					
2	Near Pol Pol Village					
3	Near Shakhuapani Village					
4	Near Dipa Kujam Village					
	DRINKING WATER					





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

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2023/4716	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	CUSTOMER DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4119 : Mine Entrance Gate Amtipani Bauxite Mine (190.95 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 04.11.2023 to 05.11.2023 : 16.11.2023
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 16.11.2023 to 22.11.2023	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION			
	Average Temperature (°C) : 21	2	Barometric Pressure (mml	Hg) : 742
_	Relative Humidity (%) : 52	4	Weather Condition	: Clear

Discipline : Chemica	1	Group : A	tmospheric !	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	59	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-2): 2001; RA2022	7.5	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6); 2006; RA2022	25.1	80 (24hrs)
Ozone (O <sub>3</sub> )	µg/m³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	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	<2.0	06 (Annual)

Reviewed by

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

Dr. Welepieno Fichumar Sinha

D Emirronmental Engo

Page 1 of 1

The Document stated as Test Report or 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 jobanushysis done by the Laboratory only. The information could be the Test Report refer or relates only to the jobanushysis done by the Laboratory only. 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 consern 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 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:- 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/2023/4716	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4119 : Mine Entrance Gate Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 04.11.2023 to 05.11.2023 : 16.11.2023	
Mines Status	; Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 16.11.2023 to 22.11.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 21	2	Barometric Pressure (mml	Hg) : 742
3	Relative Humidity (%) : 52	4	Weather Condition	: Clear

Discipline : Chemi	cal	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C <sub>6</sub> H <sub>6</sub> )*	μg/m <sup>3</sup>	1S 5182 (Part-11)2006;RA2017	<1.0	05(Annual)
Benzo-(a)-Pyrene*	ng/m <sup>3</sup>	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)

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



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

Authorised Signatory

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

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 seport 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 unlewful 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 reflectable 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/2023/4717	Report Release Date	: 21.12.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name  Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location  Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2023/AA/4120 : Near Mine Office/WB Amtipani Bauxite Mine (190.95 ha : 04.11.2023 to 05.11.2023 : 16.11.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 16.11.2023 to 22.11.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 21	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%) : 52	- 4	Weather Condition	: Clear

1	Group : A	tmospheric	Pollution	
Unit	nit Test Protocol		Regulatory Limit	
µg/m³	IS 5182 (Part-23): 2006; RA2022	64	100 (24hrs)	
μg/m <sup>3</sup>	IS 5182 (Part- 24): 2019	35	60 (24hrs)	
μg/m³	IS 5182 (Part-2): 2001; RA2022	8.3	80 (24hrs)	
μg/m³	IS 5182 (Part-6): 2006; RA2022	23.1	80 (24hrs)	
μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
mg/m³	IS 5182 (Part-10): 1999; RA2019	<1,0	2 (8hrs)	
µg/m³	IS 5182 (Part-22): 2004; RA2019	0.008	1 (24hrs)	
ng/m <sup>4</sup>	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	
	μg/m <sup>3</sup>	Unit Test Protocol  μg/m³ IS 5182 (Part-23): 2006; RA2022  μg/m³ IS 5182 (Part-24): 2019  μg/m³ IS 5182 (Part-2): 2001; RA2022  μg/m³ IS 5182 (Part-6): 2006; RA2022  μg/m³ IS 5182 (Part-6): 1974; RA2019  μg/m³ IS 5182 (Part-25): 2018  mg/m³ IS 5182 (Part-10): 1999; RA2019  μg/m³ IS 5182 (Part-22): 2004; RA2019  ng/m³ IS 5182 (Part-22): 2004; RA2019	Unit         Test Protocol         Result           μg/m³         IS 5182 (Part-23): 2006; RA2022         64           μg/m³         IS 5182 (Part-24): 2019         35           μg/m³         IS 5182 (Part-2): 2001; RA2022         8.3           μg/m³         IS 5182 (Part-6): 2006; RA2022         23.1           μg/m³         IS 5182 (Part-9): 1974; RA2019         <20.0	

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

Reviewed by

Authorised Signatory
Dr. Deependra Kumar Sinha

Page 1 of 1 Ph. D Environmental Engg

The Document stated as New Report is used by the Laboratory under General Terms and Conditions, only biless Best lated menchanical Management of the 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 repreduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report is full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlewful and offenders may be prosecuted to the fullest extent of the law. All the samples are returned for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are in be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used. N/A (Not Applicable); BDL (Below Detection Limit). LDL (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D1Z4 ENGINEERING SERVICES PVT. LTD.

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

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

#### TEST REPORT

Test Report No.	: ELES/RNC/2023/4717	Report Release Date	: 21.12.2023	-
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4120 : Near Mine Office/WB Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 04.11.2023 to 05.11.2023 : 16.11.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 16.11.2023 to 22.11.2023	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 21	2	Barometric Pressure (mm	Hg) : 742
_	Relative Humidity (%) : 52	4	Weather Condition	: Clear

Discipline : Chemi	cal	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>4</sub> H <sub>6</sub> )*	μg/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004; RA2019	<0.5	01(Annual)	

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

Reviewed by 80

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

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

Page 1 of 1

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/smalysin 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 & Inhification of the content or appearance of the Test Report is unfawful 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 dance within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used. N/A (Not Applicable), BDI. (Below Detection Limit), LDL (Lower Detection Limit).



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

#### ENGINEERING SERVICES PVT. LTD.

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

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



#### TEST REPORT

Test Report No.	: ELES/RNC/2023/4718	Report Release Date	: 21.12.2023	
Work Order No.	13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4121 : Mines Near Quarry - 1C Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 04.11.2023 to 05.11.2023 : 16.11.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis			: Sealed & Preserved	

МІ	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 21	2	Barometric Pressure (mml	Hg) ‡742
	Relative Humidity (%) : 52	4	Weather Condition	: Clear

Discipline : Chemica	ıt	Group : A	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	54	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-2): 2001; RA2022	6.7	80 (24hrs)		
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6): 2006; RA2022	24.5	80 (24hrs)		
Ozone (O <sub>3</sub> )	μg/m <sup>1</sup>	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.010	1 (24hrs)		
Nickel (Ni)	ng/m <sup>5</sup>	1S 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)		

Reviewed by

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

Authorised Signatory Dr. Deependra Kumar Sinha

Page 1 of 1 Ph. D Environmental Engg.

The Document stated as Lest Report to used by the Laboratory under General Torms and Conditions, only to the formation and the Test Report reflects the fledings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be repredicted except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions 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 returned for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be returned as specified. Any type of Observations or Complaints 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); 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

#### TEST REPORT

Test Report No.	: ELES/RNC/2023/4718	Report Release Date	: 21.12.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4121 : Mines Near Quarry - IC Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 04.11.2023 to 05.11.2023 : 16.11.2023	
Mines Status : Operational		Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 16.11.2023 to 22.11.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 21	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	2.52	4	Weather Condition	: Clear

Discipline : Chemi	cal	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>6</sub> H <sub>6</sub> )*	μg/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)	

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

Reviewed by

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

Authorised Signatory

Dr. Deependra Kurnar Sinha Ph. D Environmental Engg. ELES Pvt. Ltd. Technical Management

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 reflect only to the jub/usualysis 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 elsent'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 entires 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 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15 days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentiumed in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Desection Limit).



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

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/2023/4719	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4122 : Mines Near Quarry – 7C Amtipani Bauxite Mine (190.95 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 04.11.2023 to 05.11.2023 : 16.11.2023
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 16.11.2023 to 22.11.2023	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 21	2	Barometric Pressure (mm)	Hg) : 742
3	Relative Humidity (%) ; 52	4	Weather Condition	: Clear

Discipline : Chemica	d	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	60	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-2): 2001; RA2022	6.8	80 (24hrs)		
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6): 2006; RA2022	22.9	80 (24hrs)		
Ozone (O <sub>3</sub> )	µg/m³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.007	1 (24hrs)		
Nickel (Ni)	ng/m²	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)		

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

Reviewed by

Dr. Deependra Kufffar Sinha

The Document stated as Test Report is asseed by the Laboratory under General Terms and Conditions, only on Charles that he pre-approved forms 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, udvertise, 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 unlinwful 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 Regulmory bodies are to be returned as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Dute 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:- 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/2023/4719	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4122 : Mines Near Quarry – 7C Amtipani Bauxite Mine (190,95 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 04.11.2023 to 05.11.2023 : 16.11.2023
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 16.11.2023 to 22.11.2023	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 21	2	Barometric Pressure (mm	Hg) : 742
3	Relative Humidity (%) : 52	4	Weather Condition	: Clear

Discipline : Chemi	cal	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C <sub>6</sub> H <sub>8</sub> )*	μg/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m³	1S 5182 (Part-12)2004;RA2019	<0.5	01(Annual)		

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

Reviewed by

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

Authorised Signatory

Dr. Deependra Kumar Sinit.
Ph. D Environmental Engg.
ELES Pvt. Ltd. Technical Mana-

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 reflect 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 reporduced except in full and any part of the report is not taken out of context, without prior writern 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 & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report reflects of the time period stated before, no complaints will be accepted. The entire Time schedule minitioned 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) IST NO:-20A4ECES713D124

#### ENGINEERING SERVICES FYE. ATR.

Email: Info@elespl.to.in , eles,ranchi@arnail.com

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



TC-8835

#### TEST REPORT

Test Report No.	: ELES/RNC/2023/4712	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	a management of the same of the same
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/4115 : Near Pakri Gada Village : 05.11.2023 to 06.11.2023
Address	: Lohardaga, Jharkband-835302	Sample Received Date Type of Sample Sampling Procedure	: 16.11.2023 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sample Drawn By	: ELES Pvi. Ltd.
Period of Analysis	: 16.11.2023 to 22.11.2023	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	:21	12	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 53	4	Weather Condition	: Clear
5	Longitude	; 84°14'52.25"N	6	Latitude	: 23°17'41.21"E

Discipline : Chemics	ıl	Group: Atmospheric Pollution				
Parameter Unit		Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m <sup>3</sup>	IS 5182 (Part-23): 2006; RA2022	59	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	34	60 (24hrs)		
Sulphur Di-Oxide (SO <sub>1</sub> )	μg/m³	IS 5182 (Part-2): 2001; RA2022	7.1	80 (24hrs)		
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6): 2006; RA2022	24.3	80 (24hrs)		
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)		
Ammonia (NH <sub>3</sub> )	μg/m³	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	TS 5182 (Part-22): 2004; RA2019	< 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	<2.0	06 (Annual)		

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

Reviewed by

Authorised Signatory
Dr. Deependra Kumar Sinha

Page 1 of 1 Ph. D Environmental Engg

The Document stated at Test Report of the Laboratory order General Terms and Conditions, only of DES By In LiQuid Capable Management and the Johannity of the Information refer of relates only to the johannity of the Laboratory only. The information stated on the Test Report refers the findings dose by the Laboratory of the line of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information whom is provided by the client. The Report current be reported except in full and any part of the teport is not taken out of coetest, without prior written approval of the Laboratory. The Report is full on in part studi not be published, advertise, used for any legal actions onlies prior permission has been secured from the Management of the Laboratory. According to the limitation of liability, compensation and jurisdiction issues. Any immufactory of the Test Report in timized and offenders may be presecuted to the fulless extent of the law. All the samples are retained for foldays from the Date of Test Report. The samples-from Regulatory bodies are to be retained as apocified. Any type of Observations or Compliants regarding the Reports shall be done written (5days through Date of Test Report in the Date of Test Report released/issued. After the time prival stated before, no complaints will be accepted. The entire Time schedule management is Test Report in in Management used. MA (Kest Applicable), EDL (Bellow Detection Circit), 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/2023/4712	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/4115 : Near Pakri Gada Village : 05.11.2023 to 06.11,2023	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 16.11.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 16.11.2023 to 22.11.2023	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFO	RMATION		7 - 2 - 7 - 7	
1	Average Temperature (°C)	:21	2	Barometric Pressure (mmHg)	: 742
3.	Relative Humidity (%)	: 53	4	Weather Condition	: Clear
5	Longitude	: 84°14'52.25"N	6	Latitude	: 23°17'41,21"E

Discipline : Chemi	cal	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C <sub>t</sub> H <sub>6</sub> )*	µg/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	< 0.5	01(Annual)		

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

Reviewed by

1

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

Authorised Signatory
Dr. Deependra Kumar Sinha

Ph. D Environmental Engg.

ELES Pvr. Ltd. Technical Manager

Page 1 of 1

The Document seried as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved formst. The results shows in the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of cisent's matruetions. 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 fundation of inhibity, companion and partial cities issues. Any unanthorized alteration & falsification of the content or appearance of the Test Report is unlowful and offenders may be prosecuted in the fullest extent of the law. All the samples are retained for 10thays from the Date of release issue of the Test Report. The samples from Regulatory Solidos are to be retained as specified. Any type of Observations of Complaints regarding the Reports shall be done within 15 days from the Date of Test Report in the samples from Regulatory Solidos are to be retained as specified. Any type of Observations of Complaints regarding the Reports shall be done within 15 days from the Date of Test Report in this samples from Regulatory Bulliand Bul



PLOT NO-30, MANEAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO.-201462597130124

#### ENGINEERING SERVICES PYT. LAD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2023/4713	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	CUSTOMER DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/4116 : Near Pol Pol Village : 05.11.2023 to 06.11.2023
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 16.11.2023 : Ambient Air : ELES/DOC/SMPI/02
Mines Status	; Operational	Sample Drawn By	; ELES Pvt. Ltd.
Period of Analysis	: 16.11.2023 to 22.11.2023	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION	1			
1	Average Temperature (°C) : 21	2	Barometric Pressure (mr	nHg) : 742	
3	Relative Humidity (%) : 53	4	Weather Condition	: Clear	

Discipline: Chemica	il	Group : /	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	54	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): 2001; RA2022	6.8	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m <sup>1</sup>	IS 5182 (Part-6); 2006; RA2022	22.5	80 (24hrs)
Ozone (O <sub>2</sub> )	µg/m³	IS 5182 (Part-9): 1974; RA2019	<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); 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m²	IS 5182 (Part-22): 2004; RA2019	< 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	<2.0	06 (Annual)

Reviewed by

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

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D Environmental Engo

Page 1 of 1

The Document stated as Jean Separt, in graded by the Laboratory under General Terms and Conditions, only for Congrain total and a provided by the Laboratory under General Terms and Conditions, only for Congrain total and the Test Report reflects the findings done by the Laboratory of the time of involvement only and within the limits of client's methodises. 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 arry 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 accused from the Managament of the Laboratory. Attention in drawn to the limitation of limitity, compensation and paradiction issues. Any ununforted alteration & falsification of the content of the Test Report is unlessful and offenders may be prosecuted to the fullest exent of the law. All the samples are retained for 30days from the Date of releases after the Report in the Date of Test Report. The samples from Regulatory before are to be retained as specified. Any type of Observations of Complaints regarding the Reports shall be done where 15days from the Date of Test Report in in Tableson Limits. Abbreviation used. Note the Date of Test Report is in Tableson Limits. LDL (Lower Detection Limits).



CW: U74999JH2018PTC011125

### ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:-20AAECE97130124 ENGINEERING SERVICES PUT, LTD.

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

#### TEST REPORT

Test Report No.	: ELES/RNC/2023/4713	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/4116 : Near Pol Pol Village : 05.11.2023 to 06.11.2023		
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 16.11.2023 : Ambient Air : ELES/DOC/SMPL/02		
Mines Status	: Operational	Sample Drawn By	: ELES Pvt. Ltd.		
Period of Analysis	: 16.11.2023 to 22.11.2023	Sample Condition	: Sealed & Preserved		

METEOROLOGICAL INFORMATION						
1	Average Temperature (%C)	:21	2	Barometric Pressure (mmHg)	: 742	
3	Relative Humidity (%)	1.53	4	Weather Condition	: Clear	

Discipline: Chemi	cal	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C <sub>6</sub> H <sub>6</sub> )*	μg/m <sup>3</sup>	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)		

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

Reviewed by

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

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

Page 1 of 1

The Decoment stated as Test Report, is issued by the Laboratory under Gentral Timms and Conditions, only on Company latter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory of the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report control 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 driven to the limitation of liability, configeration issues. Any semanticities definition of the content of appearance of the Test Report is unlessful and offenders may be presecuted to the fullest extent of the law. All the samples are returned for 20days from the Date of release/axis of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15 fars from the Date of Test Report released assued. After the time puriod stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24 hours format. Abbreviation used: N/A (Nin Applicable): BDL (Below Deportion Limit), LDL (Lower Detection Limit).



