

HIL/LHD/ENV/MoEF/979

Date: 20.11.2024

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

Sub: Compliance Report of EC conditions for Bhusar (65.31 ha) Bauxite Mining project of M/s Hindalco Industries Limited located in Lohardaga, for the period April 2024 to September 2024.

Ref: Environmental Clearance No-J-11015/184/2011-IA.II (M) dated 17th June 2013.

Sir,

With reference to the above, we are submitting herewith the Compliance status report of EC conditions for **Bhusar (65.31 ha) Bauxite** Mining project of **M/s Hindalco Industries Limited** located in Lohardaga, Jharkhand for the period April 2024 to September 2024.

The lease detail is a	s below.		-
Lease area (ha)	Production Capacity (MT)	Lease Period	
65.31	280000	11.07.1981 to 31.03.2030	

Hope you will find the same in order.

Thanking You

Yours Sincerely FOR HINDALCO INDUSTRIES LIMITED

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

Enclosure: - As Above

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

Hindalco Industries Limited

Mines Division, Court Road, Lohardaga 835302, Jharkhand, India T: +91 6526 224112/224015/223113 | E: hindalco@adityabirla.com | W: www.hindalco.com Registered Office: Ahura Centre, 1st Floor, B Wing, Mahakali Caves Road, Andheri (East), Mumbai 400 093, India T: +91 22 6691 7000 | F: +91 22 6691 7001 Corporate ID No.: L27020MH1958PLC011238

Name of the Project	:	Bhusar Bauxite Mine (65.31 ha) M/s Hindalco Industries Ltd
Environment Clearance No & date	:	J-11015/184/2011-IA. II (M), dated 17.06.2013
Period of compliance Report	:	From 1 st April'24 to 30 th September'24
Specific Conditions.		

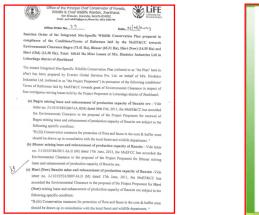
Specific Conditions: -

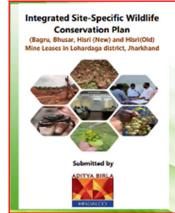
Condition i: - All the conditions stipulated by State Pollution Control Board in their NOC shall be effectively implemented.

Reply: - Implementations of stipulated conditions in NOC are fulfilled post which consent to operate has been obtained from time to time. Existing consent to operate is valid up to 30.09.2027.

Condition ii: - Environmental clearance is subject to obtaining clearance under the wildlife (Protection) Act, 1972 from the competent authority, as may be applicable to this project.

Reply: - This is not applicable for this mine as this mine is located tentatively 20 kms away from nearest Eco sensitive zone. However, we have prepared Integrated Site-specific Wildlife Conservation Plan and obtained approval via obtained approval from by PCCF, Wildlife, Ranchi vide Office Order No.29 dated 01.06.2023.





Condition iii: - The mining operations shall be restricted to above ground water table and it should not intersect groundwater table. Prior approval of the Ministry of Environment & Forests and Central Ground Water Authority shall be obtained for mining below water table.

Reply: - Shallow depth mining is being done and does not intersect the ground water. In future also, working zone will be restricted to above ground water table. We assure that no mining is/was carried out below groundwater table and the same status will be maintained in future also.

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

Reply: - There is no natural watercourse and / or water resources within the mining lease area. Shallow depth mining methodology is adopted for mining process. Hence, there is no impact of mining operation on natural watercourse.

Condition v: - Topsoil should be stacked with proper slope at earmarked site(s) only with adequate measures and should be used for reclamation and rehabilitation of mined out areas.

Reply: - Topsoil is being stacked temporarily with proper slope as and when required. Concurrent backfilling and reclamation of mined out area are being exercised for which topsoil is being spread on backfilled area for reclamation. No OB dump is present in mines. The mining is being carried out as per the approved mining plan. Monitoring and management of rehabilitated areas is being done through effective supervision.



Reclaimed area

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

Reply: - Backfilling and reclamation are being done concurrently by overburden. No OB dump is present in mines. The mining is being carried out as per the approved mining plan. Data pertaining to backfilling is enclosed as **Annexure 4**. Monitoring and management of rehabilitated areas is being done through effective supervision. Compliance status is being submitted to MoEF&CC on six monthly basis. Now, the Regional office of MoEF&CC is in

Ranchi.

Condition vii: - Catch drains and siltation ponds of appropriate size should be constructed for the working pit, temporary OB dumps, if any and mineral dumps to arrest flow of silt and sediment. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted, particularly after monsoon, and maintained properly. Garland drain of appropriate size, gradient and length shall be constructed for both mine pit and temporary dumps 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 collect & manage rainwater during monsoon, part of mined out area is used as settling tank for the runoff. Rainwater stored is being used for watering the mine area, roads, green belt development and sprinkling as necessary. Catch drains, Garland drains of appropriate size are being constructed in both around the mine pit to prevent runoff of water and flow of sediments directly into the agricultural field and water bodies, if applicable. Sump of adequate capacity is being provided and maintained as required.

No active external dump exists in mine.



Catch Drains

Garland drains

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

Reply: - There are no temporary dumps within the mining lease area. However, dimensions of the retaining wall of temporary OB dumps will be maintained based on average rain fall, if required.

Condition ix: - Plantation shall be raised in an area of 52.50 ha including a 7.5m wide green belt in the safety zone around the mining lease by planting the native species around

ML area, backfilled and reclaimed area, around water body, roads etc. in consultation with the local DFO/Agriculture Department at the end of life of mine. The density of the trees should be around 2500 plants per ha.

Reply: - It is already in practice. Phase wise plantation of native species in consultation with forest department has been carried out within safety zone and mined out/reclaimed pits. Total 3820 saplings have been planted in the period of April'24 to September'24, within the Bhusar mine lease area. Cumulative 44.898 ha areas have been planted till date. In addition to this, agricultural activity is going on reclaimed land as per the consent from landowners. Greenbelt development programme is in progress with progress of mining activities.



Plantation at Mine.

Condition x: - Regular water sprinkling should be carried out in critical areas prone to air pollution and having high levels of SPM and RSPM such as haul road, loading and unloading point and transfer points. It should be ensured that the Ambient Air Quality

parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.

Reply: - Mobile water tankers have been provided for sprinkling of water in critical areas to suppress dust. Additionally, we have installed a Mist Fog Cannon to suppress the dust at the transfer point. AAQ parameters in mine monitored on regular basis is attached as **Annexure-2**.



Dust suppression through water tanker.



Mist Fog Cannon

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

Reply: - A detailed rainwater harvesting plan to augment ground water has been prepared and suitable measures like water harvesting pond etc. are created for augmentation of ground water in the area (Bagru Plateau) in consultation with Central Ground Water Board.

Condition xii: - Regular monitoring of ground water level and quality should be carried out in and around the mine lease 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 i.e. January, April-May, August, November and the data thus collected may be sent regularly to Ministry of Environment and Forests, its Regional Office, Bhubaneswar; Central Ground Water Authority and Central Ground Water Board.

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



Piezometer

Condition xiii: - The project authorities should obtain prior approval of the competent authority for drawl of groundwater if any, required for the project.

Reply:- We are not using any ground water for mining purposes. Suitable arrangement has been made for collection and storage of rainwater in harvesting pond. Water drawn from rainwater harvesting pond is being used for sprinkling on haul roads and for raising plantation. However, No Objection Certificate (NOC) for ground water abstraction has been obtained from CGWA/CGWB for drinking purposes only. The copy of same NOC and photograph of RWH pond in attached below.

(NO NO OBJECTION CERTIFIC	नेकासी हेतु अनापति प्रमा	Depa River Dev Cent	an stills raters aft off series aft off series aft off series aft off series development of India Government of India Government of Water Resources. elopment & Ganga Rejuvenation had Ground Water Authority
			01
	auxite Mining Lease (65.		-0
	Bauxite Mine, Vill - Bhut		
Village: Bhusa		Block: Kisko	
District: Lohan	a	State: Jharkh	hand
Pin Code:			
Communication Address: Hinda Lohan	Industries Ltd, Hindalco (a, Kisko, Lohardaga, Jha	Complex, Court R arkhand - 835302	oad, Lohardaga, P.o -
Address of CGWB Regional Office : Centra Navak	round Water Board Mid B Prakash Bhawan, Fraze	Eastern Region, 6 ar Road Dak Bang	Li & 7th Floor, Lok low, Patna, Bihar - 800011
1. NOC No.: CGWA/NOC/MIN/RI	2/2024/9800	Date of Issuence	
3. Application No.: 21-4/484/JH/MIN/20	N.4.	Category: (GWRE 2023)	Safe
5. Project Status: Existing Ground Wa		NOC Type:	Renewal
7. Valid from: 11/09/2024	. 8.	Valid up to:	10/09/2026
9. Ground Water Abstraction Permitted:			
Fresh Water Saline		watering	Total
m³/day m³/year m³/day	m³/year m³/day	m*/year	m³/day m³/year
9.50 3467.50			
10. Details of ground water abstraction /Dew	ing structures		
Total Existing No.			I Proposed No.:0
	W TW MP MPu	DW DCB	BW TW MP MPu 0 0 0 0
Abstraction Structure* 0 0 'DW- Dug Well; DCB-Dug cum-Bare Well; BW-Bore We	0 0 0		0 0 0 0
11. Ground Water Abstraction/Restoration C		Printe Pumps	6936.00

NOC for Groundwater

Rainwater Harvesting Pond

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

Reply: - Bauxite is transported through ropeway from mine to Lohardaga siding. However, Regular maintenance of HEMM/vehicles and all measures are being taken to control vehicular emission.



Ropeway transportation- eco-friendly

Condition xv:- 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:- 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 are being taken to mitigate impact of blasting.

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

Reply: - Wet drilling is in practice.



Wet drilling

Condition xvii: - Consent to operate should be obtained from SPCB before starting/ enhanced production from the mine.

Reply: - We have already obtained the Consent to Operate for Bauxite as per production capacity mentioned in EC. Existing CTO is valid up to 30.09.2027.

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

Reply: - Progressive mine closure plan along with mining scheme has been approved by IBM. Final mine closure plan will be prepared in due time. Based on present resource estimate, and peak rated production capacity mentioned in EC, Mining operation is being carried out.

General Conditions: -

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

Reply: - Noted.

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

Reply: - Calendar plan including excavation, quantum of mineral bauxite and waste is being done as per IBM approved mining scheme. Report is attached as **Annexure-4**.

Condition iii: - Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for PM10, SO2 as 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: - We have already established four ambient air quality monitoring stations in core zone as well as buffer zone. Monitoring is being carried out and reported to the concerned authorities. Report is attached as **Annexure 2**.

Condition iv: - 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: - Suitable water spraying system is already available. To arrest fugitive dust proper water sprinkling is being carried out on haul roads, loading and unloading and at transfer points.

Condition v: 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: - Noise monitoring is being done regularly. Workers engaged in operation of HEMMs, etc. has 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 vi: -Industrial wastewater (workshop and wastewater from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422(E) dated 19th May 1993 and 31st December 03 or as amended from time to time. Oil and grease trap should be installed before discharge of effluents from workshop.

Reply: - 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 Effluent treatment plant (ETP) has been installed for 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 Effluent treatment plant (ETP) is attached below.



Effluent treatment plant (ETP)

Condition vii: -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.

Reply: - All the workers have been provided with PPEs including dust mask and dust respirators. Apart from PPEs distribution to all workers, we are also providing adequate safety training and conducting awareness session on Safety and health aspects on regular basis.

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

Reply: - Periodical Occupational health surveillance program of the workers is being carried out and records maintained as per statute.

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

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

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

Reply: - Every year budget is earmarked for environmental protection measures being prepared for purpose 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 xi:- The Regional Office of this Ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The Project authorities should extend full cooperation to the officer(s) of the Regional Office by furnishing requisite data/information/monitoring reports.

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

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

Reply: - Six monthly reports on status of compliance of stipulated environmental clearance conditions including monitoring report are being submitted to the MoEFCC, Zonal office of CPCB and JSPCB Ranchi.

Now, the Regional Office of MoEF&CC is in Ranchi.

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

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

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

Reply: - It is an operational mine. Hence provisions related to financial closure is not applicable.

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

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

Condition xvi:- The project authorities should advertise at least in two local newspapers widely circulated, one of which 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 at Bhubaneswar.

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

Annexure 1						
	Piezometer Reading - Bhusar					
S No Month Depth (meter)						
1	Apr-24	35.4				
2	May-24	35.2				
3	Jun-24	35.16				
4	Jul-24	34.8				
5	Aug-24	34.45				
6	Sep-24	34.23				

ENVIROCHECK

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

State- Jharkhand.

Bhusar Bauxite Mine-Environmental Monitoring Report

April 2024



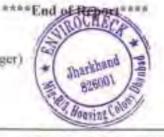
-				A 100 100 100 100 100	ST RE				
	st Report No.		JK/1135/AP	R/TR(W)24					
W	ork Order No.	: 13612	2312113		1	W	ork Order Date	: 28.03.202	4
CUSTOMER DETAILS				SAM	(P)	LE DETAILS			
Costomer Name Hindalco Industries Limited Address : Lohardaga, Jharkhand-835302 Mines Status : Operational		Location Sampling Date Sample Received Date Type of Sample Sample Sample Sampling Procedure		ng Date Received Date f Sample ng Procedure	: ENVJK/2024/AA/1660 : Near View Point-1(Bhusar Mine Pit Bhusar Bauxite Mine(65.31ha) : 10.04.2024 to 11.04.2024 : 12.04.2024 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.				
-	ried of Analysis		024 to 20.04	2024		· · ·	Condition	: Sealed & Preser	
-	ETEOROLOGI					-			
1	Average Tempe					2	Barometric Pres	ssure (mmHg)	: 734
3	Relative Humid	lity (%)	: 60		1	4 Weather Condition : Clear			
			Disciplin	e: Chemica	IGrou	pr	Atmospheric Pa	llution	
	Paramete	er	Unit		Test Protocol		Result	Regulatory Limit	
Par	rticulate Matter (F	PM10)	$\mu y/m^3$	15	5182 ()	Par	1 23); 2006	64	100 (24hrs)
Par	rticulate Matter (F	PM2.5)	$\mu g/m^3$				0 CFR Part 50, L: 2006	37	60 (24hrs)
Su	phur Di-Oxide (S	s(Q ₂)	µg/m ³	IS	5182 (Pa	rt 2): 2001	11.3	80 (24hrs)
Nit	rogen Di-Oxide (NO ₂)	µg/m ³	18	5182 (Pa	rt 6): 2006	21.8	80 (24hrs)
0z	one (Q1)		µg/m ²	15	5182 ()	Par	1-9): 2019	<20.0	100 (8hrs)
An	umonia (NH ₄)		µg/m ²	IS :	5182 (1	182 (Part- 25): 2018		<10.0	400 (24hrs)
Cat	arrient within the is a s		15 5182 (Part- 10); 2019 (NDIR Method)		<1.0	2 (8hrs)			
Lead (Pb) µg/m ³ IS :		IS 5182 (Part- 22): 2019		0.014	1 (24hrs)				
Nic	kel (Ni)		ng/m ¹	15 5182		Par	1-26): 2020	<6.0	20 (Amual)
Ars	senīc (As)	ng/m ³ USEPA		USEPA	Method - IO-3.5 (ICP-MS Method)		<2.0	06 (Annual)	
Be	rizene (C ₆ H ₆)		µg/m ³	USEPA			TO-3 (GC-MS od)	<2.5	D5(Annual)
Ber	nzo-(a)-Pyrene		ng/m ³	USEPA S			TO-3A (GC-MS od)	<0.5	01(Annual)

TEST REPORT

Reviewed by :

797. -- 2 --

(Saswata Burman Roy, Dy. Quality Manager)



Authorised Signatory : GEA'

(Bapan Das, Dy. Technical Manager)

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Kulkata Office : 61/B, Rastraguru Avenue, Kolkata - 200028 (033-25792601/25497490 Email envirocheck30@gmail.com





_	TE	ST F	REPORT			
Test Report No. : ENVJK/1136/APR/TR(W)24-25 Work Order No. : 13612312113			25 Report Release Date : 20.04.2024 Work Order Date : 28.03.2024			
Customer Name Address	Hindalco Industries Limited	Lo Sa Sa	mple Ref. No. cation mpling Date mple Received Date	: ENVJK/2024/AA/166) : Near View Point-2(Bhusar Mine Pit I) Bhusar Bauxite Mine(65.31ha) : 11.04.2024 to 12.04.2024 : 12.04.2024		
Mines Status	: Operationa)	Sa Sa	pe of Sample mpling Procedure mpling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.		
Period of Analysis	: 12.04.2024 to 20.04.2024	Sa	mple Condition	: Sealed & Preserved		

