MINERALS & MINERALS LIMITED

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

CIN NO. U26990JH1970PLC000875

Ref.: M&M/LHD/ENV/MoEF/425

Dale: 25:11:2023

To,

The Dy.Director General of Forest (C)

Ministry of Environment, Forests and Climate Changes

2nd Floor, Headquarter-Jharkhand State Housing Board

Harmu Chowk, Ranchi, Jharkhand-834002

Sub: Compliance Report of EC conditions for Pakhar (15.58 ha) Bauxite Mining project of M/s Minerals & Minerals Limited located in Lohardaga, Jharkhand for the period April'23 to September'23.

Ref: Environmental Clearance letter no J-11015/123/2006-IA II (M) dated 24th January 2007 Sir,

With reference to the above, we are submitting herewith the Compliance status report of EC conditions for Pakhar (15.58 ha) Bauxite Mining project of M/s Minerals & Minerals Limited located in Lohardaga, Jharkhand for the period April'23 to September'23.

The lease detail is as below.

Lease area (ha)	Production Capacity (MT)	Lease Period
15.58	60000	28.04.1965 to 31.03.2030

Hope you will find the same in order.

Thanking You

Yours Sincerely

FOR Minerals & Minerals Limited

(Basudev Gangopadhyay)

AVP (Planning, Environment & Compliance)

Enclosure: - As Above

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

: Pakhar Bauxite Mine (15.58 ha) Name of the Project

M/s Minerals & Minerals Ltd

Environment Clearance No. & date : J-11015/123/2006-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: - Implementations of the stipulated conditions in NOC are fulfilled post which consent to operate has been obtained from time to time. Existing consent to operate is valid up to 31.03.2026. Productions of bauxite are within limits specified in consent to operate.

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

Reply: - Land acquisition is being done with the permission of competent authority of State Government i.e. concerned Deputy Commissioner (D.C.) under CNT Act. The land lease agreement is being done with raiyat (Landowner) for 20 years with permission of State Govt with provision of returning the land as per the norms set by D.C. The compensation and facilities are being provided as per norms set in agreement. Thus, land acquisition has the approval of the State Government.

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 mining operation is confined within shallow depth (20 m max) and not intersected ground water. In future also, working zoneswill be restricted to above ground water table. We undertake that no mining is/was carried out below ground water table and the same status will be maintained in future also.

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

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

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: - Topsoil is being stacked properly with proper slope as and when required for its use for reclamation and rehabilitation. Sequential backfilling and reclamation of the mined-out area are being exercised during mining operation.

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: - Overburden and waste rock from the mining pit are being used for back filling. Earlier OB dumps were being rehandled and is being backfilled into mining voids. A Major portion of the dump is rehandled. Avery small quantity is left out which will be handled with the progress of mining activity in due course of time. Thus, there will not be any external dump at the end of mine life. Backfilling and plantation detail provided is attached in **Annexure-4.**

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: - No run-off is generated from mining activities. However, to collect & manage rainwater during monsoon, part of mined out area is used as settling tank for the runoff. Rainwater stored is being used for watering the mine area, roads, green belt development and sprinkling as necessary. Catch drains, Garland drains of appropriate size are being constructed in both around the mine pit to prevent runoff of water and flow of sediments directly into the agricultural field and water bodies, if applicable. Sump of adequate capacity is being provided and maintained as required.



Garland Drain

Condition viii: - Plantation shall be raised in an area of 6.98 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: - Plantation is being carried out around ML area with progress of mining. Nos of sapling planted till date is 12704 nos. In addition to this agricultural activity is going on reclaimed land. The 6.17 ha areas have been planted till date.









Plantation at Mines

Condition ix: - The project proponent shall ensure that there shall be no discharge from the mine.

Reply: - Ensured. There is no discharge from the mine.

Condition x: - The Project proponent shall carry out regular monitoring of spring discharge and its quality near Pakhar village on long term basis.

Reply: - Spring water near Pakhar village is being monitored. Analysis report is attached as **Annexure 2**.

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

Reply: - A plan is drawn based on the discussion with scientists of State unit office of Central Ground Water Board, Ranchi to implement suitable conservation measures to augment ground water resources in the area and is also submitted to the Regional Director, Central Ground Water Board, Patna, for his further suggestions. Suitable conservation measures to augment water resource in area are implemented viz construction of sump, etc. is being provided. It may be noted that there is no chance to intersect ground water table during mining operation.

Condition xii: - 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: - The mining operation is confined within shallow depth (20 m max) and not intersected ground water. We are not using ground water for any mining purpose. A piezometer has been installed for monitoring of ground water level. Water quality and water level report are attached herewith as **Annexure 1**.



Piezometer

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

Reply: - We are not using natural water bodies, ground water for mining purposes. We have obtained NOC for ground water extraction from CGWB.



CGWB License

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

Reply: - To keep vehicular emissions under control, vehicles are periodically checked & repaired. All measures are being taken to control vehicular emission including covering with tarpaulin and non-overloading during transportation.



Find Jan Small Comment of Comment

Tarpaulin covering during material loading-unloading

PUC Certificate

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

Reply: - Wet drilling is in practice.



Wet Drilling

Condition xvi: - 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: - Blasting time is fixed during Lunch Time i.e. 1.00 PM -2.00 PM. Controlled blasting method is in practice. All efforts are being taken to mitigate the impact of blasting.

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

Reply: - There is no proposal for production enhancement.

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

Reply: - There is no effluent from mine. Hence, ETP has not been installed.

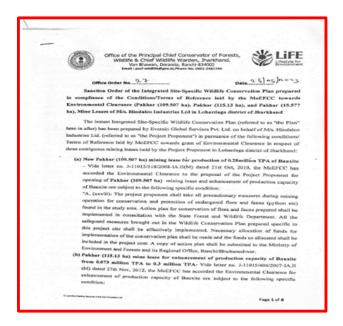
Condition xix: - The project proponent should take all precautionary measures during mining operation for conservation and protection of endangered fauna such as Indian Python etc. Spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation 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: - Action taken for conservation of flora and fauna are as under: -

- 1) Permanent pillars are established within the mine lease area.
- 2) Maintenance of the forest road.
- 3) Ensured necessary air and noise pollution control measures.
- 4) Daily water sprinkling is being carried out on the forest road.
- 5) Transportation is being done during daytime.

Also, we have been granted letter of approval for the Integrated Site-specific Wildlife Conservation Plan via Office Order No.27 dated 26.05.2023 by PCCF, Wildlife, Ranchi.



Approval Letter

Condition xx: - 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: - Progressive Mine closure plan has been dully approved by Indian Bureau of Mines. FMCP related provision will be compiled as per applicable guideline and timelines mentioned in MCDR/IBM guideline who are competent authority to approve the same. Based on the present resource estimate, and peak rated production capacity mentioned in EC, Mining operation is being carried out.

General Conditions: -

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

Reply: - Noted.

