: Pakhar Bauxite Mine (8.09 ha) Name of the Project

M/s Hindalco Industries Limited

Environment Clearance No. & date : J-11015/135/2006-IA.II(M), dated 24.01.2007

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

Specific Conditions: -

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

Reply: - Winning of Bauxite is closed w.e.f Nov 2014 due to exhaustion of resources and field activity of final Mine closure plan are completed.

Condition ii: - The environmental clearance is subject to approval of the state land use Department, Government of Jharkhand for diversion of agricultural land for nonagricultural use

Reply: - Winning of Bauxite is closed w.e.f Nov 2014 due to exhaustion of resources and field activity of final Mine closure plan are completed.

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

Reply: - The Mine is not in operation since Nov 2014.

Winning of bauxite operation not carried out in this lease till September'23- due to exhaustion of mineral reserve.

Final Mine Closure Plan has been approved by Indian Bureau of Mines.

Field activity of final Mine closure plan are completed.

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

Reply: - No natural water course was obstructed during mining in past. Winning of bauxite operation not carried out in this lease till September'23- due to exhaustion of mineral reserve. Mine is not in operation since Nov 2014.

Field activity of final Mine closure plan are completed.

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

Reply: - The Mine is not in operation since Nov 2014. Winning of bauxite operation not carried out in this lease till September'23 due to exhaustion of mineral reserve.

Field activity of final Mine closure plan are completed.

Condition vi: - The waste generated shall be concurrently backfilled in the mined-out area. There shall be no external OB dump. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forest on six monthly basis.

Reply: - Mine is not in operation since Nov 2014. Winning of bauxite operation not carried out in this lease lease till September'23 due to exhaustion of mineral reserve.

No external OB dump is in mine lease area.

Field activity of final Mine closure plan are completed.

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

Garland drain (size, gradient and length) shall be constructed for mine pit and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper setting of silt material. Sedimentation pits should be constructed at the corners of the garland drains and desilted at regular intervals.

Reply: - Winning of bauxite operation not carried out in this lease lease till September'23 due to exhaustion of mineral reserve.

The Mine is not in operation since Nov 2014

Field activity of final Mine closure plan are completed.

Condition viii:- Plantation shall be raised in an area of 6.35 ha including a green belt of adequate width by planting the native species around the ML area, roads, reclaimed area etc. in consultation with the local DFO / Agriculture Department. The density of the trees should be around 1500 plants per ha.

Reply: - Mine is not in operation since Nov 2014 due to exhaustion of reserves. FMCP approved by IBM. Mine Voids are reclaimed and rehabilated. Water body is also created. Plantation done. Entire land is utilized for meaningful purpose.

Field activity of final Mine closure plan are completed.

Condition ix: - 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: - Winning of bauxite operation not carried out in this lease till September'23 due to exhaustion of mineral reserve. Mine is not in operation since Nov 2014 due to exhaustion of reserves. FMCP approved by IBM. Mine Voids are reclaimed and rehabilated. Water body is also created.

Field activity of final Mine closure plan are completed.

Condition x: - 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: - Mine is not in operation since Nov 2014 due to exhaustion of reserves. FMCP approved by IBM. Mine Voids are reclaimed and rehabilated. Water body is also created. Field activity of final Mine closure plan are completed.

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

Reply: - Winning of bauxite operation not carried out in this lease till September'23 due to exhaustion of mineral reserve.

The Mine is not in operation since Nov 2014.

Field activity of final Mine closure plan are completed.

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

Reply: - Winning of bauxite operation not carried out in this lease till September'23 due to exhaustion of mineral reserve.

The Mine is not in operation since Nov 2014.

FMCP approved by IBM. Mine Voids are reclaimed and rehabilated. Water body is also created. Field activity of final Mine closure plan are completed.

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

Reply: - Winning of bauxite operation not carried out in this lease till September'23 due to exhaustion of mineral reserve.

The Mine is not in operation since Nov 2014.

FMCP approved by IBM. Mine Voids are reclaimed and rehabilated. Water body is also created. Field activity of final Mine closure plan are completed.

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

Reply: - Winning of bauxite operation not carried out in this lease till September'23 due to exhaustion of mineral reserve. The Mine is not in operation since Nov 2014.

FMCP approved by IBM. Mine Voids are reclaimed and rehabilated. Water body is also created. Field activity of final Mine closure plan are completed.

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

Reply: - The Mine is not in operation since Nov 2014. Winning of bauxite operation not carried out in this lease till September'23 due to exhaustion of mineral reserve.

FMCP approved by IBM. Mine Voids are reclaimed and rehabilated. Water body is also created. Field activity of final Mine closure plan are completed.

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

Reply: - The Mine is not in operation since Nov 2014. Winning of bauxite operation not carried out in this lease till September'23 due to exhaustion of mineral reserve.

FMCP approved by IBM. Mine Voids are reclaimed and rehabilated. Water body is also created. Field activity of final Mine closure plan are completed.

Condition xvii: - The project proponent should take all precautionary measures during mining operation for conservation and protection of endangered fauna such as Indian Python etc. Spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Department. Necessary allocation of funds for implementation of the conservation plan shall be made and the funds so allocated shall be included in the project cost. Copy of action plan may be submitted to the Ministry and its Regional Office within 3 months.

Reply: - Winning of bauxite operation not carried out in this lease till September'23 due to exhaustion of mineral reserve. The Mine is not in operation since Nov 2014. Field activity of final Mine closure plan are completed.

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

Reply: - Approval letter of Final Mine closure plan duly approved by Indian Bureau of Mines is hereby attached as **Annexure-6**.

General Conditions: -

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

Reply: - Winning of bauxite operation not carried out in this lease till September'23 due to exhaustion of mineral reserve. The Mine is not in operation since Nov 2014.

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

Reply: - Winning of bauxite operation not carried out in this lease till September'23 due to exhaustion of mineral reserve. The Mine is not in operation since Nov 2014. Enclosed as **Annexure 4.**

Field activity of final Mine closure plan are completed.

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

Reply: - Monitoring Reports of Pakhar Plateau is enclosed as **Annexure 2**.

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

Reply: - Monitoring Reports of Pakhar Plateau is enclosed in Annexure-2.

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

Reply: - Winning of bauxite operation not carried out in this lease till September'23 due to exhaustion of mineral reserve. The Mine is not in operation since Nov 2014. Water spraying is being done around Mine Lease in dust prone areas.

Field activity of final Mine closure plan are completed.

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

Reply: - Winning of bauxite operation not carried out in this lease lease till September'23 due to exhaustion of mineral reserve. The Mine is not in operation since Nov 2014. Field activity of final Mine closure plan are completed.

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

Reply: - Winning of bauxite operation not carried out in this lease till September'23 due to exhaustion of mineral reserve. The Mine is not in operation since Nov 2014. Field activity of final Mine closure plan are completed.

Condition viii: - Personnel working in dusty areas should wear protective respiratory devices and they should also 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: - Winning of bauxite operation not carried out in this lease till September'23 due to exhaustion of mineral reserve. The Mine is not in operation since Nov 2014. Field activity of final Mine closure plan are completed.

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

Reply: - Winning of bauxite operation not carried out in this lease till September'23 due to exhaustion of mineral reserve. The Mine is not in operation since Nov 2014.

We have Environment Management Cell for our Pakhar Group of Mines. The same is looking after Environment issues of this Mine, Attached as **Annexure-3**.

Field activity of final Mine closure plan are completed.

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

Reply: - Winning of bauxite operation not carried out in this lease till September'23 due to exhaustion of mineral reserve. The Mine is not in operation since Nov 2014. This was an operational mine and hence provision related to financial closure not applicable. Field activity of final Mine closure plan are completed.

Condition xi: - The funds earmarked for environmental protection measures should be kept in 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 Bhubneshwar.

Reply: - Statement of budgetary provision and actual expenses for environmental protection measure is enclosed as **Annexure-5**.

Currently, the Regional Office is located at Ranchi.

Field activity of final Mine closure plan are completed.

Condition xii: - The Regional Office of this Ministry located at Bhubneshwar 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: - Agreed. Currently, the Regional Office is located at Ranchi.

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

Reply: - Complied

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

Reply: - Displayed.

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

Reply: - Complied. Copies, of the advertisement made in the local newspapers, have already been submitted to the Regional Office.



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Reviewed by

ENVIRONMENTAL LABORATORIES &

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

ENGINEERING SERVICES PVT, LTO.

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TEST REPORT

Test Report No.	; ELES/RNC/2023/2012	Report Release Date	: 12,06.2023
Work Order No.	; M&M/23-24/01	Work Order Date	: 31.03.2023
ULR No.	: TC883923000000973F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ret. No. Location	: ELES/RNC/2023/AA/1439 ; Near Mine Office Pakhar (15.58 ha) Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 09.04,2023 to 10.04,2023 : 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	: Scaled & Preserved	

M	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 33	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 60	4	Weather Condition	: Clear
5	Longitude	: 84°36'36.29"E	6	Latitude	: 23°32'24.04"N

Discipline 1	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	36	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	19.2	80 (24hrs)
Ozone (O ₃)	μg/m ⁵	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 ³	IS 5182 (Pan-10); 1999; RA2019	<1:0	2 (8Firs)
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	0.016	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)

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

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Dr. Deependra Kumar Sinha

Ph. D. Environmental Engg.

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

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TEST REPORT

Test Report No.	: ELES/RNC/2023/2012	Report Release Date	: 12.06.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2023/AA/1439	
y-04/13/1-84/1/		Location	: Near Mine Office Pakhar (15,58 ha) Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 09.04.2023 to 10.04.2023	
		Sample Received Date	: 10.05.2023	
		Type of Sample	: 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	RMATION			
1	Average Temperature (°C)	: 33	2	Barometric Pressure (mmHg)	739
3	Relative Humidity (%)	: 60	4	Weather Condition	Clear
5	Longitude	: 84°36'36.29"E	- 5	Latitude	123°32'24.04"N

Discipline	: Chemical	emical Group : Atmospheric Pollut		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	µg/m³	(S:5182 (part-11): 2006;RA2017	<1.0	05(Annsal)
Benzo (a) Pyrene*	ng/m ¹	IS: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 Engg. ELES Pvt. Ltd. Technical Manager

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IMARKHAND) 681 NG-264AECE97130124



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TEST REPORT

Test Report No.	; ELES/RNC/2023/2013	Report Release Date	: 12.06.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023
ULR No.	: TC883923000000974F		

Customer Name : Minerals & Minerals Limited Sample Ref. No. : ELES/RNC/2023// Location : Near Weigh Bridg Pakhar (15.58 ha)	
	ige
Address Lohardaga, Jharkhand-835302 Sampling Date : 09.04,2023 to 10.0 Sample Received Date : 10.05.2023 : Ambient Air	.04.2023
Plant Status : Operational : Ambient Air : ELES/DOC/SMPL	L/02
Period of Analysis : 10.05.2023 to 08,06.2023 Sample Condition : Sealed & Preserve	red

M	ETEOROLOGICAL INFOR	RMATION	-		
1	Average Temperature (°C)	33	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 60	4	Weather Condition	: Clear
5	Longitude	: 84°36'34.50"E	6	Latitude	: 23°32'26.21"N

Discipline :	Chemical	Group :	Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit			
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	70	100 (24hrs)			
Particulate Matter (PM2,5)	μg/m³	IS \$182 (Part- 24): 2019	42	60 (24hrs)			
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	12.3	80 (24hrs)			
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part-6); 2006; RA2022	24.6	80 (24hrs)			
Ozone (O ₃)	μg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (Shrs)			
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	IS 5182 (Part-22): 2004; RA2019	0.015	1 (24hrs)			
Nickel (Ni)	ng/m ³	1S 5182 (Part-26):2020	<6.0	20 (Annual)			
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)			

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

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Shinks.

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Dr. Deependra Kurnar Sinna

Ph. D. Environmental Engg.

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 208AECE9713D124

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TEST REPORT

Test Report No.	; ELES/RNC/2023/2013	Report Release Date	: 12.06.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1440 : Near Weigh Bridge Pakhar (15.58 ha) Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 09.04,2023 to 10.04,2023 : 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	TEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 33	2	Barometric Pressure (mmHg)	739
3.	Relative Humidity (%)	1.60	4	Weather Condition	: Clear
5	Longitude	: 84°36'34.50"E	6	Latitude	: 23°32'26.21"N

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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Dr. Deependra Kumar Sinha

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ELES Pvt Ltd. Technical Manager

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPLIDANA HATIA, RANCHI-834003 UHARKHANDI GST NO:-20AAECE9713D124

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TEST REPORT

Test Report No.	: ELES/RNC/2023/2014	Report Release Date	: 12,06.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023
ULR No.	: TC883923000000975F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1441 : Near Mine Quarry No- MT Pakhar (15.58 ha) Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 09.04.2023 to 10.04.2023 : 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	: Scaled & Preserved	

MI	ETEOROLOGICAL INFOR	RMATION			
T	Average Temperature (°C)	:33	2	Barometrie Pressure (mmHg)	1739
3	Relative Humidity (%)	: 60	4	Weather Condition	: Clear
5	Longitude.	: 84°36'6.67"E	6	Latitude	: 23°32'9.19"N

Discipline ;	Chemical	Group	Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit			
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	64	100 (24hrs)			
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	-37	60 (24hrs)			
Sulphur Di-Oxide (802)	μg/m³	IS 5182 (Part-2): 2001; RA2022	10.0	80 (24hrs)			
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part-6): 2006; RA2022	21,3	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/m³	JS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)			
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	0.013	1 (24hrs)			
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)			
Arsenic (As)	ng/m³	ELES/AJR/SOP/01	<2.0	06 (Annual)			



Authorized Signatory Dr. Deependra Kumar Sinna

Page 1 of 1

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****End of Report****



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

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/2014	Report Release Date	: 12.06.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2023/AA/1441	
	1-33-110-0-23-13-13-13-13-13-13-13-13-13-13-13-13-13	Location	; Near Mine Quarry No- M1	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	Pakhar (15,58 ha) Bauxite Mine : 09.04.2023 to 10.04.2023	
		Sample Received Date	: 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)	: 33	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 60	4	Weather Condition	: Clear
5	Longitude	: 84°36'6.67"E	6	Latitude	: 23°32'9.19"N

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****

Anthorized Signatory
Dr. Deependra Kumar Sintha
Ph. D. Environmental Engg
ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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ENGINEERING SERVICES PUT. LYD.

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

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



TEST REPORT

Test Report No.	; ELES/RNC/2023/2015	Report Release Date	: 12.06,2023
Work Order No.	: M&M/23-24/01	Work Order Date	; 31,03,2023
ULR No.	; TC883923000000976F		

CUSTOMER DETAILS		SAMPLE DETAILS			
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1442 : Near Mine Quarry No-M4 Pakbar (15.58 ha) Bauxite Mine		
Address	- Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 09.04.2023 to 10.04.2023 : 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	ETEOROLOGICAL INFO	RMATION			
	Average Temperature (°C)	: 33	-2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 60	4	Weather Condition	Clear
5	Longitude	: 84°36'8.99"E	6	Latitude	: 23°32'13.12"N

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	36	60 (24lyrs)
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2): 2001; RA2022	8.4	80 (24hrs)
Nîtrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part-6): 2006; RA2022	22.8	80 (24hrs)
Ozone (O ₃)	µg/m³	1S 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs):
Ammonia (NH ₃)	μg/m ²	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 ⁸	IS 5182 (Part-22): 2004; RA2019	0.010	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/03	<2.0	06 (Annual)

****End of Report****

Reviewed by

Authorized Signatory

Dr. Deependra Kumar Sinha

Page 1 of 1 Figs Distribution mental Engg

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

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TEST REPORT

Test Report No.	: ELES/RNC/2023/2015	Report Release Date	: 12,06,2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS			
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1442 : Near Mine Quarry No-M4 Pakhar (15,58 ha) Bauxite Mine		
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 09.04,2023 to 10.04,2023 : 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	TEOROLOGICAL INFOR	MATION			-0.0
1	Average Temperature (°C)	: 33	2.	Barometric Pressure (mmlfg)	: 739
3	Relative Humidity (%)	: 60	4	Weather Condition	: Clear
5	Longitude	: 84°36'8.99"E	6	Latitude	: 23°32'13.12"N

Discipline	: Chemical	Group : Atmospheric Pollution				
Parameter	Unit	Test Protacol	Result	Regulatory Limit		
Benzene*	ug/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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Dr. Deependra Kumar Sinha Ph. D. Environmental Edgg-ELES Pvt. Ltd. Technical Manage

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PLOTING-SO, MANEAROVAR ENGLAVE, YUPMDANA HATTA RANCHI-ESRORE (HARKHAND) GST NO. "DNAECESTISDISI



Emnil: http:@elest) co.la., eles ramfol@ymail.ccm Phane na.: 0651-2290103 Visbalte : worw.elespi.co.la



TEST REPORT

Test Report No.	: ELES/RNC/2023/1936	Report Release Date	1 12:06.2623
Work Order No.	: 13612310218	Work Order Date	: 21,04,2023
ULR No.	; TC883923000000897F		

CUSTOMER DETA	ULS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2023/AA/1363
		Location	: Near Bunglapart Village
		1.37.37.31	Pakhar Bauxite Mine
Address	: Lohardage, Thankhand-835302	Sampling Date	: 19.04.2023 to 20.04.2023
		Sample Received Date	: 10.05.2023
		Type of Sample	: 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	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 33	2	Barometric Pressure (mm	Hg) : 743
3	Relative Humidity (%) : 61	- 40	Weather Condition	: Clear

NABL Accredited					
Discipline :	Discipline : Chemical Group				
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	ng/m³	1S 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 (Part-2): 2001; RA2022	7.9	80 (24hrs)	
Nitrogen Di-Oxide (NO ₅)	μg/m³	1S 5182 (Part-6): 2006; RA2022	14.4	80 (24hrs)	
Ozone (O _s)	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/m ³	IS \$182 (Part-16): 1999; RA2019	<1.0	2 (Shrs)	
Lead (Pb)	µg/m³	IS 5182 (Part-22); 2004; RA2019	<0.802	1 (24hrs)	
Nickel (Ni)	ngha	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m²	ELES/AIR/SOP/01	<2.0	06 (Annual)	

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Page 1 of 1

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FLOT NO-30, MANSAROWAR ENCLAYE, TUPUDANA HATIA, RANCHI-634003 (HARKHAND) GST NOL 20A460697130154 ENGINEERING SERVICES PUT. LTD.

