

HIL/LHD/ENV/MoEF/435

Date: 25.11.2023

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 Chiro-Kukud (152.57 ha) Bauxite Mining project of M/s Hindalco Industries Limited located in Latehar, Jharkhand for the period April'23 to September'23.

Ref: Environmental Clearance letter no J-11015/240/2006-IA II(M) dated 17th May 2007

Sir,

With reference to the above, we are submitting herewith the Compliance status report of EC conditions for **Chiro-Kukud (152.57 ha)** Bauxite Mining project of **M/s Hindalco Industries Limited** located in Latehar, Jharkhand for the period April'23 to September'23. The lease details are below.

Lease area (ha)	Production Capacity (MT)	Lease Period
152.57	100000	29.01.1985 to 28.01.2035

Hope you will find the same in order.

Thanking You

Yours Sincerely FOR HINDALCO INDUSTRIES LIMITED

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

Enclosure: - As Above

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

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	:	Chiro Kukud Bauxite Mine (152.57 ha) M/s Hindalco Industries Ltd
Environment Clearance No & date	:	J-11015/240/2006-IA. II (M), dated 17.5.2007
Period of compliance Report	:	From 1 st April 2023 to 30 th September 2023

A. Specific Conditions

Condition 1- Environmental Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa foundation Vs Union of India in writ petition (civil) no 460 of 2004, as may be applicable to this project.

Reply to Condition 1 - Noted.

Condition 2- Environmental Clearance is subject to obtaining clearance from Wildlife (Protection) Act '1972 from the competent authority.

Reply to Condition 2- The Mine has not been in operation since 24 April 2018 as this matter is subjudice.

Condition 3- All the conditions stipulated by SPCB in their NOC shall be effectively implemented.

Reply to Condition 3- Implementation of the stipulated conditions in NOC are fulfilled post which consent to operate has been obtained from time to time when mine was in operation. The Mine is not in operation since 24 April 2018.

Condition 4- The environmental clearance is subject to approval of the state land use Department, Government of Jharkhand for diversion of agricultural land for non-agricultural use.

Reply to Condition 4- The Mine has not been in operation since 24 April 2018. The land acquisition was being done with the permission of a competent authority of the State Government i.e. concerned Deputy Commissioner (D.C.) under CNT Act. The land lease agreement was being done with Raiyat (Landowner) with permission of the State Govt with provision of returning the land as per the norms set by D.C. Land acquisition was having state government approval.

Condition 5- Mining shall not intersect groundwater. The mine working shall be restricted to above ground water table. Prior approval of the Ministry of Environment & Forests and Central Ground Water Authority shall be obtained for mining below water table.

Reply to Condition 5- The Mine has not been in operation since 24 April 2018. At no point of time mining activities intersected the ground water table when mine was operational. In future also, post resumption of mining, it will be restricted above ground water table.

We undertake that no mining is/was carried out below ground water table and the same status will be maintained in future also.

Condition 6- The project proponent shall ensure that the mining shall be carried out in small blocks and at a given point of time active mining shall not be more than 2.0 ha. Reply to Condition 6- The Mine has not been in operation since 24 April 2018.

Condition 7- The project proponent shall ensure that no natural water course shall be obstructed due to any mining operations.

Reply to Condition 7- The Mine has not been in operation since 24 April 2018. No natural watercourse obstructed when mine was operational.

Condition 8- Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for reclamation and rehabilitation of mined out areas.

Reply to Condition 8- The Mine has not been in operation since 24 April 2018. Sequential backfilling and reclamation of the mined-out area practiced when mine was operational.

Condition 9- The overburden generated during the initial year shall be kept as a temporary dump. Concurrent backfilling starts from the 2nd year onwards and there shall be no external dump at the end of the mine life.

Reply to Condition 9- The Mine has not been in operation since 24 April 2018. The over burdens generated during the initial year are kept as temporary dump. Concurrent backfilling started from the 2nd year onwards. There is no external dump as on date and earlier dumps were re-handled. Data is enclosed as Annexure 4.

Condition 10- The entire excavated area of 86 ha shall be reclaimed, out of which 66 ha land shall be returned to raiyats for agricultural purposes and in 20 ha plantation shall be raised. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forest on a six-month basis.

Reply to Condition 10- This was being complied with and also will be complied with in future post resumption of mining work.

Condition 11- Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from mine working. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted particularly after monsoon and maintained properly.

Garland drain (size, gradient and length) shall be constructed for mine pit and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity

should also provide adequate retention period to allow proper setting of silt material. Sedimentation pits should be constructed at the corners of the garland drains and desilted at regular intervals.

Reply to Condition 11- The Mine has not been in operation since 24 April 2018. During the operation period of mines, Catch drains of appropriate size have been constructed to arrest silt and sediment flows from mine working. The water collected was utilized for watering the mine area, roads, green belt development etc. The drains were regularly desilted particularly after monsoon and maintained properly. Garland drains and sump of appropriate size were provided when mine was operational.

Condition 12- Dimension of the retaining wall at the OB benches within the mine to check run-off and siltation should be based on rainfall data.

Reply to Condition 12- The Mine has not been in operation since 24 April 2018 hence not applicable as of now.

Condition 13- Plantation shall be raised in an area of 20.0 ha including a green belt of adequate width by planting the native species around the ML area, roads, reclaimed area etc. in consultation with the local DFO / Agriculture Department. The density of the trees should be around 1500 plants per ha.

Reply to Condition 13- Plantation was carried out progressively. The Mine has not been in operation since 24 April 2018.

Condition 14- The project authority should implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.

Reply to Condition 14- The Mine has not been in operation since 24 April 2018. Suitable measures such as garland drain have been adopted to augment ground water resources in the area when mine was operational. It may be noted that there was no chance to intersect ground water table during mining operation.

Condition 15- Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring should be carried out four times in a year – pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to MOEF, Central Ground water Authority and Regional Director Central Ground Water Board.

Reply to Condition 15- Mine has not been in operation since 24 April 2018. This condition was complied with and also will be complied with in future post resumption of mining work.

Condition 16- Prior permission from the competent authority should be obtained for the drawl of water from the surface water bodies.

Reply to Condition 16- The Mine has not been in operation since 24 April 2018. Not used any natural water for mining purposes when mine was operational. Water used for sprinkling and gardening was drawn from rainwater harvesting ponds.

Condition 17- Vehicular emissions should be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and transportation of minerals. The vehicles should be covered with a tarpaulin and shall not be overloaded.

Reply to Condition 17- The Mine has not been in operation since 24 April 2018.

Vehicles engaged in mining operation were regularly checked and maintained. The vehicles used were covered with tarpaulin while transportation of mineral when mine was operational.

Condition 18- Drills should either be operated with dust extractors or should be equipped with a water injection system.

Reply to Condition 18- The Mine has not been in operation since 24 April 2018. Wet drilling was done for dust suppression when mine was in operation.

Condition 19- Blasting operation should be carried out only during the daytime. Controlled blasting should be practiced. The mitigative measures for control of ground vibration and to arrest fly rocks and boulders should be implemented.

Reply to Condition 19- The Mine has not been in operation since 24 April 2018. However, for this mine blasting time was fixed during Lunch Time i.e. 1.00 PM -2.00 PM. Controlled blasting method practiced when mine was in operation.

Condition 20- Consent to operate should be obtained from SPCB prior to start of enhanced production from the mine.

Reply to Condition 20- There is no proposal for production enhancement.

Condition 21- Sewage treatment plant should be installed for the colony. ETP should also be provided for workshops and wastewater generated from mining operations.

Reply to Condition 21- The Mine has not been in operation since 24 April 2018. There was no effluent discharge from Mine, hence ETP is not required to install.

Condition 22- The project proponent should take all precautionary measures during mining operation for conservation and protection of endangered fauna such as Leopard, Indian

Wolf, Indian elephant, Indian small civet, Indian Python, etc. Spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Department. The necessary allocation of funds for implementation of the conservation plan shall be made and the funds so allocated shall be included in the project cost. A copy of the action plan may be submitted to the Ministry and its Regional Office within 3 months.

Reply to Condition 22- The Mine has not been in operation since 24 April 2018.

Wildlife conservation plan has already been approved by PCCF, Ranchi. However, a fresh wildlife conservation plan has already been submitted to PCCF, Ranchi for its approval.

Condition 23- A Final Mine Closure plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forest 5 years in advance of final mine closure for approval.

Reply to Condition 23- Progressive Mine closure plan and Final mine closure plan (part) has been approved by IBM. FMCP for the entire lease will be prepared & will be submitted in due time as per the procedure mentioned in law. Based on present resource estimate and peak rated production capacity, mining operation will be done.

B. General Conditions

Condition 1- No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forest.

Reply to Condition 1- Noted

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

Reply to Condition 2- Noted but the Mine has not been in operation since 24 April 2018.

Condition 3- Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RPM, SPM, SO₂, NOX monitoring. Location of the stations should be decided based on the metrological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.

Reply to Condition 3- The Mine has not been in operation since 24 April 2018.

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

Condition 4- Data on ambient air quality (RPM, SPM, SO₂, and NO_x) should be regularly submitted to the Ministry including its regional office located at Bhubaneswar and the State Pollution Control Board / Central pollution Control Board once in six months.

Reply to Condition 4- The Mine is not in operation since 24 April 2018.

Monitoring Reports is attached as Annexure 2.

Condition 5-Fugitive dust emission from all the sources should be controlled regularly. Water spraying arrangements on haul roads, loading and unloading and at transfer points should be provided and properly maintained.

Reply to Condition 5- The Mine has not been in operation since 24 April 2018.

Water tankers with sprinkling facilities were provided for haul roads, loading unloading & at transfer points when mine was operational.

Condition 6- Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operation of HEMM, etc. should be provided with ear plug / muffs.

Reply to Condition 6- The Mine has not been in operation since 24 April 2018.

Condition 7- Industrial wastewater (workshops and wastewater from the mine) Should be properly collected and treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December,1993 or as amended from time to time. Oil and grease traps should be installed before discharge of workshop effluents.

Reply to Condition 7- There is no generation of wastewater from the mine as of now. Compliance with this condition will be adhered to as applicable. As of date, mine is not operational.

Condition 8- Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.

Reply to Condition 8- The Mine is not in operation since 24 April 2018.

Condition 9- A separate environmental management cell with suitable qualified personnel should be set up under the control of a Senior Executive, who will report directly to the Head of the Organization.

Reply to Condition 9- A suitable environmental management cell has been developed with qualified personnel. Copy is enclosed as **Annexure-3**.

Condition 10- The project authorities should inform the Regional Office located at Bhubaneswar regarding the date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

Reply to Condition 10- The Mine has not been in operation since 24 April 2018. This was an operating Mine and hence provision related to financial closure not applicable.

Condition 11- The funds earmarked for environmental protection measures should be kept in separate accounts 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 to Condition 11- The funds earmarked for environmental protection measures are budgeted. The cost of environmental protection measures is attached as **Annexure 5.** Now the Regional office is at Ranchi.

Condition 12- 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 the requisite data / information / monitoring reports.

Reply to Condition 12- Agreed. Now the Regional office is at Ranchi.

Condition 13- The project proponent shall submit six monthly report on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests its Regional Office, Bhubaneshwar CPCB and State Pollution Control Board. Reply to Condition 13- Duly submitted. Now the Regional office is at Ranchi.

Condition 14- A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom suggestion / representation has been received while processing the proposal.

Reply to Condition 14- Complied.

Condition 15- State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Center and Collector's office / Tehsildar's Office for 30 days.

Reply to Condition 15- Displayed.

Condition 16- The project authorities should advertise at least in two local newspapers widely circulated, one of which locality concerned, within 7days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment and Forests at <u>http://envfor.nic.in</u> and a copy of the same should be forwarded to the Regional Office of this Ministry located Bhubaneshwar.

Reply to Condition 16- Already done and copies submitted with earlier six-monthly compliance report.

ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Chiro-Kukud Bauxite Mine-Environmental Monitoring Report

April 2023



CONTENT

Hinds	alco Industries : Chiro Kukud Bauxite Mine	Environmental Monitoring Report	April 2023
	Chiro Kukud	Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE	Contraction of the second s	
1	Kukud Village/Near Mine area		
2	Kukud Village/Near Weigh Bridge		
3	Chiro Village/Near Mgazine		
4	Chiro Village/Near Pillar No.1		
	AMBIENT AIR QUALITY- BUFFER ZONE		
1	Kudag Village/ Near Hindalco Campus		
2	Jaljali Village/Near Shiv Temple Sabag Road		
3	Amtahi Village/Near Tailoring Centre		
4	Ambakona Village		





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	TE	ST REPORT	
Test Report No.	: ELES/RNC/2023/1976	Report Release Date	± 12.06.2023
Work Order No.	: 13612310218	Work Order Date	; 21.04.2023
ULR No.	: TC88392300000937F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location	ELES/RNC/2023/AA/1403 Kukud Village/Near Mine Area Chiro-Kukud Bauxite Mine (152,57ha)	
		Sampling Date Sample Received Date	: 29.04.2023 to 30.04.2023 : 10.05.2023	
Plant Status	: Non Operational	Type of Sample	: Ambient Air	
Period of Analysis	: 10.05.2023 to 08.06.2023	 Sample Drawn By Sample Condition 	: ELES/DOC/SMPL/02 : Scaled & Preserved	

	Average Temperature (°C) : 35	2	Barometric Pressure (mm)	Hg) : 743	
3	Relative Humidity (%) : 62		Weather Condition	: Clear	-

Discipline :	Chemical	Group	: Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	67	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24); 2019	34	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	10.5	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	23,3	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (Shrs)
Ammonia (NHa)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	15 5182 (Part-22): 2004; RA2019	0.012	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	<2.0	06 (Annual)



Dr. Deependra Kuma

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****End of Report****

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TEST REPORT				
Test Report No.	: ELES/RNC/2023/1976	Report Release Date	: 12.06.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	-

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited ! Lohardaga, Jharkhand-835302	Sample Ref. No. Location	: ELES/RNC/2023/AA/1403 : Kukud Village/Near Mine Area Chiro-Kukud Bauxite Mine (152,57ha)	
Plant Status	: Non Operational	Sampling Date Sample Received Date Type of Sample	: 29.04.2023 to 30.04.2023 : 10.05.2023 : Ambient Air	
Period of Analysis	valysis : 10.05.2023 to 08.06.2023 Sample Drawn By Sample Condition		: ELES/DOC/SMPL/02 : Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C) : 35	2	Barometric Pressure (mm	Hg) : 743	_
3	Relative Humidity (%) : 62		Weather Condition	: Clear	-

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

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



****End of Report****

Authorized Signatory Dr. Deependra Numer Ph. D. Environmental Engg. ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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	ŤE	ST REPORT	
Test Report No.	: ELES/RNC/2023/1977	Report Release Date	: 12.06.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC88392300000938F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1404 : Kukud Village/Near Weigh Bridge Chiro-Kukud Bauxite Mine (152,57ha)	
		Sampling Date Sample Received Date Type of Sample	: 29.04.2023 to 30.04.2023 : 10.05.2023 : Ambient Air	
Plant Status = No	: Non Operational	- Sample Drawn By	ELES/DOC/SMPL/02	
Period of Analysis	: 10.05.2023 to 08.05.2023	Sample Condition	Sealed & Preserved	

METEOROLOGICAL INFORMATION

	Average Temperature (°C) : 35	2	Barometric Pressure (mmi	Hg) : 743	
3	Relative Humidity (%) : 62	4	Weather Condition	; Clear	

NABL Accredited

Discipline :	Chemical	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ⁷	IS 5182 (Part-23): 2006; RA2022	77	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	43	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	1S 5182 (Part-2): 2001; RA2022	9.8	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	1S 5182 (Part-6): 2006; RA2022	20,1	80 (24litrs)
Ozone (O3)	µg/m'	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	15 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.019	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by

Authorized Signatory Dr. Deependra Kumar Sinha

**** End of Report**** Page 1 of 1

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	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/1977	Report Release Date	: 12.06.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1404 : Kukud Village/Near Weigh Bridge Chiro-Kukud Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302 Sampling Date Sample Received I		(152.57ha) = 29.04.2023 to 30.04.2023 = 10.05.2023	
Plant Status : Non Operational Period of Analysis : 10.05.2023 to 08.06.2023		Type of Sample	: Ambient Air : ELES/DOC/SMPL/02 : Sealed & Preserved	
		 Sample Drawn By Sample Condition 		

-	ETEOROLOGICAL INFORM				
1	Average Temperature (°C) :	35	2	Barometric Pressure (mmHg)	: 743
3	Relative Humidity (%) :	62	4	Weather Condition	: Clear

Discipline : Chemical		Group	Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	µg/m ³	IS:5182 (part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene*	ng/m ³	1S:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)

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

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**** End of Report****

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

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST ND-- 200AECE9713D124

NEWSZRINU SERVICES POT. LTD

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



	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/1978	Report Release Date	: 12.06.2023	_
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC88392300000939F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	- Hindaleo Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1405 : Chiro Village/Near Magazine Chiro-Kukud Bauxite Mine	
Plant Status : Non Operational Ty		Sampling Date Sample Received Date	(152.57ha) : 29.04.2023 to 30.04.2023	
		Type of Sample	: Ambient Air	
Period of Analysis	= 10,05,2023 to 08.06.2023	 Sample Drawn By Sample Condition 	: ELES/DOC/SMPL/02 : Sealed & Preserved	

METEOROLOGICAL INFORMATION

 Average Temperature ("C) = 35 	2 Barometric Pressure (mmHg) : 743	
3 Relative Humidity (%) : 62	4 Weather Condition :: Clear	

NABL Accredited

Discipline :	Chemical	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	15 5182 (Part-23): 2006; RA2022	60	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	1S 5182 (Part- 24): 2019	29	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m³	IS 5182 (Part-2): 2001; RA2022	7.2	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	μg/m ³	1S 5182 (Part-6): 2006; RA2022	19.7	80 (24hrs)	
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (Shrs)	
Ammonia (NH3)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.007	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	og/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

ADDIES & Reviewed by

Dr. Deependra Rumar Sinha

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

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/2023/1978	Report Release Date	: 12.06.2023	
Work Order No.	: 13612310218	Work Order Date	+21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	 ELES/RNC/2023/AA/1405 Chiro Village/Near Magazine Chiro-Kukud Bauxite Mine 	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	(152.57ha) : 29.04.2023 to 30.04.2023 : 10.05.2023	
Plant Status			: Ambient Air	
Period of Analysis	: 10.05.2023 to 08.06.2023	 Sample Drawn By Sample Condition 	: ELES/DOC/SMPL/02 : Sealed & Preserved	

1	Average Temperature (°C) : 35	2	Barometric Pressure (mm	Hg) : 743
3	Relative Humidity (%) : 62		Weather Condition	: Clear

Discipline : Chemical		Group	: Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	µg/m ³	IS:5182 (part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene*	ng/m ²	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)

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

METEODOLOCICAL INFORMATION



**** End of Report****

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

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO- 7044ECE97130174

WEERING SERVICES PVT, LTD.

