

HIL/LHD/ENV/MoEF/431

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

Sub: Compliance Report of EC conditions for Amtipani Bauxite Mining project of M/s Hindalco Industries Limited located in Dist- Gumla, Jharkhand for the period April'23 to September'23.

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

Sir,

With reference to the above, we are submitting herewith the Compliance status report of EC conditions for **Amtipani** Bauxite mining project of **M/s Hindalco Industries Limited** located in Gumla, Jharkhand for the period April'23 to September'23.

The lease details are as below.

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

Hope you will find the same in order.

Thanking You

Yours Sincerely FOR HINDALCO INDUSTRIES LIMITED

Date: 25.11.2023

(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>

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

M/s Hindalco Industries Ltd

Environment Clearance No & date : J - 11015/241/2005-IA.II (M), dated 14.08.2006.

Period of compliance Report : From 1st April 2023 to 30th September 2023

Specific Conditions

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

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

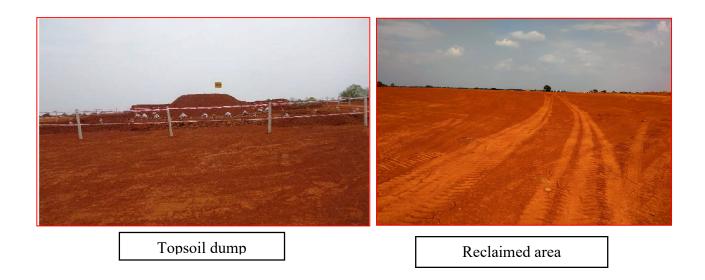
Condition 2- The mining operations shall not intersect the groundwater table. Prior approval of the MoEF and CGWA shall be obtained for mining below the water table.

Reply to Condition 2- The mining operation confined within shallow depth (20 m max) and did not intersect ground water. In future also, working zones will be restricted to above ground water table. We undertake that no mining is/was carried out below ground water table and the same status will be maintained in future as well.

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

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

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



Reply to Condition 4- Topsoil is being stacked temporarily, if applicable and stacked separately with proper slope & is being used for reclamation and rehabilitation simultaneously with mining operation.

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

Reply to Condition 5- During mining concurrent backfilling of waste in worked out quarry is in practice. We are reviewing progress on a continuous basis. Monitoring and management of rehabilitation are continuous through supervision. All three existing dumps have been exhausted by backfilling in the mine voids in a systematic and scientific manner. Compliance status is being submitted to the Ministry of Environment & Forests & Climate Change on six monthly basis.

Condition 6- Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from soil and mineral dump. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted particularly after monsoon and maintained Garland drains (size, gradient and length) shall be constructed for mine pit and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and desilted at regular intervals.

Reply to Condition 6- No run-off is generated from mining activities. However, to collect & manage rainwater during monsoon, part of mined out area is used as a settling tank for the runoff. Rainwater stored is being used for watering the mine area, roads, green belt development and sprinkling as necessary.

Catch drains, Garland drains of appropriate size are being constructed in both around the mine pit to prevent runoff of water and flow of sediments directly into the agricultural field and water bodies, if applicable. Sump of adequate capacity is being provided and maintained as required.



Retaining wall and siltation pit to prevent solid wash-



Garland drains around mine pit.

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

Reply to Condition 7- Progressive plantation is being carried out. During FY 2023-24 a total of 2700 nos. of trees have been planted in 1.20 ha. Total 18.13 ha areas have been planted till date. In addition to this agricultural activity is going on in reclaimed land with the consent of landowners. The Green belt development programme is in progress with the progress of mining activities.



Plantation and Agricultural activity on reclaimed land and Safety zone

Condition 8- The project authority should implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.

Reply to Condition 8- Suitable conservation measures to augment ground water have been taken as directed in NOC granted by CGWB e.g. Constructing water harvesting pond etc. Catchment areas are being enhanced for accumulation of surface water in the harvested pond. Catchment drains are also being made and are being repaired from time to time. We are not using any ground water for mining activities.





Rainwater Harvesting Pond at Mines

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

Reply to Condition 9- The mining operation is not intersecting ground water table. We are not using ground water for any mining purpose.

A piezometer has been installed for monitoring of ground water level. Water quality and water level report are attached herewith as **Annexure 1**.





Piezometer Installed at Mines

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

Reply to Condition 10- Rainwater harvested during rainy season is being used for sprinkling on haul roads, mining activities, and raising plantation. We are using water harvested by us and not stream water/surface water bodies for mining purposes.

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

Reply to Condition 11- Spring is being monitored; Analysis report is attached as **Annexure 2**. Currently MoEF regional office is located at Ranchi.

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

Reply to Condition 12- Regular maintenance of vehicles is being done to minimize vehicular emission. All measures are being taken to control vehicular emission. The vehicles are being covered with tarpaulin while transportation of mineral.





Ore Transportation with tarpaulin covered truck.

PUC Certificate.

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

Reply to Condition 13- Wet drilling is in practice.



Wet drilling is in practice.

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

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

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

Reply to Condition 15- We have obtained valid Consent to operate prior to start of production.

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

Reply to Condition 16- There is no industrial wastewater generation from workshop within mine lease area. Hence, ETP has not been installed.

However, for washing of HEMM, Effluent treatment mechanism (Oil and grease trap) has been installed in Amtipani mine lease area. The sewage water from domestic uses is being collected through individual septic tanks & soak pits.





Oil And Grease Trap at Mines

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

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

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

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

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

Reply to Condition 19- Mining Plan along with progressive mine closure plan has been approved by Indian Bureau of Mines. Final Mine Closure Plan will be submitted in due time as per applicable guideline and timelines mentioned in MCDR/IBM guideline who are competent authority to approve the same. Based on present resource estimate and peak rated production capacity mentioned in EC, Mining operation is being carried out.

General Conditions

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

Reply to Condition 1- Noted

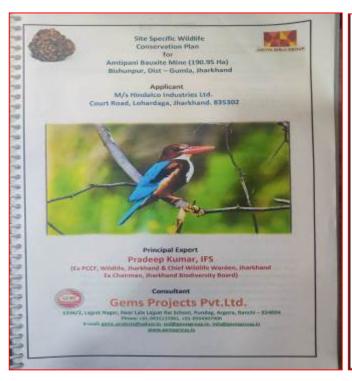
Condition 2- No change in the calendar plan including excavation, quantum of mineral bauxite and waste should be made.

Reply to Condition 2- Calendar plan including excavation, quantum of mineral bauxite and waste is being done as per IBM approved mining scheme and in scientific manner. Report is attached herewith as **Annexure 4.**

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

Reply to Condition 3- We have prepared Wildlife Conservation Plan in consultation with State Forest Department and obtained approval letter from Principal Chief Conservator of Forest, Wildlife & Chief Wildlife Warden, Jharkhand for conservation and protection of flora and fauna in the core and buffer zone for Amtipani Bauxite Mines.

Approval letter (Memo No 1863, dated 02.12.2021) has been submitted to your good office on 21.02.2022.





Wildlife Conservation Plan

Condition 4- Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RPM, SPM, SO2, NOx monitoring. Location of the stations should be decided based on the meteorological data, topographical features and

environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.

Reply to Condition 4- We have already established four ambient air quality monitoring stations in the core zone as well as buffer zone. Monitoring is being carried out and reported to the concerned authorities. Report is attached as **Annexure 2**.

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

Reply to Condition 5- Being adhered to. The Regional office of the ministry is located at Ranchi. Monitoring report is attached as **Annexure-2**.

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

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



Mobile water tanker for dust suppression

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

Reply to Condition 7- Being Complied. PPEs are provided to workers.

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

Reply to Condition 8- There is no industrial wastewater generation from workshop within mine lease area. We are not discharging any wastewater outside the mine lease area. However, for washing of HEMM, Effluent treatment mechanism (Oil and grease trap) has been installed in Amtipani mine lease area.





Oil and Grease Trap at Mines

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

Reply to Condition 9- PPEs provided. Periodic training on safety & occupational health are being imparted to workers and health checkups are being conducted.

Condition 10- A separate environmental management cell with suitable qualified personnel should be set up under the control of a Senior Executive, who will report directly to the Head of the Organization.

Reply to Condition 10- A separate environmental management cell with suitable qualified personnel is already formed and informed. The copy of the same is attached as **Annexure 3.**

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

Reply to Condition 11- Mining Plan along with progressive mine closure plan has been approved by IBM, Ranchi. This is an operating mine, hence provision related to financial closure not applicable. Currently, the Regional Office is located at Ranchi.

Condition 12- The funds earmarked for environmental protection measures should be kept in a separate account and should not be diverted for other purpose. Year-wise expenditure should be reported to the Ministry and its Regional Office located at Bhubaneswar.

Reply to Condition 12- Every year budget is earmarked for environmental protection measures being prepared for purpose and its expenditure is being reported to the ministry. The copy of the same is attached as **Annexure 5**. Currently, the Regional Office is located at Ranchi.

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

Reply to Condition 13- Already mentioned above vide Point no. 11.

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

Reply to Condition 14- Agreed and is being done. Currently, the Regional Office of the ministry is located at Ranchi.

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

Reply to Condition 15- Complied.

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

Reply to Condition 16- Noted.

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

Reply to Condition 17- Complied. (Documents already submitted).

Annexure 1					
Piezometer reading - Amtipani Bauxite Mines					
S No Month Depth (meter)					
1	Apr-23	34.67			
2	May-23	33.92			
3	Jun-23	32.95			
4	Jul-23	33.15			
5	Aug-23	32.88			
6	Sep-23	32.32			

ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Amtipani Bauxite Mine-Environmental Monitoring Report

April 2023



CONTENT

Hind	alco Industries : Amtipani Bauxite Mine	Environmental Monitoring Report	April 2023
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3	Mines Near Quarry - 1C		
4	Mines Near Quarry - 7A		
	AMBIENT AIR QUALITY-BUFFER 2	CONE	
1	Near Pakri Gada Village		
2	Near Pol Pol Village		
3	Near Shakhuapani Village		
4	Near Dipa Kujam Village		





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

ENGINEERING SERVICES PYT, LTD

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



TEST REPORT

Test Report No.	: ELES/RNC/2023/1972	Report Release Date	: 12.06.2023	
Work Order No.	: 13612310218	Work Order Date	2 21.04.2023	
ULR No.	: TC883923000000933F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/1399 : Mine Entrance Gate Amtipani Bauxite Mine (190.95 ha)	
Address				
Plant Status	: Operational	Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 10.05.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFORMATION				
1	Average Temperature (°C) : 30	2	Barometric Pressure (mml	lg) : 743	
3	Relative Humidity (%) : 58		Weather Condition	: Clear	

Discipline :	Chemical	Group	Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	65	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	32	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	8.9	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	13.8	80 (24hrs)
Ozone (O _i)	μg/m²	1S 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	0.014	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)

****End of Report****

Reviewed by

Authorized Signatory Dr. Deependra Kumar Sinha

Page 1 of 1 ELES Pvt. Ltd. Technical Manager
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TEST REPORT

Test Report No.	: ELES/RNC/2023/1972	Report Release Date	: 12.06.2023	
Work Order No.	: 13612310218	Work Order Date	T 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/1399 : Mine Entrance Gate Amtipani Bauxite Mine (190.95 ha)	
Address	Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 11.04.2023 to 12,04,2023 : 10,05,2023	
Plant Status	: Operational	Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02	
		Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION				
_	Average Temperature (°C) : 30	2	Barometric Pressure (mml	Hg) : 743	
3	Relative Humidity (%) : 58	4	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	IS:5182 (Part-12); 2004;RA2019	< 0.5	01(Annual)	

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



****End of Report***

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

ELES Pvt, Ltd, Technical Manager

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TEST REPORT

Test Report No.	: ELES/RNC/2023/1973	Report Release Date	: 12,06.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000000934F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/1400 : Near Mine Office/WB Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 11.04.2023 to 12.04.2023 : 10.05.2023	
Plant Status	: Operational	Sampling Procedure Sample Drawn By	; Ambient Air : ELES/DOC/SMPL/02	
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NABL Accredited				
Discipline :	Chemical	Group	: Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	66	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	34	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	6.5	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m ³	IS 5182 (Part-6): 2006; RA2022	12.5	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₂)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Amual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)



****End of Report****

Authorized Signatory
Dr. Deependra Kumar Sinha

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

ENGINEERING SERVICES PVT. LTD.

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TEST REPORT

Test Report No.	: ELES/RNC/2023/1973	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 Sampling Date	: ELES/RNC/2023/AA/1400 : Near Mine Office/WB	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	Amtipani Bauxite Mine (190.95 ha) : 11.04.2023 to 12.04.2023 : 10.05.2023	
Plant Status	: Operational	Sampling Procedure 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)	: 30	2	Barometric Pressure (mmHg)	: 743
3	Relative Humidity (%)	: 58	4	Weather Condition	Clear

Discipline : Chemical		Group	: Atmospheri	c 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	IS:5182 (Part-12): 2004;RA2019	< 0.5	01(Annual)

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



****End of Report****

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

ELES Pvr. Ltd. Technical Manager

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARIHAND) G57 NO:- 20AAECE9713D124



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TEST REPORT

Test Report No.	: ELES/RNC/2023/1974	Report Release Date	: 12.06,2023	
Work Order No.	: M06/842300610	Work Order Date	: 04.07.2022	
Work Order No.	: TC883923000000935F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	; Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/1401 : Mines Near Quarry - 1C Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 11.04.2023 to 12.04.2023 : 10.05.2023	
Plant Status	: Operational	Sampling Procedure 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			
	Average Temperature (°C)	: 30	2.	Barometric Pressure (mmHg)	:743
3	Relative Humidity (%)	: 58		Weather Condition	Clear

NABL Accredited				
Discipline :	Chemical	Group	Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23); 2006; RA2022	65	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	38	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	7.8	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part-6): 2006; RA2022	20.5	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m¹	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m ³	IS 5182 (Part-22): 2004; RA2019	0.012	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)

****End of Report****

Reviewed by

Authorized Signatory

Page 1 of 1 ELES Pvt. Ltd. Technical Manager

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

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TEST REPORT

Test Report No.	: ELES/RNC/2023/1974	Report Release Date	: 12.06.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETA	CUSTOMER DETAILS			
Customer Name Address	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/1401 : Mines Near Quarry - IC Amtipani Bauxite Mine (190.95 ha)	
Address : Lohardaga, Jharkhand-835302 Plant Status : Operational		Sample Received Date Type of Sample Sampling Procedure	: 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	

MI	TEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 30	2	Barometric Pressure (mmHg)	+743
3	Relative Humidity (%)	: 58		Weather Condition	
			- 1"	Weather Condition	: Clear

Discipline	: Chemical	Group	Atmospheri	e 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	IS:5182 (Part-12): 2004;RA2019	<0.5	OI(Annual)

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



****End of Report****

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

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATTA, RANCHI-834003 [JHARKHAND] GST NO:- 30AAFCE97330170



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TEST REPORT

Test Report No.	: ELES/RNC/2023/1975	Report Release Date	: 12.06.2023
Work Order No.	: 13612310218	Work Order Date	: 21,04.2023
ULR No.	; TC883923000000936F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/1402 : Mines Near Quarry - 7A Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 11.04.2023 to 12.04.2023 : 10.05.2023	
Plant Status	: Operational	Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : Sealed & Preserved	
Period of Analysis	: 10.05.2023 to 08.06.2023	Sample Condition		

M	ETEOROLOGICAL INFORM	IATION			
1	Average Temperature (°C)	30	2	Barometric Pressure (mmHg)	: 743
3	Relative Humidity (%)	58		Weather Condition	: Clear

Discipline :	Chemical	Group	: Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	67	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	35	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	7.2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part-6): 2006; RA2022	24.9	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Antmonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m'	IS 5182 (Part-22): 2004; RA2019	0.007	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)



Authorized Signatory Dr. Deependra Kumar Sinh.:

Page 1 of 1

****End of Report****

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

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TEST REPORT

Test Report No.	; ELES/RNC/2023/1975	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 Sampling Date	: ELES/RNC/2023/AA/1402 : Mines Near Quarry - 7A Amtipani Bauxite Mine (190.95 ha	
Address	; Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 11.04.2023 to 12.04.2023 : 10.05,2023	
Plant Status	: Operational	Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 10.05.2023 to 08.06.2023	Sample Condition	: Scaled & Preserved	

M	TEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 30	2	Barometric Pressure (mmHg)	- 743
1	Relative Humidity (%)	: 58		Weather Condition	: Clear

Discipline	: Chemical	Group	: Atmospheri	c 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/m³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)

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



**** End of Report****

Dr. Deependra Kumær Sinns Ph. D. Environmental Engg. ELES Pvt. Ltd. Technical Manager

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PLOT NO-30, MANSAROVAR ENCLAVE, TURLIDANA NATIA, RANCHI-E34003 (IRARINAND) GST NO:- 104480557130124



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TEST REPORT

Test Report No.	: ELES/RNC/2023/1964	Report Release Date	: 12.06.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000000925F		

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1391 : Near Pakri Gada Village
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 11.04.2023 to 12.04.2023 : 10.05.2023
Plany Status	: Operational	Type of Sample Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	; 10.05,2023 to 68,06,2023	Sample Condition	: Sealed & Preserved

VI.	ETEOROLOGICAL INFO	CIVIATION			
I	Average Temperature (°C)	: 30	2	Barometric Pressure (mmHg)	: 743
3	Relative Humidity (%)	1.62	4	Weather Condition	1 Clear
5	Longitude	: 84°14'52,25"N	6	Latitude	: 23°17'41.21"E

Discipline :	Chemical	Group	Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	63	100 (24hrs)
Particulate Matter (PM2,5)	µg/m³	IS 5182 (Part- 24): 2019	34	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Past-2): 2001; RA2022	6.2	80 (24hrs)
Nitrogen Di-Oxide (NO ₁)	µg/m³	IS 5182 (Part-6): 2006; RA2022	15.5	80 (24hrs)
Ozone (O ₃)	μg/m³	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/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m³	1S 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2,0	06 (Annual)



Authorized Signatory

****End of Report**** Dr. Despens

Dr. Despendra Kumar Sinh

Page 1 of 1 ELES PVI. Ltd. Technical Manager

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PLOT NO 30, MIRNSAROVAN ENCLAYE, TUPUOANA HATIA, RANCHI-ES4003 (JHARIKHAND) GST NO:- 20AASEE97130124 ENGINEERING SERVICES PYT. LTD.

