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/417

Date=25:11.2023.....

To,

The Dy.Director General of Forest (C)

Ministry of Environment, Forests and Climate Changes

2nd Floor, Headquarter-Jharkhand State Housing Board

Harmu Chowk, Ranchi, Jharkhand-834002

Sub: Compliance Report of EC conditions for Bimarla (134.37 ha) Bauxite Mining project of M/s Minerals & Minerals Limited located in Gumla, Jharkhand for the period April'23 to September'23.

Ref: Environmental Clearance letter no J-11015/87/2009-IA.II (M) dated 24th Sep, 2013

Sir,

With reference to the above, we are submitting herewith the Compliance status report of EC conditions for **Bimarla (134.37 ha)** Bauxite Mining project of **M/s Minerals & Minerals** Limited located in Gumla, Jharkhand for the period April'23 to September'23.

The lease detail is as below.

Lease area (ha)	Production Capacity (MT)	Lease Period
134.37	300000	18.07.2009 to 17.07.2059

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

Name of the Project	:	Bimarla Bauxite Mine (134.526 ha) M/s Minerals & Minerals Ltd
Environment Clearance No & date	:	J-11015/87/2009-IA.II (M) dated 24.09.2013
Period of compliance Report	:	From 1 st April 2023 to 30 th September 2023

Specific Condition: -

Condition i:- The project proponent shall obtain Consent to Establish and Consent to Operate from the Jharkhand State Pollution Control Board and effectively implement all the conditions stipulated therein.

Reply:- Consent to Establish and consent to operate obtained. Implementations of Stipulated conditions are being complied. The Consent to operate is valid till 30th Sep 2024.

Condition ii:- Implementations of conditions laid down in the letter of the State Department of Forests vide dated 11.05.2012 with regard to permission for transportation of ore through the forest land.

Reply: - Implementations of conditions as laid down in the letter are being complied with.

Condition iii: - Necessary wildlife clearance as may be applicable to this project should be obtained. Measures for conservation of flora and fauna observed in the study area shall be undertaken. The Wildlife Conservation Plan shall be implemented in consultation with the State Forests and Wildlife Department.

Reply: - We understand Wildlife Clearance is not applicable to this project. Safeguard Measures already implemented and being implemented as suggested by forest department are as follows:-

1. Minimum level of Noise during Mining.

2. Permanent pillars are established within in the mine lease area at 7.5m from the forest boundary.

- 3. Daily water sprinkling on haul road.
- 4. Transportation is carried out during daytime only.
- 5. Maintenance of mineral transportation road is being done regularly.
- 6. Social activities are being undertaken in nearby areas etc.

Also, we have been granted letter of approval for the Integrated Site-specific Wildlife Conservation Plan via Office Order No.28 dated 01.06.2023 by PCCF, Wildlife, Ranchi.



Approval Letter

Condition iv - Adequate measures for control of air pollution in the area shall be taken and it shall be ensured that the pollution levels do not exceed the prescribed limits.

Reply: - Monitoring report is attached as **Annexure 2**. Measures for control of air pollution in the area are being taken. Important measures are as follows.

- 1. Water sprinkling on haul roads and at places of source of pollution.
- 2. Control blasting practice.
- 3. Wet drilling is in practice

Condition v - No working shall be undertaken in the forest area for which forestry clearance has not been obtained.

Reply: - Lease area is devoid of any forest land.

Condition vi: - Necessary prior clearance, as applicable shall be obtained from CGWA for working below groundwater table.

Reply: - Mining is confined to above ground water table level only and it is not intersecting 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. Already obtained NOC for extraction of ground water from CGWB.

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Condition vii : - The Company shall submit within 3 months their policy towards Corporate Environment Responsibility which should inter-alia provide for (i) Standard operating process / process to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions, (ii) Hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the EC conditions and (iii) System of reporting of noncompliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders.

Reply: - Policies towards Corporate Environment Responsibility is in place. The latest corporate environment policy enumerating corporate responsibilities is attached as **Annexure 6**. Company has implemented a system in line with the above policies which addresses following points. (i) Standard operating process / process to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions, (ii) Hierarchical system or administrative order of the company to deal with the environmental issues and for ensuring compliance with the EC conditions and (iii) System of reporting of non-compliances / violations of environmental norms to the Board of Directors of the company.

Condition viii : - The mining operations shall be restricted to above the groundwater table and it should not intersect the groundwater table. In case of working below the groundwater table, prior approval of the Ministry of Environment and Forests and the Central Ground Water Authority shall be obtained, for which a detailed hydrogeological study shall be carried out.

Reply: - Mining is confined to above ground water table level only. Mining will not intersect the ground water table. Proper care is being taken in this regard.

Condition ix: - The project proponent shall ensure that no natural watercourse and/or water resources shall be obstructed due to any mining operations. The first order streams and the seasonal nallahs originating from the mining lease area shall be protected.

Reply: - No natural watercourse and/or water resource is being and will be obstructed due to any mining operations. All water bodies and sources available in mining lease area is protected.

Condition x: - The top soil, if any shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long; The topsoil shall be used for land reclamation and plantation.

Reply: - No OB dump is present in mines. Backfilling and reclamation is being done concurrently by overburden. The mining is being carried out as per the approved mining plan. Monitoring and management of rehabilitated areas is being done through effective supervision.

Condition xi: - Monitoring and management of rehabilitated areas should continue until vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forests and its Regional Office, Bhubaneswar on six monthly basis.

Reply: - This Mine started production since 2015-16. Concurrent Backfilling has already been started in scientific manner in line with approved mining plan. The status of backfilling is attached as **Annexure-4**.

Condition xii: - Catch drains and siltation ponds of appropriate size shall be constructed around the working pit, sub-grade dump, soil and mineral dumps to arrest flow of silt and sediment directly into the agricultural fields and the water bodies. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly de silted particularly after monsoon, and maintained properly, Garland drains settling tanks and check dams of appropriate size,gradient and length shall be constructed for both around the mine pit and sub-grade dump to prevent run off of water and flow sediments directly into the agricultural fields and the water bodies and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and de silted 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. No active external dump exists as on date.



Catchment drain & Siltation Pond

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

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

Condition xiv: - The plantation is proposed over an area of 24 ha with 2500 samplings per ha.

Reply:- Total 4480 saplings have been planted in and around mine area for the period from April'23 to September'23. Total 8.24 ha areas have been planted till date. In addition to this agricultural activity is going on in reclaimed land as per the consent from landowners.

Green belt development programme is in progress with progress of mining activities.



Plantation at mines

Condition xv: Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as around loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.

Reply: - Regular water sprinkling is being carried out on haul road and critical areas. Ambient Air Quality parameters conform to the norms. Report is attached as **Annexure**

2.



Water Tanker for dust suppression

Condition xvi: 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: - Suitable conservation measures to augment ground water is being taken as directed in NOC granted by CGWB e.g. Constructing 01 no of water harvesting pond etc.Backfilling and drainage system in mine is maintained in such way that no mine water is discharged outside mine lease area and it is getting recharged in mined out pit only.

Condition xvii:-Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and installing new piezometers during the mining operation. The periodic monitoring [(at least four times in a year- pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January); once in each season)] shall be carried out in consultation with the State Ground Water Board/Central Ground Water Authority and the data thus collected may be sent regularly to the Ministry of Environment and Forests and its Regional Office Bhubaneswar, the Central Ground Water Authority and the Regional Director, Central Ground Water Board. If at any stage, it is observed that the groundwater table is getting

depleted due to the mining activity, necessary corrective measures shall be carried out.

Reply: - We are not using ground water for any mining purpose. There is no chance of intersection of ground water table during mining operation at present and in future. Piezometer has been installed for monitoring of ground water level. Water quality and water level report are attached herewith as **Annexure 1**.



Piezometer

Condition xviii: -Monitoring of the springs shall be carried out for the quality and quantity of water regularly so as to ensure that there is no adverse impact- on the same due to the project. Records in this regard shall be maintained.

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

Condition xix: -It shall be ensured that there is no change in the hydrology of the area due to the project.

Reply: -Noted. We regularly monitor the ground water level and no adverse changes is noted.

Condition xx: -Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board. **Reply:** - Suitable conservation measures to augment ground water is being taken as directed in CGWB NOC Viz. Constructing 01 no of water harvesting pond etc. This will continue with the progress of mining operations.



Rainwater Harvesting Pond

Condition xxi: - Appropriate mitigative measures shall be taken to prevent pollution of the all the water bodies, in consultation with the State Pollution Control Board.

Reply: - We are not discharging any water outside mine lease area, all waters are collected in sump. Suitable measures such as, contour bunds are being taken to prevent water pollution. Drains are provided. All precautions are being taken to ensure that water does not flow outside mine lease areas. There is no contamination of water due to mining activities.

Condition xxii: - Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral from mine face to the beneficiation plant. The vehicles shall be covered with a tarpaulin and shall not be overloaded.

Reply: - Regular maintenance of vehicles are undertaken to minimize vehicular emission. Measures are being taken to control emission. The vehicles are being covered with tarpaulin while transportation of mineral.



Covered transportation

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Condition xxiii: - Blasting operation shall be carried out only during the daytime. Controlled blasting shall be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented. **Reply:** - Blasting time is fixed during Lunch Time i.e. 1.00 PM -2.00 PM. Controlled blasting method is in practice. All efforts are being taken to mitigate impact of blasting.

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

Reply :- Wet drilling is in practice.



Wet drilling

Condition xxv: - Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.

Reply: - Two nos. of water tanker have been provided for sprinkling of water on haul roads and active mining areas to arrest fugitive dust. Water spraying at loading, unloading, etc is also being done regularly.Installation of Fixed water sprinkler has also been done at the weigh bridge location to control dust emission.



Installation of Fixed type water sprinkler at mines

Condition xxvi: - Sewage treatment plant shall be installed for the colony. ETP shall also be provided for the workshop and wastewater generated during the mining operation.

Reply: - As of now there is no colony within the lease hold. Suitable measures will be taken if required in future. There is no effluent generated from this mine.

Condition xxvii: - The project authorities should undertake sample survey to generate data on pre project community health status within a radius of 1 km from proposed mine.

Reply: - As a part of Community Health status check we regularly conduct medical camp in nearby areas since inception of Mine.

Condition xxviii: Pre-placement medical examination and periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly.

Reply: - As a company, we are truly concerned about the health and safety of our onsite workers and in consideration to that, the health examination camps are being setup/scheduled on regularly basis.

Condition xxix: - Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

Reply: - We believe that the wellbeing of all the labours working within the site should be taken care of on a priority basis, so that they can work in a stress-free environment. Therefore, all the necessary infrastructure and basic facilities mentioned above, are being taken care of. Safe drinking water and medical facilities already provided.

Condition xxx: - The critical parameters such as RSPM (Particulate matter with size less than 10pm i.e. PM10) and NOx in the ambient air within the impact zone, peak particle velocity at 300m distance or within the nearest habitation, whichever is closer shall be monitored periodically. Further, quality of discharged water shall also be monitored [(TDS, DO, PH and Total Suspended Solids (TSS). The monitored data shall be uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the Company in public domain. The Circular No. 3-20012/1/2006-IA.11 (M) dated 27.05.2009 issued by Ministry of Environment and Forests, which is available on the website of the Ministry www.envfor.nic and shall also be referred in this regard for its compliance.

Reply: - Monitoring data is uploaded in website and displayed at mines. Report is enclosed as **Annexure 2**.

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

Reply: - Will be complied in due time. Progressive mine closure plan approved along Scheme of Mining. FMCP for total lease area will be prepared and submitted in due time as per applicable guideline and timelines mentioned in MCDR/IBM guideline who are competent authority to approve the same. Based on 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 & Forests.

Reply: - Noted.

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

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

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

Reply: - Safeguard Measures Conservation measures for protection of flora and fauna is being implemented and as follows:

- 1. Minimum level of Noise during Mining.
- 2. Permanent pillars are established within in the mine lease area at 7.5m from the forest boundary.
- 3. Daily water sprinkling on haul road.
- 4. Transportation is carried out during daytime only.
- 5. Maintenance of mineral transportation road is being done regularly.
- 6. Social activities are being undertaken in nearby areas etc.

Condition iv: - At least four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM (Particulate matter with size less than 10 micron i.e., PM10) and NOx monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of

monitoring should be undertaken in consultation with the State Pollution Control Board.

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

Condition v: - Data on ambient air quality [(RSPM (Particulate matter with size less than 10micron i.e., PM10) and NOx] should be regularly submitted to the Ministry including its regional office located at: Bhubaneswar and the State Pollution Control Board / Central Pollution Control Board once in six months.

Reply: - Monitoring is being carried out and reported to concerned authorities. Report is attached as **Annexure-2**.

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

Reply: - Suitable water spraying arrangement is being made to control fugitive dust emissions from loading, unloading and transfer points as applicable. Photographs are attached in the report.

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

Reply: - Measures are being taken for control of noise level. PPE's provided to workers.

Condition viii: - Industrial waste water (workshop and waste water from the Mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May 1993 and 31' 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 generation from workshop within mine lease area. We are not discharging any wastewater outside mine lease area.

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

Reply: - Personal protective equipment's have been provided to workers. Safety training is being provided to persons working in mine. Occupational health surveillance program of the workers is being carried out.

Condition x:- A separate environmental management cell with suitable qualified personnel 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 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 Bhubaneswar.

Reply: - The fund earmarked for environmental protection measures is being budgeted separately. Annual expenditure is being reported to the Ministry as **Annexure-5**.

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

Reply: - Date of start of land development is 21.05.2015 (Opening notice sent to concerned offices) The provision related to financial closure is not applicable as it is an operational mine.

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

Reply: - Agreed. Currently, the Regional Office is located at Ranchi.

Condition xiv: - The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the Ministry of Environment and Forests, its Regional Office Bhubaneswar, the respective Zonal Office of Central Pollution Control Board and the State Pollution Control Board. The proponent shall upload the status of compliance of the environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the Ministry of Environment and Forests, Bhubaneswar, the respective Zonal Officer of Central Pollution Control Board and the State Pollution Control Board.

Reply: - Six monthly compliance is being submitted timely to the Ministry of Environment and Forests, its Regional Office Ranchi, the respective Zonal Office of Central Pollution Control Board and the State Pollution Control Board and also uploaded in Hindalco's website. Condition xv: - The State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and the Collector's office/ Tehsildar's Office for 30 days. Reply:- Displayed.

Condition xvi: - The environmental statement for each financial year ending 31 March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Office of the Ministry of Environment and Forests, Bhubaneswar by e-mail.

Reply: - Is being complied.

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

Reply: - Complied. Relevant paper cutting has been duly submitted.

	Annexure 1				
Piezometer reading - Bimarla Bauxite Mines					
S No Month Depth (meter)					
1	Apr-23	30.18			
2	May-23	30.21			
3	Jun-23	30.37			
4	Jul-23	30.52			
5	Aug-23	30.89			
6	Sep-23	30.74			



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) G57 NO .- 204AECE9713D124

CIN-U745997H2619PTC011125

ENGINEERING SERVICES PVT. LTD

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



	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2000	Report Release Date	: 12.06.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	
ULR No.	: TC88392300000961F			

CUSTOMER DET/	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1427 : Near Weigh Bridge Bimarla Bauxite Mine (134.526 ha
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 06.04.2023 to 07.04.2023 : 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

1	Average Temperature (°C)	= 30	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear
5	Longitude	: 84°25'20.14"E	6	Latitude	: 23*17'6.19"N

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	62	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	1\$ 5182 (Part- 24): 2019	32	60 (24hrs)
Sulphur Di-Oxide (SO1)	μg/m ³	IS 5182 (Part-2): 2001; RA2022	6.9	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	19.3	80 (24hrs)
Ozone (O3)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (Shrs)
Ammonia (NH ₁)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	<0.002	I (24hrs)
Nickel (Ni)	ng/m ³	1S 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

6 Engin Reviewed by

Authorized Signatory

SIGUIA

****End of Report****

CIUID

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PLOT NO-30, MANSAROVAN ENCLAVE, TUPUDANA HATIA, RANCHI-S34003 (JHARKHAND) GST.ND:- 20AAECE97130124

ENGINEERING SERVICES PVT. LTD.

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

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2000	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. Location	: ELES/RNC/2023/AA/1427 : Near Weigh Bridge Bimarla Bauxite Mine (134.526 ha		
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 06.04,2023 to 07.04,2023 : 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		the second s	
1	Average Temperature (°C)	: 30	2	Barometric Pressure (mmHg)	739
3	Relative Humidity (%)	1 59	4	Weather Condition	: Clear
5	Longitude	: 84°25'20.14"E	6	Latitude	: 23°17'6.19"N

Discipline	: Chemical	Group	ic Pollution	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	µg/m ³	18:5182 (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.



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

ENGINEERING SURVICES 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/2023/2001	Report Release Date	: 12.06.2023		
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023		
ULR No.	: TC88392300000962F				

CUSTOMER DET/	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1428 : Near Quarry No 1B Bimarla Bauxite Mine (134,526 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	06.04.2023 to 07.04.2023 ± 10.05.2023	
Plant Status	: Operational	Type of Sample Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 10.05.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFOI	RMATION			_
1	Average Temperature (°C)	: 30	2	Barometric Pressure (mmHg)	: 739
3.	Relative Humidity (%)	: 59	4	Weather Condition	: Clear
5	Longitude	: 84°25'12.83"E	6	Latitude	: 23°17'1.82"N

NABL Accredited

Discipline :	Chemical	Group	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	69	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	37	60 (24hrs)		
Sulphur Di-Oxide (SO3)	µg/m ³	1S 5182 (Part-2): 2001; RA2022	7.3	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6) 2006; RA2022	19,1	80 (24hrs)		
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)		
Antrionia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	µg/m*	IS 5182 (Part-22): 2004; RA2019	0.011	1 (24hrs)		
Nickel (Ni)	ng/m ³	15 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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Authorized Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental Engg.