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



	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/1979	Report Release Date	: 12.06.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000000940F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1406 : Chiro Village/Near Pillar No. Chiro-Kukud Bauxite Mine (152.57ha)	
Plant Status	: Non Operational Sample Received Date Type of Sample		: 29.04.2023 to 30.04.2023 : 10.05.2023 : Ambient Air	
Period of Analysis	: 10.05.2023 to 08.06.2023	 Sample Drawn By Sample Condition 	: ELES/DOC/SMPL/02 : Sealed & Preserved	

METEOROLOGICAL INFORMATION

1.	Average Temperature (%) = 35	2	Barometric Pressure (mmHg	:) : 743	
3	Relative Humidity (%) 62	4	Weather Condition	‡Clear	

NABL Accredited

Discipline :	Chemical	Group	Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	70	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	37	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	8,2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	21.4	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019.	<20,0	100 (8hrs)
Ammonia (NH ₂)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.011	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m	ELES/AIR/SOP/01	<2.0	06 (Annual)

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Authorized Signatory

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Page 1 of 1 ELES Pvt. Ltd. Technical Manager and by the Laboratory under General Terms and Conditions, only on Company, letter hand in pre-approved format. The results The Document stated as Test Report, is no shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the elient. The Report cannot be reproduced except in full and any part of the report is not taken out of correct, without prior written approval of the Laboratory. The Report in fall or in part shall not be published, advartise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of hability, compensation and jurisdiction asses. Any unsufforized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall he done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24huars format. Abbreviation used: N/A (Net Applicable); BDL (Below Detection Limit). LDL (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO:- 200AECES713D124

ENGINEERING SERVICES FVT. LTD.

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

	TE	ST REPORT	
Test Report No.	: ELES/RNC/2023/1979	Report Release Date	: 12.06.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1406 : Chiro Village/Near Pillar No.1 Chiro-Kukud Bauxite Mine (152,57ha)	
Plant Status	: Non Operational	Sampling Date Sample Received Date Type of Sample	: 29.04.2023 to 30.04.2023 : 10.05.2023 : Ambient Air	
Period of Analysis	: 10.05.2023 to 08.06.2023	 Sample Drawn By Sample Condition 	: ELES/DOC/SMPL/02 : Sealed & Preserved	

-	Average Temperature (%C) : 35	12	Discourse and Description	
-		4	Barometric Pressure (mm	Hg) :743
3	Relative Humidity (%) : 62	4	Weather Condition	: Clear

Discipline : Chemical		Group	: Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	µg/m ³	IS:5182 (part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)

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

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

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA RATIA, RANCH-234002 (MARKHAND) IST NO-20442CETTI3DIZE Emvil: IntoBelespi.co.in., eks.conchi@qmall.com Phone na;: 0651-1290103 Website:: www.ekespi.co.in



	TES	TREPORT	
Test Report No.	: ELES/RNC/2023/1984	Report Release Date	: 12.06.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04,2023
ULR No.	: TC883923000000945F		
CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	A Hindalan Inductries Limited	Consula Dad Ma	TT DOMNIC SOSAL LINES

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Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2023/AA/1411
		Location	: Kudag Village /
Thursday 1	the second s		Near Hindalco Campus
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 28.04.2023 to 29.04.2023
		Sample Received Date	: 10.05.2023
Plani Status	Non Operational	Type of Sample Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	÷ 10.05.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved

M	TEOROLOGICAL INFORMATION	
1	Average Temperature (°C) : 35	2 Barometric Pressure (mmHg) : 743
3	Relative Humidity (%) : 62	4 Weather Condition : Clear

NABL Accredited Discipline :	Chemical	Group	: Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	66	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	34	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	15 5182 (Part-2): 2001; RA2022	7.6	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	22.5	80 (24hrs)
Ozone (O3)	µg/m ⁴	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (Shrs)
Ammonia (NH3)	µg/m ³	15-5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ²	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/al ¹	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ²	ELES/AIR/SOP/01	<2.0	06 (Annual)

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Dr. Deependra Rumar Sinn. Ph. D. Environmental Engg. ELES Put Ltd. Technical Manay

Page 1 of 1

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Phone no.: 0651-2290103

Website Luniny elespico.in

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/1984	Report Release Date	: 12.06.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customet Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1411 : Kudag Village / Near Hindalco Campus	
Address.	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 28.04.2023 to 29.04.2023 : 10.05.2023	
Plant Status	: Non Operational	Type of Sample Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 10.05.2023 to 08.06,2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION				_
1	Average Temperature (°C)	: 35	2	Barometric Pressure (mm	Hg) : 743	
3	Relative Humidity (%)	: 62	4	Weather Condition	: Clear	

Discipline : Chemical		Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene*	µg/m ³	IS:5182 (part-11): 2006;RA2017	<1.0	05(Annual)		
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)		

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



**** End of Report****

Dr. Deepenoral Signature Sinne Ph. D. Environmental Engg. ELES Pyl. Ltd. Technical Manager

Page 1 of 1

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FUTT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (INARKHAND) 057 NOI-30AAECE07110184

Email: <u>Infa@elespi.cn.in</u>, eles innthi@omail.com Phone no.; 0651-2290103 Website : unww.alespi.co.io



Test Report No.	: ELES/RNC/2023/1985	Report Release Date	: 12,06.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC88392300000946F			

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sumple Ref. No. Location	: ELES/RNC/2023/AA/1412 : Jaljali Village/Near Shiv Temple Sabag Road,	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 28.04.2023 to 29.04.2023 : 10.05.2023 : Ambient Air	
Plant Status	: Non Operational	Sample Drawn By	: ELES/DOC/SMPL/02	
Period of Analysis	: 10.05.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved	

Average Temperature (°C) : 35	2	Barometric Pressure (mm	Hg) : 743
Relative Humidity (%) : 62	4	Weather Condition	: Clear

NABL Accredited					
Discipline :	Chemical	Group :	: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	60	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	1S 5182 (Part- 24): 2019	32	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6,9	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Pari-6): 2006; BA2022	15.2	80 (24hrs)	
Ozone (O ₃)	µg/m ²	IS 5182 (Part-9): 1974; RA2019	<20,0	100 (8hrs)	
Ammonia (NH3)	µg/m ²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	Jug/m ³	IS 5182 (Part-22); 2004; RA2019	0.008	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

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Dr. Deependra Rumar Sinna Bh. O. Environment - South

Page 1 of 1

**** End of Report****

ELES Pvt, Ltd. Technical Manager

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PLOT NO-30, MANSARDVAR ENCLAVE, TUPUDANA HATTA, RANCHI-334063 (JHARKHAND) GST NO- 204462697130124

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

ERRIVE SERVICES PLT. LTD.

Website (www.elespico.in

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/1985	Report Release Date	: 12.06.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1412 : Jaljali Village/Near Shiv Temple Sabag Road.
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 28.04.2023 to 29.04.2023 : 10.05.2023
Plant Status	: Non Operational	Type of Sample Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 10.05.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved

MI	TEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 35	2	Barometric Pressure (mmHg)	: 743
3	Relative Humidity (%)	: 62	4	Weather Condition	: Clear

Discipline : Chemical		Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene*	µg/m ³	IS:5182 (part-11): 2006;RA2017	<1.0	05(Annual)		
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)		

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



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Page 1 of 1

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VIRONMENTAL LABORATORIES

NOT NO-30, MANSAROVAR ENCLAVE, TUMIDANA HATIA RANCHI-234002 (IMARKHAMD) and was topoletesydentely

TAPD

Entall: Info@elestol.co.in . eles.ranchi@ambil.com Phone ma.: 0653-2290305 Website : www.elesnl.cn.ln



TEST REPORT									
port No.	: ELES/RNC/2023/1986	Report Release Date	: 12.06,2023						

13612310218		
and a state a disease	Work Order Date	: 21.04.2023
: TC88392300000947F		
	TC883923000000947F	TC883923000000947F

CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name	 Hindalco Industries Limited 	Sample Ref. No. Location	: ELES/RNC/2023/AA/1413 : Amtabi Village/Near Tailoring Centre
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	28.04.2023 to 29.04.2023 10.05.2023
Plant Status	: Non Operational	Type of Sample Sample Drawn By	: Ambient Air ELES/DOC/SMPL/02
Period of Analysis	: 10.05.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved

1	Average Temperature (°C)	: 35	2	Barometric Pressure (mmHg)	: 743
3	Relative Humidity (%)	: 62	4	Weather Condition	: Clear

NABL Accredited					
Discipline :	Discipline : Chemical Group :				
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	69	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	1S 5182 (Part- 24): 2019	40	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	7.5	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	14.2	80 (24hrs)	
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	<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	<2.0	06 (Annual)	

Reviewed by

APPROPRIATION CONTRACT PROPERTY AND

Dr. Deependra Kumar

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ELES Pvl. Ltd. Technical Manager

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARIHAND) 857 NO:- 20AAECE9713D124

Email: <u>info@elesal.co.in</u>, <u>eles.ronchl@amall.com</u> Phone no.: 0651-2290103 Webshe : www.elesal co.in

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TEST REPORT					
Test Report No.	: ELES/RNC/2023/1986	Report Release Date	: 12.06.2023		
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023		

CUSTOMER DET/	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1413 : Amtahi Village/Near Tailoring Centre
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 28.04.2023 to 29.04.2023 : 10.05.2023
Plant Status	: Non Operational	Type of Sample Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 10,05.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION				
1	Average Temperature (°C) : 35	2	Barometric Pressure (mm)	Hg) :743	
Э	Relative Humidity (%) : 62	4	Weather Condition	: Clear	

Discipline : Chemical		Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene*	µg/m ¹	IS:5182 (part-11): 2006;RA2017	<1.0	05(Annual)		
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)		

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



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FLOT NO-50, MANSAROVAR ENCLAVE_TURISOANA HATIA, RANCHI-834003 (IMARIKHAND) 811 NO:- PAAFEE97130121 onnicenting activates PV7: 17

Limill' (<u>illuñielespi.co.lu</u>, <u>eles rouchi@quucli.com</u> Phone na.: 0651-2290103 Website : www.siespi.co.lu



Test Report No.	+ ELES/RNC/2023/1987	Report Release Date	: 12.06.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000000948F			

CUSTOMER DET/	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1414 : Ambakona Village		
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 28.04.2023 to 29.04.2023 : 10.05.2023		
Plant Status	Non Operational	Type of Sample Sample Drawn By	: Amhient Air : ELES/DOC/SMPL/02		
Period of Analysis	= 10.05.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved		

	Average Temperature (°C) 735	2	Barometric Pressure (mm	(Hg) : 743	
3	Relative Humidity (%) : 62	4	Weather Condition	: Clear	

NABL Accredited				
Discipline :	Chemical	Group	: Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ¹	IS 5182 (Part-23): 2006; RA2022	68	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	35	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6,1	80 (24lus)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	20.3	80 (24hrs)
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ¹	15 5182 (Part-10): 1999; RA2019	<1.0	2 (Shrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	<0.007	I (24hrs)
Nickel (Ni)	ng/m ³	1S 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m'	ELES/AJR/SOP/01	<2.0	06 (Annoal)



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PLOT NO-30, MANBAROVAR ENCLAVE, TUPUDANA HATIA, RAINCHI-224003 (JMARKHAND) 857 NO:- 10AAECE97130124 En GINEERING SERVICES PVI. LTD, Email: <u>info@elesol.co.in</u> , eles.ranchi@gmail.com

Phone na 1 0551-2290203 Website I www.elespl.co.in

	TE	ST REPORT	
Test Report No.	: ELES/RNC/2023/1987	Report Release Date	: 12.06.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	- Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1414 : Ambakona Village	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 28.04.2023 to 29.04.2023 : 10.05.2023	
Plant Status	: Non Operational	Type of Sample Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 10.05.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved	

MI	TEOROLOGICAL INFORMATION				
1	Average Temperature (°C) : 35	2	Barometric Pressure (mm	Hg) ±743	
3	Relative Humidity (%) : 62	4	Weather Condition	: Clear	

Discipline : Chemical		Group	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene*	µg/m ³	IS:5182 (pari-11): 2006;RA2017	<1.0	05(Annual)	
Benzo (a) Pyrene*	ng/m³	IS:5182 (Part-12): 2004;RA2019	<0,5	01(Annual)	

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



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ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Chiro-Kukud Bauxite Mine-Environmental Monitoring Report

May 2023



CONTENT

Hind	alco Industries : Chiro Kukud Bauxite Mine	Environmental Monitoring Report	May 2023
	Chiro Kuku	d Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE		
1	Kukud Village/Near Mine area		
2	Kukud Village/Near Weigh Bridge		
3	Chiro Village/Near Mgazine		
4	Chiro Village/Near Pillar No.1		
	AMBIENT AIR QUALITY- BUFFER ZONE		
1	Kudag Village/ Near Hindalco Campus		
2	Jaljali Village/Near Shiv Temple Sabag Road		
3	Amtahi Village/Near Tailoring Centre		
4	Ambakona Village		

12





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

ENGINEERING SERVICES PVT. LTD.



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

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2307	Report Release Date	: 01.07.2023	
Work Order No.	: 13612310218	Work Order Date	; 21.04.2023	-
ULR No.	: TC883923000001229F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	Hindalco Industries Limited	Sample Ref. No. Location	ELES/RNC/2023/AA/1780 Kukud Village/Near Mine Area Chiro-Kukud Bauxite Mine (152.57ha)	
Plant Status	: Non Operational	Sampling Date Sample Received Date Type of Sample	: 27.05.2023 to 28.05.2023 : 06.06.2023 : Ambient Air	
Period of Analysis	: 06.06.2023 to 09.06.2023	Sample Drawn By Sample Condition	: ELES/DOC/SMPL/02 : Scaled & Preserved	

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

Discipline :	Chemical	Group	Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	62	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-2): 2001; RA2022	11.7	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	19.5	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	-μg/m ²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	pg/m ³	IS 5182 (Part-22): 2004; RA2019	0.01	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	<2.0	06 (Annual)



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Page 1 of 1

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

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CIW: U749993/H201897C011125

	TE	ST REPORT		
Test Report No.	; ELES/RNC/2023/2307	Report Release Date	: 01.07.2023	
Work Order No.	+ 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET/	CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location	: ELES/RNC/2023/AA/1780 : Kukud Village/Near Mine Area Chiro-Kukud Bauxite Mine (152,57ha)	
Plant Status	: Non Operational	Sampling Date Sample Received Date Type of Sample Sample Drawn By	: 27.05.2023 to 28.05.2023 : 06.06.2023 : Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 06.06.2023 to 09.06.2023	Sample Condition	: Sealed & Preserved	

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

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	µg/m ³	IS:5182 (part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	(IsumA)10

****End of Report****

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

APPENDIAL OCICLE INCOMMENTATION



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Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO: 20AAECE97130174

CIN: 0749991H2018PTC011125

ENGINEERING SERVICES PVP. LTD

Email: info@elespl.co.in , eles.ranchi@gmail.com Phane no.: 0651-7290103



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Test Report No.	: ELES/RNC/2023/2308	Report Release Date	: 01.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000001230F		

CUSTOMER DET/	AILS	SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location	 ELES/RNC/2023/AA/1781 Kukud Village/Near Weigh Bridge Chiro-Kukud Bauxite Mine (152,57ha) 	
		Sampling Date Sample Received Date	: 27.05.2023 to 28.05.2023 : 06.06.2023	
Plant Status	: Non Operational	Type of Sample — Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 06.06.2023 to 09.06.2023	Sample Condition	: Sealed & Preserved	

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

Discipline :	Chemical	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	71	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	39	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	1S 5182 (Part-2): 2001; RA2022	11.3	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	15 5182 (Part-6): 2006; RA2022	18.6	80 (24hrs)
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ¹	15 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.019	1 (24hrs)
Nickel (NI)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)



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****End of Report**** Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.