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

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

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

Condition iv: - Data on ambient air quality (RPM, SPM, SO₂, NO_x) 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 are enclosed as **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: - One no. of mobile water tanker with sprinkling facility has been provided along haul roads, loading unloading & at transfer points to arrest dust emissions.



Water sprinkling through tanker

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: - Noise monitoring is being done regularly. Workers engaged in operation of HEMM, etc. are provided with ear plug / muffs. The monitoring report is enclosed as **Annexure-2**.

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

Reply: - There is no industrial wastewater generated from workshop within mine lease area. We are not discharging any wastewater outside mine lease area. Oil and grease trap installed at suitable site in Pakhar plateau.

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: - Complied. We are ensuring that the use of Personal Protective Equipment (PPE)should be done by individuals daily. Mine workers are being regularly and periodically sent to our own hospital for health checkup for any contraction of diseases due to exposure in dusty and noisy areas. Training on safety, health and environmental aspects of mining is being regularly imparted through VT centre and also through various other training programmes conducted by the State Government, recognized agencies, etc.

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: - Adhering to our environmental policies and in order to create more awarenessat mines site regarding environment, separate Environmental Management Cell (EMC) has been constituted and is functioning effectively. Copy is enclosed as **Annexure-3**.

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: - Provision related to financial closure are not applicable as this is an operating Mine. Now Regional office is at Ranchi.

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 & actual expenses for environmental protection measure is submitted as **Annexure-5**. Now Regional office is at Ranchi.

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, Regional office is 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.

	Annexure 1						
S No	Piezometer Reading - Pakhar 15.58 ha S No Month Depth (meter)						
1	April'23	40.83					
2	May'23	40.37					
3	June'23	37.91					
4	July'23	37.23					
5	August'23	37.29					
6	Sept'23	37.27					



PLOT NO 30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 [JHARKHAND] GST NO: 2044ECF97130124

ENGINEERING SERVICES PVT, LTD

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

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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	: 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	: 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

NABL Accredited				Contract Con	
Discipline 1	Chemical	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part-23): 2006; RA2022	61	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	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 ₅)	μg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	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/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****

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Reviewed by

Authorized Signatory

Dr. Deependra Kumar Sinha

Ph. D. Environmental Engg.

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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 DETAILS		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	
	- Av	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 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 : Chemical		Group : Atmospheric Pollution			
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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Authorized 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 (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 & M	finerals Limited	Sample Ref. No.	LECTO CONTINUES DE LA LA CARACA
		Location	: ELES/RNC/2023/AA/1440 ; Near Weigh Bridge Pakhar (15.58 ha) Bauxite Mine
Address Lohardaga, J)	arkhand-835302	Sampling Date Sample Received Date	: 09.04,2023 to 10.04,2023 ; 10.05,2023 : Ambient Air
Plant Status : Operational		Type of Sample Sample Drawn By	: ELES/DOC/SMPL/02
Period of Analysis : 10.05.2023 to	08,06.2023	Sample Condition	: Sealed & Preserved

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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Reviewed by

Shinks.

Authorized Signatory

Dr. Deependra Kurnar Sinna

Ph. D. Environmental Engg.

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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 DETA	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2023/AA/1440	
		Location	: Near Weigh Bridge	
	and the second second	7.00	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	
	Land of the second	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	EMATION			
1	Average Temperature (°C)	: 33	2	Barometric Pressure (mmHg)	739
3.	Relative Humidity (%)	160	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. Deependra Kumar Sinha Ph. D. Environmental Engg. ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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

ENGINEERING SERVICES PUT LTD.

Email: info@elespl.co.ia , eles.ranchi@amail.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
ULR No.	: TC883923000000975F		

CUSTOMER DET	AILS	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/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	µg/m³	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/AIR/SOP/01	<2.0	06 (Annual)		



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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	
		Location	; Near Mine Quarry No- M1 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	
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	: Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	μg/m³	IS:5182 (part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene*	ng/m³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)

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



****End of Report****

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.

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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 DET.	ULS	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 Type of Sample	: 09.04.2023 to 10.04.2023 : 10.05.2023 : Ambient Air	
Plant Status		Type of Sample Sample Drawn By	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 (24hrs)
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

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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.

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/2023/2015	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 (mml/g)	: 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	: Atmospheri	c 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.



****End of Report****

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

Page 1 of 1

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



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	VILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2023/AA/1363	
		Location	: Near Bunglapart Village	
		1.37.77	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			
L	Average Temperature (°C) : 33	2	Barometric Pressure (mm	Hg) : 743
3	Relative Humidity (%) : 61	(4)	Weather Condition	: Clear

NABL Accredited				
Discipline :	Chemical	Group	: Atmospheri	c Pollution
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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****End of Report****
Page 1 of 1

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

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

Discipline : Chemical		Group ; Atmospheric Polletion		
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-DW19999H291NF90011125

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	: 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 08.86.2023.	Sample Condition	: Sealed & Preserved	

M.	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 33	2	Barometric Pressure (mm.	Hg) : 743
3	Relative Humidity (%)	:61	4.	Weather Condition	Clear

NABL Accredited				
Discipline :	Chemical	Group	Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	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 ₂)	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 ₁)	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.

Email: injo@elespl.co.in_eles.ranchi@amail.com

Phono no.: 0651-1250103 Website: www.elespi.co.in

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	Regulatory Limit
Benzene"	µg/m1	IS:5182 (part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene ^a	ng/m³	IS:5182 (Part-12)::2004;RA2019	<6.5	Ot(Annual)

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



****End of Report****

Authorized Signatory

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

Page 1 of 1

The Decement struct as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pro-approved format. The results shown in the Test Report refer or relates only to the jobianolysis done by the Laboratory only. The information stated on the Test Report reflects the furdings done by the Laboratory of the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report sannot be reproduced except in full and any part of the report is not taken out of context, without prior virtual 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 driven to the limitation of liability, compensation and principles in the samples are retained alteration & Substitution of the content or appearance of the Test Report is unlawful and offenders may be prospected to the fallont extent of the low. All the samples are retained for allows from the Date of relative fallows from the Date of Test Report. The samples from Regulatory realies are to be retained as specified. Any type of Observations or Composition of Complaints regarding the Reports shall be done within 15days from the Date of Test Report (his prior the Date of Tes



PAO I NO-BO, MANSANOVAN ENCLAVE, PULVIDANA NATIA, RANGHI-IBADOS (MAKKHANO) ESTNO: MAKEGETINO) (4



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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 Rev. No. Location	ELES/RNC/2023/AA/1365 Near Ulkarmit Rajkiya Prathmik Vidyalaya Bunglapart Village	
Audresa	: 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	Į.		
4	Average Temperature (°C) : 33	2.	Barometric Pressure (mm	Hg) : 743
3	Relative Humidity (%) : 61	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	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	IS 5182 (Part-9): L974; 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 \$182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22); 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20.(Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)

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****End of Report****

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Page 1 of 1 Ph. D. Marronne Nasi 2: 198.

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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		

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.