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

ENGINEERING SERVICES PVT. LTD.

CIN: 07<9590H2018FTC011125

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/2023/2001	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. Location	1 ELES/RNC/2023/AA/1428 1 Near Quarry No 1B Bimarla Bauxite Mine (134.526 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 06.04.2023 to 07.04.2023 : 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	RMATION			
1	Average Temperature (°C)	: 30	2	Barometric Pressure (mmHg)	: 739
	Relative Humidity (%)	; 59	4	Weather Condition	: Clear
_	Longitude	; 84°25'12.83"E	6	Latitude	: 23°17'1.82"N

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

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



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

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ENGINEERING SERVICES PVT. LTD.

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



CING U749959H2048PTC011125

	TEST	REPO	RT	
Test Report No.	: ELES/RNC/2023/2002	Rep	ort Release Date	: 12.06.2023
Work Order No.	: M&M/23-24/01	Wor	k Order Date	; 31.03.2023
ULR No.	: TC88392300000963F			
CUSTOMER DET/	AILS	SAM	IPLE DETAILS	
Customer Name Address	: Minerals & Minerals Limited : Lohardaga, Jharkhand-835302	Loca		: ELES/RNC/2023/AA/1429 : Nav Prathmik Vidayalaya-Barang Path; Bimarla Bauxite Mine (134,526 ha)
Plant Status	: Operational	Samp	pling Date ple Received Date of Sample ple Drawn By	: 06.04.2023 to 07.04.2023 : 10.05.2023 : Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	± 10.05.2023 to 08.06.2023	Samp	ole Condition	: Sealed & Preserved

3 1	Relative Humidity (%)	: 59	4	Weather Condition	: Clear
5 1	ongitude	: 84°25'30.51"E	6	Latitude	: 23°17'20.46'N

Discipline :	Atmospheri	c Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	60	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	28	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	7.3	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	19.6	80 (24hrs)
Ozone (O3)	µg/m ³	15 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	μg/m ³	IS 5182 (Part-25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.007	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

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ENGINEERING SERVICES PVT. LTD.

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

	TE	ST REPORT	
Test Report No.	: ELES/RNC/2023/2002	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. Location	: ELES/RNC/2023/AA/1429 : Nav Prathmik Vidayalaya-Barang Path; Bimarla Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	(134.526 ha) 06.04.2023 to 07.04.2023 10.05.2023 Ambient Air	
Plant Status	:: Operational	Sample Drawn By	: ELES/DOC/SMPL/02	
Period of Analysis	: 10.05.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 30	2	Barometric Pressure (mmHg)	: 739
	Relative Humidity (%)	: 59	4	Weather Condition	: Clear
5	Longitude	: 84°25'12.83"E	6	Latitude	: 23°17'1.82"N

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

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



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

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ENGINEERING SERVICES PVT. LTD

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



CW: U74999JH2038PTC011125

Arsenic (As)

Test Report No.	: ELES/RNC/2023/2003	Report Release Date	: 12.06.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023
ULR No.	: TC88392300000964F		

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1430 : Near Mine Entry Gate; Bimarla Bauxite Mine (134.526 ha
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	= 06.04.2023 to 07.04.2023 = 10.05.2023
Plant Status	: Operational	Type of Sample Sample Drawn By	z Ambient Air ELES/DOC/SMPL/02
Period of Analysis	: 10.05.2023 to 08.06.2023	Sample Condition	Sealed & Preserved

1	Average Temperature (°C)	; 30	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 59	4	Weather Condition	; Clear
5	Longitude	: 84°25'35.93"E	6	Latitude	: 23°16'48.36"N

NABL Accredited Group : Atmospheric Pollution **Discipline : Chemical Regulatory Limit** Parameter Unit Test Protocol Result 100 (24hrs) IS 5182 (Part-23); 2006; RA2022 61 Particulate Matter (PM10) µg/m 60 (24hrs) Particulate Matter (PM2.5) ug/m* IS 5182 (Part- 24): 2019 30 6.8 80 (24hrs) IS 5182 (Part-2): 2001; RA2022 Sulphur Di-Oxide (SO₁) µg/m³ IS 5182 (Part-6): 2006; RA2022 24.6 80 (24hrs) ug/m Nitrogen Di-Oxide (NO₁) 100 (Shrs). IS 5182 (Part-9): 1974; RA2019 <20.0 Ozone (O₃) µg/m² 1S 5182 (Part- 25): 2018 <10.0 400 (24hrs) ug/m3 Ammonia (NH₁) 1S 5182 (Part-10): 1999; RA2019 <1.0 2 (8hrs) Carbon Monoxide (CO) mg/m 1 (24hrs) µg/m³ IS 5182 (Part-22): 2004; RA2019 0.011 Lead (Pb) <6.0 20 (Annual) ng/m3 15 5182 (Part-26):2020 Nickel (Ni)

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ng/mª

06 (Annual)

<2.0

****End of Report****

ELES/AIR/SOP/01

Dr. Deependra Kumar Sinha

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PLOT NO-30, MANSARDVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST ND:- 20AAECE97130123

ENGINEERING SERVICES PVT. LTD.

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

CIN: U74959/H2018PfC011125

	TE	ST REPORT	
Test Report No.	: ELES/RNC/2023/2003	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. Location	: ELES/RNC/2023/AA/1430 : Near Mine Entry Gate; Bimarla Bauxite Mine (134,526 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 06.04.2023 to 07.04.2023 : 10.05.2023 : Ambient Air	
Plant Status	: Operational	Sample Drawn By	: ELES/DOC/SMPL/02	
Period of Analysis	: 10.05,2023 to 08.06.2023	Sample Condition	: Sealed & Preserved	

M	TEOROLOGICAL INFOR	MATION		the second s	
1	Average Temperature (°C)	: 30	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear
5	Longitude	:84°25'35.93"E	6	Latitude	: 23°16'48,36"N

Discipline : Chemical		Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene*	µg/m ³	IS:5182 (part-11): 2006;RA2017	<1.0	05(Annual)	
Benzo (a) Pyrene*	ng/m ¹	1S: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 (IHARKHAND) GST NO:- 20AAECE9713D124

CWI: U74599/W2018PTC011125

ENGINEERING SCRUGCES PVT. LTD.

Email: Infa@elesal.ca.in, eles.ranchi@amail.com Phone no.: 0651-2290103 Website www.eiespl.rp.in



	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2004	Report Release Date	: 12.06.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	
ULR No.	: TC88392300000965F			

CUSTOMER DET/	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1431 : Near Korle Village	
Address	Lohardaga, Jharkhand-835302	Sampling Date	Bimarla Bauxite Mine (134.526 ha : 07.04.2023 to 08.04.2023	
2.44.634	Connerage, maximum oppose	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	RMATION			
1	Average Temperature (°C)	: 30	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear
5	Longitude	: 84°25'55.20"E	6	Latitude	: 23°17'30.46"N

NABL Accredited

Discipline :	Chemical	Group	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	15 5182 (Part-23): 2006; RA2022	62	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ¹	IS 5182 (Part-24): 2019	32	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	7.1	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	15.9	80 (24hrs)	
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part-25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	0.009	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

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Dr. Deependra Kumar Sint

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Ph. D. Environmental Engg:

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

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

TEST REPORT					
Test Report No.	: ELES/RNC/2023/2004	Report Release Date	: 12.06.2023		
Work Order No.	: M& M/23-24/01	Work Order Date	: 31.03.2023		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1431 : Near Korle Village	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	Bimarla Bouxite Mine (134.526 ha) : 07.04.2023 to 08.04.2023 : 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	RMATION			
1	Average Temperature (°C)	: 30	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear
5	Longitude	: 84°25'56.20"E	6	Latitude	: 23°17'30.46'%

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

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



****End of Report****

Anthorized Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental Engg. ELCS Rvt. Ltd. Technical Manager

Page 1 of 1

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

ENGINTERING SERVICES PVT. LTD.

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



	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2005	Report Release Date	: 12.06.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	
ULR No.	: TC88392300000966F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	ELES/RNC/2023/AA/1432 Near Barang Village Bimarla Bauxite Mine (134.526 ha	
Address	Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 07.04.2023 to 08.04.2023 : 10.05.2023	
Plant Status : Operational		Type of Sample Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 10.05.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFOR	RMATION	-		
1	Average Temperature (°C)	e Temperature (°C) : 30		Barometric Pressure (mmHg) : 739	
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear
5	Longitude	: 84°25'16.51*E	6	Latitude	: 23°16'30.61"N

NABL Accredited **Discipline : Chemical** Group : Atmospheric Pollution Parameter Upit Test Protocol Result **Regulatory Limit** µg/m³ IS 5182 (Part-23): 2006; RA2022 67 Particulate Matter (PM10) 100 (24hrs) ug/m³ Particulate Matter (PM2.5) IS 5182 (Part- 24): 2019 35 60 (24hrs) Sulphur Di-Oxide (SO₁) µg/m3 IS 5182 (Part-2): 2001; RA2022 7.9 80 (24hrs) Nitrogen Di-Oxide (NO2) µg/m3 IS 5182 (Part-6): 2006; RA2022 20.3 80 (24hrs) 1S 5182 (Part-9): 1974; RA2019 <20.0 100 (8hrs) Ozone (O₃) ug/m Ammonia (NH3) ug/m IS 5182 (Part-25): 2018 <10.0 400 (24hrs) mg/m Carbon Monoxide (CO) IS 5182 (Part-10): 1999; RA2019 <1.0 2 (8hrs) Lead (Pb) µg/m³ IS 5182 (Part-22): 2004; RA2019 0.016 1 (24hrs) ng/m IS 5182 (Part-26):2020 Nickel (Ni) 20 (Annual) <6.0 ng/m ELES/AIR/SOP/01 06 (Annual) Arsenic (As) <2.0 E Eng

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

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Page 1 of 1 Ph. D. Environmental Erigg, The Document stated as Test Report, is assed by the Laboratory under General Terms and Coopmons, an EuES Body letter, here alpheter, began. 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 in the report, except the information which is provided by the client. The Report cannot be reproduced except in fail and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report is fail and on the published, alreptise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and juriadiction issues. Any insufficient of the report is failing and offenders may be prosecuted to the failest extent of the law. All the samples are retained for States 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 of Complaints regarding the Report shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, an complaints will be accepted. The entire Time subedule mentioned in Test Report is in 24hours format, Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT					
Test Report No.	: ELES/RNC/2023/2005	Report Release Date	: 12.06.2023		
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1432 Near Barang Village Bimarla Bauxite Mine (134.526 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	107.04.2023 to 08.04.2023 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)	: 30	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	ç 59	4	Weather Condition	: Clear
5	Longitude	: 84°25'16.51"E	6	Latitude	:: 23°16'30.61"N

Discipline : Chemical		Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene*	µg/m ³	IS:5182 (part-11): 2006;RA2017	<1.0	05(Annual)	
Benzo (a) Pyrene*	ng/m ²	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 Pn. D. Environmental Engg ELES Pvt. Ltd. Technical Manager

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

ENGINEERING SERVICES PVT, LTD

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



	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2006	Report Release Date	: 12.06.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	
ULR No.	: TC883923000000967F			

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1433 : Near Ghaghra Village Bimarla Bauxite Mine (134.526 ha	
Address	Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 07.04.2023 to 08.04.2023 : 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	

Ł	Average Temperature (%C)	: 30	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear
5	Longitude	: 84°24'46.53"E	6	Latitude	: 23º17'14.34"N

NABL Accredited

METRODOLOGICAL DIRODAL PROD

Discipline :	Chemical	Group :	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	59	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	31	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6.3	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	18.2	80 (24hrs)	
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (Shrs)	
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.003	1 (24hrs)	
Nickel (Ni)	ng/m ¹	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

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Dr. Deependra Kumar Sinha

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE97130128

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT					
Test Report No.	: ELES/RNC/2023/2006	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. Location	: ELES/RNC/2023/AA/1433 : Near Ghaghra Village Bimarla Bauxite Mine (134.526 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 07.04.2023 to 08.04.2023 : 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 (4C)	: 30	2	Barometric Pressure (mmHg).	1739
3	Relative Humidity (%)	: 59	4	Weather Condition	; Clear
5	Longitude	: 84°24'46.53*E	6	Latitude	: 23°17'14.34''N

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

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



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

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834803 (JHARKHAND) GST NO- 20A45CE9713D124

CONTERING PERVICES PVT. LTD.

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



TE	ST REPORT	
: ELES/RNC/2023/2007	Report Release Date	: 12.06.2023
: M&M/23-24/01	Work Order Date	: 31.03.2023
: TC88392300000968F		
	: ELES/RNC/2023/2007 : M&M/23-24/01	: M&M/23-24/01 Work Order Date

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1434 : Near Bimarla Village Bimarla Bauxite Mine (134,526 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 07.04.2023 to 08.04.2023 : 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	

1	Average Temperature (°C)	: 30	2	Barometric Pressure (mmHg)	739
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear
5	Longitude	: 84°25'27.92"E	6	Latitude	: 23°17'45.65"N

NABL Accredited

Discipline :	Discipline : Chemical Group				
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	15 5182 (Part-23): 2006; RA2022	64	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	36	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6.7	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	21.2	80 (24hrs)	
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (Shrs)	
Ammonia (NH3)	µg/m ³	15 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m'	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

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****End of Report****

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

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ENGINEERING SERVICES PVT. LTD.

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

	TE	ST REPORT	- Andrewski - A	
Test Report No.	: ELES/RNC/2023/2007	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. Location	: ELES/RNC/2023/AA/1434 Near Bimarla Village Bimarla Bauxite Mine (134,526 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	07.04.2023 to 08.04.2023 10.05.2023	
Plant Status	: Operational	Type of Sample Sample Drawn By	Ambient Air ELES/DOC/SMPL/02	
Period of Analysis	: 10.05.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	RMATION		and the second s	
1	Average Temperature (*C)	: 30	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear
5	Longitude	: 84°25'27.92"E	6	Latitude	: 23º17'45.65"N

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

****End of Report****

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



Authorized Signatory

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

Page 1 of 1

The Elecument stated as Test Report, is issued by the Laboratory under General Tenns and Conditions, only on Company letter head in pre-approved format. The retails The Electrineit solid as test report, is ested by the factoriary after central terms and contacting only in the factoriary only. The information stated on the Test Report reflects the findings 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 is fall or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction result. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the follest 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 stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limit); LDL (Lower Detection Limit).



PLOT NO 30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST ND:- 2044ECE9713D124

NGINEERING SERVICES PAR. 1

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

TEST REPORT

Test Report No.	: ELES/RAN/2023/0508	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/0393 : 13.04.2023 : 26.04.2023
Address	: Lohardaga, Jharkhand-835302	Type of Sample Source/Location of Sample	Drinking Water : Near Quarty No.1B, Bimarla
Mines Status	: Operational	Sampling Procedure Sample Collected By	Bauxite Mine (134.526 ha) : 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.		ory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limii	Permissible Limit
pH (at 25.2 °C)	4	APHA 23" Ed 2017, 4500-H	6.86	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 23 rd Ed,2017, 2130 B	0.21	1.0	5.0
Tašté		APHA 23 rd Ed.2017, 2160 C	Agreeable	Agreeable	Agreeable
Odour		IS 3025 (Part-5) :2018	Agreeable	Agreeable	Agreeable
Colour	Hazen	APHA 23" Ed.2017, 2120B&D	1.0	5	15
Total Dissolved Solids (TDS)	mg/L	APHA 23rd Ed.2017, 2540B,C&D	208	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 23rd Ed.2017, 4500 F-D	BDL (DL: 0.1)	1.0	1.5
Total Alkalinity (as CaCOs)	mg/L	APHA 2316 Ed.2017, 2320 B	68.9	200	600
Total Hardness (as CaCO3)	mg/L	APHA 23 rd Ed.2017, 2340 C	89.2	200	600
Sulphate (as SO4)	mg/L	APHA 23rd Ed.2017, 4500 SO4-2-E	18.8	200	400
Nitrate (as NO3)	mg/1.	APHA 23td Ed.2017, 4500 NO3-B	1.94	45	No Relaxation
Phenolic Compound (as C ₆ H ₃ OH)	mg/L	IS 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 (JHARKHAND) GST NO:- 20AAECE9713D124 CINEERING SERVICES PVT, LTD.

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

	TES	ST REPORT		
Test Report No.	: ELES/RAN/2023/0508	Report Release Date	; 06.05.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

Discipt	ine: Che	mical Group : V	Vater		tory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable	Permissible
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	18 3025 (Part-26):2021	BDL (DL: 0.1)	0.02	1.0
Calcium (as Ca)	mg/L	APHA 23 ^{tt} Ed.2017, 3500 Ca B	24.3	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
Boron (as B)	mg/L	IS 3025(Part-57): 2005; RA2021	BDL (DL: 0.2)	0.5	1.0
Cadmium (as Cd)	mg/L	APHA 23 rd Ed.2017, 3111B	BDL (DL: 0.003)	0.003	No Relaxation
Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2017, 3111B	BDL (DL: 0.03)	0.05	No Relaxation
Copper (as Cu)	mg/L	APHA 23 rd Ed.2017, 3111B	BDL (DL: 0.03)	0.05	1.5
Iron (as Fe)	mg/L	APHA 23th Ed.2017, 3111B	0.241	1.0	1.0
Lead (as Pb)	mg/L	APHA 23 ^{al} Ed.2017, 3111B	BDL (DL: 0.01)	0.01	No Relaxation
Manganese (as Mn)	mg/L	APHA 23rd Ed.2017, 3111B	BDL (DL: 0.05)	0.1	0.3
Mercury (as Hg)	mg/L.	IS 3025 (Part-48): 1994; RA2019	BDL (DL: 0.001)	0.001	No Relaxation
Selenium (as Se)	mg/L	IS 3025 (Part-56): 2003; RA2019	BDL (DL: 0.01)	0.01	No Relaxation
Zinc (as Zn)	mg/L	APHA 23rd Ed.2017, 3111B	BDL (DL: 0,1)	5	15

Remarks: 1. pH & RFC done at Lab.