Email: Info@elespl.co.lit | elestranchi@email.com Phone not: 0651-2290105 Website: www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/1936	Report Release Date	: 12.06.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	Hindaleo Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1363 : Near Bunglapart Village Pakhar Bauxite Mine
Address	: Lohardaga, Tharkhand-835302	Sampling Date Sample Received Date	; 19,04,2023 to 20,04,2023 ; 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	: Seafed & Preserved

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 33	2	Barometric Pressure (mm	Hg) :743
3	Relative Humidity (%) : 61	9	Weather Condition	; Clear

Discipline : Chemical		Group ; Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene ^{ss}	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	D1(Annual)		

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



*** End of Report ***

Dr. Desperiment Signatory
Ph. B. E. Wittenbessel (1993)

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Page 1 of 1

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PCOT NO. 20, MANSAROVAR EMILAYE, TUPLOANA NATIA, RANCIMESADOS (INAKKHANO) GST NO: 20AABQE9713D121



Phone to:: 0461-2288103 Website I wownielego.co.in



CIV-D749999H2018F70011125

TEST REPORT

Test Report No.	: ELES/RNC/2023/1937	Report Release Date	: 12.06.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000000898F			-

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalea Industries Limited	Sample Ref. No. Location.	: ELES/RNC/2023/AA/1364 : Yatri Shed (Near K-10) Pakhar Bauxite Mine
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 19.04.2023 to 20.04.2023 : 10.05.2023 : Ambient Air
Plant Status	: Operational	Sample Drawn By	: ELES/DOC/SMPL/02
Period of Analysis	: 10.05.2023 to 08.86.2023.	Sample Condition	: Sealed & Preserved

M.	ETEOROLOGICAL INFO	MATION			
1	Average Temperature (°C)	: 33	2	Barometric Pressure (mm)	lg) : 743
3	Relative Humidity (%)	561	4.	Weather Condition	Clear

NABL Accredited						
Discipline :	Discipline : Chemical Group					
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	36	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2); 2001; RA2022	10.2	80 (24hrs)		
Nitrogen Di-Oxide (NO ₁)	µg/m³	IS 5182 (Part-6): 2006; RA2022	17.6	80 (24hrs)		
Ozone (Oz)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	160 (8hrs)		
Ammonia (NH _±)	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)	ug/m²	IS 5182 (Part-22); 2004; RA2019	0.012	1 (24hrs)		
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenie (As)	ng/in ³	ELES/AIR/SOP/01	<2.0	06 (Annual)		

Reviewed by

****End of Report****

Authorized Signatory

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Page 1 of 1

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PLOT NO-30, MANSARDIVAR EHCLAVE, TUPLIDANA HATIA, HANCHI-\$34009 (IHARKHAND) GST NO:- 20A4ECE9713DIZA

ENGINEERING SERVICES PTT. LTD.

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TEST REPORT

Test Report No.	: ELES/RNC/2023/1937	Report Release Date	: 12.06.2923	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	VILS	SAMPLE DETAILS	
Customer Name	: Hindaleo Industries Limited	Sample Ref. No. Location	: BLES/RNC/2023/AA/1364 : Yatri Shed (Near K-10) Pakhar Bauxite Mine
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 19.04.2023 to 20.04.2023 : 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	TEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 33	2.	Barometric Pressure (mm)	Hg) :743
3	Relative Humidity (%)	: 61	4	Weather Condition	Clear

Discipline	: Chemical	Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatery Limit		
Benzene"	ug/m³	IS:5182 (part-11): 2006;RA2017	<1.0	05(Annual)		
Benzo (a) Pyrene ^a	- ng/m³	IS:5182 (Part-12)::2004;RA2019	<6.5	01(Annual)		

Remarks: (4)-Parameters are notsourced to other Lab



****End of Report****

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Dr. Dean India Value Status Ph. D. Environment Enge-ELES Pyr. Ltd. Technical Manager

Page 1 of 1

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TEST REPORT

Test Report No.	; ELES/RNC/2023/1938	Report Release Date	: 12,06,2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000000899F		

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name Address	: IfIndalco Industries Limited	Sample Ref. No. Location	ELES/RNC/2023/AA/1365 Near Ulkarmit Rajkiya Prathmik Vidyalaya Bunglapart Village	
Audress	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	Pakhar Bauxite Mine : 19.04.2023 to 20.04.2023 : 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	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 33	2.	Barometric Pressure (mm	Hg) : 743
3	Relative Humidity (%) : 61	4	Weather Condition	: Clear

NABL Accredited					
Discipline :	Discipline : Chemical Group				
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part-23): 2006; RA2022	58	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	29	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	6.3	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS-5182 (Part-6): 2006; RA2022	13.4	80 (24hrs)	
Ozone (O1)	µg/m³	15 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₂)	µg/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)	µg/m³	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/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

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****End of Report****

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Page 1 of 1 Ph. D. Marrier Track more Mana

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PLOT NG-30, MANSAROVAR É/ICLAVE, TUPUDAHA HATIA, RANGHESSOOS (MARIEMAND) GST NO.-104466551110114

MIGUNERING SERVICES OF THE

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TEST REPORT

Test Report No.	: ELES/RNC/2023/1938	Report Release Date	: 12,06,2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name	: Flindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1365 Near Utkarmit Rajkiya Prathmik Vidyalaya Bunglapart Village
Address	t Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	Pakhar Bauxite Mine : 19.04.2023 to 20.04.2023 : 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)	: 33	2	Barometric Pressure (mm	Hg) : 743	
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	Ø5(Annual)		
Benzo (a) Pyrene ⁶	ng/m³	IS:5182 (Part-12), 2004;RA2019	< 0.5	01(Annual)		

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

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Dr. Deeper Ph.D. Environment & Engli ELES Pvi. Plat Technical Manager

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environmental laboratorie

PLOT NO 30, MANSAROUNG ENCLAVE TUPLIDANA HATIA, RANCHOSSAUGS / JHARKMANUS SST NO:- EDAAECESTLEDIT



Emislin Infla@eiespl.co.in , wies.co.co.il@occoll.com Phone no.: 0651-2290103 Website : www.alaspi.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2023/1939	Report Release Date	: 12.06.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000009900F		

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name Address	: Hindaico Industries Eimited - Lohardaga, Jharkhand-835302	Sample Ref. No. Location	: ELES/RNC/2023/AA/1366 Near Utkarmit Rajkiya Prathmik Vidyalaya Dumrapart Village Pakhar Bauxite Mine
Plant Status	: Operational	Sampling Date Sample Received Date Type of Sample Sample Drawn By	19.04.2023 to 20.04.2023 . 10.05.2023 . Ambient Air : ELES/DOC/SMPE/02
Period of Analysis	: 10:05,2023 to 08,06:2023	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	233	2	Barometric Pressure (mm	Hg) ; 743
3	Relative Humidity (%)	a 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	66	100 (24hrs)
Particulate Matter (PM2.5)	μg/m ²	IS 5182 (Pert- 24): 2019	34	60 (24hrs)
Sniphur Di-Oxide (SO ₂)	ug/m³	IS 5182 (Part-2): 2001; RA2022	7.3	80 (24hrs)
Nitrogen Di-Oxide (NOz)	μg/m ¹	IS 5182 (Part-6): 2006; RA2022	13.5	80 (24hrs)
Ozone (O ₃)	ng/m²	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m ^a	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ⁵	IS 5182 (Pan-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m)	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)

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****End of Report****

Page 1 of 1

Page 1 of 1

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TEST REPORT

Test Report No.	: ELES/RNC/2023/1939	Report Release Date	: 12.06.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AHLS	SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location	: ELES/RNC/2023/AA/1366 : Near Utkarmit Rajkiya Prathmik Vidyalaya Dunmapart Village Pakhar Bauxite Mine	
Plant Status	: Operational	Sampling Date Sample Received Date Type of Sample Sample Drawn By	: 19.04.2023 to 20.04.2023 : 10.05.2023 : 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)	: 33.	2	Barometric Pressure (mmHg)	: 743
3	Relative Humidity (%)	(6)	4	Weather Condition	: Clear

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)	
Benzu (a) Pyrene ⁶	ng/m³	IS:5182 (Part-12); 2004;RA2019	< 0.5	01(Annual)	

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



****End of Report****

Anthorized Signatory

Dr. Die Breat II a Norman Sinhia
Ph. Dr. Environment at Engly
B-89 For Ltd. Technical Manager

Page 1 of 1

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ENGINEERING SERVICES PER. LTD.

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

TEST REPORT

Test Report No.	: ELES/RAN/2023/0510	Report Release Date	: 06.05.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RAN/2023/DW/0395 : 15.04.2023 : 26.04.2023	
Address	: Lohardaga, Jharkhand-835302	Type of Sample Source/Location of Sample	Drinking Water Near Mine Office Pakhar (15.58 ha) Bauxite Mine	
Mines Status	: Non Operational	Sampling Procedure Sample Collected By	: ELES/DOC/SMPL/01 : ELES Pyt. Ltd.	
Period of Analysis	: 26.04.2023 to 05.05,2023	Sample Condition	Sealed & Preserved	

Discipline : Chem	ical	Group : Water	r		tory Limit 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit	
pH (at 25.3 °C)	-	APHA 23 rd Ed:2017, 4500-H	6.76	6.5-8.5	No Relaxation	
Turbidity	NTU	APHA 23rd Ed.2017, 2130 B	0.38	1.0	5.0	
Taste	12-	APHA 23rd Ed.2017, 2160 C	Agreeable	Agrecable	Agrecable	
Odour	100	IS 3025 (Part-5) :2018	Agreeable	Agreeable	Agreeable	
Colour	Hazen	APHA 23 rd Ed.2017, 2120B&D	1.0	S	15	
Total Dissolved Solids (TDS)	mg/L	APHA 23 rd Ed.2017, 2540B,C&D	212	500	2000	
Chloride (as Cl)	mg/L	APHA 23 rd Ed.2017, 4500 CI B	28,6	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 ₁)	mg/L	APHA 23rd Ed.2017, 2320 B	78.8	200	600	
Total Hardness (as CaCO ₃)	mg/L	APHA 23 rd Ed.2017, 2340 C	82.6	200	600	
Sulphate (as SO ₄)	mg/L	APHA 23 rd Ed.2017, 4500 SO ₄ ⁻² -E	19.6	200	400	
Nitrate (as NO ₃)	mg/L	APHA 23 rd Ed.2017; 4500 NO ₃ -B	1.96	45	No Relaxation	
Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part-43):1992;RA2019	BDL (DL; 0,0005)	9.001	0.002	

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TEST REPORT

 Test Report No.
 : ELES/RAN/2023/0510
 Report Release Date
 : 06.05.2023

 Work Order No.
 : M&M/23-24/01
 Work Order Date
 : 31.03.2023

Discipl	ine : Che	mical Group: V	Vater		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 23th Ed.2017, 3500 Ca B	21.8	75	200
Discipl	ine: Che	mical Group	: Residues in	Water	
Aluminum (as Al)	mg/L	IS 3025 (Part-55). 2003; RA2019	BDL (DL: 0.02)	0.03	0.2
Arsenic (as As)	mg/L	IS 3025 (Part 37): 2022	BDL (DL: 0.005)	0.01	No Rejaxation
Boron (as B)	mg/L	1\$ 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 23th Ed.2017, 3111B	0.386	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: L. pH & RFC done at Lab.

Page 2 of 4

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

TEST REPORT

Test Report No.	: ELES/RAN/2023/0510	Report Release Date	: 06.05.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31,03,2023	

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/1_	APHA	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	АРНА	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	АРНА	BDL (DL: 0.5)	1	
Endosulfan (alpha, beta, and sulphate)*	µg/L	АРНА	BDL (DL: 0.1)	0.4	
Ethion*	μg/L	АРНА	BDL (DL: 0.5)	3	
Gamma HCH (Lindane)*	µg/L	APHA	BDL (DL: 0.5)	2	
Isoproturon*	µg/L	АРНА	BDL (DL: 0.5)	9.	

Page 3 of 4

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

TEST REPORT

Test Report No.	: ELES/RAN/2023/0510	Report Release Date	: 06.05.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023

Discipline : Biological		Group: 1	Water	Regulatory Lim as per IS 10500:20	
Parameter Unit		Test Protocol	Result	Acceptable Limit	Permissible Limit
Total Coliform	Per 100 mL	IS 15185:2016; RA 2021	Not Detected	Chall set	be detected
Escherichia Coli (E. Coli)	Per 100 mL	IS 15185:2016; RA 2021	Not Detected	Shan not	be detected
Discipline :	Chemical	Group:	Water	The second secon	ory Limit 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 23rd 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.

Reviewed like

****End of Report****

Rokkia Maxeria
Authorised Signatory
Rekha Saxena
B. Sc. M. Sc. (Botany)
Director
ELES Pvt. Ltd.

Page 4 of 4

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

ENGINEERING SERVICES PUT, LTD.

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

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10-4039

TEST REPORT

Test Report No.	: ELES/RNC/2023/2343	Report Release Date	: 01.07.2023
Work Order No.	: M&M/23-24/01	Work Order Date	; 31.03.2023
ULR No.	: TC883923000001265F		

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1816 : Near Mine Office Pakhar (15.58 ha) Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 21.05.2023 to 22.05.2023 : 06.06.2023	
Piant Status	: Operational	Type of Sample Sample Drawn By	: Ambient Air ELES/DOC/SMPL/02	
Period of Analysis	: 06.06,2023 to 07.06,2023	Sample Condition	: Scaled & Preserved	

M	ETEOROLOGICAL INFO	RMATION			
L	Average Temperature (°C)	: 36	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 58	-4	Weather Condition	: Clear
5	Longitude	: 84°36'36.29°E	6	Latitude	: 23°32'24.04°N

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	57	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	31	60 (24hrs)
Sulphur Di-Oxide (SO ₅)	μg/m ³	IS 5182 (Part-2): 2001; RA2022	6.3	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part-6): 2006; RA2022	22.6	80 (24hrs).
Ozone (O ₃)	µg/m³	IS \$182 (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	0.013	1 (24hrs)
Nickel (Ni)	ng/m ^X	IS 5182 (Part-26):2020	<6.0	20 (Anoual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)

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****End of Report****

Authorized Signatory

Dr. Deependra Kumar Sinha

Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/2343	Report Release Date	: 01.07.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1816 : Near Mine Office Pakhar (15.58 ha) Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 21.05.2023 to 22.05.2023 : 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 07.06.2023	Sample Condition	; Sealed & Preserved	

1	Average Temperature (°C)	:36	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 58	4	Weather Condition	:: Clear
5	Longitude	: 84°36'36.29"E	6	Latitude	: 23°32'24.04"N

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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****End of Report****

Authorized Signatory

Or. Deependra Kulmar Sinha
Ph. D. Environmental Engg.
ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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TC-8839

TEST REPORT

Test Report No.	: ELES/RNC/2023/2344	Report Release Date	: 01.07.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31,03,2023
ULR No,	: TC883923000001266F		

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1817 : Near Weigh Bridge Pakhar (15,58 ha) Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 21.05.2023 to 22.05.2023 : 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 07.06.2023	Sample Condition	Scaled & Preserved	

M	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 36	2	Barometric Pressure (mmHg)	: 739-
3	Relative Humidity (%)	: 58		Weather Condition	: Clear
5	Longitude	: 84°36'34,50"E	6	Latitude	: 23°32'26.21"N

Discipline :	Chemical	Group	Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	64	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	(\$ 5182 (Part- 24); 2019	35	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	10.8	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part-6): 2006; RA2022	22.5	80 (24hrs)
Ozone (O ₃)	μg/m [®]	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	0.011	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)

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****End of Report****

Authorized Signatory Dr. Deependra Kumar Sinha

Ph. D. Environmental Engg.

