MINERALS & MINERALS LIMITED

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

CIN NO. U26990JH1970PLC000875

Ref.:	Date
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M&M/LHD/ENV/MoEF&CC/070

Date: 16th May 2025

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: Six Monthly EC Compliance Report for Bimarla (134.526 Ha) Bauxite Mining project of M/s Minerals & Minerals Limited, Gumla Jharkhand for the period from October 2024 to March 2025.

Ref: Environmental Clearance Letter No. J-11015/87/2009-IA II (M) dated 24th September 2013.

Dear Sir,

With reference to the above, we are submitting herewith the Compliance status report of EC conditions for **Bimarla (134.526 Ha) Bauxite Mining project of M/s Minerals & Minerals Limited**, Gumla Jharkhand for the period from **October 2024 to March 2025** for your kind perusal please.

The lease details are below:

Lease area (ha)	Production Capacity (MT)	Lease Period
134.526	300000	18.07.2009 to 17.07.2059

Hope you will find the same in order.

Thanking You

Yours faithfully,

For Minerals & Minerals Limited

Basuaev 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>, zokolkatta.cpcb@nic.in, ranchijspcb@gmail.com, roranchi47@gmail.com

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 1st October 2024 to 31st March 2025

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 (CTE) and Consent to Operate (CTO) have been obtained. The Stipulated conditions of CTE/CTO are being Implemented and complied with. The existing Consent to Operate (CTO) is valid till 30.09.2026.

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: - The conditions laid down in the said letter are being implemented and complied with.

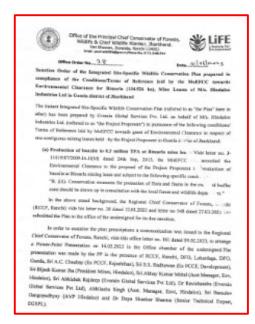
Condition iii: - Necessary wildlife clearance as may be applicable to this project should be obtained. Measures for conservation of flora and fauna observed in the study area shall be undertaken. The Wildlife Conservation Plan shall be implemented in consultation with the State Forests and Wildlife Department.

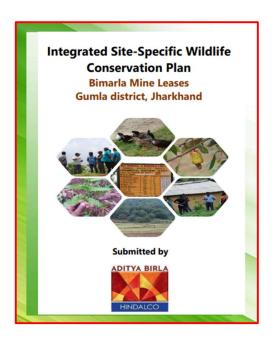
Reply: - We understand that Wildlife Clearance is not applicable to this project as the mine is located beyond the eco-sensitive zone.

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.





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: - Adequate 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.

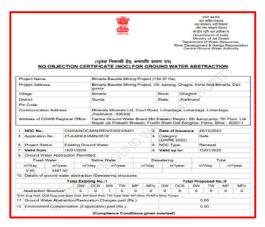
Monitoring report of Ambient Air Quality is attached herewith as **Annexure - 2**.

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

Reply: - Noted. However, there is no forest land within the lease hold area. Therefore, there is no need for forest clearance.

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

Reply: - Since shallow depth mining is being carried out, hence there is no intersection with the groundwater table. In the future also, the working zone will be restricted to above the groundwater table. We assure that no mining is/was carried out below the groundwater table, and the same status will be maintained in the future also. Moreover, we are regularly monitoring the groundwater table through the installation of a piezometer. A copy of the water level report is attached herewith as **Annexure-1**. However, we have already obtained an NOC for the extraction of groundwater from CGWA/CGWB for drinking purposes only. A copy of the same NOC is attached below.



NOC for Groundwater

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 non-compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders.

Reply: - Policy towards Corporate Environment Responsibility is in place. A copy of our Environmental Policy has already been submitted to the relevant statutory authorities. 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: - Noted. Since shallow depth mining is being carried out in Bimarla Bauxite Mine. Therefore, Mining operation does not involve intersection of ground water table. However, we are regularly monitoring the ground water table through installation of piezometer.

As the water table is not intersecting during mining operation, the detailed hydrogeological study is not applicable for this mine.

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.

Condition x: - The topsoil, 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: - Topsoil is being stacked temporally properly with proper slope as and when required. Concurrent backfilling and reclamation of mined out area are being exercised for which topsoil is being spread on backfilled area for reclamation. No OB dump is present in mines. 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: - Monitoring and management of rehabilitated areas are being done through effective supervision. Concurrent Backfilling has already been started as per approved mining plan in scientific manner. The Data pertaining to status of backfilling is attached as <u>Annexure – 4</u>. Photographs of Reclaimed area are attached below.



Reclaimed Area

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: - 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 and maintained 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. Photographs of the same is attached below.



Rainwater Harvesting Pond



Catchment Drain



Garland Drain

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 are 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: - During FY 2024-25, a total of 8630 nos. saplings have been planted in mining lease. Cumulative 11.65 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: - Effective safeguard measures, such as regular water sprinkling is being carried out on haul road and in critical areas prone to air pollution. Regular Ambient Air Quality (AAQ) monitoring is being carried out by NABL accredited Laboratory and all parameters are found within the prescribed limit. Monitoring report of AAQ is attached herewith as **Annexure-2.** Photographs of Water Tanker is attached herewith below.



Sprinkling of water on roads

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: - Effective measures have already been implemented. A detailed rainwater harvesting plan to augment ground water has been prepared and suitable measures like water harvesting pond etc. are created for augmentation of ground water in the area in consultation with Central Ground Water Board. Photograph of Rainwater Harvesting Pond is already attached in **Condition xii.**

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. Since, Shallow depth mining is being carried out, hence there is no intersection of ground water table during the mining operation at present and in future also. A Piezometer has been installed for monitoring of ground water level. Water level and water quality reports are being sent regular to regional office of Ministry, CGWA/CGWB and JSPCB. The same is attached herewith as **Annexure 1 & 2**. Now, Regional office of MoEF&CC is in Ranchi.



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 regularly, and 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 observed.

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 rainwater harvesting measures like harvesting pond have been constructed on long term basis for augmentation of ground water in the area, in consultation with Central Ground Water Board. Photograph of Rainwater Harvesting Pond is already attached in reply to above condition xvi.

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. Appropriate mitigative measures have been taken to prevent pollution of nearby water bodies. The drainage system in the mining lease area is designed to collect all rainwater within the lease into the pit/rainwater harvesting pond only and ensuring that water does not flow outside the boundaries of the mine lease under any circumstances.

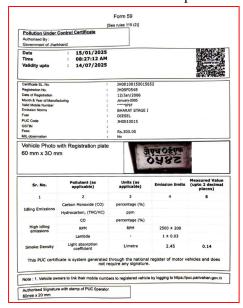
Condition xxii: - Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral from mine face to the beneficiation plant. The vehicles shall be covered with a tarpaulin and shall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

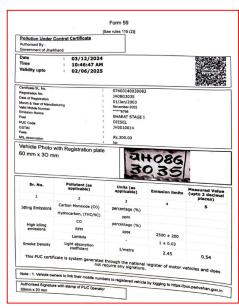
Reply: - Regular maintenance of vehicles is being undertaken to minimize vehicular emission. Measures are being taken to control emission. The vehicles are being covered with tarpaulin while transportation of mineral. Photograph of Tarpaulin Covered Vehicle and PUC Certificate are attached below.





Tarpaulin Covered Vehicle





PUC Certificate

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 1.00 PM -2.00 PM. Controlled blasting method is in practice. Ground vibration study has been conducted periodically. 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: - Water sprinkling is being carried out regularly at mineral handling area, loading and unloading areas to control the dust. Additionally, Fixed type water sprinkler has been installed near the weigh bridge to control dust emission.





Fixed Type Water Sprinkler

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. However, Domestic Wastewater generated from mine office area is being collected through individual Septic Tank and followed by Soak Pit.

No wastewater is generated from our mining operation. However, only negligible amount of effluent is being generated from workshop and Oil & grease trap system is already installed for treatment of this effluent. The treated water is in close circuit and being reused for washing of vehicle in the workshop. We are not discharging any wastewater outside the mine lease area.

Furthermore, the quality of this treated water is being monitored regularly, and the monitoring report is attached herewith as $\underline{\mathbf{Annexure}} - \underline{\mathbf{2}}$.





Washing Ramp with Oil and Grease Trap System

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.

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 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: Noted and being adhered. We have established four ambient air quality monitoring stations in the core zone as well as buffer zone. Monitoring of Ambient Air Quality and Treated Water is being carried out by NABL accredited Laboratory and reported to the concerned authorities. Monitoring Report is attached herewith as **Annexure 2**. Half-yearly EC compliance along with Environmental monitoring reports is being uploaded on company website regularly. A Display board is already installed near the mine gate office. We have also installed an online PM10 Analyzer at mine site.



PM10 Analyzer

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: - Noted and 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: - Conservation measures for protection of flora and fauna in core & buffer zone has been drawn up in consultation with local forest and wildlife department. Also, we prepared Integrated Site-specific Wildlife Conservation Plan (WLCP) and obtained approval from by PCCF, Wildlife, Ranchi vide Office Order No.28 dated 01.06.2023 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.

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 of Ambient Air Quality is being carried out by NABL accredited Laboratory and reported to the concerned authorities. Monitoring Report is attached herewith 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: - The monitoring of ambient air quality is being conducted by an NABL-accredited laboratory, and reports are regularly submitted to the MoEF&CC and JSPCB, Ranchi. The monitoring report is attached herewith as **Annexure** - **2**. Now, Regional office of MoEF&CC is in Ranchi.

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 arrangements are being made to control fugitive dust emissions from loading, unloading and transfer points as applicable. The photograph of the same is already attached in reply to specific condition no. xv.

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 levels below 85 dB (A) in the work environment. Workers engaged in operation of HEMM, etc. has been provided with ear plug / muffs. The noise level monitoring is being conducted at a regular interval. The noise level is within the prescribed norms. Report has been attached as **Annexure - 2.**

Condition viii: - Industrial wastewater (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: - No wastewater is generated from our mining operation. However, only negligible amount of effluent is being generated from workshop and Oil & grease trap system is already installed for treatment of this effluent. The treated water is in close

circuit and being reused for washing of vehicle in the workshop. We are not discharging any wastewater outside the mine lease area.

Furthermore, the quality of this treated water is being monitored regularly and the monitoring report is attached herewith as **Annexure 2**.





Washing Ramp with Oil and Grease Trap System

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: - All the workers have been provided with PPEs including dust mask and dust respirators. Apart from PPEs distribution to all workers, we are also providing adequate safety training and conducting awareness session on Safety and health aspects on regular basis. Periodical Occupational health surveillance program of the workers is being carried out and records maintained as per statute.

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

Reply: - A separate environmental management cell with suitable qualified personnel has been set up under the control of a Senior Executive, who is reporting directly to the Head of the Organization. The same is being attached herewith 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: - Every year, the funds earmarked for environmental protection measures is being budgeted separately and its expenditure is being reported to the Ministry. The copy of

the same is attached as <u>Annexure - 5</u>. Now, the Regional Office of MoEF&CC is in Ranchi.

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: - It is an operational mine. Hence provisions related to financial closure is not applicable. Now, the Regional Office of MoEF&CC is in Ranchi.

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. Now, the Regional Office of MoEF&CC is in 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 reports on status of compliance of the stipulated environmental clearance conditions including monitoring report are being submitted to the MoEF&CC, Zonal office of CPCB & JSPCB, Ranchi and also uploaded on the website of the Hindalco's website. Now, the Regional Office of MoEF&CC is in Ranchi.

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: - Noted. The EC Letter has been submitted to JSPCB for display of same at its Regional office and other government offices.

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: - Environment statement is being submitted regularly to Member Secretary, JSPCB. Also, the status of compliance of environmental clearance conditions is being sent to MoEF&CC and JSPCB, Ranchi on regular basis. Now, the Regional Office of MoEF&CC is in Ranchi.

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: - Noted and complied. The information on grant of the EC has been published in two local newspapers. The copy of the advertisement has already been submitted to the Regional Office of the MoEF&CC. Now, the Regional office of MoEF&CC is in Ranchi.

Piezometer Monitoring Report

Mine: Bimarla Bauxite Mine (134.526 Ha)

S No	Month	Ground Water Level (BGL) in meter
1	Oct-24	36.2
2	Nov-24	35.8
3	Dec-24 37.1	37.1
4	Jan-25	36.8
5	Feb-25	37.3
6	Mar-25	37.5

ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Bimarla Bauxite Mine-Environmental Monitoring Report

October 2024



CONTENT

Mine	rais & Minerals: Bimaria Bauxite Mine Environmental Monitoring Report October 202
	Bimarla Bauxite Mine
	AMBIENT AIR QUALITY- CORE ZONE
1	Near Weigh Bridge
2	Near Quarry No 1B
3	NavPrathmikVidayalayaBarang Path
4	Near Mine Entry Gate
	AMBIENT AIR QUALITY- BUFFER ZONE
1	Neur Korle Village
2	Near Barang Village
3	Near Ghaghra Village
4	Near Bimarla Village





PLOT NO-30, MGINSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 [JHARKHAND] GST NO- 2GAAFCESTLEDIZA

ENGINEERING SERVICES PVT. LTD.

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

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



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TEST REPORT

Test Report No.	: ELES/RNC/2024/6325	Report Release Date	: 28.10.2024
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024
III.R No.	: TC135872400004208F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7404 : Near Weigh Bridge Bimarla Bauxite Mine (134.526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 20.10.2024 to 21.10.2024 : 23.10.2024 : Ambient Air
Mines Status : Operational		Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt, Ltd.
Period of Analysis	: 23.10.2024 to 28.10.2024	Sample Condition	; Sealed & Preserved

νŧι	ETEOROLOGICAL INFORMATION		
	Average Temperature (°C) : 29	2	Barometric Pressure (mmHg) : 740
		4	Weather Condition : Clear
	Relative Humidity (%) : 57	21	The Control of Control

Discipline: Chemic	Discipline : Chemical Group :				
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	66	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	37	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	8.9	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m ³	IS 5182 (Part-6): 2022	24.1	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	1S 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	ug/m³	IS 5182 (Part- 22): 2019	0.013	1 (24hrs)	
Nickel (Ni)	ng/m ⁵	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (An)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C ₆ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	.01(Annual)	

Reviewed by Akash Kumar

****End of Report****

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

Quality Manager

Technical Manager

The Discussion used to Test Report, is assent by the Laboratory under General Terms and Conditions, only in Company fature hand to pre-opposed farms. The results shown in the Test Report. Page 1 of 1 taffer or colleges only in the polyanolysis direct by the Labratonese outs. The information stated on the End Separat reflects the findings three by the Labratonese of the times of involvement only and wallist the bists of chief's increasing. The Laboratory is responsible for all the information or data provided on the separat, except the information which is provided by the client. The Naport watto, the binns of chapt's inequations. The Laboratory is responsible for all the information or data provided on the sepret, except the information which is provided by the client. The Report except in full and any part of the report in my value and of noticed, without price some approval of the Laboratory. The Report in full or or part shall see be published, except for any high actions to fore provisions has been accord from the Management of the Laboratory. Attention is desire to the foreign of flabilities in the following provisions has been accorded from the Management of the Laboratory. Attention is desired to the following of the provisions and provisions and information in the provisions of the approximation of the Laboratory and the following ment that the following the responsibility for the Date of selectarional of the Laboratory and the management of the Laboratory for the provision of the following the responsibility for the control of the control of the following the following the control of the control of the following the following



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TEST REPORT

Test Report No.	: ELES/RNC/2024/6326	Report Release Date	: 28.10.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400004209F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7405 : Near Quarry No 1B Bimarla Bauxite Mine (134.526 ha)
Address	: Lobardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 20.10.2024 to 21.10.2024 : 23.10.2024
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 23.10.2024 to 28.10.2024	Sample Condition	: Sealed & Preserved

MI	TEOROLOGICAL INFO	RMATION			
	Average Temperature (°C)		2	Barometric Pressure (mmHg)	: 740
	Relative Humidity (%)	1.57	4	Weather Condition	: Clear

Discipline: Chemica	Discipline : Chemical Group : A				
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	59	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	15 5182 (Part- 24): 2019	30	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	5.9	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	18.2	80 (24hrs)	
Ozone (O ₁)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₁)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Moneoide (CO)	mg/m²	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.008	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m¹	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	OI(Annual)	

Akash Kuned by Quality Manager

****End of Report****

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

Technical Manager

Page 1 of 1

The Decrease mand in Tast Raport, is instead by the Laboratory scale; Comment Terms and Claudiness, only on Company letter hand in gre-approved former. The yeards above to the Test Report The Discretion stated in Test Report, is termed by the Laboratory scale; General Tests and Conditions, subject to Testing in the head in pre-approved former. The remains above only and aging to related any in the jobilisation in the Laboratory and experiments of the interest only in the jobilisation of the interest of the interest of the interest in the interest in the interest of the interest in the interest i



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TEST REPORT

Test Report No.	: ELES/RNC/2024/6327	Report Release Date	: 28.10.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400004210F			

CUSTOMER DET	CUSTOMER DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7406 : Nav Prathmik Vidayalaya- Barang Path; Bimaria Bauxite Mine(134.526ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 20,10,2024 to 21,10,2024 : 23,10,2024
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 23.10.2024 to 28.10.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION				_
1	Average Temperature (°C) : 29	2	Barometric Pressure (mmHg)	: 740	
	Relative Humidity (%) : 57	4	Weather Condition	: Clear	

Discipline : Chemic	al	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limi	
Particulate Matter (PM10)	μg/m³	IS-5182 (Part-23): 2022	63	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24); 2019	31	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- 2/Sec1); 2023	10.3	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m³	1S 5182 (Part- 6): 2022	22.1	80 (24hrs)	
Ozone (O ₅)	μg/m ^t	1S 5182 (Part- 9): 2019	<20.0	100 (Shrs)	
Ammonia (NH ₂)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ³	IS 5182 (Part- 22); 2019	0.005	1 (24hrs)	
Nickel (Ni)	ng/m³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m/	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C ₆ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	



****End of Report****

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

Technical Manager

Page 1 of 1

The December states as Two Report, is issued by the Laboratory assist General Terror and Conclusion, only on Company letter hand in pro-approved Hernet. The results shown in the Test Report the processing states and the deposition by the Laboratory made control terms and control terms and the processing of the deposition of the following of the following of the Laboratory at the terms of provided the first of the following of the following of the Laboratory of the Laboratory of the Laboratory of the following of t returned for Fillage from the Detect of reference of the Tree Report. The samples from Ragalatory business or to be remained to openified. Any type of Observations or Compliants regarding the Raports shall be show which 15 days from the Date of Tree Report related requests that was parted stand before no compliants will be accepted. The entire Tree schooled mentioned in Test Report is in Fillage from Aldertaining shall be accepted. The entire Tree schooled mentioned in Test Report is in Fillage from Aldertaining shall be A (for Applicable) (100, 18 dose threating Limit).