£.	Average Temperature (°C) 31	2	Barometric Pressure (mm)	Hg) : 734
3	Relative Humidity (%) : 60	4	Weather Condition	: Clear

	Disciplin	e: ChemicalGroup: Atmospheric Pollut	ion	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	15 5182 (Part 23): 2006	68	100 (24hrs)
Particulate Matter (PM2.5)	$\mu g/m^3$	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	31	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part 2): 2001	8.9	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part 6): 2006	27.1	80 (24hrs)
Ozone (O ₅)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ³	18 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	Monoxide (CO) mg/m ³ IS 5182 (Part-10): 2019 (NDIR Method)		<1.0	2 (8hrs)
Lead (Pb)	µµ/m ³	IS 5182 (Part- 22): 2019	0.007	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	USEPA Method - IO-3.5 (ICP-MS Method)	<2.0	06 (Annual)
Benzene (C ₆ H ₀)	µg/m ³	USEPA Method - TO-3 (GC-MS Method)	<1.0	05(Annual)
Benzo-(a)-Pyrene	ng/m ²	USEPA Method - TO-3A (GC-MS Method)	<0.5	01(Annual)

Reviewed by :

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****EutelEOCH Jharkhand (Saswata Burman Roy, Dy. Quality Manager) 826001 HousingCo

Authorised Signatory :

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(Bapan Das, Dy. Technical Manager)

Page 1 of 1

Kolkata Office : 63/8, Rastraguru Avenue, Kolkata : 700028 (033-25792891/25497490 Erouil enviroche-(ASD/Ramail.com



	TEST I	REPORT				
Test Report No.	: ENVJK/1137/APR/TR(W)24-25	Report Release Date	: 20.04.2024			
Work Order No.	: 13612312113	Work Order Date : 28.03.2024				
CUSTOMER DET	AILS	SAMPLE DETAILS				
Customer Name	:Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ENVJK/2024/AA/1662 : Near Rest Shelter Bhusar Bauxite Mine (65.31ha) : 11.04.2024 to 12.04.2024			
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 12.04.2024 : Ambient Air : ELES/DOC/SMPL/02			
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.			
Period of Analysis	: 12.04.2024 to 20.04.2024	Sample Condition	: Sealed & Preserved			

METEOROLOGICAL INFORMATION

1	Average Temperature (°C)	:31	2	Barometric Pressure (mmHg)	: 734	
3	Relative Humidity (%)	: 60	4	Weather Condition	: Clear	

	Disciplin	e: ChemicalGroup: Atmospheric Pollu	tion	And a second
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	1S 5182 (Part 23): 2006	60	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	33	60 (24lirs)
Sulphur Di-Oxide (SO2)	µg/m ³	15 5182 (Part 2): 2001	11.6	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	1S 5182 (Part 6): 2006	25.1	80 (24hrs)
Ozone (O ₃)	µg/m'	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₁)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO) mg/m ² IS 5182 (Part-10): 2019 (NDIR Method)		<1.0	2 (8hrs)	
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.011	1 (24hrs)
Nickel (Ni)	ng/m ³	15 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ny/m)	USEPA Method - 10-3.5 (ICP-MS Method)	<2.0	06 (Annual)
Benzene (C ₀ H ₀) µg/m ¹ USEPA Method - TO-3 (GC-MS Method)		<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ²	USEPA Method - TO-3A (GC-MS Method)	<0.5	01(Annual)

Reviewed by :

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(Bapan Das, Dy. Technical Manager)

Page 1 of i

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(Saswata Burman Roy, Dy. Quality Manager)

Kolkata Office : E3/B, Kastraguru Avenue, Kolkata - 700028 (033-25792891/25497490 Email envirushed/s0@gmail.com



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	TEST I	REPORT				
Test Report No.	: ENVJK/1138/APR/TR(W)24-25	Report Release Date : 20.04.2024				
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024			
CUSTOMER DET	AlLS	SAMPLE DETAILS				
Customer Name	:Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ENVJK/2024/AA/1663 : Near GTS Point Bhusar Bauxite Mine (65.31ha) : 11.04.2024 to 12.04.2024			
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 12.04.2024 ; Ambient Air : ELES/DOC/SMPL/02			
Mines Status	: Operational	Sampling Done By	; ELES Pvt. Ltd.			
Period of Analysis	: 12.04.2024 to 20.04.2024	Sample Condition	: Sealed & Preserved			

ETEOROLOGICAL INFORMATION

1.	Average Temperature (°C) : 32	2	Barometric Pressure (mml)	lg) : 734	
3	Relative Humidity (%) : 59	-4	Weather Condition	: Clear	

	Disciplin	e: ChemicalGroup: Atmospheric Pollut	tion		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ^à	1S 5182 (Part 23): 2006	69	100 (24hrs)	
Particulate Matter (PM2.5)	$\mu g/m^3$	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	30	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part 2): 2001	11.5	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part 6): 2006	25.3	80 (24hrs)	
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)	
Nickel (Nj)	ng/m ⁵	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	USEPA Method - IO-3,5 (ICP-MS Method)	<2.0	06 (Annual)	
Benzene (C _b H _b)	µg/m³	USEPA Method - TO-3 (GC-MS Method)	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ³	USEPA Method - TO-3A (GC-MS Method)	<0.5	01(Annual)	

Reviewed by :

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(Bapan Das, Dy. Technical Manager)

Page 1 of 1

Kolkata Office : 53/8, Haitraguro Avenue, Kolkata - 700028 (033-25792891/25497490 Central intvincingde50/Pgmail.com



Teni Report No.	1 ENVJK/1131/APR/TR(W)24-25	Report Release Date	1 22.04.2023
Work Order No.	: (3612312113	Work Order Date	: 28,03.2024
CUSTOMER DETA	ALS	SAMPLE DETAILS	
Customer Name	Hindulco Industries Lintited	Sample Ref. No.	: ENVJK/2024/AA/1656 : Near Baldaliya Villága Bagro Baoxire Mine (75 41km)
Addream	: Lohardega, Jhurkhend-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	 11.04.2024 to 12.04.2024 16.04.2024 Ambient Ait ELES/DOC/SMPL/02
Mines Status	: Non Operational	Sampling Done By	ELES Pvt. 1 td.
Period of Analysis	- 16.04.2024 to 22.04.2024	Sample Condition	: Sealed & Preserved

Ī.	Average Temperature ("C) : 33	2	Barometric Pressure (mm)	ig) 1736
3	Relative Humidity (%) : 57	4	Weather Condition	: Clear

	Discipline	: ChemicalGroup: Atmospheric Pollutio	m	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part 23): 3006	56	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	.32	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part 2): 2001	12.9	80 (24hrs)
Nitrogen Di-Oxide (NOy)	µg/m ³	IS 5182 (Part 6): 2006	27.4	80 (24hrs)
Ozone (Ot)	µg/m ^T	IS 5182 (Part-9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m [±]	15 5182 (Part- 25); 2018	<10.0	400 (24hrs)
Carbon Monoxida (CO)	mg/m ³	15 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ²	IS 5182 (Part- 22): 2019	0.012	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	USEPA Method - IO-3.5 (ICP-MS Method)	<2.0	06 (Atumal)
Benzene (C ₆ H ₄)	µg/m ³	USEPA Method - TO-3 (GC-MS- Method)	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ²	USEPA Method - TO-3A (GC-MS Method)	<0.5	01(Annual)

Reviewed by :

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OCH #RANE F Zenn 黄 Jharkhand 826001 (Saswata Hurman Roy, Dy. Quality Muttager) Wa Junize

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(Bapan Das, Dy. Technical Manager)

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-	TESTI	REPORT	
Teo Report No.	ENVJK/) 132/APR/TR(W)24-25	Report Release Date	1 23.04.2024
Work Order No.	: 13612312115	Work Order Date	: 28,93,2024
CUSTOMER DET/	MLS	SAMPLE DETAILS	
Customer Name Address Mines Status	Hindaloo Industries Limited - Lohardaga, Jharkhand-895302 : Non Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure Sampling Done By	 ENVJK/2024(AA/1657 Aditya School Gengupara Bagra Baaxite Mine (75.411a) 12.04.2024 to 13.04.2024 17.04.2024 47.04.2024 Ambient Air ELES/DOC/SMPL/02 ELES Pvt. Ltd.
Period of Analysis	: 17.04.2024 to 23.04.2024	Sample Condition	Senied & Preserved

1	Average Temperature (°C) = 32	2 2	Barometric Pressure (mmHg)	= 736
з	Relative Humidity (%) : 57	7. 4.	Weather Condition	: Clear

	Discipline	: ChemicalGroup: Atmospheric Pollutie	ND.	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part 23): 2006	62	100 (24hrs)
Particulate Matter (PM2.5)	μg/m ³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	45	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	1S 5182 (Past 2): 2001	11.1	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part 6): 2006	24.6	80 (24hrs)
Ozone (O ₃)	µg/m?	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NHs)	µg/m ³	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)
Carbon Montoxide (CO)	ntg/m ³	IS 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (8lus)
Lead (Ph)	µg/m ¹	15 5182 (Part- 22); 2019	0.011	1 (24hrs)
Nickel (Ni)	mg/m ²	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	USEPA Method - 10-35 (ICP-MS Method)	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ³	USEPA Method - TO-3 (GC-MS Method)	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	USEPA Method - TO-3A (GC-MS Method)	<0.5	01(Annual)

Reviewed by :

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(Hupan Das, Dy. Technical Manager)

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(Snewma Barttan Roy, Dy. Qunity Manager)

Kalkata Office , 0.5/R. Rattragery Avenue, Kolkata - 100028 (085-20192893/25491694)



	TEST	REPORT	
Test Report No.	: ENVJK/1133/APR/TR(W)24-25	Report Release Date	± 24.04.2024
Work Order No.	: 13012312113	Work Order Date	: 28.03.2024
CUSTOMER DET	ULS	SAMPLE DETAILS	
Customo/ Name Alldres) Mices Status	: Non Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure Sampling Done By	: ENVJK/2024/AA/1658 Ropeway Uniteding Station Bagro Bauxite Mine (75.41hr) 7 13.04.2024 to 14.04.2024 18.04.2024 Ambient Air ELES/DOC/SMPL/02 : ELES PVL Ltd.
Period of Analysis	118.04.2024 to 24.04.2024.	Sample Condition	:: Sealed &Preserved

1 Aven	age Temperature (°C)	: 32	2	Barometric Pressure (mmHg)	: 736	_
	ive Humidity (%)	: 57	- 4	Weather Condition	: Clear	

	Discipline:	ChemicalGroup: Atmospheric Pollutio	181	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part 23): 2006	71	100 (24hrs)
Particulate Matter (PM2.5)	$\mu g/m^3$	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	34	60 (24hrs)
Sulphur Di-Oxide (SO2)	$\mu g/m^2$	IS 5182 (Part 2): 2001	9.3	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	(S 5182 (Part 6): 2006	22.8	80 (24hrs)
Ozone (O3)	µg/m ³	IS 5182 (Part- 9): 2019	<2.0.0	100 (Shrs)
Ammonia (NH3)	µg/m [±]	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ²	IS 5182 (Parts 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.009	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	og/m ³	USEPA Method - IO-3,5 (ICP-MS Method)	<2.0	06 (Annual)
Benzene (Celle)	µg/m ²	USEPA Method - TO-3 (GC-MS Method)	<2.3	05(Annual)
Benzo-(a)-Pyrene	ng/m²	USEPA Method – TO-3A (GC-MS Method)	<0.5	DI(Annual)

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(Bapan Das, Dy. Technical Mininger)

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(Sasween Burreney Roy, Dy. Quality Manager)

Harkwys Office : E3/B. Restrictury Avenue, Kalkata - 700038 0 634-26752553/25277490



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Test Report No.	: ENVJE/1134/APR/TR(W)24-25	Report Release Date	: 25.64.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2624
CUSTOMER DET	Alls	SAMPLE DETAILS	
Cosconer Name Address Mines Suitus	: Flindateo Industries Limited : Lohundeyr, Jimrkhand-835302 : Non Operational	Sample Ref. No. Location Sampling Data Sample Received Date Type of Sample Sampling Procedure Sampling Done By	: ENV/K/2024/AA/1659 Ropeway Angle Station Bagru Bauxite Mine (75.41ha) 14.04.2024 to 15.04.2024 19.04.2024 Amblent Air ELES/DOC/SMPL/02 ELES Pvt. Ltd.
Period of Analysis	= 19.04.2024 to 25.04.2024	Sample Condition	: Senled & Preserved

	L'unernRe remijerarmet el			Tomouther in the same	(THINK FRY	2,210
3	Relative Humidity (%)	: 57	4	Weather Condition	- 50	Clear
-		Discipline	ChemicalGround	Atmospheric Pollutio	10	
	Parameter	Unit		Protocol	Result	Regulatory Limit
Pau	ticulate Matter (PM10)	µg/m ³	IS 5182 (1	Part 23): 2006	63	100 (24hrs)
Par	ticulate Matter (PM2.5)	$\mu g/m^3$		a,40 CFR Part 50, dix L: 2006	38	60 (24hrs)
Sul	phur Di-Oxide (SO ₂)	µg/m ³		Part 2): 2001	10.1	80 (24hrs)
Nit	rogen Di-Oxide (NO1)	µg/m ³	1S 5182 (Part 6): 2006	24.3	80 (24hrs)
()z	one (O))	µg/m ¹	IS 5182 (I	Part- 9): 2019	<20.0	100 (8hrs)
Ait	inonia (NH))	μ <u>μ</u> /m ³	1S 5182 (F	art-25): 2018	<10.0	400 (24hrs)
Ċar	bon Monoxide (CO)	mg/m ²		mr-10): 2019 Method)	<1.0	2 (8hrs)
Let	sd (Pb)	μġ/m³	IS 5182 (P	art- 22): 2019	0.012	1 (24hrs)
Nic	deel (Nii)	ng/m ³	IS 5182 (I	Part- 26): 2020	<6.0	20 (Annual)
Ars	epic (As)	ng/m^2		1-10-3.5 (ICP-MS ethod)	<2.0	06 (Annual)
Ber	izene (CaHa)	µg/m*		d – TO-3 (GC-MS thod)	<2.5	05(Annual)
Bei	ato-(a)-Pyrene	ng/m ²		-TO-3A (GC-MS shod)	<0.5	01(Annual)

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(Bapin Diss, Dy. Technicol Manager)

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CONTENT

Hind	alco Industries :Bhusar Bauxite MincEnvironmental Monitoring Report	May 2024
	Bhusar Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE	
1	Near View Point I (Bhusar Mine Pit I)	
2	Near View Point 2 (Bhusar Mine Pit II)	
3	Near Rest Shelter	
4	Near GTS Point	
	AMBIENT AIR QUALITY- BUFFER ZONE	
1	Near Daldaliya Village	
2	Aditya School Gangupara	
3	Ropeway unloading station	
4	Ropeway Angle Station	
	Drinking Water	-





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

CINEERING SERVICES PVT. LTD.

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/2598	Report Release Date	: 15.05.2024
Work Order No.	: 13612312113	Work Order Date	÷28.03.2024
ULR No.	: TC135872400000567F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	Hindalco Industries Limited	Sample Ref. No. Location	ELES/RNC/2024/AA/2915 Near View Point-1(Bhusar Mine Pit I Bhusar Bauxite Mine(65,31ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	± 08.05.2024 to 09.05,2024 ± 10.05.2024	
1.P	the sector of	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 10.05.2024 to 15.05.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION 1 Average Temperature (%C) : 31 2 Barometric Pressure (mmHg) : 742 3 Relative Humidity (%) : 58 4 Weather Condition : Clear

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	72	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	31	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	15 5182 (Part- II/Sec- 1): 2023	9.5	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	1S 5182 (Part- 6): 2022	23.3	80 (24hrs)
Ozone (O ₃)	µg/m ^Y	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m²	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.011	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

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PLOT ND-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) DST ND:- 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
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Test Report No.	: ELES/RNC/2024/2598	Report Release Date	: 15.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000567F		

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

times-Reviewed by AKASH KUMAR

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

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

Page 2 of 2

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

CINEERING SERVICES FIT. LTP.