Page 1 of 1

ELES Put. Ltd. Technical Manager

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TEST REPORT

Test Report No.	: ELES/RNC/2023/2344	Report Release Date	: 01.07.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1817 : Near Weigh Bridge Pakhar (15.58 ha) Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 21.05.2023 to 22.05.2023	
Plant Status	: Operational	Sample Received Date Type of Sample Sample Drawn By	: 06.06.2023 : Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 06.06.2023 to 07.06,2023	Sample Condition	: Sealed & Preserved	

1	Average Temperature (°C)	: 36	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 58	4	Weather Condition	: Clear
5	Longitude	: 84°36'34.50"E	6	Latitude	: 23°32'26.21"N

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. Die ependra Kurnar Sinha Ph. D. Environmental Engg. ELES Pvt. Ltd. Technical Manager

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

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



TEST REPORT

Test Report No.	; ELES/RNC/2023/2345	Report Release Date	: 01.07.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023
ULR No.	: TC883923000001267F		

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1818 : Near Mine Quarry No- M1 Pakhar (15.58 ha) Bauxite Mine	
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 21.05.2023 to 22.05.2023 : 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 07.06,2023	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 36	2	Barometric Pressure (mmHg)	- 739
3	Relative Humidity (%)	: 58	-4	Weather Condition	: Clear
5	Longitude	: 84°36'6.67"E	-	Latitude	: 23°32'9.19"N

Discipline :	Chemical	Group	Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	60	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	31	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	8.3	80 (24lus)
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part-6): 2006; RA2022	18.9	80 (24hrs)
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m³	IS 3182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22); 2004; RA2019	0.008	1 (24hrs)
Nickel (Ni)	ng/m²	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)



****End of Report****

Authorized Signatory Dr. Deependra Kumar Sinha

Page 1 of 1 ELES PVI. Ltd. Technical Manager
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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124 ENGINEERING SERVICES PVT, LTD.

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TEST REPORT

Test Report No.	: ELES/RNC/2023/2345	Report Release Date	: 01.07.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1818 : Near Mine Quarry No- M1 Pakhar (15,58 ha) Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	= 21.05.2023 to 22.05.2023 = 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 07.06.2023	Sample Condition	: Sealed & Preserved	

1	Average Temperature (°C)	136	2	Barometric Pressure (mmHg)	739
3	Relative Humidity (%)	: 58	4	Weather Condition	: Clear
3	Longitude	: 84°36'6,67"E	6	Latitude	: 23°32'9.19"N

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

Or. Deependra Kursiar Sinha
Ph. D. Environmental Sigg

ELES Pol. Ltd. Tochnical Manager

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834903 (JHARKHAND) GST NO:- 20A4ECE9713D124

ENGINEERING SERVICES PVT. LTD

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tc-sass

TEST REPORT

Test Report No.	: ELES/RNC/2023/2346	Report Release Date	: 01.07.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023
ULR No.	: TC883923000001268F	T SOLUTION TO THE ASSET	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1819 : Near Mine Quarry No-M4	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	Pakhar (15.58 ha) Bauxite Mine (21.05.2023 to 22.05.2023 (106.06.2023	
Plant Status	Operational	Type of Sample Sample Drawn By	: Ambient Air	
Period of Analysis	: 96,06,2023 to 97,06,2023	Sample Condition	: ELES/DOC/SMPL/02 : Sealed & Preserved	

Average T	emperature (°C)	:36	2	Barometric Pressure (mmHg)	- 720
	umidity (%)	: 58	4	Weather Condition	Clear
S Longitude		: 84°36'8.99"E	6	Latitude	: 23°32"13.12"N

Discipline :	Chemical	Group	: Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	57	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	29	60 (24hrs)
Sulphur Di-Oxide (SO ₁)	μg/m³	IS 5182 (Part-2): 2001; RA2022	6.2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	m/ga	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/m ³	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019.	0.008	I (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)

Reviewed by

****End of Report****

Authorized Signatory

Authorized Signatory Dr. Deependra Kumar Sinha

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

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

Website: www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/2346	Report Release Date	: 01.07.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1819 : Near Mine Quarry No-M4	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	Pakhar (15.58 ha) Bauxite Mine (21.05.2023 to 22.05.2023 (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 07,06,2023	Sample Condition	: Sealed & Preserved	

Mi	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	;36	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 58	4	Weather Condition	: Clear
5	Longitude	: 84°36'8.99"E	6	Latitude	: 23°32'13.12"N

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*	tig/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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TC-0635

TEST REPORT

Service Manager Manage	pa permanananana	Donast Daleans Natu	: 01.07.2023
Test Report No.	: ELES/RNC/2023/2267	Report Release Date	1.00120712020
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000001189F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	- Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2623/AA/1740 : Near Bunglapart Village Pakher Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	; 21,05,2023 to 22,05,2023 , 06,06,2023 ; Ambient Air	
Plant States	: Operational	Sample Drawn By	LELES/DOC/SMPL/02	
Period of Analysis	= 66.06.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION			
1 Average Temperature (°C) : 34	3	Barometric Pressure (mml	lg) : 743
3 Relative Humidity (%) : 59	4	Weather Condition	Clear

NABL Accredited				
Discipline :	Group	: Atmospheri	e Pollution	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Mutter (PM10)	#2/m3	IS 5182 (Part-23): 2006; RA2022	67	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	31	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	7.0	\$0 (24hrs)
Nitrogen Di-Oxide (NO ₁)	ug/m³	1S 5182 (Pan-6): 2006; RA2022	16.2	80 (24hrs)
Ozone (O ₅)	11g/m)	IS \$182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	pg/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)	ug/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/m³	ELES/AIR/SOP/01	<2.0	05 (Annual)



****End of Report****

Page 1 of 1

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PEOT NO-SO, REANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (THARKHAND) 631 NO:-20JASCEST 130174

ENGINEENING SERVICES PUT, LTD.

Emall: info@elespl.cb.in - clas-ranefil@amail.com Phone no : 0651-2250103

Website ; www.elespi.com

TEST REPORT

Test Report No.	: ELES/RNC/2023/2267	Report Release Date	: 01,07,2023
Work Order No.	: 13612319218	Work Order Date	: 21.04.2023

CUSTOMER DET	MLS	SAMPLE DETAILS			
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	ELES/RNC/2023/AA/1740 Near Bunglapart Village Pakhar Bauxite Mine		
Address	: Lohardaga, Iharkhand-835302	Sampling Date Sample Received Date Type of Sample	- 21.05.2023 to 22.05.2023 - 06.06.2023 - Ambient Air		
Plant Status	: Operational	Sample Drawn By	- ELES/DOC/SMPL/02		
Period of Analysis	; 06.06.2023 to 08.06.2023	Sample Condition	Sealed & Preserved		

ME	TEOROLOGICAL INFOR	MATION			
_	Average Temperature (°C)	-11-10-1	2	Barometric Pressure (mmHg)	: 743
	Relative Humidity (%)	: 59	4	Weather Condition	: Clear

Discipline	: Chemical	Group	Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit			
Benzene*	gg/m ²	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)			
Benzo (a) Pyrene ⁹	ng/m³	IS 5182 (Part-12)2004;RA2019	< 0.5	01(Annual)			

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

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Authorized Signatory
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Page 1 of 1

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TEST REPORT

Test Report No.	: ELES/RNC/2023/2268	Report Release Date	: 01.07.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	; TC883923000001190F			

CUSTOMER DET.	AIL5	SAMPLE DETAILS	
Customer Name	: Hindalco industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1747 : Yatri Shed (Near K-10) Pakhar Bauxite Mine
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 21.05.2023 to 22.05.2023 : 06.06.2023
Plant Status	: Operational	Type of Sample Sample Drawn By	: Ambient Air : ELES/LXXC/SMPL/02
Period of Analysis.	± 06.06:2023 to 08.06.2023,	Sample Condition	Scaled & Preserved

VII	ETEOROLOGICAL INFORMATION			
1.	Average Temperature (°C) : 34	2	Barometric Pressure (mmHg)	1.743
35	Relative Humidity (%) : 39	4	Weather Condition	: Clear

NABL Accredited				
Discipline:	Chemical	Group :	Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	18 5182 (Part-23): 2006; RA2022'	60	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	33.	60 (24hrs)
Sulphur Di-Oxide (SO ₁)	µg/m³	IS 5182 (Part-2): 2001; RA2022	7.6	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m ³	IS 5182 (Part-6): 2006; RA2022	14.2	80 (24hrs)
Ozone (O ₃)	ug/ar ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Antinonia (NH ₃)	ng/m	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)	ng/m ¹	IS 5182 (Part-22); 2004; RA2019	0.608	1 (24(ers)
Nickel (Ni)	ng/m²	TS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Amoust)



****End of Report****

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Authorized Signatory

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Page 1 of 1

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ENGINEERING SERVICES PAT. LTD.

Email: Info@eiesol.co.lp . eles ranchi@amail.com Phone no.: 6551-2290103

Website: unuvelagol ca.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/2268	Report Release Date	5 81.07.2023	
Work Order No.	: 13612319218	Work Order Date	: 21.04.2023	

CUSTOMER DET	AILS	SAMPLE DETAILS			
Customer Name	: Hindulco Industries Limited	Sample Ref. No. Location	ELES/RNC/2023/AA/1741 : Yauri Shed (Near K-10) Pakhar Bauxite Mine		
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	1 21.05.2023 to 22.05.2023 : 06.06.2023 : Ambient Air		
Plant Status) Operational	Type of Sample Sample Drawn By	ELES/DOC/SMPL/02		
Period of Analysis	: 06.06.2023 to 08.06.2023.	Sample Condition	Sealed & Preserved		

15	TEOROLOGICAL INFOR	MATION	1			
_	Average Temperature ("C)			2	Barometric Pressure (mml	lg) ; 743
-	Relative Humidity (%)	: 59		4	Weather Condition	: Clear

Discipline	: Chemicat	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	Ol(Annual)		

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



** End of Reporters

Authorized Signatory

Or. Deependra Kurtar Sinha

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Page 1 of 1

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PLOT NO-30: MANSAROVAR ENGLAVE TURUDANA ILATEA, REDICHERZHARTB (WATERIAME) BST NOV EGA ABCEST 130 ST4



Website : www.alexplico.in

Eximit religibility and the critical Surroll com Pirone no., :0651-2280203

TEST REPORT

Test Report No.	: ELES/RNC/2023/2269	Report Release Date	: 01.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000001191F		

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location	ELES/RNC/2023/AA/1742 Near Utkarmit Rajkiya Prathmik Vidyalaya Bunglapart Village Pakhar Bauxite Mine
Plant Status	: Operational	Sampling Date Sample Received Date Type of Sample Sample Drawn By	: 21.05,2023 to 22.05,2023 : 05.06,2023 : Ambient Air - ELES/DOC/SMPL/02
Period of Analysis	: 06.06.2023 to 08.06,2023	Sample Condition	Sealed & Preserved

TEOROLOGICAL INFORMATION			
Average Temperature (°C) : 34	2	Barometric Pressure (mmHg	9 743
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)	ug/m³	IS 5182 (Part-23): 2006; RA2022	54	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	(S 5182 (Pan- 24): 2019	26	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	5.7	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	TS 5182 (Part-6): 2006; RA2022	10.9	80 (24hrs)
Ozone (O ₅)	Hg/or	IS \$182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₁)	µg/m²	18:5182 (Part- 25): 2018	<30.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m	(S 5182 (Part-10): 1999; RA2019	<1.0	2 (Shrs)
Lead (Pb)	ag/m²	IS 5182 (Part+22): 2004; RA2019	<0.002	1 (24hss)
Nickel (Ni)	ng/m	IS 5182 (Part-26):2020	<6:0	20 (Annual)
Atsenic (As)	ng/m²	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by

"" End of Report ""

Dr. Deepehora Kumar Sinna

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Page 1 of 1 ELES PVL Ltd. Temporal Manager
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PLOT NO 39, MANSAROYAR ENCLAVE, TUPUDANA HATIA, RANCHASSIDOS (DIARRHARO) IST NO: 25AAEZESTISOSZA Email: Info@alespi.co.in . eles conchi@aniall.com

Phone no.: 6951-229(1103) Website: www.elegal.com

TEST REPORT

Test Report No.	: ELES/RNC/2023/2269	Report Release Date	: 01.07,2023
Work Order No.	: 13612310218	Work Order Date	1 21.04.2023

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindakee Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1742 : Near Utkarmit Rajkiya Prathmik Vidyalaya Bunglapart Village	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	Pakhar Bauxite Mine : 21.05.2023 to 22.05.2023 : 06.06.2023 : Ambient Air	
Plant Status	; Operational	Sample Drawn By	: ELES/DOC/SMPL/02	
Period of Analysis	= 06.06.2023 to 08.06.2023	Sample Condition	Sealed & Preserved	

ETEOROLOGICAL INFORMATION			
Average Temperature (°C) : 34	2	Barometric Pressure (mmi	lg) :743
Relative Humidity (%) 159	4	Weather Condition	: Clear

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

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



****End of Report***

Dr. Deependre Kunt 3

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Page 1 of 1

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TEST REPORT

Test Report No.	: ELES/RNC/2023/2270	Report Release Date	: 01.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000001192F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1743 : Near Utkarmit Rajkiya Prathmik Vidyalaya Dumrapurt Village	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	Pakhar Bauxite Mine : 21,05,2023 to 22,05,2023 : 06,06,2023 : Ambient Air	
Plant Status	; Operational	Sample Drawn By	: ELES/DOC/SMPL/02	
Period of Analysis	: 06.06.2023 to 08.06.2023	Sample Condition	Sealed & Preserved	

M	ETEOROLOGICAL INFORMATION				
1	Average Temperature (°C) : 34	. 2.	Barometric Pressure (mon	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/m ¹	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/m ³	(S 5182 (Part-2): 2001; RA2622	6,8	80 (24hrs)
Nitrogen Di-Oxide (NO ₁)	ug/m²	IS 5187 (Part-6): 2006; RA2022	11.9	80 (24hrs)
Ozone (O ₃)	µg/m ^T	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	og/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS \$182 (Part-10); 1999; RA2019	<1,0	2 (Shrs)
Lead (Ph)	ug/m³	1S 5182 (Part-22): 2004; RA2019	~0.002	i (24hts)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m?	ELES/AIR/SOP/01	<2.0	06 (Annual)

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****End of Report***

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Page 1 of 1

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PLOT NO 30, MANSAROVAR ENGLAVE TUPUDANA HATIA, RANCHI-934903 JIHARKHANDI BIT NO - DIRASCRITISIZA ENGINEERING SERVICES / VT. 110

Empall: <u>info@elesau.co.in</u> , eles ranchies amulicom! Phone na:: 0651-2290103 Website : www.elesau.co.in

TEST REPORT

Test Report No.	; ELES/RNC/2023/2270	Report Release Date	: 01.07.2023
Work Order No.	: 13612310218	Work Order Date	121.04.2023

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	1 Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1743 : Near Utkarmit Rajkiya Prathmik Vidyalaya Dumrapart Village	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	Pakhur Bauxite Mine : 21.05.2023 to 22.05.2023 : 06.06.2023 : Ambient Air	
Plant Status	: Operational	Sample Drawn By	: ELES/DOC/SMPL/02	
Period of Analysis	: 06.06.2023 to 08.06.2023	Sample Condition:	: Sealed & Preserved	

ME	TEOROLOGICAL INFORMATION			
_	Average Temperature (°C) : 34	2	Barometric Pressure (mm.	Hg) : 743
3	Relative Humidity (%) : 59	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*	ng/m ²	IS 5182 (Part-12)2004; RA2019	< 0.5	01(Annual)	

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



****End of Report****

Amhorized Signatory
Di. Deependra Kumar Sinha
Ph. D. Protonmenta EligaELES Protonmenta Eliga-

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2023/2827	Report Release Date	: 29.07.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	
ULR No.	: TC883923000001692F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2[59 : Near Mine Office Pakhar (15.58 ha) Bauxite Mine	
Address	(Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 18.06.2023 to 19.06.2023 : 26.06.2023 : Ambient Air	
Mines Status	: Non Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 26,06,2023 to 07,07,2023	Sample Condition	: Scaled & Preserved	

ETEOROLOGICAL INFO	RMATION			- 1/2
Average Temperature (°C)	; 33	2	Barometric Pressure (mmHg)	: 759
Relative Humidity (%)	: 59	4	Weather Condition	: Clear
Longitude	: 84°36'36.29"E	6	Latitude	23°32'24.04"N
	Average Temperature (°C) Relative Humidity (%)	Relative Humidity (%) : 59	Average Temperature (°C) : 33 2 Relative Humidity (%) : 59 4	Average Temperature (°C) : 33 2 Barometric Pressure (mmHg) Relative Humidity (%) : 59 4 Weather Condition

Discipline :	Chemical	Group : Atmospheric 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	27	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	7.6	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	25.1	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	0.009	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)	

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Ur. Deepengra 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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Website: www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/2827	Report Release Date	: 29.07.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	; 31.03.2023	

CUSTOMER DET.	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2159 : Near Mine Office Pakhar (15.58 ha) Bauxite Mine		
Address	Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	18.06.2023 to 19.06.2023 : 26.06.2023 : Ambient Air		
Mines Status	Non Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.		
Period of Analysis	: 26.06.2023 to 07.07.2023	Sample Condition	: Sealed & Preserved		

ī	Average Temperature (°C)	- 33	2	Barometric Pressure (mmHg)	759
3	Relative Humidity (%)	: 59		Weather Condition	: Clear
5	Longitude	: 84°36'36.29"E	6	Latitude	: 23°32'24.04"N

Discipline : Chemical		Group	c Pollution	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	µg/m³	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annoal)
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

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

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TEST REPORT

Test Report No.	: ELES/RNC/2023/2828	Report Release Date	: 29.07.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31,03.2023
UER No.	: TC883923000001693F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2160 : Near Weigh Bridge Pakhar (15.58 ha) Bauxite Mine	
Address	: 1.ohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 18.06.2023 to 19.06.2023 : 26.06.2023 : Ambient Air	
Mines Status	Non Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 26,06,2023 to 07.07.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION			1787
1	Average Temperature (°C)	: 33	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear
5	Longitude	- 84°36'34,50"E	6	Latitude	: 23°32'26.21"N

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	69	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	40	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	13.1	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part-6): 2006; RA2022	25.3	80 (24hrs)
Ozone (O ₅)	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	0.015	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****

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Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D. Environmental Engg.