Reviewed by

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

Page 1 of 1

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PLOT NO 30, MANSAROUNG ENCLAVE TUPLIDANA HATIA, RANCHOSSAUGS / JHARKMANDI 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	- Donardaga, Jiangang 83,3302	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)	:33	2	Barometric Pressure (mm	Hg) ; 743
3	Relative Humidity (%)	3 61	4.	Weather Condition	: Clear

NABL Accredited						
Discipline :	Chemical	Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limi		
Particulate Matter (PM10)	fig/m³	IS 5182 (Part-23): 2006; RA2022	66	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m ²	IS 5182 (Part- 24): 2019	34	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	µg/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)	prg/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 ⁵	IS 5182 (Pan-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	< 9.002	1 (24hrs)		
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m²	ELES/AIR/SOP/01	<2.0	06 (Annual)		

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****End of Report****

Page 1 of 1

Page 1 of 1

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PLOT NO-30, MANGAROVAR ENCLAVE, TUPUDAMA HATIA, RANCHI-834003 (HARKHAND) GSTNO:-201426597130124 ENGINEERING SERVICES PAT. LEB.

Empli: <u>Info@elespl.co.li) , eles ranchi@amail.com</u> Phone no.: 0691-2290103 Website : www.elespl.co.lii

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	TEOROLOGICAL 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

The Decement stated as Tost fleport, it issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approval formal. The results shown in the Test Report refer or relates only to the johrmelysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's districtions. The Laboratory is responsible for all the information or data growled on the report, except the information which is post/ided by the client. The Report contents and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report is full or in gast shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is that in other initiation of liability, compensation and junished states. Any unanaborated alteration & falsification of the Management of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of relative for Test Report. The samples from Regulatory basics are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Best of Test Report in the 2days from the time period stated before, no complaints will be accepted. The unitie Time schedule mentioned in Test Report is in 24llours format. Alterwisium used: N/A (Not Applicable), BDL (Below Detection Limit). (Liniver Detection Limit)



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, HANCHI-834003 (JHARKHAND) GST NO:- 201/16CE9713D1Z4

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 Pvt. Ltd.	
Period of Analysis	: 26.04.2023 to 05.05,2023	Sample Condition	Sealed & Preserved	

Discipline : Chem	ical	Group : Water	r	Regulatory Limit as per IS 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	12	IS 3025 (Part-5) :2018	Agrecable	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	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

Page 1 of 4

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PLOT NO-30, MANSAROVAR ENCLAYE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20ARECE9713D3Z4 ENGINEEMBYG SERVICES PVT. LTB.

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

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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	

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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ENGINEERING SERVICES PVT. ETD.

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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	

Discipline : Biological		Group: Water		Regulatory Limit as per IS 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Total Coliform	Per 100 mL	IS 15185:2016; RA 2021	Not Detected	Chall set	a december
Escherichia Coli (E. Coli)	Per 100 mL	IS 15185:2016; RA 2021	Not Detected	Shall not be detected	
Discipline: Chemical		Group: Water		Regulatory Limit as per IS 19500;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

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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 DETAILS		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 ₃)	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/m³	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

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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 DETAILS		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	: Atmospheri	e 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.

Reviewed by

****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 DETAILS		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	TEOROLOGICAL 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				: 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	(\$ 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 Engage

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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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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 DETAILS		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	

И	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	136	2	Barometric Pressure (mm)	He) -739
3	Relative Humidity (%)	: 58	-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
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/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****

Authorized Signatory Dr. Deependra Kumar Sinha

Page 1 of 1 ELES Pvl. Ltd. Technical Manager
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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/2023/2345	Report Release Date	: 01.07.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

CUSTOMER DETA	CUSTOMER 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
Plant Status	1 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	TEOROLOGICAL 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	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

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

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



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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 Te	mperature (°C) : 36	2	Barometric Pressure (mmHg)	- 720
3 Relative Hu		4	Weather Condition	Clear
S Longitude	: 84°36'8.		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)	μg/m³	IS.5182 (Part-6): 2006; RA2022	17.3	80 (24hrs)
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/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: 20AAECE9713D1Z4

ENGINEERING SERVICES PVT, LTD.

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

Website: www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/2346	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/1819 : Near Mine Quarry No-M4 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	

Mi	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	;36	2	Barometric Pressure (mmHg)	: 739
	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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PEOT MORSO, MANSAGOS AR ENGLAVO, EUPUDANA HATTA, ESPECIFESCA (TELESCHAND) CST NO- 2054EC69718D134



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TEST REPORT

Test Report No.	: ELES/RNC/2023/2267	Report Release Date	: 01,07,2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000001189F		

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	- Hindalco Industries Limited	Sample Ref. No. Location	r ELES/RNC/2623/AA/1740 r 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 Status	: Operational	Sample Drawn By	: ELES/DOC/SMPL/02	
Period of Analysis:	: 06.06.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION			
1 Average Temperature (°C) : 34	2	Barometric Pressure (mml	(g) : 743
3 Relative Humidity (%) : 59	4	Weather Condition	Clear

NABL Accredited						
Discipline :	Chemical	Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (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 ₂)	ug/m³	1S 5182 (Part-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/m1	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	06 (Annual)		



****End of Report****

Dr. D. Bostonmust Lance

Page 1 of 1 ELES ON THE TOOK OUTSTAND

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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)		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 ³	1S 5182 (Part-11)2006;RA2017	<1.0	05(Annual)	
Benzo (a) Pyrene®	ng/m³	IS 5182 (Part-12)3004;RA2019	< 0.5	01(Annual)	

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

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****End of Report***

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 DETAILS		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 (mmH	(g) : 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 ³	18 5182 (Pare-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)	pg/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 (Amaual)



****End of Report****

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Authorized Signatory

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Manager (Manager

Page 1 of 1

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securated in Tele Report in 24hours (observe Abbrevioring used: N/A (rice Applicable), BD) (Below Descents Limit) (D) (Lower Descents Limit)



PLDT NO-30, MANSAROVAR ENCLYVE, TURLIDANA HAYIA, RANGHIGSINGS (PRARKHAND) GST NO-30441CE97130134

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	: 81.07.2023	
Work Order No.	: 13612319218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		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	RMATION			
_	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.



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Page 1 of 1

The Degeneral stated or Text Report, in imped by the Laboratory under Centeral Terms and Conditions, only on Company letter head in pre-approved format. The results above in the Septer profes or relates only to the jobilishing cone-by the Laboratory only. The effortunion stated on the Text Report reflects the findings done by the Laboratory at the tance of involvement only and within the legal officient's surrections. The Laboratory is responsible for all the information of that provided on the report, except the enfortunation which is provided by the circus. The Report cannot be repositived except in full and any part of the sepert is said taken one of context, without prior written approval of the Laboratory. The Report in full or in rises that not be probabled, advertise, used for any legal actions effect permitted prior to the Management of the Laboratory. According to the familians of flabelity, compensation and junisdiction issues. Any annularized observation of familiarities on apparature of the Text Report is unlawful and advended not be remained to follow expect of the law. All the supplies are retained for include forms to Date of familiarities on the Date of Text Report. The samples from Regulatory bodies are us to exclude an received. Any type of Observations or Complement regulating the Report in the date within 15thes. Sinto the Date of Text Report released to the law and the familiarity. The samples format, Abbreviation of the Issue Date of Text Report in a 24 hours format. Abbreviation of Not Not Not Replaced to the law Detection Limit). The (Lower Detection Limit).