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

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

	TE	ST REPORT	
Test Report No.	: ELES/RAN/2023/0508	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 1S 10500:2012			
Pesticides							
Alachlor*	μg/L	АРНА	BDL (DL: 1.0)	20			
Atrazine*	μg/L	АРНА	BDL (DL: 1.0)	2			
Aldrin/Dieldrin*	µg/L	АРНА	BDL (DL: 0.01)	0,03			
Alpha HCH*	μg/1.	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	APHA	BDI				
Gamma HCH (Lindane)*	µg/L	АРНА	BDL (DL: 0.5)	2			
Isoproturon*	μg/1.	APHA	BDL (DL: 0.5)	9			

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The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report reflects 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 tame of involvement only and within the limits of ellent's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any anautorized alteration de fateration of the law alteration with the samples are related for all the samples are related for 30 days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15 days from the Date of Test Report related of Test Report related of Test Report related for all the failest extent of the faw, specified for all the accepted. The camples are related for the faw before, no complaints will be accepted. The capter related in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

GIVELRING SERVICES FYT. LTD.

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

	TE	ST REPORT		
Test Report No.	: ELES/RAN/2023/0508	Report Release Date	: 06.05.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

Discipline : Biological		Group :)	Regulatory Limit as per 1S 10500:2012		
Parameter	Unit	Test Protocol	Result	Acceptable	Permissible Limit
Total Coliform	Per 100 mL	IS 15185:2016; RA 2021	Not Detected	SZ	
Escherichia Coli (E. Coli)	Per 100 mL	L IS 15185:2016; RA 2021 Not Detected		d Shall not be de	
Discipline : Chemical		Group : Water		Regulatory Limit as per IS 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Anionic Surfactants (as MBAS)*	mg/L	IS 3025 Part 68	BDL (DL: 0.1)	0.2	1.0
Mineral Oil*	mg/L	CL-6, IS: 3025 (P-39)	BDL (DL: 0,1)	1.0	No relaxation
Polynuclear Aromatic Hydrocarbons (PAH)*	mg/L	APHA 23 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****

Rokha sa

Rekha Saxena B. Sc. M. Sc. (Betany) Director ELES PVI Ltd.

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA RANCHI-854003 (JHARNHAND) GST NO:- 20AAECE9713D124

CIN: U749930H2018P7C011115

ENGINEERING SERVICES PVT. LTD.



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

	TE	ST REPORT	
Test Report No.	: ELES/RNC/2023/2331	Report Release Date	: 01.07.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023
ULR No.	: TC883923000001253F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1804 : Near Weigh Bridge Bimarla Bauxite Mine (134.526 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 23.05.2023 to 24.05.2023 : 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	

	Average Temperature (°C)	: 36	2	Barometric Pressure (mmHg)	; 739
3	Relative Humidity (%)	: 58	4	Weather Condition	: Clear
5	Longitude	: 84°25'20.14"E	6	Latitude	: 23°17'6.19"N

Discipline :	: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	56	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	27	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	1S 5182 (Part-2): 2001; RA2022	7.8	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	16.8	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ³	IS 5182 (Part-25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (Shrs)
Lead (Pb)	µg/m'	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by

Authorized Signatory

Dr. Deependra Kumar Sinha

Page 1 of 1

****End of Report****

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

ENGINEERING SERVICES PVT. LTD.

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

CIN: U749551H2018PTC011125

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2331	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/1804 : Near Weigh Bridge Bimarla Bauxite Mine (134.526 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 23.05.2023 to 24.05.2023 : 06.06.2023 : Ambient Air	
Plant Status	: Operational	Sample Drawn By	: ELES/DOC/SMPL/02	
Period of Analysis	: 06.06.2023 to 07.06.2023	Sample Condition	: Sealed & Preserved	

MI	TEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 36	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 58	4	Weather Condition	: Clear
5	Longitude	: 84°25'20,14"E	6	Latitude	: 23°17'6.19"N

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

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



****End of Report****

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

Page 1 of 1

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FLDT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 [IHARKHAND] GST NO:- 204AECE97130124

ENGINEERING SERVICES PVT. 17D.





CIN: U70999/H2028P7C011125

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2332	Report Release Date	: 01.07.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	
ULR No.	: TC883923000001254F			

CUSTOMER DET/	AILS	SAMPLE DETAILS			
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1805 : Near Quarry No 1B		
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	Bimarla Bauxite Mine (134,526 ha : 23.05.2023 to 24.05.2023 : 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
	Relative Humidity (%)	: 58	4	Weather Condition	: Clear
5	Longitude	: 84°25'12.83"E	6	Latitude	: 23°17'1.82"N

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	55	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	30	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6.9	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	23.4	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (Shrs)
Ammonia (NH1)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.015	1 (24hrs)
Nickel (Ni)	ng/m ²	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ¹	ELES/AIR/SOP/01	<2.0	06 (Annual)



Or Authorized Signatory Sinha

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

ELES Pvt. Ltd. Technical Manager

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

ENGINEERING SERVICES PVT. LTD.

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

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2332	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/1805 : Near Quarry No 1B
	1	Location	Bimarla Bauxite Mine (134.526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 23.05.2023 to 24.05.2023
		Sample Received Date	: 06.06.2023
	- man	Type of Sample	: Ambient Air
Plant Status	: Operational	Sample Drawn By	: 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°25'12.83"E	6	Latitude	: 23°17'1.82"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/m ³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)		

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



****End of Report****

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Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO-20AAECE9733D174

ENGINEERING SERVICES PVT. LTD



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

		REPORT	
Test Report No.	: ELES/RNC/2023/2333	Report Release Date	: 01.07.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023
ULR No.	: TC883923000001255F		
CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name Address Plant Status	: Minerals & Minerals Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sample Drawn By	: ELES/RNC/2023/AA/1806 : Nav Prathmik Vidayalaya-Barang Path; Bimarla Bauxite Mine (134.526 ha) : 23.05.2023 to 24.05.2023 : 06.06.2023 : Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 06.06.2023 to 07.06.2023	Sample Condition	: Scaled & Preserved

the state of the s	Average reinperature ('C)	- 30	14	Barometric Pressure (mm	Hg) : 739
3	Relative Humidity (%)	: 58	4	Weather Condition	: Clear
5	Longitude	: 84°25'30.51"E	6	Latitude	: 23°17'20.46"N

ļ	NABL Accredited		
	Discipline	:	C

Discipline : Chemical		Group : Atmospheric Pollution			
Unit	Test Protocol	Result	Regulatory Limit		
µg/m ³	IS 5182 (Part-23): 2006; RA2022	53	100 (24hrs)		
µg/m ³	IS 5182 (Part- 24): 2019	24	60 (24hrs)		
µg/m ³	18 5182 (Part-2): 2001; RA2022	8.1	80 (24hrs)		
µg/m ³	IS 5182 (Part-6): 2006; RA2022	12,3	80 (24hrs)		
μg/m ³	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/m ³	IS 5182 (Part-22): 2004; RA2019	0.007	1 (24hrs)		
ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
in ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)		
	Unit µg/m ³ µg/m ³ µg/m ³ µg/m ³ µg/m ³ µg/m ³ µg/m ³ µg/m ³	Unit Test Protocol μg/m³ IS 5182 (Part-23): 2006; RA2022 μg/m³ IS 5182 (Part-24): 2019 μg/m³ IS 5182 (Part-24): 2019 μg/m³ IS 5182 (Part-2): 2001; RA2022 μg/m³ IS 5182 (Part-6): 2006; RA2022 μg/m³ IS 5182 (Part-6): 2006; RA2022 μg/m³ IS 5182 (Part-9): 1974; RA2019 μg/m³ IS 5182 (Part-25): 2018 mg/m³ IS 5182 (Part-10): 1999; RA2019 μg/m³ IS 5182 (Part-25): 2004; RA2019 μg/m³ IS 5182 (Part-26): 2020	Unit Test Protocol Result μg/m³ IS 5182 (Part-23): 2006; RA2022 53 μg/m³ IS 5182 (Part-24): 2019 24 μg/m³ IS 5182 (Part-2): 2001; RA2022 8.1 μg/m³ IS 5182 (Part-2): 2006; RA2022 12.3 μg/m³ IS 5182 (Part-6): 2006; RA2022 12.3 μg/m³ IS 5182 (Part-6): 1974; RA2019 <20.0		



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

ELES Pvt. Ltd. Technical Manager

SINDa

21

Authorized Signator

Dr.

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

ENGINEERING SERVICES PVT, LTD,

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

CIN-U74999JH2018PF(011125

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2333	Report Release Date	: 01.07.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

CUSTOMER DET.	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1806 : Nav Prathmik Vidayalaya-Barang Path; Bimarla Bauxite Mine		
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	(134.526 ha) : 23.05,2023 to 24.05.2023 : 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°25'12.83*E	6	Latitude	: 23°17'1.82"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/m ³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)	

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



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Authorized Signatory Dr. Deependra Kumar Sinha Ph. D. Environmenial Engg. ELES PVI. Ltd. Technics Manager

Page 1 of 1

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Period of Analysis

ENVIRONMENTAL LABORATORIES &

THE DESCRIPTION

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

: 06.06.2023 to 07.06.2023

ENGINEERING SERVICES PVT. LTD



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

: Sealed & Preserved

	11.51	REPORT	
Test Report No.	: ELES/RNC/2023/2334	Report Release Date	: 01.07.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023
ULR No.	: TC883923000001256F		
CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1807 : Near Mine Entry Gate: Bimarla Bauxite Mine (134.526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 23.05.2023 to 24.05.2023 : 06.06.2023 : Ambient Air
Plant Status	: Operational	Sample Drawn By	: ELES/DOC/SMPL/02

M	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 36	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 58	.4	Weather Condition	: Clear
5	Longitude	: 84°25'35,93"E	6	Latitude	:23°16'48.36"N

Sample Condition

NABL Accredited **Discipline : Chemical** Group : Atmospheric Pollution Parameter Unit Test Protocol Result **Regulatory Limit** Particulate Matter (PM10) µg/m 15 5182 (Part-23): 2006; RA2022 58 100 (24hrs) Particulate Matter (PM2.5) µg/m IS 5182 (Part- 24): 2019 27 60 (24hrs) Sulphur Di-Oxide (SO2) µg/m3 IS 5182 (Part-2): 2001; RA2022 5.5 80 (24hrs) Nitrogen Di-Oxide (NO3) µg/m' IS 5182 (Part-6): 2006; RA2022 20.1 80 (24hrs) Ozone (O1) µg/m³ IS 5182 (Part-9): 1974; RA2019 <20.0 100 (8hrs) Ammonia (NH₁) µg/m' IS 5182 (Part- 25): 2018 <10.0 400 (24hrs) Carbon Monoxide (CO) mg/m3 IS 5182 (Part-10): 1999; RA2019 <1.0 2 (8hrs) Lead (Pb) µg/m' IS 5182 (Part-22): 2004; RA2019 0.009 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)

Reviewed by

Authorized Signatory Sinha Dr. Deeper

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

ELES Pvt. Ltd. Tachnical 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.elespi.co.in

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2334	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/1807 : Near Mine Entry Gate; Bimarla Bauxite Mine (134.526 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 23.05.2023 to 24.05.2023 : 06.06.2023	
Plant Status	: Operational	Type of Sample Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	7.06.06.2023 to 07.06.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature ("C)	: 36	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 58	- 4	Weather Condition	: Clear
5	Longitude	: 84°25'35.93*E	6	Latitude	: 23°16'48.36"N

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

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



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

ENGINEERING SERVICES PVT. LTD.



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

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2335	Report Release Date	: 01.07.2023	-
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	_
ULR No.	: TC883923000001257F		1.0-0.000	_

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	ELES/RNC/2023/AA/1808 Near Korle Village	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	Bimarla Bauxite Mine (134.526 ha 24.05.2023 to 25.05.2023 206.06.2023	
Plant Status	: Operational	Type of Sample Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 06.06.2023 to 07.06.2023	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFOI	RMATION			
1	Average Temperature (°C)	: 35	2	Barometric Pressure (mmHg)	1739
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear
5	Longitude	: 84°25'56.20"E	6	Latitude	: 23°17'30.46"N

Discipline :	Chemical	Group	Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	67	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	39	60 (24hrs)
Sulphur Di-Oxíde (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6.9	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	20.3	80 (24hrs)
Ozone (O3)	µg/m ³	1S 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.013	I (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ¹	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by

Authorized Signatory

****Ead of Report**** Dr. Deep

ELES Pvt. Ltd. Technical Manager

Sinha

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Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.

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

CIN: U74999/H2018PTC011125

TEST REPORT					
Test Report No.	: ELES/RNC/2023/2335	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/1808 Near Korle Village Bimarla Bauxite Mine (134.526 ha) 	
Address	Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 24.05.2023 to 25.05.2023 : 06.06.2023	
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	RMATION			
T	Average Temperature (°C)	: 35	2	Barometric Pressure (mmHg)	: 739
	Relative Humidity (%)	: 59	4	Weather Condition	: Clear
5	Longitude	: 84°25'56.20"E	6	Latitude	: 23°17'30.46"N

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

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



****End of Report****

Authorized Signatory Jr. Deepenera Kumar Sinha Ph. D Environmental Engg. ELES PVI. Ltd Technical Manager

Page 1 of 1

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

CIN: U749990H2013PTC011125

ENGINEERING SERVICES PVT. LTD.



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

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2336	Report Release Date	: 01.07.2023	_
Work Order No.	: M&M/23-24/01	Work Order Date	; 31.03.2023	_
ULR No.	: TC883923000001258F			

CUSTOMER DET/	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1809 : Near Barang Village Bimarla Bauxite Mine (134,526 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 24.05.2023 to 25.05.2023 : 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	

	Average Temperature (*C)	: 35	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 59		Weather Condition	: Clear
5	Longitude	: 84°25'16,51"E	6	Latitude	: 23°16'30.61''N

Discipline :	Chemical	Group :	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	62	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	31	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	7.1	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m ³	1S 5182 (Part-6): 2006; RA2022	22.5	80 (24hrs)	
Ozone (O ₁)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ³	1S 5182 (Part-22): 2004; RA2019	0.007	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ¹	ELES/AIR/SOP/01	<2.0	06 (Annual)	

STETELM Reviewed by

****End of Report****

Authorized Signatory ur. Deependra 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.

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

CIM: U74999JH2018PTC011125

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2336	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/1809 : Near Barang Village Bimarla Bauxite Mine (134.526 ha)	
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 24.05.2023 to 25.05.2023 : 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	MATION		The second second second	
1	Average Temperature (°C)	: 35	2	Barometric Pressure (mmHg)	; 739
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear
5	Longitude	: 84°25'16.51"E	6	Latitude	: 23°16'30.61"N

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

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



****End of Report****

Authorized Signatory Dr. Deependra Kumar Sinha Pn. D. Environmental Enggi ELES PVI. Ltd. Technical Manager

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATUA, RANCHI-834003 (IHARKHAND) GST NO:- 20AAECE97130134

ENGINEERING SERVICES PYT. LTD.



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

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2337	Report Release Date	; 01.07.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	
ULR No.	: TC883923000001259F			

CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	 ELES/RNC/2023/AA/1810 Near Ghaghra Village Bimarla Bauxite Mine (134.526 ha
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 24.05.2023 to 25.05.2023 : 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)	: 35	12	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear
5	Longitude	: 84°24'46.53"E	6	Latitude	: 23º17'14.34"N

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		and the second second	÷

Discipline :	Chemical	Group	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	63	100.(24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	36	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6.8	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	20.7	80 (24hrs)	
Ozone (Oz)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m?	IS 5182 (Part-22): 2004; RA2019	0.016	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Reviewed by

D Amthorized Signatory Sinha

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

ELES Pvt. Ltd. Technical Manager

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

ENGINEERING SERVICES PVT. LTD.

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

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2337	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/1810 : Near Ghaghra Village Bimarla Bauxite Mine (134,526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 24.05.2023 to 25.05.2023 : 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			
-E	Average Temperature (°C)	: 35	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear
5	Longitude	: 84°24'46.53"E	6	Latitude	: 23°17'14.34"N

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

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



End of Report**

Authorized Signatory ur Deependra Kumar alillic Ph. D. Environmental Engg. ELES Pvi, Ltd. Technical Manager

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Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.



CIN:1/74999/H2018PTc011129

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

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2338	Report Release Date	: 01.07.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	-
ULR No.	: TC883923000001260F			_

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1811 : Near Bimarla Village Bimarla Bauxite Mine (134,526 ha	
Address	; Löhardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 24.05.2023 to 25.05.2023 : 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	

_	Average Temperature (°C)	: 35	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 59	-4	Weather Condition	: Clear
5	Longitude	: 84°25'27.92"E	6	Latitude	: 23°17'45.65"N

Discipline :	Chemical	Group	: Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limi
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	56	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	31	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	18 5182 (Part-2): 2001; RA2022	6.2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	18.8	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH1)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS \$182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m ⁴	IS \$182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m'	ELES/AIR/SOP/01	<2.0	06 (Annual)

Etr Reviewed by

Authorized Signatory

****End of Report****

Sinha

Page 1 of 1

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

ENGINEERING SERVICES PVT. 1.7D.