PLOT NO:30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-\$34003 (JHARKHAND) GST NO:- NIAAECE97130124

#### ENGINEERING SERVICES PET, LTD.

Emall: info@elespl.co.in , eles.ranchi@amall.com

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



TEST REPORT

Test Report No.	: ELES/RNC/2023/4714	Report Release Date	: 21.12,2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/4117 : Near Shakhuapani Village : 06.11.2023 to 07.11.2023
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 16.11.2023 : Ambient Air : ELES/DOC/SMPI/02
Mines Status	; Operational	Sample Drawn By	: ELES Pvt. Ltd.
Period of Analysis	: 16.11,2023 to 22,11,2023	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFOR	MATION			and the same
1	Average Temperature (*C)	:21	2	Barometric Pressure (mmH	g) : 742
3	Relative Humidity (%)	: 53	-4	Weather Condition	; Clear

Discipline: Chemica	il	Group: A	tmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	55	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): 2001; RA2022	6.4	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part-6): 2006; RA2022	24.1	80 (24hrs)
Ozone (O <sub>3</sub> )	µg/m³	IS 5182 (Part-9): 1974; RA2019	<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	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	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	<2.0	06 (Annual)

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

Reviewed by

Dr. Deependra Kumar Sinha

Page 1 of 1 ELES Due 114 Topholosis

The Documens stated as Test Report, as insued by the Laboratory under General Terms and Conditions, only of Company letter head in pre-approved format. The results shown in the Test Report refer or relines only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of chient's instruction. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without price written approved of the Laboratory. The Report is full at 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, compression and jurisdiction assues. Any timestherized altimation of the content or appearance of the Test Report is unlawful and influences may be prosecuted in the fallow assumptions from Regulatory hodies are in the retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report is in Test as a part of the samples from the Date of the Report is in Test as a format. Although the time period shall be fore, no complaints will be accepted. The entire Time schedule continued in Test Report is in Test as a format. Although the samples from the Date of the Period Super Reports and the schedule continued in Test Report is in Test as a format. Although the samples from the Date of the Period Super Reports and the schedule continued in Test Report is in Test as a format.



PLOT NO-30, MANSAROVAR ENCLAVE, TUPLIDANA HATIA, RANCHI-R34003 (JHARNHAND) 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/2023/4714	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04,2023	

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/4117 : Near Shakhuapani Village : 06.11.2023 to 07.11.2023
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 16.11.2023 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 16.11.2023 to 22.11.2023	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 21	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%) : 53	4	Weather Condition	: Clear

Discipline : Chemi	cal	Group:	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C <sub>5</sub> H <sub>6</sub> )*	μg/m³	IS 5182 (Part-11)2006; RA2017	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	< 0.5	01(Annual)		

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

Reviewed by

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

Authorised Signatory

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

Page 1 of 1

The Document stated as Test Report, is usued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer as relates only to the job analysis done by the Laboratory only. The information stated on the Test Report refers the findings done by the Laboratory 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 elect. 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 linking, compensation and jurisdiction issues, Any immufactioned alternation & finisfication of the content of appearance of the Test Report is unlawful and offenders may be prosected to the follows 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 trained as specified. Any type of Observations or Complisions regarding the Reports shall be done within 15days from the Date of Test Report of Test



PLOT NO-30, MANSARDVAR ENGLAVE, TUPUDANA HATIA, RANCHI-634003 (JHARKHAND) GST NO:- 20AAECE97130124 Email: Info@elesol.co.in , eles.ronchi@amail.com

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



TEST REPORT

Test Report No.	: ELES/RNC/2023/4715	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2023/AA/4118 : Near Dipa Kujam Village : 06.11.2023 to 07.11.2023 : 16.11.2023 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sample Drawn By	: ELES Pvt. Ltd.
Period of Analysis	: 16.11.2023 to 22.11.2023	Sample Condition	: Sealed & Preserved

ME	TEOROLOGICAL INFO	RMATION			
1.	Average Temperature (°C)	;21	2	Barometric Pressure (mmH	g) : 742
3	Relative Humidity (%)	: 53	- 4	Weather Condition	: Clear

Discipline : Chemics	ıl	Group:	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	54	100 (24hrs)
Particulate Matter (PM2.5)	μg/m <sup>3</sup>	IS 5182 (Part- 24): 2019	29	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part-2): 2001; RA2022	6.4	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6): 2006; RA2022	19.7	80 (24hrs)
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part-9): 1974; RA2019	<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	JS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m <sup>4</sup>	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by

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

Dr. Deeperiora Vourtapsinha

Dis D Environmental Engu

Page 1 of 1 ELES Pvt. Ltd. Technical Manager

The Document stated as Test Report is used 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 reflates only to the job analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory in the time of involvement only and within the tunits 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 are part of the report is not taken out of context, without prior vertical approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior persossion has been secured for the Management of the Laboratory. Attention is fravous to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alternation & this fraction of the occurrent or appartment of the Test Report is unlawful and offenders may be provided as the fullest extent of the law. All the samples sets retained for 30 days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Report shall be done to the Test Report of Test Report reliazed down. After the time period stated before, so complaints will be accupied. The entire Time achedule mentioned to Test Report and Athretical or accupied, the Date of Test Report reliazed down. After the time period stated before, so complaints will be accupied. Time achedule mentioned to Test Report and Athretical or accupied by the Coll. (Linver Domestion Linut).



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

### NGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.ln , eles ranchl@gmail.com Phone no.: 0651-7290103

Website: www.elespl.co.in

#### TEST REPORT

Test Report No.	: ELES/RNC/2023/4715	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/4118 : Near Dipa Kujam Village : 06.11.2023 to 07.11.2023	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 16.11.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	ELES/DOC/SMPL/02 ELES Pvt. Ltd.	
Period of Analysis	: 16.11.2023 to 22.11.2023	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFOR	RMATION				
1	Average Temperature (°C)	: 21	2	Barometric Pressure (mm	Hg) : 742	
3	Relative Humidity (%)	: 53	4	Weather Condition	: Clear	

Discipline : Chemi	cal	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C <sub>6</sub> H <sub>6</sub> )*	µg/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	< 0.5	01(Annual)		

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

Reviewed by

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

Dr. Deependra Kumar Sinha

Ph. D Environmental Engg. ELES Pvt. Ltd. Technical Manan-

Page 1 of 1

The Document stated as Test Report, is assued by the Laboratory under General Terms and Conditions, only on Company letter head in pro-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 as 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 consultantion & 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 remitted for 30days from the Date of reliase rance of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observational or Complaints regarding the Reports shall tid during within 15days from the Date of Text Report refessed saved. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Text Report to a 24hours formula Albreviation used. N/A (Not Apelicable), BDL (Balow Denotion Limit). LDL (Lawer Desection Limit).



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

#### ENGINEERING SERVICES PVT. LTD.

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

#### TEST REPORT

Test Report No.	: ELES/RAN/2023/3116	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RAN/2023/DW/3003 : 04.11.2023 : 16.11.2023	
Address	: Lohardaga, Jharkhand-835302	Type of Sample Source/Location of Sample	: Drinking Water : Amtipani Bauxite Mines (190,95ha)	
Mines Status	: Operational	Sampling Procedure Sample Collected By	: ELES/DOC/SMPL/01 : ELES Pvt. Ltd.	
Period of Analysis	: 16.11.2023 to 05.12.2023	Sample Condition	: Sealed & Preserved	

Discipline : Chem	ical	Group : Water			ory Limit
sostpanie i caretaren		Group Trans		ns per IS 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
pH (at 24.7 °C)	21	APHA 23rd Ed.2017, 4500-H*	6.82	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 23 <sup>rd</sup> Ed.2017, 2130 B	0.18	1.0	5.0
Taste	73	APHA 23rd Ed,2017, 2160 C	Agreeable	Agreeable	Agreeable
Odour	3	IS 3025 (Part-5) :2018	Agreeable	Agreeable	Agreeable
Colour	Hazen	APHA 23rd Ed.2017, 2120B&D	1.0	5	15
Total Dissolved Solids (TDS)	mg/L	APHA 23 <sup>rd</sup> Ed.2017, 2540B,C&D	170	500	2000
Chloride (as Cl)	mg/L	APHA 23rd Ed.2017, 4500 Cl B	14.8	250	1000
Fluoride (as F)	mg/L	APHA 23 <sup>rd</sup> Ed:2017, 4500 F-D	BDL (DL: 0.1)	1.0	1.5
Total Alkalinity (as CaCO <sub>3</sub> )	mg/L	APHA 23rd Ed.2017, 2320 B	64.8	200	600
Total Hardness (as CaCO <sub>1</sub> )	mg/L	APHA 23rd Ed.2017, 2340 C	74.6	200	600
Sulphate (as SO <sub>4</sub> )	mg/L	APHA 23rd Ed.2017, 4500 SO <sub>4</sub> -2-E	2.8	200	400
Nitrate (as NO <sub>3</sub> )	mg/L	APHA 23 <sup>rd</sup> Ed.2017, 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):1992;RA2019	BDL (DL: 0.0005)	0.001	0.002

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 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 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 Complaines regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Nos Applicable); BDL (Below Detection Limit). LDL (Lower Detection Limit).



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/RAN/2023/3116 Report Release Date : 21.12.2023

Work Order No. : 13612310218 Work Order Date : 21.04.2023

Discipl	ine: Che	mical Group: V	Vater		tory Limit
Parameter	Unit	Test Protocol	Result	Acceptable	10500:2012 Permissible Limit
Cyanide (as CN)	mg/L	APHA 23 <sup>rd</sup> Ed.2017, 4500 CN-E	BDL (DL: 0.012)	0.05	No Relaxation
Residual Free Chlorine (RFC)	mg/L	IS 3025 (Part-26):2021	BDL (DL: 0.1)	0.02	1,0
Calcium (as Ca)	mg/L	APHA 23 <sup>rd</sup> Ed.2017, 3500 Ca B	12.8	75	200
Discipl	ine: Che	mical Group	: Residues in	Water	
Aluminum (as Al)	mg/L	IS 3025 (Part-55); 2003; RA2019	BDL (DL: 0.02)	0.03	0.2
Arsenic (as As)	mg/L	IS 3025 (Part 37): 2022	BDL (DL: 0.005)	0.01	No Relaxation
Boron (as B)	mg/L	IS 3025(Part-57): 2005; RA2021	BDL (DL: 0.2)	0.5	1.0
Cadmium (as Cd)	mg/L	APHA 23 <sup>rd</sup> Ed.2017, 3111B	BDL (DL: 0.003)	0.003	No Relaxation
Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed.2017, 3111B	BDL (DL: 0.03)	0.05	No Relaxation
Copper (as Cu)	mg/L	APHA 23rd Ed.2017, 3111B	BDL (DL: 0.03)	0.05	1.5
Iron (as Fe)	mg/L	APHA 23 <sup>rd</sup> Ed.2017, 3111B	0.375	1.0	1.0
Lead (as Pb)	mg/L	APHA 23rd Ed.2017, 3111B	BDL (DL: 0.01)	0.01	No Relaxation
Manganese (as Mn)	mg/L	APHA 23 <sup>rd</sup> Ed.2017, 3111B	BDL (DL: 0.05)	0.1	0.3
Mercury (as Hg)	mg/L	IS 3025 (Part-48): 1994; RA2019	BDL (DL: 0.001)	0.001	No Relaxation
Selenium (as Se)	mg/L	IS 3025 (Part-56): 2003; RA2019	BDL (DL: 0.01)	0.01	No Relaxation
Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed.2017, 3111B	BDL (DL: 0.1)	5	15

Remarks: 1. pH & RFC done at Lab.

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 & Instification 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).



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/RAN/2023/3116
 Report Release Date
 : 21.12,2023

 Work Order No.
 : 13612310218
 Work Order Date
 : 21.04.2023

Discipline: Che	mical		Group: Water		
Parameter	Unit	Test Protocol	Result	Regulatory Limit as per IS 10500:2012	
Pesticides					
Alachlor*	µg/L	АРНА	BDL (DL: 1.0)	20	
Atrazine*	μg/L	АРНА	BDL (DL: 1.0)	2	
Aldrin/Dieldrin*	μg/L	АРНА	BDL (DL: 0.01)	0.03	
Alpha HCH*	μg/L	АРНА	BDL (DL: 0.001)	0.01	
Beta HCH*	µg/L	АРНА	BDL (DL: 0.01)	0.04	
Butachtor*	μg/L	АРНА	BDL (DL; 10)	125	
Chlorpyriphos*	μg/L	АРНА	BDL (DL: 10)	30	
Delta HCH*	μg/L	АРНА	BDL (DL: 0.01)	0.04	
2,4 dichlorophenoxyacetic acid*	μg/L	APHA	BDL (DL: 10)	30	
DDT(o,p and p,p-isomers of DDT,DDE and DDD)*	μg/L	АРНА	BDL (DL: 0.5)	t	
Endosulfan (alpha, beta, and sulphate)*	μg/L	АРНА	BDL (DL: 0.1)	0.4	
Ethion*	μg/L	APHA	BDL (DL: 0.5)	3	
Gamma HCH (Lindane)*	μg/L	APHA	BDL (DL: 0.5)	2	
Isoproturon*	μg/L	APHA	BDL (DL: 0.5)	9	

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 cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions enless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any ununchorized alteration & faisification 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 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 refeased/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) 65T NO:- 20AAECE9713D124 ENGINEERING SERVICES PVT. LTD.

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

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

#### TEST REPORT

Test Report No.	; ELES/RAN/2023/3116	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

Discipline : Bi	iological	Group: 1	Water		ory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Total Coliform	Per 100 mL	IS 15185;2016; RA 2021	Not Detected	OL House	- down 1
Escherichia Coli (E. Coli)	Per 100 mL	IS 15185:2016; RA 2021	Not Detected	Shall not	be detected
Discipline :	Chemical	Group:	Water		ory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Anionic Surfactants (as MBAS)*	mg/L	1S 3025 Part 68	BDL (DL: 0.1)	0,2	1.0
Mineral Oil*	mg/L:	CL-6, IS: 3025 (P-39)	BDL (DL: 0.1)	1.0	No relaxation
Polynuclear Aromatic Hydrocarbons (PAH)*	mg/L	APHA 23 <sup>rd</sup> Edition	BDL (DL; 0,0001)	0.0001	No relaxation
Polychlorinated Biphenyls (PCB)*	mg/L	APHA 23 <sup>rd</sup> Edition	BDL (DL: 0.0005)	0.0005	No relaxation

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

Reviewed by

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

Dr. Deependra Kumar Sinha
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 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. Altention 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/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

December 2023



### CONTENT

Hi	ndalco Industries : Amtipani Bauxite Mine	Environmental Monitoring Report	December 2023
	Amtipa	ni Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE		
1	Mine Entrance Gate		
2	Near Mine Office/WB		
3	Mines Near Quarry - 1C		
4	Mines Near Quarry – 7C		
	AMBIENT AIR QUALITY-BUFFER ZO	NE	
1	Near Pakri Gada Village		
2	Near Pol Pol Village		
3	Near Shakhuapani Village		
4	Near Dipa Kujam Village		





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

#### ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/0183	Report Release Date	: 15.01.2024	
Work Order No.	: 13612310218	Work Order Date	: 21,04.2023	
ULR No.	: TC883924000000166F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4506 : Mine Entrance Gate Amtipani Bauxite Mine (190.95 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 10.12,2023 to 11.12,2023 : 16.12,2023 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 16.12.2023 to 28.12,2023	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 18	2	Barometric Pressure (mm	Hg) : 742
3	Relative Humidity (%) : 48	4	Weather Condition	: Clear

Discipline : Chemica	d :	Group: A	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit			
Particulate Matter (PM10)	μg/m³	1S 5182 (Part-23): 2006; RA2022	63	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-2): 2001; RA2022	8.1	80 (24hrs)			
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6): 2006; RA2022	27.3	80 (24hrs)			
Ozone (O <sub>3</sub> )	µg/m²	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)			
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	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	<2.0	06 (Annual)			

Reviewed by

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

Ph. D Environmental Engg.

ELES PVI. Ltd. Technical Manager

Page 1 of I

The Document stated as Test Report, in traced 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/analyses 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 Inmunition 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 Midrays from the Date of release/lissue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15 days from the Date of Test Report released/lessed. 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).

Save Environment, Save Future?



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/2024/0183	Report Release Date	: 15.01.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4506 : Mine Entrance Gate Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 10.12,2023 to 11.12.2023 : 16.12,2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 16.12.2023 to 28.12.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	:18	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

Discipline : Chem	ical	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C <sub>6</sub> H <sub>6</sub> )*	μg/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)		

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

Reviewed by

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

Dr. Delegised Signatory
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 pro-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 in the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, wathout print 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 & flasification 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 3Cdays 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 (IHARKHAND) GST NO:- 20AAECE9713D1Z4

### INGINEERING 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/2024/0184	Report Release Date	: 15.01.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000000167F		

CUSTOMER DETA	MLS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4507 : Near Mine Office/WB Amtipani Bauxite Mine (190.95 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 10.12,2023 to 11.12.2023 : 16.12.2023
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 16.12.2023 to 28.12.2023	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFOR	MATION			
T	Average Temperature (°C)	: 18	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

Discipline : Chemica	il	Group : A	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit			
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	60	100 (24hrs)			
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	31	60 (24hrs)			
Sulphur Di-Oxide (SO <sub>3</sub> )	µg/m³	IS 5182 (Part-2): 2001; RA2022	7.8	80 (24hrs)			
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6): 2006; RA2022	24.6	80 (24hrs)			
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part-9): 1974; RA2019	<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>3</sup>	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)			
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	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	<2.0	06 (Annual)			

Reviewed by

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

DA despendie Kumar Sinha

Ph. D Environmental Enga

Page 1 of 1 ELES Pvt. Ltd. Technical Manager

The Document stated as Test Report, as issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved formal. 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 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 initiation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content of upgearance 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/usue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).