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TEST REPORT

Test Report No.	: ELES/RNC/2024/6328	Report Release Date	: 28.10.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400004211F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7407 : Near Mine Entry Gate; Bimarla Bauxite Mine (134.526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 20.10.2024 to 21.10.2024 : 23.10.2024
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 23.10,2024 to 28.10.2024	Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION			
1 Average Temperature (°C) : 29	2	Barometric Pressure (mmHg)	: 740
3 Relative Humidity (%) : 57	4	Weather Condition	: Clear

Discipline : Chemic	al	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	65	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24): 2019	34	60 (24hrs)	
Sulphur Di-Oxide (SO ₃)	µg/m³	IS 5182 (Part-2/Sec1): 2023	6.3	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m ³	1S 5182 (Part- 6): 2022	20.5	80 (24hrs)	
Ozone (O _i)	μg/m³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₁)	µg/m³	1S-5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	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: 2021	<2.0	06 (Annual)	
Benzene (C ₆ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m [‡]	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)	

Reviewed by Akash Kumar

Quality Manager

****End of Report****

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

Technical Manager Page Lof I

The December stated on loss Report, is insent by the Laboratory under General Legues and Constitutes, sonly on Company letter bead in pre-approved format. The results shown in the Test Report softens for findings done by the Laboratory at the time of street codes and another the findings done by the Laboratory at the time of street codes and another the findings done by the Laboratory at the time of street codes and another the findings done by the Laboratory at the time of street codes and another the findings done by the Laboratory at the street codes and another the findings done by the Laboratory at the street codes and another the findings done by the Laboratory at the street codes and another the findings done by the Laboratory at the street codes and another the findings done by the Laboratory at the street codes and another the findings done by the Laboratory at the street codes and another the findings done by the Laboratory at the street codes and another the findings done by the Laboratory at the street codes and another the findings done by the Laboratory at the street codes and another the findings done by the Laboratory at the street codes and another the findings done by the Laboratory at the street codes and another the findings done by the Laboratory at the street codes and another the findings done by the Laboratory at the street codes and another the findings done by the Laboratory at the street codes and another the street codes are the street codes and another the street codes are the street codes and another the street codes are the street codes and another the street codes are the street codes and another the street codes are the street codes and another the street codes are the street codes and another the street codes are the street codes and another the street codes are the stree note or course only to the personal course by the canonalogy only. The alternation makes on the rais regard to the interest of the provided by the cheek to the c



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10-11982

TEST REPORT

Test Report No.	: ELES/RNC/2024/6329	Report Release Date	: 28.10.2024
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30,03,2024
ULR No.	: TC135872400004212F		

CUSTOMER DET	CUSTOMER DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7408 : Near Korle Village Bimaria Batoxite Mine (134.526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 21.10.2024 to 22.10.2024 : 23.10.2024
Mines Status	: Operational	Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 23.10.2024 to 28.10.2024	Sample Condition	Sealed & Preserved

IETEOROLOGICAL INFORMATION			
Average Temperature (°C) : 29	2	Barometric Pressure (mmHg)	: 740
Relative Humidity (%) 58	4	Weather Condition	: Clear

Discipline : Chemic	Atmospheric l			
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2022	63	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	31	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2/Sec1): 2023	9,2	80 (24hrs)
Nitrogen Di-Oxide (NO ₃)	µg/m³	IS:5182 (Part- 6): 2022	19.5	80 (24hrs)
Ozone (O ₁)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m³	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carson Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1,0	2 (8hrs)
Lead (Pb)	µg/m²	IS 5182 (Part- 22): 2019	0.000	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₄ H ₄)	µg/m²	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by Quality Manager

---*End of Report****

Dr. Deependra Kumar Sinha

Ph. D. Environmental Enga

Page 1 of 1

Technical Manager

The Discussion stated on This Report, is meanably the Laboratory states Ground Tistus and Catalaines, only on Company letter band in privapproved Carnet. The results sha The Discourse stated on Too Report, is issued by the Laboratory state Ground Torso mill Conditions, only on Company latter band or proapproved format. The results shown in the Too Report reflects the findings draw by the Laboratory or the interest unity and series or close to the judiciants. The Laboratory is a superstant to the interest or close a survention. The Laboratory is captured by the alone of the advantage of the travel of closes of closes and any part of the opport is not under our drawn provided asserts in full and any part of the opport is not under our drawn of the Laboratory. The Report is full or in part shall not be substantially companied and the import of full Laboratory. The Report is full or in part shall not be substantially companied and the import of full Laboratory of the Laboratory of the Laboratory of the import of full or in part shall not be important and jurisdiction addresses to the interest of the laboratory of full or in part shall be substantially companied to the full of the interest of the laboratory of the control of the control of the control of the laboratory of the interest of the laboratory of the control of the control of the laboratory of



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TEST REPORT

Test Report No.	: ELES/RNC/2024/6330	Report Release Date	: 28.10.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400004213F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7409 : Near Barang Village Bimarla Bauxite Mine (134.526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 21,10,2024 to 22,10,2024 : 23,10,2024
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 23.10.2024 to 28.10.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 29	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 58	(40	Weather Condition	: Clear

Discipline : Chemic	al	Group:	Atmospheric i	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23); 2022	57	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	28	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2/Sec1): 2023	5.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6); 2022	18.1	80 (24hrs)
Oxong (O ₂)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₂)	ug/m³	JS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Ph)	μg/m³	IS 5182 (Part- 22): 2019	0.008	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	96 (Annual)
Benzene (C ₆ H ₄)	μg/m²	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m²	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by Akash Kumar Ocality Manager

****End of Report****

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

Page 1 of 1

Technical Manager

The Discussion stated as Test Supers, or assend by the Laboratory made: General Terms and Conditions, only on Company letter based in pre-approach forms. The results observe in the Test Supers refer on relates such on the policional-see done by the Laboratory only. The information stated on the Test Report reflacts the findings force by the Laboratory of incompany is responsible for all the information of data provided on the report, except the information which is provided by the about The Report named to report assent to report assent to report assent to report and only and the report in full or in part shall not be published. advertise, used for one legal actions unless price permissions has been record from the Management of the Laboratory. Attention is drawn to the Internation of Saleston compensation and prisidentics.

See standing to a processor of the factor of the content or appearance of the Tear Report is utilizable and office to one by processor to the factor extent of the law. All the complex are returned for Solwys from the Dietr of referencement of the Tots Report. The samples from Regulatory budges are to be created as openified. Any type of Observations of Completes regarding the Reports shall be done within 15 days from the Dietr of Tots Report released meant. After the total budges, no perspectives will be accepted. The university schedule accepted to Total Report to be 2 days from the Section (Complete Section 10 Decree Detection 10 Decree Detection 10 Decree Detection 10 Decree Detection (Complete Decree Detection 10 Decree Detection 10 Decree Detection 10 Decree Detection (Complete Decree Detection 10 Decree Detection 10 Decree Decree



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25,1100

TEST REPORT

T T No.	: ELES/RNC/2024/6331	Report Release Date	: 28.10.2024
Test Report No. Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024
ULR No.	: TC135872400004214F		

CUSTOMER DET	AILS	SAMPLE DETAILS	Es es majerino 1/4 A /7410
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7410 : Near Ghaghra Village Bimarla Bauxite Mine (134,526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 21.10.2024 to 22.10.2024 : 23.10.2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 23.10.2024 to 28.10.2024	Sample Condition	Sealed & Preserved

MI	TEOROLOGICAL INFOR	MATION			710
			2	Barometric Pressure (mmHg)	: 740
L	Average Temperature (°C)	147		Weather Condition	: Clear
1	Relative Humidity (%)	:58	4	Weather Condition	

no the Charles	d.	Group:	Atmospherie l	
Discipline: Chemica	Unit	Test Protocol	Result	Regulatory Limi
Parameter		IS 5182 (Part- 23): 2022	57	100 (24hrs)
Particulate Matter (PM10)	µg/m²	AND DESCRIPTION OF THE PARTY OF	29	60 (24hrs)
Particulate Matter (PMZ.5)	μg/m³	IS 5182 (Part- 24): 2019		80 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	15 5182 (Part- 2/Sec1): 2023	6.2	A STATE OF THE STA
Nitrogen Di-Oxide (NO ₂)	µg/m	IS 5182 (Part- 6): 2022	18.5	80 (24hrs)
	µg/m³	IS 5182 (Part-9): 2019	<20.0	100 (8hrs)
Ozone (O ₂)		IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Ammonia (NH ₃)	μg/m"	IS 5182 (Part- 10): 2019	<1.0	2 (8hrs)
Carbon Monoxide (CO)	mg/m³	(NDIR Method)	<1.0	23-2/
	μg/m³	IS 5182 (Part-22): 2019	0,007	1 (24hrs)
Lend (Pb)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Nickel (Ni)		ELES/AIR/SOP/01: 2021	<2.0	06 (Annuil)
Arsenic (Att)	ng/m		<2.5	05(Annual)
Benzene (C ₆ H ₆)	hh/m,	ELES/GC/SOP/06: 2023		01(Annual)
Benzo-(a)-Pyrene	ng/m²	ELES/GC/SOP/05: 2023	<0.5	O) (Alliton)

Reviewed by Akash Kumar

Manager

****End of Report***

Dr. HEEBENGLA KUMERSinha Ph. D. Environmental Engg.

Dennien manager

Page I of I

The December sized or Tast Report, is somed by the Laboratory under General Terms and Continuous only on Company better bend in pre-approved forms. The bender shows not be Tast Report reflects the findings done to the Laboratory at the time of modern notes and the Tast Report reflects the findings done to the Laboratory at the time of modern notes and the pre-approved of the Laboratory which is prevaint notes and the pre-approved of the Laboratory which is prevaint notes and pre-approved of the Laboratory. The Report is fall and any part of the report is not allowed of context, without pure secting approved of the Laboratory. The Report is fall and any part of the report is not interest from the Management of the Laboratory. Amortion is decree to the Tonarras of intoiney, consequentian and pro-approved on the transport of the Laboratory and the pre-approved to the fallow as the pre-approved to the Contract of the Laboratory and the pre-approved to the Contract of the Laboratory and the pre-approved to the Contract of the Laboratory and the pre-approved to the Contract of the Contract of the Laboratory and the pre-approved to the Contract of the Contract of the Laboratory and the Contract of the Contract of the Laboratory and the pre-approved to the Contract of the Contract of



PLOT NO-30, MANSAROVAR ENCLAVE, TURUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO: 20AA6CE9713D124

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/6332	Report Release Date	: 28.10.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400004215F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7411 : Near Bimarla Village Bimarla Beuxite Mine (134,526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 21,10,2024 to 22,10,2024 : 23,10,2024
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 23.10.2024 to 28.10.2024	Sample Condition	: Sealed & Preserved

MI	TEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 29	2	Barometric Pressure (mmHg)	: 740
-	Relative Humidity (%) : 58	4	Weather Condition	: Clear:

Discipline : Chemic	al	Group:	Atmospheric !	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	60	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ¹	1S 5182 (Part- 24); 2019	33	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2/Sec1): 2023	5.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ⁴	IS 5182 (Part- 6): 2022	18.3	80 (24hrs)
Ozone (O ₁)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₂)	μg/m³	IS 5182 (Part-25); 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lend (Pb)	µg/m³	IS 5182 (Part- 22); 2019	0.009	1 (24hrs)
Nickel (Ni)	ng/m*	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₄ H ₄)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by Akash Kumar

Duvilley Manager

****End of Report****

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

Page 1 of 1

Technical Manager

The Decision material in Two Supers, to meant by the Laboratory under General Territ and Conditions, only on Company have head in presupervised former. The condition in the Test Report order on relative the indicate by the Laboratory at the tiens of secondarium only and while the large of client's instructions. The Lateratory was responsible for all the inflamentary or date provided to the report, except the information which is provided by the client. The Report covers be reproduced except to information which is provided by the client. The Report covers be reproduced except to fall and any part of the report is not taken out of another, without prior setting appeared of the Laboratory. The Report is full and any part of the report is not taken out of another, without prior setting appeared of the Laboratory. The Report is full or to particulated, advertise, and for all kept actions rather parameters and periodiction of the Laboratory Attention is drawn to the latest extent of the latest action of the latest extent exte researed for Didays from the Discs of released maps of the Time Report. The samples from Regulatory bedies see to be extended as specified. Any type of Observations or Completels regarding the Report shall be done writes 15 days from the Date of Yes Separt released security and said before, no completes will be accepted. The same Time achieved in Time Report is at Jahrens County Advanced and New Yes Applicables, MDI (Orders Detection Later). Lower Detection Later).

ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Bimarla Bauxite Mine-Environmental Monitoring Report

November 2024

CONTENT

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Mine	rals & Minerals : Bimarla Bauxite Mine Environmental Monitoring Report	November 2024
-	Bimarla Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE	
1	Near Weigh Bridge	
2	Near Quarry No 18	
3	NavPrathmikVidayalayaBarang Path	
4	Near Mine Entry Gute	
	AMBIENT AIR QUALITY- BUFFER ZONE	
1	Near Korle Village	
2	Near Barang Village	74 30 -
3	Near Ghaghra Village	
4	Near Bimarla Village	
	Drinking Water	
	Effluent Water	





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

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YOU HARD

TEST REPORT

Test Report No.	: ELES/RNC/2024/6808	Report Release Date	: 25.11.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400004680F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2024/AA/7951 : Near Weigh Bridge Birnaria	
	69-00 NO WOLDOWS	Location	Bauxite Mine (134,526 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 15.11.2024 to 16.11.2024	
		Sample Received Date Type of Sample	: 19.11,2024 : Ambient Air	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	: 19.11.2024 to 25.11.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (%C)	: 26	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 54	4	Weather Condition	: Clear

Discipline : Chemic	al	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	74	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	42	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	13.5	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	26.1	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mmm _y	IS 5182 (Part- 10); 2019 (NDIR Method)	1.24	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part- 22); 2019	0.016	1 (24hrs)	
Nickel (Ni)	ng/m²	IS 5182 (Part-26); 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01; 2021	<2.0	06 (Annual)	
Benzene (C _n H _n)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

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****End of Report****

Authorised Signatory

Akash Kumar

Page 1 of 1

The Document stated of the property of the proper returned the Philosophian the Date of interactions of the Yest Report. The samples from Regulatory hodes are to be returned as question. Any type of Observations or Complaints segarding the Reports shall be done within 15 days from the Date of Yest Report returned insured. After the true period usual before, we complaints will be accepted. The centre Trees inherited monitoried in Yest. in mad. N.A.(Not Applicable). BDL (Below Denotion Limit); LDL (Lower Detection Limit). Report is to Jahoura format. Abbrevious



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

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TEST REPORT

Test Report No.	: ELES/RNC/2024/6809	Report Release Date	: 25.11.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400004681F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7952 : Near Quarry No 1B Bimarla Bauxite Mine (134,526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 15.11.2024 to 16.11.2024 : 19.11.2024
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 19.11.2024 to 25.11.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

M	METEOROLOGICAL INFORMATION					
1	Average Temperature (°C) : 26	2	Barometric Pressure (mmH	g) : 740		
3	Relative Humidity (%) : 54	4	Weather Condition	: Clear		

Discipline : Chemic	al	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS-5182 (Part- 23): 2022	68	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	37	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2/Sec1): 2023	11.8	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	20.3	80 (24hrs)	
Ozone (O ₂)	μg/m³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m [‡]	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ²	IS 5182 (Part- 10): 2019 (NDIR Method)	1.32	2 (8hrs)	
Lead (Pb)	µg/m²	IS 5182 (Part- 22): 2019	0.018	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C ₈ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

****End of Report****

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Reviewed by

Authorised Signatory Akash Kumar

Page 1 of 1

The throught suced a color is re-Advances under General Terms and Conditions, only on Company letter head in pre-approval former. The results shown in the Test Report Scientists and The Indiana done by the Laboratory at the time of devolutioners only and within the limits of client's totherwise. It is reported for all the information or data provided on the report, except the information or data for part of the client The Report content to the report of the Laboratory. The Report content to the report is not like or an analysis of the client The Report content to report or the report in full and ling part of the report is not taken on all contents, rections approved of the Laboratory. The Report is full or as part of the report is not for any logic actions unless prior partitional line from account from the Management of the Laboratory. Advances to the limitation of liability, components and partitions of the Content of the content or approximate of the Laboratory and formation are formation of the content or approximate of the Laboratory and formation are formation of the content or approximate of the Laboratory and formation are formation of the content or approximate of the Laboratory and formation are formation or the laboratory. All the complex are certained for Mileys from the Date of infrared most of the Teel Report. The complex from Regulatory bodies not to be retained at specified. Any type of Observations or Completion regarding the Reports shall be done within 15days from the Date of Teel Report referred to the project stand School, no complaints will be accupied. The same Time which de manifest in Test Report to a 54bctes forms. Alterestation used. N.A.(Not harplicable), 1001. (Balow Demotion Limit), L.O. (Lower Detaction Limit).