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

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

Website: www.elespi.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/2828	Report Release Date	: 29.07.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2160 : Near Weigh Bridge Pakhar (15.58 ha) Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 18.06.2023 to 19.06.2023 : 26.06,2023 : Ambient Air	
Mines Status	: Non Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 26,06,2023 to 07.07,2023	Sample Condition	: Scaled & Preserved	

11	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (%C)	: 33	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	159	4	Weather Condition	Clear
5	Longitude	: 84°36'34.50"E	6	Latitude	: 23°32'26.21"N

Discipline	: Chemical	Group	: Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	ug/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.



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



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TEST REPORT

Test Report No.	: ELES/RNC/2023/2829	Report Release Date	: 29.07.2023	
Work Order No.	; M&M/23-24/01	Work Order Date	: 31.03.2023	
ULR No.	; TC883923000001694F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2161 : Near Mine Quarry No- M1 Pakhar (15,58 ha) Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 18.06.2023 to 19.06.2023 : 26.06.2023	
Mines Status	; Non Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 26.06.2023 to 07.07.2023	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFOR	RMATION		Control of the Contro	
1	Average Temperature (°C)	: 33	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	; 59	4	Weather Condition	: Clear
5	Longitude	.: 84°36'6.67"E	6	Latitude	: 23°32'9.19"N

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	27	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	17.2	80 (24hrs)		
Ozone (O ₃)	µg/m³	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/m³	IS 5182 (Part-10); 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	ug/m³	IS 5182 (Part-22): 2004; RA2019	0.005	1 (24hrs)		
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)		

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****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

Environmental Engg

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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/2023/2829	Report Release Date	: 29.07.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31,03.2023

CUSTOMER DETA	AILS	SAMPLE DETAILS	Victoria de la compansión de la compansi
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	(ELES/RNC/2023/AA/2161 Near Mine Quarry No- M1 Pakhar (15.58 ha) Bauxite Mine
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 18.06.2023 to 19.06.2023 : 26.06.2023 : Ambient Air
Mines Status	: Non Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 26.06.2023 to 07.07.2023	Sample Condition	: Sealed & Preserved

Y.	Average Temperature (°C)	: 33	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear
5	Longitude	: 84°36'6.67"E	6	Latitude	; 23°32'9.19"N

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

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

Reviewed/by

N_

****End of Report****

Sinhon

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

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

ENGINEERING MENVICES PIT. LTM

Email: info@elaspl.co.in , des renthi@gmail.com

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



TEST REPORT

Test Report No.	: ELES/RNC/2023/2830	Report Release Date	: 29.07.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023
ULR No.	: TC883923000001695F		

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	- ELES/RNC/2023/AA/2162 : Near Mine Quarry No-M4 Pakhar (15.58 ha) Bauxite Mine	
Address Mines Status	: Lohardaga, Jharkhand-835302 : Non Operational	Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	; 18.06.2023 to 19.06.2023 ; 26.06.2023 ; Ambient Air ; ELES/DOC/SMPL/02 ; ELES Pvt. Ltd.	
Period of Analysis	: 26.06.2023 to 07.07.2023	Sample Condition	: Sealed & Preserved	

1	Average Temperature (°C)	133	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	; 59	4	Weather Condition	: Clear
5	Longitude	: 84°36'8,99"E	6	Latitude	(23°32'13.12"N

Discipline :	Chemical	Group :	Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23); 2006; RA2022	50	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	26	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	5.7	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	1S 5182 (Part-6): 2006; RA2022	19.5	80 (24hrs)
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₂)	µg/m¹	IS 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	0,005	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)

****End of Report****

Reviewed by

Authorised Signatory Deependra Kumar Sinha

Page 1 of 1 ELES Pvt. Ltd. Technical Manager
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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE97130124

ENGINEERING SERVICES PVT, LTD.

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/2830	Report Release Date	: 29.07.2023
Work Order No.	; M&M/23-24/01	Work Order Date	; 31.03.2023

CUSTOMER DETA	AILS	SAMPLE DETAILS	Acres and the American Street Control
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2162 : Near Mine Quarry No-M4 Pakhar (15.58 ha) Bauxite Mine
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 18.06.2023 to 19.06.2023 : 26.06.2023 : Ambient Air
Mines Status	: Non Operational	Type of Sample Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 26.06.2023 to 07.07.2023	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFOR	MATION	G- 10		
1	Average Temperature (°C)	: 33	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	1 59	4	Weather Condition	: Clear
5	Longitude	: 84°36'8.99"E	6	Latitude	: 23°32'13.12"N

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 Kumar Sinha Ph. D. Environmental Engg. ELES Put Ltd. Technical Manager

Page 1 of 1

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BLOT NO-30, MANSAROVAR SAVILAND, TURNOWNA NATIA EAUCHI-834003 UMARKHANIO 657 NO: 104 ASCERTISONS

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Websitz www.elerol.could



TEST REPORT

Test Report No.	: ELES/RNC/2023/2823	Report Release Date	: 29.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923600001688F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2155 : Near Bunglapart Village Pakhar Bauxite Mine	
Address	Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 17.06.2023 to 18.06.2023 : 26,06.2023 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sample Drawn By	: ELES Pvt. Ltd.	
Period of Analysis	26.06.2023 to 06.07.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) 32	2	Barometric Pressure (mmHg	3) 739
3	Relative Humidity (%) : 59	4	Weather Condition	; Clear

Discipline : Chemical Group : At					
Unit	Test Protocol	Result	Regulatory Limit		
μg/m³	IS 5282 (Part-23): 2006; RA2022	62	100 (24hrs)		
µg/m³	IS 5182 (Past- 24); 2019	33	60 (24hrs)		
µg/m³	IS 5182 (Part-2); 2001; RA2022	7.4	80 (24hrs)		
µg/m³	1S 5182 (Part-6): 2006; RA2022	18.5	80 (24hrs)		
µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)		
µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
µg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	(24hrs)		
ng/tn ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)		
	Unit µg/m³ µg/m³ µg/m³ µg/m³ µg/m³ µg/m³ µg/m³ ng/m³	Unit Test Protocol μg/m ⁵ IS 5182 (Part-23): 2006; RA2022 μg/m ³ IS 5182 (Part-24); 2019 μg/m ³ IS 5182 (Part-2); 2001; RA2022 μg/m ³ IS 5182 (Part-6): 2006; RA2022 μg/m ⁵ IS 5182 (Part-6): 1974; RA2019 μg/m ⁵ IS 5182 (Part-25): 2018 mg/m ³ IS 5182 (Part-10): 1999; RA2019 μg/m ³ IS 5182 (Part-10): 1999; RA2019 μg/m ³ IS 5182 (Part-22): 2004; RA2019 ng/m ³ IS 5182 (Part-22): 2004; RA2019	Unit Test Protocol Result μg/m³ IS 5182 (Part-23): 2006; RA2022 62 μg/m³ IS 5182 (Part-24); 2019 33 μg/m³ IS 5182 (Part-2): 2001; RA2022 7.4 μg/m³ IS 5182 (Part-6): 2006; RA2022 18.5 μg/m³ IS 5182 (Part-6): 1974; RA2019 <20.0		

Reviewed by

**** End of Report****

Authorised Signatory
Leependra Kumar Sinna
Ph. D. Environmental Enco.
PLES Pvi. Ltd. Technical Manager

Page 1 of 1

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Emall Info@elespi.co.in eles.ranchi@gmull.can. Phone no.: 0651-2290103 Website : www.elespi.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/2823	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/2155 : Near Bunglapart Village Pakhar Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 17.06.2023 to 18.06.2023 : 26.06.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 26.06.2023 to 06.07.2023	Sample Condition	: Sealed & Preserved	

į	TEOROLOGICAL INFORMATION			
-	Average Temperature (°C) : 32	2	Barometric Pressure (mm	Hg) : 739
Ē	Relative Humidity (%) ; 59	4	Weather Condition	: Clear

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter Unit		Test Protocol	Result	Regulatory Limit
Benzene*	jig/m ³	IS:5182 (Part-II): 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.

Reviewed/by

*** End of Report****

Auditorised Signatory Or. Deependra Kumar

Jr. Deependra Kumar Sinha Pn D. Environmental Engg. ELES Pvr. Ero. Technical Manager

Page 1 of 1

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PLOT NO-36, NANSARGVAR ENCLAVE, TUPUDANA-HATIA, NANCHI-854003 (CHAPKHAND) GST NO-20AGEED7110124

ENGINEERING SERVICES PUT L'EG

Email: igja@elessl.cg.in , elesstantril@amoil.com Phane mi. : 0651-2290103 Wessire : www.elessi.ca.in



TEST REPORT

Test Report No.	: ELES/RNC/2023/2824	Report Release Date	: 29.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000001689F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	; Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2156 : Yatri Shed (Near K-10) Pakhar Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 18.06.2023 to 19.06.2023 : 26.06.2023 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES Pvt. Ltd. : Sealed & Preserved	
Period of Analysis	: 26.06.2023 to 06.07.2023	Sample Condition	: Sealed & Preserved	

ometric Pressure (mmHg) : 739 ather Condition : Clear

NABL Accredited	Chamical	Group :	Atmospheri	c Pollution
Discipline : Chemical Parameter Unit		Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS-5182 (Part-23): 2006; RA2022	57	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	(S 5182 (Part- 24): 2019:	31	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	[S 5182 (Part-2): 2001; RA2022	8.3	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part-6): 2006; RA2022	16.8	80 (24hrs)
Ozone (O _s)	µg/m³	15 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₁)	ug/m³	IS 5182 (Part- 25): 2018	<19.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Ph)	ag/m²	IS 5182 (Pan-22): 2004; RA2019	0.005	I (24hrs)
Nickel (Ni)	ng/m²	1S 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)

****End of Report***

Reviewed by

Amhorised Signatory

Jr. Deependra Kumar Sinha

Ph. D. Environmental Engg.

Page 1 of 1

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Specifical Communication of the Communication of th



RLOT NO 30 MANSAROVAR ENCLAVE. TURVIDANA HATTA, RANDIN-234003 (HARKHAND) 697-NO - 2044RED (2018)

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Wealtre : www.elesacco.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/2824	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/2156 : Yatri Shed (Near K-10) Pakhar Bauxite Mine	
Address		Sampling Date Sample Received Date Type of Sample	: 18.96.2023 to 19.06.2023 : 26.96.2023 : Ambient Air : ELES/DOC/SMPI/02 : ELES Pvt. Ltd.	
Mines Status		Sampling Procedure Sample Drawn By		
Period of Analysis	: 26.06.2023 to 06.07.2023	Sample Condition	: Sealed & Preserved	

VII	TEOROLOGICAL INFORMATION			
L	Average Temperature (°C) : 33	1.2	Barometric Pressure (mm	Hg) : 739
	Relative Humidity (%) : 59	4	Weather Condition	: Clear

Discipline	: Chemical	Group : Atmospheric Pollution			
Parameter Unit		Test Protocol	Result	Regulatory Limit	
Benzene*	µg/m³	IS;S182 (Part-11): 2006;RA2017	<1.0	05(Annual)	
Benzo (a) Pyréne ⁶	ng/m³	IS:5182 (Part-12): 2004;RA2019	< 0.5	01(Annual)	

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

Reviewed b

****End of Report****

Authorised Signatory

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

ELES Pvi. Lio. Technical Manager

Page 1 of 1

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PLOT NO-19, MANSKRÜNGR BNICLAVE, TURNDANA KAYIA, ISANGH BERRÜL (IMARKHAND) IST NON MARKENDIZE

ENGINEERING SERVICES PUT LTD

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TEST REPORT

Test Report No.	; ELES/RNC/2023/2825	Report Release Date	: 29.07.2023	
Work Order No.	: 13612310218	Work Order Date	121,04.2023	
ULR No.	: TC883923000001690F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindako Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2157 : Near Utkarmit Rajkiya Prathmi Vidyalaya Bunglapart Village	
Address Mines Status	: Lohardaga, Jharkhand-835302 : Operational : 26.06.2023 to 06.07.2023	Sampling Date Sample Received Date Type of Sample Sampling Procedure	Pakhar Bauxite Mine : 17.06.2023 to 18.06.2023 : 26.06.2023 : Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis		Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 32	2	Barometric Pressure (mmHg	() : 739/
3	Relative Humidity (%) 1.59	- 4	Weather Condition	: Clear

NABL Accredited Discipline :	Discipline : Chemical Group : /					
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-Z3): 2006; RA2022	-51	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24); 2019	25	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	µg/m³	(S 5182 (Part-2): 2001; RA2022	6.1	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	µg/m³	18 5182 (Part-6); 2006; RA2022	12.6	89 (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 (8)ms)		
Lead (Pb)	jig/m³	1S 5182 (Part-22): 2004; RA2019.	< 0.002	1 (24hrs)		
Nickel (Ni)	1/8/1013	IS 5182 (Part-26):2020	<6.0	20 (Ansual)		
Arsenic (As)	ng/m²	ELES/AIR/SOP/01	<2.0	06 (Annual)		

****End of Report****

TO THE

Reviewed by

Authorised Signatory nat Sinha

Ph. D. Environmental Engg. ELES DVI and reconfice Manager

Page 1 of 1

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FLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA RATIA, PANCHI-838003 (IRAGKHAND) SCT NO-20A460651210121 ENGINEERING SERVICES PVT. LTD.

Email: Info@elesol.co.in - cjes.tanchi@amail.com Phone no : 0651-2299103 Websitr : www.elesol.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/2825	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/2157 Near Utkarmit Rajkiya Pratlimik Vidyalaya Bunglapart Village Pakhar Bauxite Mine	
	: Eohardaga, Jharkhand-835302 : Operational	Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By Sample Condition	: 17.06.2023 to 18.06.2023 : 26.06.2023 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status			ELES Pv. Ltd.	
Period of Analysis	: 26.06.2023 to 06.07.2023		Sealed & Preserved	

VII	ETEOROLOGICAL INFORMATION			
1	Average Temperature (%C) 32	2	Barometric Pressure (mm)	Hg) : 739
3	Relative Humidity (%) : 59	14	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/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 Kumar Sinns
Ph. D. Environmental Engg.
St. Rs. Rvt. Ltd. Technical Manager

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MIGT NO-50, MATISAROVAR ENGLEVE, TUPLIDANA MATIL RENCH(23/00) (MARKHAND) GITNO-1MAT TENLEGIZA

ENGINEERING SERVICES PYT. 130

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Phone no.: 0651-2290103 Weissite I wasw.elespico in



Seconds.

TEST REPORT

Test Report No.	: ELES/RNC/2023/2826	Report Release Date	: 29.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	- TC883923000001691F		

CUSTOMER DETA	AILS	SAMPLE DETAILS	Color of annual Color of
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2158 : Near Utkarmit Rajkiya Prathmik Vidyalaya Dumrapart Village Pakhar Bauxite Mine
Address Mines Status	: Lohardaga, Jharkhand-835302 : Operational	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 18.06.2023 to 19.06.2023 : 26.06.2023 : Ambient Air : ELES/DOC/SMPD/02
Period of Analysis	: 26.06.2023 to 06.07.2023	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

METEOROLOGICAL INFORMATION			
1 Average Temperature (°C) : 33	2	Barometric Pressure (mmHg)	1739
3 Relative Humidity (%) : 59	- 4	Weather Condition	Clear

NABL Accredited					
Discipline :	Chemical	Group	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Marter (PM10)	µg/m²	IS 5182 (Part-23): 2006; RA2022	57	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	30	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	1S 5182 (Part-2); 2001; RA2022	7,4	80 (24hrs)	
Nitrogen Di-Oxida (NO ₂)	μg/m ¹	IS 5182 (Part-6); 2006; RA2022	10.5	80 (24hes)	
Ozone (O ₁)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NFL)	μg/m ²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	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	<3.0	06 (Annual)	

Reviewed by

****End of Report***

Authorised Signatory

Dr. Deependra Kumar Sinha

Phro. Environmentar Engl.

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PLOT NO-30, MAKSAROVAR ENCLAVE TUPLDANIA NATIA, RANCHESAGOS ((HARKHANO) GETNO: 204486597130184

ENGINEERING SERVICES PVT. LTD.