Save Environment, Save Functo



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) 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/2024/0184	Report Release Date	: 15.01.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4507 : Near Mine Office/WB Amtipani Bauxite Mine (190,95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 10.12.2023 to 11.12.2023 : 16.12.2023	
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	; ELES Pvt. Ltd.	
Period of Analysis	: 16.12.2023 to 28.12.2023	Sample Condition	; Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 18	2	Barometric Pressure (mmHg)	:742
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

Discipline : Chem	ical	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C <sub>6</sub> H <sub>6</sub> )*	μg/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	< 0.5	01(Annual)		

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

Reviewed by

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

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 reportled 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 on any legal actions unless prior permission has been secured from the Munagement 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/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 Limity, 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/2024/0185	Report Release Date	: 15.01.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883924000000168F			

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4508 : Mines Near Quarry - 1C Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 10.12.2023 to 11.12.2023 : 16.12.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 16.12,2023 to 28.12,2023	Sample Condition	Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 18	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

Discipline : Chemica	d	Group : A	tmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	57	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-2): 2001; RA2022	7.2	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6): 2006; RA2022	26.1	80 (24hrs)
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m <sup>3</sup>	IS 5182 (Part-22): 2004; RA2019	0.007	1 (24hrs)
Nickel (Ni)	ng/m <sup>3</sup>	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by

N-EN

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

dr. beependra Kumar Sinha

Ph. D Environmental Food

Page 1 of 1

ELES Pvt. Ltd. Technical Manager

The Document stated as Tess Beport, or 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 earnest be reproduced except in full and any part of the report is not taken out of context, without provided approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless price permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized afteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fulless extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/assued. 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), ISDL (Below Describe Limit), LDL (Lower Detection Limit).

Save Environment, Save Funny



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/2024/0185	Report Release Date	: 15.01.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4508 : Mines Near Quarry - IC Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 10.12.2023 to 11.12.2023 : 16.12.2023	
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 16.12.2023 to 28.12.2023	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION					
T	Average Temperature (°C)	: 18	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

Discipline : Chem	ical	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C <sub>6</sub> H <sub>6</sub> )*	µg/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)		

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

Reviewed by

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

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

Page 1 of 1

The Document stated as Test Report, is assed 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 Minagement 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 budies 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/assued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is at 24hours format. Abbreviation used: N/A (New 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.ronchi@gmail.com

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



#### TEST REPORT

Test Report No.	: ELES/RNC/2024/0186	Report Release Date	: 15.01.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000000169F		

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4509 : Mines Near Quarry – 7C Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 10.12.2023 to 11.12.2023 : 16.12.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 16.12.2023 to 28.12.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 18	2	Barometric Pressure (mmHg	) : 742
3	Relative Humidity (%)	: 48	- 4.	Weather Condition	; Clear

Discipline : Chemica	d	Group : A	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit			
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	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-2); 2001; RA2022	7.3	80 (24hrs)			
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6): 2006; RA2022	20.3	80 (24hrs)			
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)			
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.012	1 (24hrs)			
Nickel (Ni)	ng/m²	IS 5182 (Part-26):2020	<6.0	20 (Annual)			
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)			

Reviewed by

d.E

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

Authorised Signatory Dr. Deependra Kumar Sinha

Page 1 of 1 ELES Pvt. Ltd. Technical Mana The results

The Document stated as Test Report is assued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-applications. The results shown in the Test Report refer of 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 afteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fulless extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 1 Sdays 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 (Noi Applicable), BDE (Below Detection Limit), LDE (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/2024/0186	Report Release Date	: 15.01.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref, No. Location	: ELES/RNC/2023/AA/4509 : Mines Near Quarry – 7C Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 10.12.2023 to 11.12.2023 : 16.12.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 16.12.2023 to 28.12.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION	-		
T	Average Temperature (°C) : 18	2	Barometric Pressure (mmH	g) : 742
3	Relative Humidity (%) : 48	4	Weather Condition	: Clear

Discipline : Chem	ical	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C <sub>6</sub> H <sub>6</sub> )*	μg/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)		

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

Reviewed by

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

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 repreduced 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 ossues. Any unauthorized alteration & fulsification of the content or appearance of the Test Report is unlawful and effenders 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 Roports shall be done within 15days from the Date of Test Report Jeleased/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24harm format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TURUDANA HATTA, RANCHI-834003 (JMARKHAND) GST NO: 204AECE9713D124

Email: info@elespl.co.in , eles.ranchi@amail.com Phone no.: 06\$1-2290103 Website: www.elespl.co.in



#### TEST REPORT

Test Report No.	: ELES/RNC/2024/0179	Report Release Date	: 15.01.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000000162F		

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/4502 : Near Pakri Gada Village : 09.12.2023 to 10.12.2023
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 16.12.2023 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 16.12.2023 to 28.12.2023	Sample Condition	; Sealed & Preserved

M	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 18	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear
5	Longitude	: 84°14'52.25"N	6	Latitude	: 23°17'41.21"E

Discipline: Chemics	ıl.	Group: Atmospheric Pollution				
Parameter Unit		Unit Test Protocol		Regulatory Limit		
Particulate Matter (PM10)	μg/m <sup>1</sup>	IS 5182 (Part-23): 2006; RA2022	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-2): 2001; RA2022	6.9	80 (24hrs)		
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6): 2006; RA2022	22.5	80 (24hrs)		
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	μg/m <sup>3</sup>	IS 5182 (Part-22): 2004; RA2019	< 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	<2.0	06 (Annual)		

Reviewed by

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

Dr. Deependra Kumar Sinha

Ph D Environmental Eng

Page 1 of 1 ELES PVI. Ltd. Technical Manager
The Document stated at Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/smalysis 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 alternation & 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 aumples 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 referred/layed. After the time period stated before, no complaints will be accepted. The maire Time schedule ministrated in Test Report is in 24hours former. Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limit), LDL (Lower Detection Limit).



PLOT NO-30, MANSARO VAR ENCLAVE, TUPUDANA HATIA, RANCHI-234003 (HARKHAND) GST NO-20AAECE9713D121

### ENGINEERING SERVICES PVT. LTD.

Emall: info@elespl.co.in , eles.canchl@amail.com Phone no.: 0651-2250103 Wabsita : www.elespl.co.in

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/0179	Report Release Date	: 15.01.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/4502 : Near Pakri Gada Village : 09.12.2023 to 10.12.2023
Address Mines Status	: Lohardaga, Jharkhand-835302 : Operational	Sample Received Date Type of Sample Sampling Procedure Sampling Done By	: 16.12.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 16.12.2023 to 28.12.2023	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 18	2	Barometric Pressure (mmHg)	; 742
3	Relative Humidity (%)	:48	- 4	Weather Condition	Clear
5	Longitude	: 84°14'52,25"N	6	Latitude	: 23°17'41.21"E

Discipline: Chem	ical	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C <sub>5</sub> H <sub>6</sub> )*	μg/m <sup>2</sup>	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)		

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

Reviewed by

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

Authorised Signatory

Dr. Deependra Kumar Sinina Ph. D Environmental Engg.

ELES Pvt. Ltd. Technical Manager

Page 1 of 1

The Document exited as Tirst Report, to 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 jobiumitysis 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 executions. 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 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. Amention 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 Data 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 Data of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDI. (Below Detection Limit), LDL (Lower Detection Limit).



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



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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/0180	Report Release Date	: 15.01.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000000163F		

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/4503 : Near Pol Pol Village : 09.12.2023 to 10.12.2023
Address	; Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 16.12.2023 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	± 16.12.2023 to 28.12.2023	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFORMA	TION		
1	Average Temperature (°C) : 18	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%) : 48	4	Weather Condition	; Clear

Discipline : Chemica	ıt	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	55	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m <sup>3</sup>	IS 5182 (Part- 24): 2019	29	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part-2): 2001; RA2022	7.3	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6): 2006; RA2022	24.1	80 (24hrs)	
Ozone (O <sub>3</sub> )	µg/m³	IS 5182 (Part-9): 1974; RA2019	<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>5</sup>	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	<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	<2.0	06 (Annual)	

Reviewed by

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

Authorised Signatory
Dr. Deependra Kumar Sinha

Ph. D Environmental Engg

1 (1

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 role 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 transactions. The Laboratory is responsible for all the sufformation 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. Abention 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/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 excepted. The entire Time schedule nuestioned in Test Report is in 24bours format. Abbreviation used: N/A (Nos Applicable), BOL (Below Detection Limit), LDI, (Lower Detection Limit).



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

#### ENGINEERING SERVICES PTT. LTD.

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

#### TEST REPORT

There Dissent No.	: ELES/RNC/2024/0180	Report Release Date	: 15.01.2024	
Test Report No.	: ELES/RIVE/2024/0160	Report Release Date	7.5 ( ) ( ) ( )	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/4503 : Near Pol Pol Village : 09.12.2023 to 10.12.2023
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure Sampling Done By	: 16.12.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Mines Status	: Operational		
Period of Analysis	: 16.12,2023 to 28.12.2023	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 18	2	Barometric Pressure (mmHg)	:742
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

Discipline : Chem	ical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>6</sub> H <sub>6</sub> ) <sup>m</sup>	μg/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m <sup>7</sup>	IS 5182 (Part-12)2004;RA2019	<0,5	01(Annual)	

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

Reviewed by

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

Authorised Signatory

Dr. Deependra Kumar Sinha Ph. 0 Environmental Engg.

ELES Pvt. Ltd. Technical Manager:

Page I of 1

The Document stated as Text Report, to issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved formit. The results shown in the Text Report refer or relates only to the job/analysis 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 in full or in part shall not be published, diverting, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Amention is drawn to the limitation of liability, compensation and jurisdiction issues. Any insulhorized afteration & falsification of the content or appearance of the Text Report is unlawful and offenders may be prospected to the fullest extent of the law. All the samples are retained for 30 days from the Date of related to the Date of Text Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15 days from the Date of Text Report and Albreviation used. N/A (Not Applicable), BDI. (Below Detection Limit), LDI. (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENGLAVE, TUPUDANA NATIA, RANCHI-834003 (IHARKHAND) GST NO-28AAECE9733D124



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



FC-8889

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/0181	Report Release Date	: 15.01.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000000164F		

AILS	SAMPLE DETAILS		
: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/4504 : Near Shakhuapani Village : 09.12.2023 to 10.12.2023	
: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 16.12.2023 : Ambient Air : ELES/DOC/SMPL/02	
: Operational	Sampling Done By	: ELES Pvt. Ltd.	
: 16.12.2023 to 28.12.2023	Sample Condition	: Sealed & Preserved	
	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	: Hindalco Industries Limited Sample Ref. No. Location Sampling Date : Lohardaga, Jharkhand-835302 Sample Received Date Type of Sample Sampling Procedure Sampling Done By	

MI	ETEOROLOGICAL INFO	RMATION				
1	Average Temperature (°C)	: 18	2	Barometric Pressure (mmHg)	: 742	
3	Relative Humidity (%)	: 48	4	Weather Condition	; Clear	

Discipline : Chemica	al	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	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-2): 2001; RA2022	7.1	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	μg/m³	1S 5182 (Part-6): 2006; RA2022	26.3	80 (24hrs)		
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.009	I (24hrs)		
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m <sup>1</sup>	ELES/AIR/SOP/01	<2.0	06 (Annual)		

Reviewed by

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

Authorised Signatory

Authorised Signatory Dr. Deependra Kumar Sinna

Ph. D Environmental Engg.

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 contest, without price written approval of the Laboratory. The Report in full or in part shall not be problemed, advertise, used for any legal actions unless price 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/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 smind before, no complaints will be accepted. The entire Time sehedule membered to Test Report is in 26hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limity, LDL (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) 65T NO-2044ECE5713D124

### ENGINEERING STRATCES PYT. LTD.

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

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/0181	Report Release Date	: 15.01.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/4504 : Near Shakhuapani Village : 09,12,2023 to 10,12,2023	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 16.12.2023 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 16.12.2023 to 28.12.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION				
I	Average Temperature (°C)	; 18	2	Barometric Pressure (mmHg)	: 742	
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear	

Discipline: Chem	ical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>6</sub> H <sub>6</sub> )*	μg/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	< 0.5	01(Annual)	

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

Reviewed by

\*\*\*\*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, in issued by the Laboratory under General Terms and Conditions, only an 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 manufactured alternation & falsification of the content of the Test Report is unlawful and offenders may be presecuted to the fullest extent of the law. All the samples are remained for Eddays from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be returned as specified. Any type of Observations of Complaints regarding the Reports shall be done written Eddays from the Date of Test Report released issued. After the time period stated before, no complaints will be accepted. The unity Time schedule management of Test Report to in 24hours format. Abbreviation used. N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

### ENGINEERING SERVICES PYT. LTD

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/0182	Report Release Date	: 15.01.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
III.R No.	: TC883924000000165F			

CUSTOMER DETA	CUSTOMER DETAILS		The second second
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/4505 : Near Dipa Kujam Village : 09.12.2023 to 10.12.2023
Address Mines Status	: Lohardaga, Jharkhand-835302 : Operational	Sample Received Date Type of Sample Sampling Procedure Sampling Done By	: 16.12.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 16.12.2023 to 28.12.2023	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	:18	2	Barometric Pressure (mmHg)	: 742
	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

Discipline : Chemica	d.	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	58	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): 2001; RA2022	6,9	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m <sup>3</sup>	IS 5182 (Part-6): 2006; RA2022	22.1	80 (24hrs)	
Ozone (O <sub>3</sub> )	gg/m³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	0.008	I (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m²	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Reviewed by

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

Authorised Signatory
Dr. Deependra Kumar Sinha

Phr D Environmental Engg

CC Cut 14d Tooksine Man

Page 1 of 1

The Document stated as Test Report, it issued by the Laboratory under General Terms and Conditions, only on Company letter lead in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instruction. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of centext, without price written approval of the Laboratory. The Report in full or in part shall out be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and particular issues. Any unauthorized alternation & fastification of the content of appearance of the Test Report is unlessful 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 Compliants regarding the Reports shall be done within 13days from the Date of Test Report reluised himself as precised as specified. Any type of Observations or Compliants. 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, TUPLIDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO: 20AAECE97130124

### MOINEERING SERVICES PVT. LTD.

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

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/0182	Report Release Date	: 15.01,2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/4505 : Near Dipa Kujam Village : 09.12.2023 to 10.12.2023	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 16.12,2023 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 16.12.2023 to 28.12.2023	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	:18	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>6</sub> H <sub>6</sub> )*	μg/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)	

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

Reviewed by

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

Authorised Signatory

Dr. Deependra Kumar Sinnu Ph. D Environmental Engg. eLES Pvt. Ltd. Technical Manar

Page 1 of 1

The Document stated as Test Report, is tested by the Laboratory under General Terms and Conditions, poly on Company letter head in pre-approved format. The results shown in the Test Report refler or relates only to the job/amilysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior vertices 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. Altention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized abstration & falsification of the content of appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/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 measurement in Test Report is in 24bours 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

January 2024



# CONTENT

	Hindalco Industries : Amtipani Bauxite Mine	Environmental Monitoring Report	January 2024
	Amtipani	Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE		
1	Mine Entrance Gate		
2	Near Mine Office/WB		
3	Mines Near Quarry - 1C		
4	Mines Near Quarry – 7C		
	AMBIENT AIR QUALITY- BUFFER ZONE		
1	Near Pakri Gada Village		
2	Near Pol Pol Village		
3	Near Shakhuapani Village		
4	Near Dipa Kujam Village		
	Surface Water		
	Soil	& Engle	



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

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/2024/0485	Report Release Date	: 05.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000000456F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0176 : Mine Entrance Gate Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 10.01.2024 to 11.01.2024 : 15.01.2024	
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	= 15.01.2024 to 25.01.2024	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 19	2	Barometric Pressure (mml-	lg) : 742
	Relative Humidity (%) ; 45	4	Weather Condition	: Clear

Discipline : Chemica	d	Group : A	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	65	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	38	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part-2); 2001; RA2022	8.8	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6): 2006; RA2022	29.1	80 (24hrs)	
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part-9): 1974; RA2019	<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>8</sup>	IS 5182 (Part-10): 1999; RA2019	<1,0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	0.018	1 (24hrs)	
Nickel (Ni)	ng/m³	1S 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m <sup>3</sup>	ELES/AIR/SOP/01	<2.0	06 (Amual)	

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

Reviewed by

Authorised Signatory

Dr. Deependra Kumar Sinha

Page 1 of 1

The Document stated as Test Report, is usued by the Laboratory under General Terms and Conditions, only on Europa Police Ida Technologic Management 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 carries 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 jurisdiction issues. Any unauthorized alteration & falsification of the consent 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 returned as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 34hours 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

### GINEERING SERVICES PVT. LTD.

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

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

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/0485	Report Release Date	: 05.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0176 : Mine Entrance Gate Amtipani Bauxite Mine (190.95 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 10.01.2024 to 11.01.2024 : 15.01.2024
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 15.01.2024 to 25.01.2024	Sample Condition	: Sealed & Preserved

MI	TEOROLOGICAL INFOR	MATION			
	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 742
	Relative Humidity (%)	6.45	4	Weather Condition	: Clear

Discipline : Chemical Group :			Atmospheric Pollution	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C <sub>6</sub> H <sub>6</sub> )*	µg/m³	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12): 2004; RA2019	<0.5	01(Annual)

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



\*\*\*\*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 asseed by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of 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 30days 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 Text 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

### NGINEERING SERVICES PVT. LTD

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

Phone no.: D651-2290103 Website: www.elespl.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2024/0486	Report Release Date	: 05.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883924000000457F			

CUSTOMER DETA	MLS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0177 : Near Mine Office/WB Amtipani Bauxite Mine (190,95 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 10.01.2024 to 11.01.2024 : 15.01.2024
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 15.01.2024 to 25.01.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 19	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%) : 45	4	Weather Condition	: Clear

Discipline : Chemica	il	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	65	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-2): 2001; RA2022	8.2	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6): 2006; RA2022	26.3	80 (24hrs)	
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part-9): 1974; RA2019	<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/m <sup>1</sup>	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.015	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

NIES & E

Reviewed by

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

Authorised Signatory Dr. Deependra Kumar Sinha

D Environmental Erron

Page 1 of 1

The Document stated as To Reson, I failed by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The resums shown in the Test Report refer or relates only to the jubratianysts 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 30days from the Date of release/usoe 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 15stays from the Date of Test Report released/issued. After the time period united 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 (Bulow Detection Limit), LDL (Lower Detection Limit).