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/2024/2599	Report Release Date	: 15.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000568F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/2916 : Near View Point-2(Bhusar Mine Pit I) Bhusar Bauxite Mine(65,31ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 08.05.2024 to 09.05.2024 : 10.05.2024	
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	ELES Pvi. Ltd.	
Period of Analysis	: 10.05.2024 to 15.05.2024	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORM	ATION			
1	Average Temperature (°C) :	31	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	58	4	Weather Condition	: Clear

Discipline: 0	Discipline: Chemical		ospheric Pollu	tion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	15 5182 (Part- 23): 2022	74	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	37	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ¹	IS 5182 (Pari- 11/Sec- 1): 2023	10.1	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	23.4	80 (24hrs)
Ozone (O1)	µg/m ²	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ¹	15 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.007	1 (24hrs)
Nickel (Ni)	ng/m1	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

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PLOT NG-30; MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST ND:- 20AAECE9713D124

GINEERING SERVICES PVT. LTD.

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



TE	C T	DE	POR	т
	10 U I	-DE-	EUK	

Test Report No.	: ELES/RNC/2024/2599	Report Release Date	: 15.05.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400000568F			

Discipline: Chemical		Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C ₆ H ₆)	µg/m ²	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)		

Reviewed by

AKASH KUMAR Quality Managur ELES PVT_LTD ****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha Ph. D Environmental Eneg. ELES PVI, Ltd. Technical Menur

Page 2 of 2

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PLOT NO-30, MANSAHOVAR ENCLAVE, TUPUDANA HIATIA, RANCHI-834003 (IHARKHAND) ISST ND:- 20AAECE9713D324

NUMERRING SERVICES PVT. LTD

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



TECT DEBODT

Test Report No.	: ELES/RNC/2024/2600	Report Release Date	: 15.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000569F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/2917 : Near Rest Shelter Bhusar Bauxite Mine (65,31ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 08.05.2024 to 09.05.2024 : 10.05.2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 10.05.2024 to 15.05.2024	Sample Condition	: Sealed & Preserved

METEOROLOGICAL	INFORMATION
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ŧ.	Average Temperature ("C) : 31	2	Barometric Pressure (mml	lg) : 742
3	Relative Humidity (%) : 58	4	Weather Condition	: Clear

Discipline: (Discipline; Chemical		ospheric Pollu	ition
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	69	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24); 2019	38	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- II/Sec- 1): 2023	13.3	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ¹	IS 5182 (Part- 6): 2022	27.6	80 (24hrs)
Ozone (O ₃)	µg/m ³	18 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH2)	µg/m ²	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m*	1S 5182 (Part- 10): 2019 (NDIR. Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m	IS 5182 (Part-22): 2019	0.014	1 (24brs)
Nickel (Ni)	ng/m ³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page I of 2

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ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO-204 AECE9713D174

VC 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/2024/2600	Report Release Date	: 15.05.2024		
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024		
ULR No.	: TC135872400000569F				

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

AKASSINGOMAR Quality Managor ELES PVT. LTD.

End of Report**

Authorised Signatory Dr. Deependra Kumar Sinha Ph. D Environmental Engl. ELES Pvt. Ltd. Technical Manwert

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ENVIRONMENTAL LABORAT

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-\$34003 (IHARKHAND) 65T NO:- 20AAECE97130124

RING ALBYICKS PVT. LTD.

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



CIN: U74955/H2018PTC011125

	<u>I</u>	EST REPORT	
Test Report No.	: ELES/RNC/2024/2601	Report Release Date	: 15.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000570F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/2918 : Near GTS Point Bhusar Bauxite Mine (65.31ha
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 08.05.2024 to 09.05.2024 : 10.05.2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	ELES/DOC/SMPL/02 ELES Pvt. Ltd.
Period of Analysis	: 10.05.2024 to 15.05.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 31	2	Barometric Pressure (mm)	Hg) : 742
3	Relative Humidity (%) : 58	4	Weather Condition	: Clear

Discipline: Chemical		Group: Atm	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PMI0)	µg/m ³	IS 5182 (Part- 23): 2022	75	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	15 5182 (Part- 24): 2019	39	60 (24hrs)	
Sulphur Di-Oxide (SO ₁)	µg/m ³	IS 5182 (Part- II/Sec- 1): 2023	13.1	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	27.5	80 (24hrs)	
Ozone (O ₃)	µg/m ²	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ⁴	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)	
Nickel (Ni)	ng/m ²	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page | of 2

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) 65T NO:- 20AAECE9713D124

GINEERING SERVICES PVT. LTD.

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



TEST	REPORT

Test Report No.	: ELES/RNC/2024/2601	Report Release Date	: 15.05.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400000570F			

Discipline	: Chemical	Group: At	nospheric Pollu	tion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ¹	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

AISELY Reviewed by AKASH KUMAR Quality Managur FLES PVT LTD

****End of Report****

Authorised Signator Kumar Sinha Ph. D Environmental Engg. ELES Pvt. Ltd. Technical Managur

Page 2 of 2

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FLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-234003 (JHARKHAND) GET NO: 204AECE97130124



Email: Info@elesst.co.in , eles.ranchi@amail.com Phone Ho.: 0651-3290103 Website //www.elespl.co.in

	TE	ST REPORT
Test Report No.	: ELES/RNC/2024/2591	Report Release Date : 15.05.2024
Work Order No.	13612312113	Work Order Date : 28.03.2024
ULR No.	: TC1358724000005601	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindulco Industries Limitud	Sample Ref. No. Location	: ELES/RNC/2024/AA/2908 : Near Daldaliya Village Bagru Bauxite Mine (75,41ba)	
Address	1 Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 07.05.2024 to 08.05.2024 : 10.05.2024 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	- Non Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	10.05.2024 to 15.05.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION

Average Temperature (°C) 30 2 Barnmetric Pressure (mmHg) :742 1 Relative Humidity (%) 58 4 Weather Condition : Clear

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	15 5182 (Part- 23): 2022	51	100 (24hrs)
Particulate Matter (PM2.5)	μg/m [∃]	1S 5182 (Part-24); 2019	26	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	pg/m	IS 5182 (Part-II/Sec-1): 2023	8.8	30 (24hm)
Nitrogen Di-Oxide (NO ₃)	µg/m ^V	15 5182 (Pari- 6): 2022	23.2	80 (24hrs)
Ozone (O ₂)	µġ/m [‡]	IS 5182 (Part-9): 2019	<20.0	100 (Shrs)
Ammonia (NH1)	HE/m ²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ²	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8bs)
T.curl (7%)	ug/m	IS 5182 (Part- 22); 2019	6,007	1 (24hrs)
Nickel (NI)	ne/m	15 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arienic (As)	-ng/m	ELES/AIR/SOP/01: 2021	<2:0	06 (Annual)

Page 1 of 2

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PLOT ND-30, MANSABOVAR ENCLAVE, TLIPUDANA HATIA, RANCH-834003 (IHARKHAND) GST ND- 20AAECE97130124

CAVEZ RENG SCRIVEZS PV7. L1

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



Test Report No.	: ELES/RNC/2024/2591	Report Release Date	+ 15.05.2024	
Work Order No.	: 13612312113	Work Order Date	: 28,03,2024	
ULR No.	: TC135872400000560F	1		

Discipline	: Chemical	Group: Att	nospheric Pollu	tion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C ₈ H ₄)	11E/m	ELES/GC/SOP/06: 2023	<2.5	05(ArmusI)
Henzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05-2023	<0.5	01(Annual)

AKASH KUMAR Quality Managor ELES PVT. LTD.

""End of Report

Authorised Signatory Dr. Deependra Kumar Sinia Ph. D Environmentel Engg ELES Pvt. Ltd. Technical Memory

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Save Environment, Save Future"



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, NANCHI-834003 (IHANKHANO) SIT NO:-204460297130124

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TEST REPORT

Test Report No.	: ELES/RNC/2024/2592	Report Release Date	: 15.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000561F		

CUSTOMER DED	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	 ELES/RNC/2024/AA/2909 Aditya School Gangupara Bagru Bauxite Mine (75.41ha) 	
Address	Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 07.05.2024 to 08.05.2024 : 10.05.2024 : Ambient Air : ELES/DOC/SMP1/02	
Mines Status	1 Non Operational	Sampling Done By	ELES Pvt. Ltd.	
Period of Analysis	:: 10.05:2024 to 15.05:2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION

1	Average Temperature (°C) = 30	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%) = 58	4	Weather Condition.	: Clear

Discipline: (Chemical	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Porticulate Matter (PM10)	µg/m ¹	IS 5182 (Part-23): 2022	73	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	15 5182 (Part-24): 2019	42	60 (24lgs)
Sulphur Di-Oxide (SO ₂))#里/m ³	15 5182 (Part-II/Sec-1): 2023	12,8	RO (24hrs)
Nitrogen Di-Oxide (NO ₁)	µg/m	15 5182 (Part- 6): 2022	21.3	80 (24hrs)
Ozone (O ₁)	MB/m ¹	IS 5182 (Pmt- 9); 2019	<20.0	100 (8hrs)
Ammonía (NH ₁)	µg/m ²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mġ/m³	1S 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8lars)
Load (Pb)	ug/m ²	IS 5182 (Part- 22); 2019	0.008	1 (24hrs)
Nickel (Ni)	ng/m ¹	15 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/mt1	ELES/ABC/SOP/01: 2021	<2.0	05 (Annual)

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Test Report No.	: FLES/RNC/2024/2592	Report Release Date	15.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000561F		

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

Reviewed by AKASH KUMAR Quality Manager ELES PVT. LTD.

**** End of Report****

Authorised Signatory Dr. Deependra Kumar Siniha Ph. D Environmental Engg. ELES Pvt. Ltd. Technical Manon

Page 2 of 2

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA MATIA, MANCHI-834003 (IHARKHAND) IST NO-20A4ECE57130324

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	TE	ST REPORT
Test Report No.	ELES/RNC/2024/2593	Report Release Date 15.05.2024
Work Order No.	: 13612312113	Work Order Date : 28.03.2024
ULR No.	: TC135872400000562F	

CUSTOMER DET/	411.5	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	ELES/RNC/2024/AA/2910 Ropeway Unloading Station Bagru Bauxite Mine (75.41ha)	
Address	Lohardaga, Jhurkhund-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 07.05.2024 to 08.05.2024 1 10.05.2024 : Ambient Air : ELES/DOC/SMP1/02	
Mines Status	: Non Operational	Sampling Done By	: ELES Pyt. Ltd.	
Period of Analysis	= 10.05,2024 to 15.05,2024	Sample Condition	: Scaled & Preserved	

METEOROLOGICAL INFORMATION 1 Average Temperature (°C) : 30 2 Barometric Pressure (mmHg) : 742 3 Relative Humidity (%) : 58 4 Weather Condition : Clear

Discipline: (Chemical	Group: Atm	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m	IS 5182 (Part-23): 2022	67	100 (24brs)		
Particulate Matter (PM2.5)	pg/m ¹	IS 5182 (Pari- 24): 2019	39	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	htty.u.	IS 5182 (Part-11/Sec- 1): 2023	11.2	80 (24hrs)		
Nitrogen DI-Oxide (NOx)	pg/m [®]	IS 5182 (Part- 6); 2022	25.5	80 (24hrs)		
Ozone (O ₃)	ug/m ^a	IS 5182 (Part- 9): 2019	<20.0	100 (Shrs)		
Ammonia (NH2)	htti/ma	15 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ⁷	15 5182 (Part- 10): 2019 (NDIR Method)	<1.0	I (Shrs)		
Lend (Pb)	HB/m ³	IS-5182 (Part- 22): 2019	0.005	1 (24hrs)		
Nickel (Ni)	ng/m ^a	15 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ngám ⁶	ELES/AIR/SOP/01: 2021	<2.0	06 (Amuni)		

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TEST REPORT

Test Report No.	: ELES/RNC/2024/1593	Report Release Date	: 15.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000562F		

Discipline	c Chemical	Group: Att	nospheric Polle	tion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C ₄ H ₄)	µgim ⁸	ELES/GC/SOP/06: 2023	<2.5	05(Amnul)
Benzo (a) Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	(faitmA)10

AKASHEROMAR Quality Manager ELES PVT. LTD.

""" End of Report"""

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	TE	ST REPORT	
Test Report No.	1 ELES/RNC/2024/2594	Report Release Date	: 15.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	= TC135872400000563F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limiteif	Sample Ref. No. Location	: ELES/RNC/2024/AA/2911 Ropeway Angle Station Bagru Bauxite Mine (75:41ha)	
Address	: Lohardaga, Jharkhund-\$35302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 07.05.2024 to 08.05.2024 : 10.05.2024 : Ambient Air : ELES/DOC/SMPL/02	
Mines Stitus	: Non Operational	Sampling Done By	: ELES Pvt Ltd	
Period of Analysis	: 10.05.2024 to 15.05.2024	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION		
4	Average Temperature (PC) : 30	2 Barometric Pressure (mmHg) = 742	
3	Relative Humidity (%) . 58	4 Weather Condition : Clear	

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ⁸	IS-5182 (Part- 23); 2022	59	160 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part-24): 2019	33	60 (24hrs)
Sulphur Di-Oxide (SO_)	µg/m [‡]	IS 5182 (Part- II/Sec- 1): 2023	7.9	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m	IS 5182 (Part- 6): 2022	26.5	80 (24hrs)
Ozone (O ₅)	µy/m ^x	1S 5182 (Part- 9): 2019	<20.0	100 (Shrs)
Ammonia (NE5)	$\mu g/m^3$	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/in ²	IS 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (Bhoj)
Lead (Pb)	µg/m!	15 5182 (Part- 22): 2019	0.007	1 (24his)
Nickel (NI)	ng/m ³	15 5182 (Part- 26): 2020	~6.0	20 (Annual)
Arsenic (As)	ng/m ²	ELES/AIR/SOI//01: 2021	<2.0	06 (Annual)

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TEST REPORT

Test Report No.	: ELES/RNC/2024/2594	Report Release Date	: 15.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000563F		

Discipline	:: Chemical	Group: Ab	nospheric Pollu	tion
Parameter	17mit	Test Protocol	Result	Regulatory Limit
Henzene (C _b H _a)	JJE/m*	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Henzo-(a)-Pyrenc	ng/m ⁴	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

AKASHKUMAR Quality Managur ELES PVT LTD.