Emiali: Infa@etesph.co.in , eles ranchi@gmail cum Phone no.: 0651-2290103 Wessite : www.elesph.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/2826	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/2158 : Near Utkarmit Rajkiya Prathmik Vidyalaya Dumrapart Village Pakhar Baoxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	; 18.06.2023 to 19.06.2023 ; 26.06.2023 ; Ambient Air	
Mines Status	; Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02- : ELES PVL Ltd.	
Period of Analysis	: 26.06.2023 to 06.07.2023	Sample Condition	: Sealed & Preserved	

Y F	TEOROLOGICAL INFORM	IATION			
F	Average Temperature (°C)	33	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	59	4	Weather Condition	Clear

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

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

Reviewed by 0

End of Reportance

Authorised Signatory

.. Deependra Kumar Sinha en 5 Environmental Engg. ELES evi. Ltd. Technical Manage

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2023/2954	Report Release Date	: 08.08.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	
ULR No.	: TC883923000001801F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2625 Near Mine Office Pakhar (15.58 ha) Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 21.07.2023 to 22.07.2023 : 25.07.2023 : Ambient Air	
Mines Status	: Non Operational	Sampling Procedure Sample Drawn By	ELES/DOC/SMPL/02	
Period of Analysis	: 25:07.2023 to 03.08.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 27	2	Barometric Pressure (mmHg)	: 737
3	Relative Humidity (%)	: 65	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°36'36.29"E	6	Latitude	: 23°32'24.04"N

NABL Accredited			1				
Discipline :	Chemical	Group :	Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit			
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	48	100 (24hrs)			
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	23	60 (24hrs)			
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	5.9	80 (24hrs)			
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	20.4	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)	ug/m³	IS 5182 (Part-22): 2004; RA2019	0.005	1 (24ints)			
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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****End of Report****

Dr. Deependra Kumal Shina

Ph. D. Environmental Energ-ELES Pvt. Ltd. Technical Manager

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

ENGINEERING SERVICES PVT. LTD.

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

Website: www.elespi.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/2984	Report Release Date	: 08.08.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	; 31,03.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No Location	: ELES/RNC/2023/AA/2625 : Near Mine Office Pakhar (15,58 ha) Bauxite Mine	
Address	; Lohardaga, Markhand-835302	Sampling Date Sample Received Date	: 21.07.2023 to 22.07.2023 : 25.07.2023	
Mines Status	: Non Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 25.07.2023 to 03.08.2023	Sample Condition	: Sealed & Preserved	

MI	TEOROLOGICAL INFOR	MATION			- Otto Company
1	Average Temperature (°C)	127	2.	Barometric Pressure (mmHg)	: 737
3	Relative Humidity (%)	; 65	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°36'36.29°E	6	Latitude	: 23°32'24.04"N

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****

Dr. Deeperised Signators inha Ph. D. Environmental Engo ELES Pvl. Ltd. Technical Manager

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9733D124

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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/2023/2955	Report Release Date	: 08.08.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	. Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2626 : Near Weigh Bridge Pakhar (15,58 ha) Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 21.07.2023 to 22.07.2023 : 25.07.2023	
Mines Status	: Non Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 25.07.2023 to 03.08.2023	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFOI	RMATION			A VA
1 Average Temperature ("C)	: 27	2	Barometric Pressure (mmHg) : 737
3 Relative Humidity (%)	; 65	4	Weather Condition	: Partly Cloudy
5 Longitude	: 84°36'34:50"E	6	Latitude	: 23°32'26.21'N

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

****End of Report****

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

Page 1 of 1

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

ENCINEERING SERVICES FUT, LTD.

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TEST REPORT

Test Report No.	: ELES/RNC/2023/2956	Report Release Date	: 08.08.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023
ULR No.	: TC883923000001803F		

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2627 : Near Mine Quarry No- M1 Pakhar (15.58 ha) Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 21.07.2023 to 22.07.2023 : 25.07.2023 : Ambient Air	
Mines Status	: Non Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 25.07.2023 to 03.08.2023	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 27	2.	Barometric Pressure (mmHg)	: 737
3	Relative Humidity (%)	: 65	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°36'6.67"E	6	Latitude	: 23°32'9.19"N

NABL Accredited				
Discipline :	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 (Pari- 24): 2019	24	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	15.8	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part-9); 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ⁰	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	JS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22); 2004; RA2019	0.009	J (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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****End of Report****

Page 1 of 1

Authorised Signatory

Dr. Deependra Kumar Sinha

Page 1 of 1

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be dote within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Afterwantion used: N/A (Not Applicable), BDL (Below Detection Limit); LDL (Lawer Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/2956	Report Release Date	; 08.08.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023

CUSTOMER DET.	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	; Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2627 : Near Mine Quarry No- M1 Pakhar (15.58 ha) Bauxite Mine		
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 21,07,2023 to 22,07,2023 : 25,07,2023		
Mines Status	! Non Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.		
Period of Analysis	: 25.07.2023 to 03.08.2023	Sample Condition	: Sealed & Preserved		

MI	TEOROLOGICAL INFO	RMATION	7.00		
1	Average Temperature (°C)	: 27	2	Barometric Pressure (mmHg	: 737
3	Relative Humidity (%)	1.65	4	Weather Condition	: Partly Cloudy
3	Longitude	: 84°36'6.67"E	6	Latitude	: 23°32'9.19"N

Discipline : Chemical		Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene*	ug/m³	IS:5182 (Part-II); 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 b

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****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 (JHARKHAND) GST NO:-20AAECE9713D174



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

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



TEST REPORT

Test Report No.	; ELES/RNC/2023/2957	Report Release Date	: 08.08.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023
ULR No.	: TC883923000001804F		

CUSTOMER DETA	CILS	SAMPLE DETAILS	The second second
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2628 : Near Mine Quarry No-M4 Pakhar (15,58 ha) Bauxite Mine
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	+ 21.07.2023 to 22.07.2023 - 25.07.2023 - Ambient Air
Mines Status	: Non Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 25.07.2023 to 03.08.2023	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 27	2	Barometric Pressure (mmHg)	: 737
3	Relative Humidity (%)	: 65	4	Weather Condition	2 Partly Cloudy
5	Longitude	; 84°36'8,99"E	6	Latitude	: 23°32'13.12"N

NABL Accredited Discipline:	Chemical	Сговр :	Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	1S-5182 (Part-23); 2006; RA2022	46.	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part-24): 2019	23	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	1S 5182 (Part-2): 2001; RA2022	5,1	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	1S 5182 (Part-6): 2006; RA2022	15.4	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	<0.002	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****

Reviewedby

Authorised 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.

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/2023/2957	Report Release Date	: 08:08.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	; Minerals & Minerals Limited	Sample Ref. No. Location	ELES/RNC/2023/AA/2628 Near Mine Quarry No-M4 Pakhar (15,58 ha) Bauxite Mine	
Address	: Lohardaga, Jhurkhand-835302	Sampling Date Sample Received Date	21.07.2023 to 22.07.2023 25.07.2023	
Mines Status	: Non Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	25.07.2023 to 03.08.2023	Sample Condition	: Sealed & Preserved	

1	Average Temperature (°C)	: 27	2	Barometric Pressure (mmHg)	: 737
3	Relative Humidity (%)	: 65	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°36'8.99"E	6	Latitude	: 23°32'13.12"N

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 Kumar Sinha
Ph. D. Environmental Engly.
ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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PLOT NO 30, MANSARO VAR ENCLAVS, TURUDANA HAT!A RANCHI-854603 (HARKHANDI) GST NO. FOAAECES7130135

ENGINEERING SERVICES PVT. LTD.

Email: (nfg-Belgspi-code, elestapith/Egmail.com Phone no.: 0551 1290103 Weasite: www.elespl.co.in



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TEST REPORT

Test Report No.	: ELES/RNC/2023/2956	Report Release Date	: 08.08.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000001797F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2621 : Near Bunglapart Villago Pakaar Bauxite Mino	
Addrèss	: Lobardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 20.07.2023 to 21.07.2023 : 25.07.2023 : Ambiest Air : ELES/DOC/SMPL/02	
Wines Status	: Operational	Sample Drawn By	: ELES Pvt. Ltd.	
Period of Analysis	: 25:07.2023 to 02:08.2023	Sample Condition	: Sealed & Preserved	

IETEOROLOGICAL INFORMATION	
Average Temperature (°C) (28	2 Barometric Pressure (mmHg) : 738
Rélative Hunádity (%) : 64	4. Weather Condition : Partly Claudy

NABL Accredited Discipline	Chamical	Group	Atmospheri	e Pollution
Parameter Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m²	15:5182 (Part-23): 2006; RA2022	52	100 (24hrs)
Particulate Matter (PM2.5)	ug/m	IS 5182 (Part- 24): 2619	27	60 (24hrs)
Sulplan Di-Oxide (SO ₁)	gg/m ³	IS 5182 (Part-2): 2001; RA2022	6.2	80 (24tirs)
Nitrogen Di-Oxide (NO ₂)	ug/m ¹	(S 5182 (Part-6): 2006; RA2022	15.9	80 (24firs)
Ozone (Ox)	ug/m²	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (Nils)	pg/m³	18 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Menoxade (CO)	mg/m ³	IS 5182 (Part-10); 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	49/m²	(S 5182 (Part-22): 2004; RA2019	<0.002	1 (24%s)
Nickel (Ni)	ng/sil	18:5182 (Pen-26):2020	<6.0	20 (Annual)
Arsenic (As)	-ng/m²	ELES/AIR/SOP/01	<2.9	06 (Amount)



****End of Reports ***

Amhorised Signatory

Dr. Deegendra Kurgar Sinna Ph. S. Halling, Men mil Enga

Page 1 of 1 ELES Put. Ltd. Technical Manager
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PLOT NO-30, MANSAROVAR ENCLAVE TUPUDANA KATIA, RANCHI-834003 (IKARAHAND) GST NON- 20A A SCENT LED LZ

ENGINEERING SERVICES PVT. LTD.

Email: Info@elespl.co.in elesivanchi@amail.com Phone no.: 0651-2280103

Website I www.elesal.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/2950	Report Release Date	: 08.08.2023	
Work Order No.	: 13612310218	Work Order Date	21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindaleo Industries Limited	Sample Ref No. Location	ELES/RNC/2023/AA/262 Near Bunglapan Village Pakhar Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 20.07.2023 to 21.07.2023 : 25.07.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	ELES/DOC/SMPL/02 ELES Pvt. Ltd. Sealed & Preserved	
Period of Analysis	: 25.07.2023 to 02.08.2023	Sample Condition	Seamon of Preserved	

TEOROLOGICAL INFORMATION		uni-	OF THE PERSON NAMED IN
Average Temperature (°C) :28	2	Barometric Pressure (mmi)	(g) : 738
Relative Hamidity (%) : 54	4	Weather Condition	: Partly Cloudy

Discipline	: Chemical	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene ^a	ug/m ¹	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene*	ng/m³	(\$:5182 (Part-12): 2004;RA2019	<0,5	OI(Annual)

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

Reviewed by

Ena of Reportance

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

Page 1 of 1

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ALOT NO 30 MANSAROVAR ENCLAVE TUPUDANA HATZA, RANCHI-834903 (JHARKHAND) 955 N.G. 204466897190124

ENGINEERING SERVICES PUT L'ED

Email: info@elasal.co.in . elas ronchi pamoi cont Phone not 0651-3290103 Website Juww.elespi.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2023/2951	Report Release Date	: 08.08.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000001798F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2622 : Yatri Shed (Near K-10) Pakhar Basixite Mine	
Address	: Lohardaga, Tharkhand-935302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 21.07.2023 to 32.07.2023 +25.07.2023 : Ambient Air -ELES/DOC/SMPL/02	
Mines Status	: Operational	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	
Period of Analysis	: 25.07.2023 to 02.08.2023	are mily action of a fact of	100 miles	

METEOROLOGICAL INFORMATION			
Average Temperature (°C) : 27	12	Barometric Pressure (min	
3. Relative Humidity (%) : 65	4	Weather Condition	: Partly Cloudy

NABL Accredited		Warning .	Atmospheri	· Bellistian
Discipline :	Chemical	Group :		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	gg/m³	IS 5182 (Part-23): 2006; RA2022	51	100 (24hrs)
Particulate Matter (PM2.5)	ug/m³	18 5182 (Part- 24): 2019	26	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	ug/m³	IS 5182 (Part-2): 2001; RA2022	7.1	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	ug/m³	!S 5182 (Part-6): 2006; RA2022	15.2	80 (24hrs)
Ozone (Os)	ug/m²	1S 5182 (Part-9): 1974; RA2019	<20.0	100 (Shrs)
Ammonia (NH ₁)	31g/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m*	(S-5182 (Part-10): 1999; RA2019	<1.0	2 (Surs)
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	28 (Annual)
Assense (As)	ng/m	ELES/AIR/SOP/01	<2.0	66 (Assual)

Roviewes

** End of Report ***

Authorised Signatury Dr. Deependra Kumar Sinha

Ph. D. Edvironnients, Epiga SLECT VI Clar recomical Manager

Page 1 of 1

The Encourer stood as Tiest Report, as assed by the Laboratory under General Terms and Condinent, unly on Company sener head in pre-approved formst. The results shown in the Test Report refer to relate unity at the potentional dippe by the Laboratory only. The information ented on the Feat Report reflects the findings done by the Laboratory of the information ented on the Feat Report reflects the findings done by the Laboratory of the information of the Feat Report reflects the findings done the report Laboratory of the find of involvement units and within the timbe of class's multistations. The substitutely is respectively for all the information of data provided on the report in the laboratory of the report is used taken out of confect, without prior except the information which is provided by the editor. The Report cannot be reproduced except in the and any part of the report is used taken out of confect, without prior winters appropriately absorbancy. The Report in full or in part shall must be polythered, advertise, used for any legal actions unless or or percession has been recipied from the Management of the Laboratory. Antention in drawn to the fundamental happing, compensation and purposition mades. Any unsubserved discipline & Interferation of the constituted appearance of the Test Regels in indentical tool collections may be prosecuted to the folical counts of the law. All the samples are returned for 30days from the Date of releasenship of the Ten Report. The sompter from Regulatory bodies are to be secured as specified. Any type of Champations or Community to Report shall So skine within (5dby) from the Disc of Ten Ropen rejeased-tional. After the time period acted before, no complaints will be accepted. The crime rate accepted in Ten Report to Discours format. Active complaints of the Discours format. Active complaints of the Discours format.



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PLOT NO-36, MANSAROVAR ENCLAVE, TUPUDANA HATIA, KANCHI-83-4003 JIHARKHANO) GST NO:- 204ABCE9713D124

ENGINEERING SERVICES PVT. LTD.

Email: Info@elespl.co.in , eles canchi@amail.com Phone no.: 0551-2290103

Website : www.riesol.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/2951	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/2622 - Vatri Shed (Near K-10) Pakhas Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 21.07.2023 to 22.07.2023 : 25.07.2025 : Ambient Air : ELES/DOC/SMPU/02	
Mines Status	Operational	Sample Drawn By	ELES PVL Lid	
Period of Analysis	: 25,07,2023 to 02.08.2023	Sample Condition	: Sealed & Preserved	

IETEOROLOGICAL INFORMATION			
Average Temperature (%) :27	2	Barometric Pressure (mintelg)	:337
Relative Humidity (%) 1.65	140	Weather Condition	: Partly Cloudy

Discipline	c Chemical	Group	: Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	ug/m²	IS:5182 (Parc-11): 2006;RA2017	<1.0	05(Annual)
Beazo (a) Pyrene*	ag/m ^a	18:5182 (Pan-12): 2004;RA2019	< 8.5	01(Annual)

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

Reviewed by

End of Reports and

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Ph. D. Environments: Enga ELES Pvt. us. Technical Managar

Page 1 of 1

The Openment stated as Sent Report, as assered by the Laboratory under General Tenne and Containing, poly on Company letter head in pre-approved forms. The results allow the Extended training of the Containing training of the Extended training of



PLOT 190-30, MIANSAROVAR ENGLAVE, PURUDANA NATIA, RANCHI-534003 (JHARKHAND) GST NO: JURAECESTASIALEA

ENGINEERING SERVICES PLY DID

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Email: Info@elesal.co.in . sles. funcin Egmall.com Phone no - 0631-2290103

TEST REPORT

Test Report No.	: ELES/RNC/2023/2952	Report Release Date	: 08.08.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: FC883923000001799F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Gustomer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2623 : Near Utkarnii Rajkiya Prathmik Vidyalaya Bunglapari Village	
Aridress	(.ohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	Pakhar Bauxite Mine : 20.07.2023 to 21.07.2023 : 25.07.2023 : Ambient Air : ELES/DOC/SMP1/02	
Mines Status	/ Operational	Sample Drawn By	ELES Pvt. Ltd.	
Period of Analysis	25.07.2023 to 02.08.2023	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION			es plo
1 Average Temperature (°C) : 28	2	Barometric Pressure (mmHg)	: 738.
3 Relative Humidity (%) : 64	100	Weather Condition	: Partly Cloudy

NABL Accredited		1746	70.5	676710
Discipline t	Chemical	Group :	Atmospheri	A CONTRACTOR OF THE PARTY OF TH
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m²	IS 5182 (Part-23): 2006; RA2022	.46	100 (24hrs)
Particulate Matter (PM2.5)	ug/m³	IS 5182 (Pan- 24): 2019	20	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m²	(\$ 5182 (Part-2); 2001; RA2022	5,4	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	ug/m ⁷	18 5(82 (Paris6): 2006; RA2022	15,1	80 (24hrs)
Ozona (Os)	ug/m	IS 5182 (Part-9): 1974; RA2019	<20.0	190 (Shrs)
Ammonia (NH ₂)	ug/m²	IS 5182 (Part- 25): 2018	<10,0	400 (24hrs)
Carbon Monoxide (CO)	mg/m²	IS \$182 (Part-10): 1999; RA2019	<1.0	2 (8lus)
Lead (Pb)	µg/m ¹	1\$ 5182 (Part-22); 2004; RA2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Port-26)/2020	<5.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	05 (Armuel)

Reviewed 18

****End of Report***

Authorised Signatory

Dr. Deependra Kumar Sinha

Ph D. Evansemental angu-Page 1 of 1

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PLOT NO-30, MANSAROVAR ENGLAVE TUFFIDANA HATIA, RANCHI-834GO3 (JHARKHANO) GST NO:- 204A8CEV7130124

ENGINEERING SERVICES FYT. LTD.