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

CIN: 4/749993H2018PT0811129

	TE	ST REPORT		_
Test Report No.	: ELES/RNC/2023/2308	Report Release Date	: 01.07.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	 Hindalco Industries Limited : Lohardaga, Jharkhand-835302 	Sample Ref. No. Location	: ELES/RNC/2023/AA/1781 : Kukud Village/Near Weigh Bridg Chiro-Kukud Bauxite Mine (152,57ha)	
Plant Status	: Non Operational	Sampling Date Sample Received Date Type of Sample Sample Drawn By	: 27.05.2023 to 28.05.2023 : 06.06.2023 : Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 06.06.2023 to 09.06.2023	Sample Condition	: Sealed & Preserved	

MI	CTEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 37	- 2	Barometric Pressure (mmHg)	:742
3	Relative Humidity (%)	: 59	4	Weather Condition	; Clear

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

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



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ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT. LTD.

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

SIN: U7#9999/H2018P7C011125

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



	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2309	Report Release Date	: 01.07.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000001231F			-

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	Hindalco Industries Limited Lohardaga, Jharkhand-835302	Sample Ref. No. Location	: ELES/RNC/2023/AA/1782 : Chiro Village/Near Magazine Chiro-Kukud Bauxite Mine (152,57ha)	
Plant Status	: Non Operational	Sampling Date Sample Received Date Type of Sample	: 27.05.2023 to 28.05.2023 : 06.06.2023 : Ambient Air	
Period of Analysis	: 06.06.2023 to 09.06.2023	 Sample Drawn By Sample Condition 	: ELES/DOC/SMPL/02 : Scaled & Preserved	

MI	ETEOROLOGICAL INFORMATION				
1	Average Temperature (°C) : 37	2	Barometric Pressure (mml	Ig) : 742	
3	Relative Humidity (%) : 59		Weather Condition	: Clear	-

NABL Accredited Discipline : Chemical Group : Atmospheric Pollution Parameter Unit Test Protocol Result **Regulatory Limit** Particulate Matter (PM10) Hg/m3 IS 5182 (Part-23): 2006; RA2022 65 100 (24hrs) $\mu g/m^3$ Particulate Matter (PM2.5) IS 5182 (Part- 24): 2019 37 60 (24hrs) Sulphur Di-Oxide (SO₂) µg/m' IS 5182 (Part-2): 2001; RA2022 8.3 80 (24hrs) Nitrogen Di-Oxide (NO2) ug/m3 IS 5182 (Part-6): 2006; RA2022 16.5 80 (24hrs) Hg/m3 Ozone (O₃) IS 5182 (Part-9): 1974; RA2019 <20.0 100 (8hrs) Ammonia (NH₃) ng/m IS 5182 (Part- 25): 2018 < 10.0400 (24hrs) Carbon Monoxide (CO) mg/m IS 5182 (Part-10): 1999; RA2019 <1.0 2 (8hrs) Lead (Pb) µg/m³ IS 5182 (Part-22): 2004: RA2019 0.013 1 (24hrs) Nickel (Ni) ng/mª 1S 5182 (Part-26):2020 <6.0 20 (Annual) Arsenic (As) ng/m ELES/AIR/SOP/01 <2.0 05 (Annual)

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Anthorized Signatory Dr. Deependra Kumar Sinha

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Ph. D. Environmental Engg.

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

ENGINEERING SERVICES PVT. LTD.

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

CIN: U74999/H2018PTC011125

All and a second second	TE	ST REPORT	
Test Report No.	: ELES/RNC/2023/2309	Report Release Date	: 01.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited	Sample Ref. No. Location	 ELES/RNC/2023/AA/1782 Chiro Village/Near Magazine Chiro-Kukud Bauxite Mine (152,57ha) 	
Plant Status	: Non Operational	Sampling Date Sample Received Date Type of Sample Sample Drawn By	: 27.05.2023 to 28.05.2023 : 06.06.2023 : Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 06,06,2023 to 09.06.2023	Sample Condition	: Scaled & Preserved	

1	Average Temperature (°C) = 37	2	Barometric Pressure (mm	Hg) : 742
3	Relative Humidity (%) = 59	4	Weather Condition	: Clear

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

**** End of Report****

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

METRODOLOGICAL INFORMATION



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

ENGINEERING SERVICES PVT. LTD.



DW: U7-999942018PTC011125

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

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2310	Report Release Date	: 01.07.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000001232F			-

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1783 : Chiro Village/Near Pillar No.1 Chiro-Kukud Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	(152.57ha) : 27.05.2023 to 28.05.2023 : 06.06.2023	
Plant Status : Non Operational		Type of Sample	: Ambient Air	
Period of Analysis	: 06.06.2023 to 09.06.2023	 Sample Drawn By Sample Condition 	: ELES/DOC/SMPL/02 : Sealed & Preserved	

1	Average Temperature (°C) ± 37	2	Barometric Pressure (mm	Hg) : 742
3	Relative Humidity (%) : 59	4	Weather Condition	: Clear

Discipline :	Chemical	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	64	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	32	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m³	IS 5182 (Part-2): 2001; RA2022	7.2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	16.6	80 (24hrs)
Ozone (Q3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ²	1S 5182 (Part-25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ^T	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	0,014	1 (24hrs)
Nickel (NI)	ng/m ³	18 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by

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Page 1 of 1

Ph. D. Environmental Engg.

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

ENGINEERING SERVICES PVT. L7D.

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

CIN-U74999UH2016P7C011175

TEST REPORT				
Test Report No.	: ELES/RNC/2023/2310	Report Release Date	: 01.07.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location	: ELES/RNC/2023/AA/1783 : Chiro Village/Near Pillar No. I Chiro-Kukud Bauxite Mine (152,57ha)	
Plant Status	- Non Operational	Sampling Date Sample Received Date Type of Sample Sample Drawn By	: 27.05.2023 to 28.05.2023 : 06.06.2023 : Ambient Air	
Period of Analysis	: 06.06.2023 to 09.06.2023	Sample Condition	: ELES/DOC/SMPL/02 : Sealed & Preserved	

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

Discipline	: Chemical	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	µg/m ³	IS:5182 (part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0,5	01(Annual)

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

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Authorized Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental Engo. ELES Pvt. Ltd. Technical Manager;

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PLOT NO-30, MANSAROVAR ENCLAVE, FUPUDANA HATIA, RANCHI-834003 (IHARKHAND) G57 ND:- 20AAECE9713D124

CIN: UT49980H2012PTCR11125

ENGINEERING SERVICES PVT. LTD.



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

TES	ST REPORT
: ELES/RNC/2023/2315	Report Release Date

Test Report No.	: ELES/RNC/2023/2315	Report Release Date	: 01.07.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000001237F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1788 : Kudag Village / Near Hindalco Campus	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 28.05.2023 to 29.05.2023 : 06.06.2023	
Plant Status	: Non Operational	Type of Sample Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 06.06.2023 to 09.06.2023	Sample Condition	: Sealed & Preserved	

1	Average Temperature (°C) : 36	2	Barometric Pressure (mmH	(g) ±741	
3	Relative Humidity (%) = 61	4	Weather Condition	: Clear	

Discipline :	Chemical	Group :	: Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	62	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	30	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	8.1	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	17.2	80 (24hrs)
Ozone (Q ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ⁷	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m1	15 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m3	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m'	ELES/AIR/SOP/01	<2.0	06 (Annual)



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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-\$34003 (JHARKHAND) GST NO:- 20AAECE9713D1Z4

CIN: U74995/H2928P7C011125

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT				
Test Report No.	: ELES/RNC/2023/2315	Report Release Date	: 01.07.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	-

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1788 : Kudag Village / Near Hindalco Campus	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 28.05.2023 to 29.05.2023 : 06.06.2023	
Plant Status	: Non Operational	Type of Sample Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 06.06.2023 to 09.06.2023	Sample Condition	: Sealed & Preserved	

MI	TEOROLOGICAL INFO	RMATION	-	and the second sec		
	Average Temperature (%C)	= 36	2	Barometric Pressure (mm	Hg) : 741	-
3	Relative Humidity (%)	:61	4	Weather Condition	: Clear	

Discipline : Chemical		Group	: Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	µg/m ²	IS:5182 (part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)

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



****End of Report****

Authorized Signatory Dr. Deepenora Kumar Sinha Ph. D. Environmental Enga ELES Pvt. Ltd. Technical Menager

Page 1 of 1

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

GN: 07255591H20388710071125

ENGINEERING SERVICES PVT. LTD.





11	Website ; www.elespl.co.in	TC-DU
TEST REPORT		

Test Report No.	: ELES/RNC/2023/2316	Report Release Date	: 01.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000001238F		

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1789 : Juljali Village/Near Shiv Temple Sabag Road.
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 28.05.2023 to 29.05.2023 : 06.06.2023
Plant Status	: Non Operational	Type of Sample Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 06.06.2023 to 09.06.2023	Sample Condition	: Sealed & Preserved

1	Average Temperature (°C) : 36	.2	Barometric Pressure (mm	Hg) :741	
3	Relative Humidity (%) : 61	4	Weather Condition	: Clear	

Discipline 2	Chemical	Group :	: Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	54	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	27	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	1S 5182 (Part-2): 2001; RA2022	5.4	80 (24hrs)
Nitrogen Di-Oxide (NO1)	µg/m ¹	IS 5(82 (Part-6): 2006; RA2022	19.5	80 (24hrs)
Ozone (O3)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.008	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	<2.0	06 (Annual)

Reviewed by

Authorized Signatory Sinna Deebeugle

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-\$34003 (JHARKHAND) GST NO:- 20AAECE9713D124

ENGINEERING SERVICES PVT. LTD.

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

CIN: U74999/H2018/FC011125

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2316	Report Release Date	: 01.07.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1789 : Jaljali Village/Near Shiv Temple Sabag Road.	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 28.05.2023 to 29.05.2023 : 06.06.2023	
Plant Status	: Non Operational	Type of Sample Sample Drawn By	: Ambient Air ; ELES/DOC/SMPL/02	
Period of Analysis	: 06.06.2023 to 09.06.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATIO	N			-
1	Average Temperature (°C) 336	2	Barometric Pressure (mu	tHg) : 741	-
3	Relative Humidity (%) :61	4	Weather Condition	: Clear	-

Discipline	: Chemical	Group	: Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	µg/m ³	IS:5182 (part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)

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



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

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Page 1 of 1

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

CIN: U74999/H2018PTC011225

ENGINEERING SERVICES PVT. LTD.



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

TEST REPORT				
Test Report No.	: ELES/RNC/2023/2317	Report Release Date	: 01.07.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000001239F			

CUSTOMER DET/	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1790 : Amtahi Village/Near Tailoring Centre	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 28.05.2023 to 29.05.2023 : 06.06.2023 : Ambient Air	
Plant Status	: Non Operational	Sample Drawn By	: ELES/DOC/SMPL/02	
Period of Analysis	: 06,06,2023 to 09.06.2023	Sample Condition	: Sealed & Preserved	

	TATE I	ETEOROLOGICAL INFOI	CHATTON			
	1	Average Temperature (°C)	: 36	2	Barometric Pressure (mmHg)	: 741
1	3	Relative Humidity (%)	:61	4	Weather Condition	: Clear

NABL Accredited Discipline 1	Chamical	Group	Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	63	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	34	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6.5	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	1S 5182 (Part-6): 2006; RA2022	11.8	80 (24hrs)
Ozone (O3)	µg/m³	IS 5182 (Part-9): 1974: RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	$\mu g/m^3$	IS 5182 (Part-22): 2004; RA2019	<0.002	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	<2.0	06 (Annual)



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Page 1 of 1

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mical Manager The Document stated as Test Report, is issued by the Laboratory under General Tenus and Conditions, only on Company letter head in pro-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Eaboratory at the tane of involvement only and within the lemits of cherty's instructions. The Eaboratory is responsible for all the information or data provided on the report. except the information which is provided by the client. The Report cannot be reproduced except to full and any part of the report is not taken out of context, without prior written appeaval of the Laboratory. The Report in Till or in part thall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction seases. Any unauthorized alternation & faisilication of the content or appearance of the Ten Report is unluwful and offenders may be prosecuted in the fullest extent of the law. All the samples are retained for J0days from the Date of releasedssue of the Test Report. The samples from Regulatory budies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall he done within 15days from the Date of Test Report released/sourd. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in Minutes format. Althreviation used: N/A (Not Applicable); BDL (Below Detection Limit). LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT, LTD.

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

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2317	Report Release Date	: 01.07.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1790 : Amtahi Village/Near Tailoring Centre	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 28.05.2023 to 29.05.2023 : 06.06.2023	
Plant Status	: Non Operational	Type of Sample Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 06.06.2023 to 09.06.2023	Sample Condition	: Sealed & Preserved	

MI	TEOROLOGICAL INFORMATION				-
1	Average Temperature (°C) : 36	2	Barometric Pressure (mm	(Hg) : 741	
3	Relative Humidity (%) : 61		Weather Condition	: Clear	

Discipline : Chemical		Group	: Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	µg/m ³	IS:5182 (part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene*	ng/m³	IS:5182 (Part-12): 2004;RA2019	<0.5	Ot(Annual)

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



****End of Report****

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Page 1 of 1

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PLOT NO-30, MANSARDVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- JMAAECE97130124

ENGINEERING SERVICES PVT. LTD.



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

	TEST	REPORT	
Test Report No.	: ELES/RNC/2023/2318	Report Release Date	: 01.07.2023
Work Order No.	: 13612310218	Work Order Date	; 21.04.2023
ULR No.	: TC883923000001240F		
CUSTOMER DET/	AILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date	: ELES/RNC/2023/AA/1791 : Ambakona Village : 28.05.2023 to 29.05.2023 : 06.06.2023
Plant Status	: Non Operational	Type of Sample Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 06.06.2023 to 09.06.2023	Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION

1	Average Temperature (%C)	: 36	2	Barometric Pressure (mm	Hg) : 741	
3	Relative Humidity (%)	: 61	4	Weather Condition	:: Clear	

NABL Accredited Discipline :	Chemical	Group :	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23); 2006; RA2022	56	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	30	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	1S 5182 (Part-2): 2001; RA2022	7.3	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	μg/m ³	IS 5182 (Part-6): 2006; RA2022	19.8	80 (24hrs)	
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₄)	µg/m³	1S 5182 (Paris 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ²	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ²	IS 5182 (Part-22): 2004; RA2019	< 0.002	I (24hrs)	
Nickel (Ni)	ng/m ³	1S 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	



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Manager

Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.