*** End of Report****

Authorised Signatory Dr. Deependre Kumar Sinhu Ph. D Environmental Engg. ELES Pvt. Ltd. Technical Mana

Page 2 of 2

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TEST REPORT

Test Report No.	: ELES/RNC/2024/2887	Report Release Date	: 28.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000847F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2024/DW/2923 : 09.05.2024 : 10.05.2024	
Address	= Lohardaga, Jharkhand-835302	Type of Sample Source/Location of Sample	: Drinking Water : Bhusar Bauxite Mines (65.31 ha)	
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/01 : ELES Pvt. Ltd.	
Period of Analysis	: 10.05.2024 to 18.05.2024	Sample Condition	: Sealed & Preserved	

Discipline : Chemical Group : Wate			Water	Regulatory Limit as per IS 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable	Fermissible Limit
pH (at 25.8 °C)	1.2	APHA 24 th Ed.2023, 4500-H	6.64	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 24" Ed.2023, 2130 B	0.21	1.0	5.0
Taste	~	APHA 24 th Ed.2023, 2160 C	Agreeable	Agreeable	Agreeable
Odour	~	IS 3025 (Part-5) ;2018	Agreeable	Agreeable	Agreeable
Colour	Hazen	APHA 24" Ed.2023, 2120B&D	1.0	5	15
Total Dissolved Solids (TDS)	mg/L	APHA 24th Ed.2023, 2540B,C&D	396	500	2000
Chloride (as Cl)	mg/L	APHA 24th Ed.2023, 4500 CI B	6.7	250	1000
Fluoride (as F)	mg/L	APHA 24 th Ed.2023, 4500 F-D	BDL (DL: 0.1)	1.0	1.5
Total Alkalinity (as CaCO ₃)	mg/L	APHA 24th Ed.2023, 2320 B	189	200	600
Total Hardness (as CaCO ₃)	mg/L	APHA 24 th Ed.2023, 2340 C	196	200	600
Sulphate (as SO ₁)	mg/L	APHA 24 th Ed.2023, 4500 SO ₄ ⁻² -E	BDL (DL: 1.0)	200	400
Nitrate (as NO ₂)	mg/L	APHA 24 th Ed.2023, 4500 NO ₃ -B	BDL (DL: 0.5)	45	No Relaxation

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TEST REPORT

Test Report No.	: ELES/RNC/2024/2887	Report Release Date	: 28.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000847F		

Discipline : Chemic	Discipline : Chemical Group : Water				ory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable	Permissible
Phenolic Compound (as C ₄ H ₂ OH)	mg/L	IS 3025 (Part 43/Sec1): 2022	BDL (DL: 0.001)	0.001	0.002
Free Residual Chlorine (RFC)	mg/L	1S 3025 (Part-26): 2021	BDL (DL: 0.1)	0.2	1.0
Calcium (as Ca)	mg/L	APHA 24th Ed.2023, 3500 Ca B	51.7	75	200
Anionic Surfactants (as MBAS)	mg/L	APHA 24 th Ed.2023, 5540-C	BDL. (DL: 0.025)	0.2	1.0
Discipline : Chemi	cal	Gri	up : Residues i	n Water	
Aluminum (as Al)	mg/L	IS 3025 (Part-55) :2003; RA2019	BDL (DL: 0.02)	0.03	0,2
Arsenic (as As)	mg/L	1S 3025 (Part-37): 2022	BDL (DL: 0.005)	0.01	No Relaxation
Boron (as B)	mg/L	IS 3025 (Part-57) : 2021	BDL (DL: 0,2)	0.5	2.4
Cadmium (as Cd)	mg/L	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.003)	0.003	No Relaxation
Total Chromium(as Cr)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.03)	0.05	No Relaxation
Copper (as Cu)	mg/1.	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.03)	0.05	1.5
Cyanide (as CN)	mg/L	APHA 24th Ed.2023, 4500 CN-E	BDL (DL: 0.012)	0.05	No Relaxation
Iron (as Fe)	mg/1.	APHA 24 th Ed.2023; 3111B	0.083	1.0	1.0
Lead (as Pb)	mg/1.	APHA 24 th Ed.2023; 3111B	BDL (DL; 0.01)	0.01	No Relaxation
Manganese (as Mn)	mg/L	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.05)	0.1	0.3
Mercury (as Hg)	mg/L	IS 3025 (Part-48): 2019	BDL (DL: 0.001)	0.001	No Relaxation
Selenium (as Se)	mg/L	IS 3025 (Part-56): 2019	BDL (DL; 0,01)	0.01	No Relaxation

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TEST REPORT

Test Report No.	: ELES/RNC/2024/2887	Report Release Date	; 28.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000847F		

Discipline : Chemical		Group : Resid	ues in Water	Regulatory Limit as per IS10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable	Permissible
Zinc (as Zn)	mg/L	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.1)	5	15
Polynuclear Aromatic Hydrocarbons (PAH)	μy/L	ELES/GC/SOP/04: 2023	BDL (DL: 0.05)	0.1	No Relaxation
Polychlorinated biphenyls (PCB)	µg/L	ELES/GC/SOP/03: 2023	BDL (DL; 0.1)	0.5	No Relaxation
Pesticides				Li	mit
Alachlor	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	3	20
Atrazine	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	2.0	
Butachlor	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	125	
Chlorpyriphos	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	30	
Ethion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	3.0	
Malathion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	190	
Methyl parathion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.1)	0.30	
Monocrotophos	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	1.0	
Phorate	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	2.0	
Phorate Sulphone	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)		
Dieldrin	βg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.01)	0.03	
Alpha HCH	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.006)	0	01

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

NGINEERING SERVICES PVT. LTD.

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



Test Report No.	: ELES/RNC/2024/2887	Report Release Date	: 28.05.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400000847F			

Pesticides					
Parameter	Unit	Test Protocol	Result	Limit	
Delta HCH	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	0.04	
Gamma HCH (Lindane)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	2.0	
Endosulfan (alpha, beta and sulphate)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	0.40	
DDT(o,p and p,p-isomers of DDT,DDEand DDD)	μ <u>ģ</u> /1.	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	1.0	
Discipline : Biological		Group	: Water	-	
Total Coliform (Qualitative)	Per 100 mL	15 15185: 2021	Not Detected	Shall not be detected	
Escherichia coli (Qualitative)	Per 100 mL	IS 15185: 2021	Not Detected	- Shall not be detecte	

Remarks:1. pH and RFC done at Lab.

Reviewed by AKASH KUMAR Quality Managur ELES PVT_LTD.

****End of Report****

Authorised Signatory

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

Page 4 of 4

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

NGINEERING 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/2024/2887	Report Release Date	: 28.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2024/DW/2923 : 09.05.2024 : 10.05.2024	
Address	: Lohardaga, Jharkhand-835302	Type of Sample Source/Location of Sample	: Drinking Water : Bhusar Bauxite Mines	
Mines Status	: Operational	Sampling Procedure Sampling Done By	(65.31 ha) = ELES/DOC/SMPL/01 = ELES Pvt, Ltd.	
Period of Analysis	: 10.05.2024 to 18.05.2024	Sample Condition	: Sealed & Preserved	

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

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

AKASHIREMAAR

Quality Managur

FLES PVT. LTD

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinhu Ph. D Environmental Engo ELES Pvt. Ltd. Technicol Man

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CONTENT

Hind	alco Industries : Bhusar Bauxite Mine Environmental Monitoring Report	June2024
	Bhusar Bauxite Mine	11-2-1
	AMBIENT AIR QUALITY- CORE ZONE	
1	Near View Point I (Bhusar Mine Pit I)	
2	Near View Point 2 (Bhusar Mine Pit II)	
3	Near Rest Shelter	
4	Near GTS Point	
	AMBIENT AIR QUALITY- BUFFER ZONE	
1	Near Daldaliya Village	
2	Aditya School Gangupara	
3	Ropeway unloading station	
4.	Ropeway Angle Station	





PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NDI- 20AAECE97130324

VOINTERING SERVICES PVT. LTD

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



CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited.	Sample Ref. No. Location	: ELES/RNC/2024/AA/3591 : Near View Point-1(Bhusar Mine Pit I) Bhusar Bauxite Mine(65.31ha)	
Address	: Lohardaga, Jharkhund-835302	Sampling Date Sample Received Date Type of Sample	: 11.06.2024 to 12.06.2024 : 13.06.2024 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 13.06.2024 to 19.06.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION

 Average Temperature (°C) : 37 	2	Barometric Pressure (mmHg)	: 742
3 Relative Humidity (%) : 61	4	Weather Condition	: Clear

Discipline: (Chemical	Group: Atm	ospheric Pollu	tion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	79	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	40	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- II/Sec- 1): 2023	13.8	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	26.1	80 (24hrs)
Ozone (O ₃)	µg/m ²	JS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	18 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.014	1 (24hrs)
Nickel (Ni)	ng/m ^a	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

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Test Report No. Work Order No.

ULR No.

ENVIRONMENTAL LABORATORIES &

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

: TC135872400001206F

GINEERING SERVICES PVT. LTD.

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



TEST REPORT						
: ELES/RNC/2024/3254	Report Release Date	: 19.06.2024				
: 13612312113	Work Order Date	: 28.03.2024				

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

Reviewed by

AKASH KUMAR Quality Manager ELES PVT. LTD

****End of Report****

Authorised Signatory

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

Page 2 of 2

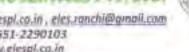
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IVIRONMENTAL LABORATO

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

CINTERING SERVICES PVT. LTD.





Email: info@elespl.co.in , eles.ranchi@amail.com Phone no.: 0551-2290103 Website ; www.elespl.co.in

		TEST REPORT	
Test Report No.	: ELES/RNC/2024/3255	Report Release Date	: 19.06.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001207F		

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3592 : Near View Point-2(Bhusar Mine Pit I) Bhusar Bauxite Mine(65.31ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	= 11.06.2024 to 12.06.2024 = 13.06.2024	
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	= 13.06.2024 to 19.06.2024	Sample Condition	: Sealed & Preserved	

	MI	ETEOROLOGICAL INFOR	MATION				
	1	Average Temperature (°C)	; 37	2	Barometric Pressure (mmHg)	: 742	_
1	3	Relative Humidity (%)	:61	4	Weather Condition	: Clear	

Discipline: (bemical	Group: Atm	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	65	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	33	60 (24hrs)		
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- II/Sec- 1): 2023	12.7	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	20.9	80 (24hrs)		
Ozone (O ₃)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.007	1 (24hrs)		
Nickel (Ni)	ng/m ²	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m'	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		

Page 1 of 2

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

VGINEERING 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/2024/3255	Report Release Date	: 19.06.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001207F			

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

AKASHKUMAR

Quality Manager ELES PVT. LTD.

****End of Report****

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

Page 2 of 2

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

GINEERING SERVICES FYT. LTD

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



	T	EST REPORT		
Test Report No.	: ELES/RNC/2024/3256	Report Release Date	: 19.06.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001208F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3593 : Near Rest Shelter Bhusar Bauxite Mine (65.31ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 11.06.2024 to 12.06.2024 : 13.06.2024 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	= 13.06.2024 to 19.06.2024	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 37	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 61	4	Weather Condition	: Clear

Discipline: 0	Chemical	Group: Atm	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m ¹	IS 5182 (Part- 23): 2022	64	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	32	60 (24hrs)		
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-11/Sec-1): 2023	10.1	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	23.4	80 (24hrs)		
Ozone (O ₅)	ug/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	1S 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.017	(24hrs)		
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26); 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		

Page 1 of 2

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

VOINEERING 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/2024/3256	Report Release Date	: 19.06.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001208F			

Discipline	: Chemical	Group: At	mospheric Pollu	ition
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C ₅ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m*	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by

AKASH KUMAR Quality Manager ELES PVT_LTD

****End of Report****

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

Page 2 of 2

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

GINTERING LERVICES PVT. LTD

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



Website : www.elespl.co.in

Test Report No.	: ELES/RNC/2024/3257	Report Release Date	: 19.06.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001209F			

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3594 : Near GTS Point Bhusar Bauxite Mine (65.31ha
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 11.06.2024 to 12.06.2024 : 13.06.2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	13.06.2024 to 19.06.2024	Sample Condition	: Sealed & Preserved

METEOROLOGICAL	INFORMATION
----------------	-------------

1	Average Temperature (*C) : 37	2	Barometric Pressure (mml	Hg) = 742	
3	Relative Humidity (%) :61	4	Weather Condition	: Clear	

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ¹	IS 5182 (Part- 23); 2022	63	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ¹	IS 5182 (Part- 24): 2019	.30	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	1S 5182 (Part- Il/Sec- 1): 2023	9.5	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ¹	1S 5182 (Part- 6): 2022	22.2	80 (24hrs)
Ozone (O ₅)	µg/m ³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ¹	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m*	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ⁸	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

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TEST	REPORT	
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Test Report No.	: ELES/RNC/2024/3257	Report Release Date	: 19.06.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001209F			

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C ₄ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ²	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by

AKASH KUMAR Quality Manager ELES PVT. LTD

****End of Report****

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

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PLOT NO-30, MANSAROVAR ENGLAVE, TUPUDANA HATLA, RANCHI-834003 (JHARKHAND) GST.NO: 20AAECE9713D324

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	TE	STREPORT	
Test Report No.	: ELES/RNC/2024/3244	Report Release Date	: 19.06.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001196F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3581 : Near Daidaliya Village Bagru Baaxite Mine (75.41ha)	
Address Mines Status	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure Sampling Done By	: 10.06.2024 to 11.06.2024 : 13.06.2024 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 13.06.2024 to 19.06.2024	Sample Condition	: Sealed & Preserved	

Average Temperature (°C) : 37	2	Barometric Pressure (mmHg)	: 742
Relative Humidity (%) : 59	4	Weather Condition	: Clear

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	66	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	1S 5182 (Part- 24): 2019	.33	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- II/Sec- 1): 2023	12.2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	15 5182 (Part- 6): 2022	25.7	80 (24lus)
Ozone (O ₃)	ug/m ^a	18 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₄)	µg/m ^a	IS 5182 (Part- 25); 2018	<10,0	400 (24hrs)
Carbon Monoxide (CO)	mg/m*	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	(Ag/m)	15 5182 (Part- 22): 2019	0,010	1 (24hrs)
Nickel (Ni)	ng/m ²	15 5182 (Part-26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ⁹	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

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PLOT NO-30, MANSANOVAR ENGLAVE, TURUDANA HATIA, RANCHI-834003 (JHARKHAND) BST ND- 20AAECE97130124 GINEERENG SERVICES PPT. 13

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



TEST	REPORT	
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Test Report No.	: ELES/RNC/2024/3244	Report Release Date	19.06.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001196F		

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

Reviewed by

AKASH KUMAR Quality Manager ELES PVT_LTD

****End of Report****

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

Page 2 of 2

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	TE	ST REPORT	
Test Report No.	: ELES/RNC/2024/3245	Report Release Date	: 19.06.2024
Work Order No.	: 13612312113	Work Order Date	± 28.03.2024
ULR No.	: TC135872400001197F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	 ELES/RNC/2024/AA/3582 Aditya School Gangupara Bagru Bauxite Mine (75.41ha) 	
Āddress	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure Sampling Done By	: 10.06.2024 to 11.06.2024 : 13.06.2024 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Mines Status	: Non Operational			
Period of Analysis.	: 13,06,2024 to 19,06,2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION		
1 Average Temperature (°C) : 37	2 Barometric Pressure (mmHg) : 742	
3 Relative Humidity (%) 159	4 Weather Condition Clear	
3 Relative Humiday (76) 1.33		

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2022	65	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ¹	18 5182 (Part- 24): 2019	38	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ¹	IS 5182 (Part-Il/Sec-1): 2023	9.2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	25.6	80.(24brs)
Ozone (O _x)	µg/m ²	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)
Ammonia (NH ₁)	jug/m)	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (Shrs)
Lead (Pb)	µg/m ³	1S 5182 (Part-22): 2019	0,013	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ²	ELES/AIR/SOP/01: 2021	<2.0	(Laurana) 50

Page 1 of 2

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Email: <u>Info@siespl.co.in</u>, sles machl@amail.com Phone no.: 0651-2390103 Website : www.elespl.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2024/3245	Report Release Date	: 19.06.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001197F		

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C ₁ H ₆)	µg/m ²	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m*	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by AKASH KUMAR

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

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

Page 2 of 2

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EXAVICES P



	TE	ST REPORT	
Test Report No.	: ELES/RNC/2024/3246	Report Release Date	: 19.06.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001198F		

CUSTOMER DET/	AILS	SAMPLE DETAILS	
Customer Name	- Hindalco Industries Limited	Sample Ref. No. Location	 ELES/RNC/2024/AA/3583 Ropeway Unloading Station Bagru Bauxite Mine (75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 10.06.2024 to 11.06.2024 : 13.06.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Non Operational	Sampling Done By	: ELES Pvt Ltd.
Period of Analysis	: 13,06.2024 to 19.06,2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 37	2	Barometric Pressure (mmHg)	: 742
_	Relative Humidity (%) 159	4	Weather Condition	t Clear

Discipline: (Themical	Group: Atm	ospheric Pollu	tion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	74	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ¹	IS 5182 (Part- 24); 2019	43	60 (24hrs)
Sulphur Di-Onide (SO2)	ugim	1S 5182 (Part- II/Sec- 1): 2023	12.7	10 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	26.2	80 (24hrs)
Ozone (O))	ug/m ³	(S 5182 (Part- 9): 2019	<20.6	100 (Shrs)
Ammonia (NH ₃)	(Lg/m)	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mµ/m²	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lend (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.011	1 (24hrs)
Nickel (Ni)	ng/m ²	IS 5182 (Part- 26); 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m*	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

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Test Report No.	: ELES/RNC/2024/3246	Report Release Date	: 19.06.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001198F		

Discipline	:: Chemical	Group: At	mospheric Pollu	tion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C _a H _a)	µg/m ³	ELES/GC/SOP/06; 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05; 2023	-<0.5	01(Annual)

Reviewed by AKASH KUMAR Quality Managor ELES PVT. LTD.