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TEST REPORT

Test Report No.	± ELES/RNC/2023/1964	Report Release Date	: 12.06.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2023/AA/1391 : Near Pakri Gada Village : 11.04.2023 to 12.04.2023 : 10.05.2023 : Ambient Air
Plant Status	: Operational	Sample Drawn By	: 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)	‡ 30°	2	Barometric Pressure (mmHg)	: 743
3	Relative Humidity (%)	: 62	4	Weather Condition	: Clear
5	Longitude	: 84°14'52,25"N	6	Latitude	:23°17'41.21"E

Discipline	: Chemical	Group	: Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	μg/m³	IS:5182 (part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene ⁴	ng/m³	IS:5182 (Part-12): 2004;RA2019	< 0.5	01(Annual)

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



****End of Report****

Dr. Despendra Rumar Signature Pn. D. Environmental Engg. ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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PLOT NO-20, MANSAROVAR ENCLAVE, TURNDANA HATIA, RANCHI-834003 (JHARIKHAND) IST NO-20AAECESTI3D124



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TEST REPORT

Test Report No.	: ELES/RNC/2023/1965	Report Release Date	: 12.06.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000000926F		

CUSTOMER DETA	IILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1392 : Near Pol Pol Village
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 11.04.2023 to 12.04.2023 : 10.05.2023
Plant Status	: 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)	: 30	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 Limi
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	55	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	34	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	7,4	80 (24hrs)
Nitrogen Di-Oxide (NO ₁)	µg/m³	IS 5182 (Part-6): 2006; RA2022	15.2	80 (24hrs)
Ozone (O ₃)	μg/m³	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 ²	1S 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/m²	ELES/AIR/SOP/01	<2.0	06 (Annual)



****End of Report****

Dr. Deepandra Ruffier onfite Ph. D. Environmental Engg. ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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PLOT NO 30, MANSAROVAR ENCLAVE, TURUDANA HATIA, BANCHI-834003 (HARKHAND) G57 NO: 284 6CE97120124

SERING SERVICES PUT LEAL

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/1965	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 Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2023/AA/1392 : Near Pol Pol Village : 11.04.2023 to 12.04.2023 : 10.05.2023 : Ambient Air	
Plant Status	: Operational	Sample Drawn By	: ELES/DOC/SMPL/02	
Period of Analysts	: 10.05.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORM	IATION			
1	Average Temperature (°C)	30	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*	ug/m²	IS:5182 (part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene ^a	ng/m³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)

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

****End of Report****

Dr. Despandra Number Smile Ph. D. Environmental Engg. ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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PEOT NO-30, MANSAROVAR ENCLAVA, TUMIDANII HATIA, RANCHI 624003 (INARKHAND) GST NO.: 200400107130114



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



TEST REPORT

Test Report No.	: ELES/RNC/2023/1966	Report Release Date	: 12.06.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000000927F		

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1393 : Near Shakhuapani Village	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 11.04.2023 to 12.04.2023 : 10.05.2023 : Ambient Air	
Plant Status	; Operational	Sample Drawn By	- ELES/DOC/SMPL/02	
Period of Analysis	: 10.05,2023 to 08.06,2023	Sample Condition	Sealed & Preserved	

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	:30	2.	Barometric Pressure (mmHg)	: 743
3	Relative Humidity (%)	: 62	4	Weather Condition	: Clear

NABL Accredited						
Discipline:	Chemical	Group	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limi		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	62	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	34	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	7.7	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	µg/m ²	IS 5182 (Part-6): 2006; RA2022	19.2	80 (24hrs)		
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)		
Ammonia (NH ₂)	μg/m³	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/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/m ¹	ELES/AIR/SOP/01	<2.0	06 (Annual)		



****End of Report****

Dr. Deepend's Kumer Sonre
Ph. D. Environmental Engg.
ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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PLOT NG-30, MANSAROVAR ENCLAVE, TUPUDANA HATIÁ, RANCHI-634003 (JHARICHÁND) 6ST IIO:-20AAECE9713D124 ENGINEERING SCRVICES FOT. LTD.

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TEST REPORT

Test Report No.	: ELES/RNC/2023/1966	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/1393 : Near Shakhuapani Village	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 11.04.2023 to 12.04.2023 : 10.05.2023	
Plant Status	: 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	4			
1	Average Temperature (°C) : 30	2	Barometric Pressure (mn	nHg) : 743	
3	Relative Humidity (%) : 62	A	Weather Condition	: Clear	

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

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



****End of Report****

Authorized 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 TUPLIDANA HATIA, RANCHI B34003 (JHARKHAND) 637 NO.- 204 AECE97150124



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Phane no.: 0651-2190163 Website: www.slesshoo.in



TEST REPORT

Test Report No.	: ELES/RNC/2023/1967	Report Release Date	: 12.06.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000000928F		

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1394 : Near Dipa Kujam Village	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 11.04.2023 to 12.04.2023 : 10.05.2023	
Plant Status	; 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) 30	2	Barometric Pressure (mmHg	g) : 743
3	Relative Humidity (%) : 62	4	Weather Condition	: Clear

NABL Accredited Discipline:	Chambral	Custom	A stantage of board	- Pullarian
	7000	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Pars-23): 2006; RA2022	61	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	33	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	7,3	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m³	IS 5182 (Part-6): 2006; RA2022	15.6	80 (24hrs)
Ozone (O ₅)	µg/m³	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/m³	IS 5182 (Part-10); 1999; RA2019	<1,0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Avsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)



****End of Report****

Authorized Signatory

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

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE TUPUUANA HATIA, RANCHI-834003 (IHARIKHAND) BST NO:- 204AECE9713D114 Email: inio@elesal.co.in . zles.ranchi@amail.com Fhane no.: 0553-2290163

Website : www.elespi.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/1967	Report Release Date	: 12.06.2023	
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/1394 : Near Dipa Kujam Village : 11.04.2023 to 12.04.2023 : 10.05.2023	
Plant Status Period of Analysis	: Operational : 10.05.2023 to 08.06.2023	Type of Sample Sample Drawn By Sample Condition	: Ambient Air : ELES/DOC/SMPL/02 : Sealed & Preserved	

M	ETEOROLOGICAL INFOI	RMATION				
1	Average Temperature (°C)	; 30	2	Barometric Pressure (mml	dg) : 743	
3	Relative Humidity (%)	: 62	4	Weather Condition	: Clear	

Discipline : Chemical		Group 1 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 ^a	ng/m³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)	

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



****End of Report****

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

Page I of 1

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

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Website: www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RAN/2023/0494	Report Release Date	: 06.05.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

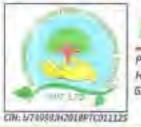
CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RAN/2023/DW/0379	
		Sampling Date	: 06.04.2023	
		Sample Received Date	: 26.04.2023	
Address	: Lohardaga, Jharkhand-835302	Type of Sample	: Drinking Water	
rediress		Source/Location of Sample	: Amtipani Bauxite Mines (190.95ha)	
		Sampling Procedure	: ELES/DOC/SMPL/01	
Mines Status	: Operational	Sample Collected By	: ELES Pvt. Ltd.	
Period of Analysis	: 26.04.2023 to 05.05.2023	Sample Condition	: Sealed & Preserved	

Discipline : Chem	ical	Group : Water	r		ory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
pH (at 25.2°C)		APHA 23 rd Ed.2017, 4500-H ⁺	6.64	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 23 rd Ed.2017, 2130 B	0.23	1.0	5.0
Taste	0.5.4	APHA 23 rd Ed.2017, 2160 C	Agreeable	Agreeable	Agreeable
Odour	9.	IS 3025 (Part-5) :2018	Agreeable	Agrecable	Agreeable
Colour	Hazen	APHA 23 rd Ed.2017, 2120B&D	1.0	5	15
Total Dissolved Solids (TDS)	mg/L	APHA 23 rd Ed.2017, 2540B,C&D	218	500	2000
Chloride (as Cl)	mg/L	APHA 23rd Ed.2017, 4500 C1 B	40.4	250	1000
Fluoride (as F)	mg/L	APHA 23 rd Ed.2017, 4500 F-D	BDL (DL: 0.1)	1.0	1,5
Total Alkalinity (as CaCO ₃)	mg/L	APHA 23 rd Ed,2017, 2320 B	70.4	200	600
Total Hardness (as CaCO ₂)	mg/L	APHA 23rd Ed.2017, 2340 C	94.8	200	600
Sulphate (as SO ₄)	mg/L	APHA 23st Ed.2017, 4500 SO ₄ -2-E	15.8	200	400
Nitrate (as NO ₃)	mg/L	APHA 23 rd Ed.2017, 4500 NO ₃ -B	1.78	45	No Relaxation
Phenolic Compound (as C ₆ H ₅ OH)	mg/L	1S 3025 (Part-43):1992;RA2019	BDL (DL: 0.0005)	0.001	0.002

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Save Em Emmantit, Save Fativo



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) 65T NO:-28AAECE97130124

ENGINEERING SERVICES PVT. AVE.

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Phone No.: 0651-2290103 Website / www.elespl.co.in

TEST REPORT

Test Report No. : ELES/RAN/2023/0494 Report Release Date : 06.05.2023

Work Order No. : 13612310218 Work Order Date : 21.04.2023

Discipl	ine: Che	mical Group: V	Vater		tory Limit 310500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Cyanide (as CN)	mg/L	APHA 23 nd Ed 2017, 4500 CN-E	BDL (DL; 0.012)	0.05	No Relaxation
Residual Free Chlorine (RFC)	mg/L	1S 3025 (Part-26):2021	BDL (DL: 0.1)	0.02	1.0
Calcium (as Ca)	mg/L	APHA 23 rd Ed.2017, 3500 Ca B	23.8	7.5	200
Discipl	ine: Che	mical Group	: Residues in	Water	
Aluminum (as Al)	mg/L	IS 3025 (Part-55): 2003; RA2019	BDL (DL: 0.02)	0.03	0,2
Arsenic (as As)	mg/L	1S 3025 (Part 37): 2022	BDL (DL: 0.005)	0.01	No Relaxation
Boron (as B)	mg/L	IS 3025(Part-57): 2005; RA2021	BDL (DL; 0.2)	0.5	1.0
Cadmium (as Cd)	mg/L	APHA 23rd Ed.2017, 3111B	BDL (DL: 0.003)	0.003	No Relaxation
Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2017, 3111B	BDL (DL: 0.03)	0.05	No Relaxation
Copper (as Cu)	mg/L	APHA 23 rd Ed.2017, 3111B	BDL (DL: 0.03)	0.05	1.5
Iron (as Fe)	mg/L	APHA 23rd Ed,2017,3111B	0.218	1.0	1.0
Lead (as Pb)	mg/L	APHA 23 rd Ed.2017, 3111B	BDL (DL: 0.01)	0.01	No Relaxation
Manganese (as Mn)	mg/L	APHA 23 rd Ed.2017, 3111B	BDL (DL: 0.05)	0,1	0.3
Mercury (as Hg)	mg/L	IS 3025 (Part-48); 1994; RA2019	BDL (DL: 0.001)	0.001	No Relaxation
Selenium (as Se)	mg/L	IS 3025 (Part-56): 2003; RA2019	BDL, (DL: 0.01)	0.01	No Relaxation
Zinc (as Zn)	mg/L	APHA 23 rd Ed.2017 , 3111B	BDL (DL: 0.1)	5	15

Remarks: 1, pH & RFC done at Lab.

Page 2 of 4

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

TEST REPORT

 Test Report No.
 : ELES/RAN/2023/0494
 Report Release Date
 : 06.05.2023

 Work Order No.
 : 13612310218
 Work Order Date
 : 21.04.2023

Discipline: Che	mical		Group: Water	
Parameter	Unit	Test Protocol	Result	Regulatory Limit as per IS 10500:2012
Pesticides				
Alachlor*	μg/L	APHA	BDL (DL: 1.0)	-20
Atrazine*	µg/L	АРНА	BDL (DL: 1.0)	2
Aldrin/Dieldrin*	μg/L	АРНА	BDL (DL: 0.01)	0.03
Alpha HCH*	μg/L	АРНА	BDL (DL: 0.001)	0.01
Beta HCH*	μg/L	АРНА	BDL (DL: 0.01)	0.04
Butachlor*	μg/L	АРНА	BDL (DL: 10)	125
Chlorpyriphos*	µg/L	APHA	BDL (DL: 10)	30
Delta HCH*	μg/L	APHA	BDL (DL: 0.01)	0.04
2,4 dichlorophenoxyacetic acid*	µg/L	АРНА	BDL (DL: 10)	30
DDT(o,p and p,p-isomers of DDT,DDE and DDD)*	µg/L	APHA	BDL (DL: 0.5)	1
Endosulfan (alpha, beta, and sulphate)*	µg/L	APHA	BDL (DL: 0.1)	0.4
Ethion*	μg/L	APHA	BDL (DL: 0.5)	3
Gamma HCH (Lindane)*	μg/L	АРНА	BDL (DL: 0.5)	2
Isoproturon*	μg/L	АРНА	BDL (DL: 0.5)	9

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- JUAAECE9713D1Z4

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TEST REPORT

Test Report No.	= ELES/RAN/2023/0494	Report Release Date	: 06.05,2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

Discipline: Biological		Group:	Regulatory Limit as per IS 10500:2012		
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Total Coliform	Per 100 mL	IS 15185:2016; RA 2021	Not Detected	OL-O	
Escherichia Coli (E. Coli)	Per 100 mL	mL 15 15185:2016; RA 2021 Not D		Shall not	be detected
Discipline : Chemical		Group: Water		Regulatory Limit as per IS 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Anionic Surfactants (as MBAS)*	mg/L	IS 3025 Part 68	BDL (DL: 0.1)	0.2	1.0
Mineral Oil*	mg/L	CL-6, IS: 3025 (P-39)	BDL (DL: 0.1)	1.0	No relaxation
Polynuclear Aromatic Hydrocarbons (PAH)*	mg/L	APHA 23 nd Edition	BDL (DL; 0.0001)	0.0001	No relaxation
Polychlorinated Biphenyls (PCB)*	mg/L	APHA 23rd Edition	BDL (DL: 0.0005)	0.0005	No relaxation

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

Reviewed

****End of Report****

Authorised Signatory Rekha Saxena B. Sc. M. Sc. (Botany) Director FLES Pvt. Ltd.

Page 4 of 4

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ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Amtipani Bauxite Mine-Environmental Monitoring Report

May 2023



CONTENT

Hind	alco Industries : Amtipani Bauxite Mine	Environmental Monitoring Report	May 2023
	Amt	ipani Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZO	NE	
1	Mine Entrance Gate		
2	Near Mine Office/WB		
3	Mines Near Quarry - 1C		
4	Mines Near Quarry - 7A		
	AMBIENT AIR QUALITY- BUFFER 7	ZONE	
1	Near Pakri Gada Village		
2	Near Pol Pol Village		
3	Near Shakhuapani Village		
4	Near Dipa Kujam Village		





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



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70-8839

TEST REPORT

Test Report No.	: ELES/RNC/2023/2303	Report Release Date	: 01.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21,04,2023
ULR No.	: TC883923000001225F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/1776 : Mine Entrance Gate Amtipani Bauxite Mine (190.95 ha)	
Address	‡ Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	+07.05.2023 to 08.05.2023	
Plant Status	: Operational	Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 06.06.2023 to 09.06,2023	Sample Condition	2 Sealed & Preserved	

MI	METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	35	2	Barometric Pressure (mmHg)	1743	
3	Relative Humidity (%)	60	4	Weather Condition	: Clear	

NABL Accredited		7.73		
Discipline :	Atmospheri	c Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	61	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	30	60 (24hrs)
Sulphur Di-Oxide (SO ₁)	μg/m³	1S 5182 (Part-2); 2001; RA2022	7.8	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m ^J	IS 5182 (Part-6): 2006; RA2022	18.3	80 (24hrs)
Ozone (O ₂)	μg/m²	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/m ¹	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/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)



****End of Report****

Dr. Dulluprized Signature of Sinhal

Page 1 of 1 ELES PVL Lin Manage

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Website: www.elespl.co.in

TEST REPORT

Test Report No.	; ELES/RNC/2023/2303	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 Sampling Date	: ELES/RNC/2023/AA/1776 : Mine Entrance Gate Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 07.05.2023 to 08.05.2023 : 06.06.2023	
Plant Status	: Operational	Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 06.06.2023 to 09.06.2023	Sample Condition	: Scaled & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 35	2	Barometric Pressure (mmllg	: 743
3	Relative Humidity (%)	: 60	4	Weather Condition	: Clear

Discipline : Chemical		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	IS:5182 (Part-12): 2004;RA2019	< 0.5	01(Annual)	

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

Reviewed by

****End of Report****

Authorized Signatory

Ph. D. Environmental Engl. ELES Pvi. Ltd. Technical Menager

Page 1 of 1

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ENGINEERING SERVICES PUT. LTD.