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

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

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

### TEST REPORT

Test Report No.	: ELES/RNC/2024/0486	Report Release Date	: 05.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0177 : Near Mine Office/WB Amtipani Bauxite Mine (190.95 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 10.01.2024 to 11.01.2024 : 15.01.2024
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 15.01.2024 to 25.01.2024	Sample Condition	: Sealed & Preserved

MI	TEOROLOGICAL INFORMATIO	ON		
-	Average Temperature (°C) : 19		Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%) : 45	.4	Weather Condition	: Clear

Discipline : Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>6</sub> H <sub>6</sub> )*	µg/m³	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12): 2004; RA2019	<0.5	01(Annual)	

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



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

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

Page | of |

The Document stated as Test Report, is asseed by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of 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 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

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

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



TC-8839

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/0487	Report Release Date	: 05.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000000458F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0178 : Mines Near Quarry – 1F Amtipani Bauxite Mine (190.95 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 10.01.2024 to 11.01.2024 : 15.01.2024
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 15.01.2024 to 25.01.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 19	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%) : 45	4	Weather Condition	: Clear

Discipline : Chemica	ıl	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	1S 5182 (Part-23): 2006; RA2022	61	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part-24): 2019	36	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part-2): 2001; RA2022	7.9	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	15 5182 (Part-6): 2006; RA2022	23.5	80 (24hrs)	
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH <sub>3</sub> )	μg/m³	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part-22); 2004; RA2019	0.012	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m <sup>3</sup>	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Reviewed by

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

Authorised Signatory

Dr. Deependra Kumar Sinha

Page 1 of 1

The Document stated as Text Report as issued by the Laboratory under General Terms and Conditions, only on Company least head in pre-approved format. The results shown up the Text Report safe or related only to the inhibition of the results. sherum 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 ossues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted in the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be 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. Althreviation used: N/A (Not Applicable), DDL (Below Desection Limit), LDL (Lower Desection Limit).



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

CINEERING 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/2024/0487	Report Release Date	: 05.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0178 : Mines Near Quarry – 1F Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 10.01.2024 to 11.01.2024 : 15.01.2024	
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Mines Status	2 Operational	Sampling Done By	: ELES Pvt, Ltd.	
Period of Analysis	: 15.01.2024 to 25.01.2024	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFORMA	TION			
1	Average Temperature (°C) : 1	9	2	Barometric Pressure (mmHg)	: 742
	Relative Humidity (%) :4	15	4	Weather Condition	: Clear

Discipline : Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>6</sub> H <sub>6</sub> )*	μg/m <sup>1</sup>	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m <sup>3</sup>	IS 5182 (Part-12): 2004; RA2019	<0.5	01(Annual)	

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



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

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 referets 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 to 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 Lubornatory. Attention to drawn to the limitation of liability, compensation and jurisdiction assets. 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 Compliants regarding the Reports shall be done within L5days 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, MANSARDVAR 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



1C-BHS

### TEST REPORT

Test Report No.	: ELES/RNC/2024/0488	Report Release Date	: 05.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000000459F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0179 : Mines Near Quarry – 7C Amtipani Bauxite Mine (190.95 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 10.01.2024 to 11.01.2024 : 15.01.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 15.01.2024 to 25.01.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 19	2	Barometric Pressure (mmHg)	: 742
	Relative Humidity (%) : 45	4	Weather Condition	: Clear

Discipline : Chemica	d	Group : A	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³-	1S 5182 (Part-23): 2006; RA2022	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-2): 2001; RA2022	8.4	80 (24hrs)		
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6); 2006; RA2022	23.7	80 (24hrs)		
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.016	1 (24hrs)		
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)		

Reviewed by

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

Dr. Deependra Kumar Sinha

Ph D Environmental Engg.

Page 1 of 1

ELES Pvt. Ltd. Technical Manager

The Document stated as Test Report of the Laboratory under General Terms and Conditions, only an 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 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 caused 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 unumberized alternation & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the taw. All the samples are retained for 30days from the Date of release/fissue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/assued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours 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

### GINEERING 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/2024/0488	Report Release Date	: 05.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0179 : Mines Near Quarry – 7C Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 10.01.2024 to 11.01.2024 : 15.01.2024	
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 15.01.2024 to 25.01.2024	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFORM	ATION			
_	Average Temperature (°C)	19	2	Barometric Pressure (mmHg)	: 742
_	Relative Humidity (%)	45	4	Weather Condition	: Clear

Discipline : Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>6</sub> H <sub>6</sub> )*	μg/m³	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12): 2004; RA2019	<0.5	01(Annual)	

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



\*\*\*\*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 order General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory is the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in fall 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 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/sound. After the time period stated before, no complaints will be accepted. The entire Time schodule mentioned in Test Report to in 24hours format. Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limit), EDL (Lower Detection Limit).



PLOT NO-30, MANSARDVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO:-20A8ECE9713D124



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

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



### TEST REPORT

Test Report No.	: ELES/RNC/2024/0481	Report Release Date	: 05.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000000452F		

CUSTOMER DETA	MLS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/0172 : Near Pakri Gada Village : 09.01,2024 to 10.01,2024
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 15.01.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 15.01.2024 to 25.01.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFOI	RMATION			
1	Average Temperature (°C)	: 18	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 45	4	Weather Condition	: Clear
5	Longitude	: 84"14'52,25"N	6	Latitude	: 23°17'41,21"E

Discipline: Chemica	al .	Group:	Atmospheric !	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	60	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-2); 2001; RA2022	8.2	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6); 2006; RA2022	25.8	80 (24hrs)
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH <sub>s</sub> )	μg/m <sup>3</sup>	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m <sup>3</sup>	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m <sup>T</sup>	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)

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

Reviewed by

Authorised Signatory Dr. Deependra Kumar Sinha

Ph D Environmental Engo

Page | of 1

ELES Pvt. Ltd. Technical Manager

The Uncompany letter head in pre-approved format. The results shown in the Ten Report refer or relates only to the jubbanatyses 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 was as the linear of counts. The Laboratory in responsible for all the information or data provided on the report, except the information which is privated by the elegen. The Report cannot be reproduced except to full and any part of the report is not taken out of context, without provident a approval of the Laboratory. The Report is full or to part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Mininformation of the Laboratory. Attention in draw to the timuses of liability, compensation and jurisdiction occases. Any unauthorized alternation & falsification of the context of the Test Report is activated at difference of the falses extent of fire law. All the samples are retained for 30 days from the Date of release to the false of the Report of the Report. The samples from Regulatory had a sure to be retained as specified. Any type of Observations or Complaints regarding the Report shall be disminuted in Test Report in 2 days from the same Time school mentioned in Test Report in 12 days from the same Time school of the time period of the Execution Linear Linear United Schools and the Linear Linea



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO:- 304AECE971303Z4

### ENGINEERING SERVICES PUT, LTD.

Email: Info@elespl.co.in , eles.ranchi@gmail.com Phone no.: 0551-2290103 Website : www.elespl.co.in

### TEST REPORT

Test Report No.	: ELES/RNC/2024/0481	Report Release Date	: 05.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04,2023	

CUSTOMER DET	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/0172 : Near Pakri Gada Village : 09,01,2024 to 10.01.2024		
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 15.01.2024 : Ambient Air : ELES/DOC/SMPL/02		
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.		
Period of Analysis	: 15.01,2024 to 25.01.2024	Sample Condition	: Sealed & Preserved		

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 18	2	Barometric Pressure (mmHg)	: 742
	Relative Humidity (%)	: 45	4	Weather Condition	: Clear
	Longitude	±84°14'52.25"N	6	Latitude	: 23°17'41.21"E

Discipline; Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>6</sub> H <sub>6</sub> )**	μg/m³	TS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12): 2004; RA2019	<0.5	01(Annual)	

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



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

Authorised Signatory

Dr. Deependra Kumar Sinhu Ph. D Environmental Engg ELES Pyr. Ltd. Tachnical Manager

Page | of I

The Document stitled as Tast Report, is caused by the Laboratory smiler General Terms and Conditions, only on Company letter head in pre-approved former. The results shown in the Test Report refer or relates only to the job/asolysts done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the terms of client's insuccious. 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 emost be reproduced except as full and any part of the report is not taken out of context, without prior switten 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 content or appearance of the Test Report is unlawful and offendors may be prosecuted to the fullest 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 15days from the Date of Test Report referenced after the true prividestated before, no complaints will be accepted. The entire Time inhealtle manuscula in Test Report is in 24fauert format. Abbreviation used. N/A (15t) Applicable); BIDL (Below Descence Limit), LDL (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HAT(A, RANCHI-834003 (JHARKHAND) GST NO:- 2044ECE9713D12N

### CNOTHERRIC SERVICES PVT. LPD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/0482	Report Release Date	; 05.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883924000000453F			

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/0173 : Near Pol Pol Village : 09.01.2024 to 10.01.2024
Address	; Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 15.01.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	- Operational	Sampling Done By	: ELES Pvl. Ltd.
Period of Analysis	: 15.01.2024 to 25.01.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFOI	RMATION			
1	Average Temperature (°C)	3 18	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	3 45	4	Weather Condition	; Clear

Discipline : Chemica	al	Group: /	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	59	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	33	60 (24hrs)		
Sulphur Di-Oxide (SO <sub>2</sub> )	µg/m³	IS 5182 (Part-2): 2001; RA2022	8.8	80 (24hrs)		
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6): 2006; RA2022	26.7	80 (24hrs)		
Ozone (O <sub>3</sub> )	µg/m³	IS 5182 (Part-9): 1974; RA2019	<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>3</sup>	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	μg/m <sup>3</sup>	IS 5182 (Part-22); 2004; RA2019	< 0.002	1 (24hrs)		
Nickel (Ni)	ng/m³	1S 5182 (Part-26):2020	<6.0	20 (Annual)		
Acsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)		



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

- Co---

Authorised Signatory

Dr. Deependra Kumar Sinha

Ph. D Environmental Engo. ELES PVI. Ltd. rechnical manage

Page I of I

The Decimient stated as Test Report, is issued by the Laboratory under General Tenes 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 refers 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 various appropriate. The Report in full in many part shall not be published, advertise, used for any legal across unless proceptions has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and particulation issues. Any unauthorized alteration & fabrillation of the content of the Test Report is unlawful and offenders may be protecuted to the fullest extent of the law. All the samples are returned for 20days from the Date of release/same of the Test Report. The sumpless from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 1 Search for the Date of Test Report of Test Report of Test Report and Albertantion used. N/A (Not Applicable), BUL (Below Detection Limit), LDL (Lavor Described Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARNHAND) GST NO:- 20A4ECE97130174 ENGINEERING SERVICES PYT. 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/2024/0482	Report Release Date	: 05.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET/	MLS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/0173 : Near Pol Pol Village : 09.01.2024 to 10.01,2024
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 15.01.2024 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Mines Status	z Operational	Sampling Done By	
Period of Analysis	: 15.01.2024 to 25.01.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORM	IATION			
1	Average Temperature (°C)	:18	2	Barometric Pressure (mmHg)	1.742
3	Relative Humidity (%)	:45	4	Weather Condition	: Clear

Discipline: Chem	ical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>6</sub> H <sub>6</sub> )*	µg/m³	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12): 2004; RA2019	<0,5	01(Annual)	

Remarks: (")-Parameters are outsourced to other Lab.

Reviewed by

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

Authorised Signatory

Dr. Deependra Kumar Sinha
Ph. D Environmental Engg

ELES Pvt. Ltd. Tachnical Manager

Page 1 of 1

The Document stated as Test Report to 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 job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the limit of involvement only and within the limits of client's extructions. 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 caused be reproduced except in full and any part of the report is not taken out of context, without prior written approved of the Laboratory. The Report 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 anauthorized afteration & Residention of the content of appearance of the Test Report is unlawful and offenders may be prosecuted to the fullist extent of the law. All the samples are retained for XMays from the Date of release/insue 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 date within 15days from the Date of Test Report refersed/issued. After the same period shallot before, no compliants will be accepted. The antim Time administrationed in Test Report is in Z4bours format. Abbreviation used. WA (Not Applicable), BDL (Beliew Detection Limit); LDL (Lower Detection Limit).



FLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHANO) GST NO:- ZNAREES7130124

### NOWEDWING SERVICES FOR LIPE

Email: Info@eiespl.co.in , ±les.canchi≦amoil.com Phone no.: 0651-2290103

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/0483	Report Release Date	: 05.02.2024
Work Order No.	; 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000000454F		

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/0174 : Near Shakhuapani Village : 09.01.2024 to 10.01.2024
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 15.01.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 15.01.2024 to 25.01.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 18	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 45	4	Weather Condition	: Clear

Discipline: Chemica	il	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	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-2): 2001; RA2022	7.9	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6): 2006; RA2022	28.1	80 (24hrs)	
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part-9): 1974; RA2019	<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>1</sup>	IS 5182 (Part-10); 1999; RA2019	<1.0	2 (Shrs)	
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.012	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m²	ELES/AIR/SOP/01	<2.0	06 (Annual)	

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

Reviewed by

Authorised Signatory

Dr. Deependra Kumar Sinha

Ph. D Environmental Engg.

ELES FV. CO. Technica Mannes

Page i of I

The Document stated as Test Report is asseed by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown to the Test Report reflects the findings done by the Laboratory on the time of involvement using and within the facilities instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the elient. The Report names 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 griot permission has been accured from the Management of the Laboratory. Attention in drawn to the limitation of highly, compensation and junification issues. Any insurface of falsification of the content or appearance of the Test Report is unlawful and officienders may be prosecuted to the fallest extent of the law. All the samples are retained as resolutions of the fallest extent of the law. All the samples are retained for 30 days from the Date of infrastructure of the Test Report. The samples from Regulatory bodies are in he 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 meanwood in Test Report is in 24 town format. Abbreviations used: N/A (Not Applicable), BEL (Below Detection Limit), LDL (Lower Detection Limit).



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

### ENGINEERING SERVICES PVT, LTD.

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

### TEST REPORT

Test Report No.	: ELES/RNC/2024/0483	Report Release Date	: 05.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21,04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/0174 : Near Shakhuapani Village : 09.01,2024 to 10.01.2024	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 15.01.2024 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 15.01.2024 to 25.01.2024	Sample Condition	: Sealed & Preserved	

MI	TEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	:18	2.	Barometric Pressure (mmHg)	: 742
	Relative Humidity (%)	:45	4.	Weather Condition	Clear

Discipline : Chem	ical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>s</sub> H <sub>6</sub> ) <sup>∉</sup>	μg/m³	IS 5182 (Part-11); 2006; RA2022	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12): 2004; RA2019	< 0.5	OI(Annual)	

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

Reviewed by

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

Authorised Signatory

Dr. Despendra Kumar Sinha
Ph. D Environmental Engg.