Email: Info@elespl.co.in , elestranthi@amail.com Phone no.: 0651-2290103

Website : www.elespi.co.in

TEST REPORT

The state of the s				
Test Report No.	: ELES/RNC/2023/2952	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/3623 : Near Utkarmit Rajktya Prathmil Vidyalaya Bunglapart Village	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	Pakhar Bauxite Mine : 20,07,2023 to 21,07,2023 : 25,07,2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air - ELES/DOC/SMPL/02 - ELES Pvt. Ltd.	
Period of Analysis	- 25.07.2023 to 02.08.2023	Sample Condition	: Scaled & Preserved	

ETEOROLOGICAL ENFORMATION			
Average Temperature (°C) : 28	-2	Barometric Pressure (mm?	lg) :738
Relative Humidity (%) : 64	14	Weather Condition	: Partly Cloudy

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene ^a	ug/m³	IS:5182 (Part-IT): 2006;RA2017	<1.0	05(Anntial)
Benzo (a) Pyrene*	ng/m²	1S:5182 (Part-12); 2004; RA2019	<0.6	01(Annual)

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

Reviewed by

**** End of Report****

Authorised Signatory
Dr. Deependra Kumar Sining
Ph. D. Savignmenta Enga
BUSS Ph. Ltd. Technical Manager

Page 1 of 1

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ENGINEERING SERVICES PIT LIS.

Email: Info@alesal.co.in , elas foncti/(Samuli.com

Phone no : 0451-2290103 Website : www.elespi.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2023/2953	Report Release Date	: 08.08.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04,2023
ULR No.	: TC883923000001800F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalon Industries Limited	Sample Ref. No. Location	: EEES/RNC/2023/AA/2624 : Near Utkarmit Rajkiya Prathmik Vidyaloya Demrapart Village Pakhar Bauxite Mine	
Address Mines Status	Lolurdage, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	= 21,07,2023 to 22,07,2023 : 25,07,2023 : Ambient Air * PLRS/DOC/SMPL/02	
The state of the s		Sample Oravin By	: ELES PVI. Lad.	
Period of Analysis	: 25,07,2023 to 02,08,2023	Sample Condition	: Sealed & Preserved	

FEOROLOGICAL INFORMATION			14 W 160
Average Temperature (°C) ::27	32	Barometric Pressure (mmfig	1 = 421
Relative Humidity (%) 265	31	Weather Condition	: Partly Cloudy

NABL Accredited	500 A A	Crown	Atmospheri	e Pollution
Discipline :	Chemical		And and included the second	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	ug/m³	18 5182 (Part-23): 2006; RA2022	51	100 (24hrs)
Particulate Matter (PM2.5)	ng/m³	1S 5182 (Part- 24), 2019	27	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	(\$ 5182 (Part-2): 2001; RA2022	6.2	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	ug/m³	(S 9182 (Pan-6): 2005; RAZ022	8.8	80 (24hrs)
Ozone (O ₃)	ug/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (Shas)
Ammonia (NH ₃)	ug/m ²	- 1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m²	IS \$182 (Part-10): 1999; RA2019	<1.0	3 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22); 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m²	18 5182 (Part-26):2020	<6.0	20 (Annual)
Aisonio (As)	ng/m	ELES/AIR/SOP/01	<2.0	06 (Amoual)



Anthorised Signatory

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Ph. D. Environmental Enga.

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PLOT NO-30, MANSABOVAR ENCLAVE: TUPUDANA HATIA, BANCH-834003 (HARRHAND) SST NO:- 20AA5CE9713D12A

ENGINEERING SERVICES PVT. LTD.

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TEST REPORT

Test Report No.	: ELES/RNC/2023/2933	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/2624 : Near Utkarmit Rajkiya Prathmit Vidyalaya Domrapart Village	
Address	: Lohardaga, Jharkhand-835302 ; Operational	Sampling Date Sample Received Date	Pakhar Bauxite Mine 121.07.2023 to 22.07.2023 : 25.07.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Mines Status		Type of Sample Sampling Procedure Sample Drawn By		
Period of Analysis	-25.07.2023 to 02.08.2023	Sample Condition	Sealed & Preserved	

11	TEOROLOGICAL INFORMATION			
_	Average Temperature (°C) : 27	2.	Barometric Pressure (mm	Hg) : 737
	Relative Humidity (%) 165	4	Weather Condition	r Partly Cloudy

Discipline : Chemical		Group : Atmospheric Pollution			
Parameter Unit		Test Protocol	Result	Regulatory Limit	
Benzene*	µg/m²	IS:5182 (Part-11): 2006;RA2017	<1,0	05(Annual)	
Benzo (a) Pyrene®	pg/m ¹	IS 3182 (Part-J2): 2004;RAZ019	<0.5	Ol(Armual)	

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

Raylened by

****End of Reportages

Authorised Signatory
Dr. Deoperiors Kumar Sinha
Ph. C. Brungsminter Enge.
ELES Ph. Util. Technical Manager

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 LHARKHAND) GST NO:- 20AAECE97130124 NORMAL WAR WHITE STATE AND

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Phone no.: 0651-2290103 Website | www.elespi.to.in



TEST REPORT

Test Report No.	: ELES/RNC/2023/3397	Report Release Date	: 09.09.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023
ULR No.	; TC883923000002165F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	ELES/RNC/2023/AA/3021 Near Mine Office Pakhar (15,58 ha) Bauxite Mine	
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	19.08.2023 to 20.08.2023 : 26.08.2023	
Mines Status	: Non Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 26.08.2023 to 08.09.2023	Sample Condition	5 Sealed & Preserved	

7.00	TEOROLOGICAL INFOR	STATE OF THE PARTY	1.4	De la la Propensión (mantha)	- 726
1	Average Temperature (°C)	: 25	12	Barometric Pressure (mmHg)	. 730
3	Relative Humidity (%)	: 65	4	Weather Condition	: Partly Cloudy
5	Longitude	:84°36'36.29"E	6	Latitude	: 23°32'24.04"N

NABL Accredited Discipline:	Chamical	Greup	Atmospheri	e Pollution	
Parameter .	Unit			Regulatory Limit	
Particulate Matter (PM10)	µg/m³	1S 5182 (Part-23): 2006; RA2022	43	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m²	IS:5182 (Part- 24); 2019	21	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	17.6	80 (24hrs)	
Ozone (O ₁)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8brs)	
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	0.008	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****

Richard

Authorised Signatory
Dr. Deependra Kumar Sinha

Ph.D. Environment stripp

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ELES Pvt. Ltd. Technical Manager

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

GINEERING SERVICES PVT. LTD.

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/3397	Report Release Date	: 09.09.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	; 31,03,2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3021 : Near Mine Office Pakhar (15.58 ha) Bauxite Mine
Address	; Lobardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 19.08,2023 to 20.08,2023 : 26.08,2023 : Ambient Air
Mines Status	: Non Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPIJ02 : ELES Pvt. Ltd.
Period of Analysis	: 26.08.2023 to 08.09.2023	Sample Condition	: Sealed & Preserved

1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 65	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°36'36.29°E	6	Latitude	: 23°32'24.04"N

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****

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

Page 1 of 1

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

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



Clw: U74999/H2028P1CG11125

TEST REPORT

Test Report No.	: ELES/RNC/2023/3398	Report Release Date	: 09.09.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023
ULR No.	: TC883923000002166F		

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3022 : Near Weigh Bridge Pakhar (15.58 ha) Bauxite Mine	
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 19.08.2023 to 20.08.2023 : 26.08.2023 : Ambient Air	
Mines Status	: Non Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvi. Ltd.	
Period of Analysis	: 26.08.2023 to 08.09,2023	Sample Condition	: Sealed & Preserved	

1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 736
-	Relative Humidity (%)	5 65	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°36'34,50"E	6	Latitude	: 23°32'26.21"N

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	55	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	28	60 (24lurs)		
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	7,2	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022:	19.2	80 (24hrs)		
Ozone (O ₅)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)		
Ammonia (NH ₁)	µg/m³	JS 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	0.007	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****

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Dr. Deependra Kumar Sinha

Ph. D. Environmental Enga. Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.

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TEST REPORT

Test Report No.	: ELES/RNC/2023/3398	Report Release Date	: 09.09.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3022 : Near Weigh Bridge Pakhar (15,58 ha) Bauxite Mine		
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 19.08.2023 to 20.08.2023 : 26.08.2023		
Mines Status	: Non Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Alr : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.		
Period of Analysis	: 26.08.2023 to 08.09.2023	Sample Condition	: Sealed & Preserved		

MI	TEOROLOGICAL INFOR	MATION			
U	Average Temperature (°C)	:25	2	Barometric Pressure (mmHg)	736
3	Relative Humidity (%)	: 65	-4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°36'34.50"E	6	Latitude	: 23°32'26.21"N

Discipline	: Chemical	Group	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene*	µg/m³	1S:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)		
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)		

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

Reviewed by

****End of Report****

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

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GSTNO: 2044EC197130124 ENGINEERING SERVICES PUT. LTD.

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

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TEST REPORT

Test Report No.	: ELES/RNC/2023/3399	Report Release Date	: 09.09.2023	
Work Order No.	1 M&M/23-24/01	Work Order Date	: 31.03.2023	
ULR No.	; TC883923000002167F			

CUSTOMER DET	CUSTOMER DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3023 : Near Mine Quarry No- M1 Pakhar (15,58 ha) Bauxite Mine.
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 19.08.2023 to 20.08.2023 : 26.08.2023 : Ambient Air
Mines Status	; Non Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	:: 26.08.2023 to 08.09.2023	Sample Condition	; Sealed & Preserved

1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg	736
3	Relative Humidity (%)	: 65	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°36'6.67"E	6	Latitude	: 23°32'9.19"N

NABL Accredited	est	Washing to	Character at	. Do Pution		
Discipline :		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 ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	8.3	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	14.2	80 (24hrs)		
Ozone (O ₃)	µg/m²	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)		
Ammonis (NH ₃)	µg/m³	IS 5182 (Part-25); 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	18 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Ph)	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)		

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Authorised Signatory
Dr. Despend a Kumar Sinha

Page 1 of 1 ELES PVI Ltd. Technical Manager

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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

Test Report No.	; ELES/RNC/2023/3399	Report Release Date	: 09.09.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3023 : Near Mine Quarry No- M1 Pakhar (15.58 ha) Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 19.08.2023 to 20.08.2023 : 26.08.2023	
Mines Status	: Non Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 26.08.2023 to 08.09.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 65	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°36'6.67"E	6	Latitude	: 23°32'9.19"N

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.

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Authorised Signatory

Dr. Deependra Kurnar Smita Ph. D. Environmental Engli SLES Pvi. Ltd. Technical Manager

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

Phone ria.; (1651-229()108 Wébsite: www.elespl.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2023/3400	Report Release Date	: 09.09,2023
Work Order No:	: M&M/23-24/01	Work Order Date	: 31.03.2023
ULR No.	: TC883923000002168F		

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3024 : Near Mine Quarry No-M4 Pakhar (15.58 ha) Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	= 19.08.2023 to 20.08.2023 ; 26.08.2023 ; Ambient Air	
Mines Status	: Non Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 26.08.2023 to 08.09.2023	Sample Condition	Sealed & Preserved	

MU	ETEOROLOGICAL INFOR	CMATION			
1	Average Temperature (°C)	125	2	Barometric Pressure (mmHg)	1.736
3	Relative Humidity (%)	: 65	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°36'8.99"E	6	Latitude	: 23°32'13.12"N

Discipline :	Chemical	Group	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	20	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	5.5	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6); 2006; RA2022	18.7	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/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m²	IS 5182 (Part-22); 2004; RA2019	< 0.002	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	



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PLOY NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (HARKHAND) GST NO:- 20AAECE97.ISD124

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/3400	Report Release Date	: 09.09,2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

CUSTOMER DETA	MLS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	; ELES/RNC/2023/AA/3024 ; Near Mine Quarry No-M4 Pakhar (15.58 ha) Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 19.08.2023 to 20.08.2023 :: 26.08.2023 :: Ambient Air	
Mines Status	: Non Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 26.08.2023 to 08.09.2023	Sample Condition	Sealed & Preserved	

MI	TEOROLOGICAL INFOR	MATION	-		
1	Average Temperature (°C)	1.25	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 65	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°36'8.99"E	6	Latitude	: 23°32'13.12"N

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	01(Annual)

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

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Dr. Deependra Kurnar Sinha
Ph. D. Enwionmental Engo.

ELES Pvi. 1:0. Technical Manager

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TEST REPORT

Test Report No.	: ELES/RNC/2023/3405	Report Release Date	: 09.09.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000002173F			

CUSTOMER DETA	ATLS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3029 : Near Bunglapart Village Pakhar Bauxite Mine
Address Mines Status	: Lohardaga, Jharkhand-835302 ; Operational	Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	: 18.98,2023 to 19.08.2023 : 26.08.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd
Period of Analysis	; 26.08.2023 to 08.09.2023	Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFOR	MATION			
1 Average Temperature (°C)	: 26	2	Barometric Pressure (mm)	Hg) : 736
3 Relative Humidity (%)	165	-#	Weather Condition	- Partly Cloudy

NABL Accredited					
Discipline :	Discipline : Chemical Group				
Parameter	Unit	Test Protocol	Result	Regulatory Limi	
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	25	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	5.8	80 (24brs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS \$182 (Part-6): 2006; RA2022	14.2	80 (24hrs)	
Ozone (O ₃)	pg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (Shrs)	
Ammonia (NH ₂)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	l (24hrs)	
Nickel (Ni)	ng/m²	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	
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TEST REPORT

Test Report No.	: ELES/RNC/2023/3405	Report Release Date	: 09.09.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2923

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	ELES/RNC/2023/AA/3029 Near Bunglapart Village Pakstar Bauxite Mine : 18-08-2023 to 19-08-2023	
Address Mines Status	: Lohardaga, Jharkhand-835302 : Operational	Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	: 25.08.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
MHIGZ STRIPS				
Period of Analysis	: 26.08,2023 to 08.09 2023	Sample Condition	: Sealed & Preserved	

į	ETEOROLOGICAL INFOR	MATICIN			
Ī	Average Temperature (°C)	.(26	22	Barometric Pressure (mmHg)	3.736
Ü	Relative Humidity (%)	+ 65	14	Weather Condition	: Partly Cloudy

Discipline	: Chemical	Group	Group : Atmospheric Pollution			
Parameter	Unit	Test Preservi	Result	Negation's Limits		
Benzene*	pg/m³	IS:5182 (Part-11): 2006; RA2017	<1.0	05(Armual)		
Benzo (a) Pyrene ⁶	ng/m²	IS:5182 (Part-12): 2004;RA2019	< 0.5	01(Annual)		

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

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Authorised Signatory

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ELGS For Usuador Lear Manager

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TEST REPORT

Test Report No.	: ELES/RNC/2023/3406	Report Release Date	: 09.09.2023	
Work Order No.	: 13612310218	Work Order Date	: 23.04.2023	
ULR No.	: CE83923000002174F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	± Hindalco Industries Limited	Sample Ref. No. Location	: EEES/RNC/2023/AA/3030 : Yatri-Shed (Near K-10) Pakhar Bauxite Mine	
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	19.08.2023 to 20.08.2023 26.08.2023 Ambient Air ELES/DOC/SMFL/02 ELES Pvt. Ltd.	
Mines Status	: Operational	The state of the s		
Period of Analysis	: 26.08.2023 to 08.09.2023	Sample Condition	Sealed & Preserved	

Average Temperature (°C) : 24	2	Barometric Pressure (mmHg)	735
Relative Humidity (%) : 66	4	Weather Condition	: Partly Cloudy

NARI Accordited					
Discipline :	Discipline : Chemical Group				
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	23	60 (24brs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	6.5	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m³	IS 5182 (Part-6): 2006; RA2022	18.5	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/m	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/m³	IS 5182 (Part-26);2020	<6.0	20 (Annual)	
Arsenic (As)	ing/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

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TEST REPORT

Test Report No.	: ELES/RNC/2023/3406	Report Release Date	: 09.09.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindatco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3030 : Yatri Shed (Near K-10) Pakhar Bauxite Mine		
Address	: Lehardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 19.08.2023 to 20.08.2023 : 26:08.2023 : Ambient Air		
Mines Status	Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvi. Ltd.		
Period of Analysis	; 26.08,2023 to 08,09.2023	Sample Condition	Sealed & Preserved		

H	ETEOROLOGICAL INFORMATI	ON		Account to the second
1	Average Temperature (°C) : 24	2	Barometric Pressure (mml	fg) : 735
3	Relative Humidity (%) : 66	4	Weather Condition	: Partly Cloudy

Discipline : Chemical		Group : Atmospheric Pollution			
F arameser	Cinic	Test Protocul	Resett	Giorge Cartesine T Innie	
Benzene*	μg/m³	15:5182 (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 ontsourced to other Lab.