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TEST REPORT

Test Report No.	: ELES/RNC/2023/2304	Report Release Date	: 01.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000001226F		

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	- Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/1777 : Near Mine Office/WB Amtipani Bauxite Mine (190.95 ha)
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 07.05.2023 to 08.05,2023 : 06.06.2023
Plant Status	: Operational	Sampling Procedure 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 INFORMATION			and the same of th	
1	Average Temperature (°C) : 35	2	Barometric Pressure (mmi	Hg) : 743	
3	Relative Humidity (%) : 60	4	Weather Condition	; Clear	

NABL Accredited				3000		
Discipline :	Chemical	Group	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m ¹	IS 5182 (Part-23): 2006; RA2022	63	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	29	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	5.8	80 (24hrs)		
Nitrogen Di-Oxide (NOz)	μg/m³	IS 5182 (Part-6): 2006; RA2022	9.2	80 (24hrs)		
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	μg/m²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)		
Nickel (Ni)	ng/m³	JS 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)		



****End of Report****

Authorized Signatory Dr. Deependra

Page 1 of 1

Page 1 of 1 E.E.S. Pyt. Ltd., Vac miles Manager
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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE97130124 ENGINEERING SERVICES PVT. LTD.

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TEST REPORT

Test Report No.	; ELES/RNC/2023/2304	Report Release Date	: 01.07.2023	
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	: ELES/RNC/2023/AA/1777 : Near Mine Office/WB Amtipani Bauxite Mine (190.95 ha)
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 07.05,2023 to 08.05.2023 : 06.06.2023 : Ambient Air
Plant Status	: Operational	Sample Drawn By	: ELES/DOC/SMPL/02
Period of Analysis	: 06.06.2023 to 09.06.2023	Sample Condition	; Sealed & Preserved

M	ETEOROLOGICAL INFORMATION		A STATE OF THE PARTY OF THE PAR	
1	Average Temperature (°C) : 35	2	Barometric Pressure (mm	Hg) : 743
3	Relative Humidity (%) : 60	4	Weather Condition	* Clear

Discipline	: Chemical	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	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)	

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



****End of Report****

Authorized Signatory
Dr. Deependra Kumar Sinha
Ph. D. Environmental Engg:
ELES Ph. L. Esmilled Manager

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHANKHAND) GST NO:- 2044ECE97130174

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TC-8839

TEST REPORT

Test Report No.	: ELES/RNC/2023/2305	Report Release Date	t 01.07.2023
Work Order No.	: 13612310218	Work Order Date	; 21.04,2023
ULR No.	: TC883923000001227F		

CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/1778 : Mines Near Quarry - 1C Amtipani Bauxite Mine (190.95 ha)
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 07.05.2023 to 08.05.2023 : 06.06.2023
Plant Status	: Operational	Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	z 06.06.2023 to 09.06.2023	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature ("C)	: 35	2	Barometric Pressure (mmHg)	=743
3	Relative Humidity (%)	: 60	4	Weather Condition	Clear

Discipline :	Chemical	Group :	Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	62	100 (24hrs)
Particulate Matter (PM2,5)	μg/m³	IS 5182 (Part- 24); 2019	30	60 (24hrs)
Sulphur Di-Oxide (SQ ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	6.5	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part-6): 2006; RA2022	25.2	80 (24hrs)
Ozone (O ₁)	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 (CQ)	mg/m ²	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	hg/m³	1S 5182 (Part-22): 2004; RA2019	0.015	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)



****End of Report***

Dr. Dauthorized Signatury Sinhs

Page 1 of 1 ELES Put. Littli Technology

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Save Environment, Save Forner



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TEST REPORT

Test Report No.	: ELES/RNC/2023/2305	Report Release Date	: 01.07.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1778 : Mines Near Quarry - 1C		
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	Amtipani Bauxite Mine (190.95 ha) : 07.05.2023 to 08.05.2023 : 06.06.2023		
Plant Status	: Operational	Sampling Procedure 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 INFORMATION			
1	Average Temperature (°C) : 35	2	Barometric Pressure (mm	Hg) ; 743
3	Relative Humidity (%) : 60	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/m³	IS:5182 (Part-12): 2004;RA2019	< 0.5	01(Annual)	

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



****End of Report****

Authorized Signatory
Dr. Deependra Kumar Sinha
Ph. D. Environmental Engg.,
ELES Pvt. Ltt. Technical Menager

Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2023/2306	Report Release Date	£ 01.07,2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000001228F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	ELES/RNC/2023/AA/1779 Mines Near Quarry - 7A Amtipani Bauxite Mine (190.95 ha	
Address	; Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 07.05.2023 to 08.05.2023 : 06.06.2023	
Plant Status	(Operational	Sampling Procedure 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)	:35	2	Barometric Pressure (mm	Hg) : 743	
3	Relative Humidity (%)	: 60	4	Weather Condition	: Clear	

NABL Accredited	Charitant	Caul	A Kuri man Grand	a Mathettan		
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/m³	IS 5182 (Part- 24): 2019	32	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	6.9	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part-6): 2006; RA2022	18.7	80 (24hrs)		
Ozone (O ₃)	μg/m ¹	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/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	µg/m³	1S 5182 (Part-22): 2004; RA2019	0.007	1 (24hrs)		
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)		



****End of Report****

Dr. Deebersel Signaturar Sinha

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

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/2306	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 Sampling Date	ELES/RNC/2023/AA/1779 Mines Near Quarry - 7A Amtipani Bauxite Mine (190.95 ha	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 07.05.2023 to 08.05.2023 : 06.06.2023 : Ambient Air	
Plant Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02	
Period of Analysis	: 06.06.2023 to 09.06.2023	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) = 35	2	Barometric Pressure (mmHg)	: 743
	Relative Humidity (%) : 60	4:	Weather Condition	: Clear

Discipline : Chemical		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	IS:5182 (Part-12): 2004;RA2019	< 0.5	01(Annual)

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

Reviewed by

****End of Report****

Authorized Signatory

Dr. Deependra Kumar Sinha

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

Page 1 of 1

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TEST REPORT

Test Report No.	: ELES/RNC/2023/2295	Report Release Date	: 01.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000001217F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1768 : Near Pakri Gada Village	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 08.05.2023 to 09.05.2023 : 06.06.2023	
Plant Status	: 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			
1	Average Temperature (°C)	134	2	Barometric Pressure (mmHg)	: 743
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear
5	Longitude	: 84°14'52,25"N	6	Latitude	: 23917/41,21"E

NABL Accredited			7	10-11-11-0	
Discipline :	Chemical	Group	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RAZ022	60	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24): 2019	31	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	1S 5182 (Part-2); 2001; RA2022	5.7	80 (24hrs)	
Nimogen Di-Oxide (NO ₁)	μg/m³	IS 5182 (Part-6): 2006; RA2022	13.3	80 (24hrs)	
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	1S-5182 (Part-10); 1999; RA2019	<1.0	2 (8hrs)	
Lead (Ph)	jig/m¹	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)	
Niekel (Ni)	ng/m [®]	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m	ELES/AIR/SOP/01	<2.0	05 (Annual)	

Reviewed by

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Page 1 of 1

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ministered in Test Report is in 20hours format. Abbitot taxout used: N/A (bloc applicable), SOL (Below Detection Limit). LOL (Lower Desertion Limit)



ENGINEERING SERVICES PUT. LEIL

Email: lafo@elespi.co.la , elej.co.el/@ymc1i.com Phone no : 0851-2290103 Website : www.illami.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/2295	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/1768 : Near Pakri Gada Village	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 08.05.2023 to 09.05.2023 : 06.06.2023	
Plant Status	: 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 INFOR	RMATION			
1	Average Temperature (°C)	: 34	2	Barometric Pressure (mmHg)	: 743
3	Relative Humidity (%)	: 59	4	Weather Condition	; Clear
5	Longitude	: 84°14'52.25"N	6	Latitude	23°17'41.21"E

Discipline ; Chemical		Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene*	µg/m³	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)	
Benzo (a) Pyrene ^a	ng/m³	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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Phone no.: 1951-2750103



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TEST REPORT

Test Report No.	: ELES/RNC/2023/2296	Report Release Date	: 01.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000001218F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	; Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1769 : Near Pol Pol Village	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 08.05.2023 to 09.05.2023 : 06.06.2023	
Plant Status	: 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') 34	2	Barometric Pressure (mm	Hg) : 743
3	Relative Humidity (%) 59	4	Weather Condition	: Clear

NABL Accredited				m it also	
Discipline :	Chemical	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PMI0)	pg/m³	IS 5182 (Part-23): 2006; RA2022	57	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	28	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	6.5	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	12.8	80 (24hrs)	
Ozone (O ₁)	μg/m ¹	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m²	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	jig/m²	1S 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)	
Nickel (Ni)	ng/m³	1S 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	



****End of Report****

Authorized Signatory
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Page 1 of 1

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Emiail, <u>mija Delesanco in , alestran ani Parado con</u> Phone Ho.: 0651-2290103 Website i www.elespi.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/2296	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 Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2023/AA/1769 : Near Pol Pol Village : 08.05.2023 to 09.05.2023 : 06.06.2023 : Ambient Air	
Plant Status	: Operational	Sample Drawn By	: ELES/DOC/SMPL/02	
Period of Analysis	: 06.06.2023 to 09.06.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 34	2	Barometric Pressure (mm	iHg) = 743
3	Relative Humidity (%) : 59	4	Weather Condition	: Clear

Discipline : Chemical		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/m¹	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)

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



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Or Document Kurner Sinha

Page 1 of 1

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TEST REPORT

Test Report No.	: ELES/RNC/2023/2297	Report Release Date	: 01.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000001219F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1770 : Near Shakhuapani Village	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 08.05.2023 to 09.05.2023 : 06.06.2023	
Plant Status	: 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 INFORMATION			
1	Average Temperature (°C) = 34	2	Barometric Pressure (mm.	Hg) : 743
3	Relative Humidity (%) : 59	- 4	Weather Condition	: Clear

NABL Accredited Discipline:	Chemical	Group	Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	59	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Pan- 24): 2019	28	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	6,6	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	18 5182 (Part-6): 2006; RA2022	16.8	80 (24hrs)
Gzone (O ₁)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ⁷	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Caroon Monexide (CO)	mg/m²	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	[(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)



****End of Report***

Authorized Signatory Sights

Particle Authorized Signatory Sights

Particle Authorized Manager

ELES PALLIA, Translated Manager

Page 1 of 1

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PLOY A'D-30. ATANSAROVAN ENGLAVE TUDYIDANA VIETTA RANCHI BENDOS (INTERNATO) BIT NO:- NOAAECESTINOIEN

ENGINEERING SERVICES PVT. LTD.

Emall: lafo@elesgl.co.in., eles.runchi@amail.com Phone no.: 0851-2290103 Website i www.colespl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/2297	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 Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2023/AA/1770 : Near Shakhuapani Village : 08.05.2023 to 09.05.2023 : 06.06.2023 : Ambient Air	
Plant Status	: Operational	Sample Drawn By	: ELES/DOC/SMPL/02	
Period of Analysis	: 06.06.2023 to 09.06.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFO	MATION			
1	Average Temperature (°C)	134	2	Bacometric Pressure (mmHg	g) : 743
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	µg/m³	TS:5182 (Part-11); 2006; RA2017	<1.0	05(Annual)
Benzo (a) Pyrene®	ng/m ³	15:5182 (Part-12): 2004;RA2019	< 0.5	Ol (Annual)

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

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****End of Report***

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Pt. D. Environmamal Engg. ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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NUOT NO 30, NAKISAROVAR ERO, LYE TUPLOMA HATIA, RANCHJESANOS (MAJARIANC) SETNO: DMARKESTISKICI



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TEST REPORT

Test Report No.	: ELES/RNC/2023/2298	Report Release Date	; 01.07.2023
Work Order No.	: 13612310218	Work Order Date	; 21.04.2023
ULR No.	: TC883923000001220F		

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1771 : Near Dipa Kujam Village	
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 08.05,2023 to 09.05,2023 : 06.06,2023	
Plant Status	: 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	: Scaled & Preserved	

MI	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 34	2	Barometric Pressure (mm	Hg) : 743
3	Relative Humidity (%)	: 59	- 4	Weather Condition	: Clear

NABL Accredited Discipline :	Atmospheri	c Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Pan-23): 2006; RA2022	58	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	1S 5182 (Part- 24): 2019	27	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	6.2	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	ug/m ³	IS 5182 (Part-6); 2006; RA2022	13.9	80 (24hrs)
Ozone (O ₁)	µg/m ¹	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₁)	ug/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m1	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8brs)
Lead (Pb)	ug/m²	IS 5182 (Part-22): 2004; RA2019	< 9.002	1 (24hrs)
Nickel (Ni)	ng/m ¹	IS 5182 (Part-26):2020	< 6.0	20 (Armual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)



****End of Report***

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Page 1 of 1

The Durament stood as Test Report, a raised to the Laboratory under General Terms and Conditions, only on Company leave head at pro-approved formal. The results shown in the Test Report reflects the Endings dotte by the Laboratory of the terms of involvement andy and waters the limits of Count's more term. The Laboratory is responsible for all the information on the report is not fine of country, and waters the limits of Count's more terms. The Laboratory is responsible for all the information on the report is not fallen and of content, without prior written appearance which is provided by the citem. The Report in full or at part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Rumagement of the Laboratory. Attention is drawful and offenders may be provided to the fullest excess of the fant. All the complex are returned for Siddays from the Date content or appearance of the Test Report. The samples from Regulatory indices are in the returned as specified. Any type of Observations or Compounts regarding the Report shall be done within 15days from the Date of Test Report. The samples from Regulatory indices are in the returned as specified. Any type of Observations or Compounts regarding the Report shall be done within 15days from the Date of Test Report. Althory indices are the Compounts of the Content of the Content



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TEST REPORT

Test Report No.	: ELES/RNC/2023/2298	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/177 : Near Dipa Kujam Village	
Address	: Lohardags, Jharkhand-835302	Sampling Date Sample Received Date	: 08.05.2023 to 09.05.2023 : 06.06.2023	
Plant Status	: 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	: Scaled & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 34	2	Barometric Pressure (nti	mHg) = 743
3	Relative Humidity (%) : 59	4	Weather Condition	: Clear

Discipline	: Chemical	Group	Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	µg/m²	IS:5182 (Part-11): 2606;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene*	ng/m³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)

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

Reviewed by

**** End of Report****

Anthorized Signatory

Dir Corpenne Kumar Sinha Prod Serumanlal Engg. ELES III US Technool 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.

Amtipani Bauxite Mine-Environmental Monitoring Report



June 2023



CONTENT

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





PLOT NO-3D, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124



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

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



TEST REPORT

Test Report No.	: ELES/RNC/2023/2767	Report Release Date	: 29.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000001632F		

CUSTOMER DETA	ILS	SAMPLE DETAILS		
Customer Name	: Hindaico Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1947 : Mine Entrance Gate Amtipani Bauxite Mine (190,95 ha	
Address	Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 08.06,2023 to 09.06.2023 : 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 26.06.2023	Sample Condition	5 Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
2000	Average Temperature (*C) : 35	2	Barometric Pressure (mm	Hg) 738
_	Relative Humidity (%) ; 61	4	Weather Condition	: Clear

ABL Accredited Discipline: Chemical Group: Atmospheric Pollution						
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23); 2006; RA2022	58	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	27	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	6.9	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	22.7	80 (24hrs)		
Ozone (O ₁)	µg/m³	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/m³	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	1S 5182 (Part-22): 2004; RA2019	0.011	I (24hrs)		
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)		



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Authorised Signatory

Dr. Deependra Kumar Sinha

Page 1 of 1 ELES Pvt. Ltd. Technical Manager

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ENGINEERING SERVICES PVT. LTD

Email: info@elespl.ca.in , eles.ranchi@ympil.com Phone no.: 0651-2290203 Website : www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/2767	Report Release Date	: 29.07.2023
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/1947 : Mine Entrance Gate Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 08.06.2023 to 09.06.2023 : 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 26.06.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 35	2	Barometric Pressure (mm)	Hg) : 738
3	Relative Humidity (%) : 61	4	Weather Condition	: Clear

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/m³	IS:5182 (Part-12); 2004;RA2019	< 0.5	01(Annual)	

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

Reviewed byo

****End of Report***

Or. 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, TUPLIDANA HATIA, RAINCHI-834003 (JHARKHAND) GST NO:-201/46CE9713D124



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

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



TEST REPORT

Test Report No.	: ELES/RNC/2023/2768	Report Release Date	± 29.07,2023
Work Order No.	: 13612310218	Work Order Date	; 21.04.2023
ULR No.	: TC883923000001633F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1948 : Near Mine Office/WB Amtipani Bauxite Mine (190.95 ha	
Address	: Lohardaga, Jharkhand-835302 : Operational	Sampling Date Sample Received Date	: 08.06.2023 to 09.06.2023 : 17.06.2023	
Mines Status		Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 17,06.2023 to 26.06.2023	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION			
1 Average Temperature (°C') = 35	2	Barometric Pressure (mm	Hg) : 738
Relative Humidity (%) 61	4	Weather Condition	: Clear

Discipline :	Discipline : Chemical Group : Atmosphe					
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	1S 5182 (Part-23): 2006; RA2022	58	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	25	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	6.7	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	14.6	80 (24hrs)		
Ozone (O ₁)	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 ¹	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	µg/m²	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)		
Nickel (Ni)	ng/in ³	1S 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)		

Reviewed by

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Authorised Signatory

Jr. Deependra Kumar Sinha

Page 1 of 1

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

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TEST REPORT

Test Report No.	: ELES/RNC/2023/2768	Report Release Date	: 29.07.2023	
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/1948 : Near Mine Office/WB Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: Ambient Air	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	; 17.06.2023 to 26.06.2023	Sample Condition	Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 35	2	Barometric Pressure (mml	Hg) : 738
	Relative Humidity (%) : 61	4	Weather Condition	: Clear

Discipline	: Chemical	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/m²	1S:5182 (Part-12); 2004;RA2019	< 0.5	01(Annual)	

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

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****End of Report***

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Or. 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) OST NO: 20AAECE9713D1Z4



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TEST REPORT

Test Report No.	: ELES/RNC/2023/2769	Report Release Date	: 29.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000001634F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1949 : Mines Near Quarry - IC Amtipani Bauxite Mine (190.95 ha)	
Address	- Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 08.06,2023 to 09.06,2023 : 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 26.06.2023	Sample Condition	: Sealed & Preserved	

MI	TEOROLOGICAL INFOR	MATION			
1	Average Temperature (PC)	: 35	2	Barometric Pressure (mmHg)	: 738
_	Relative Humidity (%)	:61	-4-	Weather Condition	: Clear

NABL Accredited Discipline :	Chemical	Group :	: Atmospheric Pollution	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	56	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	24	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	7.3	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part-6): 2006; RA2022	22.6	80 (24hrs)
Ozone (O ₁)	μg/m³	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/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22); 2004; RA2019	0.009	I (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)



****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinh. Ph.D.

Page 1 of 1 ELES Pvt. Ltd. Technical Mariager
The Document stated at Test Report, is issued by the Laborators under General Terms and Concessors, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job lenaltysis done by the Laboratory only. The information stones on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, adversee, used for my legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is thrown to the limitation of liability, compensation and jurisdiction issues. Any amount orized alteration & filialification 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 received for 30 days from the Date of release issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/assued. After the time period attied before, no complaints will be accepted. The eating Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit); LDL (Limit Detection Limit).