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

CIN: U74999JHZ018PTC011125

TEST REPORT					
Test Report No.	: ELES/RNC/2023/2338	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/1811 : Near Bimarla Village Bimarla Bauxite Mine (134,526 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 24.05.2023 to 25.05.2023 : 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	TEOROLOGICAL INFOR	RMATION		and the second second	
1	Average Temperature (PC)	: 35	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear
5	Longitude	: 84°25'27.92"E	6	Latitude	: 23°17'45.65"N

Discipline : Chemical		Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene*	µg/m ³	1S 5182 (Part-11)2006;RA2017	<1.0	05(Annual)		
Benzo (a) Pyrene*	ng/m³	18 5182 (Part-12)2004;RA2019	<0.5	01(Annual)		

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



**** End of Report****

Authorized Signatory Sinha Ph. D. Environmental Engg. ELES PVI, Ltd. Technical Manager

Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.



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

	TE	ST REPORT	
Test Report No.	: ELES/RNC/2023/2799	Report Release Date	: 29.07.2023
Work Order No.	: M&:M/23-24/01	Work Order Date	: 31.03.2023
ULR No.	: TC883923000001664F		

CUSTOMER DETAILS		SAMPLE DETAILS			
Customer Name Address Mines Status	: Minerals & Minerals Limited : Lohardaga, Jharkhand-835302 : Operational	Local Samp Samp Type Samp	le Ref. No. tion ling Date le Received Date of Sample ling Procedure de Drawn By	: ELES/RNC/2023/AA/1979 : Near Weigh Bridge Bimarla Bauxite Mine (134,526 ha : 15.06,2023 to 16.06,2023 : 17.06,2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pyt. Ltd.	
Period of Analysis	: 17.06.2023 to 27.06.2023			: Sealed & Preserved	

1	Average Temperature (°C)	: 33	2	Barometric Pressure (mmHg)	: 738
3	Relative Humidity (%)	: 60	4	Weather Condition	; Clear
5	Longitude	: 84°25'20.14"E	6	Latitude	+23°17'6.19"N

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	59	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	25	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6.2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	18.5	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₂)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

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

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Reviewed by

Or. Deependra Kumar Sinha Dh D

Environmental Engg.

ELES Pvt. Ltd. Technical Manager results The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. 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 chent'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 repoduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been second from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction aroas. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/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 stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Nat Applicable); BDL (Below Detection Limit); LDL (Lower Detection Limit)



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHANDI GST NO:- 20AAECE9713DJZ4

ENGINEERING SERVICES PVT. LTD.

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

CIN: U74999/H2018PTC011125

TEST REPORT					
Test Report No.	: ELES/RNC/2023/2799	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/1979 : Near Weigh Bridge Bimarla Bauxite Mine (134,526 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 15.06.2023 to 16.06.2023 : 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sample Drawn By	: ELES Pvt. Ltd.	
Period of Analysis	: 17.06.2023 to 27.06.2023	Sample Condition	: Sealed & Preserved	

MI	TEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 33	2	Barometric Pressure (mmHg)	: 738
3	Relative Humidity (%)	: 60	4	Weather Condition	: Clear
5	Longitude	: 84°25'20,14"E	6	Latitude	: 23°17'6.19"N

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

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



****End of Report****

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:- 20AAECE9713D124

ENGINEERING SERVICES PTT. 1



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

TEST REPORT					
Test Report No.	: ELES/RNC/2023/2800	Report Release Date	: 29.07.2023		
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023		
ULR No.	: TC883923000001665F				

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1980 : Near Quarry No TB Bimarla Bauxite Mine (134.526 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 15.06.2023 to 16.06.2023	
Mines Status	: Operational : 17.06.2023 to 27.06.2023	Sample Drawn By	: ELES Pvt. Ltd.	
Period of Analysis		Sample Condition	: Sealed & Preserved	

M	Average Temperature (°C)	: 33	2	Barometric Pressure (mmHg)	: 738
3	Relative Humidity (%)	: 60	4	Weather Condition	: Clear
5	Longitude	: 84°25'12.83"E	6	Latitude	: 23°17'1.82"N

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	50	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	27	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6.2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	15 5182 (Part-6): 2006; RA2022	20.5	80 (24hrs)
Ozone (O3)	µg/m ¹	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.011	1 (24hrs)
Nickel (Ni)	ng/m ¹	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by

U2

Authorised Signatory

**** End of Report****

Ur, Deependra Kumar Sinha Ph. D. Environmental Engg.

Page 1 of 1

ELES Pvt. Ltd. Technical Manager

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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT				
Test Report No.	: ELES/RNC/2023/2800	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/1980 : Near Quarry No 1B Bimarla Bauxite Mine (134,526 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 15.06.2023 to 16.06.2023 : 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sample Drawn By	: ELES Pvt. Ltd. : Sealed & Preserved	
Period of Analysis	: 17.06.2023 to 27.06.2023	Sample Condition		

MI	TEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 33	2	Barometric Pressure (mmHg)	: 738
_	Relative Humidity (%)	: 60	4	Weather Condition	: Clear
5	Longitude	: 84°25'12.83"E	6	Latitude	:23°17'1.82"N

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

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



****End of Report****

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

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The Document stated as Tost Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job implyors 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 of data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Anenton is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Text Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Text 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 Usdays from the Date of Test Report released/usased. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. After vitation used: N/A (Not Applicable), BDL (Below Detection Limit); LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PPT, LTT



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

	TH	EST REPORT	
Test Report No.	: ELES/RNC/2023/2801	Report Release Date	: 29.07.2023
Work Order No.	: M&M/23-24/01	Work Order Date	; 31.03.2023
ULR No.	: TC883923000001666F		
CUSTOMER DET	AILS	SAMPLE DETAILS	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1981 : Nav Prathmik Vidayalaya-Barang Path; Bimarla Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date		
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 17.06.2023 to 27.06.2023	Sample Condition	: Sealed & Preserved	

ł	Average Temperature (°C)	: 33	2	Barometric Pressure (mmHg)	: 738
_	Relative Humidity (%)	: 60	4	Weather Condition	: Clear
-	Longitude	: 84°25'30.51"E	6	Latitude	: 23°17'20,46"N

NABL Accredited Discipline :	Chemical	Group :	Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23); 2006; RA2022	47	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	21	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001: RA2022	7.3	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	15.5	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₁)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	1S 5182 (Part-22): 2004; RA2019	0.005	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Authorised Signatory

****End of Report****

Reviewed by

Dr. Deependra Kumar Sinha Ph. D. Environmental Engl.

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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

CIN: U749991H2018PTC011125

TEST REPORT				
Test Report No.	: ELES/RNC/2023/2801	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	: Mînerais & Minerals Lîmîted	Sample Ref. No. Location	 ELES/RNC/2023/AA/1981 Nav Prathmik Vidayalaya-Baran Path; Bimarla Bauxite Mine (134.526 ha) 	
Address Mines Status	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 15.06.2023 to 16.06.2023 : 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis : 17.06.2023 to 27.06.2023		Sample Drawn By Sample Condition	ELES Pvt. Ltd. Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION			
	Average Temperature (%C)		2	Barometric Pressure (mm	Hg) 1/38
	Relative Humidity (%)	: 60	4	Weather Condition	; Clear
-	to the second	: 84°25'12.83"E	6	Latitude	: 23°17'1.82"N
5	Longitude	: 84 23 12:03 6	- 1.4	Latertoot	

Discipline	: Chemical	Group : Atmospheric Pollution		
	Unit	Test Protocol	Result	Regulatory Limit
Parameter	µg/m ³	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)
Benzene*		IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)
Benzo (a) Pyrene*	ng/m*	15.5162 (1 011 10): 201111		

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



****End of Report****

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

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

ENGINEERING SERVICES PVT. LTD



CW: U74995/H2018PT0011125

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

	TE	ST REPORT	
Test Report No.	: ELES/RNC/2023/2802	Report Release Date	: 29.07.2023
Work Order No.	: M&M/23-24/91	Work Order Date	: 31.03.2023
ULR No.	: TC883923000001667F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Minerals & Minerals Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2023/AA/1982 : Near Mine Entry Gate; Bimarla Bauxite Mine (134.526 ha : 15.06.2023 to 16.06.2023 : 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02 : The Doc Log	
Mines Status		Sample Drawn By	: ELES Pvt. Ltd.	
Period of Analysis.	: 17.06.2023 to 27.06.2023	Sample Condition	: Sealed & Preserved	

1	Average Temperature (°C)	: 33	2	Barometric Pressure (mmHg)	: 738
-	Relative Humidity (%)	: 60	4.	Weather Condition	: Clear
	A sea to sea	:84°25'35.93"E	6	Latitude	: 23°16'48.36"N
Э	Longitude	204 60 00000 6	1.0		

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	50	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	23	60 (24hrs)
Sulphur Di-Oxide (SO1)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6.1	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ¹	1S 5182 (Part-6): 2006; RA2022	23.7	80 (24hrs)
Ozone (O ₁)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ²	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.005	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

FINDING Reviewed by 'n

Authorised Signatory Dr. Deependra Kumar Sinha

Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.

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

	TE	EST REPORT
Test Report No.	: ELES/RNC/2023/2802	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/1982 : Near Mine Entry Gate; Bimarla Bauxite Mine (134.526 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 15.06.2023 to 16.06.2023 : 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Mines Status	Goperational	Sample Drawn By		
Period of Analysis	17.06.2023 to 27.06.2023	Sample Condition	: Sealed & Preserved	

RMATION			-
	2	Barometric Pressure (mmHg)	: 738
: 60	4	Weather Condition	; Clear
- 84°25'35.93"E	6	Latitude	: 23°16'48.36"N
	RMATION : 33 : 60 : 84°25'35.93"E	: 33 2 : 60 4	2 Barometric Pressure (mmHg) 60 4 Weather Condition

Discipline	: Chemical	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
	µg/m ³	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)	
Benzene*		1S:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)	
Benzo (a) Pyrene*	ng/m ²	15:5182 (Pan-14). 2004, (Creation	- true	1	

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



****End of Report****

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

Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.



CW- U74998/W2018P7E011125

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/2023/2803	Report Release Date : 29.07.2023			
Work Order No.	: M&M/23-24/01	Work Order Date : 31.03.2023			
ULR No.	: TC883923000001668F				

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	+ Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1983 : Near Korle Village Bimarla Bauxite Mine (134.526 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	: 16.06.2023 to 17.06.2023 : 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. : Sealed & Preserved	
Mines Status				
Period of Analysis	c 17.06.2023 to 27.06.2023	Sample Condition		

114	verage Temperature (°C)	: 32	2	Barometric Pressure (mmHg)	: 739
-	telative Humidity (%)	: 58	4	Weather Condition	; Clear
-	ongitude	: 84°25'56.20"E	6	Latitude	:23º17'30.46"N

NABL Accredited	Chamberl	Group :	Atmospheri	c Pollution		
	Enclosed Table Tables					
Parameter	Unit		Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	61	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	37	60 (24hrs)		
Sulphur Di-Oxide (SO2)	µg/m ³	1S 5182 (Part-2): 2001; RA2022	7.4	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	µg/m ³	1S 5182 (Part-6): 2006; RA2022	23.6	80 (24hrs)		
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)		
Ammonia (NH3)	µg/m ³	IS 5182 (Part-25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ¹	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.013	1 (24hrs)		
Nickel (Ni)	ng/m	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)		

Reviewed by

Authorised Signatory Dr. Deependra Kumar Sinha

****End of Report****

Environmental Engg

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

ENGINEERING SERVICES PVT, LTD.

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

CIN: U74999/H2018F1C011125

TEST REPORT					
Test Report No.	: ELES/RNC/2023/2803	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 Address	: Minerals & Minerals Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date	: ELES/RNC/2023/AA/1983 : Near Korle Village Bimarla Bauxite Mine (134.526 ha : 16.06.2023 to 17.06.2023 : 17.06.2023	
Mines Status Period of Analysis	: Operational : 17.06.2023 to 27.06.2023	Type of Sample Sampling Procedure Sample Drawn By Sample Condition	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. : Sealed & Preserved	

MI	TEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	; 32	2	Barometric Pressure (mmHg)	: 739
3	Relative Humidity (%)	: 58	4	Weather Condition	: Clear
5	Longitude	: 84°25'56.20"E	6	Latitude	: 23°17'30.46"N

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

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



****End of Report****

Authorised Signatory Dr. 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) 55T NO:- 20AAECE97230124

ENGINEERING SERVICES PVT. LTD.

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



CW 1/74995/W7018PTC011125

	TE	ST REPORT	
Test Report No.	: ELES/RNC/2023/2804	Report Release Date	: 29.07.2023
Work Order No.	: M&M/23-24/01	Work Order Date	; 31.03.2023
ULR No.	: TC883923000001669F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1984 : Near Barang Village Bimarla Bauxite Mine (134.526 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 16.06.2023 to 17.06.2023 : 17.06.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 17.06.2023 to 27.06.2023	Sample Condition	: Sealed & Preserved	

	Average Temperature (°C)		2	Barometric Pressure (mmHg)	: 739
_	Relative Humidity (%)	: 58	4	Weather Condition	: Clear
	Longitude	: 84°25'16.51"E	6	Latitude	: 23°16'30.61"N

NABL Accredited Discipline :	Chemical	Group :	Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	57	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	26	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6.4	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	19.1	80 (24hrs)
Ozone (O1)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	15 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.01) (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by

Authorised Signatory

****End of Report****

Dr. Deependra Kumar Sinha Ph. D. Environmental English

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

ENGINEERING SERVICES PVT. LTD.

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

	TE	TEST REPORT	
Test Report No.	: ELES/RNC/2023/2804	Report Release Date	: 29.07.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1984 : Near Barang Village Bimarla Bauxite Mine (134,526 ha
Address : Lohardaga, Jharkhand-835302		Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 16.06.2023 to 17.06.2023 : 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sample Drawn By	: ELES Pvt. Ltd.
Period of Analysis	: 17.06.2023 to 27.06.2023	Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFO	RMATION			
1 Average Temperature (°C)		2	Barometric Pressure (mml	lg) :739
3 Relative Humidity (%)	: 58	4	Weather Condition	: Clear
5 Longitude	: 84°25'16.51"E	6	Latitude	: 23°16'30.61'N

Discipline : Chemical		Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
runameter unaba ³		IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)	
Benzene*	1	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)	
Benzo (a) Pyrene*	ng/m²	13,3104 (Faite12): 2004(Feise) 25			

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



****End of Report****

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

Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.



CIN: U241999/H2018PTC011125

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

	TE	ST REPORT
Test Report No.	: ELES/RNC/2023/2805	Report Release Date : 29.07.2023
Work Order No.	: M&M/23-24/01	Work Order Date : 31.03.2023
ULR No.	: TC883923000001670F	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1985 : Near Ghaghra Village Bimarla Bauxite Mine (134,526 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 16.06.2023 to 17.06.2023 : 17.06.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	z 17.06.2023 to 27.06.2023	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFO 1 Average Temperature (°C)		2	Barometric Pressure (mmHg)	: 739
 Relative Humidity (%) 	: 58	4	Weather Condition	: Clear
5 Longitude	: 84°24'46.53"E	6	Latitude	: 23°17'14.34"N

Chemical	Group :	Atmospheri	c Pollution
1	Test Protocol	Result	Regulatory Limit
	IS 5182 (Part-23): 2006; RA2022	58	100 (24hrs)
		30	60 (24hrs)
	and the second se	6.2	80 (24hrs)
_		22.3	80 (24hrs)
		<20.0	100 (8hrs)
	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
and the second second	15 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
-		0.012	1 (24hrs)
	IS 5182 (Part-26):2020	<6.0	20 (Annual)
	ELES/AIR/SOP/01	<2.0	06 (Annual)
	Chemical Unit µg/m ³ µg/m ³ µg/m ³ µg/m ³ µg/m ³ µg/m ³ µg/m ³ µg/m ³ µg/m ³	Unit Test Protocol μg/m³ IS 5182 (Part-23): 2006; RA2022 μg/m³ IS 5182 (Part-24): 2019 μg/m³ IS 5182 (Part-24): 2019 μg/m³ IS 5182 (Part-2): 2001; RA2022 μg/m³ IS 5182 (Part-6): 2006; RA2022 μg/m³ IS 5182 (Part-6): 2006; RA2022 μg/m³ IS 5182 (Part-6): 2006; RA2019 μg/m³ IS 5182 (Part-2): 4974; RA2019 μg/m³ IS 5182 (Part-25): 2018 mg/m³ IS 5182 (Part-10): 1999; RA2019 μg/m³ IS 5182 (Part-22): 2004; RA2019 μg/m³ IS 5182 (Part-22): 2004; RA2019 μg/m³ IS 5182 (Part-22): 2004; RA2019 μg/m³ IS 5182 (Part-26):2020	Unit Test Protocol Result μg/m³ IS 5182 (Part-23): 2006; RA2022 58 μg/m³ IS 5182 (Part-24): 2019 30 μg/m³ IS 5182 (Part-24): 2019 30 μg/m³ IS 5182 (Part-2): 2001; RA2022 6.2 μg/m³ IS 5182 (Part-6): 2006; RA2022 22.3 μg/m³ IS 5182 (Part-6): 1974; RA2019 <20.0

Reviewed by

****End of Report****

Dr. Deependra Kumar Sinha D. Environmental Engg.