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

	TE	ST REPORT	
Test Report No.	: ELES/RNC/2023/2318	Report Release Date	: 01.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date	: ELES/RNC/2023/AA/1791 : Ambakona Village : 28.05.2023 to 29.05.2023 : 06.06.2023	
Plant Status	: Non Operational	Type of Sample Sample Drawn By	2 Ambient Air 2 ELES/DOC/SMPL/02	
Period of Analysis	: 06.06.2023 to 09.06.2023	Sample Condition	: Sealed & Preserved	

MI	TEOROLOGICAL INFORMATION		and the second sec		
1	Average Temperature (°C) : 36	2	Barometric Pressure (mm)	(12) : 741	-
3	Relative Humidity (%) ;61		Weather Condition	Clear	_

Discipline	: Chemical	Group	: Atmospheri	c Pollution
Parameter Unit		Test Protocol	Result	Regulatory Limit
Benzene*	µg/m ³	IS:5182 (part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	(launnA)10

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



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ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Chiro-Kukud Bauxite Mine-Environmental Monitoring Report

June 2023



CONTENT

Hind	alco Industries : Chiro Kukud Bauxite Mine Environmental Monitoring Report June 2023
	Chiro Kukud Bauxite Mine
	AMBIENT AIR QUALITY- CORE ZONE
1	Kukud Village/Near Mine area
2	Kukud Village/Near Weigh Bridge
3	Chiro Village/Near Mgazine
4	Chiro Village/Near Pillar No.1
	AMBIENT AIR QUALITY- BUFFER ZONE
1	Kudag Village/ Near Hindalco Campus
2	Jaljali Village/Near Shiv Temple Sabag Road
3	Amtahi Village/Near Tailoring Centre
4	Ambakona Village





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

ENGINEERING SERVICES PVT. LTD

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



Da 1.0. 24		STREPORT		
Test Report No.	: ELES/RNC/2023/2807	Report Release Date	: 29.07.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000001672F			

CUSTOMER DET/	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1987 : Kukud Village/Near Mine Area Chiro-Kukud Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	(152,57ha) : 15.06.2023 to 16.06.2023 : 17.06.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 17.06,2023 to 27.06,2023	Sample Condition	: Sealed & Preserved	

MI	TEOROLOGICAL INFORMATION			the second se	_
1	Average Temperature ("C) = 33	2	Barometric Pressure (mn	nHg) : 739	
3	Relative Humidity (%) ± 60	4	Weather Condition	: Clear	

NABL Accredited Discipline :	Chemical	Group :	Atmospheri	c Pollution
Parameter	Uait	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	pg/m ³	IS 5182 (Part-23): 2006; RA2022	68	100 (24hrs)
Particulate Matter (PM2.5)	pg/m ³	IS 5182 (Part- 24): 2019	35	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	12.1	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	1S 5182 (Part-6): 2006; RA2022	22.8	80 (24hrs)
Ozone (O ₁)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.008	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	<2.0	06 (Annual)



Authorised Signatory Or, Deependra Kumar Sinha

****End of Report****

. D. Environmental Engg.

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- JUAAECE9713D124

ENGINEERING SERVICES PVT. LTD.

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

	TI	STREPORT		
Test Report No.	+ ELES/RNC/2023/2807	Report Release Date	: 29.07.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET/	AILS	SAMPLE DETAILS	and the second se
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	ELES/RNC/2023/AA/1987 Kukud Village/Near Mine Area Chiro-Kukud Bausite Mine
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	(152.57ba) : 15.06.2023 to 16.06.2023 : 17.06.2023
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 17.06.2023 to 27.06.2023	Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION

1	Average Temperature (°C) : 33	2	Barometric Pressure (mm	Hg) : 739	
3	Relative Humidity (%) : 60	4	Weather Condition	: Clenr	

Discipline : Chemical		Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene*	µg/m ²	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)	
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)	

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



****End of Report****

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

Page 1 of 1

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PLOT NO-30, MANSARDVAR ENCLAVE, TUPHDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO- 20AAECE97130124

ENGINEERING SERVICES FVT. LTD.

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



	TF	ST REPORT		
Test Report No.	: ELES/RNC/2023/2808	Report Release Date	: 29.07.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000001673F			_

CUSTOMER DET/	AILS	SAMPLE DETAILS	The second s
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1988 ; Kukud Village/Near Weigh Bridge Chiro-Kukud Bauxite Mine
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	(152.57ha) : 15.06.2023 to 16.06.2023 : 17.06.2023
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 17.06.2023 to 27.06.2023	Sample Condition	; Sealed & Preserved

1	Average Temperature (°C) : 33	2	Barometric Pressure (mm	Hg) : 739	
3	Relative Humidity (%) : 60	4	Weather Condition	: Clear	

Discipline :	Chemical	Group :	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23); 2006; RA2022	76	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	41	60 (24hrs)		
Sulphur Di-Oxide (SO2)	µg/m ³	JS 5182 (Part-2): 2001; RA2022	13.1	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	µg/m ³	15 5182 (Part-6): 2006; RA2022	23.4	80 (24hrs)		
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (Shrs)		
Ammonia (NH ₁)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ²	15 5182 (Part-10): 1999; RA2019	<1.0	2.(8hrs)		
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.012	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	<2.0	06 (Annual)		

Reviewed/by

Authorised Signatory Dr. Deependra Kumar Sinha

****End of Report****

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Page 1 of 1 ELES Pvt. Ltd. Technical Manager The Decument staid as Test Report, to resuld by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved serial. The results shown in the Test Report refer or relates only to the polymative done by the Laboratory soly. The information stated on the Test Report referses the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or dats 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 laken out of conject, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory: Attention is drawn to the limitation of lability, compensation and jacisdiction issues. Any unauthorized ulteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be remated as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entry Time schedule mentioned in Text Report 6 in 24hours formit: Abbraviation used NVA (Not Applicable), BOL (Below Detection Limit), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

FF B	er repo	T REPOR

Test Report No.	: ELES/RNC/2023/2808	Report Release Date	: 29.07.2023	
Work Order No.	: 13612310218	Work Order Date	; 21.04.2023	

CUSTOMER DETA	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	- Hindalco Industries Limited - Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/1988 : Kukud Village/Near Weigh Bridge Chiro-Kukud Bauxite Mine (152,57ha) : 15.06,2023 to 16.06,2023		
Mines Status	: Operational	Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	: 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt, Ltd.		
Period of Analysis	: 17.06.2023 to 27.06.2023	Sample Condition	: Sealed & Preserved		

	Average Temperature (°C) ± 33	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%) : 60	4	Weather Condition	: Clear

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

****End of Report****

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



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

ENGINEERING SERVICES FTT. 150

Email: info@elespl.co.in , eles.ranchl@gmall.com Phone no.: 0551-2290103 Website - www.elespl.co.in



Test Report No.	: ELES/RNC/2023/2809	Report Release Date	: 29.07.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000001674F			

CUSTOMER DET/	AILS	SAMPLE DETAILS	
Customer Name Address	 Hindalco Industries Limited : Lohardaga, Jharkhand-835302 	Sample Ref. No. Location	 ELES/RNC/2023/AA/1989 Chiro Village/Near Magazine Chiro-Kukud Bauxite Mine (152,57ha) 15.06,2023 to 16.06,2023
Mines Status	: Operational	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 17.06.2023 to 27.06.2023	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

1	Average Temperature (°C) 233	2	Barometric Pressure (mm	Hg) : 739	
3	Relative Humidity (%) 60	4	Weather Condition	: Clear	

Discipline :	Chemical	Group	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	61	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	33	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	1S 5182 (Part-2): 2001; RA2022	7.5	80 (24hrs)	
Nitrogen Di-Oxide (NO3)	µg/m ³	18 5182 (Part-6): 2006; RA2022	18.2	80 (24hrs)	
Ozone (O3)	µg/m1	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH3)	µg/m ²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ³	1S 5182 (Part-22): 2004; RA2019	0.010	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	<2.0	06 (Annual)	

Reviewed by

Authorised Signatory Jr. Deependra Kumar Sinha

****End of Report**** Page 1 of 1

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Page 1 of 1 ELES Pvt. Ltd. Toctinical Manader The Document stated as Test Report, is essed by the Laboratory under General Terms and Conditions, only on Company Land and the appendix the remain shown in the Test Report refer or relates only to the job analysis done by the Laboratory only. The information Silted no fire Test Report reflects the findings done by the Laberancey at the time of involvement only and within the limits of client's insurations. The Laboratory is responsible for all the information or dam provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions tailess prior permission has been secured from the Management of the Laboratory. Attention is drawn to the Minimion of Indulty, compensation and jurisdiction issues. Any unauthorized attention & fidsification 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/some of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall he done within 15 days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Tast Report is in 24hours format. Althreviation used: N/A (Not Applicable), BDL (Below Detection Linut), LDL (Lower Detection Linut)



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

ENGINEERING SERVICES PVT. LTD

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

	TES	TREPORT	
Test Report No.	; ELES/RNC/2023/2809	Report Release Date	: 29.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
CUSTOMER DET	AILS	SAMPLE DETAILS	1000 B 1000
Customer Name	2 Windalco Industries Limited	Sample Ref. No.	: ELES/RNC/2023/AA/1989

Address	t Lohardaga, Jharkhand-835302	Location Sampling Date Sample Received Date	 Chiro Village/Near Magazine Chiro-Kukud Bauxite Mine (152.57ha) 15.06.2023 to 16.06.2023 17.06.2023
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 17.06.2023 to 27.06.2023	Sample Condition	Sealed & Preserved

METEOROLOGICAL INFORMATION

Average Temperature (°C) :33 Ľ Relative Humidity (%) :60 3

2	Barometric Pressure (mmHg)
4	Weather Condition

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	µg/m ³	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene®	ng/m ³	IS:5182 (Part-12); 2004;RA2019	<0.5	01(Annual)

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



: 739

: Clear

Authorised Signatory ****Ead of Report**** Jr. Deependra Kumar Sinha Ph. D. Environmental Engg. ELES Pvi. Ltd., Technical Manager

Page 1 of 1

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

CMr. 074949043018970011125

ENGINEERING SERVICES PVT_LED

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



	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2810	Report Release Date	: 29.07.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000001675F			

CUSTOMER DET/	AILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/1990 : Chiro Village/Near Pillar No. Chiro-Kukud Bauxite Mine (152,57ha) : 15.06.2023 to 16.06.2023
Mines Status	: Operational	Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	: 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 17.06.2023 to 27.06.2023	Sample Condition	: Sealed & Preserved

4	Average Temperature (°C) = 33	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%) = 60	4	Weather Condition	: Clear

Discipline :	Chemical	Group :	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	58	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-2): 2001; RA2022	6.4	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	19.1	80 (24hrs)	
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (Shrs)	
Ammonia (NH3)	µg/m ³	1S 5182 (Part-25); 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ²	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ^a	IS 5182 (Part-22): 2004; RA2019	0.009	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ¹	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Reviewed by

Anthorised Signatory ****End of Report**** Jr. Deependra Kumar Sinin.

Ph. D. Environmental E ELES Pyt. Ltd. Technical Manager

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Page 1 of 1



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

ENGINEERING SERVICES PVT. LTD.

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	TH	ST REPORT		
Test Report No.	ELES/RNC/2023/2810	Report Release Date	: 29.07.2023	
Work Order No.	13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET/	ALS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1990 ; Chiro Village/Near Pillar No. Chiro-Kukud Bauxite Mine (152.57ha)
Address	: 1.ohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 15.06.2023 to 16.06.2023 : 17.06.2023 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sample Drawn By	ELES/DOC/SMPL/02 ELES Pvt Ltd
Period of Analysis	: 17.06.2023 to 27.06.2023	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFORMAT	HON	1	
1	Average Temperature (°C) : 33	2	Barometric Pressure (mmH	g) : 739
3	Relative Humidity (%) : 60	4	Weather Condition	: Clear

Discipline : Chemical		Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene*	µg/m ⁹	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)	
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)	

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



****End of Report****

Authorised Signatory Jr. Deependra Kumar Sinn. Ph. D. Environmental Engg. ELES Pvt. Ltd., Technical Manager

Page 1 of 1

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PLOT NO-30, MANSARDVAR ENCLAVE, TUMUDANA HATTA, RANCHT-834003 (JHARKHAND) GST NO--20AAECE9713022/

ENGINEERING SERVICES PVT. LTD.

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



Test Report No.	: ELES/RNC/2023/2811	Report Release Date	: 29.07.2023	-
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No:	: TC883923000001676F			

CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/1991 : Kudag Village / Near Hindalco Campus : 15.06.2023 to 16.06.2023
Mines Status	: Operational	Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	: 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 17.06.2023 to 27.06.2023	Sample Condition	: Sealed & Preserved

1	Average Temperature (°C)	: 34	2	Barometric Pressure (mmHg)	: 743
3	Relative Humidity (%)	+61	4	Weather Condition	: Clear

NABL Accredited					
Discipline :	Chemical	Group	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ⁴	IS 5182 (Part-23): 2006; RA2022	56	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	28	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	7.6	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	15.7	80 (24hrs)	
Ozone (O3)	µg/m ²	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH3)	µg/m ³	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<i.0< td=""><td>2 (8hrs)</td></i.0<>	2 (8hrs)	
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	<0.002	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	<2.0	06 (Annual)	
			the second se		

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METEOROLOCICAL INFORMATION

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****End of Report**** Page 1 of 1

Jr. Deependra Kumar Ph. D. Environmental Engg.

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

ENGINEERING SERVICES PVF. LTD.

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

	11	ST REPORT		
Test Report No.	: ELES/RNC/2023/2811	Report Release Date	T 29.07.2023	
Work Order No.	: 13612310218	Work Order Date	= 21.04.2023	

TROT DEDONG

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1991 : Kudag Village / Near Hindalco Campus	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 15.06.2023 to 16.06.2023 : 17.06.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 17.06.2023 to 27.06.2023	Sample Condition	= Sealed & Preserved	

MI	TEOROLOGICAL INFORMATION			
1	Average Temperature (%C) : 34	2	Barometric Pressure (mmH	g) : 743
3	Relative Humidity (%) :61	4	Weather Condition	= Clear

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

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



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

Page 1 of 1

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

CIN: U/49990H1018FTC011123

ENGINEERING SERVICES PVT, LTD.

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



	<u>11</u>	ST REPORT		
Test Report No.	; ELES/RNC/2023/2812	Report Release Date	: 29.07.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000001677F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	 ELES/RNC/2023/AA/1992 Jaljali Village/Near Shiv Temple Sabag Road. 15.06.2023 to 16.06.2023 	
Address Mines Status	: Operational	Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	: 17.06.2023 Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Mines Status			Sealed & Preserved	
Period of Analysis	: 17.06.2023 to 27.06.2023	Sample Condition		

1. Average To	emperature (°C) : 34	2	Barometric Pressure (mm	Hg) : 743
3 Relative H		4	Weather Condition	: Clear

Discipline :	Chemical	Group	: Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	1S 5182 (Part-23): 2006; RA2022	49	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	24	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6.2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	20.8	80 (24hrs)
Ozone (O ₃)	µg/m ³	1S 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m [≅]	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	15 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.005	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	<2.0	06 (Annual)

Reviewed by

Authorised Signatory

****End of Report****

Dr. Deependra Kumar Sinha

Ph. D. Environmental Engg.

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Page 1 of 1



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-B34003 (IHARKHAND) GST NO- 28AAECE9713D124

:61

ENGINEERING SERVICES PVT. LTP.

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

	TEST	REPORT			
Test Report No.	: ELES/RNC/2023/2812	Report Release Date	: 29.07.2023		
Work Order No.	: 13612310218	Work Order Date : 21.04.2023			
CUSTOMER DET.	AILS	SAMPLE DETAILS			
Costomer Name Address	: Hindaloo Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2023/AA/1992 : Jaljali Village/Near Shiv Temple Sabag Road. : 15.06.2023 to 16.06.2023 : 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02		

Mines Status	: Operational	Sample Drawn By : ELES Pvt. Ltd.			
Period of Analysis	: 17.06.2023 to 27.06.2023	Sam	ale Condition	: Sealed & Preserved	
METEOROLOGIC	AL INFORMATION				
1 Average Tempe			1	ssure (mmHg) : 743	

		-
T.	Relative Humidity (%)	

4 Weather C

the streament of (sustaining)	
Condition	: Clear

Discipline : Chemical Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	ng/m ³	IS:5182 (Part-11): 2006;RA2017	<1,0	05(Annual)
Benzo (a) Pyrene*	ng/m ³	1S:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)

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



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Page 1 of 1

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

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



Test Report No.	: ELES/RNC/2023/2813	Report Release Date	: 29.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000001678F		
CUSTOMER DETA	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 Sample Drawn By	: ELES/RNC/2023/AA/1993 : Amtahi Village/Near Tailoring Centre : 16.06.2023 to 17.06.2023 : 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. : Sealed & Preserved
Period of Analysis	: 17.06.2023 to 27.06.2023	Sample Condition	: Seeled & Freserved

TEST REPORT

 Average Temperature (°C) : 33 	2	Barometric Pressure (mmHg)	: 743
3 Relative Humidity (%) : 60	4	Weather Condition	: Clear

Discipline : Chemical Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	1S 5182 (Part-23): 2006; RA2022	65	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	36	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	8.3	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	1S 5182 (Part-6): 2006; RA2022	18.3	80 (24hrs)
Ozone (O ₁)	µg/m ²	1S 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.012	1 (24hrs)
Nickel (Ni)	ng/m ³	(\$ 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)



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

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) 05T NO:- 20AAECE97130124

ENGINEERING SERVICES PVT. LTD.