ELES PVL Ltd. Technical Manager

Page 1 of 1

The Document stated as Test Report to relates only to the Jaboratory order General Terms and Conditions, only on Company letter fread in pre-approved format. The results above in the Test Report refer or relates only to the jubiantlysis done by the Laboratory only. The information stated on the Test Report reflaces the furlings done by the Laboratory at the time of involvement only and written the Test of client's instruction. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except to full and any part of the raport is not taken out of cortext, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions onlies prior permission has been secured from the Mandagement of the Laboratory Attention is drawn to the limiting of liability, compensation and jurisdiction issues. Any anotherized 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 remined for Eddings from the Date of related in the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports will be done within 15 days from the Date of Test Report released/systed. After the time period states before, no complaints will be accepted. The same Time schedule mentioned in Test Report is a 24 linux format. Abbreviation used: We (Wet Applicable), EDL (Below Detection Limit), LDL (Lower Detection Limit).



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

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/2024/0484	Report Release Date	: 05.02.2024	
Work Order No.	: 13612310218	Work Order Date	; 21.04.2023	
ULR No.	: TC883924000000455F			

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/0175 : Near Dipa Kujam Village : 09.01,2024 to 10.01,2024
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 15.01.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 15.01.2024 to 25,01.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 18	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 45	4	Weather Condition	: Clear

Discipline : Chemica	i	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	ug/m³	IS 5182 (Part-23): 2006; RA2022	61	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Past- 24): 2019	34	60 (24hrs)	
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part-2): 2001; RA2022	7.2	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part-6); 2006; RA2022	24.7	80 (24hrs)	
Ozone (O <sub>3</sub> )	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Anunonia (NH <sub>2</sub> )	μg/m³	IS 5182 (Part-25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.06	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

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

Reviewed for

Authorised Signatory

Dr. Deependra Kumar Sinha

Ph D Environmental Engg

ELES PVI. Ltd. (GCm) car malhage Page | of 1

DIT The Document stood of Conference issued by the Laboratory under General Terms and Condutors, 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 Italia 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 insufficience differention & fallification of the content or appearance of the Tear Report is unlawful and offenders may be prosecuted to the fullets 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 sumplaints will be accepted. The entire Time schedule mentioned in Test Report is in 24toury format. Abbreviation used: N/A (Not Applicable); BDL (Below Desection Limit), LDL (Lower Desection Limit).



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

### ENGINEERING SERVICES PV7. LTD

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

### TEST REPORT

Test Report No.	: ELES/RNC/2024/0484	Report Release Date	: 05.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hinduleo Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/0175 : Near Dipa Kujam Village : 09.01.2024 to 10.01.2024	
Address	Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 15.01.2024 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 15.01.2024 to 25.01.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION			
1 Average Temperature (°C) : 18	2	Barometric Pressure (mmHg	; 742
3 Relative Humidity (%) : 45	4	Weather Condition	: Clear

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C <sub>5</sub> H <sub>6</sub> )*	μg/m³	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12): 2004; RA2019	<0.5	01(Annual)

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

Reviewed by

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

Dr. Deependra Kumar Sinha
Ph. D Environmental Engo.

ELES Pvt. Ltd. Technical Mans-

Page 1 of 1

The Document similed as Test Report, is sound 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 crient'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 reposliced 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 is not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attenuous is drawn to the limitation of isability, compensation and jurisdiction issues. Any complete are allowed alternation 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 Iodaya from the Date of relaxabilities of the Test Report. The samples from Regulatory isodies are to be retained as specified. Any type of Observations or Complaints regarding the Report shall be done within 13days from the Date of Test Report released/based. After the time period stated before, no complaints will be accepted. The cause time schedule measured in Test Report in in 24hours format. Abbreviation used. N/A (Non Applicable), BDI. (Below Determine Limit). LDR. (Linver Detection Limit)



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

#### ENGINEERING SERVICES PVT. LTD.

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

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



#### TEST REPORT

Test Report No.	: ELES/RNC/2024/0581	Report Release Date	: 06.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000000552F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/SW/0616	
		Sampling Date	: 11.01.2024	
		Sample Received Date	: 31.01.2024	
Address	: Lohardaga, Jharkhand-835302	Type of Sample	: Surface Water	
		Source of Sample	: Near RWPH- 1, Amtipani Bauxite Mine(190.95 ha)	
		Sampling Procedure	: ELES/DOC/SMPL/01	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 31.01.2024 to 05.02.2024	Sample Condition	: Sealed & Preserved	

Discipline: Chemical		Group:	Water	Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water
pH (at 24.5 °C)	0.00	IS 3025 (Part 11): 2022	7.11	6.5-8.5
Temperature	°C	IS 3025 (Part 9):1984; RA2017	24.6	
Chemical Oxygen Demand (COD)	-	IS 3025 (Part-58) :2006; RA2017	4.0	
Biochemical Oxygen Demand (BOD) (@ 20°C for 5 days)	mg/L	APHA 23 <sup>rd</sup> Ed.2017; 5210B	1.2	3.0
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part 16):1984; RA2017	140	1500
Total Suspended Solids (TSS)	mg/L	IS 3025 (Part-17):2022	10.8	(m)
Oil & Grease	mg/L	JS 3025 (Part-39): 2021	BDL (DL: 0.1)	1.0
Calcium (as Ca)	mg/L	IS 3025 (Part-40) :1991, RA2019	6.2	4.
Discipline : Cher	nical	Group:	Residues in W	ater
Aluminium (Al)	mg/L	1S 3025 (Part-55) :2003; RA2019	BDL (DL: 0.02)	0.03
Iron (as Fe)	mg/L	APHA23 <sup>rd</sup> Ed 2017; 3111B	0.116	50

Remarks: 1. pH done at Lab

Reviewed by

Dr. Deependra Kumar Sinh

Page 1 of 1

The Document stated as Test Report is assued by the Laboratory under General Terms and Conditions, only on Company letter hear 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 involventent 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 proof 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 anauthorized afteration & 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 (Not Applicable); BDL (Below Detection Limit); LDL (Lower Detection Limit).

Save Englemental Save Entire



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

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

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



TC-8835

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/0596	Report Release Date	: 06.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000000567F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2024/SL/0631 : 11.01.2024 : 31.01.2024
Address	: Lohardaga, Jharkhand-835302	Type of Sample Location of Sample	: Soil : Near Quarry 1F, Amtipani Bauxite Mines (190.95ha)
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/05 : ELES Pvt. Ltd.
Period of Analysis	: 31.01.2024 to 05.02.2024	Sample Condition	: Sealed

Discipline : Chemical		Group: Pollution & Environment		
Parameter	Unit	Test Protocol	Result	
pH (1:2) at 24.6 °C		1S 2720 (Part 26):1987; RA2021	4.90	
Conductivity (1:2) at 24.6 °C	μS/cm	IS 14767: 2000; RA2021	154	
Total Organic Carbon (TOC)	%	Soil Testing in India: 2011 (Walkley & Black Method)	0.53	
Available Phosphorus (as P) (1:10)	kg/ha	Soil Testing in India; 2011	1.2	
Potassium (as K)	mg/kg	IS 9497:1980; RA 2020	1600	
Available Nitrogen	%	Soil Testing in India: 2011	0.78	
Chloride (1:2)	%	ELES/SOIL/SOP/01	0.031	
Lead (as Pb)	mg/kg	US EPA 3050 A&B: 1996	BDL (DL: 0.1)	
Cadmium (as Cd)	mg/kg	US EPA 3050 A&B: 1996	BDL (DL: 0.1)	
Mercury (as Hg)	mg/kg	US EPA 7473 : 2007	BDL (DL: 0.01)	
Magnesium (as Mg)	mg/kg	Soil Testing in India: 2011	283	

Remarks: 1. pH done at Lab.

Reviewed by

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

Dr. Authorised Signatory

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 as retains 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 fall 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 afteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours forma. 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/2024/0596	Report Release Date	: 06.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2024/SL/0631 : 11.01.2024 : 31.01.2024	
Address	; Lohardaga, Jharkhand-835302	Type of Sample Location of Sample	: Soil : Near Quarry 1F, Amtipani Bauxite Mines (190.95ha)	
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/05 : ELES Pvt. Ltd.	
Period of Analysis	: 31.01.2024 to 05.02.2024	Sample Condition	; Sealed	

Discipline: Chemical		Group: Pollution & Environment		
Parameter	Unit	Test Protocol	Result	
Arsenic (as As)	mg/kg	1S 3025 (Part 37): 2022	BDL (DL: 0.005)	
Selenium (as Se)	mg/kg	IS 3025 (Part-56) :2003; RA 2019	BDL (DL: 0.01)	

Reviewed by

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

Dr. Deependra Kumar Sinna Ph. D Environmental Engg. ELES Pvt. Ltd. Technical Mana

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 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 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/ssue 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

February 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
	Near PakriGada Village
2	Near Pol Pol Village
3	Near Shakhuapani Village
4	Near DipaKujam Village
	Drinking Water
	Ambient Noise
	Workzone Noise





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

### GINEERING SERVICES PVT. LTD.

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

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



#### TEST REPORT

Test Report No.	: ELES/RNC/2024/1152	Report Release Date	: 13.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000001088F		

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/0891
		Location	: Mine Entrance Gate
			Amtipani Bauxite Mine (190.95 ha
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 03.02.2024 to 04.02.2024
		Sample Received Date	: 07.02.2024
		Type of Sample	: Ambient Air
	The same of the sa	Sampling Procedure	: ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 07.02.2024 to 13.02.2024	Sample Condition	: Sealed &Preserved

MI	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	:22	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	:49	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): 2006; RA2022	69	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	42	60 (24hrs)		
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part-2): 2001; RA2022	9.1	80 (24hrs)		
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6): 2006; RA2022	26.7	80 (24hrs)		
Ozone (O <sub>1</sub> )	μg/m <sup>7</sup>	IS 5182 (Part-9): 1974; RA2019	<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/m <sup>3</sup>	IS 5182 (Part-10); 1999; RA2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.018	1 (24hrs)		
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)		

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

Reviewed by

Authorised Signatory Dr. Deependra Kumar Sinks

Page 1 of 1

Page 1 of 1

The Document stated as Test Report is issued by the Laboratory under General Terms and Conditions, only on Control year head in pre-approved forms. The results shown in the Test Report refer or relates only to the job/amilysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of claent'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 pan shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction assues. Any introduction & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within [5days from the Date of Test Report released/sound. 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), BDI. (Below Detection Limit). LDI. (Lawer Detection Limit).



CIN: U74999JH2018PTC011125

# ENVIRONMENTAL LABORATORIES &

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

### GINEERING 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/2024/1152	Report Release Date	: 13.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0891 : Mine Entrance Gate Amtipani Bauxite Mine (190.95 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 03.02.2024 to 04.02.2024 : 07.02.2024
200 0000		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 07.02.2024 to 13.02.2024	Sample Condition	: Sealed & Preserved

MI	TEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 22	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 49	4	Weather Condition	: Clear

Discipline	:: Chemical	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C <sub>6</sub> H <sub>6</sub> )*	μg/m³	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12): 2004; RA2019	<0.5	01(Annual)		

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

Reviewed by

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

Authorised Signatory

Dr. Deependra Kumar Sinh Ph. D Environmental Enga.

ELES Pvt. Ltd. Technical Manag

#### 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 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 excent of the law. All the samples are retained for 30days from the Date of release issue of the Test Report. The samples from Regulatory budies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall he done within 15days from the Date of Test Report released/oscied. 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 (Larger Detection Limit)



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

### ENGINEERING SERVICES PUT. LTD.

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

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



TEST REPORT

Test Report No.	; ELES/RNC/2024/1153	Report Release Date	: 13.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883924000001089F			

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/0892
		Location	Near Mine Office/WB     Amtipani Bauxite Mine (190.95 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 03.02.2024 to 04.02.2024 : 07.02.2024
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 07.02.2024 to 13.02.2024	Sample Condition	: Sealed &Preserved

M	ETEOROLOGICAL INFORM	ATION			
1	Average Temperature (°C) :	22	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	49	4	Weather Condition	: Clear

Discipline:	Chemical	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	69	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	37	60 (24hrs)		
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part-2): 2001; RA2022	7.9	80 (24hrs)		
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6): 2006; RA2022	27.5	80 (24hrs)		
Ozone (O <sub>3</sub> )	μg/m <sup>x</sup>	1S 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	μg/m <sup>3</sup>	IS 5182 (Part-22): 2004; RA2019	0.018	1 (24hrs)		
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)		

Reviewed by

Sinh

Dr. Deependra Kumar Sinita

Page 1 of 1

PH: O ENVIRONMENTER STORY

The Document stated at Lest Report, cruss and by the Laboratory under General Terms and Conditions, only on Company letter need in prespirated for interest the indings 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 & full-sification 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 10days from the Date of release/assue of the Test Report. The samples thun 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/assued. After the time period stated before, no compliants will be accepted. The entire Time substallementioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).

Save Egylionment, Save Fotoe



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/2024/1153	Report Release Date	: 13.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0892 : Near Mine Office/WB Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 03.02,2024 to 04.02.2024 : 07.02,2024	
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 07.02.2024 to 13.02.2024	Sample Condition	: Sealed &Preserved	

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	122	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 49	4	Weather Condition	: Clear

Discipline: Chemical		Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C <sub>6</sub> H <sub>6</sub> )*	μg/m³	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12): 2004; RA2019	< 0.5	01(Annual)		

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

Reviewed by

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

Authorised Signatory

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

ELES Pvt. Ltd. Technical Menager

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 reflect or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the lindings 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 fall and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in fall 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/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15-days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

#### ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/1154	Report Release Date	: 13.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883924000001090F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0893 : Mines Near Quarry – 1F Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 03.02.2024 to 04.02.2024	
Mines Status	W	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
7.7.7.	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 07.02.2024 to 13.02.2024	Sample Condition	: Sealed & Preserved	

MI	TEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 22	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 49	4	Weather Condition	: Clear

Discipline:	Chemical	Group: Atmo	spheric Pollu	ition
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	1S 5182 (Part-23): 2006; RA2022	66	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	39	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part-2): 2001; RA2022	8.4	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6): 2006; RA2022	22.8	80 (24hrs)
Ozone (O <sub>1</sub> )	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH <sub>1</sub> )	μg/m <sup>7</sup>	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m <sup>1</sup>	1S 5182 (Part-22): 2004; RA2019	0.007	1 (24hrs)
Nickel (Ni)	ng/m <sup>1</sup>	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m¹	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by

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

Authorised Signatory

Jr Deependra Kumar Sinha

Page 1 of 1

Ph. D Environmental Enga

The Document stated of Lest Report is the Report in the Laboratory under General Terms and Conditions, only on Company Letter head of processes format. The results shown in the Test Report report of the findings done by the Laboratory at the time of involvement only and within the limits of circuit is instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the circuit. The Report cannot be reproduced except in fall and any part of the report is not taken out of context, without prior sortion approval of the Laboratory. The Report in fall at it 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 anauthorised alteration & laboratories of the East Report is unlowful and oftenders may be processed to the full-security of the law. All the samples are retained for 30 days from the Date of releasefusion of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15 days from the Date of Test Report released/stated. 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), RDI. (Below Detection Limit), LDI. (Letwer Detection Limit).

Save Environment, Save Future



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/2024/1154	Report Release Date	: 13.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0893 : Mines Near Quarry – 1F Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 03.02.2024 to 04.02.2024 : 07.02.2024	
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 07.02.2024 to 13.02.2024	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 22	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 49	4	Weather Condition	: Clear

Discipline: Chemical		Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C <sub>6</sub> H <sub>6</sub> )*	μg/m <sup>3</sup>	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12); 2004; RA2019	<0.5	01(Annual)		

Remarks: (")-Parameters are outsourced to other Lab.



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

Dr. Deependra Kumar Sinna Ph. D Environmental Engg. CLES Pvt. Ltd. Technical Manager

Page 1 of 1

The Document stated as Test Report, it issued by the Laboratory under General Torms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relines only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in fail and any part of the report 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 & fabrification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 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 of Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used N/A (Not Applicable): BDI. (Below Detection Limit), LDL. (Lower Detection Limit).



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

### ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/1155	Report Release Date	: 13.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
1 white was 2.5	A Selection of the Control of the Co			

ULR No. : TC883924000001091F

CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0894 : Mines Near Quarry – 7C Amtipani Bauxite Mine (190.95 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 03.02,2024 to 04.02,2024 : 07.02,2024
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 07.02,2024 to 13.02,2024	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature ("C)	: 22	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 49	4	Weather Condition	: Clear

Discipline: 0	Chemical	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m <sup>3</sup>	1\$ 5182 (Part-23): 2006; RA2022	63	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-2); 2001; RA2022	7.7	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part-6): 2006; RA2022	22.9	80 (24hrs)		
Ozone (O <sub>3</sub> )	μg/m <sup>1</sup>	IS 5182 (Part-9): 1974; RA2019	<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>3</sup>	IS 5182 (Part-10): 1999; RA2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	IS 5182 (Part-22); 2004; RA2019	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	<2.0	06 (Annual)		

-

Reviewed by

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

Authorised Signatory
Dr. Deependra Kumar Sinha

Page 1 of 1

The Document stated as Ten Report, to stated by the Laboratory under General Terms and Commission, only on Company letter head on pre-approved format. The results shown in the Test Report refers of reflects the findings done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's 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 alteration & falsofication of the committed 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 50 days from the Date of releases may be prosecuted to the fullest extent of the law. All the samples are retained for 50 days from the Date of releases from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15 days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24 hours format. Abbreviation used NA (Not Applicable), BDL (Below Descention Limit), LDL (Linver Detection Limit).