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

ENGINEERING SERVICES PVT. LTD.

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

CIN: U7499804201891C011125

TEST REPORT					
Test Report No.	: ELES/RNC/2023/2805	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/1985 : Near Ghaghra Village Bimarla Bauxite Mine (134,526 ha	
Address Mines Status	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	: 16.06.2023 to 17.06.2023 : 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 17.06.2023 to 27.06.2023	Sample Condition	: Sealed & Preserved	

RMATION			
	2	Barometric Pressure (mmHg)	: 739
	4	Weather Condition	: Clear
Contract Not Only from	6	Latitude	:23°17'14.34"N
	2MATION : 32 : 58 : 84°24'46.53"E	: 32 2 : 58 4	: 32 2 Barometric Pressure (mmHg) : 58 4 Weather Condition

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

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



****End of Report****

Authorised Signatory Jr. Deependra Kumar 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 ND:- Z0AAECE9713D1Z4

ENGINEERING SERVICES PVT. LTD.

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



CN-U749991H2018PTC011125

	11	STREPORT		_
Test Report No.	: ELES/RNC/2023/2806	Report Release Date	: 29.07.2023	_
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	_
ULR No.	: TC883923000001671F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1986 : Near Bimarla Village Bimarla Bauxite Mine (134,526 ha	
Address	 Lohardaga, Jharkhand-835302 Operational 	Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air	
Mines Status			: ELES/DOC/SMPL/02 ; ELES Pvt. Ltd.	
Period of Analysis	± 17.06.2023 to 27.06.2023	Sample Condition	: Sealed & Preserved	

1 Average Temperature (°C)		2	Barometric Pressure (mmHg)	: 739
 Relative Humidity (%) 	: 58	4	Weather Condition	: Clear
5 Longitude	: 84°25'27.92"E	6	Latitude	: 23°17'45.65"N

NABL Accredited	(Theoptical	Group :	Atmospheri	e Pollution
Discipline :	Unit	Test Protocol	Result	Regulatory Limit
Parameter Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	53	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	27	60 (24hrs)
Sulphur Di-Oxide (SO ₁)	µg/m ³	IS 5182 (Part-2): 2001: RA2022	5.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	19.3	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ²	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ¹	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by Wa

Authorised 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.elespi.co.in

CIN- U74999/H2018PTC011125

TEST REPORT					
Test Report No.	: ELES/RNC/2023/2806	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/1986 : Near Bimarla Village Bimarla Bauxite Mine (134,526 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 16.06.2023 to 17.06.2023 : 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status		Sample Drawn By	: ELES Pvt. Ltd.	
Period of Analysis	: 17.06.2023 to 27.06.2023	Sample Condition	: Sealed & Preserved	

MI	TEOROLOGICAL INFOR	MATION			1000
-	Average Temperature (*C)	12.4	2	Barometric Pressure (mmHg)	: 739
	Relative Humidity (%)	: 58	4	Weather Condition	Clear
	Longitude	: 84°25'27.92"E	6	Latitude	:23°17'45.65"N

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

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



****End of Report****

Authorised Signatory Ur. Deependra Kumar Sinha Ph. D. Environmental Engg. ELES Pyr. Ltd. Technical Manager

Page 1 of 1

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TEST DEPODT

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

ENGINEERING SERVICES PVF. LTD.

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



CIN. U749990H2018FTE011125

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	11.31	KEFUKI	
Test Report No.	: ELES/RNC/2023/2758	Report Release Date	: 29.07.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023
ULR No.	: TC883923000001623F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2023/EF/2229
		Sampling Date	: 16.06.2023
		Sample Received Date	26.06.2023
Address	: Lohardaga, Jharkhand-835302	Type of Sample	: Effluent Water
		Source of Sample	: Workshop Effluent - Bimarla Bauxite Mine (134.526 ha)
		Sampling Procedure	: ELES/DOC/SMPL/01
Plant Status	: Operational	Sample Collected By	: ELES Pvt. Ltd
Period of Analysis	: 26.06.2023 to 12.07.2023	Sample Condition	: Sealed & Preserved

NABL Accredited Discipline: Chemical		Group: Pollution & Environment		Discharge Limits - CPCB EPR, 1986 Schedule VI	
Parameter	Unit	Test Protocol	Result	Inland Surface Water	Land of Irrigation
pH (at 25.1 °C)	-	APHA 23rd Ed.2017,4500-H B	6.59	5.5-9.0	5.5-9.0
Total Suspended Solids (TSS) mg/L		IS 3025 (Part-17):2022	24.8	100	200
Total Dissolved Solids (TDS)	mg/L	APHA 23rd Ed2017, 2540B, C&D	809		1999
Temperature °C		APHA 23 rd Ed.2017, 2550 B	26.4	Shall Not Exceed 5°C Above the Receiving Water Temperature	+
Chemical Oxygen Demand (COD)	mg/L	1S 3025 (Part-S8): 2006: RA2022	44.6	250	
Biochemical Oxygen Demand (BOD) (at 27 °C for 3 days)	mg/L	IS 3025 (Part-44): 1993: RA2019	5.3	30	100
Oil & Grease	mg/L	IS 3025 (Part-39): 2021	1.9	10	10
Calcium (as Ca)	mg/L	IS 3025 (Part-40):1991; RA2019	21.2		
Discipline: Chemica	d	Group: Residues	in Water		
Iron (as Fe)	mg/L	APHA 23 rd Ed.2017; 3111B & 3500Fe B	2.303	3.0	
Aluminum (as Al)	mg/L	IS 3025 (Part-55): 2003; RA2019	<0.02	-	-

Remarks: 1. pH

Reviewed by

Authorized Signatory

****End of Report****

Dr. Deependra Kumas Sint Ph. D. Environmental Engo.

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Page | of |



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

ENGINEERING SERVICES PVT. LTD



City, U7-#9150H2018/FT(011125

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

	TE	ST REPORT	
Test Report No.	: ELES/RNC/2023/2938	Report Release Date	: 08.08.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023
ULR No.	: TC883923000001785F		

CUSTOMER DET/	AILS	SAMPLE DETAILS		
Customer Name Address	: Minerals & Minerals Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2023/AA/2609 : Near Weigh Bridge Bimarta Bauxite Mine (134.526 h: : 18.07.2023 to 19.07.2023 : 25.07.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Mines Status	: Operational	Sampling Procedure Sample Drawn By		
Period of Analysis	: 25.07.2023 to 03.08.2023	Sample Condition	: Sealed & Preserved	

1	Average Temperature (°C)	:24	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 66	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°25'20.14"E	6	Latitude	: 23°17'6.19"N

Classical and			B. B. A.	
Unit	Test Protocol	Result	Regulatory Limit	
µg/m ³	1S 5182 (Part-23): 2006; RA2022	51	100 (24hrs)	
µg/m ³	IS 5182 (Part- 24): 2019	22	60 (24hrs)	
µg/m ³	IS 5182 (Part-2): 2001; RA2022	5.4	80 (24hrs)	
µg/m ³	IS 5182 (Part-6): 2006; RA2022	15.2	80 (24hrs)	
µg/m ³	IS 5182 (Part-9): 1974: RA2019	<20.0	100 (8brs)	
µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
mg/m ³	15 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
µg/m ³	IS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)	
ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	
	μg/m ³ μg/m ³ μg/m ³ μg/m ³ μg/m ³ mg/m ³ μg/m ³ ng/m ³	Unit Test Protocol μg/m³ 1S 5182 (Part-23): 2006; RA2022 μg/m³ 1S 5182 (Part-24): 2019 μg/m³ 1S 5182 (Part-24): 2019 μg/m³ IS 5182 (Part-2): 2001; RA2022 μg/m³ IS 5182 (Part-6): 2006; RA2022 μg/m³ IS 5182 (Part-6): 2006; RA2022 μg/m³ IS 5182 (Part-6): 2006; RA2022 μg/m³ IS 5182 (Part-9): 1974; RA2019 μg/m³ IS 5182 (Part-25): 2018 mg/m³ IS 5182 (Part-10): 1999; RA2019 μg/m³ IS 5182 (Part-22): 2004; RA2019	Unit Test Protocol Result μg/m³ 1S 5182 (Part-23): 2006; RA2022 51 μg/m³ 1S 5182 (Part-24): 2019 22 μg/m³ 1S 5182 (Part-2): 2001; RA2022 5.4 μg/m³ IS 5182 (Part-2): 2001; RA2022 15.2 μg/m³ IS 5182 (Part-6): 2006; RA2022 15.2 μg/m³ IS 5182 (Part-6): 2006; RA2019 <20.0	



Authorised Signatory Dr. Deependra Kumar Sinha

Page 1 of 1

****End of Report****

ELES Pvt. 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 Phane no.: 0651-2290103 Website : www.elespl.co.in



1	WE-LITAPPENW2018PTC011125		31		_
1		TH	ST REPORT		
	Test Report No.	: ELES/RNC/2023/2939	Report Release Date	: 08.08.2023	
	Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	
	ULR No.	: TC883923000001786F			

CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name Address	: Minerals & Minerals Limited	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2023/AA/2610 : Near Quarry No 1B Bimarla Bauxite Mine (134.526 ha : 18.07.2023 to 19.07.2023 : 25.07.2023 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sample Drawn By	: ELES Pvt. Ltd.
Period of Analysis	: 25.07.2023 to 03.08.2023	Sample Condition	: Sealed & Preserved

Ł	Average Temperature (°C)	:24	2	Barometric Pressure (mm	Hg) = 736
3	Relative Humidity (%)	: 66	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°25'12.83"E	6	Latitude	: 23°17'1.82"N

Discipline :	Chemical	Group :	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	46	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	24	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	5.5	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	μg/m ³	IS 5182 (Part-6): 2006; RA2022	18.1	80 (24hrs)	
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH3)	µg/m [®]	15 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 ¹	IS 5182 (Part-22): 2004; RA2019	0.009	1 (24hrs)	
Nickel (Ni)	ng/m ³	15 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	



****End of Report****

Authorised Stenatoshina Dr. Deependra Kuma Shina Ph.D. Fovinomental Enge

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

ENGINEERING SERVICES PVT. LTD.

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

	TI	ST REPORT		
Test Report No.	: ELES/RNC/2023/2939	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/2610 : Near Quarry No 1B Bimarla Bauxite Mine (134.526 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 18.07.2023 to 19.07.2023 : 25.07.2023 : Ambient Air	
Mines Status	: 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 INFOR	RMATION	-		
1	Average Temperature (°C)	: 24	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 66	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°25'12.83"E	6	Latitude	: 23º17'1.82"N

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

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



****End of Report****

Dr. Deependra Konnal Sinha Ph. D. Environmental Engg. ELES PvL Ltd. Technical Manager

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

DM: U74999/H201897(011125

Test Report No.

Work Order No.

CUSTOMER DETAILS

ULR No.

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

ENGINEERING SERVICES FTT, LTD



	Website : www.elespl.co.in TC-8839
TES	FREPORT
: ELES/RNC/2023/2940	Report Release Date : 08.08.2023
: M&M/23-24/01	Work Order Date : 31.03.2023
: TC883923000001787F	
1.5	SAMPLE DETAILS
- Minneale & Minneal I inited	Sampla Daf Nig - ELES/DNC/2022/AA/2611

P P P P P P P P P P P P P P P P P P P	The second	and the second sec	and the second
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	 ELES/RNC/2023/AA/2611 Nav Prathmik Vidayalaya-Barang Path; Bimarla Bauxite Mine
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	(134.526 ha) : 18.07.2023 to 19.07.2023 : 25.07.2023
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	Ambient Air ELES/DOC/SMPL/02 ELES Pvt, Ltd.
Period of Analysis	: 25.07.2023 to 03.08.2023	Sample Condition	: Sealed & Preserved

1	Average Temperature (°C)	: 24	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 66	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84º25'30.51°E	6	Latitude	: 23°17'20,46"N

NABL Accredited

Discipline :	Chemical	Group :	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m ³	1S 5182 (Part-23): 2006; RA2022	42	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	20	60 (24hrs)		
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6.5	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	14,2	80 (24hrs)		
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)		
Ammonia (NH3)	µg/m ³	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)		
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)		

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Authorised Signatory Dr. Deependra Kumar Sinha

Page 1 of 1

****End of Report****

Ph. D. Environmental Engl

Page 1 of 1 The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only El ES Pvt. Ltd. Technical Manager The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only El ES Pvt. Ltd. Technical Manager 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 dane by the Laboratory as the time 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 cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless price permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction essues. Any unauthorized alteration & faisification of the consent or apparation of the Test Report is colored and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Text 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 stated before, no complaints will be accepted. The entire Time schedule minitioned in Test Report is in 24brurs format. Althreviation used: N/A (Not Applicable); BDL (Bolow Detection Limit); LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

	<u>11</u>	ST REPORT
Test Report No,	: ELES/RNC/2023/2940	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/2611 Nav Prathmik Vidayalaya-Barang Path; Bimarla Bauxite Mine (134,526 ha) 	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 18.07.2023 to 19.07.2023 : 25.07.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 25.07.2023 to 03.08.2023	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 24	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 66	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°25'30.51"E	6	Latitude	:23°17'20,46"N

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

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



****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha Ph. O. 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 NOI-20AAECE97130174

EIN: U74999/H2018P7C011125

ENGINEERING SERVICES PVT, LTD





Test Report No.	: ELES/RNC/2023/2941	Report Release Date	: 08.08.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023
ULR No.	: TC883923000001788F		

CUSTOMER DET/	CUSTOMER DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2612 : Near Mine Entry Gate; Bimarla Bauxite Mine (134.526 ha
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 18.07.2023 to 19.07.2023 : 25.07.2023 : Ambient Air
Mines Status	: 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

1	Average Temperature (°C)	:24	4	Barometric Pressure (mm	Hg) : 736
3	Relative Humidity (%)	: 66	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°25'35.93"E	6	Latitude	23°16'48.36"N

Discipline :	Chemical	Group :	Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	46	100 (24hrs)
Particulate Matter (PM2.5)	µg/m3	IS 5182 (Part- 24): 2019	20	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	5.9	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	25.1	80 (24hrs)
Ozone (O ₁)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (Shrs)
Ammonia (NHa)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.007	1 (24hrs)
Nickel (Ni)	ng/m³	1S 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m3	ELES/AIR/SOP/01	<2.0	06 (Annual)



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****End of Report****

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

ENGINEERING SERVICES PVT. LTD.

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

	<u>11</u>	<u>ST REPORT</u>
Test Report No.	: ELES/RNC/2023/2941	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 Sampling Date	: ELES/RNC/2023/AA/2612 : Near Mine Entry Gate; Bimarla Bauxite Mine (134.526 ha) : 18.07.2023 to 19.07.2023	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 25.07.2023 to 19.07.2023 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sample Drawn By	: ELES Pvt. Ltd.	
Period of Analysis	: 25.07.2023 to 03.08.2023	Sample Condition	: Sealed & Preserved	

1	Average Temperature (°C)	:24	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 66	4	Weather Condition	: Partly Cloudy
5	Longitude	384°25'35.93"E	6	Latitude	: 23°16'48.36"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/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)		

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



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Dr. Deeperised Rismete Sinha Ph. D. Environmental Engg. ELES Pvt. Ltd. Technical Manager

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

CIN: UTM999/W2038PTC011125

ENGINZERING SERVICES PTT, LTD





TEST REPORT					
Test Report No.	: ELES/RNC/2023/2942	Report Release Date	: 08.08.2023		
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023		
ULR No.	: TC883923000001789F				

CUSTOMER DET/	AILS	SAMPLE DETAILS	
Customer Name Address	: Minerals & Minerals Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/2613 : Near Korle Village Bimarla Bauxite Mine (134.526 ha : 19.07.2023 to 20.07.2023
Mines Status	: Operational	Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	: 25.07.2023 : 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)	: 23	2	Barometric Pressure (mm	Hg) : 736
3	Relative Humidity (%)	:: 64	4	Weather Condition	: Partly Cloudy
5	Longitude	:: 84°25'56.20"E	6	Latitude	:: 23°17'30,46"N

Discipline :	Chemical	Group :	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	55	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	30	60 (24hrs)		
Sulphur Di-Oxide (SO2)	µg/m ³	1S 5182 (Part-2): 2001; RA2022	6.2	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	18.2	80 (24hrs)		
Ozone (O ₁)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)		
Ammonia (NH3)	µg/mª	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.013	1 (24hrs)		
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m ¹	ELES/AIR/SOP/01	<2.0	06 (Annual)		



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ENGINEERING SERVICES PVT. LTD.

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

and the second s	TI	EST REPORT		
Test Report No.	: ELES/RNC/2023/2942	Report Release Date	; 08.08.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name Address	: Minerals & Minerals Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2023/AA/2613 : Near Korle Village Bimarla Bauxite Mine (134,526 ha) : 19.07.2023 to 20.07.2023 : 25.07,2023 : Ambient Air	
Mines Status	: 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	

1	Average Temperature (°C)	: 23	2	Barometric Pressure (mmHg)	2 736
3	Relative Humidity (%)	:: 64	-4	Weather Condition	.: Partly Cloudy
5	Longitude	:: 84°25'56.20"E	6	Latitude	: 23°17'30.46"N

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

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



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

ENGINEERING SERVICES PIT. LTD.