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Page 1 of 1

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TEST REPORT

Test Report No.	: ELES/RNC/2023/3407	Report Release Date	1 09.09,2023
Work Order No.	13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000002175F		

CUSTOMER DET	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3031 : Near Utkarmit Rajkiya Prathmik Vidyalaya Bunglapart Village		
Address	Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	Pakhor Bauxite Mine . : 18.08.2023 to 19.08.2023 : 26.08.2023 Ambient Air : ELES/DOC/SMPL/62		
Mines Status	: Operational	Sample Drawn By	ELES PVI Lid		
Period of Analysis	: 26.08.2023 to 08.09.2023	Sample Condition	: Sealed & Preserved		

METEOROLOGICAL INFORMATION			
1 Average Temperature (°C) : 26	2	Barometric Pressure (mm	Hg) : 736
3 Relative Humidity (%) : 65	4	Weather Condition	, Partly Cloudy

NABL Accredited Discipline :	Chemical	Group :	Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	ug/m³	IS 5182 (Part-23); 2006; RA2022	42	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	1S 5182 (Part- 24): 2019	24	60 (24hrs)
Sulphur Di-Oxide (SO ₇)	цg/m³	IS 5182 (Part-2): 2001; RA2022	<5.0	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	цg/m³	15 5182 (Part-6): 2006; RA2022	13.6	80 (24hrs)
Ozone-(O ₅)	ag/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m³	1S 5182 (Pert- 25): 2018	<10.0	400 (24hrs)
Caroon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	ug/m ⁷	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/m ⁷	ELES/AIR/SOP/01	<2.0	06 (Annual)

****End of Report****

Reviewed by

Authorised Signatory Dr. Deependra Kumar Sinha

Ps. D. Brytophopial Ford.

Page 1 of 1 ELES Pyr. Up. Technical Menager

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TEST REPORT

Test Report No.	: ELES/RNC/2023/3407	Report Release Date	: 69.89,2023	
Work Order No.	: 13612310218	Work Order Date	; 21.04.2023	

CUSTOMER DETA	CUSTOMER DETAILS		
Customer Name	: Hindalex Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3031 : Near Utkarmit Rajkiya Prathipik Vidyalaya Bunglapart Village Pakhar Baukite Mine
Address Mines Status	: Lohardaga, Jharkhand-835302 : Operational	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 18.08.2023 to 19.08.2023
19210769 ESTERANS	1 September 2000	Sample Drawn By	: ELES PVL Led.
Period of Analysis	±26,08,2023 to 08,09,2023	Sample Condition	Sealed & Preserved

41	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 26	2	Barometric Pressure (mm	Hg) : 736
3	Relative Humidity (%) : 65	4	Weather Condition	: Partly Cloudy

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

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

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TEST REPORT

: ELES/RNC/2023/3408	Report Release Date	: 09.09.2023	
: 13612310218	Work Order Date	: 21.04.2023	
: TC883923800002176F			
	: 13612310218	: 13612310218 Work Order Date	: 13612310218 Work Order Date : 21.84.2023

CUSTOMER DETA	ATLS	SAMPLE DETAILS		
Customer Name	- Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3032 : Near Utkarmit Rajkiya Prathmil Vidyalaya Dumrapan Village Rabba Ramita Mina	
Address	: Lohardaga, Jharkband-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	Pakher Bauxite Mine ; 19.08.2023 to 20.08.2023 ; 26.08.2023 Ambiew Ait ; ELES/DOC/SMPL/02	
Mines Status	: Operational	Sample Drawn By	PLES Pvt. Ltd. Sealed & Preserved	
Period of Analysis	; 26.08,2023 to 08.09.2023	Sample Condition		

1	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	:24	2	Barometric Pressure (mmHg)	: 735
3:	Relative Humidity (%)	: 66	4	Weather Condition	: Partly Cloudy

NABL Accredited	Sermonte and	Come	Atmospheri	e Polintian
Discipline :	7.74			
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	15 5182 (Part-23): 2006; RA2022	46	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5382 (Part- 24); 2019	22	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	(S 5182 (Part-2): 2001; RA2022	5.5	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part-6): 2006; RA2022	9.2	80 (24hrs)
Ozone (Oi)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ¹	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)	ug/m²	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m²	IS 5182 (Part-26):2020	<6.8	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by

****End of Report***

Authorised Signatory Deecendra Rumar Shina

ELES PVI LIO TECHNICA Manager Page 1 of 1

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TEST REPORT

Test Report No.	: ELES/RNC/2023/3408	Report Release Date	: 09.09.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DET.	AHLS	SAMPLE DETAILS		
Customer Name	: Hindalco industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3032 : Near Utkarmit Rajkiya Pratimik Vidyalaya Dumrapart Village	
Address	: Loliardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: Ambiest Air	
Mines Status	(,Operational	Sampling Procedure	: BLES/DOC/SMPL/02	
Period of Analysis	: 26.08.2023 to 08.09.2023	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Senled & Preserved	

ME	TEOROLOGICAL INFOR	MATION			-0
ī	Average Temperature (°C)	: 24	2	Barometric Pressure (mmHg)	: 735
S.	Relative Humidity (%)	: 66	#	Weather Condition	: Partly Cloudy

Disabiling	+ Chamical	Ciroun	Groun : 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	IS(5182 (Part-12): 2004;RA2019	<0.5	OI(Annual)		

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

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Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) 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/RAN/2023/1733	Report Release Date	: 10.09.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

CUSTOMER DET	TAILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RAN/2023/DW/1620	
		Sampling Date	: 15.08.2023	
		Sample Received Date	: 28.08.2023	
Address	: Lohardaga, Jharkhand-835302	Type of Sample	: Drinking Water	
		Source/Location of Sample	: Near Mine Office Pakhar (15,58 ha) Bauxite Mine	
		Sampling Procedure	: ELES/DOC/SMPL/01	
Mines Status	: Non Operational	Sample Collected By	: ELES Pvt. Ltd.	
Period of Analysis	: 28.08.2023 to 09.09.2023	Sample Condition	: Sealed & Preserved	

Discipline : Chem	ical	Group : Wate	r		tory Limit 10500:2012	
Parameter Unit		Test Protocol Resul		Acceptable Limit	Permissible Limit	
pH (at 24.8 °C)	Ter.	APHA 23 rd Ed.2017, 4500-H	6.84	6.5-8.5	No Relaxation	
Turbidity	NTU	APHA 23 rd Ed.2017, 2130 B	0.28	1.0	5.0	
Taste		APHA 23 rd Ed.2017, 2160 C	Agreeable	Agreeable	Agreeable	
Odour	4.	IS 3025 (Part-5) :2018	Agreeable	Agreeable	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	364	500	2000	
Chloride (as Cl)	mg/L	APHA 23 rd Ed.2017, 4500 Cl B	54.8	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	130	200	600	
Total Hardness (as CaCO ₃)	mg/L	APHA 23 rd Ed.2017, 2340 C	148	200	600	
Sulphate (as SO ₄)	mg/L	APHA 23 rd Ed.2017, 4500 SO ₄ -2-E	20.2	200	400	
Nitrate (as NO ₃)	mg/L	APHA 23 rd Ed.2017, 4500 NO ₃ -B	1.48	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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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/2023/1733
 Report Release Date
 : 10.09.2023

 Work Order No.
 : M&M/23-24/01
 Work Order Date
 : 31.03.2023

Discipli	ine: Che	mical Group: V	Vater		tory Limit
Discipa			7		10500:2012 Permissible
Parameter	Unit	Test Protocol	Result	Acceptable Limit	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	АРНА 23 rd Ed.2017, 3500 Са В	34.2	75	200
Discipl	ine: Che	mical Group	: Residues in	Water	
Aluminum (as Al)	mg/L	IS 3025 (Part-55); 2003; RA2019	BDL (DL: 0.02)	0.03	0,2
Arsenic (as As)	mg/L	IS 3025 (Part 37): 2022	BDL (DL: 0.005)	0.01	No Relaxation
Beron (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 23rd Ed,2017, 3111B	BDL (DL: 0.03)	0.05	1.5
Iron (as Fe)	mg/L	APHA 23 rd Ed.2017, 3111B	0.248	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.

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TEST REPORT

 Test Report No.
 : ELES/RAN/2023/1733
 Report Release Date
 : 10.09.2023

 Work Order No.
 : M&M/23-24/01
 Work Order Date
 : 31.03.2023

Discipline : Che	mical		Group: Water	
Parameter	Unit	Test Protocol	Result	Regulatory Limit as per IS 10500:2012
Pesticides				
Alachlor*	μg/L	АРНА	BDL (DL: 1.0)	20
Atrazine*	μg/L	APHA	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	АРНА	BDL (DL: 10)	30
Delta HCH*	μg/L	АРНА	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	АРНА	BDL (DL: 0.5)	1
Endosulfan (alpha, beta, and sulphate)*	μg/L	АРНА	BDL (DL: 0.1)	0.4
Ethion*	μg/L	АРНА	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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TEST REPORT

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 : ELES/RAN/2023/1733
 Report Release Date
 : 10.09.2023

 Work Order No.
 : M&M/23-24/01
 Work Order Date
 : 31.03.2023

Disciplina - Bi	iological	Group: \	Voter	Regulate	ory Limit	
Discipline : Biological		Group .	vater	as per IS 10500:2012		
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit	
Total Coliform	Per 100 mL	IS 15185:2016; RA 2021	Not Detected	Shall not l	sa dataatad	
Escherichia Coli (E. Coli)	Per 100 mL	IS 15185:2016; RA 2021	Not Detected	Shall not be detected		
Discipline :	Chemical	Group:	Water		ory Limit	
	. 8/3/10/15/20		1		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 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.

****End of Report***

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

Page 4 of 4

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 2014ECE9715D124

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TEST REPORT

Test Report No.	: ELES/RNC/2023/4005	Report Release Date	: 28.10.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

CUSTOMER DETA	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2023/AA/3422		
	Carrier Control of Control	Location	: Near Mine Office		
	A STATE OF THE STA		Pakhar (15.58 ha) Bauxite Mine		
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 15.09.2023 to 16.09.2023		
		Sample Received Date	29.09.2023		
		Type of Sample	: Ambient Air		
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/02		
Period of Analysis	: 29.09.2023 to 10.10.2023	Sample Drawn By	: ELES Pvt. Ltd.		
renou of Allarysis	. 29.09.2023 (0 10.10,2023	Sample Condition	: Scaled & Preserved		

M	ETEOROLOGICAL INFO	RMATION	- v -		
1	Average Temperature (°C)	: 24	2	Barometric Pressure (mml	(g) 736
3	Relative Humidity (%)	: 68	/4	Weather Condition	: Cloudy
5	Longitude	: 84°36'36.29"E	6	Latitude	: 23°32'24.04"N

Discipline: Chemica	al	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	40	100 (24hrs)
Particulate Matter (PM2.5)	μg/m ²	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	18 5182 (Part-6): 2006; RA2022	16.5	80 (24hrs)
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (Shrs)
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 (8hcs)
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)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Page 1 of 2

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TEST REPORT

Test Report No.	; ELES/RNC/2023/4005	Report Release Date	: 28.10.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023

Discipline : Chemi	ical	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/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

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

ELES Pv., Ud. Technical Manager

Page 2 of 2

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TEST REPORT

Test Report No.	: ELES/RNC/2023/4006	Report Release Date	: 28.10.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2023/AA/3423
		Location	: Near Weigh Bridge
	Same and the same at the same		Pakhar (15.58 ha) Bauxite Mine
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 15.09.2023 to 16.09.2023
		Sample Received Date	29.09.2023
		Type of Sample	: Ambient Air
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 29.09.2023 to 10.10.2023	Sample Drawn By	: ELES Pvi. Lid.
r et ind At Allmyata	1 23.03.2023 10 10.10.2023	Sample Condition	; Sealed & Preserved

M	ETEOROLOGICAL INFOI	RMATION			
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 68		Weather Condition	Cloudy
5	Longitude	: 84°36'34.50"E	6	Latitude	: 23°32'26.21"N

Discipline: Chemica	Discipline: Chemical Group: A			Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	64	100 (24hrs)
Particulate Matter (PM2,5)	µg/m³	IS 5182 (Part- 24); 2019	37	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	6.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	22.3	80 (24hrs)
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	190 (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	0.010	1 (24hrs)
Nickel (Ni)	ng/m²	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annsal)

Page 1 of 2

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TEST REPORT

Test Report No.	: ELES/RNC/2023/4006	Report Release Date	: 28.10.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

Discipline : Chemi	ical	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 Signatory
Dr. Deependra Kumar Sinha
Ph. D. Environmental Engg.
SLES PM. Ltd. Technical Manager

Page 2 of 2

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TEST REPORT

Test Report No.	: ELES/RNC/2023/4007	Report Release Date	: 28.10.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023

CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3424 : Near Mine Quarry No- M1 Pakhar (15.58 ha) Bauxite Mine
Address	- Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 15.09,2023 to 16.09,2023 : 29.09,2023
Mines Status	Non Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 29,09.2023 to 10.10.2023	Sample Drawn By Sample Condition	ELES Pvt. Ltd. : Sealed & Preserved

1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 68	- 4	Weather Condition	: Cloudy
5	Longitude	: 84°36'6.67"E	6	Latitude	: 23°32'9.19"N

Discipline: Chemical Group:			Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	49	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	26	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	7.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	.1S 5182 (Part-6): 2006; RA2022	17.5	80 (24hrs)
Ozone (O _A)	μg/m ¹	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₁)	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/m²	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

Test Report No.	: ELES/RNC/2023/4007	Report Release Date	: 28.10.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023

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

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

Reviewed by

****End of Report****

or, Authorised Signatur Sinha

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

Page 2 of 2

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ENGINEERING SERVICES PUT LED.

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

Website: www.elesal.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/4008	Report Release Date	: 28.10.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	; ELES/RNC/2023/AA/3425 ; Near Mine Quarry No-M4	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	Pakhar (15.58 ha) Bauxite Mine : 15.09,2023 to 16.09,2023 : 29.09,2023	
Mines Status	: Non Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 29.09.2023 to 10.10.2023	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

М	ETEOROLOGICAL INFO	RMATION			
ł.	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg	736
3	Relative Humidity (%)	: 68	4	Weather Condition	Cloudy
5	Longitude	: 84°36'8.99*E	6	Latitude	: 23°32'13.12"N

Discipline: Chemic	al	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS \$182 (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/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	19.2	80 (24hrs)	
Ozone (O ₁)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	(00 (8hrs)	
Ammonia (NH ₇)	µg/m³	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	0.008	1 (24hrs)	
Nickel (Ni)	ng/m³	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

Test Report No.	: ELES/RNC/2023/4008	Report Release Date	: 28.10.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C _s 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

Dr. Deepandra Kumar Sinha Ph. D. Environmental Enga, ELES Pvl. Ltd. Technical Manager

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company better boad in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report refers the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alternation & falsification of the content or appearance of the Test Report is unlawful and offenders may be presecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bedies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be necepted. The entire Time schedule memioned in Test Report in m 24hours format. Abbreviation used: N/A (Not Applicable), BDI, (Below Detection Limit), LDI, (Lower Detection Limit).



PLOT NO-30, MANSABOVAR ENGLAYE, TUPLIDANA HATIA, RANCHI-334003 (SHARKSIAND) GST NO.: 204/AECE9713D124

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4013	Report Release Date	: 28.10.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Costomer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3430 : Near Bunglapart Village Pakhar Bauxite Mine
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 14,09,2023 to 15,09,2023 : 29,09,2023
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 29.09.2023 to 10.10.2023	Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION			
I Average Temperature (°C) : 25	2	Barometric Pressure (mmHg	() : 734
3 Relative Humidity (%) : 66	4	Weather Condition	; Partly Cloudy

Discipline: Chemica	j	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	17	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	15.1	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)	ng/m³	IS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)	
Nickel (Ni)	ng/m²	IS S182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m²	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Page 1 of 2

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATVA, RANCHI-834003 [JHARXHANIN] 657 NO:- WARECESTISDIZ4 MEBATHUSERHOES OF LED.

Email: Info@elesal.co.ln - eles.canchi@amail.com Phone no.: 0651-2260:03

Website cwww.elespl.co.in

TEST REPORT

Test Report No. : ELES/RNC/2023/4013 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 ₅)*	ug/m)	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	< 0.5	Ol(Annual)

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

Reviewed by

****End of Report****

Authorised Signatory

Dr. Geependra Kurnar Sinna
Ph. D. Envisynmental Engg.
ELES Put. Lig. Technical Manager

Page 2 of 2

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PLOT NO 30, MANSAROVAR ENCLAYE, TURUDARA HATIA, RANCHI-834003 (JHARICHAND) GST NO: 20445CE9715D114

ENGINEERING SERVICES PVT. LTO.