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

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TEST REPORT

Test Report No.	: ELES/RNC/2024/6810	Report Release Date	: 25.11.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400004682F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2024/AA/7953	
	I Constituted I Constitute I Research of the Constitute I Res	Location	: Nav Prathmik Vidayalaya- Barang	
		Desired Control of the Control of th	Path; Bimaria Bauxite Mine(134.526ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 15.11.2024 to 16.11.2024	
	THE PARTY OF THE P	Sample Received Date	: 19.11.2024	
		Type of Sample	: Ambient Air	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
AD - 2115/35 TV		Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 19.11.2024 to 25.11.2024	Sample Condition	: Sealed & Preserved	
		A STATE OF THE PARTY OF THE PAR	A CONTRACTOR OF THE PARTY OF TH	

M	ETEOROLOGICAL INFOR	MATION				
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	: 740	
3	Relative Humidity (%)	: 54	4	Weather Condition	: Clear	

Discipline: Chemic	al	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	65	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	33	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2/Sec1): 2023	12.6	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	26.3	80 (24hrs)		
Ozone (O _i)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH ₂)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	m ³ IS 5182 (Part- 10): 2019 (NDIR Method) 1.29		2 (8hrs)		
Lead (Pb)	µg/m²	IS 5182 (Part- 22): 2019	0.018	I (24hrs)		
Nickel (Ni)	ng/m³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		
Benzene (C ₄ H ₆)	μg/m ¹	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)		

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Reviewed by

****End of Report****

Authorised Signatory

Akash Kumar

Page 1 of 1

The Document secret is Colleged, to be second by the Second number of the Control Terms and Conditions, only on Company latter hand in pre-opposed format. The results shown in the Text Report refer to relate only in the second on the Year flagoust reflects the findings done by the Laboratory at the time of productions only and within the limits of flower to respond to the company of the Laboratory of the Laboratory of the Laboratory. The Report is described advertion, used for my kept access unless pour particular in blace account flow the Management of the Laboratory. Attention is directly to the influence of the company of the Laboratory of the Indianator of liability, companying and produced advertion, used for my kept access unless pour particular in blace account flow the Management of the Laboratory. Attention is directly to the factor of the time to all the company and produced access of the Laboratory of the Laboratory of the Laboratory of the Indianator of liability, companying and produced access of the Laboratory of the Laboratory of the Indianator of liability, companying and produced access of the Indianator of the Indianatory of the Indianatory of the Indianatory of the Indianatory of Indianatory of the Indianatory of India



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

ENGINEERING SERVICES PVT. LTD.

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TC-12887

TEST REPORT

Test Report No.	; ELES/RNC/2024/6811	Report Release Date	: 25.11.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400004683F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2024/AA/7954	
0-1474-1476-1476-1476-1		Location	: Near Mine Entry Gate; Birnarla	
		- Seattors	Bauxite Mine (134.526 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 15.11.2024 to 16.11.2024	
		Sample Received Date	: 19.11.2024	
		Type of Sample	: Ambient Air	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
ACTION OF THE STREET	S. Contraction Co.	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 19.11.2024 to 25.11.2024	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 54	4	Weather Condition	: Clear

Discipline: Chemic	al	Group:	Group: Atmospheric Pollution			
Parameter Unit		Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m ^λ	IS 5182 (Part- 23): 2022	73	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	46	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	11.3	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	23.8	80 (24hrs)		
Ozone (O ₁)	μg/m²	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	1S 5182 (Part- 10); 2019 (NDIR Method)	1.19	2 (8hrs)		
Lead (Pb)	µg/m³	1S 5182 (Part- 22): 2019	0.019	T (24hrs)		
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		
Benzene (C ₆ H ₆)	µg/m²	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)		

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****End of Report****

Authorised Signatory Akash Kumar

Opality Manager

Page 1 of 1

The Discusser street as refer or release only to the within the lends of cheer's the The Discusses stand as a Company to the property of the Laboratory as the Company and the Company of the Compan tary under Control Tensor and Conditions, only on Company later head as pro-approved format. The moults shown in the Test Report Reports shall be disse within 17-three from the Class of Test Report released instead. After the time period stated before, no complaints will be assigned. The union Time achievable manuscased at Time Report to be Dibours format: Althorysature used: N.A. (Not Applicable). HDE (Balow Detection Limit), LDE (Lower Detection Limit).



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

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TEST REPORT

Test Report No.	: ELES/RNC/2024/6812	Report Release Date	: 25.11.2024	
Work Order No.	; RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400004684F			

CUSTOMER DET	AILS	SAMPLE DETAILS	III—Coucous Crita (See A Casasa)
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7955 : Near Korle Village Bimarla Bauxite Mine (134,526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 16.11.2024 to 17.11.2024 : 19.11.2024
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 19.11.2024 to 25.11.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Scaled & Preserved

MI	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	125	2	Barometric Pressure (mmH	g) : 740
3	Relative Humidity (%)	: 54	4	Weather Condition	; Clear

Discipline : Chemic	al	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23); 2022	76	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	39	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1); 2023	13.7	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	24.2	80 (24hrs)	
Ozone (O ₃)	µg/m³	1S 5182 (Part- 9); 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22); 2019	0.019	I (24hrs)	
Nickel (Ni)	ng/m³	1S 5182 (Part- 26); 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m²	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

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****End of Report****

Authorised Signatory

Akash Kumar

Page 1 of 1

The Discount control of the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved formst. The monito shows in the Lost Report refer to release only in a coloratory of the Laboratory at the Laboratory and the following the Laboratory of the Laboratory at the time of envolvement only and writin the limits of alliest pre-approved formst Laboratory is companied for all the information of the Laboratory in the Laboratory is companied for all the information of the Laboratory in the Laboratory is companied for all the information which is provided by the clinit. The Report assumed to represent in full and any part of the region in not taken on of annexis, without prior service approved of the Laboratory. The Report is the part shall are by published, advantage, and the same legal actions arises pure permission has been assumed from the Management of the Laboratory. Amontion is decreased of the Internation of the Intern rational for 30 days from the Daw of primare from Eagure from Regulatory budges are to be sensored as specified. Any type of Observations of Complaints regarding the Reports shall be done within I there from the Date of Tast Report released instead. After the time period search hallow, so complaints will be not Report to in Takonas forms: Abbreviation used N/A (Not Applicable), HDL (Bakes Deportion Limit), LDL (Lower Deportion Lower). spired. The series Time achedole economics in Tana



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 204AECE9713D1Z4

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/6813	Report Release Date	: 25.11.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400004685F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2024/AA/7956
	The second secon	Location	: Near Barang Village Bimarla Bauxite Mine (134.526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 16.11.2024 to 17.11.2024
	20110104-00-00-0000	Sample Received Date	: 19.11.2024
		Type of Sample	: Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 19.11.2024 to 25.11.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

MI	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (*C)	: 25	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	:54	4	Weather Condition	; Clear

Discipline: Chemic	al	Group:	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m ²	IS 5182 (Part- 23); 2022	66	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	38	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- 2/Sec 1); 2023	9.7	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	23.9	80 (24hrs)		
Ozone (O ₃)	μg/m ¹	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	µg/m	IS 5182 (Part- 22): 2019	0.013	1 (24hrs)		
Nickel (Ni)	ng/m³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)		

Reviewed by

****End of Report****

Authorised Signatory Akash Kumar

Pinge 1 of 1

The December stated or the Markety and Control Tames and Constitution only on Company latter head to pre-approved former. The remain shows in the Tam Report refers to the Administration of the Control Tames and Constitution only on Company latter head to pre-approved former. The finite of involvement only and within the limits of claim? In the Pinite of the report is not taken out of content, within a provided on the report, except the information which is provided by the claim. The Report control be reproduced except to the states of the report is not taken out of content, within private serious of the Laboratory. The Report in full set in part shall not be published advertise, used for any light actions retires price premises has been secured from the Management of the Laboratory. Attention is drawn to the limitation of flatformers of the law applies are content appropriately from the Date of collections of the law All the samples are content for the Date of collections of the Date of collections of the Date of collections or Compliants organism to content for the Date of collections or Compliants organism to the content organism presented by the relation is a presented to the Collections or Compliants organism to content for the Date of collections or Compliants organism to content the Date of collections or Compliants organism to content the Date of collections or Compliants organism to content the Date of collections or Compliants organism to content the Date of collections or Compliants organism. estanced for Policys from the Date of release serve of the Vert Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Compliants regarding the Report will be done within Utdays from the Date of Test Report released/search. After the time period stated before, no compliants will be accepted. The entire Years schoolable monitored in Yest Report is in 19 cars former Alexanders and N.A. (See Applicable), MDL (Bulow Detection Limit), LDL (Lower Detection Limit)



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

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TEST REPORT

Test Report No.	: ELES/RNC/2024/6814	Report Release Date	: 25.11.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
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ULR No.	: TC135872400004686F
CONTRACTOR AND	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2024/AA/7957	
		Location	: Near Ghaghra Village Bimarla Bauxite Mine (134.526 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 16.11.2024 to 17.11.2024	
		Sample Received Date	: 19.11.2024	
		Type of Sample	: Ambient Air	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	: 19.11.2024 to 25.11.2024	Sampling Done By	: ELES Pvt. Ltd.	
Seriou or Asimilyais	- 17:11:20e+10:25:11:2024	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFORMATION				
1	Average Temperature (°C) : 25	2	Barometric Pressure (mml	lg) : 740	
3	Relative Humidity (%) : 54	4	Weather Condition	: Clear	

Discipline: Chemic	al	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	67	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part-24): 2019	36	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec 1): 2023	9.2	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	25.6	80 (24hrs)	
Ozone (O ₃)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ²	IS 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22); 2019	< 0.002	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C ₄ H ₄)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m²	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

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****End of Report****

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Akash Kumar

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The Decisions stand as a large in account to the Control Forms and Continues, only on Company letter limit in prosperior forms. The results shown in the Cost Report reflects, the findings done by the Laboratory or the time of involvement only and within the limit of client's Orders and the Control of the information or done provided in the report, except the information which is provided by the client. The Report country to reproduced ascept in full and my part of the report of the report of the Laboratory. The Report is full by in good find and my part of the report of the report of the Laboratory. The Report is full by in good find. adventive used for any logal actions unless price permission had been secured from the Management of the Laborance, Attention is drawn in the Santanies of February, compression and parasity time. Sources. Any promother and alternate in the current of the current or apparatus of the Test Report is unless follow and offended may be promoted to the fact and of the law. All the complete are extended for Nobelles from the Date of Indian current of the Care Report in United Section 19 to the Care Report of the Care Report is the Care Report of the Car



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TC-10882

TEST REPORT

Test Report No.	: ELES/RNC/2024/6815	Report Release Date	: 25.11.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400004687F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2024/AA/7958	
		Location	: Near Bimarla Village Bimarla Bauxite Mine (134.526 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 16.11.2024 to 17.11.2024	
		Sample Received Date	: 19.11.2024	
		Type of Sample	: Ambient Air	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	: 19.11.2024 to 25.11.2024	Sampling Done By	: ELES Pvt. Ltd.	
reriod of Analysis	- 17:11:202+10 23:11:2024	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFOR	MATION				
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 740	
3	Relative Humidity (%)	: 54	4	Weather Condition	: Clear	

Discipline : Chemic	at	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	63	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	35	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2/Sec1): 2023	8.8	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	24.2	80 (24hrs)	
Ozone (O ₂)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₂)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	(S 5182 (Part- 10): 2019 (NDIR Method)	1.08	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22); 2019	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: 2021	<2.0	06 (Annual)	
Benzene (C _k H _k)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

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Page 1 of 1

Page 1 of 1

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Report is a Silvent format Affection and NA (Not Applicable). BOL (Below Detaction Carett, LDL (Lower Detaction Carett).



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TEST REPORT

Test Report No.	: ELES/RNC/2024/6926	Report Release Date	: 29.11.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400004796F	1		

CUSTOMER DET	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2024/DW/797 : 16.11.2024 : 19.11.2024 : Drinking Water		
Address	: Lohardaga, Jharkhand-835302	Source of Sample Location of Sample	: Tap Water : Office (Bimarla Bauxite Mine)		
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01		
Period of Analysis	: 19.11.2024 to 28.11.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved		

Discipline: Chemical	Group :	Water	Regulatory Limit as per IS 10500:2012		
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
pH (at 24.7°C)	12	APHA 24th Ed.2023, 4500-H	6.93	6,5-8.5	No Relaxation
Turbidity	NTU	APHA 24th Ed.2023, 2130 B	0.89	1.0	5.0
Taste	10	APHA 24th Ed.2023, 2160 C	Agreeable	Agreeable	Agreeable
Odour		IS 3025 (Part-5) :2018	Agreeable	Agreeable	Agreeable
Colour	Hazen	APHA 24 th Ed.2023, 2120B&D	1.4	5.0	15
Total Dissolved Solids (TDS)	mg/L	APHA 24th Ed.2023, 2540B,C&D	96.8	500	2000
Chloride (as CI)	mg/L	APHA 24th Ed.2023, 4500 CI B	4.6	250	1000
Fluoride (as F)	mg/L	APHA 24 th Ed.2023, 4500 F-D	BDL (DL: 0.1)	0.1	1.5
Total Alkalinity (as CaCO ₅)	mg/L	APHA 24 th Ed.2023, 2320 B	37.0	200	600
Total Hardness (as CaCO ₂)	mg/L	APHA 24th Ed.2023, 2340 C	30.0	200	600
Sulphate (as SO ₄)	mg/L	APHA 24th Ed.2023, 4500 SO ₄ th-2-E	7.40	200	400
Nitrate (as NO ₃)	mg/L	APHA 24 th Ed.2023, 4500 NO ₃ -B	1.85	45	No Relaxation

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TO-13682

TEST REPORT

 Test Report No.
 : ELES/RNC/2024/6926
 Report Release Date
 : 29.11.2024

 Work Order No.
 : RP/MJB/MM/24/0088/01
 Work Order Date
 : 30.03.2024

ULR No. : TC135872400004796F

Discipline: Chemic	al	Grou	up: Water		ory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Phenolic Compound (as C ₀ H ₁ OH)	mg/L	IS 3025 (Part 43/Sec1); 2022	BDL (DL: 0.001)	0.001	0.002
Free Residual Chlorine (RFC)	mg/L	IS 3025 (Part-26): 2021	BDL (DL: 0.1)	0.2(Min)	1.0(Min)
Calcium (as Ca)	mg/L	APHA 24th Ed.2023, 3500 Ca B	8.5	75	200
Anionic Surfactants (as MBAS)	mg/L	APHA 24 th Ed.2023, 5540-C	BDL (DL: 0.025)	0.2	1.0
Discipline: Chemic	al	Gre	oup : Residues i	n 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 Relexation
Boron (as B)	mg/L	IS 3025 (Part-57): 2021	BDL (DL: 0.2)	0.5	1.0
Cadmium (as Cd)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.003)	0.003	No Relaxation
Total Chromium (as Cr)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.03)	0.05	No Relaxation
Copper (as Cu)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.03)	0.05	1.5
Cyanide (as CN)	mg/L	APHA 24 ⁿ Ed.2023, 4500 CN-E	BDL (DL: 0.012)	0.05	No Relaxation
fron (as Fe)	mg/L	APHA 24th Ed.2023; 3111B	0.071	1.0	No Relaxation
Lead (as Pb)	mg/L	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.01)	0.01	No Relaxation
Manganese (as Mn)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.05)	0.1	0.3
Mercury (as Hg)	mg/L	IS 3025 (Part-48): 2019	BDL (DL: 0.001)	0.001	No Relaxation
Selenium (as Se)	mg/L	IS 3025 (Part-56): 2019	BDL (DL: 0.01)	0.01	No Relaxation

Page 2 of 4

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

ENGINEERING SERVICES PVT, LTD.

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30/156

TEST REPORT

Test Report No. : ELES/RNC/2024/6926 Report Release Date : 29.11.2024

Work Order No. : RP/MJB/MM/24/0088/01 Work Order Date : 30.03.2024

ULR No. : TC135872400004796F

Discipline : Chemical Group : Residue		lues in Water		ory Limit 0500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Zinc (as Zn)	mg/L	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.1)	5.0	15
Polynuclear Aromatic Hydrocarbons (PAH)	μ g/ L	ELES/GC/SOP/04: 2023	BDL (DL: 0.05)	0.1	No Relaxation
Polychlorinated biphenyls (PCB)	μg/L	ELES/GC/SOP/03: 2023	BDL (DL; 0.1)	0.5	No Relaxation
Pesticides				Li	mit
Alachlor	μg/1.	ELES/GC/SOP/01: 2023	BDL (DL; 0.5)	2	20
Atrazine	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	2	.0
Butachlor	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	125	
Chlorpyriphos	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	30	
Ethion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	3.0	
Malathion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	1	90
Methyl parathion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.1)	0.	30
Monocrotophos	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)		.0
Phorate	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	2	.0
Phorate Sulphone	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)		
Dieldrin	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.01)	0.	03
Alpha HCH	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.006)	0.	01
Beta HCH	μg/L	ELES/GC/SOP/02: 2023	BD1. (DL: 0.02)	0	04

Page 3 of 4

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-B34003 (JHARKHAND) GST NO:- 20A4ECE9713D124

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TEST REPORT

Test Report No. : ELES/RNC/2024/6926 Report Release Date : 29.11.2024

Work Order No. : RP/MJB/MM/24/0088/01 Work Order Date : 30.03.2024

ULR No. : TC135872400004796F

Pesticides				
Parameter	Unit	Test Protocol	Result	Limit
Delta HCH	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	0.04
Gamma HCH (Lindane)	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	2.0
Endosulfan (alpha, beta and sulphate)	μg/L	ELES/GC/SOP/02: 2023	BDL (DL; 0.05)	0.40
DDT(o,p and p,p-isomers of DDT) (DDE and DDD)	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	1.0
Discipline : Biological		Grou	p: Water	
Total Coliform (Qualitative)	Per 100 mL	IS 15185: 2021	Not Detected	chall and discount
Escherichia coli (Qualitative)	Per 100 mL	IS 15185: 2021	Not Detected	Shall not be detected

Reviewed by Alash Kumar Ovality Manager

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sieha Ph. D. Environmental Engg. Technical Manager

Page 4 of 4

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TEST REPORT

Test Report No.	: ELES/RNC/2024/6926	Report Release Date	: 29.11.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2024/DW/7971 : 16.11.2024 : 19.11.2024 : Drinking Water
Address	: Lohardaga, Jharkhand-835302	Source of Sample Location of Sample	: Tap Water : Office (Bimarla Bauxite Mine)
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01
Period of Analysis	: 19.11.2024 to 29.11.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