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



/74999JH/2018PTE011125			
	TI	EST REPORT	
Test Report No.	: ELES/RNC/2023/2943	Report Release Date	: 08.08.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023
ULR No.	: TC883923000001790F		

CUSTOMER DET/	AILS	SAMPLE DETAILS		
Customer Name Address	: Minerals & Minerals Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	ELES/RNC/2023/AA/2614 t Near Barang Village Bimarla Bauxite Mine (134,526 ha 19.07.2023 to 20.07.2023 25.07.2023 Ambient Air ELES/DOC/SMPL/02	
Mines Status	: Operational	Sample Drawn By	ELES PVI. Ltd.	
Period of Analysis	: 25.07.2023 to 03.08.2023	Sample Condition	: Sealed & Preserved	

1	Average Temperature (°C)	; 23	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 64	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°25'16.51"E	6	Latitude	: 23°16'30.61"N

Discipline :	Chemical	Сгонр :	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	52	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	22	60 (24hrs)		
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	5.7	80 (24hrs)		
Nitrogen Di-Oxide (NO1)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	16.2	80 (24hrs)		
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.005	1 (24hrs)		
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)		



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Page 1 of 1

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

ENGINEERING SERVICES PVT, LTD.

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

CIN: U747494UH2018PTC011125

TEST REPORT					
Test Report No.	: ELES/RNC/2023/2943	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/2614 : Near Barang Village Bimarla Bauxite Mine (134,526 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 19.07.2023 to 20.07.2023 : 25.07.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 25.07.2023 to 03.08,2023	Sample Condition	: Sealed & Preserved	

MI	TEOROLOGICAL INFOR	RMATION			
1	Average Temperature (%C)	: 23	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 64	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°25'16.51"E	6	Latitude	: 23º16'30.61"N

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

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



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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GS7 NO: - 20AAECE9713D124

ENGINEERING SERVICES PVT, LTD.



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

TEST REPORT					
Test Report No.	: ELES/RNC/2023/2944	Report Release Date : 08.08.2023			
Work Order No.	: M&M/23-24/01	Work Order Date : 31.03.2023			
ULR No.	: TC883923000001791F				

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2615 : Near Ghaghra Village Bimarla Bauxite Mine (134.526 ha : 19.07.2023 to 20.07.2023	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 25.07.2023 to 20.07.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Mines Status	: Operational	Sampling Procedure Sample Drawn By		
Period of Analysis	: 25.07.2023 to 03.08.2023	Sample Condition	: Sealed & Preserved	

1	Average Temperature ("C)	: 23	2	Barometric Pressure (mmHg) = 736
3	Relative Humidity (%)	: 64	4	Weather Condition	: Partly Cloudy
5	Longitude	:: 84°24'46.53"E	6	Latitude	:23°17'14,34"N

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	51	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	1S 5182 (Part- 24): 2019	26	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m³	1S 5182 (Part-2): 2001; RA2022	5.4	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	1S 5182 (Part-6): 2006; RA2022	18,7	80 (24hrs)
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.009	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)



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****End of Report****

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.

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TEST REPORT					
Test Report No.	: ELES/RNC/2023/2944	Report Release Date	: 08.08.2023	-	
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/2615 : Near Ghaghra Village Bimarla Bauxite Mine (134.526 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date		
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pyt. Ltd.	
Period of Analysis	: 25.07.2023 to 03.08.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION	-		
1	Average Temperature (°C)	: 23	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 64	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°24'46.53"E	6	Latitude	: 23°17'14.34"N

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

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



****End of Report****

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

Page 1 of 1

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

ENGINEERING SERVICES PVT, ATO,





CIN: 4/749/99/4263/SPTC0/11225

	TI	ST REPORT	
Test Report No.	: ELES/RNC/2023/2945	Report Release Date	÷ 08.08.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023
ULR No.	: TC883923000001792F		

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name Address	 Minerals & Minerals Limited Lohardaga, Jharkhand-835302 	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2023/AA/2616 : Near Bimarla Village Bimarla Bauxite Mine (134.526 ha : 19.07.2023 to 20.07.2023 : 25.07.2023 : Ambient Air	
Mines Status	: 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	

1	Average Temperature (°C)	: 23	2	Barometric Pressure (mm	Hg) : 736
3	Relative Humidity (%)	: 64	4	Weather Condition	. Partly Cloudy
5	Longitude	: 84°25*27.92*E	ő	Latitude	: 23°17'45.65"N

Discipline :	Discipline : Chemical Group				
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	49	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	23	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ¹	IS 5182 (Part-2): 2001; RA2022	5.1	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	16.5	80 (24hrs)	
Ozone (O3)	µg/m ¹	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ²	1S 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)	
Nickel (Ni)	ng/m ³	15 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	



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****End of Report****

Dr. Deependra Kumar Sinha Ph. D. Environmental Env

ELES Pvt. Ltd. Technical Manager

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

ENGINEERING SERVICES PVT, LTD.

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

CM: U74999/H2018PTU31125

	TI	ST REPORT
Test Report No.	: ELES/RNC/2023/2945	Report Release Date : 08.08.2023
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/2616 : Near Bimarla Village Bimarla Bauxite Mine (134,526 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 19.07.2023 to 20.07.2023 : 25.07.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 25.07.2023 to 03.08.2023	Sample Condition	: Sealed & Preserved	

1	Average Temperature (°C)	: 23	2	Barometric Pressure (mmHg)	#736
3	Relative Humidity (%)	; 64	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°25'27.92"E	6	Latitude	: 23º17'45.65"N

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

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



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

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

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

	TE	ST REPORT	and the second s
Test Report No.	: ELES/RNC/2023/3369	Report Release Date	: 09.09.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023
ULR No.	: TC883923000002137F		

CUSTOMER DET/	CUSTOMER DETAILS			
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2936 : Near Weigh Bridge Bimarla Bauxite Mine (134.526 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 13.08.2023 to 14.08.2023 : 19.08.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 19.08.2023 to 29.08.2023	Sample Condition	: Sealed & Preserved	

1.	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	:735
3	Relative Humidity (%)	: 64		Weather Condition	: Partly Cloudy
5	Longitude	: 84°25'20.14*E	6	Latitude	:23°17'6.19"N

Discipline :	Chemical	Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	58	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m ³	15 5182 (Part- 24): 2019	25	60 (24hrs)		
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	5.1	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	18.3	80 (24hrs)		
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)		
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	µg/m ²	IS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)		
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m ⁸	ELES/AIR/SOP/01	<2.0	06 (Annual)		

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****End of Report****

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Dr. Deepenora Kumar Sinha

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

NGINEERING SERVICES PVT. LTD.

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

	TI	EST REPORT	
Test Report No.	: ELES/RNC/2023/3369	Report Release Date	: 09.09.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Minerals & Minerals Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/2936 : Near Weigh Bridge Bimarla Bauxite Mine (134.526 ha : 13.08.2023 to 14.08.2023	
Mines Status	: Operational	Sample Received Date Type of Sample Sampling Procedure	19.08.2023 Ambient Air ELES/DOC/SMPL/02 ELES Pyt. Ltd.	
Period of Analysis	Sample Drawn By		: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	RMATION	-		
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	:735
3	Relative Humidity (%)	: 64		Weather Condition	: Partly Cloudy
5	Longitude	:: 84°25'20.14"E	6	Latitude	: 23°17'6.19"N

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

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



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

VOINCERING SCHUTCES PET. 1

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



CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Minerals & Minerals Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2023/AA/2937 : Near Quarry No 1B Bimarla Bauxite Mine (134.526 ha : 13.08.2023 to 14.08.2023 : 19.08.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sample Drawn By Sample Condition	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd. : Sealed & Preserved	
Period of Analysis	: 19.08.2023 to 29.08.2023			

	Average Temperature (°C)	1.25	2	Barometric Pressure (mmHg)	: 735
_	Relative Humidity (%)	: 64	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°25'12.83"E	6	Latitude	: 23°17'1.82"N

Discipline :	Chemical	Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	43	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	18	60 (24hrs)		
Sulphur Di-Oxide (SO2)	µg/m ³	15 5182 (Part-2): 2001; RA2022	<5.0	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	μg/m ³	IS 5182 (Part-6): 2006; RA2022	17.2	80 (24hrs)		
Ozone (O ₃)	ug/m ²	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)		
Ammonia (NH1)	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	0.009	1 (24hrs)		
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m ¹	ELES/AIR/SOP/01	<2.0	06 (Annual)		

Reviewed by

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****End of Report****

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

NGINEERING SERVICES PVT. LTD.

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

Test Report No.	: ELES/RNC/2023/3370	Report Release Date-	: 09.09.2023
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/2937 : Near Quarry No 1B Bimarla Bauxite Mine (134,526 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 13.08.2023 to 14.08.2023 : 19.08.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 19.08.2023 to 29.08.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	RMATION		and the second sec	
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 735
3	Relative Humidity (%)	: 64	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°25'12.83"E	6	Latitude	: 23°17'1.82"N

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

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



****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha Ph. D. Environmental Engl. ELES Pvi. Ltd. Technical Manager

Page 1 of 1

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

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

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	11.37	KEI ONA	
Test Report No.	: ELES/RNC/2023/3371	Report Release Date	: 09.09.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023
ULR No.	: TC883923000002139F		
CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	; Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2938 : Nav Prathmik Vidayalaya-Barang Path; Bimarla Bauxite Mine
Address	÷Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	(134.526 ha) 13.08.2023 to 14.08.2023 19.08.2023 Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02

TEST REPORT

Period of Analysis : 19.08.2023 to 29.0		nalysis : 19.08.2023 to 29.08.2023 Sample Condition			: ELES Pvt. Ltd. : Sealed & Preserved		
M	ETEOROLOGIC	AL INFOR	MATION				
1	Average Temper	rature (°C)	:25	2	Barometric Pre	ssure (mm)	Hg) : 735
3	Relative Humidi	ty (%)	: 64	4	Weather Condi	tion	Partly Cloudy
10	1 manifester		DACOZINO FINE	6	X		0.001 (010.0) 1 (00.1)

NA	BL Accredited		_		
5	Longitude	: 84°25'30.51"E	6	Latitude	: 23°17'20.46"N
1	Relative futilitaty (26)		+	weather Condition	= Party Cloudy

Discipline :	Chemical	Group	: Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	40	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	18	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	5.1	80 (24hrs)
Nitrogen Di-Oxide (NO3)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	12.7	80 (24hrs)
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ³	IS 5182 (Part-25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m 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 ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)



****End of Report**** Page 1 of 1 Authorised Signatory Dr. Deependra Kumar Sinha

n. D. Environmental Engl.

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:-2044ECE9713D124

NGINEERING SERVICES PVT. LTD.

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

and the second second	TI	EST REPORT		
Test Report No.	: ELES/RNC/2023/3371	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 Address	: Minerals & Minerals Limited	Sample Ref. No. Location Sampling Date Sample Received Date	: ELES/RNC/2023/AA/2938 : Nav Prathmik Vidayalaya-Barang Path; Bimarla Bauxite Mine (134.526 ha) : 13.08.2023 to 14.08.2023 : 19.08.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 19.08.2023 to 29.08.2023	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	TEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mm	Hg) : 735
	Relative Humidity (%)	:64	-4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°25'30.51"E	6	Latitude	: 23°17'20.46"N

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

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



****End of Report****

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

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATTA, RANCHI-834003 (JHARKHAND) 657 NO:- 20AAECE9713D124

SEMPICES P

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



TEST REPORT					
Test Report No.	: ELES/RNC/2023/3372	Report Release Date	: 09.09.2023		
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023		
ULR No.	- TC883923000002140F		and the second se		

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/2939 : Near Mine Entry Gate; Bimarla Bauxite Mine (134.526 ht : 13.08.2023 to 14.08.2023	
Mines Status	: Operational	Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	: 19.08.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 19.08.2023 to 29.08.2023	Sample Condition	: Sealed & Preserved	

verage Temperature (°C)	:25	2	Barometric Pressure (mmHg)	: 735
and the second se	164	4	Weather Condition	: Partly Cloudy
and the second se	+84°25'35.93"E	6	Latitude	: 23°16'48.36"N
	verage Temperature (°C) slative Humidity (%) ongitude	elative Humidity (%) 164	elative Humidity (%) 164 4	elative Humidity (%) 164 4 Weather Condition

NABL Accredited Discipline :	Chemical	Group :	Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	43	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	17	60 (24hrs)
Sulphur Di-Oxide (SO1)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	5.1	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	15 5182 (Part-6): 2006; RA2022	23.8	80 (24hrs)
Ozone (O ₁)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.007	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by

Authorised Signatory Or, Deependra Kumar Sinha

**** End of Report****

Page 1 of 1 ELES Pvt. Ltd. Technical Manager The Document stated as Test Report, is assed by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of 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 appeoval of the Laboratory. The Report is full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsofication of the coment or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/assue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Compliants regarding the Reports shall be done within 15days from the Dote 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. Abbreviation ased: N/A (Not Applicable), BDL (ilefow Detection Limit), LDL (Lower Detection Limit)



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

NGINEERING SERVICES PVT. LTD.

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

	TESI	REPORT	
Test Report No.	: ELES/RNC/2023/3372	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 Sampling Date	: ELES/RNC/2023/AA/2939 : Near Mine Entry Gate; Bimarla Bauxite Mine (134.526 ha) : 13.08.2023 to 14.08.2023

Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	 i 19.08.2023 : Ambient Air : ELES/DOC/SMPL/02 	
Mines Status	: Operational	Sample Drawn By	: ELES Pvt. Ltd.	
Period of Analysis	: 19.08.2023 to 29.08.2023	Sample Condition	: Sealed & Preserved	_

MI	TEOROLOGICAL INFOR	MATION	-		
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 735
3	Relative Humidity (%)	: 64	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°25'35.93"E	6	Latitude	: 23°16'48.36"N

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

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



****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental Engg. ELES Pvt. 1/1d. Technical Manager

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) 65T NO:- 20AAECE97130124

WALLS !!

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

CIN: U745599/H701697C011125

Test Report No.	: ELES/RNC/2023/3373	Report Release Date	: 09.09.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	
ULR No.	: TC883923000002141F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2940 : Near Korle Village Bimarla Bauxite Mine (134.526 ha	
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 14.08.2023 to 15.08.2023 : 19.08.2023 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sample Drawn By	: ELES Pvt. Ltd.	
Period of Analysis	: 19.08.2023 to 29.08.2023	Sample Condition	: Sealed & Preserved	

1	Average Temperature (°C)	:26	2	Barometric Pressure (mmh	lg) : 735
3	Relative Humidity (%)	: 64	4	Weather Condition	: Partly Cloudy
-	Longitude	: 84°25'56.20"E	6	Latitude	: 23°17'30.46"N

NABL Accredited Discipline :	Chemical	Group :	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	ug/m ³	IS 5182 (Part-23): 2006; RA2022	50	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	35	60 (24hrs)		
Sulphur Di-Oxide (SO2)	µg/m ³	1S 5182 (Part-2): 2001; RA2022	7.3	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	µg/m ³	15 5182 (Part-6): 2006; RA2022	15.7	80 (24hrs)		
Ozone (O ₃)	µg/m	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)		
Ammonia (NH ₅)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	µg/m ¹	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/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)		

Reviewed by

Dr. DAuthorised Signatory

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Page 1 of 1

ELES Pvt 'Ltd. Jechnical Manager

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

NGINEERING SERVICES PVT. LTD.

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

Test Report No.	: ELES/RNC/2023/3373	Report Release Date	: 09.09.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023

CUSTOMER DET/	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2940 : Near Korle Village Bimarla Bauxite Mine (134,526 ha)		
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 14.08.2023 to 15.08.2023 : 19.08.2023		
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.		
Period of Analysis	: 19.08.2023 to 29.08.2023	Sample Condition	: Sealed & Preserved		

MI	TEOROLOGICAL INFOR	MATION	-		
1	Average Temperature (%C)	: 26	2	Barometric Pressure (mmHg)	: 735
3	Relative Humidity (%)	: 64	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°25'56.20"E	6	Latitude	: 23º17'30.46"N

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

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



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Authorised Signatory

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

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

CEV I

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



TEST REPORT						
Test Report No.	: ELES/RNC/2023/3374	Report Release Date	: 09.09.2023			
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023			
ULR No.	: TC883923000002142F					

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address Mines Status	: Minerals & Minerals Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	: ELES/RNC/2023/AA/2941 : Near Barang Village Bimarla Bauxite Mine (134,526 ha : 14.08.2023 to 15.08.2023 : 19.08.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 19.08.2023 to 29.08.2023	Sample Condition	: Sealed & Preserved	

Barometric Pressure (mit	iHg) 1/35
Weather Condition	; Partly Cloudy
Latitude	: 23°16'30,61"N
1	Latitude

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	45	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	20	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	4.8	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	17.2	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS-5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.008	1 (24hrs)
Nickel (Ni)	ng/m3	1S 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

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Authorised Signatory

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Dr. Deependra Kumar Sinna ELES Put. Ltd. Technical Manager

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

NGINEERING SERVICES PVT. LTD.