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

	IJ	ST REPORT		_
Test Report No.	: ELES/RNC/2023/2813	Report Release Date	: 29.07.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	_

CUSTOMER DETA	alls	SAMPLE DETAILS	
Customer Nanie	- Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1993 : Amtahi Village/Near Tailoring Centre
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	 : 16.06.2023 to 17.06.2023 : 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sample Drawn By	: ELES Pvt. Ltd. : Sealed & Preserved
Period of Analysis	: 17.06.2023 to 27.06.2023	Sample Condition	: Sealed ac riescived

METEOROLOGICAL INFORMATION

1 Average Temperature (°C) : 34	2	Barometric Pressure (mmHg)	:743
3 Relative Humidity (%) : 61	4	Weather Condition	: Clear

: Chemical	Group	: Atmospheri	e Pollution
Unit	Test Protocol	Result	Regulatory Limit
ug/m ³	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)
	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)
	E Chemical Unit µg/m ³ ng/m ³	Unit Test Protocol µg/m³ IS:5182 (Part-11): 2006;RA2017	Unit Test Protocol Result µg/m³ IS:5182 (Part-11): 2006;RA2017 <1.0

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



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

ENGINEERING SERVICES PTT. LTD

Email: info@elexpl.co.in., elex.ranchi@amail.com Phone no.: 0651-2290103 Website / www.elexnl.po.in



	TI	ST REPORT	
Test Report No.	: ELES/RNC/2023/2814	Report Release Date	1 29.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000001679F		

CUSTOMER DET/	ALS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindaico Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By Sample Condition	: ELES/RNC/2023/AA/1994 Ambakona Village 16.06.2023 to 17.06.2023 17.06.2023 Ambient Alr ELES/DOC/SMPL/02 ELES Pvt. Ltd. Sealed & Preserved
Period of Analysis	: 17.06.2023 to 27.06.2023		

1 Average Temperature (^a C)	4.33	2	Barometric Pressure (mm	Hg) : 743	
3 Relative Humidity (%)	: 60	4	Weather Condition	; Clear	

ABL Accredited Discipline : Chemical Group : Atmospheric Pollution					
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m ³	1S 5182 (Part-23): 2006; RA2022	50	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	1S 5182 (Part- 24): 2019	26	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6.7	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	23,4	80 (24hrs)	
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH1)	µg/m ³	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ¹	15 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	<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	<2.0	06 (Annual)	



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Page 1 of 1

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

TEST REPORT					
Test Report No.	: ELES/RNC/2023/2814	Report Release Date	: 29.07.2023		
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023		

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	: ELES/RNC/2023/AA/1994 : Ambakona Village : 16.06.2023 to 17.06.2023 : 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Mines Status	: Operational	Sample Condition	: Sealed & Preserved
Period of Analysis	: 17.06.2023 to 27.06.2023		

MF	TEOROLOGICAL INFORMATION			
	Average Temperature (°C) : 33	2	Barometric Pressure (mmHg)	:743
3	Relative Humidity (%) : 60	4	Weather Condition	: Clear

Discipline	: Chemical	Group	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Henzene*	ug/m ³	1S:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)	
Benzo (a) Pyrene*	ng/m ³	1S:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)	

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



****End of Report****

Authorised Signatory Or. Deependra Kumar Sinha Ph. D. Environmental Engo. ELES Pvt Ltd. Technical Manager

Page 1 of 1

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ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Chiro-Kukud Bauxite Mine-Environmental Monitoring Report

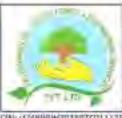
July 2023



CONTENT

Hind	dalco Industries : Chiro Kukud Bauxite Mine Environmental Monitoring Report	July 2023
-	Chiro Kukud Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE	
1	Kukud Village/Near Mine area	
2	Kukud Village/Near Weigh Bridge	
3	Chiro Village/Near Mgazine	
4	Chiro Village/Near Pillar No.1	
	AMBIENT AIR QUALITY- BUFFER ZONE	
1	Kudag Village/ Near Hindalco Campus	
2	Jaljali Village/Near Shiv Temple Sabag Road	
3	Amtahi Village/Near Tailoring Centre	
4	Ambakona Village	





PLOT NO-30, MANSAROVAR ENCLAVE, TL/PUDANA. 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.elesol.co.in



CIN: 074999992038PTCT0111225

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2990	Report Release Date	: 08.08.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000001837F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	 ELES/RNC/2023/AA/2776 Kukud Village/Near Mine Area Chiro-Kukud Bauxite Mine (152,57ha) 	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 28.07.2023 to 29.07.2023 : 31.07.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 31.07.2023 to 07.08.2023	Sample Condition	: Sealed & Preserved	

1.	Average Temperature (°C)	26	2	Barometric Pressure (mm	Hg) : 740
3	Relative Humidity (%)	: 65	40	Weather Condition	: Partly Cloudy

Discipline :	Group :	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	60	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ²	IS 5182 (Part- 24): 2019	32	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	9.4	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	18.2	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (Shrs)
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): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	0.005	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	<2.0	06 (Annual)

Reviewed by

METEOROLOGICAL INFORMATION

Dr. Deuthenisted Signatur

I Manager

**** End of Report ****

Ph. D. Environmental Enge ELES PVI. Lot

Page 1 of 1 The Document stated as Test Report, is issued by the Laboratory under General Tenns and Conditions, only on Company latter head in pre-approved format. The results aboven in the Test Report refer or relision only to the job/analysis done by the Laboratory celly. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all life information or data provided on the report. except the information which is provided by the elient. The Report cannot be reproduced except in full and any part of the report is not taken out of centest, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liabday, compensation and jurisdiction issues. Any smattherized interacion & 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 oFrelesismessue of the Tesi Report. The samples from Regulatory bodies are to be retained as specified, Any type of Observations or Complaints regarding the Reports shall he done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time selectule mentioned in Test Report is in 24mins formal. Abbreviation used: N/A (Not Applicable), BDI. (Below Detection Limit), 1 DI. (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

CWI: U749999/H2018PTC011125

	TI	ST REPORT		
Test Report No.	: ELES/RNC/2023/2990	Report Release Date	; 08.08.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	 ELES/RNC/2023/AA/2776 Kukud Village/Near Mine Area Chiro-Kukud Bauxite Mine 	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	(152.57ha) = 28.07.2023 to 29.07.2023 :: 31.07.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt, Ltd.	
Period of Analysis	: 31.07.2023 to 07.08.2023	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION

 Average Temperature (%C) = 26 	2 Barometric Pressure (mmHg) = 740
3 Relative Humidity (%) : 65	4 Weather Condition : Partly Cloudy

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

****End of Report****

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



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Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) 657 NO:- 20AAECE97130124

ENGINEERING SERVICES PAT, 170



CNR: U749380H2018F7C011125

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

TEST REPORT				
Test Report No.	: ELE5/RNC/2023/2991	Report Release Date	: 08.08.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000001838F			

CUSTOMER DETA	CUSTOMER DETAILS		the statement of Street	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	 ELES/RNC/2023/AA/2777 Kukud Village/Near Weigh Bridg Chiro-Kukud Bauxite Mine (152,57ha) 	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 28.07.2023 to 29.07.2023 : 31.07.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	ELES/DOC/SMPL/02	
Period of Analysis	: 31.07.2023 to 07.08.2023	Sample Condition	: Sealed & Preserved	

J.	Average Temperature (°C) : 26	2	Barometric Pressure (mm	Hg) : 740
3	Relative Humidity (%) 765	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): 2006; RA2022	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-2): 2001; RA2022	15.3	80 (24hrs)	
Nitrogen Di-Oxide (NOz)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	18.4	80 (24hrs)	
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₅)	µg/m ⁵	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	15 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part-22); 2004; RA2019	0.009	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	



****End of Report****

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) G5T NO:- 204AECE9713D124

ENGINEERING SERVICES PVT. LTD.

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

	TI	EST REPORT		
Test Report No.	: ELES/RNC/2023/2991	Report Release Date	: 08.08.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET/	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2777 : Kukud Village/Near Weigh Bridg Chiro-Kukud Bauxite Mine (152,57ha)	
Address ± Lohardaga, Jharkhand-8		Sampling Date Sample Received Date Type of Sample	: 28.07.2023 to 29.07.2023 : 31.07.2023 : Ambient Air	
Mines Status	Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 31.07.2023 to 07.08.2023	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION

1	Average Temperature (°C) : 26	2	Barometric Pressure (mm	Hg) : 740
3	Relative Humidity (%) :: 65	4	Weather Condition	= Partly Cloudy

Discipline : Chemical		Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene*	μg/m ⁷	1S:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)	
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)	

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



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Page 1 of 1

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

ENGINEERING SERVICES PTT, LYD

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



	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2992	Report Release Date	: 08.08.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000001839F			

CUSTOMER DET.	AILS	SAMPLE DETAILS	Contraction of the second
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2023/AA/2778 Chiro Village/Near Magazins Chiro-Kukud Bauxite Mine (152,57ha) : 28.07.2023 to 29.07.2023 : 31.07.2023 : Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 31.07.2023 to 07.08.2023	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

1	Average Temperature (°C)	:26	2	Barometric Pressure (mm	Hg) : 740
3	Relative Humidity (%)	: 65	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): 2006; RA2022	57	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	30	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6.7	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	15.6	80 (24hrs)	
Ozone (O ₃)	µg/m*	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH3)	µg/m ²	18 5182 (Part-25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ³	1S-5182 (Part-22): 2004; RA2019	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	<2.0	06 (Annual)	



METEOROLOGICAL INFORMATION

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Dr. Deependra Kumar Sinha Ph. D. Environmental En

****End of Report****

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PLOT NC-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) 65T NO:- 20AAECE9713DJ24

ENGINEERING SERVICES PVT. LTD.

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

	<u>11</u>	EST REPORT	
Test Report No.	: ELES/RNC/2023/2992	Report Release Date	: 08.08.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	ELES/RNC/2023/AA/2778 Chiro Village/Near Magazine Chiro-Kukud Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	(152,57ha) : 28.07.2023 to 29.07.2023 : 31.07.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt_Ltd.	
Period of Analysis	± 31.07.2023 to 07.08.2023	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION

1	Average Temperature (°C) : 26	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%) : 65	4.	Weather Condition	: Partly Cloudy

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

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



****End of Report****

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Page 1 of 1

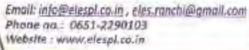
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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST ND:- 20AAECE97130124

ENGINEERING SERVICES FYT. LTD





Test Report No.	: ELES/RNC/2023/2993	Report Release Date	: 08.08.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000001840F		

CUSTOMER DET.	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2779 : Chiro Village/Near Pillar No.1 Chiro-Kukud Bauxite Mine		
Address) Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	(152,57ha) 28,07,2023 to 29,07,2023 31,07,2023		
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02		
Period of Analysis	: 31.07.2023 to 07.08.2023	Sample Drawn By Sample Condition	ELES Pvt. Ltd. Sealed & Preserved		

METEOROLOGICAL INFORMATION

I	Average Temperature (°C)	:26	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 65	4	Weather Condition	: Partly Cloudy

Discipline :	Chemical	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ¹	IS 5182 (Part-23): 2006; RA2022	51	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	26	60 (24brs)
Sulphur Di-Oxide (SO2)	µg/m ³	1S 5182 (Part-2): 2001; RA2022	5,8	80 (24fars)
Nitrogen Di-Oxide (NO2)	µg/m ³	15 5182 (Part-6): 2006; RA2022	22.3	80 (24hrs)
Ozone (Q ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.005	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	<2.0	06 (Annual)

Reviewed ч

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

ELES Pvt. Ltd. Technical Manager

Page 1 of 1

****End of Report****

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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT				
Test Report No.	: ELES/RNC/2023/2993	Report Release Date	: 08.08.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	CUSTOMER DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2779 : Chiro Village/Near Pillar No. Chiro-Kukud Bauxite Mine (152.57ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 28.07.2023 to 29.07.2023 : 31.07.2023
Mines Status	© Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air ELES/DOC/SMPL/02 ELES Pvt. Ltd.
Period of Analysis	31.07.2023 to 07.08.2023	Sample Condition	: Sealed & Preserved

١.,	Average Temperature (*C) = 26	2	Barometric Pressure (mm	(Hg) = 740
3	Relative Humidity (%) : 65	4	Weather Condition	: Partly Cloudy

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

****End of Report****

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



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Page 1 of 1

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

ENGINEERING SERVICES PTT, STD.

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



CIN: U74939/H2018PTC011125

	TE	ST REPORT	-	
Test Report No.	: ELES/RNC/2023/2994	Report Release Date	: 08.08.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000001841F			

CUSTOMER DET/	USTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2780 : Kudag Village / Near Hindalco Campus		
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 28.07.2023 to 29.07.2023 : 31.07.2023 : Ambient Air : ELES/DOC/SMPL/02		
Mines Status	: Operational	Sample Drawn By	: ELES Pvt, Ltd.		
Period of Analysis	: 31.07.2023 to 07.08.2023	Sample Condition	: Sealed & Preserved		

1	Average Temperature (°C) :	26	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%) :	65	4	Weather Condition	: Partly Cloudy

Discipline : Chemical Group				
Unit	Test Protocol	Result	Regulatory Limit	
µg/m ³	IS 5182 (Part-23): 2006; RA2022	50	100 (24hrs)	
µg/m ³	IS 5182 (Part- 24): 2019	24	50 (24hrs)	
µg/m ³	1S 5182 (Part-2): 2001; RA2022	6.2	80 (24hrs)	
µg/m ³	IS 5182 (Part-6): 2006; RA2022	5.8	80 (24hrs)	
µg/m³	IS.5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
mg/m ³	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
µg/m ³	IS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)	
ng/m²	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	
	Unit µg/m ³ µg/m ³ µg/m ³ µg/m ³ µg/m ³ µg/m ³ µg/m ³ µg/m ³ µg/m ³	Unit Test Protocol μg/m³ IS 5182 (Part-23): 2006; RA2022. μg/m³ IS 5182 (Part-24): 2019 μg/m³ IS 5182 (Part-2): 2001; RA2022 μg/m³ IS 5182 (Part-2): 2001; RA2022 μg/m³ IS 5182 (Part-6): 2006; RA2022 μg/m³ IS 5182 (Part-6): 2006; RA2022 μg/m³ IS 5182 (Part-9): 1974; RA2019 μg/m³ IS 5182 (Part-25): 2018 mg/m³ IS 5182 (Part-10): 1999; RA2019 μg/m³ IS 5182 (Part-25): 2004; RA2019 μg/m³ IS 5182 (Part-22): 2004; RA2019 μg/m³ IS 5182 (Part-22): 2004; RA2019 μg/m³ IS 5182 (Part-22): 2004; RA2019	Unit Test Protocol Result μg/m³ IS 5182 (Part-23): 2006; RA2022 50 μg/m³ IS 5182 (Part-24): 2019 24 μg/m³ IS 5182 (Part-2): 2001; RA2022 6.2 μg/m³ IS 5182 (Part-6): 2006; RA2022 5.8 μg/m³ IS 5182 (Part-6): 2006; RA2022 5.8 μg/m³ IS 5182 (Part-6): 2006; RA2019 <20.0	



Authorised Signatory Dr. Deependra Kumar Sinha

****End of Report****

Page 1 of 1

Ph. D. Environmental Engli

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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT					
Test Report No.	: ELES/RNC/2023/2994	Report Release Date	: 08.08.2023		
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	-	

CUSTOMER DET/	AILS	SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	: ELES/RNC/2023/AA/2780 : Kudag Village / Near Hindalco Campus : 28.07.2023 to 29.07.2023 : 31.07.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Mines Status	: Operational	and the second se	and the second sec	
Period of Analysis	: 31.07.2023 to 07.08.2023	 Sample Condition 	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1	Average Temperature (°C) : 26	2	Barometric Pressure (mm	(Hg) : 740
3	Relative Humidity (%) :65	4	Weather Condition	2 Partly Cloudy

Discipline	: Chemical	Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene*	ug/m ³	15:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)		
Benzo (a) Pyrene*	ng/m ¹	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)		

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



****End of Report****

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

ENGINEERING SERVICES PVF. LTH.