Discipline: Chemical		Group: Wa	ter	Regulatory Limit as per IS 10500;2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Mineral Oil*	mg/L	1S 3025 (Part-39): 2021. Clause 6 Infrared Spectroscopic method.	BDL (DL: 0.01)	0.5	No Relaxation

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

Reviewed by

Owellty Manager

****End of Report****

Authorised Signatory

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

Technical Manager

Page 1 of 1

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TC-1358

TEST REPORT

Test Report No.	: ELES/RNC/2024/6928	Report Release Date	: 29.11.2024
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024
ULR No.	: TC135872400004798F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2024/EF/7973 : 16.11.2024 : 19.11.2024
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 Sampling Done By	: ELES/DOC/SMPL/01 : ELES Pvt. Ltd.
Period of Analysis	: 19.11.2024 to 28.11.2024	Sample Condition	: Sealed & Preserved

Discipline : Chemical		Group : Pollution & E	ovironment	Discharge Limits – EPR, 1986 Schedu	
Parameter	Unit	Test Protocol	Result	Inland Surface Water	Land for Irrigation
pH (at 24.7°C)	*	APHA 24th Ed.2023,4500-H	6.75	5.5-9.0	5.5-9.0
Temperature	°C	APHA 24th Ed.2023, 2550 B	25.6	Shall Not Exceed 5°C Above the Receiving Water Temperature	
Total Dissolved Solids (TDS)	mg/L	1S 3025 (Part-16): 2023	425	-	986
Total Suspended Solids (TSS)	mg/L	15 3025 (Part-17): 2022	52,2	100	200
Dissolved Oxygen (DO)	mg/L	IS 3025 (Part-38): 2019	5.6		**
Biochemical Oxygen Demand (BOD) (at 27 °C for 3 days)	mg/L	15 3025 (Part-44): 2023	14.7	30	100
Chemical Oxygen Demand (COD)	mg/L	1S 3025 (Part-58): 2023	167	250	194
Dissolved Phosphate (as P)	mg/L	1S 3025 (Part-31/Sec-1): 2022	3.12	5.0	22
Oil & Grease	mg/L	1S 3025 (Part-39): 2021	3.8	10	10
Calcium (as Ca)	mg/L	IS 3025 (Part-40): 2019	22.6		-

Page 1 of 2

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: 30.03.2024

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TEST REPORT

Work Order Date

Test Report No. : ELES/RNC/2024/6928 Report Release Date : 29.11.2024 Work Order No. : RP/MJB/MM/24/0088/01

ULR No. : TC135872400004798F

Discipline : Chemical		Group: Resid	Group: Residues in Water		ts – CPCB bedule VI
Parameter	Unit	Test Protocol	Result	Inland Surface Water	Land for Irrigation
Aluminum (as Al)	mg/L	IS 3025 (Part-55): 2003, RA2019	BDL (DL: 0.02)) (-
tron (as Fe)	mg/L	APHA 24th Ed.2023, 3111B	0.387	3.0	-
Zinc (as Zn)	mg/L	APHA 24th Ed.2023, 3111 B	0.254	5.0	**

Reviewed by Akash Kumar

Quality Manager

End of Report**

Dr. Deependra Rumar Sinha Ph. D. Environmental Engg. Technical Manager

Page 2 of 2

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ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Bimarla Bauxite Mine-Environmental Monitoring Report

December 2024



CONTENT

Mine	ruls & Minerals : Bimarla Bauxite Mine Environmental Monitoring Report	December 2024
	Bimarla Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE	
1	Near Weigh Bridge	
2 3 4	Near Quarry No 1B	
3	NavPrathmikVidayalayaBarang Path	
4	Near Mine Entry Gate	
	AMBIENT AIR QUALITY- BUFFER ZONE	
19	Neur Korle Village	
2	Near Barang Village	
3	Near Ghaghra Village	
1	Meur Riccarla Village	
	Control of the Article of the Articl	



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10/1207

TEST REPORT

Test Report No.	: ELES/RNC/2024/7484	Report Release Date	: 18.12.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400005341F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2024/AA/8721
		Location	: Near Weigh Bridge Bimarla
	CONTROL OF THE CONTRO		Bauxite Mine (134.526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 09.12.2024 to 10.12.2024
		Sample Received Date	: 12.12.2024
		Type of Sample	: Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	- 12 12 2024 19 12 2024	Sampling Done By	: ELES Pvt. Ltd.
Period of Attailysis	: 12.12.2024 to 18.12.2024	Sample Condition	Scaled & Preserved

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 21	2	Barometric Pressure (mm.	Hg) : 725
3	Relative Humidity (%) : 49	4	Weather Condition	: Clear

Discipline : Chemic	nl	Group:	Atmospheric !	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	83	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	50	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	15.1	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	30.5	80 (24hrs)
Ozone (O ₁)	μg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	1S 5182 (Part- 10): 2019 (NDIR Method)	1.34	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.026	1 (24hrs)
Nickel (Ni)	ng/m³	15 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₄ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	OI(Annual)

Reviewed by

Akash Kumar

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha

Page 1 of 1

Technical Manager

Lapses of forms. The reside shown in the Test Report The Distance outed in Test Report, is housed by the Laboratory under General Tarms and Conditions, only on Company latter head in pre-approval. action relates only to the physical visit done by the Laboratory only. The origination stands on the Test Report reflects the findings done by the Laboratory at the days of incultaneous only and within the limits of client's interestions. The Laboratory only the origination or done provided on the report, valenge on information which to provided by the edgent. The Report current by reproduced except in full and any part of the expect is not taken out of context, without puter written approved of the Laboratory. The Report is full and only part of the political and the rate of the Part Report is allowed by the interest of full and account to the political and the rate of the Laboratory at the interest of full and account of the Laboratory at the interest of full and account of the Laboratory at the interest of the laboratory at the commed for Nobeys from the Date of referencesses of the Tast Report. The samples from Regulatory budges are to be returned as specified. Any type of Observations of Complicate segming the Reports shall be sizing within 15 days from the Date of Test Report released benefit from period small before, no compliants will be accepted. The extra telephone requirement on Test Report of a 2-th ones formed Addression ment. N.A. (Not. Applicable), RIM. (Refers Detection Limit), LIM. (Limits Detection 1, 1994).



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10/1007

TEST REPORT

Test Report No.	: ELES/RNC/2024/7485	Report Release Date	: 18.12.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400005342F		The Address of the Control of the Co	

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2024/AA/8722
		Location	: Near Quarry No 1B Birnarla
Address	: Lohardaga, Jharkhand-835302	Sampling Date	Bauxite Mine (134.526 ha) : 09.12.2024 to 10.12.2024
		Sample Received Date	: 12.12.2024
		Type of Sample	: Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 12.12.2024 to 18.12.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

METEOROLOGICAL INFORMATION Average Temperature (°C) Barometric Pressure (mmHg) : 725 Relative Humidity (%) : 49 Weather Condition : Clear

Discipline : Chemic	al	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	70	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	36	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	12.2	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	26.7	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10); 2019 (NDIR Method)	1.15	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.026	1 (24hrs)	
Nickel (Ni)	ng/m³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C _s H _s)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05; 2023	<0.5	01(Annual)	

Reviewed by

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D. Environmental Engg.

Akash Kumar Quality Manager

Page 1 of 1

Technical Manager

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TEAMER .

TEST REPORT

Test Report No.	: ELES/RNC/2024/7486	Report Release Date	: 18.12.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400005343F		DESCRIPTION OF THE PARTY OF THE	

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2024/AA/8723
	90 W 30 30 30 50 50 50 50 50 50 50 50 50 50 50 50 50	Location	; Nav Prathmik Vidayalaya- Barang Path; Bimarla Bauxite Mine(134,526ha)
Address	: Lohardaga, Jharkhund-835302	Sampling Date	: 09.12.2024 to 10.12.2024
		Sample Received Date	: 12.12.2024
		Type of Sample	: Ambient Air
Mines Status	2 Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 12.12.2024 to 18.12.2024	Sampling Done By	: ELES Pvt. Ltd.
VIII OI PHRITISIS	12.12.2024 10 18.12.2024	Sample Condition	: Scaled & Preserved

METEOROLOGICAL	INFORMATION
The state of the s	the Carlotte and the Ca

100	THOROTOGICAL EN ORMALITOR				- 1
1	Average Temperature (°C) :21	2	Barometric Pressure (mmHg)	: 725	=1
3	Relative Humidity (%) : 49		Weather Condition	: Clear	

Discipline : Chemi-	cal	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	79	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m ¹	IS 5182 (Part- 24): 2019	46	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2/Sec1): 2023	14.1	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m³	1S 5182 (Part- 6): 2022	29.7	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NHs)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ²	IS 5182 (Part- 10): 2019 (NDIR Method)	1.31	2 (8brs)	
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.024	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ¹	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C _s H _s)	μg/m ²	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	OI(Annual)	

Reviewed by Akash Kumar

Quality Manager

****End of Report****

Authorised Signatory Dr. Deependra Rumar Sinha

Ph. D. Environmental Engg.

Page I of I

Technical Manager

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

ENGINEERING SERVICES PVT. LTD.

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

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



TC-13887

TEST REPORT

Test Report No.	: ELES/RNC/2024/7487	Report Release Date	: 18.12.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400005344F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2024/AA/8724
		Location	: Near Mine Entry Gate; Birmarla Bauxite Mine (134.526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 09.12.2024 to 10.12.2024
		Sample Received Date	: 12.12.2024
		Type of Sample	: Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 12.12.2024 to 18.12.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

M	ETEOROLOGICAL INFOR	MATION				
1	Average Temperature (°C)	:21	2	Barometric Pressure (mmHg)	: 725	
3	Relative Humidity (%)	; 49	4	Weather Condition	: Clear	

Discipline : Chemic	al	Group:	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23); 2022	78	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	1S 5182 (Part- 24): 2019	47	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- 2/Sec1): 2023	13.2	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	15 5182 (Part- 6): 2022	25.4	80 (24hrs)
Ozone (O ₁)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₂)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10); 2019 (NDIR Method)	1.23	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.087	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by Aknah Kumar

Quality Manager

****End of Report****

Bisha

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D. Environmental Engg.

Page 1 of 1

Technical Manager

The December stated as Too Region, to mound by the Laboratory softs: General Torms and Conditions, only on Company softs had as pre-approved former. The troubs shown as the Too Region of the form of classes only to the pre-approved former. The Laboratory softs and softs are less than the laters of classes of classes. The Laboratory is compound to for all the information of the approximate of the approximate of the superior of



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D12A

ENGINEERING SERVICES PVT. LTD.

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10-13061

TEST REPORT

Test Report No.	: ELES/RNC/2024/7488	Report Release Date	: 18.12.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400005345F			

AILS	SAMPLE DETAILS		
: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2024/AA/8725	
	Location	: Near Korle Village Bimarla Bauxite Mine (134.526 ha)	
: Lohardaga, Jharkhand-835302	Sampling Date	: 10.12.2024 to 11.12.2024	
	Sample Received Date	: 12.12.2024	
	Type of Sample	: Ambient Air	
: Operational	Sampling Procedure	:ELES/DOC/SMPL/02	
: 12.12.2024 to 18.12.2024		: ELES Pvt. Ltd. : Scaled & Preserved	
	: Lohardaga, Jharkhand-835302 : Operational	: Minerals & Minerals Limited Sample Ref. No. Location : Lohardaga, Jharkhand-835302 Sampling Date Sample Received Date Type of Sample Sampling Procedure Sampling Done By	

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	:21	2	Barometric Pressure (mmHg)	: 725
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

Discipline: Chemic	cal	Group:	Atmospheric l	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	70	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	1S 5182 (Part- 24): 2019	35	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	11.9	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	23.5	80 (24hrs)
Ozone (O _i)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m"	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ¹	IS 5182 (Part- 10): 2019 (NDIR Method)	1.22	2 (8hrs)
Lead (Pb)	μg/m²	IS 5182 (Part- 22): 2019	0.024	1 (24hrs)
Nickel (Ni)	ng/m³	15 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

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****End of Report****

19:10

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D. Environmental Engig.

Page Lof 1

Technical Manager

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10-10997

TEST REPORT

Test Report No.	: ELES/RNC/2024/7489	Report Release Date	: 18.12.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400005346F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2024/AA/8726	
		Location	: Near Barang Village Bimaria Bauxite Mine (134.526 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 10.12.2024 to 11.12.2024 : 12.12.2024	
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 12.12.2024 to 18.12.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

M	ETEOROLOGICAL INFOR	MATION				
1	Average Temperature (°C)	:21	2	Barometric Pressure (mmHg)	: 725	
3	Relative Humidity (%)	:48	4	Weather Condition	: Clear	

Discipline: Chemic	tal	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	69	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	41	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	11.3	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	25.1	80 (24hrs)	
Ozone (O ₁)	h8,m3	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.013	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C ₆ H ₆)	μg/m ¹	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m²	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by
Akash Kumar

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D. Environmental Engg.

Quality Manager

Page 1 of 1

Technical Manager

The December stated as Test Report, is counted by the Laboratory under General Terms and Conditions, only on Company letter hand as pro-approved former. The secular shows in the Test Report reflects the flackings done by the Laboratory at the time of simple-matter stand on the Test Report reflects the flackings done by the Laboratory at the time of simple-matter stand on the Test Report reflects the flackings done by the Laboratory at the time of simple-matter only and said in the limits of class? In minimum which is provided by the class. The Report current be reported everyt in full and any part of the report is not taken and content, inthing poor written approprial of the Laboratory. The Report in full and any part of the report is not taken and in the provided by any legal actions enforce provided to take as something the Management of the Laboratory. Amendment is disson to the limitation of the content of appearance of the Laboratory. Amendment is desire to the follow current of the law. All the streples are returned for Telling Som the Date of classical sometimes of the Test Report reflects on the follow current of classical sometimes of the Test Report reflects on the first of classical sometimes of the Test Report reflects on the return of a classical sometimes of the Test Report reflects on the return of the Date of Test Report reflects of the torse period and of the samples assembled to Test Report which is also a classical soft to accept the Report shall be done within 15 days from the Date of Test Report reflects the time; 1.01. (Lesson Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO: 28AAECE9713D124

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70-13552

TEST REPORT

Test Report No.	: ELES/RNC/2024/7490	Report Release Date	: 18.12.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400005347F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2024/AA/8727	
		Location	: Near Ghaghra Village Bimarla	
	TANK THE STATE OF THE STATE OF	No. 10 NO.	Bauxite Mine (134.526 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 10.12.2024 to 11.12.2024	
		Sample Received Date	: 12.12.2024	
		Type of Sample	: Ambient Air	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	: 12.12.2024 to 18.12.2024	Sampling Done By	: ELES Pvt. Ltd.	
r criba of Amilysis	1 12-12-2024 10 18-12-2024	Sample Condition	Scaled & Preserved	

MI	ETEOROLOGICAL INFORMATION				
1	Average Temperature (°C) :21	2	Barometric Pressure (mm	Hg) : 725	
3	Relative Humidity (%) :48	4	Weather Condition	: Clear	

Discipline: Chemis	al	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	70	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	33	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	11.5	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	23.8	80 (24hrs)	
Ozone (O _i)	µg/m²	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.32	2 (8hrs)	
Lead (Pb)	µg/m³	IS-5182 (Part- 22); 2019	0.016	1 (24hrs)	
Nickel (Ni)	ng/m³	15 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C ₄ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	O1(Annual)	

Reviewed by

Akash Kumar Quality Manager

****End of Report****

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

Page Lof 1

rechnical Manager

The Discussion status in Test Report, is issued by the Laboratory winder General Torons and Conditions, only on Company laboration head on procepyword former. The results shown in the Test Report tells in relates only to the jointeenhole done by the Laboratory only. The inflammation stand on the Tast Report selfacts the findings done by the Laboratory at the turn of involvement only and jets or relates only to the job markets by the Laboratory only. The information stand on the Lot Report sellects the findings done by the Laboratory at the torse of insolvement only and within the limits of alter's measurable. The Laboratory is responsible for all the information of data provided on the report, except the information which so provided by the affect The Rappet sample to reproduced except at the and any part of the report is not maken not of context, without prior system appeared of the Laboratory. The Report is field or in part shall see be published, advertise, each for any legal activity subsequential of the report is not better accounted from the Market prior permission to the facilitation of likelying compression and periodic from some. Any security-stand electrons is find facilitation of the context or appearance of the Test Report is unlessful and officialism may be presented to the fallow account of the Ires Report as an allowed and officialism may be presented to the fallow account of the Ires Report as an allowed and officialism may be presented to the fallow account of the Ires Report as an allowed and officialism may be presented to the fallow account of the Ires Report as an allowed and officialism may be presented to the fallow account of the Ires Report as an allowed and officialism with the account of the Ires Report as an allowed before. In a compliance with the account of the context of the



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

ENGINEERING SERVICES PVT. LTD.