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

ENGINEERING SERVICES PVT. LTD

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/2769	Report Release Date	: 29.07.2023	
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/1949 : Mines Near Quarry - 1C Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 08.06.2023 to 09.06.2023	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES PVL Ltd.	
Period of Analysis	: 17.06.2023 to 26.06.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 35	2	Barometric Pressure (mmHg)	: 738
3	Relative Humidity (%) : 61	4	Weather Condition	: Clear

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

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

Reviewed by

****End of Report****

Authorised Signatory

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

ELES Pvt. Ltd., Technical Manager

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) EST NO: 20AAECE9713D1ZA



Email: lafo@elespl.co,in , eles rauchi@gmail.com

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



TEST REPORT

Test Report No.	: ELES/RNC/2023/2770	Report Release Date	±.29.07.2023
Work Order No.	: 13612310218	Work Order Date	= 21.04.2023
ULR No.	: TC883923000001635F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1950 : Mines Near Quarry – 7C Amtipani Bauxite Mine (190.95 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 08.06.2023 to 09.06.2023 : 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 26.06.2023	Sample Condition	: Scaled & Preserved	

MI	ETEOROLOGICAL INFORMATION			
_	Average Temperature (°C) : 35	2	Barometric Pressure (mm	Hg) : 738
3	Relative Humidity (%) : 61	4	Weather Condition	Clear

NABL Accredited Discipline:	Chemical	Group :	Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	56	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	28	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	7.1	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part-6): 2006; RA2022	21,7	80 (24hrs)
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₅)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	0.009	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)



****End of Report

Authorised Signatory Dr. Deependra Kumar Sinha

Page 1 of 1 ELES PVI. Ltd., Technical Manager
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PLOT NG-30, MANSAROVAR ENCLAVE, TUPLIDANA 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/2023/2770	Report Release Date	: 29.07.2023	
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/1950 : Mines Near Quarry – 7C Amtipani Bauxite Mine (190.95 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 08.06.2023 to 09.06.2023 : 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 26.06.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 35	2	Barometric Pressure (mm	Hg) : 738
3	Relative Humidity (%) : 61	-4	Weather Condition	: Clear

Discipline : Chemical		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/m²	IS:5182 (Part-12); 2004;RA2019	<0.5	01(Annual)

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

Reviewed by o

****End of Report***

Authorised Signatory

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

Page 1 of 1

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email: mfg.Egf.cou.db.ct. e.g. === sEumi'i con. Phone nat: 0651-2290105 Website: como elemplica.lii



TEST REPORT

Test Report No.	: ELES/RNC/2023/2763	Report Release Date	: 29.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000001628F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No Location Sampling Date	: ELES/RNC/2023/AA/1943 : Near Pakri Gada Village : 07.06.2023 to 08.06.2023	
Address	: I.ohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sample Drawn By Sample Condition	: ELES Pvt, Ltd. : Sealed & Preserved	
Period of Analysis	: 17.06.2023 to 26,06.2023	manipre 5 strategies	The same of the sa	

- 4	Barometric Pressure (mmHg)	1741
4	Weather Condition	Clear
6	Latitude	23°17'41.21"E
		4 Weather Condition 6 Latitude

NABL Accredited Discipline:	Changes	Group	Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	55	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	27	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	6.3	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	ng/m³	IS 5182 (Part-6): 2006; RA2022	17.9	80 (24hrs)
Ozone (O ₁)	µg/m²	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m³	IS 5182 (Pari- 25); 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ¹	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	ug/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Amual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)

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Jr. Deependra Kumar Sinn.

Ph. U. Emilonmental Engl

Page 1 of 1

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FLOT NO-30, MANSABOVAR ENCLAVE, TUPLIDANA HATTIL RANCHI-FANDIS (HEAVISHAND) GST NO+ 28414CET7/10124

NOINEERING SERVICES PVT. AFE

Email Info@elespl.co./n eles.cancili@amol..com Phone mo : 0651-7230103 Website , www.elespi.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/2763	Report Release Date : 29.07.2023
	: 13612310218	Work Order Date : 21.04.2023
Work Order No.	: 13012310210	1.04500

CUSTOMER DET	USTOMER DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/1943 : Near Pakri Gada Village : 07.06.2023 to 08.06.2023
Address	: Lobardaga, Iharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Scaled & Preserved
Period of Analysis	±17.06.2023 to 26.06,2023		

ы	TEOROLOGICAL INFORMATION	- 12	Two control of the control of the control	1100 - 741
-	Average Temperature (°C) : 33	3	Barometric Pressure (mm	arg) = (4)
		4	Weather Condition	: Clear
3	Resulte Limitarity (14)		f. Or. In	: 23°17'41.21"E
5	Longitude : 84°14'52.25"N	6	Latitude	143 114021 0

Discipline : Chemical Group				e Pollution
	Unit	Test Protocol	Result	Regulatory Limit
Parameter	µg/m ³	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)
Benzene*	7.7.0	IS:5182 (Part-12): 2004;RA2019	×0.5	01(Annual)
Benzo (a) Pyrene	ng/m'	15:3102 (PBH-14): 2004(16)(2015)	-0100	

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

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Anthorised Signatory

Dr. Deependra Kumar Sinni Ph. D. Environmental Enga-ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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TEST REPORT

Test Report No.	: ELES/RNC/2023/2764	Report Release Date	: 29.07.2023
Work Order No.	13612310218	Work Order Date	: 21,04,2023
ULR No.	; TC883923000001629F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Tharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sample Sampling Procedure	: ELES/RNC/2023/AA/1944 : Near Pol Pol Village : 07.06.2023 to 08.06.2023 : 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	Operational	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	
Period of Analysis	sis : 17.06.2023 to 26.06.2023			

2	Barometric Pressure (mm	ilig) : 741
4	Weather Condition	: Clear
		2 Barométric Pressure (mm 4 Weather Condition

NABL Accredited		4	42	- Politication
Discipline :	Chemical	Group	Atmospheri	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	61	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part-24): 2019	32	60 (24hrs)
Sulphor Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	7.1	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	(S 5182 (Part-6): 2006; RA2022	16.3	80 (24hrs)
Ozone (O ₅)	μg/m ¹	15 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₁)	µg/m³	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 ¹	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 Signatory **** End of Report****

Dr. Deependra Kumai Sinha

Pri. D. Environmental Engl

Page 1 of 1

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PLOT NO SO MANUARONAN ENCLANT FURUTIANS HATTA RANCHI-831005 LIHANIHAND GET NO- 2014 AECES 7130124

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Email: Info@elesyl.ca.in | elesylanchi@amull.com Phone no.: 0551-2290103 Weaste www.elespi.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/2764	Report Release Date	: 29.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DET/	ULS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date	: ELES/RNC/2023/AA/1944 : Near Pol Pol Village : 07.06.2023 to 08.06.2023 : 17.06.2023
Vines Status : Operational	: 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	= 17.06.2023 to 26.06.2023	Dumple Cylindrian	100

40	ETEOROLOGICAL INFORMATION			
	Average Temperature (°C) : 33	2	Barometric Pressure (mm)	(lg) : 74!
	Relative Humidity (%) : 60	4	Weather Condition	: Clear

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	µg/m³	(S: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.

Reviewed by

**** End of Report****

Authorised Signatory

Dr. Deependra Kumar Shing Ph. D. Environmental Enga. ELES PVL Ltd. Technical Manage

Page 1 of 1

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PALY NO 35 MAYSAROUAT BRIGASE TURNSAMA LEY'S DEATH STATES HOLDER HELD! THE WATER STREET



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TEST REPORT

Test Report No.	; ELES/RNC/2023/2765	Report Release Date	; 29.07.2023
Work Order No.	13612310218	Work Order Date	: 21.04.2023
ULR No.	1 TC883923000001630F		

CUSTOMER DETA	AILS	SAMPLE DETAILS	The second secon
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhund-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	: ELES/RNC/2023/AA/1945 : Near Shakhuapani Village : 08.06.2023 to 09.06.2023 : 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 26.06.2023		T COMMISSION OF THE PARTY OF TH

MI	ETEOROLOGICAL INFORMATION			
-	Average Temperature (°C) : 33	2	Barometric Pressure (mm.	Hg) : 740
_	Relative Humidity (%) : 59	4	Weather Condition	; Clear

NABL Accredited		Crean	Atmospheri	- Pollution
Discipline :	Chemical			
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part-23): 2006; RA2022	53	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	24	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	5.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	19.4	80 (24hrs)
Ozone (O ₁)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonfa (NH ₂)	μg/m³	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m²	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOR/01	<2.0	06 (Annual)

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****End of Report****

Anthorised Signatory Jr. Deependra Kumar Sinne

Ph D Environmental Engg. ECES PVI. Lig. Technical Manager

Page 1 of 1

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PLOT NO-30, MINISAROVAR ENCLAVE, TURUDANA NATIA, RANCHI-134003 UKARNHANTI GST NO-20AMECERTISDIZA

ENGINEERING SERVICES PUT. LTD.

Email: Into Delegal counciles ranging untail com. Phone no.: 0651-1290103

Website www.plesol.co.in

TEST REPORT

DALCOMOSTORES	W. C. C. W. T. A. Cone. Division	20 00 2007	
RNC/2023/2765	Report Release Date	: 29.07.2023	
10218	Work Order Date	: 21.04.2023	
-	10218		22 4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2023/AA/1945 : Near Shakhuapani Village : 08.06.2023 to 09.06.2023 : 17.06.2023 : Ambient Air	
Mines Status Period of Analysis	: Operational : [7.06.2023 to 26.06.2023	Sampling Procedure Sample Drawn By Sample Condition	: ELES/DOC/SMPL/02 : ELES Pvl. Ltd. : Sealed & Preserved	

MB	TEOROLOGICAL INFOR	MATION			
	Average Temperature ("C)		2	Barometric Pressure (mntHg)	: 740
	Relative Humidity (%)	- 59	4	Weather Condition	; Clear

Discipline	: Chemical	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/m ³	IS:5182 (Part-12): 2004;RA2019	< 0.5	Oi(Annual)

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

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****End of Report****

Authorised Signatory

Or. Deependra Kumar Sinh. Ph. O. Environmental Engg. ELES Pvt. Ud. Technical Manager

Page 1 of 1

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PLOT NO 90, WARRIARD WAR ENCLINE TURNOANA MATTER WARCH, EXCITES (MINISTRAND) TAN ARACTECISONS

ENGINEERING SERVICES PLY.

imell Info Belespica in electropich Egmon com Prigne 40.) 1165 (-1290 Las Website www.elesor.do.in



TEST REPORT

Test Report No.	: ELES/RNC/2023/2766	Report Release Date	: 29.07.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000001631F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample	ELES/RNC/2023/AA/1946 Near Dipa Kujam Village 08.06.2023 to 09.06.2023 17.06.2023 Ambient Air	
Mines Status	: Operational	Sampling Procedure Sample Drawn By Sample Condition	ELES/DOC/SMPL/02 ELES Pvt. Ltd. Sealed & Preserved	
Period of Analysis	: 17.06.2023 to 26.06.2023			

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (*C) : 33	2	Barometric Pressure (mm	(Hg) : 740
_	Relative Humidity (%) : 59	4	Weather Condition	∃ Clear

NABL Accredited Discipline : Chemical Group : Atmospheric Pollution						
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m ²	IS 5182 (Part-23): 2006; RA2022	52	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	25	60 (24hrs)		
Sulphur Di-Oxide (SO ₁)	μg/m³	JS 5182 (Part-2): 2001; RA2022	7.1	80 (24brs)		
Nitrogen Di-Oxide (NO ₂)	μg/m ¹	IS 5182 (Part-6): 2006; RA2022	15.3	80 (24hrs)		
Ozone (O ₃)	ug/m³	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	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	1S 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)		
Nickel (Ni)	ng/m²	1S 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m²	ELES/AIR/SOP/01	<2.0	06 (Annual)		

End of Reportants

Reviewed by

Authorised Signatory ur. Deependra Kumar Sin.

Page 1 of 1 ELES PVI. Ltd. Technical Manager

The Decument stated as Test Report, is insued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved Remail, The results shows in the Tex Ruport reservor relates only to the Job/analyses done by the Laboratory only. The information stated on the Text Ruport reflects the findings done by the Laboratory at the time of asynthement only and women the lumits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report quantit be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Labouracy. 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 Antanion is drawn to the limitation of liability, compensation and principalist issues. Any intenthorized absention & falsification of the content or repearance of the Text Report is enhanted and offenders may be pressented in the fullest extent of the law. All the samplest are retained for 30days from the Date of elemensian of the Ten Report. The samples from Regulatory bodies are to be retained as apenified. Any type of Observations or Complaints regarding the Report whall be done within 15days from the Dam of Ten Report released Second. After the sense period stated before, no complaints will be accepted. The entire Time substitute mentioned in Test Report is in 34hours former. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit); LDL (Lower Detection Limit).



PLOT NO 30: MMNSAROVIR ENCLAVII, TURBDANA HATIA, RANCHI ESADOS UMARKAMO DITNO: 20AARTS92190121

ENGINEERING SERVICES PYT. LTD.

Emolt lafa@eleşal.com , eleş ranchi@cm (il.com) Phane no.: 0551 2290103 Website : www.elesal.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/2766	Report Release Date	z 29.07.2023
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 Sampling Date Sample Received Date Type of Sample Sampling Procedure	ELES/RNC/2023/AA/1946 Near Dipa Kujam Vilinge 08.06,2023 to 09.06.2023 17.06.2023 Arabient Air ELES/DOC/SMPL/02 ELES Pvt. Ltd	
Mines Status	: Operational	Sample Drawn By Sample Condition	: Sealed & Preserved	
Period of Analysis	: 17.06.2023 to 26.06.2023	Sample Condition	- Greated to 1 reserved	

MH	TEOROLOGICAL INFORMATION			
_	Average Temperature (*C) : 33	2	Barometric Pressure (mm)	Hg) : 740
3	Relative Humidity (%) : 59	4	Weather Condition	; Clear

Discipline	: Chemical	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/m²	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)		

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

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****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha Ph. D. Environmental Enga. ELES Pv. Ltd. Technical Manager

Page 1 of 1

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PLOT NO-30; MANSAROVAR ENCLAVE, TUPUDANA HATIA, IJANCHI-834803 (JHARKHAND) GST NO:- 20AAECE97130124

ENGINEERING SERVICES PUT. LID.