Casa Emplementarial Sava Entrara



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/2024/1155	Report Release Date	: 13.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET/	MLS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	ELES/RNC/2024/AA/0894     Mines Near Quarry – 7C     Amtipani Bauxite Mine (190.95 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	± 03.02.2024 to 04.02.2024 ± 07.02.2024
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 07.02.2024 to 13.02.2024	Sample Condition	; Sealed & Preserved

MI	ETEOROLOGICAL INFOR	MATION				
1	Average Temperature (°C)	: 22	2	Barometric Pressure (mmHg)	:742	
3	Relative Humidity (%)	:49	4	Weather Condition	: Clear	

Discipline	: Chemical	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C <sub>6</sub> H <sub>6</sub> )*	µg/m³	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12): 2004; RA2019	<0.5	01(Annual)		

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

Reviewed by

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

Authorised Signatory
Dr. Deependra Kumar Sinna
Ph. D Environmental Engg.
ELES Pvt. Ltd. Technical Manna

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 nations utless prior permission has been secured from the Management of the Laboratory. Attention is furwn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlimitally 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/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbrevianous and N/A (Not Applicable). BDL (Below Descention Limit), LDL (Lower Detection Limit).



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

### ENGINEERING SERVICES FOT, LTO.

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/1148	Report Release Date	: 13.02,2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000001084F		

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	; ELES/RNC/2024/AA/0887 : Near Pakri Gada Village ; 02,02,2024 to 03,02,2024
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 07,02.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 07.02.2024 to 13.02.2024	Sample Condition	: Sealed & Preserved

1	Average Temperature (°C)	: 21	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	:48	4	Weather Condition	: Clear
5	Longitude	: 84°14'52.25"N	6	Latitude	: 23°17'41.21"E

Discipline:	Chemical	Group: Atmo	spheric Pollu	tion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	53	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-2): 2001; RA2022	7,2	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m <sup>2</sup>	IS 5182 (Part-6): 2006; RA2022	22.5	80 (24hrs)
Ozone (O <sub>1</sub> )	µg/m²	IS 5182 (Part-9): 1974; RAZ019	<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): 1999; RA2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m <sup>1</sup>	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by

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

Authorised Signatory

Dr. Deepandra Kumar Sintis Ph. D. Environmental Engy

Page 1 of 1

The Dopument trated as Test Report District by the Laboratory order General Terms and Conditions, only on Complete History Residence of Japanet. The results of 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 of responsible for all the information or data provided on the report, except the information which is provided by the effect. The Report cannot be reproduced except in full and any part of the report is not taken out of another, except the information which is provided by the effect of pair whill not be published advertise, used for any legal actions unless prior particular approval of the Laboratory. Attention is drawn to the limitation of liability, compressation and particular uses. Any unumbersed alternation of the transmit in approximate of the Test Report is unlowed and affected on the follows excent of the line. All the samples are retained for 30 days from the Date of Test Report. The samples from Regulatory toodles are to be remarked as specified. Any type of Observations of Complaints regarding the Reports shall be done within 15 days from the Date of Test Report released wheeld Affect the time period study before, in complaints will be accepted. The entire Time schedule measured in Two Reports in 24 hours format. Affect that the time period study before, in complaints will be accepted. The entire Time schedule measured in Two Reports and Affect that the time period study before, in complaints will be accepted. The entire Time schedule measured in Two Reports and Affect that the time period study before, in complaints. Limit (Lower Detection Limit)



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATTA, RANCHI-834003 (JHARKHAND) BST NO-30AAECE97130124

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

IND SERVICES FUT. LTD.

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

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/1148	Report Release Date	: 13.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/0887 : Near Pakri Gada Village : 02.02.2024 to 03.02,2024	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 07.02.2024 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 07.02,2024 to 13.02,2024	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	:21	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear
5	Longitude	: 84°14'52.25"N	6	Latitude	: 23°17'41.21"E

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>6</sub> H <sub>6</sub> )*	μg/m³	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12): 2004; RA2019	<0.5	01(Annual)	

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

Reviewed by

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

Authorised Signatory

Dr. Deanandra Kurnar Sir Ph. Dianotonium (10) 1 (20)

Lude Pyr Me Teamia Nim

Page 1 of 1

The Document stated as Test Report, we asset by the Laboratory under General Terms and Conditions, only on Company letter head as pre-approved format. The results shown to the Test Report reflect on relates unly to the job analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory as the same of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be repreduced except in full and any part of the report is not taken out of contact, without price written approval of the Laboratory. The Report is full as in part small 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 Immation of liability, compensation and jurisdiction source. Any unantiferized alteration & falsification of the content of the Test Report is unlawful and affenders may be prosecuted to the fullest extent of the law. All the samples are retained for Relationshibition of the Test Report. The samples from Regulatory badies are to be retained as specufied. Any type of Cheer values or Compliants regarding the Reports shall be done within 15 days from the Date of Test Report is in 24hours format. Abbreviance used: N/A (Not Applicable), BDL (Below Detection Lengt, LDL (Lewer Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA RATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20A48CE9713D1Z4

### ENGINEERING SERVICES PUT. LTD

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

Phane na.: 0651-2290103 Website : www.elespl.ca.in



#### TEST REPORT

Test Report No.	: ELES/RNC/2024/1149	Report Release Date	: 13.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883924000001085F			

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/0888 : Near Pol Pol Village : 02.02.2024 to 03.02.2024	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 07.02.2024 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 07.02.2024 to 13.02.2024	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMAT	ION		
1	Average Temperature (°C) :21	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%) : 48		Weather Condition	: Clear

Discipline:	Chemical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	50	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-2): 2001; RA2022	6.9	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part-6): 2006; RA2022	21.2	80 (24hrs)	
Ozone (O <sub>3</sub> )	μg/m³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	< 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	<2.0	06 (Annual)	

Reviewed by

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

Authorised Signutory

Or Deependra Kumer Sin L

Page 1 of 1

- 1- D D MAINTINGERS SAFE

The Document stated as Test Report at journal by the Laboratory under General Terms and Conditions, only or Company blace field in proving at the second shown in the Test Report refer or relates only to the job landysis done by the Laboratory only. The information sected on the Test Report reflects the findings done by the Laboratory at the time of involvement only and walten 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 coment, without price written approval of the Laboratory. The Report is full or in part shall not be published, adverture, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized altertation & Calabification of the content or appearance of the Test Report is unitarial and offenders may be provented to the fullest extent of the law. All the samples are returned for 30 days from the Date of release/masse of the Test Report. The samples from Regulatory backers are to be returned as questified. Any type of Observations or Complaints will be accepted. The entire Terms schedule mentioned in Test Report, in a 24-hours format. Abbreviation used. N/A (Not Applicable), BEH. (Below Detection Limit), LDL (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20A4ECE9713D114 ENGINEERING SERVICES PAT LTD.

Emtill: [nfo@elespl.co.ln , eles ranchi@amail.com Phone no.: 0651-2290103 Website : www.elespl.co.in

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/1149	Report Release Date	: 13.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/0888 : Near Pol Pol Village : 02.02.2024 to 03.02.2024	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 07.02.2024 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 07.02.2024 to 13.02.2024	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFOR	MATION				
1	Average Temperature (°C)	:21	2	Barometric Pressure (mml-	fg) : 742	
3	Relative Humidity (%)	; 48	4	Weather Condition	: Clear	

Discipline: Chemical		Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C <sub>5</sub> H <sub>8</sub> ) <sup>6</sup>	µg/m³	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12): 2004; RA2019	< 0.5	01(Annual)		

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

Reviewed by

B

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

Authorised Signatory

ar Deenendra Kumar Sii

PER D'Emistrano IntEng

THE PART LESS TROOPS ON NAMED IN

#### Page I of I

The Document stated as Test Report is assisted by the Laboratory order Compan. Totas and Conditions, only on Company letter head as pre-approved format. The results shown in the Test Report reflects the findings done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and waters the limits of client's instructions. The Laboratory is pespossible 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 inless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and paradiction issues. Any unauthorized alteration & fall-intention 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 Maloys from the Data of release/thane 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. The samples from Regulatory bodies are to be retained before, no compliants will be accepted. The entire Time schindle mentioned in Test Report is in 24hours format. Athreviation used N/A (Not Applicable) BDI. (Balow Detection Limit), I.DI. (Lover Detection Limit).



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

### ENGINEERING SERVICES PVT. LTD.

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

Phone ng.; 0651-2290103 Website : www.elespl.co.in



#### TEST REPORT

Test Report No.	: ELES/RNC/2024/1150	Report Release Date	: 13.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000001086F		

CUSTOMER DETA	AJLS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/0889 : Near Shakhuapani Village : 02.02.2024 to 03.02.2024	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 07.02.2024 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 07.02.2024 to 13.02.2024	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFORM	ATION			
1	Average Temperature (°C) :	21	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	48	4.	Weather Condition	: Clear

Discipline:	Chemical	Group: Atmo	spheric Pollu	tion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	1S 5182 (Part-23): 2006; RA2022	57	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-2): 2001; RA2022	6.8	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m <sup>3</sup>	IS 5182 (Part-6): 2006; RA2022	22.6	80 (24hrs)
Ozone (O <sub>3</sub> )	µg/m³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	1S 5182 (Part-22): 2004; RA2019	0.007	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m <sup>1</sup>	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by

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

Authorised Signatory

Ph. D Environmental Engg.

Page 1 of I

- L'S RVE LIN TECHNICS WITH

The Document stated at Test Report is asseed by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved formal. The results shown in the Test Report reflects the findings done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report process 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 and of sommat, without prior written approval of the Laboratory. The Report in full or in part small not be published, advertise, used for any legal actions unless prior permission has been accused from the Management of the Laboratory. Advention is drawn to the limitation of lightlings, compensation and paradiction issues. Any unisotorized alteration & falls friendlen may be prosecuted to the fullent extent of the line. All the samples are retained for 30 days from the Date of released states of the Test Report. The samples from Regulatory looking are to be retained as specified. Any type of Observations or Compliants regarding the Reports shall be done within 15 days from the Date of Test Report of Test Report



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO-- 20AAECE97130124 ENGINEERING SERVICES PYT. LTD.

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

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/1150	Report Release Date	: 13.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET.	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/0889 : Near Shakhuapani Village : 02.02.2024 to 03.02.2024		
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 07.02.2024 : Ambient Air		
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt, Ltd.		
Period of Analysis	: 07.02.2024 to 13.02.2024	Sample Condition	: Sealed & Preserved		

MI	TEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	:21	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

Discipline: Chemical		Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C <sub>6</sub> H <sub>6</sub> )*	µg/m³	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)		
Benzo-(a)-Pyrene®	ng/m³	IS 5182 (Part-12): 2004; RA2019	< 0.5	01(Annual)		

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

Reviewed by

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

Authorised Signatory

Dr. Deependra Kurna Su.

70. D Environment Engli to Est Pic List Technical Ma

Page 1 of 1

The Document stated as Test Report is issued by the Laboratory under General Terms and Conditions, only as Company letter head in pre-approved formal. The results shown in the Test Report reflects the findings done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and outlin 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 price writes approved of the Laboratory. The Report is full in in part shall not be published, advertise; used for any legal actions unless prior permission has been exceed from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & full-information of the content or approximate of the Test Report is unlawful and offenders may be prosecuted in the fullest extent of the law. All the samples are retained for Sidney 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 releaseblishment of the full (Insure Date as a 24 hours format. Abbreviation used: N/A (Not Applicable), BDL (Balaw Descript Limit), LDL (Lower Datection Limit).



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

### ENGINEERING SERVICES FOT, LTD.

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/1151	Report Release Date	: 13.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883924000001087F			

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2024/AA/0890 : Near DipaKujam Village : 02.02.2024 to 03.02.2024 : 07.02.2024 : Ambient Air	
Mines Status Period of Analysis	: Operational : 07.02.2024 to 13.02.2024	Sampling Procedure Sampling Done By Sample Condition	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd. : Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 21	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 48		Weather Condition	: Clear

Discipline:	Chemical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m <sup>3</sup>	IS 5182 (Part-23): 2006; RA2022	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-2): 2001; RA2022	6.2	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	ug/m³	IS 5182 (Part-6): 2006; RA2022	17.8	80 (24hrs)	
Ozone (O <sub>3</sub> )	µg/m³	15 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m <sup>2</sup>	1S 5182 (Part-22): 2004; RA2019	0.06	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Reviewed by

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

Authorised Signatory

Ph.D Environmental Enga

Page | of |

Fr ES PVC Ltd. Tachnical Willy

The Document stated as Test Report is stated by the Laboratory under Genemi Terms and Conditions, only on Conspany letter hand 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 timits of claim's instructions. The Laboratory is responsible for all the information or dain provided on the report except the information which is 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 some 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 the limitation of the content of the Laboratory attention a drawn to the limitation of liability, compression and jurisdiction issues. Any unsubstance attention & fullification of the content of the Test Report is unlessful and offenders may be prosecuted to the fullest and the law. All the samples are returned for Midney from the Date of released/space of the Test Report. The samples from Regulatory bodies are to be returned as specified. Any type of Conservations of Compliants regarding the Report about the non-law of the samples from the Report released/space. After the time period stated before, no compliants will be specified. The error Time schedule mentioned in Test Report to 24boom forms. Abbrevious used N/A (Not Applicable), BDL (Below Desertion Limit), LDL (Lower Desertion Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (THARKHAND) GST NO:- 20148ECE97130124 Empil: info@elespl.co.in , eles.ranch(@amail.com

Phone no.: 0551-2290109 Website: www.elespi.co.in

#### TEST REPORT

Test Report No:	; ELES/RNC/2024/1151	Report Release Date	: 13.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/0890 : Near DipaKujam Village : 02.02.2024 to 03.02.2024	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 07.02.2024 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	; ELES Pvt. Ltd.	
Period of Analysis	: 07.02.2024 to 13.02,2024	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	:21	2	Barometric Pressure (mmHg	3 742
3	Relative Humidity (%)	748	4	Weather Condition	: Clear

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C <sub>6</sub> H <sub>6</sub> )*	μg/m³	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12): 2004; RA2019	< 0.5	01(Annual)	

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

Reviewed by

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

Authorised Signatory

On Deependra Kilmai Shi Pri O Erwammania Paga

LES Pvs. Ltd. Technique Niph

Page 1 of 1

The Document stated as Test Report to issued by the Laboratory under General Terms and Conditions, only on Company letter head to pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stand on the Test Report reflects the findings done by the Laboratory 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 paradiction assess. Any immuborated alteration & faisification of the content or appearance of the Test Report is unlineful indicated may be prosecuted to the fallest extent of the line. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date.

The schedule mentioned in Test Report is not 24hours format. Absorbation used. (WA (Not Applicable), BD), (Below Detection Limit), LDI, (Lower Detection Limit).



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

### ENGINEERING SERVICES PVT. LTD.

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

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



CIN: U74999JH2018FTC011125

### TEST REPORT

Test Report No.	: ELES/RNC/2024/1177	Report Release Date	: 13.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000001113F		

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2024/DW/0916 : 04.02.2024 : 07.02.2024	
Address	: Lohardagu, Jharkhand-835302	Type of Sample Source/Location of Sample	: Drinking Water : Amtipani Bauxite Mines	
Mines Status	: Operational	Sampling Procedure	(190.95ha) : ELES/DOC/SMPL/01	
Period of Analysis	: 07.02.2024 to 13.02,2024	Sample Collected By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

Discipline : Chemic	cal	Group : Water	r		ory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
pH (at 24.6 °C)	341	APHA 23 <sup>rd</sup> Ed.2017, 4500-H	6.70	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 23 <sup>rd</sup> Ed.2017, 2130 B	0.04	1.0	5.0
Taste	1-1-	APHA 23 <sup>rd</sup> Ed.2017, 2160 C	Agreeable	Agreeable	Agreeable
Odour		IS 3025 (Part-5) :2018	Agreeable	Agreeable	Agrecable
Colour	Hazen	APHA 23rd Ed.2017, 2120B&D	1.0	5	15
Total Dissolved Solids (TDS)	mg/L	APHA 23rd Ed.2017, 2540B,C&D	132	500	2000
Chloride (as Cl)	mg/L	APHA 23th Ed.2017, 4500 CLB	8.4	250	1000
Fluoride (as F)	mg/L	APHA 23 <sup>rd</sup> Ed.2017, 4500 F-D	BDL (DL: 0.1)	1.0	1.5
Total Alkalinity (as CaCO <sub>1</sub> )	mg/L	APHA 23 <sup>rd</sup> Ed.2017, 2320 B	70	200	600
Total Hardness (as CaCO <sub>3</sub> )	mg/L	APHA 23rd Ed,2017, 2340 C	39.7	200	600
Sulphate (as SO <sub>4</sub> )	mg/L	APHA 23 <sup>rd</sup> Ed.2017, 4500 SO <sub>4</sub> <sup>-2</sup> -E	BDL (DL: 1.0)	200	400
Nitrate (as NO <sub>3</sub> )	mg/L	APHA 23 <sup>rd</sup> Ed.2017, 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):1992;RA2019	BDL (DL: 0.001)	0.001	0.002
Cyanide (as CN)	mg/L	APHA 23 <sup>rd</sup> Ed.2017, 4500 CN-E	BDL (DL: 0.012)	0.05	No Relaxation

Page 1 of 2

(he Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company tetter 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 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 & 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 Jūdays from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15 days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Climb schedule mentioned in Test Report to in 24 hours format. Abbreviation used: N/A (Not Applicable), BDI. (Below Detection Limit), LDL. (Lower Detection Limit).