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



10/10007

TEST REPORT

Test Report No.	: ELES/RNC/2024/7491	Report Release Date	: 18.12.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400005348F	110-110-110-1-110-1-1-1-1		

AILS	SAMPLE DETAILS	
: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2024/AA/8728
	Location	: Near Bimarla Village Bimarla
		Bauxite Mine (134.526 ha)
: Lohardaga, Jharkhand-835302	Sampling Date	: 10.12.2024 to 11.12.2024
5.	Sample Received Date	: 12.12.2024
	Type of Sample	: Ambient Air
: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
12 12 2021 - 10 12 2021	Sampling Done By	: ELES Pvt. Ltd.
: 12.12.2024 to 18.12.2024	Sample Condition	Sealed & Preserved
	: Minerals & Minerals Limited : Lohardaga, Jharkhand-835302	: Minerals & Minerals Limited Sample Ref. No. Location : Lohardaga, Tharkhand-835302 Sampling Date Sample Received Date Type of Sample Sampling Procedure Sampling Done By

Mi	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (*C)	:21	2	Barometric Pressure (mmHg)	: 725
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

Discipline : Chemic	al	Group:	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	73	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	38	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	11.3	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m ³	IS 5182 (Part-6): 2022	26.5	80 (24hrs)
Ozone (O ₃)	µg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10); 2019 (NDIR Method)	1.68	2 (8hrs)
Lend (Pb)	μg/m³	IS 5182 (Part- 22): 2019	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: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by Akash Kumar

Quality Manager

****End of Report****

100mm

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

Page 1 of 1

Technical Manager

The Decarrant stead as Ton Report, is issued by the Laboratory under General Terms and Condenses, only on Company better boad to pre-approved format. The broads above in the Test Report refers or school early to the judy-tanalysis done by the Laboratory unity. The antisocratics could not the Laboratory at the laboratory and the laboratory. The Laboratory at the laboratory is responsible for all the influences of data provided on the report, except the information which is provided by the closest. The Report is find on a part child not be published, advertice, sould be see legal actions unless prior perturbation has been accused from the Management of the Laboratory. Attribute in decays to the influences of the institution of find laboratory and perturbation of the laboratory at the laboratory and laboratory at the laboratory at the laboratory at the laboratory and laboratory at the laboratory at the laboratory and laboratory and the laboratory at the laboratory and laboratory and laboratory at the laboratory at the

ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Bimarla Bauxite Mine-Environmental Monitoring Report

January- 2025



CONTENT

Mine	rals & Minerals : Rimarla Bauxite Mine Environmental Monitoring Report	January 2025
	Bimarla Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE	
L	Near Weigh Bridge	
2	Near Quarry No 1B	
3	NavPrathmikVidayalayaBarang Path	
4	Near Mine Entry Gate	
	AMBIENT AIR QUALITY- BUFFER ZONE	
1	Near Korle Village	
2	Near Barang Village	
3	Near Ghaghra Village	
4	Near Bimarta Village	
	Surface Water	
	Soil	
	1. TOWN	



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

ENGINEERING SERVICES PVT. LTD.

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TEST REPORT

Test Report No.	: ELES/RNC/2025/0631	Report Release Date	: 27.01.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000000612F		550000000000000000000000000000000000000	

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/0465 : Near Weigh Bridge Bimarla Bauxite Mine (134,526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 16.01.2025 to 17.01.2025 : 20.01.2025
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 20:01.2025 to 27.01.2025	Sampling Done By Sample Condition	ELES Pvt. Ltd. Sealed & Preserved

METEOROLOGICAL INFORMATION

2	Barometric Pressure (mmHe)	- 725	
		2 Barometric Pressure (mmHg) 4 Weather Condition	2 Barometric Pressure (mmHg) : 725 4 Weather Condition : Clear

Discipline : Chemi	cal	Group:	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23); 2022	94	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	56	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	14.5	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	33.2	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₁)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.38	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.031	I (24hrs)
Nicket (Ni)	ng/m*	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C _u H _e)	µg/m²	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyréne	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)
			_	A TAY AND THE PROPERTY OF

Reviewed by Akash Kumar

****End of Report****

Dr. Buthorised Signatory Dr. Deependra Kumar Sinha

Ph. D. Environmental Engin

Technical Manager

The Discussion stated as Test Report, as issued by the Laboratory states General Tatron and Conditions, only on Company latter head to pro-approved format. The receive shows in the Yest Report Page Loft softer or column such to the polyanishesis stone by the Laboratory only. The information second on the Test Report reflects the finallogs diese by the Laboratory at the time of involvement only and softer or volative soft to the polyanolysis store by the Laboratory only. The information social in the Test Report reflects the findings should be the Laboratory at the time of introlecement only and without the limits of allowing the information or data provided on the report, except the militariation which is provided by the climit. The Report is carried by the climit of the information approved of the Laboratory. The Report is all or in part shall on the published solution and for any legal actions under prior permission has been extend from the published source. Any simulational alternation of the content or appearance of the Laboratory. Attention is classes to the fermionism of the content or appearance of the Report is collaborated may be presented to the fellow account of the low. All the samples are extended for Mokeys from the Date of information of the Lab Report in the Regulatory healths are to be returned as specified. Any type of Characteristics or Compliants regarding the Report what has been worthed Library from the Date of Test Report related by the true period action before the control Test control or Compliants regarding the Report is in Ethicae Geometry Addression and N.A.Oiet Applicable. ISER. Observation Events Library Library.



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHANDI GST NO:- 2GAAFCE9713D124

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2025/0632	Report Release Date	; 27.01.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000000613F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/0466 : Near Quarry No 1B Bimarla
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	Bauxite Mine (134.526 ha) : 16.01.2025 to 17.01.2025 : 20.01.2025
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 20.01.2025 to 27.01.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

METEOROLOGICAL INFORMATION

1	Average Temperature ("C)	: 19	2	Barometric Pressure (mmHg)	- 725	
3	Relative Humidity (%)	: 53		Weather Condition	: Clear	_

Discipline : Chemi	scipline : Chemical Group : Atmospheric Pollution			Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	77	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	43	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	14.6	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	30.1	80 (24hrs)
Ozone (O ₅)	µg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)
Ámmonia (NH ₃)	µg/m ⁸	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10); 2019 (NDIR Method)	1.24	2 (8hrs)
Lead (Pb)	μg/m ¹	IS 5182 (Part- 22): 2019	0.028	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26); 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C _n H _a)	µg/m*	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by Akash Kumur

Coality Manager

****End of Report****

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

Page 1 of 1

Technical Manager

The Discussest natural as Text Report, in issued by the Laboratory scalar General Terms and Conditions, only on Company letter head to pre-approved fluence. The results allowe in the Tast Report refer to release only to the jettimely on done by the Laboratory subs. The information could be the loss Report reflects the findings thrue by the Laboratory of the torn of productions suby and refer to trees out joine a contraction. The Laboratory sets. The administration on the best Report reflects the findings store for the Laboratory of the term of construction within the first of about a support of the term of construction within the first of about accept the information which is provided by the about The Report accept to the laboratory in full and may part of the report is not mixed out of contract, within approved of the Laboratory. The Report is full out may be about a full out to particular, and live may legal actions unless pour permanent has been accused from the Materians of the Laboratory. Amonton to drawn to the limitation of finding, compressions and particular acceptance of the Contract or approximate of the Test Report is unlawful and offereduct may be processed by the following the laborator of the laboratory of the content of approximate of the Notice for the United States of the laboratory of the Laboratory and particular acceptance of the Notice for the United States of the laboratory of the Laboratory and particular acceptance of the Notice for the United States of the laboratory of the States of the laboratory of the States of the laboratory of the laboratory of the samples are retained for Bolive from the Date of reference over of the Taxe Report. The complete from Registrary beclies an in the retained as specified. Any type of Observations or Compliants regarding the Report at the form period state within 17these from the Date of Taxe Registrational. After the time period stated for few with the samplest from the Date of Taxe Registrational at time period stated for the samplest form. The samplest regarding the Report is in Makes formed. After registration much bit is 18th Agriculture, BDL (Below Determine Lines), LDL (Lawer Determine).



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ENGINEERING SERVICES PVT. LTD.

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

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TEST REPORT

Test Report No.	: ELES/RNC/2025/0633	Report Release Date	: 27.01.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000000614F	Account to the second s	2200000000	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/0467 : Nav Prathmik Vidayalaya- Barang	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	Path; Bimarla Bauxite Mine(134.526ha : 16.01.2025 to 17.01.2025 : 20.01.2025	
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 20,01.2025 to 27.01.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Scaled & Preserved	

METEOROLOGICAL INFORMATION

1	Average Temperature (°C) : 19	2 Barometric Pressure (mmHg) : 725	
3	Relative Humidity (%) : 53	4 Weather Condition : Clea	r

Discipline : Chemi	cal	Group:	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	74	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	39	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	11.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ¹	IS 5182 (Part- 6): 2022	26.4	80 (24hrs)
Ozone (O ₁)	µg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)
Ammonia (NH ₅)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.18	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.022	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m²	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₄ H ₄)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)
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Reviewed by

Akash Kumar

****End of Report****

Dr. Deepend a Signatory Sinha

Ph. D. Environmental Engg.

Page Lof 1

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The Document street on Tast Report, is created by the Laboratory sender General Terms and Conditions; only on Company later head in pre-approved formst. The modits shown in the Test Hapon The Occurrent straid as Test Report, is creamled by the Laboratory scales General Lemis and Conditions, only on Company later bend in pre-approved forms. The modes shown in the Test Report refers the finning down by the Laboratory of the Laboratory scales. The information straid on the Test Report refers the finning down by the Laboratory of the time of monitorium redy and within the firm's of aligned as a surround on the Laboratory of the Laboratory of the Laboratory of the client. The Report sales the approach of the Laboratory of the laboratory of the client. The Report sales are to be a laboratory of the laboratory of the client of the Laboratory. Attention is drawn in the formation of laboratory and the laboratory of the Condition of the Management of the Laboratory. Attention is drawn in the formation of laboratory and particularly (samples of the Condition of the Conditi



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TEST REPORT

Test Report No.	: ELES/RNC/2025/0634	Report Release Date	: 27.01.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000000615F		PAMERING &	

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/0468 : Near Mine Entry Gate; Bimarla Bauxite Mine (134.526 ha)
Address	: Lohardagu, Jharkhand-835302	Sampling Date Sample Received Date	: 16.01.2025 to 17.01.2025 : 20.01.2025
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 20.01.2025 to 27.01.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

Mi	ETEOROLOGICAL INFOR	MATION				
1	Average Temperature (°C)	:19	2	Barometric Pressure (mmHg)	+ 725	
3	Relative Humidity (%)	: 53		Weather Condition	: Clear	

Discipline : Chemic	cal	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	83	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	51	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	14.6	80 (24hrs)	
Nitrogen Di-Oxide (NO ₁)	μg/m³	IS 5182 (Part- 6): 2022	28.2	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.28	2 (8hrs)	
Lead (Pb)	µg/m ⁵	IS 5182 (Part- 22): 2019	0.057	I (24hrs)	
Nickel (Ni)	ng/m [®]	15 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m*	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	OI(Annuai)	

Reviewed by

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

Akash Kumar

Page 1 of 1

Technical Manager The Dovement stated to Ten Report, is bound by the Caboratory index General Terms and Conditions, only on Company letter head in pre-approved format. The rel active in the color of the job analysis above by the Laboratory state content carries and Communicative on a surperspectation of the job analysis above by the Laboratory state content carries and are the least Report reflects the fleelings above by the Laboratory at the sinus of involvement only and another the intention of class to surperspectations. The Laboratory is responsible to all the information or date provided on the report, escape the information which is growthed by the class. The Laboratory is not super in the or in part shall not be published subcrition, and for any legal actions using providing the part and more than the form the Laboratory. The Report in that or in part shall not be published advertise, and for any legal actions using providing the part and more than the formation of the Laboratory. The Report in that or in part shall not be published issues. Also unsoftward absorber is information of indication of the laborator in the laborator of the laborator Report is in 20hours former Abbreviation used N.A. (Nor. Applicable), 1904. (Holes Octavities) Limit, Limit



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TEST REPORT

Test Report No.	: ELES/RNC/2025/0635	Report Release Date	: 27.01.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000000616F		3.5.3.11.01.03.03.	

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/0469 : Near Korle Village Bimarla
Address	: Lohardagu, Jharkhand-835302	Sampling Date Sample Received Date	Bauxite Mine (134.526 ha) : 17.01.2025 to 18.01.2025 : 20.01.2025
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 20.01,2025 to 27.01.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

METEOROLOGICAL INFORMATION

1	Average Temperature (°C) : 18	178	The state of the s	
-	The state of the s	- +	Barometric Pressure (mmHg)	: 725
3:	Relative Humidity (%) 55	4	Weather Condition	: Clear

Discipline : Chemi	cal	Group:	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Maner (PM10)	μg/m³	IS 5182 (Part- 23): 2022	76	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	39	60 (24hns)
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part- 2/Sec1): 2023	13.7	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	24.2	80 (24hrs)
Ozone (O ₃)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₂)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.019	1 (24hrs)
Nickel (Ni)	ng/m¹	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₄ H ₄)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by

Akash Kumar Quality Manager

****End of Report****

Dr. Authorised Signators inha Ph. D. Environmental Engg.

Page 1 of 1

The Decement duties as East Report, in second by the Cabonomy under Ocuseal Terms and Conditions, only on Company little boad to pre-approved format. The conditions in the Test Report refer or relates only to the job analysis disarrby the Laboratory soily. The efformation smood on the Tart Report reflects the findings done by the Laboratory at the turns of involvement only and within the limits of client's processions. The Laboratory is seeparable for all the information or data provided on the report, except the information which is provided by the client. The Report passes he reproduced except in hell and say part of the region is and inheat out of context, without prior weaton approved of the Laboratory. The Report in full ar in part chall may be published. softenine, used for any legal actions output prints prints on the form second from the Management of the Laboratory. Attention is drawn to the Southfree of Sability, compression and percelation of my catastication of the Sability compression and percelation of the Sability compression and percelations of the Sability compression and percelation and per secured for Micros from the Date of referencesses of the Test Report. The samples from Regulatory bodies use to be retained as opposition. Any type of Observations or Completes requiring the Report of the samples from the Date of Test Report referred broad. After the time period stand delices, to a complete will be accepted. The same Time activities required to Test Report is in Dilumn format. Advantagement used. N.A.:Nix Applicables, NSS, (Robort Extention Limit), LDL (Lower December Limit).



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ENGINEERING SERVICES PVT. LTD.

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



TEST REPORT

Test Report No.	: ELES/RNC/2025/0636	Report Release Date	: 27,01.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000000617F			

CUSTOMER DET		SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2025/AA/0470
Address	: Lohardaga, Jharkhund-835302	Location Sampling Date Sample Received Date	: Near Barang Village Bimarla Bauxite Mine (134.526 ha) : 17.01.2025 to 18.01.2025 : 20.01.2025
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 20.01.2025 to 27.01.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

METEOROLOGICAL INFORMATION

I Average Temperature (°C') : 18 2	Barometric Pressure (mmHg) : 725
2 Delation Direct Heaville 300 V	Weather Condition : Clear

Discipline: Chemi	cal	Group:	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limi
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	66	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	38	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	9.7	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	1S 5182 (Part- 6): 2022	23.9	80 (24hrs)
Ozone (O ₃)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m ⁵	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.014	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

PERSONAL PROPERTY. Reviewed by Akash Kumar

Quality Manage/

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

D. Environmental Enon

Page Vof 1

Technical Manager

The Oscument stated so Test Report, to posted by the Laboratory under Control Ferms and Conditions, only on Company lister head in pre-approved format. The tenths shown in the Test Report The Command states as 14st Report to torsed by the Laboratory order. Command period on the Company areas bear on pre-approved format. The tentals shown in the Laboratory order is registered in the Company areas reflects the fieldings above by the Laboratory or the time of mentionment and year settles the follows a neutral command or the Laboratory is responsible for all the information or date provided or the trapest in the laboratory in the laboratory is not colors and of united, without prior scotter approval of the Laboratory. The Report in tall or in part shall not be published, adverted, used for any legal actions order approval or the Laboratory and provided or the Laboratory. Attention of the Laboratory is the laboratory of the components of the Laboratory and provided or the laboratory and laboratory and provided or laboratory and provided or laboratory and provided or laboratory and laboratory and provided or laboratory and laborator Security of Schools from the Date of eclassics and of the Last Report The complex from Regulatory before one to be retained to the indicat excess of one to the complex on retained by Policy from the Date of eclassics was of the Last Report retained from Regulatory before one to be retained to specific. Any type of Observations or Completely the Report shall be done within 15thes from the Date of Test Report related/second. After the time popularisated before, no completely will be accepted. The entire Time echapter to the Report as to Athensis from a Abbustianist and N. A. Nie Applicables, BIR (Sinker Deport Limit), LDL (Lower Deports Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO: 2GAAECE97130124

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TEST REPORT

Test Report No.	: ELES/RNC/2025/0637	Report Release Date	: 27.01.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000000618F		Continues and This	

CUSTOMER DET	TAILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/0471 : Near Ghaghra Village Bimarla	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	Bauxite Mine (134,526 ha) : 17.01.2025 to 18.01,2025 : 20.01.2025	
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 20.01.2025 to 27.01.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Scaled & Preserved	

METEOROLOGICAL INFORMATION

	Average Temperature (°C) : 18	2	Barometric Pressure (mmHg)	: 725
3.	Relative Humidity (%) : 55		Weather Condition	: Clear

Discipline : Chemi	cal	Group:	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Lim
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	67	100 (24hrs)
Particulate Matter (PM2-5)	μg/m³	IS 5182 (Part- 24): 2019	38	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec 1): 2023	9.2	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	25,6	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m³	IS 5182 (Part-25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ⁸	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m²	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Bertzene (C _s H _e)	jig/m1	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)
			-	

Reviewed by

****End of Report****

Dr. Dettherised Signatory Ph. D. Environmental Engg.