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



TEST REPORT

Test Report No.	: ELES/RNC/2023/2732	Report Release Date	: 29.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000001597F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date	: ELES/RNC/2023/DW/2203 : 09.06.2023	
Address	Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 26.06.2023 : Drinking Water	
	The state of the s	Source/Location of Sample	: Amtipani Bauxite Mines (190.95ha)	
Mines Status	Operational	Sampling Procedure Sample Collected By	: ELES/DOC/SMPL/01 : ELES Pvt. Ltd	
Period of Analysis	: 26.06.2023 to 12.07.2023	Sample Condition	: Sealed & Preserved	

Discipline : Cher	Discipline : Chemical Group : Water					
Parameter	Unit	Unit Test Protocol		Acceptable Limit	Permissible Limit	
pH (at 25.1 °C)		APHA 23 rd Ed.2017, 4500-H	6.53	6.5-8.5	No Relaxation	
Turbidity	NTU	APHA 23 rd Ed.2017, 2130 B	0.02	1.0	5.0	
Taste	-	APHA 23rd Ed.2017, 2160 C	Agrecable			
Odour	~	IS 3025 (Part-5) :2018 Agree		Agr	ecable	
Colour	Hazen	APHA 23rd Ed. 2017, 2120B&D	1.0	5	15	
Total Dissolved Solids (TDS)	mg/L	APHA 23 rd Ed.2017, 2540B,C&D	178	500	2000	
Chloride (as Cl)	mg/L	APHA 23rd Ed 2017, 4500 CFB	6.8	250	1000	
Fluoride (as F)	mg/L	APHA 23rd Ed.2017, 4500 F-D	<0.1	1.0.	1.5	
Sulphate (as SO ₄)	mg/L	APHA 23rd Ed.2017, 4500 SO4-2-E	11.8	200	400	
Total Alkalinity (as CaCO ₃)	mg/L	APHA 23 rd Ed.2017, 2320 B	90.6	200	600	
Total Hardness (as CaCO ₁)	mg/L	APHA 23rd Ed.2017, 2340 C	69.8	200	600	
Nitrate (as NO ₃)	mg/L	APHA 23 rd Ed.2017, 4500 NO ₃ -B	<0.1	45	No Relaxation	
Phenolic Compound (as C _f H ₅ OH)	mg/L	IS 3025 (Part-43):1992;RA2019	<0.005	0.001	0.002	

Page 1 of 2

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Sant Services and Sant Person

ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Amtipani Bauxite Mine-Environmental Monitoring Report

July 2023

CONTENT

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







PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO: ZOAAECE97130124



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

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



TEST REPORT

Test Report No.	: ELES/RNC/2023/2906	Report Release Date	: 08.08.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000001753F			

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2448 : Mine Entrance Gate Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 11.07.2023 to 12.07.2023 : 17.07.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt_Ltd.	
Period of Analysis	: 17.07.2023 to 24.07.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 26	2	Barometric Pressure (minHg	739
3	Relative Humidity (%)	: 64	4	Weather Condition	: Partly Cloudy

NABL Accredited Discipline:	Chemical	Group	Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	51	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	23	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2): 2001; RA2022	7.1	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	1S 5182 (Part-6): 2006; RA2022	20.5	80 (24hrs)
Ozone (O ₂)	µg/m³	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/m³	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m²	IS 5182 (Part-22); 2004; RA2019	0.009	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)



****End of Report****

Dr. Deependra Kumar Sinha

Ph. D. Environmental E

LLS PVI LIa. Technical Manager Page 1 of 1

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ENGINEERING SERVICES PVT. LTD.

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TEST REPORT

Test Report No.	: ELES/RNC/2023/2906	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/2448 : Mine Entrance Gate Amtipani Bauxite Mine (190.95 ha)			
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 11.07.2023 to 12.07.2023 : 17.07.2023			
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.			
Period of Analysis	: 17.07.2023 to 24.07.2023	Sample Condition	: Sealed & Preserved			

MI	METEOROLOGICAL INFORMATION				
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 64	4.	Weather Condition	: Partly Cloudy

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/m²	IS:5182 (Part-12); 2004; RA2019	<0.5	01(Annual)			

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

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****End of Report***

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

Page 1 of 1

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TEST REPORT

Test Report No.	: ELES/RNC/2023/2907	Report Release Date	: 08.08.2023	
Work Order No.	: 13612310218	Work Order Date	: 21,04,2023	
ULR No.	: TC883923000001754F			

CUSTOMER DETA	AILS	SAMPLE DETAILS				
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2449 : Near Mine Office/WB Amtipani Bauxite Mine (190.95 ha)			
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 11.07.2023 to 12.07.2023 : 17.07.2023 : Ambient Air			
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.			
Period of Analysis	: 17.07.2023 to 24.07.2023	Sample Condition	Sealed & Preserved			

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C) : 2	26	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	j4	4	Weather Condition	: Partly Cloudy

NABL Accredited	***	Howard	Andreas of the State	
Discipline :	Group	Atmospheri	c Pollution	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	53	100 (24hrs)
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24): 2019	26	60 (24hts)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	5.3	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m ³	1S 5182 (Part-6): 2006; RA2022	17,2	80 (24hrs)
Ozone (O ₁)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m¹	ELES/AIR/SOP/01	<2.0	06 (Annual)



****End of Report****

Drankerised Signatori' Sinha

Ph. O. Environmental Force.

Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.

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

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TEST REPORT

Test Report No.	: ELES/RNC/2023/2907	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/2449 Near Mine Office/WB Amtipani Bauxite Mine (190.95 ha)		
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 11.07.2023 to 12.07.2023 : 17.07,2023		
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt, Ltd.		
Period of Analysis	: 17.07.2023 to 24.07.2023	Sample Condition	: Scaled & Preserved		

M	ETEOROLOGICAL INFORMA	TION			
1	Average Temperature (°C) : 2	6	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%) : 6	4	4	Weather Condition	: Partly Cloudy

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/m³	IS:5182 (Part-12): 2004; RA2019	<0.5	01(Annual)		

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

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Dr. Detutherised Signatury ha

Ph. D. Environmental Enga. ELES Pvr. Ltd. Technical Manager

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO:-20A4ECE9713D123



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TEST REPORT

Test Report No.	: ELES/RNC/2023/2908	Report Release Date	: 08.08.2023
Work Order No.	: 13612310218	Work Order Date	; 21,04,2023
ULR No.	: TC883923000001755F		

CUSTOMER DETA	CUSTOMER DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2450 : Mines Near Quarry - IC Amtipani Bauxite Mine (190.95 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 11.07.2023 to 12.07.2023 : 17.07.2023
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 17,07,2023 to 24,07,2023	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 26	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%) : 64	4	Weather Condition	Partly Cloudy

NABL Accredited			400000000000000000000000000000000000000				
Discipline :	Chemical	Group	Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit			
Particulate Matter (PM10)	μg/m ¹	IS 5182 (Part-23): 2006; RA2022	53	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	5.9	80 (24hrs)			
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	19,4	80 (24hrs)			
Ozone (O ₃)	µg/m¹	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 ⁴	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/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 Kumar Sinha

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TEST REPORT

Test Report No.	: ELES/RNC/2023/2908	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/2450 Mines Near Quarry - IC Amtipani Bauxite Mine (190,95 ha)	
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 11.07.2023 to 12.07.2023 : 17.07.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 17.07.2023 to 24.07.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 64	4	Weather Condition	: Partly Cloudy

Discipline	t 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/m³	IS:5182 (Part-J2): 2004;RA2019	<0.5	01(Annual)		

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

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Dr. Deependra Kurnar Sinha Ph. D. Environmental Engq. ELES Pvt. Ltd. Technical Manager

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TEST REPORT

Test Report No.	: ELES/RNC/2023/2909	Report Release Date	: 08.08.2023	
Work Order No.	13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000001756F	***************************************		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2451 : Mines Near Quarry – 7C Amtipani Bauxite Mine (190,95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 11.07.2023 to 12.07.2023 : 17.07.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02	
Period of Analysis	: 17.07.2023 to 24.07.2023	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 26	2	Barometric Pressure (mm)	Hg) ±739
3	Relative Humidity (%) : 64	4	Weather Condition	: Partly Cloudy

NABL Accredited				
Discipline :	Atmospheri	e Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	52	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	25	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	5.9	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m³	JS 5182 (Part-6): 2006; RA2022	18.4	80 (24hrs)
Ozone (O ₃)	μg/m³	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/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	1S 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (NI)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)



****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

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Page 1 of 1

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

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TEST REPORT

Test Report No.	: ELES/RNC/2023/2909	Report Release Date	: 08.08.2023	
Work Order No.	1 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindaloo Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2451 : Mines Near Quarry – 7C Amtipani Bauxite Mine (190,95 ha)
Address	: Lonardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 11.07.2023 to 12.07.2023 : 17.07.2023 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	= 17.07.2023 to 24.07.2023	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 26	2	Barometric Pressure (mm	Hg) : 739
3	Relative Humidity (%) : 64	4	Weather Condition	: Partly Cloudy

Discipline	: Chemical	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	IS:5182 (Part-12): 2004;RA2019	< 0.5	01(Annual)		

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

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****End of Report****

Authorised Signatory
Dr. Deependra Kumer Sinha
Ph. D. Enwionmental Engg
ELES PVI. Ltd. Technical Manager

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PLOT NO. 30, MANSAROVAR ENCLAVE TURLICANA. NATIA, BANCHI-BSAROS (IHARREIAND) GETAD: JOANE ESTISOTEN ENGINEERING SERVICES PVT. LTD

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TEST REPORT

Test Report No.	: ELES/RNC/2023/2902	Report Release Date	: 08.08.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923090001749F		

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	1 Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	1 ELES/RNC/2023/AA/2444 1 Neur Pakri Gada Village 1 10.07.2023 to 11.07.2023
Address	: Loherdaga, Jharkhand-835302	Sample Received Date Type of Sample	: 17.07.2023 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt: Ltd
Period of Analysis	: 17.07.2023 to 24.07.2023	Sample Condition	1 Sealed & Preserved

M	ETEOROLOGICAL INFOR	CHAILUS			
T	Average Temperature (°C)	127	2	Barometric Pressure (mmHg)	:739
3	Relative Humidity (%)	: 65	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°14'52:25"N	- 6	Latitude	=23°1741.21"E

NABL Accredited				
Discipline:	Chemical	Group	Atmospheri	e Pollution
Parimeter	Unit	Unit: Test Protocol		Regulatory Limi
Particulate Matter (PM10)	µg/m²	IS 5182 (Psrt-23): 2006; RA2022	51	100 (24brs)
Particulate Matter (PM2.5)	μg/m ¹	IS 5182 (Part- 24): 2019	25	60 (24hrs)
Sulphur Di-Oxide (\$O ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	5.2	80 (24hrs)
Nitrogen Di-Oxide (NOz)	HB/m3	(\$ 5182 (Part-6): 2006; RA2022	14.5	80 (24hrs)
Ozone (O ₅)	hā/m ₃	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₂)	µg/m³	JS 5182 (Part-25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	TS 5182 (Part-10): 1999; RA2019	<1,0	2 (8hrs)
Lead (Pb)	Hā/m _g	(S 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Amual)
Arsenic (As)	ng/m²	ELES/AIR/SOP/DI	<2;0	Q6 (Armout)

****End of Report****

Reviewed by

Authorised Signatury

Dr. Deepandra Kumar Sinha

Page 1 of 1 ELES Pvt Ltd. Technical Manager

The Decement which as Test Report reflects only to the Lanceauxy arrier forms and Contillion, only so Carestay letter qualitar gree-approved forms. The results plants in the Test Report reflects the findings down by the Lanceauxy at the time of investment and any part of the report reflects the findings down by the content of the report reflects the information which is provided by the ellent. The Report career be reproduced except to full and any part of the report is not taken out at content, which is provided by the ellent. The Report career be reproduced except to full and any part of the report is not taken out at content, which provided except to full and any part of the report is not taken out at content, which is not taken out at content, which is not taken out at content from the Management of the Laboratory. The Report is influent to take the political attractors, and for any legal actions unless given permission has been account from the Management of the Eularization. After since in careful and officially a may be presented to die follow retrieve of the low. All the mapping are related for Editors and the content of apparatus of the low. All the mapping are related for Editors are related to the follow of the low and the follow of the following the Reports shall be done within \$1 days from the Date of Test Report in the Date of Test Reports shall be done within \$1 days from the Date of Test Report in the School of Test Reports and the Date of Test Report in the Date of Test Reports and the Date of Test Reports and Date of Test Reports a



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TEST REPORT

Test Report No.	2 ELES/RNC/2023/2902	Report Release Date	: 08,08.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/2444 : Near Pakri Gada Village : 10,07,2023 to 11,07,2023	
Address Mines Status	: Lohardaga, Harkhand-835302	Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	: 17.07.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	= 17.07.2023 to 24.07.2023	Sample Condition	: Sealed & Preserved	

MI	TEOROLOGICAL INFOR	MATION			
1	Average Temperature (*C)	: 27	1.2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	1.65	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°14'52.25"N	6	Latitude	23°17'41.21"E

Discipline	: Chemical	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benrance	ug/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 Leb

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****End of Report****

Or. Deepend's Rume Sinha

Ph. D. Environmental Engg. SLES Pyt. Ltd. Technical Menager

Page 1 of 1

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PLOT NO-10 ANNASAROYAR ENGLAYE FURQOANA HATTA VANCEN-GANGOS (HANNEHANIO) RST NC-JOANSCEPTIOLIX

ENGINEERING SERVICES PPT, LTD

Email Modelesticolo, elstrarchi Samal.com Phone no.: 0551-2290103

Wabsite www.ninini.co.in



TEST REPORT

Test Report No.	; ELES/RNC/2023/2903	Report Release Date	: 08.08.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000001750F		

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/2445 : Near Pol Pol Village : 10.07.2023 to 11.07.2023	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	17.07.2023 Ambient Air ELES/DOC/SMPL/02	
Mines Status	: Operational	Sample Drawn By	: ELES Pvt. Ltd.	
Period of Analysis	: 17.07,2023 to 24.07.2023	Sample Condition	Sealed & Preserved	

M	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 27	2.	Barometric Pressure (mm	Hg) (739
3	Relative Humidity (%)	465	4	Weather Condition	: Partly Cloudy

NABL Accredited	Con and I want	Group	Atmospheri	e Delletion
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/m³	1S 5182 (Part- 24): 2019	26	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	itg/m³	IS 5182 (Part-2): 2001; RA2022	5.9	80 (24hrs)
Nitrogen Di-Oxide (NO ₁)	ug/m ³	15 5182 (Part-6): 2005; RA2022	14.5	80 (24hrs)
Ozone (O ₃)	μg/m²	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m³	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)	µu/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24frs)
Nickel (NI)	ng/m1	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m²	ELES/AIR/SOP(0)	<2.0	06 (Artmust)



****End of Report****

Dr. Anthorised Signatory
Dr. Deependra Kumar Sinha
Pn. D. Environmental Engs.

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Page Lof1

The Decimins stated at Test Report is interested under the test test and the Less the pre-approved firmuit. The results shown in the Test Report rethers the findings done by the Laboratory and it is interested under the Test Report rethers the findings done by the Laboratory in the time of involvement only and within the limits of client a instruction. The Laboratory is responsible for all the information or due provided on the report except the referration which is provided by the report of the report in tall the first test in the report of the report in tall the Laboratory. The Report in tall for it is probabled of the state of the Laboratory. The Report in tall for it is probabled of the state on legs regime interest provided and the first test as a crown to be minimum of lability, compense but and prescription issues. Any manufactured distriction of the minimum of a report of the test Report is unless than the Date of test as the first test Report in the Report of the first test and of the laboratory of the test Report in the results and of tests are the first test Report in the Report of the first test reports and the first test reports and the first test reports from the first test report in the Report of the first test reports the first test reports from the first test reports the first test reports from the first test reports the first test reports from the first re



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TEST REPORT

Test Report No.	: ELES/RNC/2023/2903	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 Sampling Date	: ELES/RNC/2023/AA/2445 : Near Pol Pol Village : 10.07.2023 to 11.07.2023	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 17.07.2023 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sample Drawn By	: ELES Pvt. Ltd.	
Period of Analysis	= 17.07.2023 to 24.07.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 27	3	Barometric Pressure (mm	Hg) 739
3	Relative Humidity (%)	: 65	4	Weather Condition	Partly Cloudy

Discipline	: Chemical	Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzeno*	μg/m³	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)		
Benzo (a) Pyrene"	ng/m²	(S:5182 (Part-12): 2004;RA2019	< 0.5	01(Annual)		

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

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Audhorised Signatory
Dr. Despendra Kumar Sinha
Ph. D. Environmental Engg.
ELES Avi. Ltd. Technical Madager

Page 1 of 1

The Executes stand as Text Report, in issues by the Laboratory under General Terms and Combines, and an Company before beauting present name. The result shown in the Text Report refler or results come to the Johann year done by the Laboratory in the name of the Text Report reflers the findings done by the Laboratory in the time of involvement only and whom the laboratory and without the report manner. The Laboratory is responsible for all the information or data provided on the report, except the arthropation which a provided by the other. The Report manner the Report manner has reported and any legal actions and so takes not of cornex, without prior actions upgraved of the Laboratory. The Report in fall or in pure shall not be purioused, at diversion, east for any legal actions anless great permission as been accounted from a Management at the Laboratory. Attenuous to the laboratory are previously at a compression of the current or appearance of the Text Report is included and of backets may be previously to the faithful extent of the laboratory and for 3000s. It is not be backet of the laboratory of the Text Report for samples from legalitery values are not on the laboratory by the samples from legalitery values are not on the laboratory to the faithful extent of the laboratory and the Report is an expectable from the faithful forms. The samples from legalitery values are retained as specified. Any type of Sheet values of corrections regarding the Report which the samples from the faithful forms. After union used, MA (Vin Amplication IIII) (Below Determine Limit, LDI, (Lower Deserve Limit).