PLOT NO-30: MANSAROVAR ENGLAVE TURUDANA ILATEA, REDICHERZHARTB (WATERIAME) BST NOV EGRAECES 2130 ST4



Website : www.alexplico.in

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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 DETAILS		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	2) 7/43
Relative Humidity (%) : 59	4	Weather Condition	Clear

NABL Accredited				
Discipline :	Chemical	Group	: Atmospheri	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 ₃)	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): 2604; RA2019	<0.002	1 (24hes)
Nickel (Ni)	ng/m	IS 5182 (Part-26):2020	<6:0	20 (Annual)
Aisenic (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 (mml	lg) :743
Relative Humidity (%) 4.59	4	Weather Condition	: Clear

Discipline : Chemical		Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene ^a	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. Deependra Kunta 3

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Page 1 of 1

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PUCT NO ED MANSAROVAR ENCLAVE, TURUDANA HATAL TÄRFTHEBBAGGS DEARKHAND, SST NO : 10AABCEST!3DUZI



Emali: Info@elespl.co.jp., eles construbema l'esy. Phone vio. 10551-2290108 Violatre : viu la biesotac de



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 DETA	AH.S	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	ELES/RNC/2023/A/V1743 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 (Pb)	ug/m³	1S 5182 (Part-22): 2004; RA2019	<0.002	1 (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

The Document stated in Test Registral assembles, the Automotory mode General Terms and Continues, only in Company Silver head in pre-approved formal The results about in the Test Report reflects to the Indonesia of the Laboratory at the time of the Less Report in the Less Report reflects the funding done by the Laboratory at the time of the Less Report in the Less Report in the Less Report in the substitution of the report in the report in the Laboratory of the Laboratory. The Report in the Laboratory in the Laboratory of the Laboratory. The Report in the laboratory in the Laboratory of the Laboratory of



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 DETAILS		SAMPLE DETAILS		
Customer Name	1 Hindaico Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1743 : Near Urkarmit 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	
Pariod of Analysis	: 06.06.2023 to 08.06.2023	Sample Condition:	: Sealed & Preserved	

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

Discipline	; Chemical	Group	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Beazene*	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
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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) 657 NO:- 20AAECE9713D1Z4

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

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



TEST REPORT

Test Report No.	: ELES/RNC/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 DETA	AILS	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	1100		- 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 :	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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Authorised Signatory

Ur. Deepengra Kumar Sinha

Page 1 of 1

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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	AILS	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)	- 22	2	Barometric Pressure (mmHg)	759
	AND DESCRIPTION OF THE PARTY OF			The second secon	- 20
3	Relative Humidity (%)	: 59	- 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/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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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDAHA HATIA, RANCHL834003 (JHARKHAND) GST NO:- 20A4ECE9713D124



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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
ULR 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	

METEOROLOGICAL INFORMATION					
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.

Page 1 of 1

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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

Phone no.: 0551-2290103 Website : www.elespl.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	: 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	: 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 : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene*	ug/m ³	IS:5182 (Part-11); 2006;RA2017	<1.6	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 : BLES/DOC/SMPL/02 : BLES Pvt. Ltd.	
Period of Analysis	: 26.06.2023 to 07.07.2023	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFOR	RMATION			
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	1S 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****

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Environmental Engg

Page 1 of 1 FIES Dut 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@eiespl.co.in , eles.ranchi@gmail.com Phone no.: 0651-2290103 Website : www.elespl.co.in

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	CUSTOMER 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

Page 1 of 1

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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 DETAILS		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	- 18.06.2023 to 19.06.2023 - 26.06.2023 - Ambient Air - ELES/DOC/SMPL/02	
Period of Analysis	: 26.06.2023 to 07.07.2023	Sample Drawn By Sample Condition	; ELES Pvt. Ltd. ; Scaled & Preserved	

1	Average Temperature (°C)	+33	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 :	: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23); 2006; RA2022	50	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	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
The Ducument stated as Test Report, is issued by the Laboratory under General Terror and Conditions, only on Company letter heat in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in port shall not be published, advertise, used for any legal actions unless one of the extension has been secured from the Management of the Laboratory. Attention in drawn to the limitation of hability, compensation and jurisdiction issues. Any unauthorized attention & Babilication of the extent or appearance of the less Report is unlawful and offenders may be prosecuted so the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period started before, no complaints will be accepted. The entire Time schooling mentioned in Test Report is in 24 neura-format. Abbreviation used: N/A (Not Applicable): BDL (Below Detection Limit). LDL (Lower Desection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 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 DETAILS		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	: Lohardaga, Jharkhand-835302 : Non Operational	Sampling Date Sample Received Date	: 18.06.2023 to 19.06.2023 : 26.06.2023 : Ambient Air	
Mines Status		Type of Sample Sampling Procedure Sample Drawn By	ELES/DOC/SMPL/02	
Period of Analysis	: 26.06.2023 to 07.07.2023	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFOR	RMATION	V		
1	Average Temperature (°C)	: 33	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	159	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.

Reviewed by 2

****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 UMARKHANDI 657 NO. 104 ASCENTINONA

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Email: infa@elecol.co.in . stes concluid/brook.com Phone no.: 0651-2290103

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 : ELES Pvt. Ltd.	
Mines Status		Sample Drawn By		
Period of Analysis	26.06.2023 to 06.07.2023	Sample Condition	: Sealed & Preserved	

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

			Turney (
Chemical	Group	Atmospheri	e Pollution
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/m²	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/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
ng/m ³	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

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PLOT NO 30, MANSAROVAR ENCLAYS, TURUSANA HATIA, RANCHI-134003 (HARRHAND) GST NO-201451697130104

ENGINEERING SERVICES PVT. LTD.

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	

	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-I1): 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 , elesstantri@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 Mines Status	: Lohardaga, Jharkhand-835302	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. : Sealed & Preserved	
Period of Analysis	: 26.06.2023 to 06.07.2023	Sample Condition	: Sealed & Preserved	

1 (9C) . 22	9	Barometric Pressure (mm	Ha) 1730
Average Temperature (°C) : 33		The state of the s	1161
Relative Humidity (%) : 59	4	Weather Condition	: Clear

NABL Accredited Discipline :	Chemical	Group :	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Parsiculate 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 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	16.8	80 (24hrs)		
Ozone (O _s)	µg/m³	15 5182 (Part-9): 1974; RA2019	<20.0	100 (8hts)		
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)	ag/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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RLOT NO 30 MANSAROVAR ENCLAVE. TURVIDANA HATTA, RANDIN-234003 (HARKHAND) 697-NO - 2044RED (2018)

ENGINEERING SERVICES PUT. LAD.