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	TE	ST REPORT
Test Report No.	: ELES/RNC/2023/3374	Report Release Date : 09.09.2023
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/2941 : Near Barang Village Bimarla Bauxite Mine (134,526 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	: 14.08.2023 to 15.08.2023 : 19.08.2023 : Ambient Air	
Mines Status			: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis : 19.08.2023 to 29.08.2023		Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	: 735
3	Relative Humidity (%)	: 64	- 14	Weather Condition	: Partly Cloudy
5	Longitude	: 84°25'16,51"E	6	Latitude	:23°16'30.61"N

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

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



****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinba Ph. D. Environmental Engo ELES Pet. Lid. Technical Manager

Page 1 of 1

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

ENGINEZRING SARVICES PET, 170

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

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	TE	ST REPORT
Test Report No.	: ELES/RNC/2023/3375	Report Release Date : 09.09.2023
Work Order No.	: M&M/23-24/01	Work Order Date : 31.03.2023
ULR No.	: TC883923000002143F	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2942 : Near Ghaghra Village Bimarla Bauxite Mine (134.526 ha	
Address	: Lohardaga, Jharkhand-835302 : Operational : 19.08.2023 to 29.08.2023	Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By Sample Condition	: 14.08.2023 to 15.08.2023 : 19.08.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. : Sealed & Preserved	
Mines Status				
Period of Analysis				

1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	: 735
-	Relative Humidity (%)	: 64	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°24'46.53*E	6	Latitude	: 23°17'14.34"N

NABL Accredited Group : Atmospheric Pollution Discipline : Chemical Parameter Unit Test Protocol Result **Regulatory Limit** IS 5182 (Part-23): 2006; RA2022 47 100 (24hrs) Particulate Matter (PM10) µg/m IS 5182 (Part- 24): 2019 22 60 (24hrs) Particulate Matter (PM2.5) µg/m' µg/m3 5.1 80 (24hrs) IS 5182 (Part-2): 2001; RA2022 Sulphur Di-Oxide (SO2) 1S 5182 (Part-6): 2006; RA2022 16.5 80 (24hrs) µg/m' Nitrogen Di-Oxide (NO₃) ug/m3 1S 5182 (Part-9): 1974; RA2019 <20.0 100 (8hrs) Ozone (O3) IS 5182 (Part- 25): 2018 400 (24hrs) <10.0 Ammonia (NH3) ug/m' 2 (8hrs) IS 5182 (Part-10): 1999; RA2019 <1.0 Carbon Monoxide (CO) mg/m3 µg/m³ 1 (24hrs) IS 5182 (Part-22): 2004; RA2019 0.007Lead (Pb) ng/m3 IS 5182 (Part-26):2020 <6.0 20 (Annual) Nickel (Ni) 06 (Annual) ng/m ELES/AIR/SOP/01 <2.0 Arsenic (As)

Reviewed by

Authorised Signatory inha

****End of Report****

ELES PVL Ltd. Technicel Manager

Dr. Despendra Kümar

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

NGINEERING 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/2023/3375	Report Release Date : 09.09.2023		
Work Order No.	: M&M/23-24/01	Work Order Date : 31.03.2023		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Minerals & Minerals Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2023/AA/2942 : Near Ghaghra Village Bimarla Bauxite Mine (134.526 ha : 14.08.2023 to 15.08.2023 : 19.08.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt Ltd.	
Period of Analysis	: 19.08,2023 to 29.08,2023	Sample Condition	: Sealed & Preserved	

MI	TEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	: 735
3	Relative Humidity (%)	: 64	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°24'46.53"E	6	Latitude	: 23°17'14.34"N

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	µg/m ⁸	IS:5182 (Part-11): 2006;RA2017	<1,0	05(Annual)
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)

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



**** End of Report****

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

Page 1 of 1

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

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CIN-LI249693W3018PTC011125

TEST REPORT					
Test Report No.	: ELES/RNC/2023/3376	Report Release Date	: 09.09.2023		
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023		
ULR No.	: TC883923000002144F				

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Minerals & Minerals Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2023/AA/2943 : Near Bimarla Village Bimarla Bauxite Mine (134.526 ha : 14.08.2023 to 15.08.2023 : 19.08.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 19.08.2023 to 29.08.2023	Sample Condition	: Sealed & Preserved	

1	Average Temperature (°C) 26		Average Temperature (°C) 26 2		2 Barometric Pressure (mmHg) 1735	
3	Relative Humidity (%)	: 64	4	Weather Condition	: Partly Cloudy	
5	Longitude	: 84°25'27.92"E	6	Latitude	: 23°17'45.65"N	

NABL Accredited Discipline :	Discipline : Chemical Grou				
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	43	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	1S 5182 (Part- 24): 2019	18	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	<5.0	80 (24hrs)	
Nitrogen Di-Oxide (NO1)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	15.2	80 (24hrs)	
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1,0	2 (8hrs)	
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)	
Nickel (Ni)	ng/m ³	1S 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m)	ELES/AIR/SOP/01	<2.0	06 (Annual)	

18 Reviewed by

****End of Report****

Dr. Deependra Kumar Sinha

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Page 1 of 1

ELES Pvil Ltd. Technical Manager

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

NGINEERING SERVICES PVT, LTD.

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

Test Report No.	: ELES/RNC/2023/3376	Report Release Date : 09.0	9.2023
Work Order No.	: M&M/23-24/01	Work Order Date = 31.0	3.2023

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2943 ; Near Bimarla Village Bimarla Bauxite Mine (134.526 ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 14.08.2023 to 15.08.2023 : 19.08.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 19.08.2023 to 29.08.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	: 735
3	Relative Humidity (%)	: 64	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°25'27.92"E	6	Latitude	: 23°17'45.65"N

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

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



****End of Report****

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

Page 1 of 1

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PLOT NO-3B, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-8340D3 (IHARKHAND) GST NO:- 20AAECE9713D124

GINEERING SERVICES PFT. LTD.

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

TEST REPORT

Test Report No.	: ELES/RAN/2023/1730	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. Sampling Date Sample Received Date	: ELES/RAN/2023/DW/1617 : 13.08.2023 : 28.08.2023	
Address	: Lohardaga, Jharkhand-835302	Type of Sample Source/Location of Sample	: Drinking Water : Near Quarry No.1B, Bimarla Bauxite Mine (134.526 ha)	
Mines Status	: Operational	Sampling Procedure Sample Collected By	: ELES/DOC/SMPL/01 : ELES Pvt. Ltd.	
Period of Analysis	: 28.08.2023 to 09.09.2023	Sample Condition	: Sealed & Preserved	

Discipline : Chemical		Group : Water	6. I	Regulatory Limit as per IS 10500:2012	
Parameter Unit		Test Protocol	Result	Acceptable	Permissible Limit
pH (at 25.1 °C)		APHA 23rd Ed.2017, 4500-H*	6.80	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 23rd Ed.2017, 2130 B	0.35	1.0	5,0
Taste	- ÷ -	APHA 23rd Ed.2017, 2160 C	Agreeable	Agreeable	Agreeable
Odour		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 23rd Ed.2017, 2540B,C&D	196	500	2000
Chloride (as Cl)	mg/L	APHA 23rd Ed.2017, 4500 CI B	24.8	250	1000
Fluoride (as F)	mg/L	APHA 23 nd Ed.2017, 4500 F-D	BDL (DL: 0.1)	1.0	1,5
Total Alkalinity (as CaCO3)	mg/L	APHA 23rd Ed.2017, 2320 B	70.5	200	600
Total Hardness (as CaCO3)	mg/L	APHA 23rd Ed.2017, 2340 C	92.8	200	600
Sulphate (as SO4)	mg/L	APHA 23 rd Ed.2017, 4500 SO4-2-E	24.2	200	400
Nitrate (as NO3)	mg/1.	APHA 23 rd Ed.2017, 4500 NO ₃ -B	1.98	45	No Relaxation
Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part-43);1992;RA2019	BDL (DL: 0.0005)	0.001	0.002

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

YOINEERNIN SERVICES PVT. LTD.

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

CIN: U749990H2018F1C011125

	11.5	REPORT		_
Test Report No.	1 ELES/RAN/2023/1730	Report Release Date	: 10.09.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

STREET IN THE CASE

Discipl	ine : Che	mical Group ; W	Vater	the second s	tory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable	Permissible
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/1.	IS 3025 (Part-26):2021	BDL (DL: 0.1)	0.02	1.0
Calcium (as Ca)	mg/L	APHA 23 rd Ed.2017, 3500 Ca B	20.8	75	200
Discipt	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
Boron (as B)	mg/L	IS 3025(Part-57): 2005; RA2021	BDL (DL: 0.2)	0.5	1.0
Cadmium (as Cd)	mg/L	APHA 23 ¹⁶ Ed.2017, 3111B	BDL (DL: 0.003)	0.003	No Relaxation
Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2017, 3111B	BDL (DL: 0.03)	0.05	No Relaxation
Copper (as Cu)	mg/L	APHA 23 rd Ed.2017, 3111B	BDL (DL: 0.03)	0.05	1.5
Iron (as Fe)	mg/L	APHA 23 rd Ed.2017, 3111B	0.196	1.0	1.0
Lead (as Pb)	mg/L	APHA 23rd Ed.2017, 3111B	BDL (DL: 0.01)	0.01	No Relaxation
Manganese (as Mn)	mg/L	APHA 23rd Ed.2017, 3111B	BDL (DL: 0.05)	0.1	0.3
Mercury (as Hg)	mg/L	IS 3025 (Part-48): 1994; RA2019	BDL (DL: 0.001)	0.001	No Relaxation
Selenium (as Se)	mg/L	IS 3025 (Part-56): 2003; RA2019	BDL (DL: 0.01)	0.01	No Relaxation
Zinc (as Zn)	mg/L	APHA 23 rd Ed.2017, 3111B	BDL (DL: 0.1)	5	15

Remarks: 1, pH & RFC done at Lab.

Page 2 of 4

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

NGINELRING SERVICES PVT. LTD.

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

CIN: U74999JH2018PTC011125

	TE	ST REPORT		
Test Report No.	: ELES/RAN/2023/1730	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 1S 10500:2012	
Pesticides		100 C			
Alachlor*	µg/L	APHÁ	BDL (DL: 1.0)	20	
Atrazine*	µg/L	АРНА	BDL (DL; 1.0)	2	
Aldrin/Dieldrin*	µg/L	АРНА	BDL (DL: 0.01)	0.03	
Alpha HCH*	µg/L	АРНА	BDL (DL: 0.001)	0.01	
Beta HCH*	µg/L	АРНА	BDL (DL: 0.01)	0.04	
Butachlor*	µg/L	АРНА	APHA BDL (DL: 10)		
Chlorpyriphos*	μg/L	АРНА	BDL		
Delta HCH*	µg/L	АРНА	BDL (DL: 0.01)	0.04	
2.4 dichlorophenoxyacetic acid*	µg/L	АРНА	BDL (DL: 10)	30	
DDT(0,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

NGINEERING SERVICES PVC. LTD.

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

CIN: U749995H201897C011125

TEST REPORT

Test Report No.	: ELES/RAN/2023/1730	Report Release Date	: 10.09.2023
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023

Discipline : Biological		Group : V	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	Shall not be detected	
Escherichia Coli (E. Coll)	Per 100 mL	IS 15185:2016; RA 2021	Not Detected		
Discipline :	Chemical	Group :	Water	And and a second s	ory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible
Anionic Surfactants (as MBAS)*	mg/L	IS 3025 Part 68	BDL (DL: 0.1)	0.2	1.0
Mineral Oil*	mg/L	CL-6, 1S: 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
Potychlorinated Biphenyls (PCB)*	mg/L	APHA 23 rd Edition	BDL (DL: 0.0005)	0.0005	No relaxation

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



****End of Report****

Reklia Saxina

Authorised Signatory Rekha Saxena B. Sd. M. Sc. (Bolany) Director ELES PVL Ltd.

Page 4 of 4

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

NGINEERING SERVICES PVT. LTD.

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

Test Report No.	: ELES/RNC/2023/3993	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/3410
		Location	: Near Weigh Bridge
	Commence and the second second	and the second second	Bimarla Bauxite Mine (134.526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 13.09.2023 to 14.09.2023
		Sample Received Date	: 29,09,2023
		Type of Sample	: Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 29.09.2023 to 10.10.2023	Sample Drawn By	: ELES Pvt. Ltd.
remotion Analysis	. 27.07.2023 10 10.10.2023	Sample Condition	: Sealed & Preserved

-	Average Temperature (°C)		2	Barometric Pressure (mmHg)	: 738
_	Relative Humidity (%)	65	4	Weather Condition	: Partly Cloudy
5	Longitude	; 84°25'20.14"E	6	Latitude	: 23°17'6.19"N

Discipline : Chemica	il	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	57	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	24	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6.3	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	18.9	80 (24hrs)	
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Page 1 of 2

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

VGINEERING SERVICES PVT. LTD.

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

1	FEST	REPORT

Test Report No.	: ELES/RNC/2023/3993	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 ₆ H ₈)*	μg/m ³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)
Benzo-(a)-Pyrene*	ng/m ³	IS 5182 (Part-12)2004;RA2019	<0.5	0I(Annual)

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



****End of Report****

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

Page 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.elespl.co.in

Test Report No.	: ELES/RNC/2023/3994	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	1 Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3411 : Near Quarry No 1B Bimarla Bauxite Mine (134.526 ha)	
Address	Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 13.09.2023 to 14.09.2023 : 29.09.2023	
Mines Status	: 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	

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) :: 27	2	Barometric Pressure (mm	Hg) : 738
3	Relative Humidity (%) = 65	4	Weather Condition	: Partly Cloudy
5	Longitude : 84°25'12.83"E	6	Latitude	: 23°17'1.82"N

Discipline : Chemics	al	Group : 2	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	38	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	14	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	<5.0	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	20.3	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.005	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Page 1 of 2

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- ZOAAECE9713D1Z4

ENGINEERING SERVICES PVT. LTD.

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

	TI	ST REPORT	
Test Report No.	: ELES/RNC/2023/3994	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/m ³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)
Benzo-(a)-Pyrene*	ng/m ³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)

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

8 E Reviewed by

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha Ph. D. Emilionmental Engg. BLES PVL Ltd. Technical Manager

Page 2 of 2

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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT						
Test Report No.	: ELES/RNC/2023/3995	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 Address	: Minerals & Minerals Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location	 ELES/RNC/2023/AA/3412 Nav Prathmik Vidayalaya-Barang Path; Bimarla Bauxite Mine (134.526 ha) 			
Mines Status	: Operational	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 13.09.2023 to 14.09.2023 : 29.09.2023 : Ambient Air : ELES/DOC/SMPL/02			
Period of Analysis	: 29.09.2023 to 10.10.2023	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved			

M	ETEOROLOGICAL INFOI	RMATION			
1	Average Temperature (%)	: 27	2	Barometric Pressure (mmHg)	: 738
3	Relative Humidity (%)	: 65	4	Weather Condition	: Partly Cloudy
3	Longitude	: 84°25'12.83"E	6	Latitude	:23°17'1.82"N

Discipline : Chemic	al	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23); 2006; RA2022	34	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	20	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	<5.0	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	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/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/m ³	IS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

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

NGINEERING SERVICES PVT. LTD.

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/2023/3995	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 ₈ H ₆)*	µg/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m ³	1S 5182 (Part-12)2004:RA2019	<0.5	01(Annual)	

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



****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental Engg. ELES Pvl. Ud. 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.elespl.co.in

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/3996	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/3413 : Near Mine Entry Gate; Bimarla Bauxite Mine (134.526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 13.09.2023 to 14.09.2023 : 29.09.2023
Mines Status	: 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

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 25	2	Barometric Pressure (mm	Hg) : 738
3	Relative Humidity (%) : 66	4	Weather Condition	: Partly Cloudy
5	Longitude : 84°25'35,93"E	6	Latitude	: 23°16'48.36"N

Discipline : Chemic	al	Group : /	roup : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	1S 5182 (Part-23): 2006; RA2022	34	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	20	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	<5.0	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	15.1	80 (24hrs)	
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonía (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	<0.002	1 (24hrs)	
Nickel (Ni)	ng/m1	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Page 1 of 2

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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT					
Test Report No.	: ELES/RNC/2023/3996	Report Release Date	: 28.10.2023		
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023		

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

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

Reviewed by

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

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

Page 2 of 2

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

	TH	ST REPORT	10.0	
Test Report No.	: ELES/RNC/2023/3997	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. Location	: ELES/RNC/2023/AA/3414 : Near Korle Village Bimarla Bauxite Mine (134.526 ha
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 13.09.2023 to 14.09.2023 : 29.09.2023
Mines Status	: 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

M	ETEOROLOGICAL INFO	RMATION			
Ť.	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	1738
3	Relative Humidity (%)	: 66	4	Weather Condition	2 Partly Cloudy
5	Longitude	: 84°25'56.20"E	6	Latitude	: 23°17'30.46"N

Discipline : Chemics	d	Group : A	tmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	15 5182 (Part-23): 2006; RA2022	44	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	28	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	5.6	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	12.4	80 (24hrs)
Ozone (O3)	μg/m [†]	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.013	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Page 1 of 2

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	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/3997	Report Release Date	: 28.10.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

Discipline : Chemical Gro			Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C ₆ H ₆) ⁴	µg/m ³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)

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

Reviewed by

End of Report*

Authorised Signatory

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

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

TEST REPORT				
: ELES/RNC/2023/3998	Report Release Date	: 28.10.2023		
: M&M/23-24/01	Work Order Date	: 31.03.2023		
	: ELES/RNC/2023/3998	: ELES/RNC/2023/3998 Report Release Date	: ELES/RNC/2023/3998 Report Release Date : 28.10.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	 ELES/RNC/2023/AA/3415 Near Barang Village Bimarla Bauxite Mine (134.526 ha) 	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	13.09.2023 to 14.09.2023 29.09.2023	
Mines Status	: 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	

M	ETEOROLOGICAL INFOI	RMATION			
L	Average Temperature (°C)	; 25	2	Barometric Pressure (mmHg)	1738
3	Relative Humidity (%)	:: 66	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°25'16.51"E	6	Latitude	: 23º16'30.61"N

Discipline : Chemics	ıl	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	37	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ¹	IS 5182 (Part- 24): 2019	19	60 (24hrs)	
Sulphur Di-Oxide (SO2)	μg/m ³	IS 5182 (Part-2): 2001; RA2022	<5.0	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	18.5	80 (24hrs)	
Ozone (O3)	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/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 ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Page 1 of 2

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Test Report No.	: ELES/RNC/2023/3998	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 (C6H6)*	µg/m ³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m ³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)	

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



****End of Report****

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

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TEST REPORT				
Test Report No.	: ELES/RNC/2023/3999	Report Release Date	: 28.10.2023	
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/3416 : Near Ghaghra Village Bimarla Bauxite Mine (134.526 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 13.09.2023 to 14.09.2023 : 29.09.2023	
Mines Status	: 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	

M	ETEOROLOGICAL INFOR	RMATION	-		
L	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 738
3	Relative Humidity (%)	: 66	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°24'46.53"E	6	Latitude	: 23°17'14.34"N

Discipline : Chemica	d .	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	42	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	20	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2); 2001; RA2022	<5.0	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	14.3	80 (24hrs)	
Ozone (O ₃)	µg/m ¹	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₁)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

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

	TE	ST REPORT		_
Test Report No.	: ELES/RNC/2023/3999	Report Release Date	: 28.10.2023	1
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

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

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



****End of Report****

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

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	TH	ST REPORT		
Test Report No.	: ELES/RNC/2023/4000	Report Release Date	: 28.10.2023	
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/3417 : Near Bimarla Village Bimarla Bauxite Mine (134,526 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 13.09.2023 to 14.09.2023 : 29.09.2023	
Mines Status	: 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	

M	ETEOROLOGICAL INFOI	RMATION		and the second se	
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg	() : 738
3	Relative Humidity (%)	: 66	4	Weather Condition	: Partly Cloudy
5	Longitude	: 84°25*27.92*E	6	Latitude	: 23°17'45.65"N

Discipline : Chemica	al	Group : A	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS:5182 (Part-23): 2006; RA2022	38	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	21	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	<5.0	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ¹	IS 5182 (Part-6): 2006; RA2022	17.5	80 (24hrs)
Ozone (O1)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m²	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Page 1 of 2

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Contraction of the second	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/4000	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 (CeHo)*	µg/m ³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m ³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)		

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

8 E Reviewed by

****End of Report****

Dr. Deependra Kurnar 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-208AECE9713D124

ENGINEERING SERVICES PVT. LTD.