PUTTING EG, MANSANGVAN ENCLAVE TURMOANIA HATIA, RANCHI-ESAGOS (MARXIRANG) GUTNO DIEKETERUTADIN

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TEST REPORT

Test Report No.	: ELES/RNC/2023/2904	Report Release Date	: 08.08.2023
Work Order No.	; 13612310218	Work Order Date	: 21.04.2023
ULR No.	1 TC883923000001751F		

CUSTOMER DET.	CUSTOMER DETAILS Customer Name : Hindalco Industries Limited		
Customer Name		Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/2446 : Near Shakhuapani Village : 11.07,2023 to 12,07,2023
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 17.07.2023 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Senled & Preserved
Period of Analysis	: 17.07.2023 to 24.07.2023	Sample Condition	3 Sellica de l'Isaci ved

MI	ETEGROLOGICAL INFOI	EMATION			
1	Average Temperature (°C)	7.26	2	Barometric Pressure (mml	Hg) : 739
3	Relative Humidity (%)	: 64	4	Weather Condition	Partly Cloudy

NABL Accredited				
Discipline :	: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	48	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	20	60 (24hrs)
Sulphur Di-Oxide (SO ₁)	µg/m²	IS 5182 (Purt-2): 2001; RA2022	5.2	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m ³	15 5182 (Part-6): 2006; RA2022	21.8	80 (24hrs)
Ozore (O ₁)	µg/m²	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₆)	Jig/m²	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)	ug/m²	16 5182 (Part-22): 2004; RAZ019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m²	15 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	rig/m ¹	ELES/AIR/SOP/01	<2.0	06 (Annual)



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Authorised Signatory
Dr. Deependre Kurner Sinha

Th. D. Environmental Enga Common Technool Manager

Page 1 of 1

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Website: www.elespi.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/2904	Report Release Date	: 08,08.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETA	ALLS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lobardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2023/AA/2446 : Near Shakhuupuni Viilage : 11,07,2023 to 12,07,2023 : 17,07,2023 : Ambient Air : ELES/DOC/SMPL/02
ALCOHOL: A CONTRACT OF THE PARTY OF THE PART	: Operational	Sampling Procedure Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved
Period of Analysis	: 17.07.2023 to 24.07.2023	Carrière condition	II manage to a sangerous

METEDROLOGICAL INFORMATION			
1 Average Temperature (°C) = 26	2	Barometric Pressure (mm)	Hg) : 739
3 Relative Humidity (%) ±64	4	Weather Condition	; Partly Cloudy

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	ug/m1	IS:518Z (Part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene*	ng/m³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)

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

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AAMA End of Report ****

Anthorised Signatory

Dr. Despendra Kurnar Sinha Ph. D. Shvitsomerial Grego SLES P.A. Life Talamical Messager

Page I of 1

The Deleveness stated in Test Report is issued by the Laboratory order them and Consideration active Congruing latter depail or pre-approved integer. The reservations in the Test Report reflects the findings done by the Laboratory and the fact of the restriction active the first Report reflects the findings done by the Laboratory and the fact of the restriction active the first Report reflects the findings done by the Laboratory and the fact of the restriction which a provided on the report responsible for all the reflects the findings done by the report of the Laboratory which a provided on the report reflects the findings which a provided on the report reflects the first report of the Laboratory of the Laboratory The Report in fail or in part shall not be published, not cores, used for any legal actions unless prior permanent in the best segmed from the Management of the Laboratory Adjusted to the laboratory of the Laboratory Adjusted to the laboratory of the Laboratory Adjusted to the laboratory of the Laboratory and affective into the processor of the laboratory and the rest Report is included and affective into the processor of the laboratory of the rest Report. The samples from Regulatory Judges are to by retained as specified. Any type of Observations of Compliants regarding the Report while the done within 15 days from the Days of Test Report referes the laboratory indeed before, no compliants visit be accepted. The same first schedule or timed in Test Report to Dimon Serma Abbreviation over MA (Not Applicated). EDL (Birow Descripe Lond): LDL (Lower Descripe Lond).



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TEST REPORT

Test Report No.	; ELES/RNC/2023/2905	Report Release Date	: 08.08.2023
Work Order No.	13612310218	Work Order Date	± 21.04.2023
DLR No.	: TC883923000001752F		

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/2447 Near Dipa Kujam Viilage 11.07.2023 to 12.07.2023 17.07.2023
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. : Sealed & Preserved.
Period of Analysis	: 17,07,2023 to 24,07,2023	Sample Condition	: Sealed of Lieselved

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 26	3.	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%) : 64	1.4	Weather Condition	Partly Cloudy

NABL Accredited					
Discipline :	Chemical	Group	Group : A(mospheric Pollation		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m ¹	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 (SO ₂)	μg/m³	IS 5182 (Part-2); 2001; RA2022	5.8	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m³	IS 5182 (Part-6); 2006; RA2022	13.6	80 (24hrs)	
Ozone (O ₁)	pag/m²	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	seg/m ³	JS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (Sirrs)	
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)	
Nickel (Ni)	ng/m	IS-5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ⁵	ELES/AIR/SOP/01	<2.0	06 (Annual)	



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Sinha

Authorised Signatory

Dr. Deepan tra Kumar Sinks Ph. D. E. Same dai Enga

Page 1 of 1 Fig. 0. 1

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TEST REPORT

Test Report No.	: ELES/RNC/2023/2905	Report Release Date	: 08.08.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohurdaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2023/AA/2447 : Near Dipa Kujam Village : 11,07,2023 to 12,07,2023 : 17,07,2023 : Ambient Air	
fines Status Operational eriod of Analysis = 17.07.2023 to 24.07.2	: Operational = 17.07.2023 to 24.07.2023	Sampling Procedure Sample Drawn By — Sample Condition	: ELES/DOC/SMPL/02 : ELES Pvr. Ltd. : Sealed & Preserved	

MI	TEOROLOGICAL INFORMATION			
1	Average Temperature (°C) 26	2	Barometric Pressure (mm)	(g) ; 739
3	Relative Humidity (%) 64	4	Weather Condition	: Partly Cloudy

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	ug/m³	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 outsing cod to other Lab.

Reviewed by

*** End of Report***

Dr. duffierised Signatory
Fin D. Emirannencial Engg
B. Es Pur Litt, Technical Manager

Page 1 of 1

The Departure strict in Test Report as second by the Laboratory under General Terms and Conditions, only as Company letter hand in pre-approved forms. The professions in the Test Report refers to the individual case by the Laboratory or the information usual on the Test Report reflects the findings cause by the Laboratory in the time of monitorist colly and within the limits of ultimates. The Laboratory is required for all the information of class provided on the importance of the information whom it provided by the client. The Report cannot be reportance to full and any part of the unpart is not because of cannot be reported as a published, alternoon, used for any legal actions order price permission has been secural from the Almagnetic of the Laboratory. The Report in fail or in part shall use the published, alternoon used for any legal actions orders price permission has been secural from the Almagnetic of the Laboratory. Attention is drawn to the limitation of Cabildry, compensation and jurisdiction issues. Any permission as against a fastification of the content or appetuance of the Test Report is unlawful and offenders may be generated to true fullest extent of the law As the numbers are retained for Mixing from the Days reflected as the Test Report. The numbers from Regulatory bodies are to be committed by the extent of the fullest containing or Complicate segmenting the Report of the doce within 15 days from the Days of the Test Report inference used the Arm the time period stated before, no compliants will be accepted. The states Time schedule man, and a Test Report to the Arms Arms the time period stated before, no compliants will be accepted. The states Time schedule man, and a Test Report to the Arms Arms the Arms the time period and the Second Test the time.

ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Amtipani Bauxite Mine-Environmental Monitoring Report

August 2023

CONTENT

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





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

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TEST REPORT

Test Report No.	: ELES/RNC/2023/3353	Report Release Date	: 09.09.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000002121F		

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2850 : Mine Entrance Gate Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	- 09.08.2023 to 10.08.2023	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 14.08,2023 to 21.08.2023	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFORM	AATION			
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 66	4	Weather Condition	2 Partly Cloudy

Discipline :	Chemical	Group :	Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	42	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	19	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	1S 5182 (Part-2): 2001; RA2022	6.3	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	17.3	80 (24hrs)
Ozone (O ₃)	μg/m ²	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/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	0.006	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenie (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)



****End of Report****

Authorised Signatory Dr. Deependra Rumar Sinha Environmental Enga

Page 1 of 1

ELES Pvi. Ltd. Technical Manager

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TEST REPORT

Test Report No.	: ELES/RNC/2023/3353	Report Release Date	: 09.09.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	; Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2850 : Mine Entrance Gate Amtipani Bauxite Mine (190.95 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 09.08.2023 to 10.08.2023 : 14.08.2023
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 14.08.2023 to 21.08.2023	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORM	MATION			
1	Average Temperature (°C)	: 25	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/m³	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene*	ng/m³	IS:5182 (Part-12): 2004;RA2019	< 0.5	01(Annual)

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

Reviewed by

-

****End of Report****

Authorised Signatory
Dr. Deependra Kurnar Sinha
Ph. D. Enviro mental Engg.
ELES Pyl. Ltd. Tachnical Manager

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHT-834003 (IHARKHAND) GST NO:- 20AAECE9713D324

ENGINEERING SERVICES PVT. LID.

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

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



TEST REPORT

Test Report No.	:: ELES/RNC/2023/3354	Report Release Date	: 09.09.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	TC883923000002122F			

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	- Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2851 : Near Mine Office/WB Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 09.08.2023 to 10.08.2023	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	= 14.08,2023 to 21.08,2023	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFORMATION			A
1	Average Temperature (°C) : 25	2	Barometric Pressure (mm)	Hg) : 736
3	Relative Humidity (%) : 66	4	Weather Condition	: Partly Cloudy

NABL Accredited				
Discipline :	Chemical	Group	Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	54	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	15 5182 (Part- 24): 2019	25	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	7.1	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part-6): 2006; RA2022	19.6	80 (24hrs)
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ⁷	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m ²	IS 5182 (Part-22): 2004; RA2019	< 0.002	I (24lus)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)



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Dr. Deependra Kumar Sinha

Page 1 of 1

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NO SERVICES PVT. LTD.

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/3354	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/2851 : Near Mine Office/WB Amtiparti Bauxite Mine (190 95 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 09.08.2023 to 10.08.2023 : 14.08.2023
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 14.08,2023 to 21.08.2023	Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	25	2	Barometric Pressure (numHg)	: 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 ³	IS:5182 (part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene*	ng/m³	IS:5182 (Part-12): 2004;RA2019	< 0.5	01(Annual)

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

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****End of Report****

Dr. Deependra Kannar Sinna Ph. D. Environmental Engo.

ELES Pvl. Ltd. Technical Manager

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

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



TOTAL

TEST REPORT

Test Report No.	: ELES/RNC/2023/3355	Report Release Date	: 09.09.2023
Work Order No.	13612310218	Work Order Date	121.04.2023
ULR No.	; TC883923000002123F		

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2852 : Mines Near Quarry - 1C Amtipani Bauxite Mine (190.95 ha
Address	; Lohardagu, Jharkhand-835302	Sampling Date Sample Received Date	= 09.08.2023 to 10.08.2023 14.08.2023
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt, Ltd.
Period of Analysis	: 14.08.2023 to 21.08.2023	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 25	2	Barometric Pressure (mmHg) = 736
3	Relative Humidity (%) : 66	4	Weather Condition	: Partly Cloudy

NABL Accredited				
Discipline :	Chemical	Group :	Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	48	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	20	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	5.3	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	20,5	80 (24hrs)
Ozone (O ₃)	μg/m³	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/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m [†]	IS 5182 (Part-22): 2004; RA2019	0.007	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)



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Dr. Deependra Signatury Sinha

Ph. D. Environments Engg. ELES PVL Ltd. (filenisca tribit)

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TEST REPORT

Test Report No.	: ELES/RNC/2023/3355	Report Release Date	: 09.09.2023	
Work Order No.	: 13612310218	Work Order Date	; 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2852 : Mines Near Quarry - IC Amtipani Bauxite Mine (190.95 ha
Address Mines Status	: Lohardaga, Jharkhand-835302 : Operational	Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	: 09.08,2023 to 10.08,2023 : 14.08,2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 14.08.2023 to 21.08.2023	Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	25	2	Barometric Pressure (mmHg)	: 736
3	The state of the s	66	4	Weather Condition	: Partly Cloudy

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

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

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****End of Report***

Dr. Daependra Kumar Sinha Pn. D. Environmental Engg BLES Pvi. Ltd. Technical Manager

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

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12-0446

TEST REPORT

Test Report No.	: ELES/RNC/2023/3356	Report Release Date	: 09.09.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	; TC883923000002124F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	; Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2853 : Mines Near Quarry – 7C Amtipani Bauxite Mine (190.95 ha)	
Address	:: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 09.08.2023 to 10.08.2023 : 14.08.2023 : Ambient Air	
Mines Status	; Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 14,08.2023 to 21.08.2023	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (9C) : 25	2	Barometric Pressure (mm	iHg) : 736
3	Relative Humidity (%) : 66	A	Weather Condition	2 Partly Cloudy

NABL Accredited				
Discipline :	Chemical	Group	Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	47	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	22	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2); 2001; RA2022	5,2	80 (24hrs)
Nitrogen Di-Oxide (NO ₁)	µg/m³	IS 5182 (Part-6): 2006; RA2022	15.5	80 (24hrs)
Ozone (O ₃)	pg/m³	IS-5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m³	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	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.()	06 (Annual)



****End of Report****

Authorised Signatory

Authorised Signator Sinha Dr. Deependra Kumar Sinha

Page 1 of 1 ELES PVI, Lld, Technical Manage

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/3356	Report Release Date	: 09.09.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

	indalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2853 : Mines Near Quarry – 7C Amtipani Bauxite Mine (190.95 ha)	
Address :Lo		The second secon		
Mines Status : O	ohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	: 09.08.2023 to 10.08.2023 : 14.08.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Manicas South	4.08.2023 to 21.08.2023	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORM	IATION			
Average Temperature (°C)	To be	2	Barometric Pressure (mmHg	: 736
	66	4	Weather Condition	: Partly Cloudy

Discipline	: Chemical	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.

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Dr. Deependra Kumar Sinha Ph. D. Environmental Eng. ELES Pvl. Ltd. Technical Manager

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Test Report No.	: ELES/RNC/2023/3349	Report Release Date	: 09.09.2023	
Work Order No.	: 13612310218	Work Order Date	: 21,04.2023	
ULR No.	: TC883923000002117F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	.: Hindulco Industries Limited	Sample Ref. No. Location Sampling Date Sample Received Date	: ELES/RNC/2023/AA/2846 : Near Palori Gada Villinge : 08.08.2023 to 09.08.2023 : 14.08.2023	
Address Mines Status	: Lohardaga, Jharkhand-835302 : Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	14.08.2023 to 21.08.2023	Sample Condition	: Sealed & Preserved	

VI.	ETEOROLOGICAL INFO	SMALIUN			
I	Average Temperature (°C)	: 24	2	Barometric Pressure (mmHg)	: 737
	Relative Humidity (%)	1.65	- I	Weather Condition	: Partly Cloudy
5	Longitude	: 84°14'52.25"N	6	Latitude	: 23°17'41.21"E

NABI Appredited Discipline :	Chemical	Group :	Atmospheri	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	44	100 (24hrs)
Particulate Matter (PM2,5)	µg/m³	IS 5182 (Part- 20): 2019	19	60 (24hrs)
Sulphur Di-Oxide (SO ₁)	µg/m³	IS 5182 (Part-2): 2001; RA2022	5,9	80 (24hrs)
Nitrogen Di-Oxide (NO ₁)	µg/m³	IS 5182 (Part-6); 2006; RA2022	16.3	80 (24hrs)
Ozone (O _s)	μg/m³	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/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m²	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenia (As)	ng/m/	ELES/AIR/SOP/01	<2.0	06 (Annual)

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****End of Report****

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Page 1 of I

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Test Report No.	: ELES/RNC/2023/3349	Report Release Date	: 09,09,2023	
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	: ELES/RNC/2023/AA/2846 : Near Pakri Gada Village : 08.08.2023 to 09.08.2023 : 14.08.2023
Address Mines Status	: Lohardaga, Jharkhand-835302 : Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 14.08.2023 to 21.08.2023	Sample Condition	Sealed & Preserved

VI.	TEOROLOGICAL INFOR	CNEEDIN			
	Average Temperature (°C)	: 24	2	Barometric Pressure (mmHg)	:737
-	Relative Humidity (%)	: 65	-4	Weather Condition	: Partly Cloudy
5	Longitude	: 84"14'52.25"N	6	Latitude	: 23°17'41.21"E

Discipline	: Chemical	Group	: Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Bergene*	μg/m³	IS:5182 (Part-11): 2006; RA2017	<1.0	05(Annual)
Benzo (a) Pyrene*	ng/m³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annua!)