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

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

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



### TEST REPORT

Test Report No. : ELES/RNC/2024/1177 Report Release Date : 13.02.2024 Work Order No. : 13612310218 Work Order Date : 21.04.2023

ULR No. : TC883924000001113F

Discipline :	Chemica	d Group: Wi	iter		tory Limit \$10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Residual Free Chlorine (RFC)	mg/L	IS 3025 (Part-26):2021	BDL (DL; 0.1)	0.02	1,0
Calcium (as Ca)	mg/L	APHA 23 <sup>rd</sup> Ed.2017, 3500 Ca B	14.2	75	200
Discipline :	Chemica	Group:	Residues in \	Vater	
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); 2005; RA2021	BDL (DL: 0.2)	0.5	1.0
Cadmium (as Cd)	mg/L	APHA 23 <sup>rd</sup> Ed.2017, 3111B	BDL (DL: 0.003)	0.003	No Relaxation
Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed.2017, 3111B	BDL (DL: 0.03)	0.05	No Relaxation
Copper (as Cu)	mg/L	APHA 23 <sup>rd</sup> Ed.2017, 3111B	BDL (DL: 0.03)	0.05	1.5
Iron (as Fe)	mg/L	APHA 23 <sup>rd</sup> Ed.2017, 3111B	0.106	1.0	1.0
Lead (as Pb)	mg/L	APHA 23 <sup>rd</sup> Ed.2017, 3111B	BDL (DL: 0.01)	0.01	No Relaxation
Manganese (as Mn)	mg/L	APHA 23 <sup>nt</sup> Ed.2017, 3111B	BDL (DL: 0.05)	0.1	0.3
Mercury (as Hg)	mg/L	IS 3025 (Part-48): 1994; RA2019	BDL (DL: 0,001)	0.001	No Relaxation
Selenium (as Se)	mg/L	IS 3025 (Part-56): 2003; RA2019	BDL (DL: 0.01)	0.01	No Relaxation
Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed.2017 , 3111B	BDL (DL; 0.1)	5	15

Reviewed by

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

Authorised Signatory

Dr. Deependra Kumar Sinha

Page 2 of 2

The Executions stated for the Company is issued by the Laboratory under General Terms and Conditions, unity on Company Secretary Temporal Managements 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 Munagement 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 issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15 days from the Date of Test Report released/issued. After the time period stated before, no complaints will be necepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDf. (Below Detection Limit): LDf. (Lower Detection



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/2024/1177	Report Release Date	: 13.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2024/DW/0916 : 04.02,2024 : 07.02,2024	
Address	: Lohardaga, Jharkhand-835302	Type of Sample Source/Location of Sample	: Drinking Water : Amtipani Bauxite Mines (190.95ha)	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01	
Period of Analysis	: 07.02,2024 to 13.02,2024	Sample Collected By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

Distriction : Di	Catalana and	C 10	Valenta	Regulate	ory Limit
Discipline : Bi	lological	Group: W	vater	as per IS	10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Total Coliform	Per 100 mL	IS 15185:2016; RA 2021	Not Detected	Shall not be detected	
Escherichia Coli (E. Coli)	Per 100 mL	IS 15185:2016; RA 2021	Not Detected		
60.00	er	Course V	Varia	Regulat	ory Limit
Discipline :	Chemical	Group: Water		as per 1S 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Anionic Surfactants (as MBAS)*	mg/L	IS 3025 (Part- 68): 2019 (RA2023)	BDL (DL: 0.1)	0.2	1.0
Polynuclear Aromatic Hydrocarbons (PAH)*	mg/L	APHA 23 <sup>rd</sup> Edition: 6440 B	BDL (DL: 0.0001)	0.0001	No Relaxation
Polychlorinated Biphenyls (PCB)*	mg/L	APHA 23 <sup>nd</sup> Edition; 6431B	BDL (DL: 0.0005)	0.0005	No Relaxation

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 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 healthly, 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 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 retensed/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 (Linver Detection Limit).



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

### ENGINEERING SERVICES PVT. LTD.

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

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

### TEST REPORT

Test Report No. : ELES/RNC/2024/1177 Report Release Date : 13.02.2024

Work Order No. : 13612310218 Work Order Date : 21.04.2023

Discipline : Ch	emical	Group:	Water		10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Pesticides					
Alachlor*	µg/L	APHA 23 <sup>rd</sup> Edition 6630 B&C	BDL (DL: 1.0)	20	No Relaxation
Atrazine*	μg/L	APHA 23rd Edition 6630 B&C	BDL (DL: 1.0)	2.0	No Relaxation
Aldrin/Dieldrin*	μg/L	APHA 23 <sup>rd</sup> Edition 6630 B&C	BDL (DL: 0.01)	0.03	No Relaxation
Alpha HCH*	µg/L	USEPA 508:1985	BDL (DL: 0.001)	0.01	No Relaxation
Beta HCH*	μg/L	USEPA 508:1985	BDL (DL: 0.01)	0.04	No Relaxation
Butachlor*	μg/L	APHA 23rd Edition 6630 B&C	BDL (DL: 10)	125	No Relaxation
Chlorpyriphos*	μg/L	USEPA 8141 A	BDL (DL: 10)	30	No Relaxation
Delta HCH*	μg/L	USEPA 508:1985	BDL (DL: 0.01)	0.04	No Relaxation
2,4 dichlorophenoxyacetic acid*	μg/L	APHA 23 <sup>rd</sup> Edition 6640 B	BDL (DL: 10)	30	No Relaxation
DDT(o,p and p.p-isomers of	μg/L	APHA 23 <sup>rd</sup> Edition 6630 B&C	BDL (DL: 0.5)	1.0	No Relaxation
DDT,DDE and DDD)* Endosulfan	μg/L	APHA 23rd Edition 6630 B&C	BDL (DL: 0.1)	0.4	No Relaxation
(alpha, beta, and sulphate)* Ethion*	µg/L	USEPA 1657 A	BDL (DL: 0.5)	3.0	No Relaxatio
Gamma HCH (Lindane)*	μg/L.	USEPA 508:1985	BDL (DL: 0.5)	2.0	No Relaxatio
Isoproturon*	μg/L	USEPA 532:2000	BDL (DL; 0.5)	9.0	No Relaxatio

Remarks: 1. 151 Partitioners re outsourced to other Lab.

Reviewed by

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

Authorised Signatory

Dr. Deependra Kumar Sinha

Ph. D Environmental Engg.

Page 2 of 2

Ph. D Environmental Engl.

The Document stated a set Report is issued by the Laboratory under General Terms and Conditions, only on Compared to the Information at the Information of the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information seared of the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided in the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of consext, 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 imitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & secured from the Management of the least content or appearance of the Test Report is unlineful and inflenders may be prosecuted to the fullest extent of the law. All the samples are retained for falsification of release/issue of the Test Report is unlineful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for falsification of release/issue of the Test Report is unlineful. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints Judges from the Date of release/issue of the Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDE (Below Detection Lamif), LDE (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



and the second second

#### TEST REPORT

Test Report No.	: ELES/RNC/2024/1167	Report Release Date	: 13.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000001103F		

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	: 03.02.2024 to 04.02.2024 : 07.02.2024 : Ambient Noise : ELES/DOC/SMPL/03 : ELES Pvt. Ltd.	
Mines Status	: Operational	Period of Analysis	: 07.02.2024 to 13.02.2024	

M	ETEOROLOGICAL INFOR	MATION			
T	Average Temperature (°C)	: 22	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 49	4	Weather Condition	Clear

Location	Unit	Test Protocol	Result		Regulatory Limit (Industrial Zone)
			Time	$L_{eq}$	1 2 2
Near Mine Office Amtipani Bauxite Mine (190.95 ha)	dB(A)	IS 9989:1981, RA 2020	Day Time	66	75 dB(A) Day Time &
Sample ID: ELES/RNC/2024/AN/0906			Night Time	41	70 dB(A) Night Time



\*\*\*\*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 Containors, 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 timeathorized 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 Contellants 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 (IHARKHAND) GST NO:- 20AAECE9713D124

### ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/1172	Report Release Date	: 13.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000001108F		

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sampling Date Sampling Received Date Type of Sample	: 03.02.2024 : 07.02.2024 : Workzone Noise	
Address	: Lohardaga, Jharkhand-835302	Sampling procedure Sample Drawn By	: ELES/DOC/SMPL/03 : ELES Pvt. Ltd.	
Mines Status	: Operational	Period of Analysis	: 07.02.2024 to 13.02.2024	

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 22	2	Barometric Pressure (mmH	g) : 736
3	Relative Humidity (%) : 49	4	Weather Condition	; Clear

Location	Unit	Test Protocol	Rest	ult	Regulatory Limit (Industrial Zone)
Mines Near Quarry – 7C			Time	Leq	
Amtipani Bauxite Mine (190,95 ha)	dB(A) RA 2017	IS 4758;1968; RA 2017	Day Time	71	90 dB (A)
Sample ID: ELES/RNC/2024/WN/0911			Day Time		



\*\*\*\*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 set 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 lability, compensation and jurisdiction issues. Any unauthorized alteration & falsaffeation of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law All the samples are retained for 30 days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Compliants regarding the Reports shall be done within 15 days from the Date of Test Report released/issued. After the time period stated before, do compliants will be accepted. The entire Time schedule mentioned in Test Report is in 24 hours format. Abbreviation used; N/A (Not Applicable), BDL (Below Decetion Limit), LDL (Lower Detection Limit).

## **ENVIROCHECK**

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

Amtipani Bauxite Mine-Environmental Monitoring Report

March 2024

# CONTENT

	Hindalco Industries : Amtipani Bauxite Mine Environmental Monitoring Report March 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
	Spring Water
1	Jhapa Jhuri





#### TEST REPORT

Test Report No.	: ELES/RNC/2024/1465	Report Release Date	: 10.04.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/1301	
		Location	: Mine Entrance Gate	
	I A C A SANDERS NA A		Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 07.03.2024 to 08.03.2024	
		Sample Received Date	: 12.03.2024	
		Type of Sample	: Ambient Air	
		Sampling Procedure	: ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 12.03,2024 to 19.03.2024	Sample Condition	: Scaled & Preserved	

MI	METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 23	2	Barometric Pressure (mmHg)	: 742	
3	Relative Humidity (%)	: 49	4	Weather Condition	: Clear	

Discipline:	Chemical	Group: At	mospheric Pol	lution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	1S 5182 (Part-23): 2006; RA2022	73	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	44	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part-2): 2001; RA2022	7.8	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part-6); 2006; RA2022	25.3	80 (24hrs)
Ozone (O <sub>3</sub> )	μg/m¹	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m <sup>-i</sup>	IS 5182 (Part-22): 2004; RA2019	0.009	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020.	<6.0	20 (Annual)
Arsenic (As)	ng/m1	ELES/AIR/SOP/0)	<2.0	06 (Annual)
Benzene (C <sub>6</sub> H <sub>6</sub> )	μg/m <sup>3</sup>	ELES/GC/SOP/06	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05	< 0.5	01(Annual)

Reviewed by z

800-1

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

VIRO

Jharkhand 826001

(Saswata Burman Roy, Dy. Quality Manager)

Authorised Signatory:

this:

(Bapan Das, Dy. Technical Manager)

Page 1 of 1



: Operational

: 12.03.2024 to 19.03.2024



Lab : MIG, R-3 Housing Colony, Dilumout, Pm-826001, State - Harldand ( 9830067044 / ( 9304512737.

### TEST REPORT

Test Report No.	2 ELES/RNC/2024/1466	Report Release Date	: 10.04.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/1302 : Near Mine Office/WB Amtipani Bauxite Mine (190.95 ha)	
Address.	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 07.03.2024 to 08.03.2024 : 12.03.2024 : Ambient Air : ELES/DOC/SMPL/02	

MI	ETEOROLOGICAL INFORMATION				
1	Average Temperature (°C) : 23	1 2	Barometric Pressure (mm)	Hg) : 742	
3	Relative Humidity (%) : 49	4	Weather Condition	: Clear	

Sampling Done By

Sample Condition

Discipline:	Chemical	Group: Atmospheric Pollution			
Parameter Unit		Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	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-2): 2001; RA2022	10.2	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m³	15 5182 (Part-6): 2006; RA2022	25.9	80 (24hrs)	
Ozone (O <sub>3</sub> )	μg/m <sup>γ</sup>	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH:)	μg/m <sup>3</sup>	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m <sup>1</sup>	IS 5182 (Part-10): 1999; RA2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.012	1 (24hrs)	
Nickel (Ni)	ng/m1	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m <sup>3</sup>	ELES/AIR/SOP/01	<2.0	06 (Amual)	
Benzene (C <sub>+</sub> H <sub>e</sub> )	µg/m³	ELES/GC/SOP/06	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m1	ELES/GC/SOP/05	< 0.5	01(Annual)	

Reviewed by z

Mines Status

Period of Analysis

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

**Jharkhand** 

826001

(Saswata Burman Roy, Dy. Quality Manager)

Authorised Signatory:

: ELES Pvt. Ltd.

: Sealed & Preserved

(Bapan Das, Dy. Technical Manager)

Page 1 of 1



: Operational

: 12.03.2024 to 19.03.2024

Lab : MiG, R-3 Housing Colony, Dhaebad, Pm (82,6001, State - Backband ( 983,006704+ / ( 9304513737



### TEST REPORT

Test Report No.	: ELES/RNC/2024/1467	Report Release Date	: 10.04.2024
Work Order No.	: 13612310218	Work Order Date	; 21.04.2023
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/1303 : Mines Near Quarry – 1F Amtipani Bauxite Mine (190.95 ha)
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 07.03,2024 to 08.03,2024 : 12.03,2024 : Ambient Air

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C) : 23	2	Barometric Pressure (mm)	Hg) : 742	
3	Relative Humidity (%) : 49	4	Weather Condition	: Clear	

Sampling Procedure

Sampling Done By

Sample Condition

Discipline:	Chemical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	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/m <sup>3</sup>	IS 5182 (Part-2); 2001; RA2022	7.5	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6): 2006; RA2022	21.2	80 (24hrs)	
Ozone (O <sub>3</sub> )	μg/m¹	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NHs)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m <sup>1</sup>	IS 5182 (Part-10): 1999; RA2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m <sup>1</sup>	1S 5182 (Part-22): 2004; RA2019	0.009	1 (24hrs)	
Nickel (Ni)	ng/m <sup>3</sup>	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenie (As)	ng/m <sup>k</sup>	ELES/AIR/SOP/01	<2.0	96 (Annual)	
Benzene (C6H6)	µg/m²	ELES/GC/SOP/06	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05	<0.5	01(Annual)	

Reviewed by :

But.

Mines Status

Period of Analysis

(Saswata Burman Roy, Dy. Quality Manager)

Authorised Signatory:

San

(Bapan Das, Dy. Technical Manager)

: ELES/DOC/SMPL/02

: ELES Pvt. Ltd.

: Sealed & Preserved

Page | of |

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



: 12.03.2024 to 19.03.2024

THE THE TOTAL PROPERTY OF THE PARTY OF THE P





TEST REPORT

	1 5/2/1	KELOKI	
Test Report No.	: ELES/RNC/2024/1468	Report Release Date	: 10.04.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/1304 : Mines Near Quarry – 7C Amtipani Bauxite Mine (190.95 ha)
Address	: Lohardaga, Jharkhund-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 07.03.2024 to 08.03.2024 : 12.03.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
	Paramona	Samplinis is said 193	- Set-Mary P. Vill. Balla.

M	ETEOROLOGICAL INFO	RMATION			
-1	Average Temperature (°C)	: 23	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 49	-4	Weather Condition	Clear

Sample Condition

Discipline:	Chemical	Group: Atn	ospheric Poll	ution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	61	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	30	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part-2); 2001; RA2022	7.2	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	μg/m³	IS 5182 (Part-6): 2006; RA2022	25.1	80 (24hrs)
Ozone (O <sub>3</sub> )	μg/m²	IS 5182 (Part-9): 1974; RA2019	<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	1S 5182 (Part-10): 1999; RA2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m <sup>3</sup>	IS 5182 (Part-22): 2004; RA2019	0.009	I (24hrs)
Nickel (Ni)	ng/m1	IS 5182 (Part-26):2020	< 6.0	20 (Annual)
Arsenic (As)	ng/m <sup>3</sup>	ELES/AIR/SOP/01	<2.0	06 (Annual)
Benzene (C <sub>6</sub> H <sub>0</sub> )	μμ/m²	ELES/GC/SOP/06	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m <sup>3</sup>	ELES/GC/SOP/05	< 0.5	01(Annual)

Reviewed by:

100-1

Period of Analysis

(Saswata Burman Roy, Dy. Quality Manager)

Jharkhand 826001 Housing Co

Authorised Signatory:

: Sealed & Preserved

(Bapan Das. Dy. Technical Manager)

Page Fof f



Total N.C. (1-3 Horsing Grinny, Divinitud, Phys. 626001, 35 pp.; ) precising ( 9830)07024 y ( 930)512727.