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4014	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/3431 : Yatri Shed (Near K-10) Pakhar Bauxite Mine	
Address	: Lohardaga, Tharkhand-835302	Sampling Date Sample Received Date:	; 14.09,2023 to 15,09,2023 ; 29.09,2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 29.69,2023 to 10:10:2023	Sample Condition	: Sealed & Preserved	

Ü	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 25	2	Barometric Pressure (mmH	(g) : 734
3	Relative Humidity (%) : 66	-4	Weather Condition	: Partly Cloudy

Discipline : Chemics	al	Group: Atmospheric Poliution			
Parameter	Unit	Test Protocol	Result	Regulatory Limi	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23); 2006; RA2022	43	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	(S 5182 (Part- 24): 2019	19	60 (24hrs)	
Sulphur Di-Oxide (SO ₁)	μg/m³	IS 5182 (Part-2); 2001; RA2022	5.2	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m³	18,5182 (Part-6); 2006; RA2022	17.5	80 (24hrs)	
Ozone (O ₃)	μg/m²	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/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/m ¹	IS 5182 (Pan-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m²	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Page 1 of 2

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RLOT NO-SO, MANSAROVAR ENCLAVE, TURVDANS HATIA, RANCHI-834003 (SHARKHAND) GST NO:- MAARCESTISDEZA Email: info@siespl.co.in . eles renchi@aniali.com

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TEST REPORT

Test Report No.	: ELES/RNC/2023/4014	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 (CsHs)*	μg/m²	1S 5182 (Part-11)2006;RA2017	<1.0	05(Annual)
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	<0.5	D1(Annual)

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

Reviewed by

****End of Report****

Authorised Signatory

Dr. Deepandra Kumar Sinha Ph. D. Environmental Engg. ELES Pur List Technical Manager

Page 2 of 2

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MOT NG-30, NUNSAROVAR ENGLAVE, TUPUDAHA HATIA, RANCHI-834903 JUHARKHANEN 657 NO-30AAECESTI3OU4

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4015	Report Release Date	: 28.10.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindaleo Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3432 : Near Utkarmit Rajkiya Prathmi Vidyalaya Bunglapart Viilage Pakhar Bauxite Mine		
Address Mines Status	: Lohardaga, Jharkhand-835302 : Operational	Sampling Date Sample Received Date Type of Sample Sampling Procedure	; 15:09:2023 to 16:09:2023 ; 29:09:2023 ; Ambient Air ; ELES/DOC/SMPL/02		
Period of Analysis	: 29.09.2023 to 10.10.2023	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved		

ETEOROLOGICAL INFORMATION			
Average Temperature (°C) : 24	2	Barometric Pressure (mm	Hg) : 738
Relative Humidity (%) : 68	4	Wenther Condition	: Cloudy

Discipline : Chemica	d	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PMT0)	μg/m³	IS 5182 (Part-23): 2006; RA2022	35	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	16	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS \$182 (Part-2): 2001; RA2022	<5.0	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	15.9	80 (24hrs)	
Ozone (O ₃)	pg/m²	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Anumonia (NH ₃)	μg/m ³	1S 5182 (Part- 25); 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999: RA2019	<1.0	2 (8hrs)	
Luad (Pb)	µg/m²	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24h/s)	
Nickel (Ni)	ng/m³	(\$ 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenie (As)	ng/m²	ELES/AIR/SOP/01	<2.6	06 (Annual)	

Page 1 of 2

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CEV. U74969/HZ01827C011125

ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NG:-20A46CE9718D124 ENGINEERING SERVICES PUT SYD.

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Phone no.: 0551-2790108 Website: www.eiespi.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/4015	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) ^a	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(Annesl)

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

Reviewed by

****End of Report****

Authorised Signatory

Or, Deependra Kumar Sinhs Ph. D. Snylronmental Engg. ELES Pvr. Ltd. Technical Managar

Page 2 of 2

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FLOT NO.30, MANSAROVAR ENCLAVE, TUPUDAKA HATIA, RANCHI-834003 (IHIARRHAND) GST NO.-20848CE9713D124 ENGINEERING SERVICES PUT LYD.

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4016	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	: ELES/RNC/2023/AA/3433 : Near Utkarmit Rajkiya Prathmik Vidyalaya Dumrapart Village	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	Pakhar Bauxite Mine : 15,09,2023 to 16,09,2023 : 29:09,2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	: 29.09.2023 to 10.10.2023	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

TEOROLOGICAL INFORMATION			
Average Temperature (°C) : 24	2	Barometric Pressure (mm	Hg) : 738
Relative Humidity (%) : 68	4	Weather Condition	: Cloudy

Discipline : Chemica	al	Group: /	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	(S.5182 (Part-23): 2006; RA2022	41	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	17	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/m²	15 5182 (Part-6); 2006; RA2022	7.3	80 (24hrs)	
Özone (Ö3)	μg/m³	IS 5182 (Part-9); 1974; RA2019	<20.0	100 (Shrs)	
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m	(S 5182 (Part-10); 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	hg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	30 (Annual)	
Arsenie (As)	ng/m³	ELES/AJR/SOP/01	<2.0	06 (Annual)	

Page 1 of 2

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PLOT NO 30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (THARKHAND) GST NO: 20446CE97130224 ENGINEERING SERVICES PUT, 120.

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/2023/4016	Report Release Date	; 28.10,2623
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) ⁶	14g/m ³	fS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	<0.5	0)(Annual)

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

Reviewed by

****End of Report****

Authorised Signatory
Dr. Deependre Kurner Sinha
Ph. D. Environmental Enge.
ELES Pvt. Ltd. Technical Manager

Page 2 of 2

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

ENGINEERING SERVICES PVT. LTD.

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TEST REPORT

Test Report No.	: ELES/RNC/2023/4147	Report Release Date	: 31.10.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023

Address Sampling Received Date : 30.09.2023 Type of Sample : Ambient Noise : ELES/DOC/SMPL/0 Sample Drawn By : ELES Pvt. Ltd.	CUSTOMER DETAILS		SAMPLE DETAILS		
Mines Status : Non Operational Period of Analysis : 30.09.2023 to 10.10.	2.0000000000000000000000000000000000000		Sampling Received Date Type of Sample Sampling procedure	: Ambient Noise ELES/DOC/SMPL/63	
The second secon	Mines Status	: Non Operational	Period of Analysis	: 30.09.2023 to 10.10.2023	

M	ETEOROLOGICAL INFO	RMATION			
Γ	Average Temperature (°C)	: 24	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	; 68	4	Weather Condition	: Cloudy

Location	Unit	Test Protocol	Resu	ilt	Regulatory Limit (Industrial Zone)	
and the man			Time	Leq		
Near Mine Office Pakhar Bauxite Mine (15.58 ha)	dB(A)	xite Mine (15.58 ha) Day 7	015/ 6 1	Day Time	63	75 dB(A) Day Time &
Sample ID: ELES/RNC/2023/AN/3539		10.7 2020	Night Time	50	70 dB(A) Night Time	

A los Aureo,
Reviewed by

****End of Report****

Authorised Signatory

It. Deependra Kumar Sinha
Ph. D. Environniantal Engl.
ELGS Pvt. Lid. Technical Manager

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:-20A4ECE9713D1Z4

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4168	Report Release Date	: 31.10.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Minerals & Minerals Limited : Lohardaga, Jharkhand-835302	Sampling Date Sampling Received Date Type of Sample Sampling procedure Sample Drawn By	15.09.2023 30.09.2023 Workzone Noise ELES/DOC/SMPL/03 ELES Pvt. Ltd.	
Mines Status	; Non Operational	Period of Analysis	; 30.09.2023 to 11.10.2023	

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 27	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%) : 64	4	Weather Condition	: Partly Cloudy

Location	Unit	Test Protocol	Resi	ult	Regulatory Limit (Industrial Zone)
Near Weigh Bridge -			Time	Leg	
Pakhar Bauxite Mine (15.58 ha)	dB(A)	IS 4758:1968; RA 2017	Day Time	75	90 dB (A)
Sample ID: ELES/RNC/2023/WN/3560					

A Seriewed by

****End of Report****

() Sinla

Authorised Signatory

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

Page 1 of 1

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PLOT NG-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) 63T NO:- 20AAECES713D124 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/2023/4111	Report Release Date : 31.10.2023	
Work Order No.	g M&M/23-24/01	Work Order Date : 31.03.2023	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	+ ELES/RNC/2023/SW/3503	
		Sampling Date	: 15.09.2023	
		Sample Received Date	29,09,2023	
		Type of Sample	: Surface Water	
Address	; Lohardaga, Jharkhand-835302	Source of Sample	: Spring Water	
		Location of Sample	; Pakhar Bauxite Mine (15.58 ha)	
1. Sec. 17. sec. 10. Sec. 11.	Date in the second	Sampling Procedure	: ELES/DOC/SMPL/01	
Mines Status	1 Non Operational	Sample Collected By	: ELES Pvt. Ltd.	
Period of Analysis	: 29.09.2023 to 17.10.2023	Sample Condition	: Sealed & Preserved	

Discipline : Chemi	cal	Group	: Water	Tolerance Limits	
Parameter Un		Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)	
pH (at 24.8 °C)	1	IS 3025 (Part (1): 2022	6.66	6,5-8,5	
Colour	Hazen	IS 3025 (Part -4): 2021	3.0	300	
Odour	-	IS 3025 (Part-5): 2018	Unobjectionable	-	
Taste		APHA 23rd Ed.2017, 2160 C	N/A	:**	
Turbidity	mg/L	IS 3025 (Part-10):1984;RA2017	0.44	-	
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part 16):1984; RA2017	158	1500	
Total Alkalinity (as CaCO ₃)	mg/L	IS 3025 (Part-23):1986; RA2019	55		
Total Hardness (as CaCO ₃)	mg/L	IS 3025 (Part-21): 2009; RA2019	75		
Sulphate (as SO ₄)	mg/L	18 3025 (Part 24): 1986; RA2019	5.0	400	
Nitrate (as NO ₃)	mg/L	APHA 23 rd Ed.2017, 4500 NO ₃ -B	BDL (DL: 0.5)	50	
Chloride (as Cl)	mg/L	IS 3025 (Part-32):1988; RA2019	12.3	660	
Fluoride (as F)	mg/L	IS 3025 (Part-60) :2008; RA2019	BDL (DL: 0.1)	15	
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 ₁ OH)	mg/L	IS 3025 (Part-43): 1992;RA2019	BDL (DL: 0.0005)	0.005	

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO:- 26AAECE9713D124

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	± ELES/RNC/2023/4111	Report Release Date	: 31,10,2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

Discipline: O	Chemical	Group: Wat	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	20	-4
Free Residual Chlorine (RFC)	mg/L	IS 3025 (Part-26) :2021	BDL (DL; 0,1)	1.21
Discipline: Cl	hemical	Group: Residu	es in Water	
Aluminium (as Al)	mg/L	IS 3025 (Part-55) :2003; RA2019	BDL (DL: 0.02)	*
Arsenic (as As)	mg/L	1S 3025 (Part 37): 2022	BDL (DL: 0.005)	0.2
Boron (as B)	mg/L	18,3025 (Part-57):2021	BDL (DL: 0.2)	-
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)	Æ
Copper (as Cu)	mg/L	APHA 23 rd Ed,2017; 3111B	BDL (DL: 0.03)	1,5
Iron (as Fe)	mg/L	APHA 23rd Ed.2017; 3111B	0.283	50
Lead (as Pb)	mg/L	APHA 23rd Ed.2017, 3111 B	BDL (DL: 0.01)	0:1
Manganese (as Mn)	mg/L	APHA 23 rd 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 (as Zn)	mg/L	APHA 23 rd Ed.2017, 3111 B	BDL (DL: 0.1)	15
Discipline: Bio	ological	Group: Wate	er	
Total Caliform	CFU/100 mL	IS 15185: 2016, RA2021	2.90×10 ³	5000
Escherichia Coli	CFU/100 mL	IS 15185:2016; RA2021	6.36×10 ²	-

Remarks: 1. pH & RFC done at Lab.

Page 2 of 3

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

ENGINEERING SERVICES PVE. LTD.

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

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

TEST REPORT

 Test Report No.
 : ELES/RNC/2023/4111
 Report Release Date
 : 31.10.2023

 Work Order No.
 : M&M/23-24/01
 Work Order Date
 : 31.03.2023

Discipline: Cho	emical	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, IS: 3025 (P-39)	<0.1	
Polynuclear Aromatic Hydrocarbons (PAH)*	mg/L	APHA 23rd Edition	<0.0001	
Pesticides .				
Alachlor*	µg/L	APHA	<1.0	
Atrazine*	µg/L	APHA	<1.0	
Aldrin/Dieldrin*	µg/L	APHA	<0.01	
Alpha HCH*	μg/L	АРНА	< 0.001	
Beta HCH*	µg/L	APHA	<0.01	
Butachlor*	pg/L	АРНА	<10	
Chlorpyriphos*	μg/L	APHA	<10	
Delta HCH*	µg/L	APHA	<0.01	
2.4 dichlorophenoxyacetic acid*	µg/L	APHA	<10	
DDT(o,p and p,p-isomers of DDT,DDE and DDD)*	μg/L	APHA	<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****

Br. Deependra Kumar Smha

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

Page 3 of 3

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MINERALS & MINERALS LIMITED

Regd. Office- Court Road, P.O. & Distt.-Lohardaga, Jharkhand-835302 Tel.-06526-223163

CIN NO. U26990JH1970PLC000875

Ref.:	Date

Annexure 3

Date - 28.10.2023

Office Order

Environmental Cell has been re-constituted at Pakhar Bauxite Mine (Area 15.58 ha) comprising below mentioned team members. The team will ensure compliance of Environment Act, Regulation & Rule in respect of the said mines of Minerals & Minerals Limited.

- 1. Mr. Deepak Kumar Jha (Coordinator)
- 2. Mr. Sayantan Das (Geologist)
- 3. Ms. Abhilasha Singh– Environment Engineer
- 4. Mr. Anand Prakash Tiwari Environment Engineer

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

Basudev Gangopadhyay

AVP (Planning, Environment & Compliance)

Annexure 4

	Production, 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



Basudev Gangopadhyay

AVP (Planning, Environment and Compliance)

Annexure-5

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

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

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

^{**}Part of OB removed cost.

Basudev Gangopadhyay
AVP (Planning, Environment & Compliance)

Registered Parcel



GOVERNMENT OF INDIA MINISTRY OF MINES INDIAN BUREAU OF MINES OFFICE OF THE REGIONAL CONTROLLER OF MINES

Telephone: (0651) 2242889 (0651) 2242903 Fax: (0651) 2242903

E-mail: ro.ranchi@ibm.gov.in

RAN/LOH/BX/FMCP-03/2014-15

318-B, Road No.- 3, Ashok Nagar, Ranchi - 834 002, Date: 15/05/2015

Shri A. K. Agarwal, To:

Director cum Nominated Owner M/s HINDALCO Industries Ltd., Court Road, Lohardaga - 835 302 (Jharkhand).

Sub: Approval of Final Mine Closure Plan in respect of PAKHAR Bauxite Mines of M/s HINDALCO Industries Ltd. over an area of 8.09 hectares in village-Pakhar, Lohardaga district of Jharkhand State submitted under Rule 23C of MCDR, 1988.

Ref: Your A.G.M. (Geology) letters no.(1) HIL/LHD/BX/IBM/926(I) Dated 25/09/2014 (2) HIL/LHD/BX/IBM/ Dated 06/04/2015

This office letter no. रांची/लोहरदगा/बाक्साइट/एफ.एम.सी पी.-03/2014-15,दिनांक:13/03/2015

Sir,

In exercise of the powers conferred by the sub-rule 2 of Rule 23C of Mineral Conservation & Development Rules, 1988; I hereby approve the above said Final Mine Closure Plan in respect of PAKHAR Bauxite mines of M/s HINDALCO Industries Ltd. over an area of 8.09 hectares in village-Pakhar, Lohardaga district of Jharkhand State, submitted under Rule 23C of MCDR, 1988. This approval is subject to the following conditions: -

- that the Final Mine Closure Plan is approved without prejudice to any other (i) laws applicable to the mine/lease area from time to time whether made by the Central Government, State Government or any other Authority.
- that this approval of the Final Mine Closure Plan does not, in any way, (ii) imply the approval of the Government in terms of any other provisions of the Mines & Minerals (Development & Regulation) Act, 1957 or the Mineral and any other laws including Concession Rules, 1960 (Conservation) Act, 1980, Environment (Protection) Act, 1986 and the rules made there under.

that the Final Mine Closure Plan is approved without prejudice to any order (iii) or direction from any court of competent jurisdiction.

- that the Regional Office, Indian Bureau of Mines, Ranchi shall be informed (iv) after completion of activities of final mine closure as per proposal of the Final Mine Closure Plan.
- that the Yearly report as required under Rule 23E(2) of MCDR,1988 setting (v) forth the extent of protection and rehabilitation works carried out as envisaged in the approved final mine closure plan and if there is any deviations, reasons thereof shall be submitted before 1st July of every year to the Regional office, Indian Bureau of Mines, Ranchi.

No.: RAN/LOH/BX/FMCP-03/2014-15.

(iv) The financial assurance submitted for Rs.2,00,000/-(Two lacs only) is valid up to 31/03/2017.A new bank guarantee is to be submitted on or before its expiryi.e. 31/03/2017, if the rehabilitation proposal not completed by the time.

Encl.: One copy of approved Final Mine Closure Plan.

Yours faithfully

R. Purohit)

Regional Controller of Mines

Copy forwarded for information to: -

1. The Director (Mines),
Directorate of Mines and Geology,
Government of Jharkhand,
Nepal House Area, Doranda,
Ranchi - 834 002.(Jharkhand), along with a copy of approved Final Mine
Closure Plan. It is requested to ensure that the determination of aforesaid
lease is not accepted unless and until a certificate issued by the Indian Bureau
of Mines under Rule 29A (2) of Mineral Concession Rules, 1960 to the effect
that protective, reclamation and rehabilitative works as envisaged in the
approved Final Mine Closure Plan are carried out.

- 2. The Director of Mines Safety
 Ranchi Region
 CMPDIL-Campus
 3rd Floor, Old Building
 Kanke Road, Ranchi-834008
 along with a copy of approved Final Mine Closure Plan.
- Shri B.K.Mahapatra, RQP, HINDALCO Industries Ltd. Court Road LOHARDAGA - 835 302.

(R. Purohit) Regional Controller of Mines