**** End of Report****

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

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PLOT NO-30, MANSAROVAR ENCLAVE, TLIPUDANA HATIA, (LANCHI-834003 (JHARKHAND) GST NO- 20AABCE97110124

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Email: Info@elessi.co.in, eles ronchi@gmail.com Phone no.: 0651-2250103 Website : www.elespi.co.iii



	TE	ST REPORT
Test Report No.	ELES/RNC/2024/3247	Report Release Date : 19,06,2024
Work Order No.	: 13612312113	Work Order Date : 28.03.2024
ULR No.	: TC135872400001199F	

CUSTOMER DET/	AILS	SAMPLE DETAILS	
Customer Name	E Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3584 Ropeway Angle Station Bagru Baaxite Mine (75.41ha
Address	. Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 10.06.2024 to 11.06.2024 : 13.06.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Non Operational	Sampling Done By	ELES Pvt. Ltd.
Period of Analysis	13.06.2024 to 19.06.2024	Sample Condition	: Sealed & Preserved

I.	Average Temperature (°C) : 37	2	Barometric Pressure (mm)	Hg) : 742
3	Relative Humidity (%) : 59	J.	Weather Condition	: Clear

Discipline: (Chemical	Group: Atm	ospheric Pollu	ition
Parameter	Unit	Test Protocol	Resuli	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	1S 5182 (Part- 23): 2022	65	100 (Z4hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part-24): 2019	39	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- II/Sec- 1): 2023	11.2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ^T	1S 5182 (Part- 6): 2022	23.7	80 (24hrs)
Ozone (Oz)	ug/m ³	1S 5182 (Part- 9); 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m ³	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m*	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	I (Shr#)
Lead (Pb)	jug/m ²	IS 5182 (Part- 22): 2019	0.012	1 (24hrs)
Nickel (NI)	ng/m ^a	IS 5182 (Part-26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

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Test Report No.	: ELES/RNC/2024/3247	Report Release Date	: 19.06.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001199F			

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

ASH KUMAR Quality Managor FLES PVT. LTD.

****End of Report****

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

Page 2 of 2

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Save Environment: Save Forum

CONTENT

Hind	alco Industries : Bhusar Bauxite Mine Environmental Monitoring Report July2024
	Bhusar Bauxite Mine
	AMBIENT AIR QUALITY- CORE ZONE
1	Near View Point 1 (Bhusar Mine Pit I)
2	Near View Point 2 (Bhusar Mine Pit II)
3	Near Rest Shelter
4	Near GTS Point
	AMBIENT AIR QUALITY- BUFFER ZONE
1	Near Daldaliya Village
2	Aditya School Gangupara
3	Ropeway unloading station
4	Ropeway Angle Station





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TEST REPORT					
Test Report No.	: ELES/RNC/2024/3984	Report Release Date	: 18.07.2024		
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024		
ULR No.	: TC135872400001920F				

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindulco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/4594 : Near View Point-1(Bhusar Mine Pit 1 Bhusar Bauxite Mine(65.31ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 10.07.2024 to 11.07.2024 : 12.07.2024	
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 12.07.2024 to 18.07.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION 1 Average Temperature ("C) : 32 2 Barometric Pressure (mmHg) : 741 3 Relative Humidity (%) : 63 4 Weather Condition : Partly Cloudy

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	68	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	36	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part-11/Sec-1): 2023	10.7	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ²	IS 5182 (Part- 6): 2022	22.2	80 (24hrs)
Ozone (Q ₃)	µg/m ¹	IS 5182 (Part- 9); 2019	<20.0	100 (Shrs)
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.011	l (24hrs)
Nickel (Ni)	ng/m ³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (A3)	ng/m ¹	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

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	TE	ST REPORT		
Test Report No.	: ELES/RNC/2024/3984	Report Release Date	: 18.07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28,03.2024	
ULR No.	: TC135872400001920F			

Discipline	: Chemical	Group: Att	nospheric Pollu	tion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C ₆ H ₆)	µg/m ⁴	ELES/GC/SOP/06: 2023	-2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

(Provide) Reviewed by

AKASH KUMAR Quality Managur ELES PVT. LTD.

****End of Report****

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

Page 2 of 2

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		TEST REPORT	
Test Report No.	: ELES/RNC/2024/3985	Report Release Date	: 18.07.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001921F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/4595 : Near View Point-2(Binusar Mine Pit I Bhusar Bauxite Mine(65,3)ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 10.07.2024 to 11.07.2024 : 12.07.2024	
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 12.07,2024 to 18.07.2024	Sample Condition	: Sealed & Preserved	

Average Temperature ("C) : 32	2 Barometric Pressure (m	unHg) : 741
Relative Humidity (%) : 63	4 Weather Condition	: Partly Cloudy

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	62	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	30	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-11/Sec-1): 2023	9.3	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	19.2	80 (24hrs)
Ozone (O3)	µy/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ²	IS 5182 (Part- 22): 2019	0.01	1 (24hrs)
Nickel (NI)	ng/m'	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m3	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

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Test Report No.	: ELES/RNC/2024/3985	Report Release Date	: 18.07.2024	-
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001921F			_

Discipline: Chemical		Group: At	mospheric Pollu	rtion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene $(C_{\delta}H_{\delta})$	µg/m [*]	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

AKASHKOMAR Quality Manager

ELES PVT LTD

End of Report*

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

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	<u>T</u>	EST REPORT	
Test Report No.	: ELES/RNC/2024/3986	Report Release Date : 18.07.2024	
Work Order No.	: 13612312113	Work Order Date : 28.03.2024	
ULR No.	: TC135872400001922F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/4596 : Near Rest Shelter Bhusar Bauxite Mine (65.31ha	
Address	: Lohardaga, Hurkhand-835302	Sampling Date Sample Received Date Type of Sample	: 10.07,2024 to 11.07.2024 : 12.07.2024 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sampling Done By	ELES/DOC/SMPL/02 ELES Pvt. Ltd.	
Period of Analysis	: 12,07,2024 to 18.07.2024	Sample Condition	: Sealed & Preserved	

TETEOROLOGICAL INFORMATION			
Average Temperature (°C) : 32	2	Barometric Pressure (mmHg)	2741
Relative Humidity (%) : 63	-	Weather Condition	: Partly Cloudy

Discipline: Chemical		Group: Atm	ospheric Pollu	rtion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	62	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part-24): 2019	29	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-II/Sec- T): 2023	11.8	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	1S 5182 (Part- 6): 2022	22.2	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₂)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m*	IS 5182 (Part-10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22); 2019	0.011	1 (24hrs)
Nickel (Nī)	ng/m ³	IS 5182 (Part- 26); 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

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	TEST REPORT
7/2024/3086	Report Release Date

Test Report No.	: ELES/RNC/2024/3986	Report Release Date	: 18.07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001922F			

Discipline: Chemical		Group: Au	nospheric Pollu	tion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C ₄ H ₆)	uy/m ¹	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m"	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

AKASHKUMAR

Quality Managar ELES PVT. LTD.

****End of Report****

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

Page 2 of 2

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

ENGINEERING SERVICES PVT. LTD.

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



A	<u>T</u>	EST REPORT	
Test Report No.	: ELES/RNC/2024/3987	Report Release Date	: 18.07.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001923F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/4597 : Near GTS Point Bhusar Bauxite Mine (65.31ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 10.07.2024 to 11.07.2024 : 12.07.2024 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt Ltd.	
Period of Analysis	: 12.07.2024 to 18.07.2024	Sample Condition	: Sealed & Preserved	

М	ETEOROLOGICAL INFORMATION	-		
1	Average Temperature (°C) ; 32	2	Barometric Pressure (mm)	Hg) 741
3	Relative Humidity (%) : 63	4	Weather Condition	: Partly Cloudy

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	1S 5182 (Part- 23): 2022	60	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ⁷	IS 5182 (Part- 24): 2019	28	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	18 5182 (Part-11/Sec-1): 2023	8.2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m ³	IS 5182 (Parts 6); 2022	20.7	80 (24hrs)
Ozone (Oy)	μg/m ³	1S 5182 (Pari- 9): 2019	<20.0	100 (Shrs)
Ammonia (NH ₅)	µg/m ¹	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m	15 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

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	TE	STREPORT		
Test Report No.	: ELES/RNC/2024/3987	Report Release Date	: 18.07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001923F			

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

AKASH KUMAR Quality Manager ELES PVT, LTD.

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) 05T NO-204420597130124

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	TE	ST REPORT	
Test Report No.	: ELES/RNC/2024/3974	Report Release Date	; 18.07.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001910F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/4584 : Near Daldaliya Village Bagru Bauxite Mine (75.41ha)	
Address	: Lohardaga, Jharkhund-835302	Sampling Date Sample Received Date Type of Sample	: 09.07.2024 to 10.07.2024 : 12.07.2024 : Ambient Air	
Mines Status	Non Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 ELES Pvt. Ltd.	
Period of Analysis	- 12.07.2024 to 18.07.2024	Sample Condition	Scaled & Preserved	

Average Temperature (PC) : 31	2	Barometric Pressure (mmHg)	: 742
Relative Humidity (%) 164	4	Weather Condition	Partly Cloudy

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	61	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	.30	60 (24hrs)
Sulphur Di-Oxide (SO ₃)	µg/m ³	IS 5182 (Part-II/Sec- 1): 2023	11.5	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ¹	IS 5182 (Part- 6): 2022	23.9	80 (24hrs)
Ozona (O ₃)	Hg/m ¹	IS 5182 (Part-9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₂)	µg/m ¹	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	15 5182 (Part- 10): 2019 (NDIR Method)	<1,0	2 (8hrs)
Lend (Pb)	µg/m/	IS 5182 (Parts 22); 2019	0.007	1 (24hrs)
Nickel (SI)	ng/m ²	15 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ²	ELES/AIR/SOP/01: 2021	<2.0	(JaunuA) 60

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	TEST REPORT				
Test Report No.	: ELES/RNC/2024/3974	Report Release Date	: 18.07.2024		
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024		
ULR No.	: TC135872400001910F				

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

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****End of Report****

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

Page 2 of 2

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tmak: (nfp@eleta).co.hr. elet.ranchiwameli.c Phane no.: 0651-2290103 Website : www.eletal.co.hr



Test Report No.	: ELES/RNC/2024/3975	Report Release Date	: 18.07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001911F			

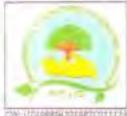
CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	. Hindulco Industries Limited	Sample Ref. No. Location	ELES/RNC/2024/AA/4585 Aditya School Gangupara Bagru Bauxite Mine (75.41ha	
Address	1. ohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 09.07.2024 to 10.07.2024 : 12.07.2024 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Non Operational	Sampling Done By	ELES PVL Ltd.	
Period of Analysis	: 12.07.2024 to 18.07.2024	Sample Condition	; Sealed & Preserved	

MI	TEOROLOGICAL INFORMATION			
1	Average Temperature (°C) 731	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%) 264		Weather Condition	: Partly Cloudy

Discipline:	Discipline: Chemical		ospheric Pollu	rtion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ¹	IS 5182 (Part- 23): 2022	60	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ¹	IS 5182 (Part- 24): 2019	33	60 (24hrs)
Sulphur Di-Oxide (SO3)	µg/m ⁷	IS 5182 (Part- II/Sec- 1): 2023	12.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₁)	µg/m ⁷	1\$ 5182 (Part- 6): 2022	23.3	80 (24brs)
Ozone (O ₃)	hāyu,	IS 5182 (Part- 9): 2019	<20.0	100 (Shrs)
Ammonia (NH ₂)	µy/m³	IS 5182 (Part- 25); 2018	<10,0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ¹	IS 5182 (Part-10): 2019 (NDIR Method)	<1.0	2 (Shrs)
Lond (Pb)	µg/m ²	IS 5182 (Part- 22): 2019	6.609	1 (24hrs)
Nickel (Ni)	ng/m ^y	15 5182 (Part- 26): 2020	<5.0	20 (Annual)
Arsenic (As)	ng/m1	ELES/AIR/SOP/01: 2021	<2.0	05 (Annual)

Page 1 of 2

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ENGINEERING SERVICES PVT. LTD. Email: info@elesol.co.in , eles.ranchi@gmail.com

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



Test Report No.	: ELES/RNC/2024/3975	Report Release Date	+ 18,07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28,03.2024	
ULR No.	: TC135872400001911F			

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene $(C_{ii}H_{ii})$	µg/m ⁷	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Henzo-(a)-Pyrene	ng/m²	ELES/GC/SOP/05: 2023	<0,5	01(Annual)

AKASHKUMAR

Quality Managur ELES PVT. LTD

*** End of Report****

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Page 2 of 2

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Test Report No.	: ELES/RNC/2024/3976	Report Release Date	: 18.07.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03,2024
ULR No.	: TC135872400001912F		

CUSTOMER DET	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	ELES/RNC/2024/AA/4586 Ropeway Unloading Station Bagru Baoxite Mine (75.41ha		
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 09.07.2024 to 10.07.2024 : 12.07.2024 : Ambient Air		
Mines Status	: Non Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES PvL Ltd.		
Period of Analysis	: 12.07.2024 to 18.07.2024	Sample Condition	: Sealed & Preserved		

Average Temperature (%C) : 31	2 Barometric Pressure (mmH)	2) :742
Relative Humidity (%) : 64	4 Weather Condition	: Partly Cloudy

Discipline: Chemical		Group: Atm	ospheric Polla	ition
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	68	(00.(24hrs)
Particulate Matter (PM2.5)	µg/m ¹	IS 5182 (Part- 24): 2019	34	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- II/Sec- 1): 2023	10.3	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ⁷	IS 5182 (Part- 6): 2022	18.7	80 (24hrs)
Ozone (O ₃)	µg/m ⁴	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)
Ammonia (NEI ₃)	µ <u>#</u> /m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10); 2019 (NDIR Method)	<1.0	2 (8hrs)
Lend (Pb)	pg/m ²	15 5182 (Part- 22): 2019	0.009	1 (24hrs)
Nickel (NI)	ng/m ¹	15 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ²	ELES/AIR/SOP/01; 2021	<2.0	06 (Annual)

Page 1 of 2

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Test Report No.	: ELES/RNC/2024/3976	Report Release Date	: 18.07.2024
Work Order No.	13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001912F		

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C _n H _n)	µg/m ¹	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by

AKASH KUMAR Quality Manag_r ELES PVT. LTD.

****End of Report****

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

Page 2 of 2

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ENVIRONMENTAL LABORATORIES & NOINCERING SERVICES PVT, LTD.

PLOT NO-30, MANSAROVAR ENCLAVE, TUFUDAWA HATIA, RANCHI-834003 (IHARKHAND) 53T NO- 3044ECF91120124

cut-unitedentertertert

Email. info@elespl.co.in , eles.vanchi@amail.com



Phone no: 0691-2290103 Website - www.elespi.co.in

	TE	STREPORT
Test Report No.	: ELES/RNC/2024/3977	Report Release Date : 18.07.2024
Work Order No.	: 13612312113	Work Order Date : 28,03,2024
ULR No.	: TC135872400001913F	

CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name	(Hindalco Industries Limited	Sample Ref. No. Location	ELES/RNC/2024/AA/4587 Ropeway Angle Station Bagru Bauxite Mine (75.41ha
Address	: Lohardage, Jhackhand-835302	Sampling Date Sample Received Date Type of Sample	: 09.07.2024 to 10.07.2024 : 12.07.2024 : Ambient Air
Mines Status	: Non Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	1 12.07.2024 to 18.07.2024	Sample Condition	: Scaled & Preserved

METEOROLOGICAL INFORMATION			
Average Temperature (%C) : 31	2	Barometric Pressure (mmHg)	: 742
Relative Humidity (%) 64		Weather Condition	: Partly Cloudy

Discipline: Chemical		Group: Atm	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m ¹	IS 5182 (Part-23): 2022	61	100.(24hrs)		
Particulate Matter (PM2.5)	µg/m ¹	IS 5182 (Part- 24); 2019	32	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- II/Sec- 1): 2023	8.5	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	µg/m ²	15-5182 (Part- 6); 2022	22,8	80 (24hrs)		
Ozone (O ₃)	µg/m*	IS 5182 (Part- 9); 2019	<20.0	100 (Shrs)		
Ammonia (NH ₁)	HB/m3	15 5182 (Part- 25); 2018	<18,0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	14g/m ³	IS 5182 (Part- 22): 2019	0.008	1 (24hrs)		
Nickel (NI)	ng/m	15 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Aisenii: (Ax)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		

Page 1 of 2

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PLOT NO-35, MANSARDVAR ENCLAVE, TUPUDANA HATIA, RANCHI-234003 (JHARKHAND) 55T NO:-204465297130124 ENGINEERING SERVICES PUT. 1TD.

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



 ESI	 C. K.	

Test Report No.	: ELES/RNC/2024/3977	Report Release Date	: 18.07.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001913F		

Discipline: Chemical		Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C ₆ H ₈)	µg/m ²	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)		

MTRON / AKARSHINGUMAR

Quality Manager ELES PVT_LTD.