CIN: 0749991H2018FT17011125

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2995	Report Release Date	: 08.08.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000001842F			

CUSTOMER DET/	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	 ELES/RNC/2023/AA/2781 Jaljali Village/Near Shiv Temple Sabag Road. 	
Address	: Lohardags, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 28.07.2023 to 29.07.2023 : 31.07.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 ELES Pvt. Ltd.	
Period of Analysis	± 31.07.2023 to 07.08.2023	Sample Condition	: Sealed & Preserved	

1	Average Temperature (°C)	:26	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 65	4	Weather Condition	: Partly Cloudy

Discipline :	Atmospheri	e Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	1S 5182 (Part-23): 2006; RA2022	45	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	21	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	1S 5182 (Part-2): 2001; RA2022	5.2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	16.7	80 (24hrs)
Ozone (O ₃)	µg/m ²	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₅)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ⁴	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.01	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	<2.0	06 (Annual)



**** End of Report****

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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT				
Test Report No.	: ELES/RNC/2023/2995	Report Release Date	: 08.08.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2781 : Jaljali Village/Near Shiv Temple Sabag Road.	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	1 28.07.2023 to 29.07.2023 1 31.07.2023 2 Ambient Air	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 31.07.2023 to 07.08.2023	Sample Condition	: Sealed & Preserved	

Average Temperature (°C) : 26	2	Barometric Pressure (mmh	10) = 740
3 Relative Humidity (%) . 65	4	Weather Condition	: Partly Cloudy

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	µg/m ³	1S:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene*	ng/m ⁷	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)

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



****End of Report****

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

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PLOT NO 30, MANSARDVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) G5T ND: 20AAECE9713D124

ENGINEERING SERVICES PVT. LTD

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



CWF 1/74993/H2018PTED11123

TEST REPORT				
Test Report No.	: ELES/RNC/2023/2996	Report Release Date	: 08.08.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000001843F			_

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	ELES/RNC/2023/AA/2782 Amtahi Village/Near Tailoring Centre	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	29.07.2023 to 30.07.2023 31.07.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	Ambient Air ELES/DOC/SMPL/02 ELES Pvt. Ltd.	
Period of Analysis	1 31.07.2023 to 07.08.2023	Sample Condition	: Sealed & Preserved	

METE	OROLOGICAL	INFORMATIC	N .

	Barometric Pressure (mmHg)	
3 Relative Humidity (%) , 64 4	Weather Condition	: Partly Cloudy

Discipline :	Discipline : Chemical Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	57	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	1S 5182 (Part- 24): 2019	30	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6.9	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	13.7	80 (24hrs)	
Ozone (O ₃)	μg/m ³	18 5182 (Pari-9): 1974; RA2019	<20.0	100 (Shrs)	
Arumonia (NH1)	µg/m ³	15 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ⁴	18 5182 (Part-22): 2004; RA2019	<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	<2.0	06 (Annual)	

GER Reviewed by

Authorised Signatory Dr. Deependra Kumar Sinha

Page 1 of 1

**** End of Report****

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

TEST REPORT				
Test Report No.	: ELES/RNC/2023/2996	Report Release Date	: 08.08.2023	_
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	I Hindaleo Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2782 : Amtahi Village/Near Tailoring Centre	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 29.07.2023 to 30.07.2023 : 31.07.2023	
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sample Drawn By	: ELES Pvt. Ltd.	
Period of Analysis	: 31.07.2023 to 07.08.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION	-		
1	Average Temperature (°C) : 27	2	Barometric Pressure (mmHg)	= 739
3	Relative Humidity (%) : 64	-4	Weather Condition	: Partly Cloudy

Discipline	: Chemical	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene*	µg/m ²	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)	
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)	

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



****End of Report****

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

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TL/PUDANA HATIA, RANCHI-834003 (JHARKHAND) GST ND:- J0AAECE97130124

ENGINEERING SERVICES PVT. LTD

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



Test Report No.	: ELES/RNC/2023/2997	Report Release Date	: 08.08.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	-
ULR No.	: TC883923000001844F			

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 Sample Drawn By	: ELES/RNC/2023/AA/2783 : Ambakona Village : 29.07.2023 to 30.07.2023 : 31.07.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 31.07.2023 to 07.08.2023	Sample Condition	: Sealed & Preserved

1	Average Temperature ("C)	: 27	2.	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 64	4	Weather Condition	- Partly Cloudy

Discipline :	Chemical	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	46	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	22	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ¹	IS \$182 (Part-2): 2001; RA2022	5.3	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	μg/m ³	IS 5182 (Part-6): 2006; RA2022	17.9	80 (24hrs)	
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)	
Nickel (Ni)	ng/m³	15 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

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****End of Report****

Dr. Delugencised Signan Binha Ph. D. Environmental Engg. ELES Put. Ltd. Technical Manager

Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.

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

CIN: U74939/H2018P7C011125

TEST REPORT					
Test Report No.	: ELES/RNC/2023/2997	Report Release Date	: 08.08.2023		
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023		

CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date	: ELES/RNC/2023/AA/2783 : Ambakona Village : 29.07.2023 to 30.07.2023 : 31.07.2023
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By Sample Condition	Ambient Air ELES/DOC/SMPL/02 ELES Pvt. Ltd. Sealed & Preserved
Period of Analysis	: 31.07.2023 to 07.08.2023	- Children Condition	, manual to a substance

MI	TEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 27	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%) : 64	4	Weather Condition	: Partly Cloudy

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

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



****End of Report****

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Page 1 of 1

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ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Chiro-Kukud Bauxite Mine-Environmental Monitoring Report

August 2023



CONTENT

Hind	alco Industries : Chiro Kukud Bauxite Mine	Environmental Monitoring Report	August 2023
	Chiro Kuki	ad Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE		
1	Kukud Village/Near Mine area		
2	Kukud Village/Near Weigh Bridge		
3	Chiro Village/Near Mgazine		
4	Chiro Village/Near Pillar No.1		
	AMBIENT AIR QUALITY- BUFFER ZON	E	
1	Kudag Village/ Near Hindalco Campus		
2	Jaljali Village/Near Shiv Temple Sabag Road		
3	Amtahl Village/Near Tailoring Centre		
4	Ambakona Village		





ENVIRONMENTAL LABORA

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



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

	TESI	REPORT	
Test Report No.	: ELES/RNC/2023/3434	Report Release Date	: 09.09.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000002202F		
CUSTOMER DET/	Alls	SAMPLE DETAILS	
Customer Name Address Mines Status	 Hindalco Industries Limitéd Lohardaga, Jharkhand-835302 Non Operational 	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2023/AA/3058 : Kukud Village/Near Mine Area Chiro-Kukud Banaite Mine (152,57ha) : 22,08,2023 to 23,08,2023 : 26,08,2023 : Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	1 26.08.2023 to 08.09.2023	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

1	Average Temperature (%C)	: 24	2	Barometric Pressure (mmHg)	= 737	
3	Relative Humidity (%)	: 65	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): 2006; RA2022	56	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	28	60 (24hrs)
Sulphur DI-Oxide (SO2)	µg/m ¹	IS 5182 (Pan-2): 2001; RA2022	7.6	80 (24lus)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	20.5	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22) 2004; RA2019	0.009	1 (24hrs)
Nickel (Ni)	ng/m	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)



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Page I of 1

**** End of Report****

Page I of 1 ELES Pvt. Ltd. Technical Managee The Docurrent stated as Test Report, as usual by the Laboratory order General Terms and Conditions, only on Company letter head as pre-approved format, The results shows in the Test Report refer or relates only to the jobanalysis done by the Laboratory only. The information stated on the Test Report reflects the findings form by life Laboratory at the time at providement only and within the liferix of client a immutions. The Laboratory to 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 senter approval of the Laboratory. The Report in full or in part shall not be published, obvertise, used for dny legal actions unless price permassion has been second from in Management of the Laboratory, American is drawn to the limitation of liability, compensation and surialization issues. Any unarthorized attention & falcification of the mment or oppearance of this Text Report is undewire) and utilenders may be prosented to the fullest extent of the law. All the samples are related for 3bdays from the Dele of release/usue of the Test Report. The samples from Regulatory bodies are in he retained as specified. Any type of Observations or Complaints regarding the Report shall be done within 13days from the Date of Test Report released/associ. After the time perior mated before, no complaints will be accepted. The entire Time schedule mentioned in Tast Report is in 24hours format. Abberriation user: N/A (Not Applicable), 3DL (Below Detection Limit): LDL (Lower Detection Limit).



PLOT NO 30, MANSAROVAR INCLAVE, TUPUDANA HATIA, RANCH-834003 (IHARKHAND) GST NO:- 26AAECE9713D124 ENGINEERING SERVICES PVT. LTD.

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

Test Report No.	: ELES/RNC/2023/3434	Report Release Date	: 09.09.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET/	AILS	SAMPLE DETAILS	
Customer Name	Hindalco Industries Limited	Sample Ref. No. Location	= ELES/RNC/2023/AA/3058 = Kukud Village/Near Mine Are Chiro-Kukud Bauxite Mine
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date.	(152,57ha) 222.08.2023 to 23.08.2023 26.08.2023
Mines Status	: Non Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	0 26.08.2023 to 08.09.2023	Sample Condition	: Sealed & Preserved

 Average Temperature (°C)	CONTRACT BOOLEC	2	Barometric Pressure (mmHg	1 : 737
 Relative Humidity (%)	: 65		Weather Condition	- Partly Cloudy

Discipline : Chemical		Group	roup : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	µg/m ²	IS:5182 (Part-11) 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)

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



**** End of Report****

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Page 1 of 1

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ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) IST NO: 20AAECES7130124 ENGINEERING SERVICES PPT. LTD.



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

	TEST	REPORT	
Test Report No.	: ELES/RNC/2023/3435	Report Release Date	: 09.09.2023
Work Order No.	: 13612310218	Work Order Bate	: 21.04.2023
ULR No.	: TC883923000002203F		
CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name	- Hindalco Industries Limited	Sample Ref. No. Location	 ELES/RNC/2023/AA/3059 Kukud Village/Near Weigh Bridge Chiro-Kukud Bauxite Mine
Address	Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	(152.57ha) : 22.08 2023 to 23.08.2023 : 26.08.2023 : Ambient Air

Period of Analysis 26.08.2023 to 08.09.2023 Sample Condition : Sealed & Preserved	Mines Status	Non Operational	Sampling Procedure Sample Drawn By	= ELES/DOC/SMPL/02 = ELES Pvt. Ltd.
METEOROLOGICAL INFORMATION	Period of Analysis	: 26.08.2023 10 08.09.2023		
			Sample Condition	: Sealed & Preserved

1	Average Tempeniture (°C) : 24	2	Barometric Pressure (mm	iHg) 737
3	Average Temperature (°C) : 24 Relative Humidity (%) : 65	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): 2006; RA2022	62	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	31	60 (2.4hrs)
Sulphur Di-Oxide (SO2)	μg/m ³	IS 5182 (Part-2): 2001; RA2022	13.5	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	20.4	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS \$182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	pg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ^A	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ¹	IS 5182 (Part-22): 2004; RA2019	0.012	(24hrs)
Nickel (Ni)	ng/m ²	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ²	ELES/AIR/SOP/01	<2.0	06 (Annaal)



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

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

Test Report No.	: ELES/RNC/2023/3435	Report Release Date	: 09.09.2023
Work Order No.	:13612310218	Work Order Bate	:21.04.2023

CUSTOMER DET/	AILS	SAMPLE DETAILS	Contraction and the Second second
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3059 : Kukud Village/Near Weigh Bridge Chiro-Kukud Bauxite Mine (152,57ha)
Address	: Lohardaga, Iharkhand-835302	Sampling Date Sample Received Date	(132.37na) : 22.08.2023 to 23.08.2023 : 26.08.2023
Mines Status	Non Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 26.08.2023 to 08.09.2023	Sample Drawn By Sample Condition	: ELES Pvi. Ltd. : Sealed & Preserved

1	Average Temperature (*C) : 24	2	Barometric Pressure (mm	Hg) :737
3	Relative Humidity (%) : 65	4	Weather Condition	: Partly Cloudy

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

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



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

Anthorised Signatory Dr. Disependra Kumar Sinha Ph. 0. Environmental Ergg ELES Pv., Ltd. Technical Manager

Page 1 of 1

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PLOT NO-30, MANSAROVAH ENCLAVE, TLIPUDANA HATTA, RANCHI-834003 (JHARKHAND) GST NO-20AAE(297130124 ENUINEERING SERVICES PVT. LTD.



Email: <u>ala@elesal.co.in_eles.ronchi@amail.com</u> Phone no.: 0651-2290103 Website : www.elespl.co.in

	IESI	REPORT	
Test Report No.	: ELES/RNC/2023/3436	Report Release Date	: 09,09.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000002204F		
CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco 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/2023/AA/3060 Chiro Village/Near Magazine Chiro-Kukud Bauxite Mine: (152.57ha) : 22.08.2023 to 23.08.2023 : 26.08.2023 : Ambient Ait : ELES/DOC/SMPL/02
Period of Analysis	26.98.2023 to 08.09.2023	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

1	Average Temperature (°C)	: 24	2	Barometric Pressure (mmHg)	: 737
3	Relative Humidity (%)	: 65	4	Weather Condition	: Partly Cloudy

Discipline :	Chemical	Group :	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	52	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-2): 2001; RA2022	5.5	80 (24hrs)	
Nitrogen Di-Oxide (NO3)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	13.9	80 (24hrs)	
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (Shrs)	
Ammonía (NH ₃)	µg/m ³	IS 5)82 (Par)- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	ing/m ^a	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ³	IS 5182 (Part-22). 2004; RA2019	<0.002	1 (24hrs)	
Nickel (Ni)	ng/m²	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m²	ELES/AIR/SOP/01	<2.0	06 (Annual)	



Authorised Stenator Sinha

****End of Report**** Elf

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Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-B34003 (JHARKHAND) GST NO:- 20A4ECE9713D124 ENGINEERING AEWFICES PFF, LTD.

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

Test Report No.	: ELES/RNC/2023/3436	Report Release Date	: 09.09.2023
Work Order No.	+13612310218	Work Order Date	: 21.04.2023

CUSTOMER DET/	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	ELES/RNC/2021/AA/3060 Chiro Village/Near Magazine Chiro-Kukud Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	(152.57ha) : 22.08,2023 to 23.08,2023 : 26.08,2023	
Mines Status	: Non Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt, Ltd.	
Period of Analysis	:26.08.2023 to 08.09.2023	Sample Condition	: Sealed & Preserved	

MI	TEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	1 24	2	Barometric Pressure (mm	Hg) : 737
3	Relative Humidity (%)	+ 65	4	Weather Condition	: Partly Cloudy

Discipline : Chemical Parameter Unit		Group : Atmospheric Pollution			
		Test Protocol	Result	Regulatory Limit	
Benzene*	μg/m ³	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)	
Benzo (a) Pyrene*	ng/m²	IS:5182 (Part-12): 2004;RA2019	<0.5	(launnA)10	

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



**** End of Report****

Authorised Signatory Lin: Deependra Kumar Sinna Pri, D. Erwisenmistal Eng. EUES Pvi, Ltd. Technical Manager

Page 1 of 1

The Document stand a Test Report, is issued by the Laboratory under General Terms and Conditions, mily on Company letter lend in pre-approved format. The results above an the Test Report refer in relates only to the job/analysis does by the Laboratory only. The information stated on the Test Report refers the findings done by the Laboratory and the information stated on the Test Report refers the findings done by the Laboratory and the time of involvement only and within the limits of client's instructions. The Laboratory is responsible Re all the information of data provided on the report, assesp the information which is provided by the client. The Report earnest the reporties accepted assespt in full and any part of the report is not taken out of context, without prior orither approved of the Laboratory. The Report is full or in part thall not be published, advertage, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. The Report is full or in part thall not be published, advertage, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. The Report is full or in part thall not be published, advertage, used for any legal actions unless prior permission has been secured from the Support of the Laboratory. The Report is full of in part thall not be published, advertage, used for any legal actions unless prior permission has been secured from the support of the Laboratory. The Report is antiviation of the laboratory of the Test Report a influend offenders may be provided to the follow expension of the case of the Test Report antiviation of finders may be provided to the follow expension of the test Report. The samples from Regulatory bodies are to be returned in specified. Any type of Operations will be accepted. The entire Torie schedule inclined in Test Report is in 24hours from Regulatory bodies and be time period stated before, no compliants will be accepted. The entire Torie schedule inerthaned in Test R



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

ENGINEERING SERVICES FVT. LTD



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

	TEST	REPORT	
Test Report No.	: ELES/RNC/2023/3437	Report Release Date	: 09,09.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000002205F		
CUSTOMER DET/	AILS	SAMPLE DETAILS	- The second second
Customer Name Address Mines Status	: Hindalco Industries Limited Lohardaga, Jharkhand-835302 : Non Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2023/AA/3061 : Chiro Village/Near Pillar No. 1 Chiro-Kukud Bauxite Mine (152.57ha) : 22.08.2023 to 23.08.2023 : 26.08.2023 : Ambient Air : ELES/DOC/SMPL/02 ELES/DOC/SMPL/02
Period of Analysis	: 26.08.2023 to 08.09.2023	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

1	Average Temperature (PC)	: 24	2	Barometric Pressure (mmHg)	: 737
3	Relative Humidity (%)	: 65	4	Weather Condition	: Partly Cloudy

Discipline :	Chemical	Group :	Atmospheri	e Poliution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	48	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	23	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	5.1	80 (24hrs)
Nitrogen Di-Oxide (NO1)	µg/m ⁴	15 5182 (Pari-6): 2005; RA2022	20.7	80 (24hrs)
Ozone (O3)	ug/m ¹	IS \$182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	kg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m²	1S 5182 (Pan-10): 1999; RA2019	<1.0	2 (8hrs)
Lesd (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	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	<2.0	06 (Annual)

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-K34003 (IHARKHAND) IST NO:-20AAECE37130124 ENVIREERING SERVICES PTT. LTD.