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

	<u>T</u>	EST REPORT		
Test Report No.	: ELES/RNC/2023/4145	Report Release Date	: 31.10.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Minerals & Minerals Limited : Lohardaga, Jharkhand-835302	Sampling Date Sampling Received Date Type of Sample Sampling procedure Sample Drawn By	: 13.09.2023 to 14.09.2023 : 30.09.2023 : Ambient Noise : ELES/DOC/SMPL/03 : ELES Pvt. Ltd.	
Mines Status	: Operational	Period of Analysis	: 30.09.2023 to 10.10.2023	

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature ("C)	: 27	2	Barometric Pressure (mmHg)	: 738
3	Relative Humidity (%)	: 65	4	Weather Condition	: Partly Cloudy

Location	Unit	Test Protocol	Rest	dt	Regulatory Limit (Industrial Zone)
81. All 2007			Time	Leq	
Near Mine Office Bimarla Bauxite Mine (134.526 ha)	dB(A)	IS 9989:1981, RA 2020	Day Time	60	75 dB(A) Day Time & 70 dB(A) Night Time
Sample ID: ELES/RNC/2023/AN/3537		0,0400	Night Time	45	

Reviewed by

**** End of Report****

Authorised Signatory Or. Deependra Kumar Sinha Ph. D. Environmental Engg. ELES Pvt. Ltd. Technicel Manager

Page 1 of 1

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

NGINEERING SERVICES PVT. LTD.

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

CIN: U74999/H2018PTC011225

	TI	ST REPORT		
Test Report No.	: ELES/RNC/2023/4166	Report Release Date	: 31.10.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Minerals & Minerals Limited : Lohardaga, Jharkhand-835302	Sampling Date Sampling Received Date Type of Sample Sampling procedure Sample Drawn By	: 13.09.2023 : 30.09.2023 : Workzone Noise : ELES/DOC/SMPL/03 : ELES Pvt. Ltd.	
Mines Status	: Operational	Period of Analysis	: 30.09.2023 to 11.10.2023	

METEOROLOGICAL INFORMATION

-	Average Temperature (°C) : 27	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%) : 63	4	Weather Condition	: Partly Cloudy

Location	Unit	Test Protocol	Resi	ült	Regulatory Limit (Industrial Zone)
Bimarla Mine Area -	1		Time	Leg	-
Bimarla Bauxite Mine (134.526 ha)	dB(A)	IS 4758:1968; RA 2017	Day Time	68	90 dB (A)
Sample ID: ELES/RNC/2023/WN/3558		in sur			

Reviewed by

****End of Report****

Authorised Signatory // Deependra Kumar Sirihi Ph. D. Environmental Engo. ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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

VGINEERING SERVICES PVT. LTD.

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

		REFORT	
Test Report No.	: ELES/RNC/2023/4102	Report Release Date	: 31.10.2023
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. Sampling Date Sample Received Date	: ELES/RNC/2023/EF/3490 : 13.09.2023 : 29.09.2023
Address	: Lohardaga, Jharkhand-835302	Type of Sample Source of Sample	 Effluent Water Workshop Effluent – Bimarla Bauxite Mine (134.526 ha)
Mines Status	: Operational	Sampling Procedure Sample Collected By	: ELES/DOC/SMPL/01 : ELES Pvt. Ltd.
Period of Analysis	: 29.09.2023 to 06.10.2023	Sample Condition	: Sealed & Preserved

TEST REPORT

Discipline: Chemical		Group: Pollution & Env	ironment	Discharge Limits - CPC EPR, 1986 Schedule VI	
Parameter	Unit	Test Protocol	Result	Inland Surface Water	Land for Irrigation
pH (at 24.3 °C)	-	APHA 23rd Ed.2017,4500-H B	6.16	5.5-9.0	5.5-9.0
Total Suspended Solids (TSS)	mg/L	IS 3025 (Part-17):2022	30.4	100	200
Total Dissolved Solids (TDS)	mg/L	APHA 23rd Ed2017, 2540B, C&D	845		
Temperature	۳C	APHA 23rd Ed.2017, 2550 B	24.2	Shall Not Exceed 5°C Above the Receiving Water Temperature	÷.
Chemical Oxygen Demand (COD)	mg/L	IS 3025 (Part-58): 2006: RA2022	73.6	250	~
Biochemical Oxygen Demand (BOD) (at 27 °C for 3 days)	mg/L	IS 3025 (Part-44): 1993: RA2019	7.8	30	100
Oil & Grease	mg/L	IS 3025 (Part-39): 2021	1.6	10	10
Calcium (as Ca)	mg/L	IS 3025 (Part-40):1991; RA2019	25.8		-
Discipline: Chemica	1	Group: Resid	dues in Wate	r	
Aluminum (as Al)	mg/L	IS 3025 (Part-55): 2003: RA2019	BDL (DL: 0,02)	-	10
Iron (as Fe)	mg/L	APHA 23 rd Ed.2017; 3111B	0.502	3.0	-

Remarks: 1. pH done at Lab.

Reviewed by

****End of Report****

Ph. D. Environmental Engg.

. Deependra Kumar Sima

Page 1 of 1

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Period of Analysis

ENVIRONMENTAL LABORATORIES &

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

: 29.09.2023 to 17.10.2023

GINEERING SERVICES PVT. LTD

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

: Sealed & Preserved

TEST REPORT

Test Report No.	: ELES/RNC/2023/4109	Report Release Date	: 31.10.2023
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. Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2023/SW/3501 : 13.09.2023 : 29.09.2023 : Surface Water
Address	: Lohardaga, Jharkhand-835302	Source of Sample Location of Sample Sampling Procedure	: Spring Water Bimarla Bauxite Mine (134.526 ha) ELES/DOC/SMPL/01
Mines Status	: Operational	Sample Collected By	: ELES Pvt. Ltd.

Sample Condition

Discipline : Chemic	al	Group	: Water	Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per 1S 2296-1992 Class C (inland Surface Water)
pH (at 24.8 °C)	1	IS 3025 (Part 11) : 2022	6.70	6.5-8.5
Colour	Hazen	IS 3025 (Part -4) : 2021	4.0	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	2.3	
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part 16):1984; RA2017	238	1500
Total Alkalinity (as CaCO3)	mg/L	1S 3025 (Part-23) :1986; RA2019	99,9	
Total Hardness (as CaCO ₃)	mg/L	IS 3025 (Part-21) : 2009; RA2019	104.7	-
Sulphate (as SO ₄)	mg/L	IS 3025 (Part 24) : 1986; RA2019	8.8	400
Nitrate (as NO ₃)	mg/L	APHA 23rd Ed.2017, 4500 NO3-B	1.66	50
Chloride (as Cl)	mg/L	IS 3025 (Part-32) :1988; RA2019	21.8	600
Fluoride (as F)	mg/L	IS 3025 (Part-60) :2008; RA2019	0.190	1.5
Cyanide (as CN)	mg/L	APHA 23rd Ed.2017, 4500 CN-E	BDL (DL: 0.012)	0.05
Phenols Compounds (as C ₆ H ₃ OH)	mg/L	IS 3025 (Part-43): 1992;RA2019	BDL (DL: 0.0005)	0.005

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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT					
Test Report No.	: ELES/RNC/2023/4109	Report Release Date	: 31.10.2023		
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023		

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Discipline: C	hemical	Group: Wate	r	Tolerance Limits	
Parameter	Unit	Test Protocol	Result	as per 1S 2296-1992 Class C (Inland Surface Water)	
Calcium (as Ca)	mg/L	IS 3025 (Part-40): 1991;RA2019	27.9	-	
Free Residual Chlorine (RFC)	mg/L	IS 3025 (Part-26) :2021	BDL (DL: 0.1)	-	
Discipline: Cl	nemical	Group: Residue	es in Water		
Aluminium (as Al)	mg/L	IS 3025 (Part-55) :2003; RA2019	BDL (DL: 0.02)	*	
Arsenic (as As)	mg/L	IS 3025 (Part 37): 2022	BDL (DL: 0.005)	0.2	
Boron (as B)	mg/L	IS 3025 (Part-57) :2021	BDL (DL: 0.2)	a.	
Cadmium (as Cd)	mg/L	APHA23 rd Ed.2017; 3111B	BDL (DL: 0.003)	0.01	
Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2017; 3111B	BDL (DL: 0.03)		
Copper (as Cu)	mg/L	APHA 23 nd Ed.2017; 3111B	BDL (DL: 0.03)	1.5	
Iron (as Fe)	mg/L	APHA 23rd Ed.2017; 3111B	0.357	50	
Lead (as Pb)	mg/L	APHA 23 rd Ed.2017, 3111 B	BDL (DL: 0.01)	.0.1	
Manganese (as Mn)	mg/L	APHA 23 rd Ed.2017; 3111 B	BDL (DL: 0.05)	~	
Mercury (as Hg)	mg/L	IS 3025 (Part-48) :1994; RA2019	BDL (DL: 0.001)	+	
Selenium (as Se)	mg/L	IS 3025 (Part-56) :2003; RA2019	BDL (DL: 0.01)	0.05	
Zinc (as Zn)	mg/L	APHA 23rd Ed.2017, 3111 B	BDL (DL: 0.1)	15	
Discipline: Bi	ological	Group: Wat	er		
Total Coliform	CFU/100 mL	IS 15185: 2016, RA2021	4.0×10 ²	5000	
Escherichia Coli	CFU/100 mL	IS 15185:2016; RA2021	72		

Remarks:1. pH & RFC done at Lab.

Page 2 of 3

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

VOINEERING SERVICES FVT. LTD

Email: info@elespl.co.in , eles.ranchi@gmail.com Phone no.: D651-2290103 Website : www.elespl.co.in

CIN: U749591H2018P1C011125

TEST REPORT

Test Report No.	: ELES/RNC/2023/4109	Report Release Date	: 31.10.2023	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

Discipline: Che	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, 1S: 3025 (P-39)	<0.1
Polynuclear Aromatic Hydrocarbons (PAH)*	mg/L	APHA 23 nd 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	APHA	<0.001
Beta HCH*	µg/L	APHA	<0.01
Butachlor*	µg/L	APHA	<10
Chlorpyriphos*	µg/L	APHA	<10
Delta HCH*	µg/L	АРНА	<0.01
2,4 dichlorophenoxyacetic acid*	µg/L	APHA	<10
DDT(o,p and p,p-isomers of DDT,DDE and DDD)*	µg/L	АРНА	<0.5
Endosulfan (alpha, beta, and sulphate)*	µg/L	АРНА	<0.1
Ethion*	µg/L	APHA	<0.5
Gamma HCH (Lindane)*	µg/L	APHA	<0.5
Isoproturon*	µg/L	АРНА	<0.5

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

Reviewed by

****End of Report****

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

Page 3 of 3

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r Lasströmenett, Sepert Protore

MINERALS & MINERALS LIMITED

Regd. Office- Court Road, P.O. & Distt.-Lohardaga, Jharkhand-835302 Tel.-06526-223163 CIN NO. U26990JH1970PLC000875

Date

Annexure 3

Date - 29.10.2023

Office Order

Environmental Cell has been re-constituted at Bimarla Bauxite Mine (Area 134.526 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 Industries Limited.

- 1. Mr. Jitender Kumar (Coordinator)
- 2. Mr. Mihir Barai 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)

Ref. :

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
		Minerals & Minerals Limited						
16	Pakhar (15.58)	15.58	60000	28.04.1965 to 31.03.2030	80.00	0.00	0.00	0.00
17	Pakhar (109.507)	109.507	280000	26.07.2008 to 25.07.2058	97720.00	1.93	0.71	237280.85
18	Bimarla Bauxite Mine	134.37	300000	18.07.2009 to 17.07.2059	39550	2.21	0.8	64913.65
19	Amtipani Chirodih Bauxite Mines	130.01	450000	11.01.2017 to 10.01.2067	84678	3.96	1.15	98519.66

*Static information about the mines included in the above table



Basudev Gangopadhyay AVP (Planning, Environment and Compliance)

Annexure-5

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

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

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

**Part of OB removed cost.

Basudev Gangopadhyay AVP (Planning, Environment & Compliance)





ENVIRONMENT POLICY

We, at Hindalco Industries Limited, operating across the process chain from mining to semi-fabricated products in non-ferrous metals, will strive to continually improve our environmental performance for sustainable operations and responsible growth globally, by integrating sound environmental systems & practices and Pollution Prevention approach.

To achieve this, we shall:

- Continue to comply with all applicable legal and other requirements on environment.
- Continually improve environmental performance by strengthening the Environmental Management System conforming to national /international standards, including setting up and reviewing targets and measuring, monitoring and reporting their progress.
- Allocate sufficient resources such as organisational structure, technology and funds for implementation of the policy and for regular monitoring of performance.
- Adopt pollution prevention approach for all our processes; enhance material efficiency and achieve high productivity.
- Conserve key resources like electricity, coal, water, oil, and raw materials, by promoting efficient technologies and manufacturing process improvements, water conservation programmes, and efficient use of raw materials.
- Adopt energy efficient and cleaner technologies based on techno-economic viability, appropriate to the region in which we operate, and in line with our growth and diversification plans.
- Promote the principles of waste prevention, reduction, reuse, recycling and recovery to minimize waste generation and strengthen the practices for management of wastes.
- Work in partnership with regulatory authorities, relevant suppliers, contractors, distributors and logistics partners and all other stakeholders, as applicable, to understand and initiate improvement actions.
- Engage with internal and external stakeholders including key business partners such as joint venture partners, licensees and outsourcing partners and wider communities, to broaden our understanding of environmental priorities and initiate actions on key environmental challenges.
- Adapt environmental performance over life cycle as an important input to the decision-making processes in the organization.
- Raise environmental awareness at all levels of our operations, through training and effective communication, participation and consultation.
- Communicate this Policy within the Organization. Develop and follow appropriate communication system to inform other stakeholders, as applicable, about our environmental commitment and performance.
- Conduct environmental, health and safety due diligence before undergoing any mergers and acquisitions.

This policy shall be made available to all employees, suppliers, customers, community and other stakeholders, as appropriate.

SATISH PAI MANAGING DIRECTOR

Date: 30 June 2020

HINDALCO INDUSTRIES LIMITED

















QUALITY, ENVIRONMENT, **OCCUPATIONAL HEALTH & SAFETY POLICY**

We, at "Hindalco Industries Limited" are committed to demonstrate excellence in Quality, Environment and Occupational Health & Safety for sustainable development

To achieve this, we shall:

- Ensure customer satisfaction by providing value added products and services:
- Continually establish systems, procedures and best practices with technological interventions;
- Optimize resource consumption particularly- raw materials, energy, water oil and promote pollution prevention;

· Commit to continual improvement by strengthening the Integrated Management System;

- Nurture and sustain safe and healthy work environment;
- · Commit to protection of environment including prevention of pollution by reclamation and rehabilitation of mined out areas by utilization of solid waste and developing green belt in the area.
- · Comply with applicable legislation in letter and spirit;
- Strengthen competence of employees and business associates through continuous training;
- · Commit to the control of Quality & Environment risks through a hierarchy of control.

We shall communicate and make this policy available to all stakeholders

Lohardaga Date: 24-03-2018

President, Jharkhand Mines

HINDALCO INDUSTRIES LIMITED MINES DIVISION