Email: (pfa@elesal.co.in) eles canchi@gmail.com Phane no. - 0651-2290103

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 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	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPI/02 : ELES Pvt. Ltd.	
Period of Analysis	: 26.06.2023 to 06.07.2023	Sample Condition	: Sealed & Preserved	

A1	TEOROLOGICAL INFORMATION			
E	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	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2157 : Near Utkarmit Rajkiya Prathmik Vidyalaya Bunglapart Village	
Address Mines Status			Pakhar Bauxite Mine : 17.06.2023 to 18.06.2023 : 26.06.2023 : Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 26,06,2023 to 06,07,2023	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 :	Chemical	Group	Atmospheri	c Pollution
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	1S 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 (8hrs)
Lead (Pb)	jig/m³	1S 5182 (Part-22): 2004; RA2019.	< 0.002	1 (24hrs)
Nickel (Ni)	1/8/m²	IS 5182 (Part-26):2020	<6.0	20 (Antiual)
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 reconficultionager

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.canchi@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	
Address	ddress : Lohardaga, Jharkhand-835302 lines Status : Operational	Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	: 17.06.2023 to 18.06,2023	
Mines Status				
Period of Analysis	iod of Analysis : 26.06.2023 to 06.07.2023 Sample Condition		: 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.

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* ** 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

Ensail: InterBelesal Lo In , eles ranchi Gema .com

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



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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 DETAILS		SAMPLE DETAILS		
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		Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 18.06.2023 to 19.06.2023 : 26.06.2023 : Ambient Air : ELES/DOC/SMPL/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				c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Marter (PM10)	µg/m³	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	IS-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 ¹	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenie (As)	ng/m²	ELES/AIR/SOP/01	<3.0	06 (Annual)

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****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	- Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd. : Sealed & Preserved	
Period of Analysis	: 26.06.2023 to 06.07.2023			

YF	TEOROLOGICAL INFORM	MATION			
F	Average Temperature (°C)	: 33	2	Barometric Pressure (mmHg)	: 739
3	Relative Homidity (%)	: 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.

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End of Reportance

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

Page 1 of 1

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

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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 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, 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	

M	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 (24hrs)			
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)			
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)			

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Dr. Deependra 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			and the law
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

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

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/2023/2955	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 INFOR	RMATION			
1 Average Temperature ("C)	: 27	2	Barometric Pressure (mmHg)	: 737
3 Relative Humidity (%)	: 65	4	Weather Condition	: Partly Cloudy
5 Longitude	: 84°36'34.50"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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****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.

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

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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 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 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 Limi
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 (NO2)	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)

Reviewed by

****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.

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/2023/2956	Report Release Date	; 08.08.2023
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/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



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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 DETAILS		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, 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	Greep :	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****

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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 DETAILS		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: (afg: Belsspicado, elescapan) Egmall. spin Phone no.: 0551 1290103 Website: www.elsspl.co.in



THO (/14499/H003824CO3C125

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 DETA	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2621 : Near Bunglapart Villago Pakaar Bauxite Mino		
Address	: Lobardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 20.07,2023 to 21,07,2023 : 25,07,2023 : Ambient 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 & Proserved		

2 Barometric Pressure (mmHg) : 738
4. Weather Condition : Partly Claudy

NABL Accredited	Store Store	Province	Atmosphasi	a Polintian
Discipline :	Chemical	Group	Atmospheri	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	ug/m²	13:5182 (Part-23): 2006: RA2022	52	100 (24hrs)
Particulate Matter (PM2.5)	ug/m	IS 5182 (Part- 24): 2619	27	60 (24hrs)
Sulplair Di-Oxide (SO ₂)	gg/m³	IS 5182 (Part-2): 2001; RA2022	6.2	80 (24tus)
Nitrogen Di-Oxide (NO ₅)	ug/m³	IS 5182 (Part-6): 2006; RA2022	15.9	80 (24firs)
Ozone (Os)	ug/m ²	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (Nilb)	µg/m³.	18 5182 (Part- 25): 2018	<10.0	400 (24les)
Cartion Monoxide (CO)	mg/m ³	IS 5182 (Pars-10); 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	4g/61 ³	(S 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)
Nickel (NI)	ng/m²	18 5182 (Pen-26):2020	<6.0	20 (Annual)
Arsenic (As)	'ng/m'	ELES/AIR/SOP/01	<2.0	06 (Arount)



****End of Reports ***

Amhorised Signatory

Dr. Deegendra Kurgar Sinna Ph. S. Hall Iron Men mil Enga

Page 1 of 1. ELES Pvt. Ltd. Declinical 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.	: 43612310218	Work Order Date	21.04.2023	

CUSTOMER DET	AILS	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-	CONTRACTOR OF THE PARTY OF THE
Average Temperature (°C) : 28	2	Barometric Pressure (mmH	g) : 738
Relative Humidity (%) :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

The Comment stated or Test Réport, is assert by Sie Laboraton under Gieneral Terms and Conditions, only on Company better head in pre-approved format. The results above in the Too Report refer or release only to the following the balance by the Laboratory only. The information stated up the Too Report reflects the findings done by the Laboratory state time of most country and width the lumin of Clean's manualized. The Laboratory is responsible for all injurinformation of data provided on the report. except the information which is provided by the client. The Report exercise be reproduced except to full and any port of the report as not taken out of except, without plant variant appeared of the Labourcey. The Report in fall or to putt stuff not be published, adversor, inset the my legal person tuniess select permission has been secured from the Management of the Labourcey. Attention is drawn to the Legalitation of the best permission and jurishitation and jurishitation and jurishitation and jurishitation of the content or appearance of the Test Region is polytopia and offenders may be prospected to the following the fact of the Jan. All the samples are remained for Juday's from the Date of felometists of the Test Report. The samples from Regulatory Secretary to be rationed as specified. Any type of Observations or Completion segarding the Report shall be done within 15thys from the Outs-of Test Report selected and or produced before, no completions will be settented. The entire Time schedules membrages in Test Report is in Thicas for an Adversarioglassis. We (Not controlled 1904. (Below, Detection Lawre Deserver Limit)



ALOT NO 30 MANSAROVAR ENCLAVE TUPUDANA HATZA, RANCHI-834903 (JHARKHAND) 955 N.G. 204460897190124

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 DETA	CUSTOMER DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2622 : Yatri Shed (Near K-10) Pakhar Basixte Mine
Address	: Lebardaga, Ibarkhand-835302	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	adapte sametre	100 miles

METEOROLOGICAL INFORMATION			
Average Temperature (°C) : 27	1.2	Barometric Pressure (mit	
3 Relative Humidity (%) : 65	4	Weather Condition	: Partly Cloudy