Akash Kumar

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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@amail.com

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



TEST REPORT

Test Report No.	: ELES/RNC/2025/0638	Report Release Date	: 27.01.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000000619F		International International	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/0472 : Near Bimarla Village Bimarla Bauxite Mine (134.526 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 17.01.2025 to 18.01,2025 : 20.01.2025	
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 20,01,2025 to 27,01,2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Scaled & Preserved	

METEOROLOGICAL INFORMATION

I Average Temperature (°C)	: 18	2	Barometric Pressure (mmHg)	- 725	
3 Relative Humidity (%)	: 55		Weather Condition	Clear	_

Discipline: Chemi	cal	Group:	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	63	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	35	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	8.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	24.2	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)
Ammonia (NH _t)	μg/m ⁵	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m¹	IS 5182 (Part- 10): 2019 (NDIR Method)	1.08	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	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: 2021	<2.0	06 (Annual)
Benzene (C _s H _e)	μg/m [†]	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)
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Reviewed by

Akash Kumar

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D. Environmental Enco

Quality Manager

Page 1 of 1

Technical Manager The Disqueser stated as Test Report, is second by the Laboratory circles General Terms and Condenses, only on Company letter head in pre-approved former. The country shows at the Test Report refer or relact only in the information from by the Laboratory only. The arthurstant surred or the Tor Report reflects the findings done by the Laboratory at the time of involvement only and within the findings done by the Laboratory at the time of involvement only and outside the findings done by the Laboratory at the time of involvement only and outside the interest a tournation. The Laboratory is responsible for all the influentation or done provided to the report, except the information which is provided by the closer. The Report is not taken one of covered, without prior section approved of the Laboratory. The Report in full or as just shall not be published. adviction, mid-fit may logal actions under print present as not taken one of contract, without print sections, approved of the Laboratory. The Report in fall or in part shall not be published, adviction, mid-fit may logal actions under print present has been sourced from the Management of the Laboratory. Attention in the formation of Labeltay, comparison and periodiction counts. Any associated advictions of the first contract of the Text Report is individually and affirmation may be proceeded to the field count of the law. All the complex are secured in School from the Date of polarizations of the Text Report The complex are set to return of an approximate of the Laboratory of Contractions or Compliants regarding the Report while be done within 1989s from the Osca of Text Report relative/district from partial area of the samples will be accepted. The contract time schedule associated in Text Report and Affect the time partial area of the samples will be accepted. The contract time schedule associated in Text Report is to Text Report in the Te



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TC-12987

TEST REPORT

Test Report No.	: ELES/RNC/2025/0702	Report Release Date	: 29.01.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000000683F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2025/SW/0477 : 17.01.2025 : 20.01.2025
Address	: Lohardaga, Jharkhand-835302	Type of Sample Location of Sample	: Surface Water : Near Plot No 485, Bimarla Bauxite Mine (134-526 ha)
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01
Period of Analysis	: 20.01.2025 to 28.01.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

Discipline : Chemical	Group:	Group: Water		
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
pH (at 24.6 °C)	1.0	IS 3025 (Part-11): 2022	6.52	6.5-8.5
Temperature	eC.	IS 3025 (Part 9): 2023	18.0	-
Chemical Oxygen Demand (COD)	mg/L	IS 3025 (Part-58): 2023	6.5	40
Biochemical Oxygen Demand (BOD) (@ 20°C for 5 days)	mg/L	APHA 24th Ed.2023; 5210B	1.3	3.0
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16): 2023	355	1500
Total Suspended Solids (TSS)	mg/L	IS 3025 (Part-17): 2022	7.0	344
Oil & Grense	mg/L	IS 3025 (Part-39): 2021	BDL (DL: 0.1)	0.1
Calcium (as Ca)	mg/L	IS 3025 (Part-40): 2019	5.7	

Page 1 of 2

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72-13907

TEST REPORT

Test Report No.	: ELES/RNC/2025/0702	Report Release Date	: 29.01.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000000683F			

Discipline: Chemic	Group: Residues in	Froup: Residues in Water		
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Aluminum (as AI)	mg/L	IS 3025 (Part-55) :2003; RA2019	BDL (DL: 0.02)	1 2 to
Iron (as Fe)	mg/L	APHA 24th Ed.2023; 3111B	0.074	50

Remarks: pH & Temperature done at site.

Reviewed by Akash Kumar

Quality Manager

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D. Environmental Engg.

Technical Manager

Page 2 of 2

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TO-CHAR

TEST REPORT

Test Report No.	: ELES/RNC/2025/0705	Report Release Date	: 29.01.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000000686F			

CUSTOMER DE	TAILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2025/SL/0479 : 17.01.2025 : 20.01.2025
Address	: Lohardaga, Jharkhand-835302	Type of Sample Location of Sample	: Soil : Near Plot No 1517, Bimark Bauxite Mine (134.526 ha)
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/05
Period of Analysis	: 20.01.2025 to 28.01.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed

Discipline : Chemical	Discipline: Chemical		Environment
Parameter	Unit	Test Protocol	Result
pH (1:2) at 24.4 °C	320	IS 2720 (Part-26): 2021	5.69
Conductivity (1:2) at 24.4 °C	μS/cm	IS 14767; 2021	130
Total Organic Carbon (TOC)	%	Soil Testing in India: 2011 (Walkley & Black Method)	0.37
Available Phosphorus (as P)	kg/ha	Soil Testing in India; 2011	3.28
Potassium (as K)	mg/kg	IS 9497: 2020	950
Available Nitrogen	%	Soil Testing in India; 2011	18.2
Chloride (as CI) (1:2)	96	ELES/SOIL/SOP/01: 2021	0.007
Arsenic (as As)	mg/kg	ELES/SOIL/SOP/28: 2023	BDL (DL: 0.01)
Cadmium (as Cd)	mg/kg	US EPA 3050 A&B: 1996	BDL (DL: 0.1)
Lead (as Pb)	mg/kg	US EPA 3050 A&B: 1996	BDL (DL: 0.1)

Page 1 of 2

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TC-13383

TEST REPORT

DLR No.	+ TC1358725000000686E			
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
Test Report No.	: ELES/RNC/2025/0705	Report Release Date	: 29.01.2025	

Discipline: Chemical		Group: Pollution & Environment	
Parameter	Unit	Test Protocol	Result
Magnesium (as Mg)	mg/kg	Soil Testing in India; 2011	2180
Mercury (as Hg)	mg/kg	US EPA 7473 : 2007	BDL (DL: 0.01)

Reviewed by Akash Kumar

Quality Manager

****End of Report****

Authorised Signatory

Dr. Deependra Kumur Siriha Ph. D. Environmental Engg. Technical Manager

Page 2 of 2

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ENGINEERING SERVICES PVT. LTD.

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TEST REPORT

Test Report No.	: ELES/RNC/2025/0705	Report Release Date	: 29.01.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2025/SL/0479
		Sampling Date	: 17.01.2025
		Sample Received Date	: 20.01.2025
Address	: Lohardaga, Jharkhand-835302	Type of Sample	: Soil
	DH-255441744 2 64756 YM 474 M2557 C TOAACE	Location of Sample	: Near Plot No1517, Bimarla Bauxite Mine (134,526 ha)
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/05
Period of Analysis	: 20.01.2025 to 28.01.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Scaled

Discipline : Chemical		Group: Pollution & Environment	
Parameter	Unit	Test Protocol	Result
Selenium (as Se)	mg/kg	US EPA 3050 B: 1996	BDL (DL: 0.01)

Reviewed by Akash Kumar Quality Manager

****End of Report****

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

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ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Bimarla Bauxite Mine-Environmental Monitoring Report

February 2025



CONTENT

Mine	rals & Minerals : Bimarla Bauxite Mine Environmental Monitoring Report	February 2025
	Bimarla Bauxite Mine	
	AMBIENT AIR QUALITY- CORE ZONE	
1	Near Weigh Bridge	
3	Near Quarry No 1B	
3	NevPrathmikVidayalayaBarang Path	
4	Near Mine Entry Gate	
	AMBIENT AIR QUALITY- BUFFER ZONE	
I .	Near Korle Village	
2	Near Barang Village	
3	Near Ghaghra Village	
4	Near Bimarla Village	
	Drinking Water	
	Effluent Water	
	Stack	







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

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TEST REPORT

Test Report No.	: ELES/RNC/2025/1021	Report Release Date	: 18.02.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000001001F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/1035 : Near Weigh Bridge Bimarla Bauxite Mine (134.526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 10.02.2025 to 11.02.2025 : 13.02.2025
Mines Status	: Operational	Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 13.02.2025 to 18.02.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

METEOROLOGICAL INFORMATION

	THE PERSON NAMED IN COMPANY AND ADDRESS OF THE PERSON NAMED IN COMPA			
1	Average Temperature (°C) : 22	2	Barometric Pressure (mmHg)	: 720
3	Relative Humidity (%) 58		Weather Condition	: Clear

Discipline: Chemi-	cal	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part- 23): 2022	91	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	56	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	16.8	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	30.8	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hra)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.35	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.025	1 (24hrs)	
Nickel (Ni)	ng/m²	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m²	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C _c H _a)	ug/m*	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ¹	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Yadas mo Reviewed by

****End of Report****

Authorised Signatory

Charles Managar

Page 1 of 1

The Oncurrent record to Test Report, is formed by the Laboratory under Centeral Lerms and Conditions, only on Compute Setter found to pre-approved frames. The results shown in the Year Report The Distances small as fast fierral, is formed by the Laboratory under Centeral Lerms and Conditions, only on Company terms found to pre-approved firmus. The remains almost in the Tast Report ceffer or relates sortly to the just analyses deep by the Laboratory as the intercent switch of the first of citizen's control terms. The Laboratory is responsible for all the information or than provided on the report, except the information which is provided by the class. The Report counts be reputational except to fail and one part of the report is not taken out of members, estimate approximation of the Laboratory. The Report is full or or part should not be published, sortly and first and logal actions arrive permission has been accounted from the Management of the Laboratory. Attention is discounted to the failure of including and intercent alternative discounted from the Management of the Laboratory. Attention is discounted to the failure arrive of the law. All the samples are extended for Websys from the Date of palesterious of the Test Report (from Registeriory Registeriory Registerior) will be accupied. Any type of Observations or Compliance and Report is no Jahrens from Addressines ment to the Date of Test Report related between Compliance Limits.



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TEST REPORT

Test Report No.	: ELES/RNC/2025/1022	Report Release Date	: 18.02.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000001002F			

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/1036 : Near Quarry No 1B Bimarla
WMLander	- SECTION OF SECTION SECTION OF SECOND	The state of the s	Bauxite Mine (134.526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 10.02 2025 to 11.02.2025
		Sample Received Date Type of Sample	: 13.02.2025 : Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 13.02.2025 to 18.02.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

MI	ETEOROLOGICAL INFORMAT	TON			
1	Average Temperature (°C) : 22	2	Barometric Pressure (mmHg) 720	
3	Relative Humidity (%) : 58	4	Weather Condition	: Clear	

Discipline : Chemic	enl	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	85	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	44	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	1S 5182 (Part- 2/Sec1): 2023	13.7	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	27.5	80 (24hrs)	
Ozone (O ₃)	μg/m³.	IS 5182 (Part- 9): 2019	<20.0	100 (Shrs)	
Ammonia (NH ₃)	µg/m³	IS 5182 (Part-25); 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10); 2019 (NDIR Method)	1.2	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.033	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C ₄ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ag/m ¹	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

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****End of Report****

Authorised Signatory

Ahrah Kumar

Page 1 of 1

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70/13987

TEST REPORT

Test Report No.	: ELES/RNC/2025/1023	Report Release Date	: 18.02.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000001003F			

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/1037 : Nav Prathmik Vidayalaya- Barang Path; Bimarla Bauxite Mine(134.526ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 10.02.2025 to 11.02.2025 : 13.02.2025
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 13.02.2025 to 18.02.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

MI	ETEOROLOGICAL INFORMAT	TION		
1	Average Temperature (°C) : 22	2	Barometric Pressure (mmHg)	: 720
3	Relative Humidity (%) : 58	4	Weather Condition	: Clear

Discipline : Chemic	al	Group:	Atmospheric l	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	71	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part-24): 2019	37	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	12.2	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6); 2022	24.7	80 (24hrs)
Ozone (O ₁)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₂)	ug/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ^k	IS 5182 (Part- 10): 2019 (NDIR Method)	1.05	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22); 2019	0.020	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	μg/m²	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)

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Page I of I

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313-12503

TEST REPORT

Test Report No.	: ELES/RNC/2025/1024	Report Release Date	: 18.02.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000001004F			

CUSTOMER DET	AILS	SAMPLE DETAILS	101s 100s 100s
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2025/AA/1038
		Location	: Near Mine Entry Gate; Bimarla Bauxite Mine (134.526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 10,02.2025 to 11,02.2025
		Sample Received Date	: 13.02.2025
		Type of Sample	: Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 13.02.2025 to 18.02.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Senled & Preserved

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 22	2	Barometric Pressure (mmH	lg) : 720
3	Relative Humidity (%) : 58	4	Weather Condition	: Clear

Discipline : Chemic	al	Group:	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2022	89	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24); 2019	55	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	15.4	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	32.5	80 (24hrs)
Ozone (O ₃)	µg/m³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₂)	µg/m³	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1,34	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.034	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	jig/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

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****End of Report****

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DUSC'S TABLE

Page 1 of 1

The Deciment model as Teel Superior parameter in the Control of Control Terms and Continuous only on Contrary from head as pre-approved forms. The results above as the Teel Superior refer is related with the later term of the Control of the Laboratory of the Laboratory and the Superior refer is related with the Interest of the Control of the Control of the Superior of Superior Superior

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TID-4288F

TEST REPORT

Test Report No.	: ELES/RNC/2025/1025	Report Release Date	: 18.02.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000001005F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/1039 : Near Korle Village Bimaria Bauxite Mine (134.526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 11.02.2025 to 12.02.2025 : 13.02.2025 : Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 13.02.2025 to 18.02.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

METEOROLOGICAL INFORMATION					
1 Average Temperature (°C) : 21	2	Barometric Pressure (mmHg)	: 720		
3 Relative Humidity (%) - 58	A.	Weather Condition	· Clear		

Discipline : Chemic	al	Group:	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2022	77	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	38	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	12,2	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	26.3	80 (24hrs)		
Ozone (O ₃)	μg/m³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	µg/m³	15 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)		
Nickel (Ni)	ng/m*	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m*	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		
Benzene (C ₆ H ₄)	μg/m ^T	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)		

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Duality Manager

Page 1 of 1

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TQ-1388

TEST REPORT

Test Report No.	: ELES/RNC/2025/1026	Report Release Date	: 18.02.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000001006F	111100000000000000000000000000000000000		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/1040 : Near Barang Village Bimarla Bauxite Mine (134.526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 11,02,2025 to 12,02,2025 : 13,02,2025
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 13.02.2025 to 18.02.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

METEOR	ROLOGICAL INFORMATION				
1 Avera	ge Temperature (°C) : 21	2	Barometric Pressure (mmHg)	: 720	
3 Relati	ve Humidity (%) ±58	4	Weather Condition	: Clear	

Discipline : Chemic	al	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	1S 5182 (Part- 23): 2022	72	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	37	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS-5182 (Part- 2/Sec1): 2023	10.5	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	22.4	80 (24hrs)	
Ozone (O ₂)	μg/m²	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₂)	µg/m ¹	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	hō.m,	IS 5182 (Part- 22): 2019	< 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: 2021	<2.0	06 (Annual)	
Benzene (C ₄ H ₄)	μg/m³	ELES/GC/SOP/06: 2023	<1.0	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)	

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****End of Report****

Authorised Signatory

Akasa Kumar

Cust's Manager

Page 1 of 1

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354380

TEST REPORT

Test Report No.	: ELES/RNC/2025/1027	Report Release Date	: 18.02.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000001007F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/1041 : Near Ghaghra Village Bimarla Bauxite Mine (134.526 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 11.02.2025 to 12.02.2025 : 13.02.2025	
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 13.02.2025 to 18.02.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature ("C)	:21	2	Barometric Pressure (mmHg)	: 720
3	Relative Humidity (%)	; 58	4	Weather Condition	: Clear

Discipline : Chemic	cal	Group:	Atmospheric !	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	75	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	39	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	12.7	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m ³	1S 5182 (Part- 6); 2022	21.5	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₄)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10); 2019 (NDIR Method)	1,12	2 (8hrs)
Lead (Pb)	μg/m²	IS 5182 (Part- 22): 2019	< 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: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(n)-Pyrene	ng/m	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

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Abanti Kumar

Page 1 of 1

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75-1390

TEST REPORT

Test Report No.	: ELES/RNC/2025/1028	Report Release Date	: 18.02.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000001008F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/1042 : Near Bimarla Village Bimarla Bauxite Mine (134.526 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 11.02.2025 to 12.02.2025 : 13.02.2025	
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 13.02.2025 to 18.02.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION				
.1	Average Temperature (°C)	721	2	Barometric Pressure (mmHg)	:720	
3	Relative Humidity (%)	: 58	4	Weather Condition	: Clear	

Discipline : Chemic	al	Grou	Group: Atmospheric Pollution		
Parameter Unit		Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	79	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	43	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- 2/Sec1): 2023	12.9	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	23.3	80 (24hrs)	
Ozone (O ₂)	μg/m [‡]	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10); 2019 (NDIR Method)	1.18	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.018	1 (24hrs)	
Nickel (Ni)	ng/m³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ⁷	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C ₄ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<1.0	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)	

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Page 1 of 1

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10:1388

TEST REPORT

Test Report No.	: ELES/RNC/2025/1112	Report Release Date	: 22.02.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000001090F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2025/DW/1032 : 11.02.2025 : 13.02.2025 : Drinking Water	
Address	: Lohardaga, Jharkhand-835302	Source of Sample Location of Sample	: Tap Water : Office (Bimarla Bauxite Mine)	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01	
Period of Analysis	: 13.02.2025 to 20.02.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

Discipline : Chemical		Group:	Water	The second secon	ory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
pH (at 24.8°C)		APHA 24 th Ed.2023, 4500-H	6.57	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 24th Ed.2023, 2130 B	0.24	1.0	5.0
Taste	7.	APHA 24th Ed.2023, 2160 C	Agreeable	Agreeable	Agrecable
Odour	2	IS 3025 (Part-5) :2018	Agreeable	Agreeable	Agrecable
Colour	Hazen	APHA 24" Ed.2023, 2120B&D	1.0	5.0	15
Total Dissolved Solids (TDS)	mg/L	APHA 24th Ed.2023, 2540B,C&D	532	500	2000
Chloride (as Cl)	mg/L	APHA 24th Ed,2023, 4500 CLB	92.1	250	1000
Fluoride (as F)	mg/L	APHA 24th Ed.2023, 4500 F-D	BDL, (DL: 0.1)	1.0	1.5
Total Alkalinity (as CaCO ₁)	mg/L	APHA 24th Ed.2023, 2320 B	184	200	600
Total Hardness (as CaCO ₃)	mg/L	APHA 24th Ed.2023, 2340 C	196	200	600
Sulphate (as SO ₁)	mg/L	APHA 24th Ed.2023, 4500 SO ₄ 2-E	42.4	200	400
Nitrate (as NO ₃)	mg/L	APHA 24th Ed.2023, 4500 NO ₃ -B	11.8	45	No Relaxation

Page 1 of 4

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Work Order No.