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

	TES	TREPORT	
Test Report No.	: ELES/RNC/2023/3437	Report Release Date	: 09.09.2023
Work Order No.	:13612310218	Work Order Date	+21.04.2025
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	2 Hindalco Industries United	Sample Ref No.	ELES/RN/2823/AA/3061

Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3061 : Chiro Village/Near Pillar No.1 Chiro-Kukud Bauxite Mine
Address	: Lohardega, Jharkhand-835302	Sampling Date Sample Received Date	(152.57ha) : 22.08.2023 to 23.08.2023 - 26.08.2023
Mines Status	Non Operational	Type of Sample Sampling Procedure Sample Drawn By	ELES/DOC/SMPL/02 ELES Pvt. Ltd.
Period of Analysis	: 26.08.2023 to 08.09,2023	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 24	2	Barometric Pressure (mmHg)	:737
3	Relative Humidity (%)	: 65	4	Weather Condition	: Partly Cloudy

Discipline : Chemical		Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene*	µg/m ²	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)	
Benzo (a) Pyrene*	ng/m	IS:5182 (Part-12), 2004;RA2019	<0.5	0)(Annual)	

Rentarks: (*)-Parameters are outsourced to other Lab:



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A athorised Signatory Oppnantial Komer Sinha Ph. D. Environmental Engli ELES PVI Ltd, Technical Nanager

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) G5T NO:- 20AAECE97130124

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

G SERVICES PVT. LTD.

	TEST	REPORT	
Test Report No.	: ELES/RNC/2023/3438	Report Release Date	: 09.09.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000002206F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date	: ELES/RNC/2023/AA/3062 Kudag Village / Near Hindalco Campus : 22.08.2023 to 23.08.2023 : 26.08.2023

Mines Status	: Non Operational	Type of Sample Sampling Procedure Sample Drawn By	ELES/DOC/SMPL/02 ELES Pvt. Ltd.	
Period of Analysis	: 26.08.2023 to 08.09.2023	Sample Condition	: Sealed & Preserved	

1	Average Temperature (°C) : 24	2	Barometric Pressure (mm	Hg) : 737
3	Relative Humidity (%) : 65	4	Weather Condition	= Partly Cloudy

Discipline :	Chemical	Group :	Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	44	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	18	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	(S 5182 (Part-2): 2001; RA2022	5.6	80 (24lus)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	5.1	80 (24hrs)
0700e (O3)	µg/m ⁷	IS 5182 (Part-9): 1974; RA2019	~20.0	100 (Shts)
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): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m²	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ing/m ¹	ELES/AIR/SOP/01	<2.0	06 (Annual)



Authorised Signatory Dr. Deependra Kumar Sinha

Page 1 of 1

****End of Report****

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI SIA0DI (JHARIHAND) GST NO:- 20A4ECEITI3D124 ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT					
Test Report No.	: ELES/RNC/2023/3438	Report Release Date	: 09.09.2023		
WorkOrder No.	:13612310218	Work Order Date	: 21.04.2023		
CUSTOMER DET	AILS	SAMPLE DETAILS	to come to de		
Customer Name	: Hindalco Industries Limiaed	Sample Ref. No.	: ELES/RNC/2023/AA/3062		

Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3062 : Kudsg Village /
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	Near Hindalco Campus = 22.08.2023 to 23.08,2023 = 26.08,2023
Mines Status	: Non Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 26.08.2023 to 08.09.2023	Sample Condition	: Sealed & Preserved

-	TEOROLOGICAL INFORMATION	1.5	1 m 1 m 1 m 3	
	Average Temperature (%C) 24	2	Barometric Pressure (mmHg)	: 737
3	Relative Humidity (%) : 65	-4	Weather Condition	+ Partly Cloudy

Discipline : Chemical		Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene*	µg/m²	S:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)	
Benzo (a) Pyrere*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	OI(Annstal)	

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



####End of Report####

Authorised Signatory Dr. Despendra Kumar Stoha Ph. D. Environmental Engli ELES For Ltd. Technical Manager

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, BANCHI-534003 (HIARNHAND) GST NO: 20A4ECE97130124 ENGINEERING SERVICES PVT, LTD.



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

	TEST	REPORT	
Test Report No.	: ELES/RNC/2023/3439	Report Release Date	: 09.09.2023
Work Order No.	13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923600002207F		
CUSTOMER DET/	ALS	SAMPLE DETAILS	A second s
Customer Name Address	: Hindalco Indostries Limited : Lobardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample	 ELES/RNC/2023/AA/3063 Jaljali Village/Near Shiv Temple Sakag Road. 22.08.2023 to 23.08.2023 26.08.2023 Ambient Air
Mines Status Period of Analysis	: Non Operational : 26.08.2023 to 08.09.2023	Sample Drawn By Sample Condition	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd. : Sealed & Preserved

METEOROLOGICAL INFORMATION					
+	Average Temperature (°C) : 24	2	Barometric Pressure (mm)	Hg) : 737	
3	Relative Humidity (%) 265	4	Weather Condition	Partly Cloudy	

Discipline :	Chemical	Group :	Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23) 2006; RA2022	41	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24); 2019	17	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	5.6	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	13.2	80 (24hrs)
Ozone (O ₁)	Hg/m ²	S 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	heb/ms	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ²	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	S 5182 (Part-22): 2004; RA2019	0.01	1 (24hrs)
Nickel (Ni)	ng/tn"	IS-5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m²	ELES/AIR/SOP/01	<2.0	06 (Annual)



Er Deeperdra Kumarsinha

Ph. D. Envrolmentill Exto. ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATTA, RANCHI-BBADITE (IHARKHAND) GST NO:- 20AAECE9713D124 NUMBER AND SERVICES PVT. 12721

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/3439	Report Release Date	: 09.09.2023
Work Order No.	:13612310218	Work Order Date	: 21.04.2023
CUSTOMED DET.	ATTE	SAMPLE DETAILS	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sumple Ref. No. Location	: ELES/RNC/2023/AA/3063 : Jaljali Village/Near Shiv Temple
Address	: Lobardaga, Jharkhand-835302	Sampling Date Sample Received Date	Sabag Read. : 22.08.2023 to 23.08.2023 : 26.08.2023
Mines Status	: Non Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	:26.08.2023 to 08.09.2023	Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION

1 Average Temper	ature (°C) : 24	2	Barometric Pressure (mn	nHg) :737
3 Relative Humidi	ty (%) : 65	4	Weather Condition	.) Partly Cloudy

Discipline : Chemical		Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene*	µg/m²	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)	
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)	

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



**** End of Report****

Authorised Signatory Dr. Deependra Kumar Sintea Ph. D. Environmental Eng. ELES Pvl. LM. Technical Manager

Page I of 1

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ENVIRONMENTAL LABOR/

TEST DEBODT

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

IS FVT. LTD



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

	TEST	REPORT	
Test Report No.	: ELES/RNC/2023/3440	Report Release Date	: 09.09.2023
Work Order No.	: 13612310218	Work Order Date	; 21.04.2023
ULR No.	+TC883923000002208F		
CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name	THindalco Industries Limited	Sample Ref. No. Location	 ELES/RNC/2023/AA/3064 Amtahi Village/Near Tailoring. Centre
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	23.08.2023 to 24.08.2023 26.08.2023 Ambient Air ELES/DOC/SMPL/02
Mines Status	Non Operational	Sample Drawn By	: ELES Pvt. Ltd.
Period of Analysis	26.08.2023 to 08.09.2023	Sample Condition	: Sealed & Preserved

M	TEOROLOGICAL INFO	MATION			
1	Average Temperature (°C)	: 23	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 66	4	Weather Condition	: Partly Cloudy

Discipline :	Chemical	Group :	Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m	IS 5182 (Part-23): 2006; RA2022	53	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-2): 2001; RA2022	6,1	80 (24hrs)
Nitrogen Di-Oxide (NO ₁)	ug/m'	18 5182 (Part-6): 2006; RA2022	16.1	80 (24hrs)
Ozone (O3)	µg/m ¹	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₂)	µg/m ³	IS 5182 (Part- 25): 2018	<10.9	400 (24hrs)
Carbon Monoxide (CO)	nig/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS \$182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m ¹	IS 5182 (Part-26):2020	<6.0	20 (Annisal)
Arsenic (As)	na/m ¹	ELES/AIR/SOP/01	<2.0	06 (Annasal)



Dr. Deependra Kenar Binha D. Environmental Engg Ph ES Pvi. Ltd. Technical wishage

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Page 1 of 1

**** End of Report****

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, BANCHI-834003 (IHARKHAND) GST NO:-29AAECE9713D114 EVOLVEENING SERVICES PVT & TD.

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/3440	Report Release Date	: 09.09.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
Work Order No.	13612310218	Work Order Date	:21.04.2023
CUSTOMED DET	ATT 8	SAMPLE DETAILS	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	ELES/RNC/2023/AA/3064 Amtahi Village/Near Tailoring Centre	
Address	: Lohardaga, Iharkhand-835302	Sampling Date Sample Received Date Type of Sample	23.08.2023 to 24.08.2023 26.08.2023 Ambient Air	
Mines Status	: Non Operational	Sampling Procedure Sample Drawn By	ELES/DOC/SMPL/02 ELES Pvt. Ltd.	
Period of Analysis	: 26.08.2023 to 08.09.2023	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION

Average Temperature (PC) = 23	2 Barometric Pressure (mmHg) : 736
3 Relative Humidity (%) : 66	4 Weather Condition ; Partly Cloudy

Discipline : Chemical		Group	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene*	µg/m ²	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)		
Benzo (a) Pyrene*	ng/m ³	IS:5[82 (Part-12): 2004;RA2019	<0.5	01(Annual)		

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



****End of Report****

Authorised Signatory Ur. Deependra Kumar Sinha P. D. Entronmental Engg. ELES P.4. 10. Technical Mariager

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (HARKHAND) GST NO: 20AAECE97130124 **GINDERING SERVICES PUT, LTD**



Email: <u>info@elesal.ca.in , eles.rinchi@qmail.com</u> Phone no.: 0551-2290103 Website : www.elespl.ca.in

	TES	TREPORT	Construction of the second
Test Report No.	+ELES/RNC/2023/3441	Report Release Date	: 09.09.2023
Work Order No.	13612310218	Work Order Date	: 21.04.2023
ULR No.	+TC883923000002209F		
CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name	Hindulco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/3065 : Ambakona Village : 23.08.2023 to 24.08.2023

Address	Lobardaga, Juarkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 23.08.2023 to 24.08.2023 26.08.2023 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	Non Operational	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved
Period of Analysis	26.08.2023 to 08.09.2023	- sample extention	- and the stream test

Average Temperature (%C)	: 23	2	Barometric Pressure (num	Hg) = 736
3 Relative Humidity (%).	: 66	4.	Weather Condition	: Partly Cloudy

Discipline :	Chemical	Group	Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	42	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24); 2019	18	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ¹	IS 5182 (Part-2): 2001; RA2022	<5.0	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	20.2	80 (24hrs)
Ozone (O1)	ug/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	jug/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24brs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m ¹	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ²	ELES/AIR/SOP/01	<2.0	06 (Annual)



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Page 1 of 1

****End of Report ****

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/3441	Report Release Date	: 09.09.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET/	CUSTOMER DETAILS		-
Customer Name	: Hindalco Industries Limited	Sample Ref, No. Location	: ELES/RNC/2023/AA/3065 : Ambakona Village
Address : Lohardaga, Jharkhand-835302		Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 23.08.2023 to 24.08.2023 : 26.08.2023 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Non Operational	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved
Period of Analysis	: 26.08.2023 to 08.09.2023	- outpre construct	, ocare to preserves

METEOROLOGICAL INFORMATION

1	Average Temperature (°C)	: 23	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 66	4	Weather Condition	: Partly Cloudy

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	µg/m ³	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Pan-12): 2004;RA2019	<0.5	01(Annual)

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



**** End of Report****

Authorised Signatory Ur: Deependra Kumar Sitilia EK: 0: Environmentel Engo ELES PM: Ltd. Technical Manager

Page 1 of 1

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ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Chiro-Kukud Bauxite Mine-Environmental Monitoring Report



September- 2023

<u>CONTENT</u>

Hinda	alco Industries : Chiro Kukud Bauxite Mine	Environmental Monitoring Report	September- 2023
	Chiro Kuku	d Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE		
1	Kukud Village/Near Mine area		
2	Kukud Village/Near Weigh Bridge		
3	Chiro Village/Near Mgazine		
4	Chiro Village/Near Pillar No.1		
	AMBIENT AIR QUALITY- BUFFER ZONE		
1	Kudag Village/ Near Hindalco Campus		1000
2	Jaljali Village/Near Shiv Temple Sabag Road		
3	Amtahi Village/Near Tailoring Centre		
4	Ambakona Village		
	AMBIENT NOISE		
	WORKZONE NOISE		





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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT				
Test Report No.	: ELES/RNC/2023/4042	Report Release Date	: 28.10.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2023/AA/3459	
		Location	: Kukud Village/Near Mine Area	
			Chiro-Kukud Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302		(152.57ha)	
		Sampling Date	: 23.09.2023 to 24.09.2023	
		Sample Received Date	: 29.09.2023	
		Type of Sample	: Ambient Air	
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
		Sample Drawn By	: ELES Pvt. Ltd.	
Period of Analysis	: 29.09.2023 to 12.10.2023	Sample Condition	: Sealed & Preserved	

ME	TEOROLOGICAL INFOR	RMATION	_		
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 65	4	Weather Condition	: Partly Cloudy

Discipline : Chemica	al	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part-23): 2006; RA2022	48	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24): 2019	22	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2): 2001; RA2022	6.3	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m ³	IS 5182 (Part-6): 2006; RA2022	17.2	80 (24hrs)	
Ozone (O ₃)	μg/m ³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	μg/m ³	IS 5182 (Part-22): 2004; RA2019	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	<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.ranchi@gmail.com Phone no.: 0651-2290103 Website : www.elespl.co.in

City: U749550H2018P7C011125

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/4042	Report Release Date	: 28.10.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

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

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



****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental Engo. ELES Pvi. Ud. Technical Manager

Page 2 of 2

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ENGINEERING SERVICES PVT. LTD.