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

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Test Report No.	; ELES/RNC/2023/3350	Report Release Date	1 09.09.2023
Work Order No.	: 13612310218	Work Order Date	; 21.04.2023
ULR No.	: TC883923000002118F		

CUSTOMER DETA	MLS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/2847 : Near Pol Pol Village : 08.08.2023 to 09.08.2023
Address	: Lohardaga, Jharkhand-835302 : Operational	Sample Received Date Type of Sample Sampling Procedure	14:08:2023 Ambient Air : ELES/DOC/SMPL/02 ELES Pvt. Ltd
Mines Status		Sample Drawn By	Sealed & Preserved
Period of Analysis	: 14.08.2023 to 21.08.2023	Sample Condition	Source of Lieselines

M	ETEOROLOGICAL INFORMATION			
	Average Temperature (°C) : 24	2	Barometric Pressure (mm	Hg) : 737
	Relative Humidity (%) : 65	- 4	Weather Condition	: Partly Cloudy

NABL Accredited		W. (1947)	A ROW OF BOOK OF	- Dellection
Diedellas	Chemberl	Group :	Atmospheri	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	50	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	.22	60 (24fus)
Sulphur Di-Oxide (SO ₁)	µg/m³	IS 5182 (Part-2): 2001; RA2022	5.1	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	1S 5182 (Part-6); 2006; RA2022	12.7	80 (24hrs)
Ozone (O ₂)	ug/m³	1S 5182 (Part-9): 1974; RA2019	<20.0	100 (8hts)
Ammonia (NH ₃)	μg/m³	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monaxide (CO)	mg/m³	IS 5182 (Part-10); 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)



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Test Report No.	ELES/RNC/2023/3350	Report Release Date	± 09.09.2025
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETA	LILS	SAMPLE DETAILS	The standards and the	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2023/AA/2847 : Near Pol Pol Village : 08.08.2023 to 09.08.2023 : 14.08.2023 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sample Drawn By	: ELES Pvt. Ltd.	
Period of Analysis	± 14,08,2023 to 21.08,2023	Sample Condition	: Sealed & Preserved	

Ē	TEOROLOGICAL INFORMATION			
	Average Temperature (°C) : 24	2	Barometric Pressure (mnt	Hg) : 737
	Relative Humidity (%) : 65	4	Weather Condition	: Partly Cloudy

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	µg/m³	15:5182 (Part-11): 2006(RA2017	<1.0	05(Annual)
Benzo (a) Pyrene ^e	.ng/m³	IS:5182 (Part-12): 2004; RA2019	<0.5	01(Annual)

Remarks: (4)-Parameters are outsourced to other Lab.

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Test Report No.	: ELES/RNC/2023/3351	Report Release Date	: 09.09.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000002119F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Tharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	ELES/RNC/2023/AA/2848 Near Shakhuapani Village 09.08.2023 to 10.08.2023 14.08.2023 Amblem Air ELES/DOC/SMPL/02 ELES Pvi. Ltd	
Mines Status	: Operational	Sample Condition	Sealed & Preserved	
Period of Analysis	±14.68.2023 to 21.08.2023	Sample Condition	- Accessor on a 1500011 610	

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 25	2	Barometric Pressure (mm	Hg) ; 736
	Relative Humidity (%) : 66	4	Weather Condition	: Partly Cloudy

NABL Accredited				100 th 1 at
Discipline - Chemical Croup - Almospheric Pollucion				
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	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 ₁)	μg/m ³	1S 5182 (Part-2): 2001; RA2022	<5.0	80 (24hrs)
Nitrogen Di-Oxide (NO ₁)	μg/m³	IS 5182 (Part-6): 2006; RA2022	18.3	80 (24hrs)
Ozone (Ot)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₂)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ²	1S 5182 (Part-10): 1999; RA2019	<1.6	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	I (24hrs)
Nickel (Ni)	ng/m³-	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)



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Test Report No.	: ELES/RNC/2023/3351	Report Release Date	: 09.09.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindaico Industries Limited	Sample Ref. No. Location Sampling Date Sample Received Date	: ELES/RNC/2023/AA/2848 : Near Shakhuapani Village : 09.08.2023 to 10.08,2023 : 14.08.2023	
Address Mines Status	: Lohardaga, Jharkhand-835302 : 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	: 14.08.2023 to 21.08.2023	Simple Condition	Dealed by Freserved	

METEOROLOGICAL INFORMATION			
1 Average Temperature (°C) -25	2	Barometric Pressure (mm	Hg) : 736
3 Relative Hamidity (%) : 66	4	Weather Condition	: Partly Cloudy

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	μg/m²	IS:5182 (Pm1-11): 2006;RA2017	<1.0	95(Annual)
Benzo (a) Pyrene*	ng/in ³	15:5182 (Part-12); 2004;RA2019	< 0.5	01(Annual)

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

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TEST REPORT

Test Report No.	: ELES/RNC/2023/3352	Report Release Date	: 09.09.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	1 TC883923000002120F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindako Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	; ELES/RNC/2023/AA/2845 ; Near Dipa Kujam Village ; 11.08.2023 to 12.08.2023 ; 14.08.2023 ; Ambient Air ; ELES/DOC/SMPL/02	
Mines Status	: Operational	Sample Drawn By Sample Condition	ELES Pvt. Ltd. : Sealed & Preserved	
Period of Analysis	: 14.08.2023 to 21.08.2023	Children & State (1977)		

METEOROLOGICAL INFORMATION			
1 Average Temperature (°C) : 25	3	Barometric Pressure (mml-	(g) : 735
	1.4	Weather Condition	: Partly Cloudy
3 Relative Humidity (%) 64	- 4	Weather Condition	1. Ferrit Citation

NABL Accredited	201	Gione	Atmospheri	- Dellution
Discipline :		Test Protocol	Result	Regulatory Limit
Parameter	Unit		0.3,41,135	100 (24hrs)
Particulate Matter (PM10)	μg/m°	IS 5182 (Part-23): 2006; RA2022	41	
Particulate Matter (PM2.5)	112/m3	IS 5182 (Part- 24): 2019	19	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2); 2001; RA2022	5.5	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	16.1	80 (24hrs)
Ozone (O ₁)	µg/m²	1S 5182 (Part-9): 1974; RA2019	<20.0	100 (Shrs)
Ammonia (NH ₃)	μg/m³	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxida (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
	ng/m ⁵	1S 5182 (Part-26):2020	<6.0	20 (Annual)
Nickel (Ni) Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)



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TEST REPORT

Test Report No.	; ELES/RNC/2023/3352	Report Release Date	: 09.09.2023
Work Order No.	± 13612310218	Work Order Date	; 21.04.2023

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Tharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2023/AA/2849 ; Near Dipa Kujam Village : 11,08,2023 to 12,08,2023 : 14,08,2023 : Arabient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	
Period of Analysis	: 14,08.2023 to 21.08.2023	Sample Condition	Deplement Flagger	

MI	TEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 25	2	Barometric Pressure (mm)	Hg) (735
	Relative Humidity (%) : 64	4	Weather Condition	; Partly Cloudy

Discipline	: Chemical	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene ⁴	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.

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Same Errole or mineral annual factors



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

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

TEST REPORT

Test Report No.	; ELES/RAN/2023/1716	Report Release Date	: 10.09,2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET	AILS	SAMPLE DETAILS			
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date	: ELES/RAN/2023/DW/1603 : 06.08.2023		
		Sample Received Date	: 28.08.2023		
Address	: Lohardaga, Jharkhand-835302	Type of Sample	: Drinking Water		
		Source/Location of Sample	: Amtipani Bauxite Mines (190.95ha)		
		Sampling Procedure	: ELES/DOC/SMPL/01		
Mines Status	: Operational	Sample Collected By	: ELES Pvt. Ltd.		
Period of Analysis	; 28.08.2023 to 09.09.2023	Sample Condition	: Scaled & Preserved		

Discipline : Chemi	ical	Group : Water			ory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
pH (at 24,8 °C)	-31	APHA 23 rd Ed.2017, 4500-H	6.68	6,5-8.5	No Relaxation
Turbidity	NTU	APHA 23rt Ed.2017, 2130 B	0.26	1.0	5.0
Taste		APHA 23rd Ed.2017, 2160 C	Agreeable	Agreeable	Agreeable
Odour	10	IS 3025 (Part-5) :2018	Agreeable	Agreeable	Agrecable
Colour	Hazen	APHA 23rd Ed.2017, 2120B&D	1.0	5	15
Total Dissolved Solids (TDS)	mg/L	APHA 23 rd Ed.2017, 2540B,C&D	208	500	2000
Chloride (as CI)	mg/L	APHA 23 rd Ed.2017, 4500 Cl B	46.8	250	1000
Fluoride (as F)	mg/L	APHA 23rd Ed.2017, 4500 F-D	BDL (DL: 0.1)	1.0	1.5
Total Alkalinity (as CaCO ₃)	mg/L	APHA 23 rd Ed.2017, 2320 B	78.4	200	600
Total Hardness (as CaCO ₃)	mg/L	APHA 23 rd Ed.2017, 2340 C	96.6	200	600
Sulphate (as SO ₄)	mg/L	APHA 23 rd Ed.2017, 4500 SO ₄ 2-E	20.8	200	400
Nitrate (as NO ₃)	mg/L	APHA 23 rd Ed.2017, 4500 NO ₃ -B	2.48	45	No Relaxation
Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part-43):1992;RA2019	BDL (DL: 0.0005)	0.001	0.002

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

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

TEST REPORT

: 10.09.2023 : ELES/RAN/2023/1716 Report Release Date Test Report No. : 21.04.2023 Work Order Date : 13612310218 Work Order No.

Discipli	ne : Cher	mical Group: W	/ater		tory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Cyanide (as CN)	mg/L	APHA 23 rd Ed.2017, 4500 CN-E	BDL (DL: 0.012)	0.05	No Relaxation
Residual Free Chlorine (RFC)	mg/L	IS 3025 (Part-26):2021	BDL (DL: 0.1)	0.02	1.0
Calcium (as Ca)	mg/L	APHA 23rd Ed.2017, 3500 Ca B	24.4	75	200
Discipl	ine : Che	mical Group	: Residues in	Water	
Aluminum (as Al)	mg/L	IS 3025 (Part-55); 2003; RA2019	BDL (DL: 0.02)	0.03	0.2
Arsenic (as As)	mg/L	1S 3025 (Part 37): 2022	BDL (DL: 0.005)	0.01	No Relaxation
Boron (as B)	mg/L	IS 3025(Part-57); 2005; RA2021	BDL (DL: 0.2)	0,5	1.0
Cadmium (as Cd)	mg/L	APHA 23 rd Ed.2017, 3111B	BDL (DL: 0.003)	0.003	No Relaxation
Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2017, 3111B	BDL (DL: 0.03)	0.05	No Relaxation
Copper (as Cu)	mg/L	APHA 23 rd Ed,2017, 3111B	BDL (DL: 0.03)	0.05	1.5
Iron (as Fe)	mg/L	APHA 23 rd Ed.2017 "3111B	0.246	1.0	1.0
Lead (as Pb)	mg/L	APHA 23rd Ed.2017, 3111B	BDL (DL: 0.01)	0.01	No Relaxation
Manganese (as Mn)	mg/L	APHA 23rd Ed.2017, 3111B	BDL (DL: 0.05)	0.1	0,3
Mercury (as Hg)	mg/L	IS 3025 (Part-48): 1994; RA2019	BDL (DL: 0.001)	0.001	No Relaxation
Selenium (as Se)	mg/L	IS 3025 (Part-56): 2003; RA2019	BDL (DL: 0.01)	0.01	No Relaxation
Zinc (as Zn)	mg/L	APHA 23 rd Ed.2017, 3111B	BDL (DL: 0.1)	5	15

Remarks: 1. pH & RFC done at Lab.

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TEST REPORT

Test Report No.	: ELES/RAN/2023/1716	Report Release Date	: 10.09.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

Discipline: Che	mical		Group: Water	
Parameter	Unit	Test Protocol	Result	Regulatory Limit as per 18 10500:2012
Pesticides				
Alachlor*	μg/L	APHA	BDL (DL: 1.0)	20
Atrazine*	ρg/L	АРНА	BDL (DL: 1.0)	2
Aldrin/Dieldrin*	μg/L	АРНА	BDL (DL: 0.01)	0.03
Alpha HCH*	μg/L	АРИА	BDL (DL: 0.001)	0.01
Beta HCH*	μg/L	APHA	BDL (DL: 0.01)	0.04
Butachlor*	μg/L	APHA	BDL (DL: 10)	125
Chlorpyriphos*	μg/L	APHA	BDL (DL: 10)	30
Delta HCH*	μg/L	APHA	BDL (DL: 0.01)	0,04
2,4 dichlorophenoxyacetic acid*	μg/L	АРНА	BDL (DL: 10)	30
DDT(o,p and p,p-isomers of DDT,DDE and DDD)*	µg/L	APHA	BDL (DL: 0.5)	1
Endosulfan (alpha, beta, and sulphate)*	μg/L	АРНА	BDL (DL: 0.1)	0.4
Ethion*	μg/L	APHA	BDL (DL: 0.5)	3
Gamma HCH (Lindane)*	μg/L	АРНА	BDL (DL: 0.5)	2
Isoproturon*	μg/L	APHA	BDL (DL: 0.5)	9

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TEST REPORT

Test Report No.	: ELES/RAN/2023/1716	Report Release Date	z 10.09.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

Discipline : Bi	ological	Group: Y	Water		ory Limit
Discipline . Bi	orogical	oroup. mater		as per 15	0500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Total Coliform	Per 100 mL	IS 15185:2016; RA 2021	Not Detected	Chall not l	a detected
Escherichia Coli (E. Coli)	Per 100 mL	IS 15185:2016; RA 2021	Not Detected	Shall not be detect	
Discipline : Chemical		Group: Water		Regulatory Limit as per IS 10500:201	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Anionic Surfactants (as MBAS)*	mg/L	IS 3025 Part 68	BDL (DL: 0.1)	0.2	1.0
Mineral Oil*	mg/L	CL-6, IS: 3025 (P-39)	BDL (DL; 0.1)	1.0	No relaxation
Polynuclear Aromatic Hydrocarbons (PAH)*	mg/L	APHA 23 rd Edition	BDL (DL: 0.0001)	0.0001	No relaxation
Polychlorinated Biphenyls (PCB)*	mg/L	APHA 23 rd Edition	BDL (DL: 0.0005)	0.0005	No relaxation

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

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****End of Report****

Rekha Saxena B. Sc. M. Sc. (Botany) Director ELES Pvt. Ltd.

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

Amtipani Bauxite Mine-Environmental Monitoring Report

September- 2023



CONTENT

Hir	dalco Industries : Amtipani Bauxite Mine	Environmental Monitoring Report	September- 2023
147.13	Amtipa	ani Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE	2	
1	Mine Entrance Gate		
2	Near Mine Office/WB		
3	Mines Near Quarry - 1C		
4	Mines Near Quarry – 7C		
	AMBIENT AIR QUALITY- BUFFER ZO	ONE	
1	Near Pakri Gada Village		
2	Near Pol Pol Village		
3	Near Shakhuapani Village		
4	Near Dipa Kujam Village		
	SPRING WATER		
	AMBIENT NOISE		
	WORKZONE NOISE		





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TEST REPORT

Test Report No.	: ELES/RNC/2023/3961	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	The state of the s	: ELES/RNC/2023/AA/3196
		Location	: Mine Entrance Gate Amtipani Bauxite Mine (190.95 ha)
Address	Lohardaga, Jharkhand-835302	Sampling Date	: 06.09.2023 to 07.09.2023
		Sample Received Date	The second secon
		Type of Sample	: Ambient Air
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pyt, Ltd.
Period of Analysis	; 12.09.2023 to 23.09,2023	Sample Condition	: Scaled & Preserved

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg	g) : 736
3	Relative Humidity (%)	: 74	4	Weather Condition	: Cloudy

Discipline : Chemica	al	Group : /	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	36	100 (24hrs)	
Particulate Matter (PM2,5)	μg/m³	1S 5182 (Part- 24): 2019	17	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	5.2	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	19.6	80 (24hrs)	
Ozone (O ₃)	μg/m³	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)	ing/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	μg/m ²	IS 5182 (Part-22): 2004; RA2019	0.005	1 (24hrs)	
Nickel (Ni)	ng/m)	1S 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

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TEST REPORT

Test Report No.	: ELES/RNC/2023/3961	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 ₆ H ₆)*	μg/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)	

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

Reviewed by

****End of Report****

Lir. Deupendra Kumar Sinha Ph. D. Environmental Engo. ELES Pvl. Ltd. Technical Manager

Page 2 of 2

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TEST REPORT

Test Report No.	: ELES/RNC/2023/3962	Report Release Date	: 28.10.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3197 : Near Mine Office/WB		
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	Amtipani Bauxite Mine (190.95 ha) : 06.09,2023 to 07.09,2023 : 12.09,2023		
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02		
Period of Analysis	+ 12.09.2023 to 23.09.2023	Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved		

MI	ETEOROLOGICAL INFOR	MATION	- 75		
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg	: 736
3	Relative Humidity (%)	: 74	4	Weather Condition	: Cloudy

Discipline : Chemica	d	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/m³	IS 5182 (Part- 24); 2019	20	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2); 2001; RA2022	6.5	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	15.8	80 (24hrs)
Ozone (O ₃)	μg/m³	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/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)

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CW: U74999W2018P7CD11125

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TEST REPORT

Test Report No. : ELES/RNC/2023/3962 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 ₅ H ₆)*	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.

Reviewed by

****End of Report****

Authorised Signatory

Dr. Deependra Kurnar Sinha

Ph. D. Environmental Engg

ELES Pvt. Ltd. Technical Manager

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TEST REPORT

Test Report No.	: ELES/RNC/2023/3963	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. Location	: ELES/RNC/2023/AA/3198 : Mines Near Quarry - 1C Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 06.09.2023 to 07.09.2023 : 12.09.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	; 12,09,2023 to 23,09,2023	Sample Condition	Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 74	4	Weather Condition	; Cloudy

Discipline : Chemica	al	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	39	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	17	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m [‡]	IS 5182 (Part-2): 2001; RA2022	5.1	80 (24hrs)	
Nitrogen Di-Oxide (NO ₁)	μg/m³	IS 5182 (Part-6): 2006; RA2022	21.6	80 (24hrs)	
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m³	1S 5182 (Part- 25); 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ¹	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.002	I (24hrs)	
Nickel (Ni)	ng/m³-	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

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

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Website: www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/3963	Report Release Date	: 28.10.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

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

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

Reviewed by

****End of Report****

Authorised Signatory

Or Deepandra Kumar Sinha Ph. D. Environmental Engg. ELES Pvr. Ltd. Technical Manager

Page 2 of 2

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PLOT NO-30; MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO:-20AAECE97130124 INGINEERING SERVICES PVT, LTD.