****End of Report****

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

Page 2 of 2

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investigation and the statement

CONTENT

Hind	alco Iudustries : Bhusar Bauxite Mine Environmental Monitoring Report	August 2024
	Bhusar Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE	
1	Near View Point 1 (Bhusar Mine Pit I)	
2	Near View Point 2 (Bhusar Mine Pit II)	
3	Near Rest Shelter	
4	Near GTS Point	
	AMBIENT AIR QUALITY- BUFFER ZONE	
1	Near Daldaliya Village	
2	Aditya School Gangupara	
3	Ropeway unloading station	
4	Ropeway Angle Station	
	Drinking Water	





PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST ND:- 204AECE9713D124 ENGINEERING SERVICES PVT. LTD.

TC-1361

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

		TEST REPORT		
Test Report No.	: ELES/RNC/2024/4704	Report Release Date	: 20.08.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400002624F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/5394 : Near View Point-1(Bhusar Mine Pit I) Bhusar Bauxite Mine(65.31ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 09.08.2024 to 10.08.2024 : 12.08.2024 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	lines Status : Operational Sampling Done By		: ELES Pvt. Ltd.	
Period of Analysis	: 12.08.2024 to 19.08.2024	Sample Condition	: Sealed & Preserved	

MET	EOROLOGICAL INFORMATION			
and the second second	Average Temperature (°C) : 27	2	Barometric Pressure (mmHg)	< 741
	Relative Humidity (%) : 69	4	Weather Condition	: Cloudy
2.1.8	Actative multimitey (70)		The Print of the Print of the	

Discipline: (hemical	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limi		
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	60	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	32	60 (24hrs)		
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- II/Sec- 1): 2023	8.8	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	µg/m ⁸	IS 5182 (Part- 6): 2022	20.6	80 (24hrs)		
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.008	1 (24hrs)		
Nickel (Ni)	ng/m ³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		

Page 1 of 2

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

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

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	TEST REPORT				
Test Report No.	: ELES/RNC/2024/4704	Report Release Date	: 20.08.2024		
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024		
ULR No.	: TC135872400002624F				

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C6H6)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ²	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by

AKASH KUMAR Quality Managor ELES PVT_LTD

****End of Report****

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

Page 2 of 2

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ENGINEERING SERVICES PVT. 1TD.



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/2024/4705	Report Release Date : 20.08.2024
Work Order No.	: 13612312113	Work Order Date : 28.03.2024
ULR No.	: TC135872400002625F	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/5395 : Near View Point-2(Bhusar Mine Pit I) Bhusar Bauxite Mine(65.31ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 09.08.2024 to 10.08.2024 : 12.08.2024 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 12.08.2024 to 19.08.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL I	NFORMATION
------------------	------------

	1 Average Temperature (°C) : 27		2 Barometric Pressure (mmHg) = 741	
_	a state of the second	4	Weather Condition	: Cloudy
3	Relative Humidity (%) : 69	9	weamerconstituti	. crowy

Discipline: O	Themical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	55	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	26	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-II/Sec-1): 2023	7.8	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	1S 5182 (Part- 6): 2022	17.5	80 (24hrs)	
Ozone (O1)	µg/m ¹	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH3)	µg/m'	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m3	1S 5182 (Part- 22): 2019	0.005	1 (24hrs)	
Nickel (Ni)	ng/m ¹	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

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

NGINEERING SERVICES PVT. LTD.

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	TE	ST REPORT	
Test Report No.	: ELES/RNC/2024/4705	Report Release Date	: 20.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002625F		

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₈ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

AKASHKUMAR Quality Managor ELES PVT. LTD.

****End of Report****

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

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Website : www.elespl.co.in



	I	EST REPORT	5.5.5 F
Test Report No.	: ELES/RNC/2024/4706	Report Release Date	: 20.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002626F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/5396 : Near Rest Shelter Bhusar Bauxite Mine (65.31ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 09.08.2024 to 10.08.2024 : 12.08.2024 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 12.08.2024 to 19.08.2024	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature ("C) : 27	2	Barometric Pressure (mmHg)	: 741
3	Relative Humidity (%) ±69	.4	Weather Condition	: Cloudy

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	56	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	25	60 (24hrs)
Sulphar Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- II/Sec- 1): 2023	8.3	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	19.7	80 (24hrs)
Ozone (O3)	μg/m ³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ⁴	15 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ^s	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μy/m ⁸	IS 5182 (Part- 22); 2019	0.007	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124 ENGINEERING SERVICES PVT. LTD.

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



TEST	REPORT
11.01	REFORT

: ELES/RNC/2024/4706	Report Release Date	: 20.08.2024
: 13612312113	Work Order Date	: 28.03.2024
: TC135872400002626F		
	: 13612312113	: 13612312113 Work Order Date

Discipline: Chemical		Group: Att	nospheric Pollu	tion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (CaHa)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

AKASSAREMAR Quality Managor ELES PVT. LTD

****End of Report****

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

Page 2 of 2

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Sare Environment, Save Future



PLOT NO-30, MANSARDVAR ENCLAVE, TUPUDANA HATIA, RANCHI-B34003 [JHARKHAND] GST NO: 20AAECE9713D124

ENGINEERING SERVICES PVT. LTD.

Phone no.: 0651-2290103

Website : www.elespl.co.in

Email: info@elespl.co.in , eles.ranchi@gmail.com TC-13587

	I	EST REPORT	
Test Report No.	: ELES/RNC/2024/4707	Report Release Date	: 20.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002627F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/5397 : Near GTS Point Bhusar Bauxite Mine (65.31ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 09.08.2024 to 10.08.2024 : 12.08.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	# ELES Pvt. Ltd.
Period of Analysis	: 12.08.2024 to 19.08.2024	Sample Condition	: Sealed & Preserved

	ETEOROLOGICAL INFORMA		Description Description (month	- 741
1	Average Temperature (°C) : 2'	7 2	Barometric Pressure (mmH	
_	Relative Humidity (%) : 69		Weather Condition	: Cloudy

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	57	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	25	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-11/Sec-1): 2023	6.7	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	17.3	80 (24hrs)
Ozone (O ₁)	µg/m ³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m²	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	<0.002	I (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ⁴	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

The Descament stated as Test 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 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 myolvement 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 hill 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. Anention is drawn to the limitation of hability, 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 more 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 he done within 15days from the Date of Text Report released issued. After the time period stated before, nit complaints will be accepted. The errore 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

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TEST REPORT					
Test Report No.	: ELES/RNC/2024/4707	Report Release Date	: 20.08.2024		
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	_	
ULR No.	: TC135872400002627F				

Discipline: Chemical		Group: At	nospheric Pollu	tion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C6H6)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by AKASH KUMAR Quality Manager ELES PVT. LTD.

****End of Report****

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

Page 2 of 2

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Save Environment, Save Future



PLOT NO-30, MANSAROVAR ENCLAVE, TURUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO-204AECE97130124

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



TEST REPORT				
Test Report No.	: ELES/RNC/2024/4697	Report Release Date	: 20.08.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400002617F			

CUSTOMER DET/	CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/5387 : Near Daldaliya Village Bagru Banxite Mine (75.41ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 08.08.2024 to 09.08.2024 : 12.08.2024 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Non Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 12,08,2024 to 19,08,2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL	INFORMATION
METEOROLOOIGIUS	ET AR PARTING R R PARTIN

1 Average Temperature (°C) : 27		2 Barometric Pressure (mmHg) : 742	
3	Relative Humidity (%) : 69	4 Weather Condition : Cloudy	

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	1S 5182 (Part- 23): 2022	55	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part-24): 2019	26	60 (24irs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	1S 5182 (Part-11/Sec-1): 2023	9.2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ¹	IS 5182 (Part- 6): 2022	21.4	80 (24hrs)
Ozone (O1)	µg/m ³	IS 5182 (Part- 9): 2019	<20,0	100 (8hrs)
Ammonia (NH3)	ug/m³	IS 5182 (Part- 25): 2018	<10,0	400 (24hrs)
Carbon Monovide (CO)	mg/m ³	.1S 5182 (Part- 10); 2019 (NDIR. Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m [‡])S 5182 (Part- 22); 2019	0.013	1 (24hrs)
Nickel (Ni)	ng/m ²	IS \$182 (Para- 26); 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m"	ELES/AIR/SOP/01:2021	<2,0	06 (Annual)

Page 1 of 2

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Emoli: into@elesal.co.in , eles.ranchi@amail.com Phone no.: 0651-2290103 Website : www.elespl.co.in



TEST REPORT					
Test Report No.	: ELES/RNC/2024/4697	Report Release Date	: 20.08.2024		
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024		
ULR No.	: TC135872400002617F				

Discipline: Chemical		Group: Att	nospheric Pollu	ition
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (CsHa)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

AKASH KUMAR

Quality Manager ELES PVT LTD.

** End of Report****

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

Page 2 of 2

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCH-834003 (JMARNHAND) GST NO:-10AAECE97130121

Email: injo@elespl.co.in , eles.ranchi@amail.com Phone no.; 0651-2290303 Website : www.elespl.co.in

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	TE	ST REPORT	
Test Report No.	: ELES/RNC/2024/4698	Report Release Date	: 20.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002618F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/5388 : Aditya School Gangupara Bagru Bauxite Mine (75.41ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	= 08.08.2024 to 09.08.2024 = 12.08.2024 = Ambient Air = ELES/DOC/SMPL/02	
Mines Status	: Non Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 12.08.2024 to 19.08.2024	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMAT	ION		
1	Average Temperature (°C) : 27	2	Barometric Pressure (mm)	Hg) : 742
3	Relative Humidity (%) : 69	4	Weather Condition	Cloudy

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	55	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	27	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- II/Sec- 1): 2023	10.4	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	21.8	80 (24hrs)
Ozone (O ₁)	µg/m ¹	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m?	IS 5182 (Part- 25): 2018	<10,0	400 (24hrs)
Carbon Monoxide (CO)	mg/m	1S 5182 (Part- 10): 2019 (NDIR. Method)	<1.0	2 (8hrs)
Land (Pb)	µg/m²	IS 5182 (Part- 22): 2019	0.010	1 ((24hrs)
Nickel (Ni)	ng/m?	IS 5182 (Part-26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ¹	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

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ENVIRONMENTAL LABORATORIES & WR SERVICES PTT. 170.

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-654003 (JHARKHAND) EST NO:+ 20AAECE97130174

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/2024/4698	Report Release Date	: 20.08.2024	_
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400002618F			

Discipline: Chemical		Group: At	nospheric Pollu	tion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C ₆ H ₀)	µg/m ³	ELES/GC/SOP/06; 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

AKASHKUMAR Quality Manago/ ELES PVT. LTD.

****End of Report****

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

Page 2 of 2

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ELOT ND-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECER7130124

Email: <u>info@elasal.co.in</u>, elas.ra<u>nchi@amall.com</u> Phone no.: 0651-2290103 Website : www.elaspl.co.in

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	TE	ST REPORT	
Test Report No.	: ELES/RNC/2024/4699	Report Release Date	: 20.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002619F		

CUSTOMER DET/	AILS	SAMPLE DETAILS	
Customer Name	- Hindalco Industries Limited	Sample Ref. No. Location	 ELES/RNC/2024/AA/5389 Ropeway Unloading Station Bagru Bauxite Mine (75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 08.08.2024 to 09.08.2024 : 12.08.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Non Operational	Sampling Done By	= ELES Pvt. Ltd.
Period of Analysis	: 12.08.2024 to 19.08.2024	Sample Condition	: Sealed & Preserved

1	Average Temperature (°C) : 27	2	Barometric Pressure (mmH	-lg) ± 742
3	Relative Humidity (%) : 69	4	Weather Condition	(Cloudy

Discipline: (Chemical	Group: Atm	ospheric Pollu	tion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	63	100 (24hrs)
Particulate Matter (PM2.5)	$\mu g/m^3$	IS 5182 (Part- 24): 2019	30	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-11/Sec- 1): 2023	8.9	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	22,2	80 (24hrs)
Ozone (O ₂)	µg/in ⁻¹	IS 5182 (Part- 9); 2019	<20.0	100 (Shrs)
Ammonia (NH ₁)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m*	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ⁴	IS 5182 (Part- 22): 2019	0,013	(24hrs)
Nickel (Ni)	ng/m ³	15 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ²	ELES/AIR/SOF/01: 2021	<2.0	06 (Annual)

Page 1 of 2

The Decomposition taked as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pro-approved format. The resistances in the Test Report reflects the findings done by the Laboratory only. The unformation stated on the Test Report reflects the findings done by the Laboratory only. The unformation stated on the Test Report reflects the findings done by the Laboratory only. The unformation stated on the Test Report reflects the findings done by the Laboratory on the inter of availytement only and within the lam is of client's instructions. The Laboratory is responsible for all the information or data provided as the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior article approval of the Laboratory. The Report is full or in part shall not be published, advertise, used for any legal actions unless prote permission has been secured from the function of the Test Report is not taken on the limitation of limitation of the fullest extend of the taboratory. Attention is drawn to the limitation of limitation on and articulate of the fullest extend of the fullest extend of the soughest are related allocation & information of the optimit of approximation of the Test Report. The analysis from Regaliting bodies are to be protected to the fullest extend of the law. All the soughest are related in 30days from the Date of the taboratory is form to the relation of the taboratory is form to the Report. The Report relation of the relation of the relation of the relation of the taboratory of the Test Report. The analysis from Regaliting bodies are to be related as specified, any type of Observations of Complexity relation to the Report shall be accepted. The entire taboratory bodies are taboratory is previous and an article alternation of the relation and the Report shall be accepted from the relation of the related approprise form is and table relat

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) 657 NO- 20AAECE9713D124

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

ENVICES PTT. LTD



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Test Report No.	: ELES/RNC/2024/4699	Report Release Date	: 20,08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002619F		

Discipline	: Chemical	Group: At	nospheric Pollu	tion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C6H6)	μg/m ³	ELES/GC/SOP/06; 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by AKASH KUMAR

Quality Manager ELES PVT_LTD.

****End of Report****

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

Page 2 of 2

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FLOT NO-30, MANSARGVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO-2044E0E97130124

Email: Info@elespl.co.in , eles.ronch@ambil.com Phone no.: 0651-2290103 Website : www.olespl.co.in



ES			

Test Report No.	: ELES/RNC/2024/4700	Report Release Date	: 20.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002620F		

CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/5390 : Ropeway Angle Station Bagru Baoxite Mine (75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 08.08.2024 to 09.08.2024 : 12.08.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Non Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 12.08.2024 to 19.08.2024	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 27	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%) : 69	4	Weather Condition	: Cloudy

Discipline; (Chemical	Group: Atm	ospheric Pollu	tion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ^I	IS 5182 (Part-23): 2022	58	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	27	60 (24hrs)
Sulphur Dl-Oxide (SO ₂)	µg/m ¹	IS 5182 (Part- II/Sec- 1): 2023	9.1	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m²	1S 5182 (Part- 6): 2022	20.3	80 (24hrs)
Ozone (O3)	ug/m³	IS 5182 (Part- 9): 2019	<20.0	100 (Shrs)
Ammonia (NH3)	µg/m ²	15 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR, Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22); 2019	0.010	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m²	ELES/AIR/SOP/01: 2021	<2.0	05 (Annual)

Page 1 of I

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



EST	- 85	1.1	 1 15

Test Report No.	: ELES/RNC/2024/4700	Report Release Date	: 20.08.2024	
Work Örder No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400002620F			

Discipline	: Chemical	Group: Ati	nospheric Pollu	tion
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (CsHa)	µg/m ²	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

AKASH KUMAR

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

Authorised Signatory

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

Page 2 of 2

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ree Environment, Save Putture



Mines Status

: Operational

Period of Analysis : 12.08.2024 to 21.08.2024

ENVIRONMENTAL LABORATORIES &

FLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) 65T NO:- 20AAECE9713D124

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: ELES/DOC/SMPL/01

z ELES Pvt. Ltd.