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

CIN: U74999JH2018PTC011125

TEST REPORT

Test Report No.	: ELES/RNC/2023/4043	Report Release Date	: 28.10.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2023/AA/3460	
		Location	: Kukud Village/Near Weigh Bridge	
			Chiro-Kukud Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302		(152.57ha)	
		Sampling Date	: 23.09.2023 to 24.09.2023	
		Sample Received Date	: 29.09.2023	
	1	Type of Sample	: Ambient Air	
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
D 1 1 0 1 1 1	00.00.0000.	Sample Drawn By	: ELES Pvt. Ltd.	
Period of Analysis	: 29.09.2023 to 12.10.2023	Sample Condition	: Sealed & Preserved	

	ETEOROLOGICAL INFOR	RMATION	-		
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 65	4	Weather Condition	: Partly Cloudy

Discipline : Chemica	al	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part-23): 2006; RA2022	54	100 (24hrs)
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24): 2019	28	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2): 2001; RA2022	14.2	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m ³	IS 5182 (Part-6): 2006; RA2022	17.6	80 (24hrs)
Ozone (O ₃)	μg/m ³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m ³	IS 5182 (Part-22): 2004; RA2019	0.008	l (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Page 1 of 2

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAEC29713D124

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

	TE	ST REPORT	
Test Report No.	: ELES/RNC/2023/4043	Report Release Date	: 28.10.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

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

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



**** End of Report****

Authorised Signatory Dr. Deependra Kurnar Sinha Ph. D. Environmental Engg. ELES Pvt. Ud. Technical Manager

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TEST REPORT

Test Report No.	: ELES/RNC/2023/4044	Report Release Date	: 28.10.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2023/AA/3461	
		Location	: Chiro Village/Near Magazine	
			Chiro-Kukud Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302		(152.57ha)	
		Sampling Date	: 23.09.2023 to 24.09.2023	
		Sample Received Date	: 29.09.2023	
		Type of Sample	: Ambient Air	
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
D 1 1 C 1 1 1		Sample Drawn By	: ELES Pvt. Ltd.	
Period of Analysis	: 29.09.2023 to 12.10.2023	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 65	4	Weather Condition	: Partly Cloudy

Discipline : Chemica	al	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part-23): 2006; RA2022	45	100 (24hrs)
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24): 2019	24	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2): 2001; RA2022	5.1	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m ³	IS 5182 (Part-6): 2006; RA2022	14.5	80 (24hrs)
Ozone (O ₃)	μg/m ³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)
Nickel (<mark>Ni)</mark>	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Page 1 of 2

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 TECT	REPORT
1601	REPORT

Test Report No.	: ELES/RNC/2023/4044	Report Release Date	: 28.10.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

Discipline : Chemi	cal	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (CsH6)*	µg/m ³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)
Benzo-(a)-Pyrene*	ng/m ³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)

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



****End of Report****

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

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	<u> </u>	EST REPORT		
Test Report No.	: ELES/RNC/2023/4045	Report Release Date	: 28.10.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2023/AA/3462	
		Location	: Chiro Village/Near Pillar No.1	
			Chiro-Kukud Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302		(152.57ha)	
		Sampling Date	: 23.09.2023 to 24.09.2023	
		Sample Received Date	: 29.09.2023	
		Type of Sample	: Ambient Air	
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
D. 1. 1. C.A. 1. 1.	20.00.2022 / 12.10.2022	Sample Drawn By	: ELES Pvt. Ltd.	
Period of Analysis	: 29.09.2023 to 12.10.2023	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION

-	Average Temperature (°C)		2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 65	4	Weather Condition	: Partly Cloudy

Discipline : Chemical Gro			Atmospheric 1	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part-23): 2006; RA2022	41	100 (24hrs)
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24): 2019	19	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2): 2001; RA2022	<5.0	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m ³	IS 5182 (Part-6): 2006; RA2022	17.2	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m ³	IS 5182 (Part-22): 2004; RA2019	0.008	1 (24hrs)
Nickel (<mark>Ni)</mark>	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Page 1 of 2

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TEST REPORT				
Test Report No.	: ELES/RNC/2023/4045	Report Release Date	: 28.10.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

Discipline : Chemi	ical	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C6H6)*	µg/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m ³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)	

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



****End of Report****

Authorised Signatory Dr. Deependra Kurnar Sinha Ph. D. Environmental Engg. ELES Pot: Ud. Technical Manager

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CIN: U74999JH2018PTC011125

METEODOLOCICAL INFORMATION

TEST REPORT

Test Report No.	: ELES/RNC/2023/4046	Report Release Date	: 28.10.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2023/AA/3463	
		Location	: Kudag Village /	
			Near Hindalco Campus	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 23.09.20 <mark>23 to</mark> 24.09.2023	
		Sample Received Date	: 29.09.2023	
		Type of Sample	: Ambient Air	
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
		Sample Drawn By	: ELES Pvt. Ltd.	
Period of Analysis	: 29.09.2023 to 12.10.2023	Sample Condition	: Sealed & Preserved	

IVIE	I EUROLOGICAL INFUR	CIVIATION	_		
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 738
3	Relative Humidity (%)	: 68	4	Weather Condition	: Cloudy

Discipline : Chemica	al	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part-23): 2006; RA2022	32	100 (24hrs)
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Par <mark>t- 24):</mark> 2019	15	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2): 2001; RA2022	5.1	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m ³	IS 5182 (Part-6): 2006; RA2022	16.8	80 (24hrs)
Ozone (O ₃)	μg/m ³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m ³	IS 5182 (Part-22): 2004; RA2019	<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	<2.0	06 (Annual)

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TEST REPORT				
Test Report No.	: ELES/RNC/2023/4046	Report Release Date	: 28.10.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

Discipline : Chemi	eal	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C ₈ H ₆)*	μg/m ¹	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)
Benzo-(a)-Pyrene*	ng/m ³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)

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



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

Authorised Signatory Ur. Deependra Kumar Sinha Ph. D. Environmental Engo. ELES Pvt. Ltd. Technical Manager

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METEODOLOGICAL INFORMATION

ENVIRONMENTAL LABORATORIES &

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

ENGINEERING SERVICES PVT. LTD.

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	TEST	REPORT	
Test Report No.	: ELES/RNC/2023/4047	Report Release Date	: 28.10.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

_ _ _ _ _ _ _ _

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2023/AA/3464	
		Location	: Jaljali Village/Near Shiv Temple	
			Sabag Road.	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 23.09.2023 to 24.09.2023	
		Sample Received Date	: 29.09.2023	
		Type of Sample	: Ambient Air	
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
		Sample Drawn By	: ELES Pvt. Ltd.	
Period of Analysis	: 29.09.2023 to 12.10.2023	Sample Condition	: Sealed & Preserved	

IVIT	TEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 738
3	Relative Humidity (%)	: 68	4	Weather Condition	: Cloudy

Discipline : Chemica	al	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part-23): 2006; RA2022	32	100 (24hrs)
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Par <mark>t- 24):</mark> 2019	15	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2): 2001; RA2022	<5.0	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m ³	IS 5182 (Part-6): 2006; RA2022	15.9	80 (24hrs)
Ozone (O ₃)	μg/m ³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m ³	IS 5182 (Part-22): 2004; RA2019	0.01	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	<2.0	06 (Annual)

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TE	TEST REPORT	
FS/DNC/2023/4047	Report Pelease Date	

Test Report No.	: ELES/RNC/2023/4047	Report Release Date	: 28.10.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

Discipline : Chemi	cal	Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (CsH6)*	µg/m ³	IS 5182 (Pari-11)2006;RA2017	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m ³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)		

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



****End of Report****

Authorised Signatory Dr. Disependra 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:- 20AAECE9713D124

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

INFERING SERVICES PVT. LTD.

CIN: U~4999JH2018PTC011125

TEST REPORT

Test Report No.	: ELES/RNC/2023/4048	Report Release Date	: 28.10.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS			
Customer Name	: Hindalco Industries Limited	Sample R ef. No.	: FLES/RNC/2023/AA/3465		
		Location	: Amtahi Village/Near Tailoring		
			Centre		
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 24.09.2023 to 25.09.2023		
		Sample Received Date	: 29.09.2023		
		Type of Sample	: Ambient Air		
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/02		
		Sample Drawn By	: ELES Pvt. Ltd.		
Period of Analysis	: 29.09.2023 to 12.10.2023	Sample Condition	: Sealed & Preserved		

	METEOROLOGICAL INFORMATION	
- E		_

1	Average Temperature (°C)	: 24	2	Barometric Pressure (mmHg)	: 738
3	Relative Humidity (%)	: 68	4	Weather Condition	: Cloudy

Discipline : Chemic	Discipline : Chemical Group : Atmospheric Pollution			Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	43	100 (24hrs)
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24): 2019	20	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2): 2001; RA2022	5.3	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m ³	IS 5182 (Part-6): 2006; RA2022	15.7	80 (24hrs)
Ozone (O ₃)	μg/m ³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m ³	IS 5182 (Part-22): 2004; RA2019	<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	<2.0	06 (Annuai)

Page 1 of 2

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATJA, RANCHI-884003 (JHARKHAND) 557 NO-30AAECEETIS0124 VORVERING SERVICES PVT. LTD.

Email: <u>info@elespl.co.in</u>, <u>eles.ranchi@amail.com</u> Phane no : G851-2290103 Website : www.elespl.co.in

	TE	ST REPORT	
Test Report No.	: ELES/RNC/2023/4048	Report Release Date	: 28.10.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

Discipline : Chemi	cal	Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzena (CoHo)*	µg/m?	IS 5182 (Part-11)2006:RA2017	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m ²	1S 5182 (Part-12)2004;RA2019	<0,5	01(Annual)		

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



****End of Report****

Authorised Signatory Secondra Kurner Sinha Ph. D. Esvironmental Enga ELES P.Y. Up. Technical Manager

Page 2 of 2

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D1Z4 NOINEERING SERVICES PVT. 270. Email: <u>info@elespl.co.in , eles.ranchi@amail.com</u>

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

Test Report No.	: ELES/RNC/2023/4049	Report Release Date	: 28.10.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2023/AA/3466
		Location	: Ambakona Village
		Sampling Date	: 24.09.2023 to 25.09.2023
Address	: Lohardaga, Jharkhand-835302	Sample Received Date	: 29.09.2023
		Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMPL/02
Mines Status	: Non Operational	Sample Drawn By	: ELES Pvt. Ltd.
Period of Analysis	: 29.09.2023 to 12.10.2023	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 24	2	Barometric Pressure (mmHg)	: 738
3	Relative Humidity (%)	: 68	4	Weather Condition	: Cloudy

Discipline : Chemica	al	Group : A	Group: Atmospheric Pollution			
Parameter Unit		Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part-23): 2006; RA2022	34	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24): 2019	16	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2): 2001; RA2022	<5.0	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m ³	IS 5182 (Part-6): 2006; RA2022	16.3	80 (24hrs)		
Ozone (O ₃)	μg/m ³	IS 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	μg/m ³	IS 5182 (Part-22): 2004; RA2019	< 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	<2.0	06 (Annual)		

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 [IHARRHAND] GST NO- 20AAECE97130174

GINEEHING SERVICES PVT. LTU.

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

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/4049	Report Release Date	: 28.10.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

Discipline : Chemi	cal	Group :	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C ₄ H ₆) ⁴	µg/m ³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)		
Benzo-(a)-Pyrene#	ng/m ²	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)		

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



****End of Report****

Authorised Signatory Deependra Kumar Sinhs Ph. D. Eavironmentel Engg. ELES Pvt. Ltd. Technical Manager

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

ENGINEERING SERVICES PVT. LTD.

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

_	<u>T</u>	EST REPORT	
Test Report No.	: ELES/RNC/2023/4138	Report Release Date	: 31.10.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETAILS		SAMPLE DETAILS			
Customer Name	: Hindalco Industries Limited	Sampling Date	: 23.09.2023 to 24.09.2023		
		Sampling Received Date	: 30.09.2023		
	: Lohardaga, Jharkhand-835302	Type of Sample	: Ambient Noise		
Address		Sampling procedure	: ELES/DOC/SMPL/03		
		Sample Drawn By	: ELES Pvt. Ltd.		
Mines Status	: Non Operational	Period of Analysis	: 30.09.2023 to 10.10.2023		

M	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 65	4	Weather Condition	: Partly Cloudy

Location	Unit	Test Protocol	Res	ult	Regulatory Limit (Industrial Zone)	
			Time	L _{eq}		
Kukud Village/Near Mine Area Chiro-Kukud Bauxite Mine (152.57ha)	dB(A)	IS 9989:1981, RA 2020	Day Time	64	75 dB(A) Day Time &	
Sample ID: ELES/RNC/2023/AN/3530			Night Time	46	& 70 dB(A) Night Time	



****End of Report****

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

Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4160	Report Release Date	: 31.10.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	-

CUSTOMER DE	TAILS	SAMPLE DETAILS			
Customer Name	: Hindalco Industries Limited	Sampling Date	: 23.09.2023		
		Sampling Received Date	: 30.09.2023		
		Type of Sample	: Wor <mark>kzone</mark> Noise		
Address	: Lohardaga, Jharkhand-835302	Sampling procedure	: ELES/DOC/SMPL/03		
		Sample Drawn By	: ELES Pvt. Ltd.		
Mines Status	: Non Operational	Period of Analysis	: 30.09.2023 to 11.10.2023		

M	ETEOROLOGICAL INFORMATION	le1		
1	Average Temperature (°C) : 26	2	Barometric Pressure (mmHg)	: 738
3	Relative Humidity (%) : 65	4	Weather Condition	: Partly Cloudy

Location	Unit	Test Protocol	Res	sult	Regulatory Limit (Industrial Zone)	
Near Poclain –			Time	L _{eq}		
Chiro-Kukud Bauxite Mine (152.57ha)	dB(A)	IS 4758:1968; RA 2017	Day Time	73	90 dB (A)	
Sample ID: ELES/RNC/2023/WN/3552			Day Time	73		



****End of Report****

Authorised Signatory

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

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Annexure 3

Date - 01.11.2023

Office Order

Environmental Cell has been re-constituted at Chiro Kukud Bauxite Mine (Area 152.57 ha) comprising below mentioned team members. The team will ensure compliance with the Environment Act, Regulation & Rule in respect of the said mines of Hindalco Industries Limited.

- 1. Mr. Vijay Chauhan (Coordinator)
- 2. Mr. Praveen Pradhan -Geologist
- 3. Mr. Anand Prakash Tiwari Environment Engineer

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

Basudev Gangopadhyay AVP (Planning, Environment &Compliance)

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	0	0	0.00	0.00
2	Bhusar Bauxite Mine	65.31	280000	11.07.1981 to 31.03.2030	148918	0.92	0.45	163157.26
3	Hisri (New) Bauxite Mine	14.55	100000	19.07.1981 to 31.03.2030	56738	0.4	0.49	27329.28
4	Kujam - I Bauxite Mine	80.87	150000	13.03.2006 to 12.03.2056	102270	2.1	1.61	157784.02
5	Kujam - II Bauxite Mine	157.38	300000	24.03.2006 to 23.03.2056	61110	3.02	1.21	134785.10
6	Amtipani Bauxite Mine	190.95	150000	13.03.2006 to 12.03.2056	100700	2.91	1.00	125875.50
7	Gurdari Bauxite Mine	584.19	325000	23.03.1985 to 22.03.2035	78106	3.07	2.38	242675.00
8	Shrengdag A Bauxite Mine	155.81	260000	16.10.1974 to 31.03.2030	14860	0.39	0.35	14280
9	Shrengdag B Bauxite Mine	140.07	100000	04.10.1978 to 31.03.2030	43320	1.12	1.15	77170
10	Jalim & Sanai Bauxite 'Mine	12.14	50000	16.10.1974 to 31.03.2030	26725	0.21	0.2	8750
11	Orsapat Bauxite Mine	196.36	200000	17.07.1986 to 16.07.2036	NIL	NIL	NIL	NIL
12	Chiro Kukud bauxite Mine	152.57	100000	29.01.1985 to 28.01.2035	NIL	NIL	NIL	NIL
13	Pakhar (8.09)	8.09	80000	16.05.1973 to 31.03.2030	NIL	NIL	NIL	NIL
14	Pakhar (35.12)	35.12	200000	17.04.1975 to 31.03.2030	NIL	NIL	NIL	NIL

Annexure 4

15	Pakhar (115.13)			19.07.1996 to				
		115.13	300000	31.03.2030	147508.00	2.29	0.4	532571.87
				Miner	als & Minerals Li	mited		
16	Pakhar (15.58)	15.58	60000	28.04.1965 to 31.03.2030	80.00	0.00	0.00	0.00
17	Pakhar (109.507)	109.507	280000	26.07.2008 to 25.07.2058	97720.00	1.93	0.71	237280.85
18	Bimarla Bauxite Mine	134.37	300000	18.07.2009 to 17.07.2059	39550	2.21	0.8	64913.65
19	Amtipani Chirodih Bauxite Mines	130.01	450000	11.01.2017 to 10.01.2067	84678	3.96	1.15	98519.66

*Static information about the mines included in the above table



Basudev Gangopadhyay AVP (Planning, Environment and Compliance)

Annexure-5

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

The composite cost during the year 2023-24 for environmental protection & pollution control by Jharkhand Mines division of M/s Hindalco Industries Ltd & M/s Minerals & Minerals Ltd for implementation of the suggested measures in EC at our all the operating mines in the state of Jharkhand-namely Pakhar (115,13 ha), Pakhar (15.58 ha), Pakhar (109.507 ha), Pakhar (8.09 ha), Pakhar (35.12 ha), Serengdag (140.06 ha), Serengdag (155.81 ha), Jalim & Sanai (12.14 ha), Gurdari (584.19 ha), Amtipani (190.95 ha), Kujam I (80.97 ha) Kujam II (157.38 ha), Bagru (75.41 ha), Hisri New (14.55 ha), Chiro kukud (152.57 ha), Orsa pat (196.36 ha), Bhusar (65.31 ha), Bimarla Bauxite Mines (134.52 ha) and Amtipani Chirodih (130.01 ha) Bauxite Mine.

S No	Description	Budget (in Rupees) FY 2023-24	Actual (in Rupees) FY 2023-24 (From April'23 to September'23)
1	Pollution Control & Environment monitoring	1,57,41,102.00	82,15,825.36
2	Reclamation/ Back filing & Rehabilitation**	1,36,62,095.00	6,66,42,814.70
3	Green belt, Plantation & Water sprinkling arrangement	67,45,898.00	19,34,590.20
4	Rural Development	6,19,33,534.00	1,83,73,453.27

**Part of OB removed cost.

Basudev Gangopadhyay AVP (Planning, Environment & Compliance)