### TEST REPORT

Tes Report No.	: ELES/RNC/2024/1461	Report Release Date	1 10.04.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/1297 : Near Pakri Gada Village : 05.03.2024 to 07.03.2024	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 12.03,2024 : Ambient Air	
Mines Status	: Operational	Sampling Done By	: ELES/DOC/SMPL/02 : ELES PVL Ltd.	
Period of Analysis	: 12,03,2024 to 19,03,2024	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 22	2	Barometric Pressure (mml-	lg) : 742
3	Relative Humidity (%) ; 49		Weather Condition	Clear

Discipline:	Chemical	Group: Atn	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	69	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-2): 2001; RA2022	8.1	80 (24hrs)	
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m³	IS 5182 (Part-6): 2006; RA2022	16.5	80 (24hrs)	
Ozone (O <sub>3</sub> )	μg/m²	IS 5182 (Part-9): 1974; RA2019	<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>3</sup>	IS 5182 (Part-10): 1999; RA2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.019	1 (24hrs)	
Nickel (Ni)	ng/m³	1S 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	
Benzene (C <sub>6</sub> H <sub>0</sub> )	μg/m³	ELES/GC/SOP/06	<2,5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05	<0.5	01(Annual)	

Reviewed by:

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

- ENI

Authorised Signatury 2

.

(Saswata Burman Roy, Dy. Quality Manager)

# Jharkhand # 826001

(Bapan Das, Dy. Technical Manager)

Page I of I



port files (in 7.5 per 15 per 15 per 15 per 16 per



TEST REPORT

Test Report No.	: ELES/RNC/2024/1462	Report Release Date	: 10.04.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/1298 : Near Pol Pol Village : 06,03,2024 to 07.03,2024	
Address	; Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 12.03,2024 : Ambiens Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 12.03.2024 to 19.03.2024	Sample Condition	Sealed & Preserved	

M	ETEOROLOGICAL INFORMATION				
1	Average Temperature (°C) : 22	2	Barometric Pressure (mmH	g) : 742	
3	Relative Humidity (%) : 49	4	Weather Condition	: Clear	

Discipline:	Chemical	Group: Am	nospheric Pol	ution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m <sup>3</sup>	IS 5182 (Part-23): 2006; RA2022	63	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-2); 2001; RA2022	9.2	80 (24hrs).
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part-6): 2006; RA2022	25.3	80 (24hrs)
Ozone (O <sub>3</sub> )	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonía (NH <sub>3</sub> )	μg/m³	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m <sup>1</sup>	IS 5182 (Part-10): 1999; RA2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	0.013	1 (24hrs)
Nickel (Ni)	ng/m <sup>3</sup>	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m <sup>7</sup>	ELES/AIR/SOP/01	<2.0	06 (Annual)
Benzene (CtH <sub>t</sub> )	µg/m?	ELES/GC/SOP/06	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m <sup>3</sup>	ELES/GC/SOP/05	< 0.5	01(Annual)

Reviewed by:

Beech

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

Span.

(Saswata Burman Roy, Dy. Quality Manager)

Thankhand \*

S26001 \*\*

Thankhand \*\*

(Bapan Das, Dy. Technical Manager)

Authorised Signatory:

Page I of I



occurred to a forest that the same





#### TEST REPORT

Test Report No.	: ELES/RNC/2024/1463	Report Release Date	: 10.04,2024	
Work Order No.	r 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date	: ELES/RNC/2024/AA/1299 : Near Shakhuupani Villagu : 06.03.2024 to 07.03.2024 : 12.03.2024
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 72.03.2024 to 19.03.2024	Sample Condition	: Sealed & Preserved

MI	TEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 22	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 49		Weather Condition	: Clear

Discipline:	Chemical	Group; Atn	tospheric Pol	lution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	62	100 (24hrs)
Particulate Matter (PM2.5)	μg/m <sup>3</sup>	IS 5182 (Part- 24): 2019	30	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part-2); 2001; RA2022	6.5	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part-6); 2006; RA2022	25.2	80 (24hrs)
Ozone (O <sub>1</sub> )	µg/m³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	0.015	I (24hrs)
Nickel (Ni)	ng/m <sup>3</sup>	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m³	ELES/GC/SOP/06	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05	<0.5	01(Annual)

Reviewed by:

Mary.

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

Authorised Signatory :

(Saswata Burman Roy, Dy. Quality Manager)



(Bapan Das, Dy. Technical Manager)

Page | of |





### TEST REPORT

Test Report No.	: ELES/BNC/2024/1464	Report Release Date	: 10.04,2024
Work Order No.	: 13512310218	Work Order Date	r 21.04.2023

CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name	: Hindulco Industries Limited	Sample Ref. No. Location Sampling Date	ELES/RNC/2024/AA/1300     Nesr Dipa Kujam Village     96.03.2024 to 07.03.2024
Address	. Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 12.03.2024 ; Ambieni Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	= 12,03,2024 to 19,03,2024	Sample Condition	: Sealed & Preserved

	METE	OROLOGICA	L INFORMA	TION
--	------	-----------	-----------	------

1 Average Temperature (°C) : 22	2	Barometric Pressure (mmHg)	: 742
3 Relative Humidity (%) : 49		Weather Condition	: Clear

Discipline:	Chemical	Group: Atn	nospheric Pol	lution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	51	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	39	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	μg/m³	IS 5182 (Part-2); 2001; RA2022	6.4	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part-6): 2006; RA2022	21.5	80 (24hrs)
Ozone (O <sub>3</sub> )	μg/m <sup>3</sup>	IS 5182 (Part-9): 1974; RA2019	<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); 1999; RA2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part-22); 2004; RA2019	0.007	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m <sup>3</sup>	ELES/AIR/SOP/01	<2.0	06 (Annual)
Benzene (C <sub>6</sub> H <sub>6</sub> )	μg/m²	ELES/GC/SOP/06	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m <sup>2</sup>	ELES/GC/SOP/05	<0.5	01(Amual)

Reviewed by :

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

Authorised Signatory:

Selon'

(Bapan Das, Dy. Technical Manager)

(Saswata Burman Roy, Dy. Quality Manager)



Page | of |

\*

Late: MiG. R-3 Housing Colony; Dhanball, Pm-426001, State - Baridined ( 9830067044 / ( 4304513737

### TEST REPORT

Test Report No.	: ELES/RNC/2024/1538	Report Release Date	± 10.04.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

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/1324 : 08.03.2024 : 12.03.2024 : Surface Water : Spring Water : Jhapa Jhuri, Amtipani Bauxite Mine (190.95 ha)
Mines Status Period of Analysis	: Operational : 12.03.2024 to 29.03.2024	Sampling Procedure Sample Collected By Sample Condition	: ELES/DOC/SMPL/01 : ELES Pvt. Ltd. : Sealed & Preserved

Discipline: Chemi-	cul	Group	p: Water	Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per 1S 2296-1992 Class C (Inland Surface Water)
pH (at 24.9 °C)		1S 3025 (Part 11) : 2022	6.58	6.5-8.5
Colour	Hazen	IS-3025 (Part -4): 2021	2.0	300
Odour		IS 3025 (Part-5); 2018	Unobjectionable	
Taste	~	APFIA 23 <sup>rd</sup> Ed.2017, 2160 C	N/A	- 4-
Turbidity	mg/L	IS 3025 (Part-10):1984;RA2017	0.32	-
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part 16):1984; RA2017	208	1500
Total Alkalinity (as CaCO <sub>1</sub> )	mg/L	IS 3025 (Part-23):1986; RA2019	74.6	
Total Hardness (as CaCO <sub>3</sub> )	mg/L	IS 3025 (Part-21): 2009; RA2019	95.4	- 4
Sulphute (as SO <sub>4</sub> )	mg/L	IS 3025 (Part 24): 1986; RA2019	5.2	400
Nitrate (as NO <sub>3</sub> )	mg/L	APHA 23rd Ed.2017, 4500 NO3-B	1.81	50
Chloride (as Cl)	mg/L	IS 3025 (Part-32):1988; RA2019	17.8	600
Fluoride (as F)	mg/L	IS 3025 (Part-60) :2008; RA2019	0.135	1.5
Cyanide (as CN)	mg/L	APHA 23rd Ed.2017, 4500 CN-E	BDL (DL: 0.012)	0.05
Phenols Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025 (Part-43): 1992;RA2019	BDL (DL: 0.001)	0.005



PROPERTY AND END END AND TOTAL PROPERTY.





#### TEST REPORT

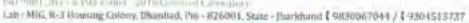
Test Report No. : ELES/RNC/2024/1538 Report Release Date : 10.04.2024 Work Order No. : 13612310218 Work Order Date : 21.04.2023

Discipline: Chem	ical	Group: Wat	er	Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water
Calcium (as Ca)	mg/L	IS 3025 (Part-40): 1991;RA2019	25.4	-
Free Residual Chlorine (RFC)	mg/L	IS 3025 (Part-26) :2021	BDL (DL: 0.1)	
Anionic Surfactants (as MBAS)	mg/L	APHA 24 <sup>th</sup> Ed.2023, 5540-C	BDL (DL: 0.025)	1.0
Discipline: Chemis	cal	Group: Residu	es in Water	
Aluminium (as Al)	mg/L	IS 3025 (Part-55) :2003; RA2019	BDL (DL: 0.02)	-
Arsenic (as As)	mg/L	IS 3025 (Part-37): 2022	BDL (DL: 0.005)	0,2
Boron (as B)	mg/L	IS 3025 (Part-57) :2021	BDL (DL: 0.2)	-
Cadmium (as Cd)	mg/L	APHA23 <sup>rd</sup> Ed.2017; 3111B	BDL (DL: 0.003)	0.01
Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed.2017; 3111B	BDL (DL: 0.03)	170
Copper (as Cu)	mg/L	APHA 23 <sup>rd</sup> Ed.2017; 3111B	BDL (DL: 0.03)	1.5
Iron (as Fe)	mg/L	APHA 23rd Ed.2017; 3111B	0.090	50
Lead (as Pb)	mg/L	APHA 23 <sup>rd</sup> Ed.2017, 3111 B	BDL (DL: 0.01)	0.1
Manganese (as Mn)	mg/L	APHA 23 <sup>rd</sup> Ed.2017; 3111 B	BDL (DL: 0.05)	4
Mercury (as Hg)	mg/L	IS 3025 (Part-48) :1994; RA2019	BDL (DL: 0.001)	
Selenium (as Se)	mg/L	IS 3025 (Part-56) :2003; RA2019	BDL (DL: 0.01)	0,05
Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed.2017, 3111 B	BDL. (DL: 0.1)	15
Polynuclear Aromatic Hydrocarbons (PAH) Remarks: L. pH & RFC done at Lab	μg/L	ELES/GC/SOP/04	BDL (DL: 0.05)	

Remarks: L. pH & RFC done at Lab.



Concept des Bootes (2012) and a RAMILA Association of the Special Content of the Content of the





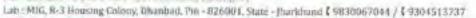
### TEST REPORT

Test Report No.	: ELES/RNC/2024/1538	Report Release Date	: 10.04.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Pesticides				
Alachlor	μg/L	ELFS/GC/SOP/01	BDL (DL: 0.5)	
Atrazine	µg/L	ELES/GC/SOP/01	BDL (DL: 0.5)	-
Bujachlor	µg/L	ELES/GC/SOP/01	BDL (DL: 0.5)	A 1
Chlorpyriphos	μg/L	ELES/GC/SOP/01	BDL (DL: 0.5)	9
Ethion	μg/L	ELES/GC/SOP/01	BDL (DL: 0.5)	-
Malathion	μg/L	ELES/GC/SOP/01	BDL (DL: 0.5)	90
Methyl parathion	μg/L	ELES/GC/SOP/01	BDL (DL: 0.1)	
Monocrotophos	μg/L	ELES/GC/SOP/01	BDL (DL: 0.5)	4
Phorate	µg/1.	ELES/GC/SOP/01	BDL (DL: 0.5)	
Phorate Sulphone	μg/L	ELES/GC/SOP/01	BDL (DL: 0.5)	
Dieldrin	μg/L	ELES/GC/SOP/02	BDL (DL: 0.01)	1+
Alpha HCH	µg/L	ELES/GC/SOP/02	BDL (DL: 0.006)	-
Beta HCH	μg/L	ELES/GC/SOP/02	BDL (DL: 0.02)	(+)
Delta HCH	μg/L	ELES/GC/SOP/02	BDL (DL: 0.02)	Эн
Gamma HCH (Lindane)	µg/L	ELES/GC/SOP/02	BDL (DL: 0.02)	EH.
Endosulfan (alpha, beta and sulphate)	µg/L	ELES/GC/SOP/02	BDL (DL: 0.05)	34
DDT(o,p and p,p-isomers of DDT,DDEand DDD)	µg/L	ELES/GC/SOP/02	BDL (DL: 0.05)	-



that four the past of the control of





### TEST REPORT

Test Report No.	: ELES/RNC/2024/1538	Report Release Date	: 10.04.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

Discipline : Bi	iological	Group: Wa	Tolerance Limits		
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water	
Total Coliform	CFU/100 mL	IS 15185: 2016, RA2021	48.0	5000	
Escherichia Culi	CFU/100 mL	IS 15185: 2016; RA2021	<1.0	-	

Reviewed by :

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

Authorised Signatory:

Ean.

(Saswata Burman Roy, Dy. Quality Manager)



(Bapan Das, Dy. Technical Manager)



Annexure 3

Date - 01.05.2024

### **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. Preet Ranjan Kuanr Geologist
- 3. 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 October'23 to March'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	102292	0.68	0.32	68480.59
3	Hisri (New) Bauxite Mine	14.55	100000	19.07.1981 to 31.03.2030	42069	0.8	0.00	39067.98
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	130749.2	2.06	0.56	534025.4
7	Sherangdag-A Bauxite Mine	155.81	260000	16.10.1974 to 31.03.2030	11950	0.81	0.76	55693.68
8	Serangdag-B Bauxite Mine	77.89	100000	04.10.1978 to 31.03.2030	36230	2.81	1.65	116122.92
9	Jalim & Sanai Bauxite Mine	12.14	50000	16.10.1974 to 31.03.2030	16450	0.07	0.06	17533.27
10	Gurdari Bauxite Mine	584.19	325000	23.03.1985 to 22.03.2035	145680	5.91	3.23	201022.508
11	Kujam - I Bauxite Mine	80.87	150000	13.03.2006 to 12.03.2056	5480	0.46	2.91	72661.44
12	Kujam - II Bauxite Mine	157.38	300000	24.03.2006 to 23.03.2056	66000	2.79	9.53	61380.23
13	Amtipani Bauxite Mine	190.95	150000	13.03.2006 to 12.03.2056	48600	1.85	1.15	131087.65

	Minerals & Minerals Limited							
14	Pakhar (109.507) Bauxite Mine	109.507	280000	26.07.2008 to 25.07.2058	142288	1.01	1.12	213450.18
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	67450	3.41	3.29	101973.71
17	Amtipani Chirodih Bauxite Mines	130.01	450000	11.01.2017 to 10.01.2067	123330	8.583	5.67	208720.97

<sup>\*</sup>Static information about the mines included in the above table

Basudev Gangopadhyay
AVP (Planning, Environment and Compliance)

#### **Annexure-5**

### BREAK UP THE COST OF ENVIRONMENTAL MEASURES DURING THE YEAR 2023-24

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), Pakhar (109.507 ha), Pakhar (15.58 ha), Pakhar (8.09 ha), Pakhar (35.12 ha), Sherangdag (155.81 ha), Serangdag (77.89 ha), Jalim & Sanai (12.14 ha), Bimarla Bauxite Mines (134.526 ha), Gurdari (584.19 ha), Amtipani (190.95 ha), Kujam I (80.87 ha) Kujam II (157.38 ha), and Amtipani Chirodih (130.01 ha) Bauxite Mines.

S No	Description	Budget (in Rupees) FY 2023-24	Actual (in Rupees) FY 2023-24 (From Oct'23 to Mar'24)	
1	Pollution Control & Environment monitoring	1,57,41,102.00	73,14,906.01	
2	Reclamation/ Back filing & Rehabilitation**	1,36,62,095.00	6,53,29,973.21	
3	Green belt, Plantation & Water sprinkling arrangement	67,45,898.00	32,08,288.90	
4	Rural Development	6,19,33,534.00	2,08,14,673.36	

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

Basudev Gangopadhyay
AVP (Planning, Environment & Compliance)