ENVIRONMENTAL LABORATORIES &

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

ENGINEERING SERVICES PVT. LTD.

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

Website : www.elespi.co.in



TEST REPORT

Report Release Date : 22.02.2025 : ELES/RNC/2025/1112 Test Report No.

: TC1358 ULR No.

: RP/MJB/MM/24/0088/01	Work Order Date	; 30.03.2024	
: TC1358725000001090F			

Discipline : Chemica	al	Grou	ıp: Water		ory Limit 0500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Phenolic Compound (as C ₄ H ₂ OH)	mg/L	IS 3025 (Part 43/Sec1): 2022	BDL (DL: 0.001)	0.001	0.002
Free Residual Chlorine (RFC)	mg/L	1S 3025 (Part-26): 2021	BDL (DL: 0.1)	0.2(Min)	1.0(Min)
Calcium (as Ca)	mg/L	APHA 24th Ed.2023, 3500 Ca B	54.7	75	200
Anionic Surfactants (us MBAS)	mg/L	APHA 24th Ed.2023, 5540-C	BDL (DL; 0.025)	0.2	1.0
Discipline : Chemic	al le	Gre	oup: Residues i	n 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): 2021	BDL (DL: 0.2)	0.5	1.0
Cadmium (as Cd)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.003)	0.003	No Relaxation
Total Chromium (as Cr)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.03)	0.05	No Relaxation
Copper (as Cu)	mg/L	IS 3025 (Part 42): 2019	BDL (DL: 0.03)	0.05	1.5
Cyanide (as CN)	mg/L	APHA 24th Ed.2023, 4500 CN-E	BDL (DL: 0.012)	0.05	No Relaxation
Iron (as Fe)	mg/L	APHA 24th Ed.2023; 3111B	0.068	1.0	No Relaxation
Lead (as Pb)	mg/L	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.01)	0.01	No Relaxation
Manganese (as Mn)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.05)	0.1	0.3
Mercury (as Hg)	mg/L	(S 3025 (Part-48): 2019	BDL (DL: 0.001)	0.001	No Relaxation
Selenium (as Se)	mg/L	IS 3025 (Part-56): 2019	BDL (DL: 0.01)	0.01	No Relaxation

Page 2 of 4

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TG-(300)

TEST REPORT

Test Report No.	: ELES/RNC/2025/1112	Report Release Date	: 22.02.2025
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024
ULR No.	: TC1358725000001090F		

Discipline: Chemical		Group : Resid	ues in Water		ory Limit 0500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Zinc (as Zn)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.1)	5.0	15
Polynuclear Aromatic Hydrocarbons (PAH)	μg/L	ELES/GC/SOP/04; 2023	BDL (DL: 0.05)	0.1	No Relaxation
Polychlorinated biphenyls (PCB)	μg/L	ELES/GC/SOP/03: 2023	BDL (DL: 0.1)	0,5	No Relaxation
Pesticides				Li	mit
Alachlor	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	3	20
Atrazine	pg/L	ELES/GC/SOP/01: 2023	(DL: 0.5)	2	.0
Butachlor	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	1	25
Chlorpyriphos	μg/L	ELES/GC/SOP/01: 2023	BDL, (DL: 0.5)	30	
Ethion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	3.0	
Malathion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	1	90
Methyl parathion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.1)	0	30
Monocrotophos	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	1	1.0
Phorate	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	1	2.0
Phorate Sulphone	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)		2
Dieldrin	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.01)		1.03
Alpha HCH	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.006)	3	0.01
Beta HCH	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)		0.04

Page 3 of 4

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TEST REPORT

Test Report No.	: ELES/RNC/2025/1112	Report Release Date	: 22.02.2025
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024
ULR No.	: TC1358725000001090F		

Pesticides				
Parameter	Unit	Test Protocol	Result	Limit
Delta HCH	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	0.04
Gamma HCH (Lindane)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	2.0
Endosulfan (alpha, beta and sulphate)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	0.40
DDT(o,p and p,p-isomers of DDT) (DDE and DDD)	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	1.0
Discipline : Biological		Grou	p: Water	
Total Coliform (Qualitative)	Per 100 mL	IS 15185; 2021	Not Detected	Shall not be detected
Escherichia coli (Qualitative)	Per 100 mL	IS 15185: 2021	Not Detected	Shall not be detected

Remarks: pH done at Site.

Reviewed by

Alash Kumer Ourlity Managar ****End of Report****

Authorised Signatory

Dr. Deependra Kumar Slabia Pls. D. Environmental Engg. Technical Manager

Page 4 of 4

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TEST REPORT

Test Report No.	: ELES/RNC/2025/1112	Report Release Date	: 22.02.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2025/DW/1032 : 11.02.2025 : 13.02.2025 : Drinking Water	
Address	: Lohardaga, Jharkhand-835302	Source of Sample Location of Sample	: Tap Water : Office (Bimarla Bauxite Mine)	
Mines Status	; Operational	Sampling Procedure	: ELES/DOC/SMPL/01	
Period of Analysis	: 13.02.2025 to 22.02.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Scaled & Preserved	

Discipline: Chemical		Group: Wa	ter	Regulatory Limit as per IS 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Mineral Oil*	mg/L	IS 3025 (Part-39): 2021, Clause 6 Infrared Spectroscopic method.	BDL (DL: 0.01)	0.5	No Relaxation

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

Reviewed by

Akash Kumar Quality Manager **End of Report****

Authorised Signatory

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

Page 1 of 1

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TIC-13667

TEST REPORT

Test Report No.	: ELES/RNC/2025/1113	Report Release Date	: 22.02.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000001091F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2025/EF/1033 : 11.02.2025 : 13.02.2025	
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 Sampling Done By	: ELES/DOC/SMPL/01 : ELES Pvt. Ltd.	
Period of Analysis	: 13.02.2025 to 20.02.2025	Sample Condition	: Sealed & Preserved	

Discipline : Chemical		Group: Pollution & E	avironment	Discharge Limits - Cl EPR, 1986 Schodule	
Parameter	Unit	Test Protocol	Result	Inland Surface Water	Land for Irrigation
pH (at 24.8°C)		APHA 24th Ed.2023,4500-H*	6.71	5.5-9.0	5.5-9.0
Temperature	°C	APHA 24th Ed.2023, 2550 B	25.2	Shall Not Exceed 5°C Above the Receiving Water Temperature	*
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16): 2023	596	225	***
Total Suspended Solids (TSS)	mg/L	1S 3025 (Part-17): 2022	32.6	100	200
Dissolved Oxygen (DO)	mg/L	1S 3025 (Part-38): 2019	6.2	**	40.5
Biochemical Oxygen Demand (BOD) (at 27 °C for 3 days)	mg/L	IS 3025 (Part-44): 2023	6.8	30	100
Chemical Oxygen Demand (COD)	mg/L	15 3025 (Part-58): 2023	66.9	250	2
Dissolved Phosphate (as P)	mg/L	IS 3025 (Part-31/Sec-1): 2022	BDL (DL: 0.5)	5.0	(00)
Oil & Grease	mg/L	IS 3025 (Part-39): 2021	1.8	10	10
Calcium (as Ca)	mg/L	IS 3025 (Part-40): 2019	27.3		(++:

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TEST REPORT

Test Report No.	: ELES/RNC/2025/1113	Report Release Date	: 22.02.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000001091F			

Discipline : Chemical		Group: Resid	ues in Water	Discharge Limi EPR, 1986 Sc	
Parameter	Unit	Test Protocol	Result	Inland Surface Water	Land for Irrigution
Aluminum (as Al)	mg/L	1S 3025 (Part-55): 2003, RA2019	BDL (DL: 0.02)		, EE
Iron (as Fe)	mg/L	APHA 24th Ed.2023, 3111B	0.381	3.0	+
Zinc (as Zn)	mg/L	APHA 24 th Ed.2023, 3111 B	0.239	5.0	14

Remarks: pH, Temperature & DO done at Site.

Reviewed by

Abash Kumar Quality Manager ****End of Report****

Authorised Signatory

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

Page 2 of 2

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TIG-1350

TEST REPORT

Test Report No.	: ELES/RNC/2025/1020	Report Release Date	: 18.02.2625
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001000F		

CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/SM/1034 : Near Weigh Bridge Bimarla Bauxite Mine (134.526 ha)
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 12,02,2025 : 13,02,2025
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Flue Gas : ELES/DOC/SMPL/02(A) : ELES Pvt. Ltd.
Period of Analysis	: 13.02.2025 to 15.02.2025	Sample Condition	: Sealed

L	Particular of the Plant	: Bauxite Mines	
2	Emission Due to	: Burning of HSD	
3	Stack Connected to	: DG 20 KVA	
4	Material of Construction of Stack	: MS	
5	Stack Height from Ground Level (m)	:3.1	
6	Height of Sampling Port from Ground Level (m)	:3.1	
7	Inner Diameter of Stack at Sampling Point (m)	: 0.06	
g	Shape of the Stack	: Circular	
9	Working Load of the Stack	: 20 KVA	
10	Pollution Control System	: N/A	
11	Ladder & Platform	: Temporary	

FU	EL CHARACTERISTICS DETAILS	
1	Type of Fuel Used	: HSD
2	Fuel Consumption	: N/A
3	Calorific Value of Fuel (Keal/Kg)	: N/A

Page 1 of 2

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TEST REPORT

Test Report No. : ELES/RNC/2025/1020 Report Release Date : 18.02.2025

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC1358725000001000F

Discipline : Cl	nemical	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Results	
Particulate Matter (PM)	mg/Nm³	IS 11255(Part-1); 2023	38	
Sulphur Di-Oxide (SO ₂)	mg/Nm³	USEPA 6C: 2017	21	
Oxides of Nitrogen (NO ₄)	mg/Nm ³	USEPA 7E: 2020	146	
Carbon Monoxide (CO)	mg/Nm³	USEPA 10B: 2017	40	
Carbon Di- Oxide (CO ₂)	%	USEPA 3A: 2017	5.2	
Flue Gas Temperature	°C	IS 11255 (Part-3): 2018	151	
Barometric Pressure	mmHg	1S 11255 (Part-3); 2018	720	
Velocity of Flue Gas	m/sec	IS 11255 (Part-3): 2018	10.23	
Quantity of Gas Flow	Nm ³ /hr	IS 11255 (Part-3): 2018	53	

Reviewed by

****End of Report****

Authorised Signatory

Akasti Kumae Quality Manar

Page 2 of 2

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ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Bimarla Bauxite Mine-Environmental Monitoring Report

March 2025

CONTENT

	rals & Minerals : Bimarla Bauxite Mine Environmental Monitoring Report March 2025 Bimarla Bauxite Mine
	AMBIENT AIR QUALITY- CORE ZONE
1_	Near Weigh Bridge
2	Near Quarry No 1B
3	NavPrathmik VidayalayaBarang Path
4	Near Mine Entry Gate
	AMBIENT AIR QUALITY-BUFFER ZONE
1	Near Korle Village
2	Near Barang Village
3	Near Ghaghra Village
4	Near Bimarla Village
	AMBIENT NOISE
	WORKZONE NOISE
	Spring Water
	Korly Nadi



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ENGINEERING SERVICES PVT. LTD.

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TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2025/2184	Report Release Date	: 28.03.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000002138F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/2443 : Near Weigh Bridge Bimarla Bauxite Mine (134.526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 18.03.2025 to 19.03.2025 : 22.03.2025
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 22.03.2025 to 28.03.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

METEOROLOGICAL INFORMATION						
1	Average Temperature (°C)	: 28	2	Barometric Pressure (mmHg)	: 720	
3	Relative Humidity (%)	: 60	4	Weather Condition	: Clear	

Discipline : Chemic	al	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Unit Test Protocol		Regulatory Limit	
Particulate Matter (PM10)	μg/m [‡]	IS 5182 (Part- 23): 2022	94	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	58	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	15.3	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6); 2022	34.7	80 (24hrs)	
Ozone (O ₁)	μg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m ¹	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10); 2019 (NDIR Method)	1.31	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.028	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26); 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C ₄ H ₄)	µg/m	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by Akash Kumar

Quality Manager

****End of Report****

Parks

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

Page 1 of 1

Technical Manager

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



TC-12587

TEST REPORT

Test Report No.	: ELES/RNC/2025/2185	Report Release Date	: 28.03.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000002139F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2025/AA/2444	
	The state of the s	Location	: Near Quarry No 1B Bimaria	
		CANCEL CA	Bauxite Mine (134.526 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 18.03,2025 to 19.03,2025	
	The state of the s	Sample Received Date	: 22.03.2025	
		Type of Sample	: Ambient Air	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
Wasterday of Warning	22.02.2026 - 28.02.2026	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 22.03.2025 to 28.03.2025	Sample Condition	: Sealed & Preserved	

MI	METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 28	2	Barometric Pressure (mmHg)	: 720	
3	Relative Humidity (%)	: 60	4	Weather Condition	: Clear	

Discipline : Chemic	al	Group:	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	80	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	46	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- 2/Sec1): 2023	13.1	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	µg/m³	JS 5182 (Part- 6): 2022	32.5	80 (24hrs)		
Ozone (O ₃)	ug/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.33	2 (8hrs)		
Lead (Pb)	μg/m	IS 5182 (Part- 22): 2019	0.037	1 (24hrs)		
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)		

Reviewed by Altosh Fumar

Quality Manager

****End of Report****

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

Technical Manager

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TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2025/2186	Report Release Date	: 28.03.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000002140F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2025/AA/2445	
		Location	: Nav Prathmik Vidayalaya- Barang	
			Path; Bimarla Bauxite Mine; 134.526ha	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 18.03.2025 to 19.03.2025	
		Sample Received Date	: 22.03.2025	
		Type of Sample	: Ambient Air	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
	To be deliminated	Sampling Done By	: ELES Pvt. Lad.	
Period of Analysis	: 22.03.2025 to 28.03.2025	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION				
1	Average Temperature (°C)	: 28	2	Barometric Pressure (mmHg)	: 720	
3	Relative Humidity (%)	: 60	.40	Weather Condition	; Clear	

Discipline : Chemic	af	Group:	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part- 23): 2022	67	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	34	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	15 5182 (Part- 2/Sec1): 2023	10.5	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6); 2022	27.2	80 (24hrs)
Ozone (O ₂)	μg/m ²	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10); 2019 (ND(R Method)	1.22	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.025	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by Akash Kumar

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha

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TO-13507

TEST REPORT

Test Report No.	: ELES/RNC/2025/2187	Report Release Date	: 28.03.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000002141F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/2446 : Near Mine Entry Gate; Bimarla Bauxite Mine (134.526 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 18.03.2025 to 19.03.2025 : 22.03.2025	
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 22.03.2025 to 28.03.2025	Sampling Done By Sample Condition	: ELES Pvt, Ltd. : Sealed & Preserved	

M	METEOROLOGICAL INFORMATION					
1	Average Temperature (°C) : 28	2	Barometric Pressure (mmHg)	: 720		
3	Relative Humidity (%) : 60	4	Weather Condition	: Clear		

Discipline : Chemic	al	Group:	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	84	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	50	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- 2/Sec1): 2023	12.9	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	34.3	80 (24hrs)		
Ozone (O ₁)	μg/m³	1S 5182 (Part- 9); 2019	<20.0	100 (Shrs)		
Ammonia (NH ₂)	µg/m²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Curbon Monoxide (CO)	mg/m³	1S 5182 (Part- 10); 2019 (NDIR Method)	1.28	2 (8hrs)		
Lead (Pb)	μg/m²	IS 5182 (Part- 22): 2019	0.034	1 (24hrs)		
Nickel (Ni)	ng/m³	IS:5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m¹	FLES/AIR/SOP/01: 2021	<2.0	06 (Annual)		
Benzene (C ₄ H ₈)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Benzo-(a)-Pyrene	ng/m²	ELES/GC/SOP/05: 2023	< 0.5	0)(Annual)		

Reviewed by Altash Kumar

Quality Manager

****End of Report****

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

Page 1 of 1

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TC-11587

TEST REPORT

Test Report No.	: ELES/RNC/2025/2188	Report Release Date	: 28.03.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000002142F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2025/AA/2447
		Location	: Near Korle Village Bimarla Bauxite Mine (134.526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 18.03.2025 to 19.03.2025
		Sample Received Date	: 22.03,2025
		Type of Sample	: Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Destant of Assistants	: 22.03.2025 to 28.03.2025	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	1.22.03.2023 to 28.03.2023	Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION				
1 Average Temperature (°C) : 28	2	Barometric Pressure (mmHg	720	
3 Relative Humidity (%) : 59	4	Weather Condition	: Clear	

Group: Atmospheric Pollution		
Regulatory Limi		
100 (24hrs)		
60 (24hrs)		
80 (24hrs)		
80 (24hrs)		
100 (8hrs)		
400 (24hrs)		
2 (8hrs)		
1 (24hrs)		
20 (Annual)		
06 (Annual)		
05(Annual)		
O1(Annual)		

Reviewed by Strash Roman Quality Manager

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D. Environmental Engg.

Page 1 of 1

Technical Manager

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TC-13887

TEST REPORT

Test Report No.	: ELES/RNC/2025/2189	Report Release Date	: 28.03.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000002143F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/2448 : Near Barang Village Bimarla	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	Bauxite Mine (134.526 ha) : 18.03,2025 to 19.03,2025	
NO.		Sample Received Date Type of Sample Sampling Procedure	: 22.03.2025 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 22.03.2025 to 28.03.2025	Sample Condition	: Sealed & Preserved	

MI	METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 28	- 2	Barometric Pressure (mmHg)	: 720	
3	Relative Humidity (%)	159	4	Weather Condition	: Clear	

Discipline: Chemic	al	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m ³	IS-5182 (Part-23): 2022	70	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	33	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	12.8	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	20.3	80 (24hrs)	
Ozone (O ₃)	μg/m³	18-5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₁)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	1S 5182 (Part- 22): 2019	< 0.002	1 (24hrs)	
Nickel (Ni)	ng/m ^t	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C ₄ H ₄)	μg/m³	ELES/GC/SOP/06: 2023	<1.0	05(Annual)	
Benzo-(a)-Pyrene	ng/m¹	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by Akash Kumar

Quality Manager

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha

Ph. D. Environmental Engo

Page 1 of 1

Technical Manager

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ENGINEERING SERVICES PVT. LTD.