NABL Accredited	ACaultin 1	Group :	Atmospheric	Pollution
Discipline 1		Test Protocol	Result	Regulatory Limit
Parameter	Unit		51	100 (24hrs)
Particulate Matter (PM10)	gg/m³	IS 5182 (Part-23): 2006; RA2022		
Particulate Matter (PM2.5)	ug/m³	1S 5182 (Part- 24): 2019	26	60 (24hrs)
Sulphur Di-Oxide (SO ₁)	ug/m³	IS 5182 (Part-2): 2001; RA2022	7.1	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	ug/m³	IS 5182 (Part-6): 2006; RA2022	15.2	8(((24hrs)
Ozone (Os)	rig/m²	1S 5182 (Part-9): 1974; RA2019	<20.0	(00 (8hrs)
Ammonia (NH ₁)	34g/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 (Shrs)
Lead (Pb)	ug/m³	IS 5182 (Part-22); 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	uk/m²	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m	ELES/AIR/SOP/01	<2.0	06 (Assual)

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****End of Report****

Authorised Signatury Dr. Deependra Kulmar 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 only 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 above witness (Sday) from the Disc of Ten Ropen rejeased-tional. After the timbe person actual before, no complaints will be accounted the crime rune accorded members in Ten Report to the Discussional Author Colored Special State (Below Colored Colored Colored Research American Applicable) of the Colored Research American Applicable) of the Colored Research American Applicable) of the Colored Research American Applicable (Below Colored Research American Applicable) of the Colored Research American Applicable (Below Colored Research American American Applicable (Below Colored Research American America



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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUIDANA HATIA, IKANCHI-83-4003 (JIHARKHANO) GST NO:- 204ABCE9713D124

ENGINEERING SERVICES PVT. LTD.

Email: Info@eiespl.co.in ; eies.conchi@gmail.con) Phone no.: 0551-2290103 Website : www.eiespl.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 DET.	AHS	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	: Lonardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 21.07.2023 to 22.07.2023 : 25.07.2023 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES PVL L/d
Period of Analysis	: 25,07,2023 to 02.08.2023	Sample Condition	: Sealed & Preserved.

METEOROLOGICAL INFORMATION			
Average Temperature (*C) : 27	- 2	Barometric Pressure (mintels	8) :337
Relative Humidity (%) : 65	140	Weather Condition	: Partly Cloudy

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

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

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Ph. D. Environments Enga ELES Pvt. up 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 states of t



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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 Utkarmii Rajkiya Prathmik Vidyalaya Bunglapart Village Pakhar Bauxite Mine	
Aidress	(.ohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 20.07.2023 to 21.07.2023	
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 pilo
1 Average Temperature (°C) : 28	2	Barometric Pressure (mmHg)	: 738.
3 Relative Humidity (%) : 64	14	Weather Condition	: Parily Cloudy

NABL Accredited			7.5	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 (Pact-9): 1974; RA2019	<20.0	190 (Shrs)
Ammonia (NH ₂)	ug/m²	IS 5182 (Part- 25): 2018	<[1],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	06 (Armuel)

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****End of Report***

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Dr. Deependra Kumar Sinha

Ph D. Evansemental angu-Page 1 of 1

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

ENGINEERING SERVICES FYT. LTD.

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

Website : sunw.elespi.co.in

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	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Flindalco Industries Limited	Sample Ref. No. Location	 ELES/RNC/2023/AA/3623 Near Utkarmit Rajktya Prathmik Vidyalaya Bunglapart Village Pakhar Bauxite Mine 	
Address	: Lohardaga, Jhaskhand-835302	Sampling Date Sample Received Date	20.07.2023 to 21.07.2023 25.07.2023	
Minos Status - Decrational		Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOG/SMP)_/02 : ELES Pv. Ltd	
Period of Analysis	- 25.07.2023 to 02.08.2023	Sample Condition	: Scaled & Preserved	

ETEOROLOGICAL INFORMATION	1.2	The second secon	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Average Temperature (°C) : 28	1-2	Barometric Pressure (mm)	Hg) 1/38
Relative Humidity (%) : 64	- 2	Weather Condition	: Partly Cloudy

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzone ^a	ug/m³	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene*	ng/m²	IS:5182 (Pan-12); 2004;RA2019	<0.5	Ol(Annual)

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

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****End of Report****

Authorised Signatury
Dr. Deependra Kumar Sining
Ph. D. Swimmerity Engl.
ELES Ph. Lid. Technical Manager

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PLOT NO-AD MANEAROVAN ENCLAVE TURGDANA HATIA, HANCH: 834003 (HARKHAND) SST NO. MAARTERPISOUS

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 Vidyafaya Demrapart Village Pakhar Bauxite Mine	
Address Mines Status	Loltardage, 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	
Period of Analysis	-25,07,2023 to 02.08,2023	Sample Oravo By Sample Condition	: ELES Pvt. Ltd: : Sealed & Preserved	

FEOROLOGICAL INFORMATION			147.00
Average Temperature (°C) : 27	32	Barometric Pressore (mmfig)	1 2/2/
Relative Humidity (%) : 65	- 31	Weather Condition	: Partly Cloudy

NABL Accredited	Sept. and all	Crown	Atmospheri	e Pollution
Discipline :			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	19 9182 (Pan-6): 2006; RA2022	8.8	80 (24hzs)
Ozone (O ₃)	ilg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hss)
Ammonia (NH ₃)	ug/m²	-1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m²	1S 5182 (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)
Aisonic (As)	ng/m ³	ELES/AJR/SOP/01	<2.0	06 (Annual)



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Ph. D. Environmental Enga.

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ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/2933	Report Release Date	: 08.08.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET	CUSTOMER DETAILS			
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	(ELES/RNC/2023/AA/2624 : Near Utkarmit Rajkiya Prathmit Vidyalaya Domrapart Village Pakhar Bauxite Mine	
Acdress	: Lohardaga, Jharkband-835302	Sampling Date Sample Received Date	21.07.2023 to 22.07.2023 : 25.07.2023 Ambient Alf	
Mines Status	Operational	Type of Sample Sampling Procedure Sample Drawn By	ELES/DOC/SMPL/02	
Period of Analysis	-25.07.2023 to 02.08.2023	Sample Condition	Sealed & Preserved	

dE	TEOROLOGICAL INFORM	ATTON			
	Average Temperature (°C')		2	Barometric Pressure (mm)	Hg) : 737
_	Relative Humidity (%)	65	4	Weather Condition	: Partly Cloudy

Discipline : Chomical		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 Kulmar Sinha
Ph. C. Brungsmintel Enge.
ELES Ph. Util. Technical Manager

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 LHARKHAND) GST NO:- 20AAECE97130124 NORMAL WATER BUILDINGS BYT. AND

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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 DET/	ALS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	ELES/RNC/2023/A A/3021 Near Mine Office Pakhar (15,58 ha) Bauxite Mine	
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	1 19.08.2023 to 20.08.2023 : 26.08.2023 : Ambient Air	
Mines Status	: Non Operational	Type of Sample Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 26.08.2023 to 08.09.2023	Sample Condition	: Sealed & Preserved	

100	TEOROLOGICAL INFOR	STATE OF THE PARTY	1.5	Barometric Pressure (mmHg)	- 736
1	Average Temperature (°C)	: 25	1.4	Barometric Pressure (mining)	* 436
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:	Chemical	Group :	Atmospheri	e Pollution
Parameter	Unit Test Protocol		Result	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 (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	0.008	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m²	ELES/AIR/SOP/01	<2.0	06 (Annual)



****End of Report****

Richard

Authorised Signatory
Dr. Deependra Kumar Sinha

Ph.D. Environment stripp

Page 1 of 1 ELES Po

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.