		- HILL HOLL	
Test Report No.	: ELES/RNC/2024/4748	Report Release Date	: 22.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002667F		
CUSTOMER DE	TAILS	SAMPLE DETAILS	The second second
Customer Name	- Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2024/DW/5404 : 10.08.2024 : 12.08.2024
Address	Lohardaga, Jharkhand-835302	Type of Sample Source of Sample	: Drinking Water

Sampling Procedure

Sampling Done By

TEST REPORT

CUSTOMER DE	TAILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2024/DW/5 : 10.08.2024 : 12.08.2024	
Address	Lohardaga, Jharkhand-835302	Type of Sample Source of Sample Location of Sample	: Drinking Water : Tap Water : Near Laboratory (Bhusar Bauxite Mines)	

Discipline : Chemical			Group :	Water		ory Limit 10500:2012
Parameter	Unit	Test	Protocol	Result	Accontable	Permissible
pH (at 24.7°C)	19	APHA 24 th I	Ed.2023, 4500-H	6.70	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 24th	Ed.2023, 2130 B	0.80	1,0	5.0
Taste	-	APHA 24th	Ed.2023, 2160 C	Agreeat	de Agreeable	Agreeable
Odour	1	IS 3025	(Part-5) :2018	Agreeat	le Agreeable	Agreeable
Colour	Hazen	APHA 24th E	d.2023, 2120B&D	2.0	5.0	15
Total Dissolved Solids (TDS)	mg/L	APHA 24th Ed	.2023, 2540B,C&D	362	500	2000
Chloride (as Cl)	mg/L	APHA 24th E	d.2023, 4500 Cl B	15	250	1000
Fluoride (as F)	mg/L	APHA 24 th E	d.2023, 4500 F-D	BDL (DL: 0.	10	1.5
Total Alkalinity (as CaCO ₁)	mg/L	APHA 24 th	Ed.2023, 2320 B	159	200	600
Total Hardness (as CaCO ₁)	mg/L	APHA 24 ^{di}	Ed.2023, 2340 C	178	200	600
Sulphate (as SO4)	mg/L	APHA 24th Ed	.2023, 4500 SO ₄ -2-E	4.4	200	400
Nitrate (as NO ₃)	mg/L	APHA 24 th Ed	.2023, 4500 NO ₃ -B	1.2	45	No Relaxation

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TEST REPORT

Test Report No.	: ELES/RNC/2024/4748	Report Release Date	: 22.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002667F		

Discipline : Chemical Group : Water				ory Limit 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable	Permissible
Phenolic Compound (as C ₄ H ₃ OH)	mg/L	IS 3025 (Part 43/Sec1): 2022	BDL (DL: 0.001)	Limit 0.001	0.002
Free Residual Chlorine (RFC)	mg/L	IS 3025 (Part-26): 2021	0.48	0.2(Min)	L.0(Min)
Calcium (as Ca)	mg/L	APHA 24th Ed.2023, 3500 Ca B	40.3	75	200
Anionic Surfactants (as MBAS)	mg/L	APHA 24 th Ed.2023, 5540-C	BDL (DL: 0.025)	0.2	1.0
Discipline : Chemic	cal	Gr	oup : Residues i	n Water	
Aluminum (as Al)	mg/L	IS 3025 (Part-55) :2003; RA2019	BDL (DL: 0.02)	0.03	0.2
Arsenic (as As)	mg/L	IS 3025 (Part-37): 2022	BDL (DL: 0.005)	0.01	No Relaxation
Boron (as B)	mg/L	IS 3025 (Part-57) ± 2021	BDL (DL: 0.2)	0,5	1.0
Cadmium (as Cd)	mg/L	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.003)	0.003	No Relaxation
Total Chromium (as Cr)	mg/L	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.03)	0.05	No Relaxation
Copper (as Cu)	mg/L	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.03)	0.05	1.5
Cyanide (as CN)	mg/L	APHA 24 th Ed.2023, 4500 CN-E	BDL (DL: 0.012)	0.05	No Relaxation
Iron (as Fe)	mg/L	APHA 24 th Ed.2023; 3111B	0.077	1.0	No Relaxation
Lead (as Pb)	mg/L	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.01)	0.01	No Relaxation
Manganese (as Mn)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.05)	0.1	0.3
Mercury (as Hg)	mg/L	IS 3025 (Part-48): 2019	BDL (DL: 0.001)	0.001	No Relaxation
Selenium (as Se)	mg/L	IS 3025 (Part-56): 2019	BDL (DL: 0.01)	0.01	No Relaxation

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CIN-1/74993/42018PTC011125

ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124 ENGINEERING SERVICES PVT. LTD.

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TEST REPORT

Test Report No.	: ELES/RNC/2024/4748	Report Release Date	: 22.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002667F		

Discipline : Chemical		Group : Resid	loes in Water		ory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable	Permissible
Zinc (as Zn)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.1)	5.0	15
Polynuclear Aromatic Hydrocarbons (PAH)	µg/L	ELES/GC/SOP/04: 2023	BDL (DL: 0.05)	0.1	No Relaxation
Polychlorinated biphenyls (PCB)	µg/L	ELES/GC/SOP/03: 2023	BDL (DL: 0.1)	0.5	No Relaxation
Pesticides				Li	mit
Alachlor	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	3	20
Atrazine	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	2	.0
Butachlor	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	125	
Chlorpyriphos	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	30	
Ethion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	3	.0
Malathion	µg/L.	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	19	90
Methyl parathion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.1)	.0,	30
Monocrotophos	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	1	.0
Phorate	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	2.0	
Phorate Sulphone	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)		
Dieldrin	μg/L.	ELES/GC/SOP/02: 2023	BDL (DL: 0.01)	0.	03
Alpha HCH	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.006)	0.	01
Beta HCH	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	0,	04

Page 3 of 4

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TECT	PERODT
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Test Report No.	: ELES/RNC/2024/4748	Report Release Date	: 22.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002667F		

Pesticides				
Parameter	Unit	Test Protocol	Result	Limit
Delta HCH	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	0.04
Gamma HCH (Lindane)	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	2.0
Endosulfan (alpha, beta and sulphate)	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	0.40
DDT(o,p and p,p-isomers of DDT) (o,p DDE and p,p DDD)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	1.0
Discipline : Biological		Group	: Water	
Total Coliform (Qualitative)	Per 100 mL	15 15185: 2021	Not Detected	Chall on he does not
Escherichia coli (Qualitative)	Per 100 mL	IS 15185: 2021	Not Detected	Shall not be detected

Reviewed by AKASH KUMAR Quality Managor ELES PVT. LTD

End of Report**

Authorised Signatory Dr. Deependra Kumar Sinku Ph. D Environmental Engo ELES Pvt. Ltd. Technical Manager

Page 4 of 4

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TEST REPORT

Test Report No.	: ELES/RNC/2024/4748	Report Release Date	: 22.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample	: ELES/RNC/2024/DW/5404 : 10.08.2024 : 12.08.2024 : Drinking Water : Tap Water	
Mines Status Period of Analysis	2 Operational 2 12,08,2024 to 22,08,2024	Location of Sample Sampling Procedure Sampling Done By	: Near Laboratory (Bhusar Bauxite Mines) : ELES/DOC/SMPL/01 : ELES Pvt. Ltd.	
· server on century sig		Sample Condition	: Sealed & Preserved	

Discipline : Chemical		Group : Wa	Group : Water		ory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable	Permissible
Mineral Oil*	mg/L	1S 3025 (Part-39): 2021, Clause 6 Infrared Spectroscopic method.	BDL. (DL: 0.01)	0.5	No Relaxation

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

AKASH KUMAR Quality Managar ELES PVT. LTD.

****End of Report****

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

Page 1 of 1

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CONTENT

Hind	alco Industries : Bhusar Bauxite Mine Environmental Monitoring Report	September 2024
	Bhusar Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE	
1	Near View Point 1 (Bhusar Mine Pit I)	
2	Near View Point 2 (Bhusar Mine Pit II)	
3	Near Rest Shelter	
4	Near GTS Point	
	AMBIENT AIR QUALITY- BUFFER ZONE	
1	Near Daldaliya Village	
2	Aditya School Gangupara	
3	Ropeway unloading station	
4	Ropeway Angle Station	
	AMBIENT NOISE	
	WORKZONE NOISE	





PLOT NO-30, MANSARDVAR 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 No.	: ELES/RNC/2024/5331	Report Release Date	: 23.09.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003244F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2024/AA/6165 : Near View Point-1(Bhusar Mine Pit I) Bhusar Bauxite Mine(65,31ha) : 11.09.2024 to 12.09.2024 : 16.09.2024 : Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 16.09.2024 to 23.09.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

1911	ETEOROLOGICAL IMPOR	MATION			
1	Average Temperature (°C)	:27	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	:71	4	Weather Condition	: Cloudy

Discipline : Chemic	al	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	49	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	21	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	6.4	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	17.2	80 (24hrs)
Ozone (O ₃)	µg/m ³	1S 5182 (Part- 9); 2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m'	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.005	1 (24furs)
Nickel (Ni)	ng/m³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H _o)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

rroa Reviewed by Quality Manager

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D. Environmental Enga

Page 1 of 1

****End of Report****

Technical Manager

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

ENGINEERING SERVICES PVT. LTD.

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



	TES	ST REPORT	
Test Report No.	: ELES/RNC/2024/5332	Report Release Date	: 23.09.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003245F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2024/AA/6166 : Near View Point-2(Bhusar Mine Pit I Bhusar Bauxite Mine(65.31ha) : 11.09.2024 to 12.09.2024 : 16.09.2024 : Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 16.09.2024 to 23.09.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

METEOROLOGICAL INFORMATION

 1
 Average Temperature (%)
 : 27
 2
 Barometric Pressure (mmHg)
 : 740

 3
 Relative Humidity (%)
 : 71
 4
 Weather Condition
 : Cloudy

Discipline : Chemic	al	Group :	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2022	47	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ¹	IS 5182 (Part- 24): 2019	21	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	6.4	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	1S 5182 (Part- 6): 2022	16.2	80 (24hrs)	
Ozone (O ₃)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m ³	15 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (CsH6)	µg/m ³	ELES/GC/SOP/06: 2023	<2,5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Comes in Reviewed by Akash Kumar mality Manager

Authorised Signatory Dr. Deependra Kumar Sinha

****End of Report**** Ph. D. Environmental Engg.

Technical Manager

Page 1 of 1 Technical Matrixed The Discusses stated as Test Report, is usual by the Laboratory actar General Terms and Conditions, only an Company letter land in pre-approved format. The results shown in the Test Report refer in relates only to the jultimatives done by the Laboratory only. The information stated in the Test Report reflects the findings force by the Laboratory at the time of involvement only and within the limits of clearly instruments. The Laboratory only. The information stated in the Test Report reflects the findings force by the Laboratory at the time of involvement only and within the limits of clearly instruments. The Laboratory is responsible for all the information of data provided on the report, except the information which is provided by the clear. The Report issues the respondence 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 and any part of the report is not taken out of context, without prior written approval of the laboratory is the jultication of the provided by the context on uppermatices and the information of the Laboratory. The Report is full and any part of the context is uppermatice of the Test Report in unlawful and offenderin may be provided to the fullesis exist of the laboratory are retained for fillings from the Date of mission clear of the Report. The amplies from Replacety budies are to be minuted as operfield. Any type of Observations or Complaine regarding the Report is an 24 tours 1 mm. (Material Time tested before 10 Edges from the time period stated before, so complains with the accepted. The entire Time selectule monomous in the Report is an 24 tours 1 mm. (Material Time tested before 10 Edges (Laboratory 10 H) (Laboratory 10 H) (Laboratory 10 H).



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 No.	: ELES/RNC/2024/5333	Report Release Date	: 23.09.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003246F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2024/AA/6167 : Near Rest Shelter Bhusar Bauxite Mine (65,31ha) : 11.09.2024 to 12.09,2024 : 16.09.2024 : Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 16.09.2024 to 23.09.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

METEOROLOGICAL INFORMATION

 I
 Average Temperature (°C)
 : 27
 2
 Barometric Pressure (mmHg)
 : 740

 3
 Relative Humidity (%)
 : 71
 4
 Weather Condition
 : Cloudy

al	Group :	Group : Atmospheric Pollution		
Unit	Test Protocol	Result	Regulatory Limit	
µg/m ³	1S 5182 (Part- 23): 2022	47	100 (24hrs)	
µg/m ³	IS 5182 (Part- 24): 2019	23	60 (24hrs)	
µg/m ³	IS 5182 (Part- 2/Sec1): 2023	6.4	80 (24hrs)	
µg/m ³	IS 5182 (Part- 6): 2022	16.3	80 (24hrs)	
µg/m ²	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
mg/m ¹	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
µg/m ³	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)	
ng/m'	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
µg/m ³	ELES/GC/SOP/06; 2023	<2.5	05(Annual)	
ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	
	μg/m ³ μg/m ³ μg/m ³ μg/m ³ μg/m ³ μg/m ³ μg/m ³ ηg/m ¹ ηg/m ³	Unit Test Protocol μg/m³ 1S 5182 (Part- 23): 2022 μg/m³ IS 5182 (Part- 24): 2019 μg/m³ IS 5182 (Part- 24): 2019 μg/m³ IS 5182 (Part- 2/Sec1): 2023 μg/m³ IS 5182 (Part- 6): 2022 μg/m³ IS 5182 (Part- 6): 2022 μg/m³ IS 5182 (Part- 9): 2019 μg/m³ IS 5182 (Part- 25): 2018 μg/m³ IS 5182 (Part- 10): 2019 μg/m³ IS 5182 (Part- 10): 2019 μg/m³ IS 5182 (Part- 25): 2018 mg/m³ IS 5182 (Part- 25): 2019 ng/m³ IS 5182 (Part- 20): 2019 μg/m³ IS 5182 (Part- 22): 2019 μg/m³ IS 5182 (Part- 26): 2020 μg/m³ IS 5182 (Part- 26): 2020 μg/m³ ELES/AIR/SOP/01: 2021 μg/m³ ELES/GC/SOP/06; 2023	Unit Test Protocol Result μg/m³ 1S 5182 (Part- 23): 2022 47 μg/m³ IS 5182 (Part- 24): 2019 23 μg/m³ IS 5182 (Part- 24): 2019 23 μg/m³ IS 5182 (Part- 2/Sec1): 2023 6.4 μg/m³ IS 5182 (Part- 6): 2022 16.3 μg/m³ IS 5182 (Part- 6): 2019 <20.0	

Reviewed by Akash Kumar

Hallty Manaor

Dr. Deleycinel Sicutise Sinha

****End of Report****

Ph. D. Environmental Engg. Technical Manager

Page 1 of 1

The Discartant stated as Teil Expert, a tasked by the Laboratory ander General Tarres and Confidents, only on Company later head in pro-approval format. The results shown in the Text Report refer or relates only as the job analysis done by the Laboratory only. The information atded on the Text Report reflects the findings done by the Laboratory at the task of a service of a service of the information atded on the Text Report reflects the findings done by the Laboratory at the task of a service of a service of the information atded on the Text Report reflects the findings done by the Laboratory at the task of task o

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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 No.	: ELES/RNC/2024/5334	Report Release Date	: 23.09.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003247F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2024/AA/6168 : Near GTS Point Bhusar Bauxite Mine (65.31ha) : 11.09.2024 to 12.09.2024 : 16.09.2024 : Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 16.09.2024 to 23.09.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

METEOROLOGICAL INFORMATION

 1
 Average Temperature (%C)
 : 27
 2
 Barometric Pressure (mmHg)
 : 740

 3
 Relative Humidity (%)
 : 71
 4
 Weather Condition
 : Cloudy

Discipline : Chemic	al	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	50	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part-24): 2019	21	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	5.5	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	16.3	80 (24hrs)	
Ozone (O3)	µg/m³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH3)	µg/m ³	IS 5182 (Pars- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m1	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C _n H ₀)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

1. 10 Car Reviewed by Alash Kumar Quality Manager

Dr. Deependra Komar Sinha

Ph. D. Environmental Engg.