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

Website: www.elespi.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/3964	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. Location	: ELES/RNC/2023/AA/3199 : Mines Near Quarry – 7C Amtipani Bauxite Mine (190.95 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 06.09.2023 to 07.09.2023 : 12.09.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 12.09.2023 to 23.09.2023	Sample Condition	Sealed & Preserved	

M	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	:: 25	2	Barometric Pressure (mmH	g) : 736.
3	Relative Humidity (%)	: 74	4.	Weather Condition	: Cloudy

Discipline : Chemica	ıl	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23); 2006; RA2022	41	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	19	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	<5.0	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	17.2	80 (24hrs)	
Ozone (O ₃)	μg/m³	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 ⁴	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m [‡]	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 ¹	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Page 1 of 2

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FW: U74999W/2018PTC012125

ENVIRONMENTAL LABORATORIES &

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/3964	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 (C ₆ H ₆)*	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	01(Annual)	

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

Reviewed by

****End of Report****

Dr. Bulberised Signators inh

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

Page 2 of 2

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PLOT NO -39, MANSARO DAN ENCLÂVE, TUPUDAMA HATIA, RANCHI-654003 (IMARKHANO) SST NO:- IMARCESTIADIZA ENGINEERING SERVICES PUT LYE

Emall: lato Beleval co.in = eles.conchi@amall.com Phage no.: 0651-2290103 Website : www.elesal.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/3957	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. Location Sampling Date	: ELES/RNC/2023/AA/3192 : Near Pakri Gada Village : 05.09.2023 to 06.09.2023	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 12.09.2023 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sample Drawn By	: ELES Pvt. Ltd.	
Period of Analysis	: 12.09.2023 to 23.09.2023	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 74	4	Weather Condition	: Cloudy
5	Longitude	: 84°14'52,25"N	6	Latitude	: 23°17'41.21"E

Discipline: Chemica	al .	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	39	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24); 2019	22	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	5.1	80 (24hrs)	
Nitrogen Di-Oxíde (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	18.7	80 (24hrs)	
Ozone (O _A)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m ⁵	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	μg/m²	IS 5182 (Part-22); 2004; RA2019	< 0.002	1 (24hrs)	
Nickel (Ni)	ng/m²	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m1	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Page 1 of 2

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FLOT NO-30, MANSAROVAR BYCLAVE, TUREDANA

HATTA, MANCHE-934003 () MARICHAND) GGT NO. 20A45C53713D1Z4 INCINEUMNG SERVICES PUT. L'ED.

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Website : www.eleapl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/3957	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 ₈)*	µg/m²	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)

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

d by

****End of Report****

Authorised Signatory

Ph. C. Emiliamental Engl.

Page 2 of 2

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TEST REPORT

Test Report No.	: ELES/RNC/2023/3958	Report Release Date	: 28.10.2023	
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/3193 : Near Pol Pol Village : 05.09.2023 to 06.09.2023 : 12.09.2023	
Mines Status Period of Analysis	: Operational : 12.09.2023 to 23.09.2023	Type of Sample Sampling Procedure Sample Drawn By Sample Condition	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. : Sealed & Preserved	

MI	TEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mm.	Hg) : 742
3	Relative Humidity (%)	:74	4	Weather Condition	: Cloudy

Discipline: Chemica	al	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	43	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	20	60 (24hrs)	
Sulphur Di-Oxide (SO ₁)	μg/m³	IS 5182 (Part-2); 2001; RA2022	<5.0	80 (24hrs)	
Nitrogen Di-Oxide (NO _t)	μg/m³	IS 5182 (Part-6); 2006; RA2022	15.5	80 (24hrs)	
Ozone (O ₃)	µg/m³	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/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	TS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)	
Nickel (Ni)	ng/m²	1S 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	D6 (Annual)	

Page 1 of 2

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PLOT NO-BO TAMPSAROVAN ENCLAVA TI WATSANA HAYYA, NAMON-BBADDS (WARMHAND) GIT NO-20AAF(BRITED)] JA

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Phone may: 0651-2290103 Website www.eleral.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/3958	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 ₅ H ₆)*	µg/m²	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	< 0.5	01(Annual)

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

Reviewed by

****End of Report****

Authorised Signatory

- epending Kuman Sirina

- D. Environmental Engl.

ES PYL LIA Technical Manager

Page 2 of 2

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PACT NO RE MANHARDY HA LVE, NW. PUPIC AND ANTI-A NAVIGH ENGOS (MARK LAND)

CONTROL - STANDARD STRAINER

tmol/ info@elesoi.co.in , eles ranchi@pmall.com Phose n= 0633-2250165

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TEST REPORT

Test Report No.	: ELES/RNC/2023/3959	Report Release Date	; 28.10.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: 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/3194 : Near Shakhuapani Village : 06.09.2023 to 07.09.2023 : 12.09.2023 : Ambient Air : ELES/DOC/SMPL/02 : BLES Pvt. Ltd.
Willies Ottalus	~ Operational	Sample Drawn By	The state of the s
Period of Analysis	: 12.09.2023 to 23.09.2023	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFOR	MATION			
T.	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	: 742
4	Relative Humidity (%)	: 68	4	Weather Condition	: Cloudy

Discipline: Chemica	r)	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	42	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	17	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	1S 5182 (Part-2); 2001; RA2022	<5.0	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	18.2	80 (24hrs)	
Ozone (O ₁)	µg/m³	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/m³	IS 5182 (Part-10); 1999; RA2019	<1,0	2 (8hrs)	
Lead (Pb)	μg/m ³	1S 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)	
Nickel (Ni)	ng/m ¹	1S 5182 (Parr-26):2020)	<6.0	20 (Annual)	
Arsenic (As)	ng/m ²	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Page 1 of 2

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FLOT NO-30 MANSAROVAN ENGLYPS (LINIONNI) HATIS, RANCH-U34903 (INATROCAND) EST NO:-261487597132272

Email: Info.Selesol.co.in , eles.conchlorgmull.com

Priorit no.: 0661-2290103 Website: www.alexpl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/3959	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 _E H ₆)*	μg/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)
Benzo-(a)-Pyrene+	ng/m³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)

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

Reviewed by

****End of Report****

Authorised Signatory

Par T Enwantental Enga E ECFV Ltd. Technical Manager

Page 2 of 2

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PLDT NO-20, MANSARCH MENCLA VE TUPHDANA PATIL, NANCEL 824003 (MANNYAND) GCI NO. WALESTO LIM

Email: Info@elszol.co.m , eles.conchicogmail.com Phone nos: 0651 3 190163 Measte I Wire Elesphia III

TEST REPORT

Test Report No.	: ELES/RNC/2023/3960	Report Release Date	: 28.10.2023
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	: ELES/RNC/2023/AA/3195 : Near Dipa Kujam Village : 07.09.2023 to 08.09.2023 : 12.09.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 12,09,2023 to 23,09,2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 25	2	Barometric Pressure (mm	Hg) : 742
3	Relative Humidity (%) : 70	4	Weather Condition	: Cloudy

Discipline: Chemics	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	1S 5182 (Part-23): 2006; RA2022	48	100 (24hrs)
Particulate Matter (PM2.5)	μg/m ⁷	IS 5182 (Part- 24): 2019	24	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	<5.0	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part-6): 2006; RA2022	17.3	80 (24hrs)
Ozone (O ₃)	μg/m³	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/m²	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Amual)

Page 1 of 2

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PLGT NO-30, AVANSAROVAR ENCLAVE TUPUDANA HATIA, RANCHI-8\$400\$ (INARKHANII) DO NO-306480657183181

Emall, info@elesul.co.lp _eles.ranchi@amail.com

Priorie no.: 0651-1290103 Westle: www.elegalico.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/3960	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/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)

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

Reviewed by

****End of Report****

Authorised Signators Inna
Or. Deependra Signators Inna
Ph. D. Enwignmentel Engli
ELES SW. Lid Tachnical Manages

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.elespi.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/4107	Report Release Date	: 31.10.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2023/SW/3499 : 06.09.2023 : 29.09.2023 : Surface Water	
Address	: Lohardaga, Jharkhand-835302	Source of Sample Location of Sample	: Spring Water : Amtipani Bauxite Mine (190.95 ha)	
Mines Status	: Operational	Sampling Procedure Sample Collected By	: ELES/DOC/SMPL/01 : ELES Pvt. Ltd.	
Period of Analysis	: 29.09.2023 to 17.10.2023	Sample Condition	: Sealed & Preserved	

Discipline: Chemic	eal	Group	: Water	Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
pH (at 24.9 °C)	-	IS 3025 (Part 11): 2022	6.63	6.5-8.5
Colour	Hazen	IS 3025 (Part -4): 2021	5.0	300
Odour	121	IS 3025 (Part-5): 2018	Unobjectionable	~
Taste	~	APHA 23 rd Ed.2017, 2160 C	N/A	-
Turbidity	mg/L	IS 3025 (Part-10):1984;RA2017	0.64	
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part 16):1984; RA2017	202	1500
Total Alkalinity (as CaCO ₃)	mg/L	IS 3025 (Part-23):1986; RA2019	79.5	-
Total Hardness (as CaCO ₃)	mg/L	IS 3025 (Part-21) : 2009; RA2019	98.8	92
Sulphate (as SO ₄)	mg/L	IS 3025 (Part 24): 1986; RA2019	4.3	400
Nitrate (as NO ₁)	mg/L	APHA 23rd Ed,2017, 4500 NO3+B	1.92	50
Chloride (as CI)	mg/L	IS 3025 (Part-32):1988; RA2019	15.2	600
Fluoride (as F)	mg/L	IS 3025 (Part-60) :2008; RA2019	0.134	1.5
Cyanide (as CN)	mg/L	APHA 23 rd Ed.2017, 4500 CN-E	BDL (DL: 0.012)	0.05
Phenols Compounds (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part-43): 1992;RA2019	BDL (DL: 0.0005)	0.005

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TEST REPORT

Test Report No. : ELES/RNC/2023/4107 Report Release Date : 31.10.2023

Work Order No. : 13612310218 Work Order Date : 21.04.2023

Discipline: C	hemical	Group: Wate	r	Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water
Calcium (as Ca)	mg/L	IS 3025 (Part-40): 1991;RA2019	26.3	**
Free Residual Chlorine (RFC)	mg/L	IS 3025 (Part-26) :2021	BDL (DL: 0.1)	-
Discipline: Ch	remical	Group: Residue	s in Water	
Aluminium (as Al)	mg/L	IS 3025 (Part-55) :2003; RA2019	BDL (DL: 0.02)	**
Arsenic (as As)	mg/L	IS 3025 (Part 37): 2022	BDL (DL: 0.005)	0.2
Boron (as B)	mg/L	IS 3025 (Part-57) :2021	BDL (DL: 0.2)	4.
Cadmium (as Cd)	mg/L	APHA23 rd Ed.2017; 3111B	BDL (DL: 0.003)	0.01
Total Chromium (as Cr)	mg/L	APHA 23 rd Ed,2017; 3111B	BDL (DL: 0.03)	-
Copper (as Cu)	mg/L	APHA 23 rd Ed.2017; 3111B	BDL (DL: 0.03)	1,5
Iron (as Fe)	mg/L	APHA 23 rd Ed.2017; 3111B	0.214	50
Lead (as Pb)	mg/L	APHA 23 rd Ed.2017, 3111 B	BDL (DL: 0.01)	0.1
Manganese (as Mn)	mg/L	APHA 23 ^{ad} Ed.2017; 3111 B	BDL (DL: 0.05)	-
Mercury (as Hg)	mg/L	IS 3025 (Part-48) :1994; RA2019	BDL (DL: 0.001)	÷.
Selenium (as Se)	mg/L	IS 3025 (Part-56) :2003; RA2019	BDL (DL: 0.01)	0.05
Zinc (às Zn)	mg/L	APHA 23 rd Ed.2017, 3111 B	BDL. (DL: 0.1)	15
Discipline: Bi	ological	Group: Wat	er	
Total Coliform	CFU/100 mL	IS 15185: 2016, RA2021	63	5000
Escherichia Coli	CFU/100 mL	IS 15185:2016; RA2021	9.0	

Remarks: 1, pH & RFC done at Lab.

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4107	Report Release Date	: 31.10.2023	
Work Order No.	± 13612310218	Work Order Date	: 21.04.2023	

Discipline: Che	mical	Group:	Water
Parameter	Unit	Test Protocol	Result
Anionic Surfactants (as MBAS)*	mg/L	IS 3025 Part 68	<0.1
Mineral Oil*	mg/L	CL-6, 1S: 3025 (P-39)	<0.1
Polynuclear Aromatic Hydrocarbons (PAH)*	mg/L	APHA 23 rd Edition	<0.0001
Pesticides			
Alachlor*	µg/L	APHA	<1.0
Atrazine*	μg/L	АРНА	<1.0
Aldrin/Dieldrin*	μg/L	APHA	<0.01
Alpha HCH*	μg/L	APHA	< 0.001
Beta HCH*	μg/L	APHA	<0.01
Butachlor*	μg/L	APHA	<10
Chlorpyriphos*	μg/L	APHA	<10
Delta HCH*	μg/L	АРНА	< 0.01
2,4 dichlorophenoxyacetic acid*	µg/L	АРНА	<10
DDT(o,p and p,p-isomers of DDT,DDE and DDD)*	μg/L	АРНА	<0.5
Endosulfan (alpha, beta, and sulphate)*	μg/L	АРНА	<0.1
Ethion*	μg/L	АРНА	<0.5
Gamma HCH (Lindane)*	μg/L	APHA	<0.5
Isoproturon*	µg/L	APHA	< 0.5

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

Reviewed by

****End of Report****

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

ELES Pvl. Ltd. Technical Manager

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TEST REPORT

Test Report No.	: ELES/RNC/2023/4135	Report Release Date	: 31.10.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sampling Date Sampling Received Date Type of Sample Sampling procedure Sample Drawn By	: 06.09.2023 to 07.09.2023 : 30.09.2023 : Ambient Noise : ELES/DOC/SMPL/03 : ELES Pvt, Ltd.	
Mines Status	: Operational	Period of Analysis	: 30.09.2023 to 10.10.2023	

MI	ETEOROLOGICAL INFORMATION			
t	Average Temperature (°C) : 25	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%) 74	4	Weather Condition	; Cloudy

Location	Unit	Test Protocol	Result		Regulatory Limit (Industrial Zone)	
			Time	Leq		
Near Mine Office Amtipani Bauxite Mine (190.95 ha)	dB(A)	ABOAY 10 2707.1	IS 9989:1981, RA 2020	Day Time	Day Time 65	75 dB(A) Day Time &
Sample ID: ELES/RNC/2023/AN/3527			Night Time	44	70 dB(A) Night Time	

Reviewed by

****End of Report****

Authorised Signatory

Pr. Diependra Kumar Sinha Pr. Di Environmental Engg.

ELES Pvt. Ltd. Technical Manager

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ENGINEERING SERVICES PVT. LTD.

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

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TEST REPORT

Test Report No.	# ELES/RNC/2023/4157	Report Release Date	: 31.10.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DE	TAILS	SAMPLE DETAILS			
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sampling Date Sampling Received Date Type of Sample Sampling procedure Sample Drawn By	: 06.09.2023 : 30.09.2023 : Workzone Noise : ELES/DOC/SMPL/03 : ELES Pvt. Ltd.		
Mines Status	: Operational	Period of Analysis	: 30.09.2023 to 11.10.2023		

MI	ETEOROLOGICAL INFORMATION			
Ţ.	Average Temperature (°C) : 25	2	Barometric Pressure (mmH)	g) : 734
3	Relative Humidity (%) = 68	.4	Weather Condition	: Cloudy

Location	Unit	Test Protocol	Rest	alt	Regulatory Limit (Industrial Zone)
Mines Near Quarry - 7C			Time	Leg	
Amtipani Bauxite Mine (190.95 ha)	dB(A)	IS 4758:1968; RA 2017	84 10 1 Sec. 1		90 dB (A)
Sample ID: ELES/RNC/2023/WN/3549		384 2017	Day Time	73	-

Reviewed by

****End of Report****

Authorised Signatory
or, Deependra Kulhar Sinns
Ph. D. Environmental Enga.

LES Not. Ltd. Total rical Manager

Page 1 of 1

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Annexure 3

Date - 01.11.2023

Office Order

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

- 1. Mr. Yogendra Lilhare (Coordinator)
- 2. Mr. Preet Ranjan Kuanr Geologist
- 3. Ms. Swetapadma Nanda-Environment Engineer
- 4. Mr. Anand Prakash Tiwari Environment Engineer

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

Basudev Gangopadhyay
AVP (Planning, Environment& Compliance)

Corporate ID No.: L27020MH1958PLC011238

Annexure 4

	Production, Min	ned Out, Ba	ck Filled and	Over Burden	removal from	n April'23 to	September ⁴	'23
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)			28.04.1965 to	80.00	0.00	0.00	0.00
		15.58	60000	31.03.2030		0.00	0.00	0.00
17	Pakhar (109.507)			26.07.2008 to	97720.00			
		109.507	280000	25.07.2058		1.93	0.71	237280.85
18	Bimarla Bauxite Mine			18.07.2009 to				
		134.37	300000	17.07.2059	39550	2.21	0.8	64913.65
19	Amtipani Chirodih			11.01.2017 to				
	Bauxite Mines	130.01	450000	10.01.2067	84678	3.96	1.15	98519.66

^{*}Static information about the mines included in the above table



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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.

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