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****End of Report****

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

Page 1 of 1

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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	CUSTOMER 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 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/m²	1S 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 ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	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		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3022 : Near Weigh Bridge Pakhar (15,58 ha) Bauxite Mine	
Address	: Lehardaga, 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

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.	1 M&M/23-24/01	Work Order Date	: 31.03.2023	
ULR No.	; TC883923000002167F			

CUSTOMER DET	CUSTOMER DETAILS		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 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	ess	Warner .	Charmanh and	» Dellution
Discipline :			Atmospheri	The state of the s
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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****End of Report****

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.rlespl.co.in

TEST REPORT

		The state of the s		
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 DET.	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	ELES/DOC/SMPL/02 ELES Pvt. Ltd.	
Period of Analysis	: 26.08.2023 to 08.09.2023	Sample Condition	: Sealed & Preserved	

I	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 736
_	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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****End of Report***

Authorised Signatory
Dr. Deependra Kumar Smha

Ph D Environmental Engy ELES Pvt. 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	

(VII)	ETEOROLOGICAL INFOR	CMATION			
1	Average Temperature (°C)	: 25	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 : 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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Ph. D. Environmental Enga

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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 DET.	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.

Reviewed by

****End of Report****

Authorised Signatory

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

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	CUSTOMER DETAILS		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 ; Operationa)	Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	: 18.08,2023 to 19.08.2023 : 26.08.2023 : Ambient Air - ELES/DOC/SMPL/02 : ELES Pyt. Ltd		
Period of Analysis	; 36.08.2023 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 (%)	: 65	-#	Weather Condition	- Partly Cloudy

NABL Accredited					
Discipline :	Chemical	Group	: Atmospheric Pollution		
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)	
The state of the s					

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Audhorised Signatory

Or, Deepardra Kuming Sinha

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ELES For usa 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	: 21.04.2923

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/3029 Near Bunglapart Village Paksar Bauxite Mine : 18-08-2023 to 19-08-2023	
Address Mines Status	: Lohardaga, Jharkhand-835302 : Operational	Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	: 25.08.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 26.08.2023 to 08.09.2023	Sample Condition	: Scaled & Preserved	

	ETEOROLOGICAL INFOR	MATIUN			
	Average Temperature (°C)	. 26	22	Barometric Pressure (mmHg)	1736
Ē	Relative Humidity (%)	+ 65	-4	Weather Condition	: Partly Cloudy

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

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

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****End of Report***

Authorised Signatory

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ELGS For Usual Both Call Manager

Page 1 of 1

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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	19.08.2023 to 20.08.2023 26.08.2023 Ambient Air ELES/DOC/SMFL/02 ELES Pvt. Ltd.	
Mines Status	: Operational	Sample Drawn By		
Period of Analysis	: 26.08.2023 to 08.09.2023	Sample Condition	Sealed & Preserved	

Average Temperature (°C) : 24	2	Barometric Pressure (mmHg)	1735
Relative Humidity (%) : 66	4	Weather Condition	: Partly Cloudy

NARI Accordited				
Discipline :	Chemical	Group	Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	47	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	23	60 (24brs)
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	6.5	80 (24hss)
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)

Reviewed by

****End of Report***

Authorised Signatory

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Page 1 of 1

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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 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-835362	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 Pvt. Ltd.	
Period of Analysis	; 26.08,2023 to 08,09.2023	Sample Condition	Sealed & Preserved	

II	ETEOROLOGICAL INFORMATIO	ON		- Contract
1	Average Temperature (°C) : 24	2	Barometric Pressure (mm.	Hg) : 735
3	Relative Humidity (%) : 66	4	Weather Condition	2 Partly Cloudy

Discipline : Chemical		Group : Atmospheric Pollution			
F arameser	Cinic	Test Protocul	Pleselt	Giorge Cartesian T Innie	
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 ontsourced to other Lab.

Reviewed by

****End of Report***

Authorised Signatory

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Page 1 of 1

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TEST REPORT

Test Report No.	: ELES/RNC/2023/3407	Report Release Date	: 09.09.2023
Work Order No.	13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000002175F		

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 : 26.08,2023 to 08,09,2023	Sample Drawn By	ELES PVL Ltd	
Period of Analysis		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 ⁵	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

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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	: 09.89,2023	
Work Order No.	: 13612310218	Work Order Date	; 21.04.2023	

CUSTOMER DETAILS		SAMPLE 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 : Lohardaga, Jharkhand-835302 dines Status : Operational	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 18.08.2023 to 19.08.2023		
Mines Status	. Obergionis	Sample Drawn By	: ELES PVL Lid.	
Period of Analysis	: 26,08,2023 to 08,09,2023	Sample Condition	Sealed & Preserved	

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

Discipling : Chamical		Grann : 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: (9)-Parameters are outsourced to other Lab.

Reviewed by

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Authorised Signatory

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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
ULR No.	: 1'C883923800002176F		
ULR No.	100000000000000000000000000000000000000	WORK COURT DATE	- Military ac

CUSTOMER DETA	ATLS	SAMPLE DETAILS	The same and the same and the same and
Customer Name	: Hindaico 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	Pakhar Bauxite Mine ; 19.08.2023 to 20.08.2023 ; 26.08.2023 Ambiew Air ; ELES/DOC/SMPL/02
Mines Status	-: Operational	Sample Drawn By	ELES Pvt. Ltd.
Period of Analysis	; 26.08,2023 to 08.09.2023	Sample Condition	Sealed & Preserved

1	ETEOROLOGICAL INFOR	MATRIA	-		
1	Average Temperature (°C)	:24	2	Barometric Pressure (mmHg	9 : 735
3:	Relative Humidity (%)	: 66	4	Weather Condition	: Partly Cloudy

NABL Accredited	Principal 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

The abscurrent stated as Tell Region, is assed by the Laboratory under General Terms and Confidence, only on Company letter head in greatproved forms. The testers The alterupent stated as Test Report, is issued by the Laboratory under General Terms and Confinence, only in Company letter head in goe-approved former. The resort shown in the Test Report reflects the findings done by the Laboratory at the terms of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information of data provided on the report, except the information which is provided by the client. The Report names be reproduced except in full and any part of the report is not taken on of context, without prore written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for say legal seasons unless price permission has been secured from the Management of the Laboratory. Attrition is drawn to the limitation of fraktively, compensation and jurisdiction between Any unantinenced aftersion & falsification of the constant of the Test Report is unlessful and offenders may be prosecuted to the falsifications. All the samples are retained for 3 deeps from the Date of release/asses of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations in Complician regarding the Report in the samples from the Date of release at this Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations in Complician regarding the Report is also be included in Test Report as an 2 shows formal. Address short label to be period stated before, to compiling will be accepted. The point Time schedule mentioned in Test Report as an 2 shows formal. Address and closed N.A. (Not Applicable), BDL (Below Detection Limit).