Page 1 of 1

****End of Report****

Technical Manager

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ELES/RNC/2024/5175 13612312113 TC135872400803188F	Report Release Date Work Order Date	: 19.09.2024 : 28.03.2024
	Work Order Date	r 28.03.202/l
TC1358724000031881?		
S	SAMPLE DETAILS	
flindaloo Industries Limited Lohardaga, Jharkhand-835302 Non Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure Sampling Procedure	: ELES/RNC/2024/AA/6029 : Near Daldaliya Village Bagru Bauute Mine (75.41 ha) : 09.09.2024 to 10.09.2024 : 12.09.2024 Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
2.09.2024 to 19.09.2024	Sample Condition	Sealed & Preserved
2	.09.2024 to 19.09.2024	on Operational Sampling Procedure Sampling Done By

 1
 Average Temperature (%C)
 : 26
 2
 Barometric Pressure (mmHg)
 : 742

 3
 Relative Humidity (%)
 : 71
 4
 Weather Condition
 : Cloudy

Discipline : Chemic	al	Group :	Atmospheric I	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	51	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	23	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	7.4	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part- 6): 2022	17.7	80 (24hrs)
Ozone (O3)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH3)	ug/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μ <u>μ</u> /m ³	IS 5182 (Part- 22); 2019	0.008	1 (24hrs)
Nickel (Ni)	ng/m ³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C.H.)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by Read Kumar Quality Manager

atinta Dr. Deepentita Kintlaf Sinha

****End of Report****

Ph. D. Environmental Engg. Technical Manager

Page 1 of 1

of 1

The Uncomment entrol as Test Japort, is sprach by the Laboratory under Oppined Terms and Conditions, andy an Company latter basis to pre-upproved format. The results shown in the Test Japort entrol to relates only to the jaboratoria dense by the Laboratory andy. The information start on the Test Japort reflects the following down by the Laboratory on the time of mentionment only and entrol the annual of laboratoria dense by the Laboratory andy. The information start on the Test Japort reflects the following down by the Laboratory on the time of mentionment only and entrol the annual of laboratoria and one part of the report is not all the information or allow provided as the report, entry the information which is provided by the client, The forget is reproduced encode and one part of the report is not related of a second extern a price section approach of the Laboratory. Affection is discole to the following all laboratory and period and encode the capital discovery of the part of the report is not related from the Management of the Laboratory. Affection is discover to the following all laboratory and the following and period and encode the Delse of the laboratory is described or approaches of the Test Japort to an activate the test into a specified on the final related of the laboratory. Affection is discover to the following and final filles and period and encode the Delse of the Delse of the test Bapter. The complex from Higher related and effective mater of the filled related of the laboratory of the Delse of the test. All the respective flaps are due to the Delse of the Delse of Test Report transmittened on the Delse are to be returned on the period of the laboratory of the started complex due to the Delse of the Delse of Test Report transmittened. Units of the test of the test Report transmittened on the Delse of the test of test of test of test of test of test of

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	TREPORT	TES	
e Date : 19.09.2024	Report Release Date	: ELES/RNC/2024/5276	Test Report No.
nto : 28.03.2024	Work Order Date	: 13612312113	Work Order No.
		: TC135872400003189F	ULR No.
AILS	SAMPLE DETAILS	AILS	CUSTOMER DET
 ELES/RNC/2024/AA/6030 Aditya School Gangupant Bagru Bauxite Mine (75,41ha) 	Sample Ref. No. Location	: Hindalco Industries Limited	Costomer Name
ed Date : 12,09,2024 Ambient Alt	Sampling Date Sample Received Date Type of Sample	: Lohardaga, Jharkhand-835302	Address
	Sampling Procedure	: Non Operational	Mines Status
	Sampling Done By Sample Condition	: 12.09.2024 to 19.09.2024	Period of Analysis
	Sample Condit	- TERRETER TERRET	

METEOROLOGICAL INFORMATION 2 Barometric Pressure (mmHg) : 742 Average Temperature (°C) :26 3 Relative Humidity (%) : 71 4 Weather Condition : Cloudy

Discipline : Chemic	al	Group :	Atmospheric I	Pollation
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2022	59	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	1S 5182 (Part- 24): 2019	31	60 (24hrs)
Sulphur Di-Oxide (SO)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	7.5	80 (24hrs)
Nitrogen Di-Oxide (NO ₁)	µg/m ³	IS 5182 (Part- 6): 2022	19.8	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (Shrs)
Ammonia (NH _i)	µg/m ³	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs).
Carbon Monoxide (CO)	mg/m³	1S 5182 (Part- 10): 2019 (NDIR Method)	1.05	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.008	1 (24lurs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ^T	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ¹	ELES/GC/SOP/05; 2023	<0.5	01(Annual)

Reviewed by Quality Manapur

(at he Dr. Helepensta Skuttar Sinha

Ph. D. Environmental Engo. Technical Manager

Page I of 1

****End of Report****

The December annual as (we) Report, is sound by the Laboratory under General Terms and Conditions, only on Company letter baild in pre-depresent format. The results shows an the Test Report upho to relate a site of the index loop in the Laboratory only. The information stated on the Test Report reflicts the findings down by the Laboratory at the time of availability and writes the times of allow's comparisons. The Laboratory is compositing for all the addressance or dow provided we divergent, except the enformation which is provided by the Plann. The Report cannot be reported except to full and any part of the report in mitutelies can at excess subject prior written spectral of the Taburatory. The Report in Ref. to in part shall not be published only on a full to increase of the Caboratory. American in the instanton of fublicly, comparation and period only on the fublicly comparation and period only on the fublic on the fublic only maximum of the Caboratory. American in the instanton of fublicly, comparation and period only on the fublic only maximum of the Caboratory. American in the instanton of fublicly, comparation and period only on the fublic only maximum of the caboratory of the templet are an effect on the fublic only on the fublic on the fublic on the templet are removal his liking from the lines of eliments and the True Separe. This samples from Regulatory indices are to be removal as specified, Aug type of Observations or Completion regarding the Report that he from within (They from the One of The Report changed) much differ the new participation of the transmission of the straight. The store Time within the Test Report on the case would define the store of the September (Dates Determine 1 and 1 D) (Tester Determine Tarity

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	TES	T REP	ORT	
Test Report No.	: ELES/RNC/2024/5277	Re	port Release Date	: 19.09.2024
Work Order No.	+ 13612312113	We	irk Order Date	: 28.03.2024
ULR No.	: TC135872400003190F			
CUSTOMER DET	ATLS	SA	MPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardega, Jharkhand-835302 : Non Operational	Los Sar Sar Tyr Sar	nple Ref. No. cation npling Date nple Received Date se of Sample npling Procedure	: ELES/RNC/2024/AA/6031 : Ropeway Unloading Station Bagru Bauxite Mine (75,41hs) : 09.09.2024 to 10.09.2024 : 12.09.2024 : Ambient Air ELES/DOC/SMPL/02
Period of Analysis	12.09.2024 to 19.09.2024	Sampling Done By Sample Condition		ELES Pvt. Ltd. Sealed & Preserved
	CAL INFORMATION	1 Sar	upre consumm	- denied te model ved
1 Average Temp	erature (*C) : 26	2	Barometric Pressure	(mmHg) : 742

: Cloudy Relative Humidity (%) :71 4 Weather Condition Discipline : Chemical Group : Atmospheric Pollution Unit Test Protocol Result Regulatory Limit Parameter IS 5182 (Part- 23): 2022 55 100 (24hrs) Particulate Matter (PM10) µg/mª µg/m 60 (24hrs). Particulate Matter (PM2.5) 1S 5182 (Part- 24): 2019 26 IS 5182 (Part- 2/Sec1): 2023 7.1 80 (24hrs) Sulphur Di-Oxide (SO2) µg/m* IS 5182 (Part- 6): 2022 19.3 80 (24hrs) Nitrogen Di-Oxide (NO₇) µg/m' IS 5182 (Part- 9): 2019 <20.0 100 (8hrs) µg/m² Ozone (O₃) IS 5182 (Part- 25): 2018 <10.0400 (24hrs) Ammonia (NH2) ug/m2 IS 5182 (Part-10): 2019 <1.0 2 (Shrs) Carbon Monoxide (CO) mg/m³ (NDIR Method) IS 5182 (Part- 22): 2019 0.0071 (24hrs) Lead (Pb) µg/m² ng/m 20 (Annual) IS 5182 (Part-26): 2020 < 6.0Nickel (NI) <2.0 06 (Annual) ng/m3 ELES/AIR/SOP/01: 2021 Arsenic (As) \$2.5 05(Annual) Benzene (C.H.) ELES/GC/SOP/06: 2023 ug/m² ELES/GC/SOP/05: 2023 OI(Annual) Benzo-(a)-Pyrene ng/m <0.5

Reviewed by Akash Kumar Guelly Measser

Dr. Deependra Kumat Sinha

Ph. D. Environmental Engg. Technical Manager

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	TES	TREFORT	
Test Report No.	: ELES/RNC/2024/5278	Report Release Date	; 19.09.2024
Work Order No.	: 13511311113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003191F		
CUSTOMER DET	FAILS	SAMPLE DETAILS	
Costomer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/6032 : Ropeway Angle Station Bagro Baoxite Mine (75.41ha)
Address	Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	- 09.09.2024 to 10.09.2024 ; 12.09.2024 Ambient Alt
Mines Status	: Non Operational	Sampling Procedure	ELES/DOC/SMPL/02

ELES PVI Ltd. Sampling Done By Period of Analysis = 12.09.2024 to 19.09.2024 Sample Condition Sealed & Preserved METEOROLOGICAL INFORMATION 2 Barometric Pressure (mmHg) : 742

Average Temperature (°C) :26 1 Weather Condition : Cloudy 3 Relative Humidity (%) :71 4

Discipline : Chemic	:#1	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	61	100 (24lus)	
Particulate Matter (PM2.5)	µg/m ³	1S 5182 (Part-24): 2019	30	60 (24hrs)	
Sulphur Di-Oxide (SO ₁)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	11.4	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	15 5182 (Part- 6): 2022	22,8	80 (24hrs)	
Ozone (O3)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m ¹	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ⁷	IS 5182 (Part- 10): 2019 (NDIR Method)	1,08	2 (8hrs)	
Lead (Pb)	µg/m²	IS 5182 (Part- 22); 2019	0.006	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C ₄ H ₄)	µg/m²	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ¹	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

a.m.2 Reviewed by Akash Kumar Quality Manzeon

Dr. Deepottarawoshawosha Ph. D. Environmental Engg.

Technical Manager

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NGINEERING 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/2024/5355	Report Release Date	: 23.09.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003268F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sampling Date Sampling Received Date Type of Sample Sampling procedure Sampling Done By	: 11.09.2024 to 12.09.2024 : 16.09.2024 : Ambient Noise : ELES/DOC/SMPL/03 : ELES Pvt. Ltd.	
Mines Status	: Operational	Period of Analysis	: 16.09.2024 to 23.09.2024	

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	±27	2	Barometric Pressure (mmHg)	± 740
3	Relative Humidity (%)	: 71	4	Weather Condition	: Cloudy

Discipline : Chemical	Pollution				
Location	Unit	Test Protocol	Rest	ilt	Regulatory Limit (Industrial Zone)
		1S 9989; 2020	Time	Leg	_
Bhusar Mines Pit- 1 Bhusar Bauxite Mines (65.31ha)	dB(A)		Day Time	67	75 dB(A) Day Time
Sample ID: ELES/RNC/2024/AN/6189	- Marchart		Night Time	48	70 dB(A) Night Time



**** End of Report****

Dr. deeperised Signal Sinha Ph. D. Environmental Engg. **Technical Manager**

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Website : www.elespl.co.in

Email: info@elespl.co.in , eles.ranchi@amail.com 10.11681

	TH	ST REPORT	the second se
Test Report No.	: ELES/RNC/2024/5360	Report Release Date	: 23.09.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003273F		A

CUSTOMER DET	TAILS	SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sampling Date Sampling Received Date Type of Sample Sampling procedure Sample Drawn By	: 12.09.2024 : 16.09.2024 : Workzone Noise : ELES/DOC/SMPL/03 : ELES Pvt. Ltd.	
Mines Status	: Operational	Period of Analysis	: 16.09.2024 to 23.09.2024	

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

Location	Unit	Test Protocol	Result		Regulatory Limi (Industrial Zone)	
Bhusar Mines Pit- II			Time	Leq		
Bhusar Bauxite Mine (65.31ha)	dB(A)	IS 4758; 2017	Dector		90 dB (A)	
Sample ID: ELES/RNC/2024/WN/6194			Day Time	71		



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Annexure 3

Date - 20.05.2024

Office Order

Environmental Cell has been re-constituted at Bhusar Bauxite Mine (Area 65.31 ha) comprising below mentioned team members. The team will ensure compliance of Environment Act, Regulation & Rule in respect of the said mines of Hindalco Industries Limited.

- 1. Mr. Rajesh Ranjan Ambastha (Coordinator)
- 2. Mr. Malay Kumar Prushty (Geologist)
- 3. Ms. Abhilasha Singh (Environment Engineer)
- 4. Mr. Anand Prakash Tiwari- Environment Engineer

The Undersigned is the in charge of above Environment Management Cell constituted for the purpose of ensuring compliances of environmental act rule and regulation for the above mine.

Basudev Gangopadhyay AVP (Planning, Environment &Compliance)

Annexure 4

	Production, Mined Out, Back Filled and Over Burden removal from April'24 to September'24							
S No	Name of the Mines	Mining lease area (ha)	Production Capacity (MT)*	Lease Period*	Production (MT)	Mined out area (ha)	Back filled area (ha)	Over burden (Cu.M)
1	Bagru Bauxite Mine	75.41	85000	22.01.1974 to 31.03.2030	NIL	NIL	NIL	NIL
2	Bhusar Bauxite Mine	65.31	280000	11.07.1981 to 31.03.2030	82481	0.25	0.57	191521.65
3	Hisri (New) Bauxite Mine	14.55	100000	19.07.1981 to 31.03.2030	63197	0.45	0.35	26905.95
4	Pakhar (8.09) Bauxite Mine	8.09	80000	16.05.1973 to 31.03.2030	NIL	NIL	NIL	NIL
5	Pakhar (35.12) Bauxite Mine	35.12	200000	17.04.1975 to 31.03.2030	NIL	NIL	NIL	NIL
6	Pakhar (115.13) Bauxite Mine	115.13	300000	19.07.1996 to 31.03.2030	96744	4.29	8.89	365249.34
7	Sherangdag-A Bauxite Mine	155.81	260000	16.10.1974 to 31.03.2030	6200	0.23	0.2	10200.00
8	Serangdag-B Bauxite Mine	77.89	100000	04.10.1978 to 31.03.2030	49850	0.96	0.85	104303.82
9	Jalim & Sanai Bauxite Mine	12.14	50000	16.10.1974 to 31.03.2030	12450	0.14	0.12	13050.63
10	Gurdari Bauxite Mine	584.19	325000	23.03.1985 to 22.03.2035	96115	4.69	2.46	185023.98
11	Kujam - I Bauxite Mine	80.87	150000	13.03.2006 to 12.03.2056	7175	0.97	0.43	21377.24
12	Kujam - II Bauxite Mine	157.38	300000	24.03.2006 to 23.03.2056	49120	5.28	3.56	137098.55
13	Amtipani Bauxite Mine	190.95	150000	13.03.2006 to 12.03.2056	87109	2.153	0.987	225462.85

	Minerals & Minerals Limited							
14	Pakhar (109.507) Bauxite Mine	109.507	280000	26.07.2008 to 25.07.2058	147714.95	2.06	2.60	160334.49
15	Pakhar (15.58) Bauxite Mine	15.58	60000	28.04.1965 to 31.03.2030	NIL	NIL	NIL	NIL
16	Bimarla Bauxite Mine	134.526	300000	18.07.2009 to 17.07.2059	78750	4.44	7.35	116233.81
17	Amtipani Chirodih Bauxite Mine	130.01	450000	11.01.2017 to 10.01.2067	140900	4.25	1.50	235195.494

*Static information about the mines included in the above table

Basudev Cangopadhyay AVP (Planning, Environment and Compliance)

Annexure-5

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

The composite cost during the year 2023-24 for environmental protection & pollution control by Jharkhand Mines division of M/s Hindalco Industries Ltd & M/s Minerals & Minerals Ltd for implementation of the suggested measures in EC at our all the operating mines in the state of Jharkhand-namely Bagru (75.41 ha), Hisri New (14.55 ha), Bhusar (65.31 ha), Pakhar (115.13 ha), Pakhars (109.507 ha), Pakhar (15.58 ha), Pakhar (8.09 ha), Pakhar (35.12 ha), Sherangdag (155.81 ha), Serangdag (77.89 ha), Jalim & Sanai (12.14 ha), Bimarla Bauxite Mines (134.526 ha), Gurdari (584.19 ha), Amtipani (190.95 ha), Kujam I (80.87 ha) Kujam II (157.38 ha), and Amtipani Chirodih (130.01 ha) Bauxite Mines.

S No	Description	Budget (in Rupees) FY 2024-25 (From Apr'24 to Sep'24)	Actual (in Rupees) FY 2024-25 (From Apr'24 to Sep'24)
1	Pollution Control & Environment monitoring	61,35,000.00	53,47,442.83
2	Reclamation/ Back filing & Rehabilitation**	5,62,80,000.00	5,60,24,564.93
3	Green belt, Plantation & Water sprinkling arrangement	73,42,000.00	69,41,114.17
4	Rural Development	2,75,00,000.00	2,05,55,592.67

**Part of OB removed cost.

Basudev Gangopadhyay AVP (Planning, Environment & Compliance)