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	: Ambient Air	
Mines Status	(,Operational	Sampling Procedure	: ELES/DOC/SMPL/01 : ELES Pvt. Ltd.	
Period of Analysis	: 26.08.2023 to 08.09.2023	Sample Drawn By Sample Condition	: Senled & Preserved	

ME	TEOROLOGICAL INFOR	MATION			-0
ī	Average Temperature (°C)	: 24	2	Barometric Pressure (mmHg)	: 735
S.	Relative Humidity (%)	: 66	4	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	AILS	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 : Chemical		Group : Wate	r		tory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	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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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

Discipli	ine: Che	mical Group: V	Vater		tory Limit
			7	Acceptable	10500:2012 Permissible
Parameter	Unit	Test Protocol	Result	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	0.1
Calcium (as Ca)	mg/L	APHA 23 rd Ed.2017, 3500 Ca B	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.

Page 2 of 4

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

ENGINEERING SERVICES PVT. LTD.

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Phone na.: 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

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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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/RAN/2023/1733
 Report Release Date
 : 10.09.2023

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

Disciplina : Ri	iological	Group: \	Voter	Regulate	ory Limit
Discipline : Biological		Group: Water		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	Regulatory Limit as per IS 10500:2012	
Divipant Calmin					
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.

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

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

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	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2023/AA/3422	
	The state of the s	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.	
r criou or Anarysis	. 27.07.2023 (0 10.10,2023	Sample Condition	: Scaled & Preserved	

M	ETEOROLOGICAL INFO	RMATION	- v -		
1	Average Temperature (°C)	: 24	2	Barometric Pressure (mml	ig) 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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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124

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TEST REPORT

Test Report No.	; ELES/RNC/2023/4005	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 _s H _s)*	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

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

ELES Pv., Ud. Technical Manager

Page 2 of 2

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ENGINEERING SERVICES PVT. LTD.

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

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TEST REPORT

Test Report No.	: ELES/RNC/2023/4006	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	
	The state of the s	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	al	Group : A	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 (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 (Annual)		

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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4007	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	- Lollardaga, Tharkhand-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
-	Relative Humidity (%)	: 68	-4	Weather Condition	: Cloudy
5	Longitude	: 84°36'6,67"E	6	Latitude	: 23°32'9.19"N

Discipline: Chemic	at.	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	OS(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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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE97130124

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/m³	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/m²	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Page I of 2

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

ENGINEERING SERVICES PUT, LTD.

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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 : Chemi	cal	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	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. Deepandra Kumar Sinha Ph. D. Environmental Enga, ELES Pvl. Ltd. Technical Manager

Page 2 of 2

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PLOT NO-30, MANSABOVAR ENGLAYE, TUPLISANA HATIA, RANCHI-834003 (SHARKSIAND) GST NO.: 204/AECE9713D124

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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 DETAILS		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.	[S.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@amall.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: Chemical		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. Deependra Kumar Sinna
Ph. D. Environmental Engg.
ELES Pur. Lig. Technical Manager

Page 2 of 2

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PLOT NO 30, MANSAROVAR ENCLAYE, TURUDANA HATIA, RANCHI-834003 (JHARICHAND) GST NON 200435CE9713D114

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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	

CUSTOMER DETA	AILS	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 Pollution		
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 ENGLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO:- MAARCESTISDEZA ENGINEERING SERVICES PITE LIB.

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Priorite : 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	

Discipline: Chemi	cal	Group:	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (CsHs)*	μg/m ²	1S 5182 (Part-11)2005;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 Enga ELES Pur List Technical Manager

Page 2 of 2

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MOT NG-30, MINSAROVAR 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	AILS	SAMPLE DETAILS		
Customer Name	: Hindaleo Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3432 : Near Utkarmit Rajkiya Prathmik Vidyalaya Bunglapart Village Pakhar Bauxite Mine	
Address Mines Status	: Lohardaga, Jharkhand-835302	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 10.19.2023	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 (24hts)
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 (NOz)	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)
Load (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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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(Annual)

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: 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

The Document and as Ten Report as issued by the Laboratory under General Terms and Confinces, only on Company letter bear in pre-approved format. The resolutions in the Test Report refer or release unly to the job/analyses done by the Laboratory in the limit of involvement only and within the limits of cheer's instructions. The Laboratory in responsible for all the information or data provided on the report except the information which is provided by the client. The Report established except in fall and any pain of the report so not taken out of context, without prior written approved of the Laboratory. The Report is full or in part shall not be jubilished, advertise, used for any legal actions unless prior perputsyon has been recipied from the Management of the Laboratory. Attention is flavor to the himitation of liability, compensation and jurisdiction issues. Any amagine are related from the Management of the Test Report is unlawful and offenders may be prosecuted to the lability and in the samples are related for Strategies from the Date of released stands of the Test Report. The samples from Regulatory hadres are to be remined an specifical. Any type of Observations in Complaints regarding the Reports shall be done within 15date from the Date of Test Report released stand. After the time period stated before, no complaints will be accepted. The same Time schodule micritioned in Test Report in a 12thours format. Abbreviation used: N.A. (Not Applicable), HDL (Below Detection Limit), 1.05. (Lower Detection Limit).



PLOT NO 30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (THARKHAND) GST NO: 20446CE97130124 ENGINEERING SERVICES PUT, 120.

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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.

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

Address : Lohardaga, Jharkhand-835302 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	2.0000000000000000000000000000000000000		Sampling Received Date Type of Sample Sampling procedure	: Ambient Noise ELES/DOC/SMPL/63	
	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	Result		Regulatory Limit (Industrial Zone)
and the man			Time	Leq	
Near Mine Office Pakhar Bauxite Mine (15.58 ha)	dB(A)	dB(A) IS 9989;1981, RA 2020	Day Time	63	75 dB(A) Day Time &
Sample ID: ELES/RNC/2023/AN/3539			Night Time	50	70 dB(A) Night Time

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Reviewed by

****End of Report****

Authorised Signatory

In Deependra Kumar Sinha
Ph. D. Environniantal Engl.
ELGS Pvi. Lid. Technical Manager

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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 DET	TAILS	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	Regulatory Limit (Industrial Zone)		
Near Weigh Bridge -			Time	Leg		
Pakhar Bauxite Mine (15.58 ha)	dB(A)	IS 4758:1968; RA 2017		400	90 dB (A)	
Sample ID: ELES/RNC/2023/WN/3560		KA 2VII	Day Time	75		

A Seriewed by

****End of Report****

() Sinla

Authorised Signatory

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

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PLOT NG-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) 63T NO:- 20AAECES713D124 ENGINEERING SERVICES PVT. LTD.

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

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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
Zine (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.

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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.

- 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)