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



TC-12567

TEST REPORT

Test Report No.	: ELES/RNC/2025/2190	Report Release Date	: 28.03.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000002144F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/2449 : Near Ghaghra Village Bimaria Bauxite Mine (134,526 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 18.03.2025 to 19.03.2025 : 22.03.2025	
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 22.03.2025 to 28.03.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

Mi	METEOROLOGICAL INFORMATION						
1	Average Temperature (°C)	: 28	2	Barometric Pressure (mmHg)	: 720		
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear		

Discipline : Chemic	al	Group:	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	68	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	15 5182 (Part- 24): 2019	36	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	13.3	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6); 2022	23.7	80 (24hrs)		
Ozone (O ₅)	μg/m ⁸	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH ₁)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	µg/m²	IS 5182 (Part- 22): 2019	< 0.002	1 (24hrs)		
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		
Benzene (C ₆ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)		

REVIEWERLDE Quality Managar

**** End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha

Ph D. Environmental Ene

Page 1 of 1

Technical Manager The Decement arrival or Test Report, is usually fire Laboratory under General Terms and Conditions, only or Company home hand or pre-approved letters, the refuse sharen as the Test Report reflect only to the jobstestation dense by the Laboratory only. The information stated on the Test Report reflects the findings dense by the Laboratory of the information stated on the Test Report reflects the information which is provided which is provided by the class. The Report cannot be reported except the information which is provided by the class. The Report cannot be reported except to full or in part shall not a provided advertee, and for any logal actions unloss prior permission has been except the Laboratory of the Laboratory. Attention is drawn to the formation of hashing companion and persolution toward. Are manufactured alteriors & Belief control of the Control of the Laboratory and office the state of the follows control of the Control of the Laboratory of the Laboratory of the Laboratory of the Laboratory of the Control of th commend for Polacy from the Date of release tome of the Test Report. The complete from Regulatory bodies not to be returned an aposition. Any type of Observations or Completes regarding the Reports shall be done within 15thers from the Date of Test Report released would. After the time period small before, no complete will be accurated. The error Time schools regarding in Test Report to in 28 hours format. Attended to the Complete Report to in 28 hours format. Attended to the Report to in 28 hours format.



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



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10-13502

TEST REPORT

Test Report No.	: ELES/RNC/2025/2191	Report Release Date	: 28.03.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000002145F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/2450 : Near Bimarla Village Bimarla Bauxite Mine (134.526 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 18.03.2025 to 19.03.2025 : 22.03.2025
Mines Status	; Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 22.03.2025 to 28.03.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

METEOROL	OCICAL	INFORMA	TION
THE RESIDENCE AND ADDRESS OF THE PERSON NAMED IN	Committee of the Commit	THE RESERVE AND ADDRESS OF THE PARTY OF THE	

100	TELEVISION OF COMMENTS OF COMM			
	Average Temperature (°C) : 28	2	Barometric Pressure (mmHg)	: 720
3	Relative Humidity (%) : 59	4	Weather Condition	: Clear

Discipline: Chemic	al	Group:	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	71	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24): 2019	39	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	9.7	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	24.9	80 (24hrs)		
Ozone (O ₁)	μg/m³	1S 5182 (Part- 9); 2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	μg/m³	IS 5182 (Part-25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.22	2 (8hrs)		
Lend (Pb)	µg/m²	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)		
Nickel (Ni)	ng/m	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<1.0	05(Annual)		
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)		

Reviewed by

Akash Komer-

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D. Environmental Engg.

maillyminanages

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Technical Manager

The Dissament stated as Test Report, to could by the Laboratory union Counted Terms and Conditions, only on Company letter head of pre-approved forms. The testifs shown in the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of claim's internation. The Laboratory at the time of involvement only and within the limits of claim's internation. The Laboratory is preparable for all the information or data provided on the report, except the information which is provided by the claim. The Report amount be reproduced except at full and any part of the report is not taken one of context, without prior settles approved of the Laboratory. The Report in full or in part shall not be published, advantage, and for one local prior prior permission and particular index. Any insultant and abstracts & Education of Insultant or approximate of the Unique test of the laboratory of the East Report of the Education of Education of the Insultant of Insultant or approximate of the Insultant of Insultant of the insultant of the insultant of Insultant of Insultant or approximate of the Insultant of Insultant or approximate the Insultant of Insultant or approximate of the Insultant or approximate the Insultant of Insultant or Insultant or approximate the Insultant or approximate the Insultant or approximate the Insultant or approximate the Insultant or approximate the Insultant or approximate the Insultant or approximate the Insultant or Insu



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



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TG-13587

TEST REPORT

Test Report No.	: ELES/RNC/2025/2196	Report Release Date	: 28.03.2025
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024
ULR No.	: TC1358725000002150F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Minerals & Minerals Limited : Lohardaga, Jharkhand-835302	Sampling Date Sampling Received Date Type of Sample Sampling procedure Sampling Done By	: 18.03,2025 to 19.03,2025 : 22.03,2025 : Ambient Noise : ELES/DOC/SMPL/03 : ELES Pvt. Ltd.	
Mines Status	: Operational	Period of Analysis	: 22.03.2025 to 27.03.2025	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 28	2	Barometric Pressure (mmHg)	±720
3	Relative Humidity (%)	: 60	4	Weather Condition	: Clear

Discipline: Chemical	Group: Atmospheric Pollution				
Location	Unit	Test Protocol	Rest	ılt	Regulatory Limit (Industrial Zone)
			Time	Leg	
Near Mine Office, Bimarla Bauxite Mine (134.526 ha) dB(A Sample ID: ELES/RNC/2025/AN/2455	49/A3	IS 9989: 2020	Day Time	64	75 dB(A) Day Time & 70 dB(A) Night Time
	esoco.		Night Time	49	

Reviewed by Akash Kumar

Quality Manager

****End of Report****

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

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

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TEST REPORT

Test Report No.	: ELES/RNC/2025/2198	Report Release Date	: 28.03.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000002152F			

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	: 19.03.2025 : 22.03.2025 : Workzone Noise : ELES/DOC/SMPL/03 : ELES Pvt. Ltd.	
Mines Status	: Operational	Period of Analysis	: 22.03.2025 to 27.03.2025	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 29	2	Barometric Pressure (mmHg)	: 720
3	Relative Humidity (%)	:61	4	Weather Condition	: Clear

Location	Unit	Test Protocol	Res	ult	Regulatory Limit (Industrial Zone)
Bimarla Mine Area			Time	\mathbf{L}_{eq}	
Bimarla Bauxite Mine (134,526 ha)	dB(A)	IS 4758: 2017	D	72	90 dB(A)
Sample ID: ELES/RNC/2025/WN/2457			Day Time	72	

Reviewed by Quality Manager

****End of Report****

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

Page 1 of 1

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PLOT NO-3G, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) G5T NO:- 20AAECE9713D1Z4

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TEST REPORT

Test Report No.	: ELES/RNC/2025/2183	Report Release Date	: 28.03.2025
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024
ULR No.	: TC1358725000002137F		

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name Address	: Minerals & Minerals Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample Location of Sample	: ELES/RNC/2025/SW/2442 : 19.03.2025 : 22.03.2025 : Surface Water : Spring Water : Korly Nadi, Bimarla Bauxin Mine (134.526 ha)	
Mines Status	Operational	Sampling Procedure	: ELES/DOC/SMPL/01	
Period of Analysis	: 22.03.2025 to 27.03.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Scaled & Preserved	

Discipline: Chemical		Gr	oup: Water	Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water
pH (at 24.9 °C)	2	IS 3025 (Part-11): 2022	6.59	6.5-8.5
Colour	Hazen	IS 3025 (Part -4): 2021	7.0	300
Odour	8	IS 3025 (Part-5): 2018	Unobjectionable	-
Turbidity	NTU	1S 3025 (Part-10): 2023	1.42	250
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16): 2023	522	1500
Total Alkalinity (as CaCO ₃)	mg/L	IS 3025 (Part-23) : 2023	220	*
Total Hardness (as CaCO ₂)	mg/L	IS 3025 (Part-21): 2019	245	-
Sulphate (as SO ₄)	mg/L	IS 3025 (Part-24/Sec1): 2022	9.8	400
Chloride (as CI)	mg/L	IS 3025 (Part-32): 2019	40.7	600
Fluoride (as F)	mg/L	IS 3025 (Part-60); 2019	0.126	1.5
Nitrate (as NO ₃)	mg/L	APHA 24th Ed.2023, 4500 NO ₃ -B	2,11	50

Page 1 of 4

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TEST REPORT

Test Report No. : ELES/RNC/2025/2183 Report Release Date : 28.03.2025

Work Order No. : RP/MJB/MM/24/0088/01 Work Order Date : 30.03.2024

ULR No. : TC1358725000002137F

Discipline : Chemical		Group: Wa	Tolerance Limits	
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Free Residual Chlorine (RFC)	mg/L	IS 3025 (Part-26): 2021	BDL (DL: 0.1)	
Phenols Compounds (as C ₆ H ₅ OH)	mg/L	1S 3025 (Part-43/Sec1): 2022	BDL (DL: 0.001)	0.005
Calcium (as Ca)	mg/L	IS 3025 (Part-40): 2019	64.4	
Discipline : Cher	nical	Gre	oup: Residues	in Water
Alumînum (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)	8 41
Cadmium (as Cd)	mg/L	APHA 24th Ed 2023; 3111B	BDL (DL: 0.003)	0.01
Total Chromium (as Cr)	mg/L	APHA 24th Ed 2023; 3111B	BDL (DL: 0.03)	0.05
Copper (as Cu)	mg/L	IS 3025 (Part 42): 2019	BDL (DL: 0.03)	1.5
Iron (as Fe)	mg/L	APHA 24th Ed.2023; 3111B	0.152	50
Lead (as Pb)	mg/L	APHA 24th Ed 2023; 3111B	BDL (DL: 0.01)	0.1
Manganese (as Mn)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.05)	***
Mercury (as Hg)	mg/L	1S 3025 (Part-48): 2019	BDL (DL: 0.001)	379
Selenium (as Se)	mg/L	IS 3025(Part-56): 2019	BDL (DL: 0.01)	0.05
Zinc (as Zn)	mg/L	APHA 24th Ed 2023; 3111B	BDL (DL: 0.1)	15

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TC-1358

TEST REPORT

Test Report No. : ELES/RNC/2025/2183 Report Release Date : 28.03.2025

Work Order No. : RP/MJB/MM/24/0088/01 Work Order Date : 30.03.2024

ULR No. : TC1358725000002137F

Discipline : Chemic	cal	Group: Residue	in Water	Tolerance Limits	
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water	
Cyanide (as CN)	mg/L	APHA 24 th Ed.2023, 4500 CN-E	BDL (DL: 0.012)	0.05	
Polynuclear Aromatic Hydrocarbons (PAH)	µg/L	ELES/GC/SOP/04: 2023	BDL (DL: 0.05)	(1966)	
Pesticides					
Alachlor	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	1,000	
Atrazine	μg/1.	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	(#)	
Butachlor	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	-	
Chlorpyriphos	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	(**	
Ethion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	H	
Malathion	μg/L	ELES/GC/SOP/01; 2023	BDL (DL; 0.5)	1000	
Methyl parathion	μg/L	ELES/GC/SOP/01; 2023	BDL. (DL: 0.1)	S#5	
Monocrotophos	µg/L	ELES/GC/SOP/01: 2023	BDL (DL; 0.5)	#	
Phorate	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	i.e	
Phorate Sulphone	μg/L.	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)		
Dieldrin	μg/L.	ELES/GC/SOP/02: 2023	BDL (DL: 0.01)	164	

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

ENGINEERING SERVICES PVT. LTD.

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TC-11567

TEST REPORT

Test Report No. : ELES/RNC/2025/2183 Report Release Date : 28.03.2025

Work Order No. : RP/MJB/MM/24/0088/01 Work Order Date : 30.03.2024

ULR No. : TC1358725000002137F

Pesticides				Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Alpha HCH	μg/1	ELES/GC/SOP/02: 2023	BDL (DL; 0.006)	>
Beta HCH	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	(4)
Delta HCH	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)) *
Gamma HCH (Lindane)	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	(.**)
Endosulfan (alpha, beta and sulphate)	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	//ac
DDT(o,p and p.p-isomers of DDT) (DDE and DDD)	μg/L	ELES/GC/SOP/02; 2023	BDL (DL: 0.05)	: **
Discipline: Biolo	ogical	Group: Water		
Total Coliforni	CFU/100 mL	IS 15185: 2021	4.63×10 ²	5000
Escherichia coli	CFU/100 mL	IS 15185: 2021	36.0	1000

Remarks: pH & RFC done at site.

Reviewed by Akash Kumar Quality Manager

****End of Report****

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

Page 4 of 4

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

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

Website: www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2025/2183	Report Release Date	: 28.03.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address	: Minerals & Minerals Limited : Lohardaga, Jharkhand+835302	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample Location of Sample	: ELES/RNC/2025/SW/2442 : 19.03.2025 : 22.03.2025 : Surface Water : Spring Water : Korly Nadi, Bimarla Bauxite Mine (134.526 ha)
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01
Period of Analysis	: 22.03.2025 to 27.03.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Senled & Preserved

Discipline: Chemic	al	Gro	Tolerance Limits	
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Taste	1.00	APHA 24th Ed.2023, 2160C	N/A	le.
Anionic Surfactants (as MBAS)	mg/L	APHA 24th Ed.2023, 5540-C	BDL. (DL: 0.025)	1.0
Mineral Oil*	mg/L	IS 3025 (Part-39):2021 (Clause 6 Infrared Spectroscopic Method)	BDL (DL: 0.05)	

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

Reviewed by Akash Kumar Quality Managor

****End of Report****

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

Technical Manager

Page 1 of 1

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MINERALS & MINERALS LIMITED

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

CIN NO. U26990JH1970PLC000875

Ref.:	Date

Annexure 3

Date - 01.05.2025

Office Order

Environmental Cell has been re-constituted for Bimarla Bauxite Mine (Area – 134.526 ha). This cell consists of the following team members who will ensure compliance with the Environment Acts, Rules & Regulations in respect of the said mines of Minerals & Minerals Limited.

- 1. Mr. Kiran Shankar Singh (Coordinator)
- 2. Mr. Pratyush Rout (Geologist)
- 3. Mr. Girija Tamrakar (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 acts, rules and regulations for the above mines.

Basudev Gangopadhyay
AVP (Planning, Environment & Compliance)

Annexure 4

	Product	tion, Mined Out	t, Back Filled an	d Over Burden ren	noval from Oc	tober'24 to	March'25	
S No	Name of the Mines	Mining lease area (ha)	Production Capacity (MT)*	Lease Period*	Production (MT)	Mined out area (ha)	Backfilled area (ha)	Over burden (Cu.M)
1	Bagru Bauxite Mine	75.41	85000	22.01.1974 to 31.03.2030	NIL	NIL	NIL	NIL
2	Bhusar Bauxite Mine	65.31	280000	11.07.1981 to 31.03.2030	86061	1.53	0.695	88218.66
3	Hisri (New) Bauxite Mine	14.55	100000	19.07.1981 to 31.03.2030	25362	0.345	0.10	30825.23
4	Pakhar (8.09) Bauxite Mine	8.09	80000	16.05.1973 to 31.03.2030	NIL	NIL	NIL	NIL
5	Pakhar (35.12) Bauxite Mine	35.12	200000	17.04.1975 to 31.03.2030	NIL	NIL	NIL	NIL
6	Pakhar (115.13) Bauxite Mine	115.13	300000	19.07.1996 to 31.03.2030	109753	2.12	7.6	332929.81
7	Sherangdag-A Bauxite Mine	155.81	260000	16.10.1974 to 31.03.2030	2989	0.02	0.02	2110.0
8	Serangdag-B Bauxite Mine	77.89	100000	04.10.1978 to 31.03.2030	35253	0.756	0.35	38119.67
9	Jalim & Sanai Bauxite Mine	12.14	50000	16.10.1974 to 31.03.2030	24760	0.13	0.08	12444.82
10	Gurdari Bauxite Mine	584.19	325000	23.03.1985 to 22.03.2035	105401	4.42	3.76	185747.47
11	Kujam - I Bauxite Mine	80.87	150000	13.03.2006 to 12.03.2056	NIL	NIL	2.54	NIL
12	Kujam - II Bauxite Mine	157.38	300000	24.03.2006 to 23.03.2056	61250	2.40	4.72	136798.61
13	Amtipani Bauxite Mine	190.95	150000	13.03.2006 to 12.03.2056	62240	4.047	6.423	255249.72

Minerals & Minerals Limited									
14	Pakhar (109.507) Bauxite Mine	109.507	280000	26.07.2008 to 25.07.2058	112559	0.44	3.62	255124.1	
15	Pakhar (15.58) Bauxite Mine	15.58	60000	28.04.1965 to 31.03.2030	5015	0.26	0.42	11644.5	
16	Bimarla Bauxite Mine	134.526	300000	18.07.2009 to 17.07.2059	93500	3.956	5.37	156892.41	
17	Amtipani Chirodih Bauxite Mine	130.01	450000	11.01.2017 to 10.01.2067	114100	5.43	5.133	233823.46	

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

Basudev Gangopadhyay
AVP (Planning, Environment and Compliance)

BREAK UP THE COST OF ENVIRONMENTAL MEASURES DURING THE YEAR 2024-25

The composite cost during the year 2024-25 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 Bagru (75.41 ha), Hisri New (14.55 ha), Bhusar (65.31 ha), Pakhar (115.13 ha), Pakhars (109.507 ha), Pakhar (15.58 ha), Pakhar (8.09 ha), Pakhar (35.12 ha), Sherangdag (155.81 ha), Serangdag (77.89 ha), Jalim & Sanai (12.14 ha), Bimarla Bauxite Mines (134.526 ha), Gurdari (584.19 ha), Amtipani (190.95 ha), Kujam I (80.87 ha) Kujam II (157.38 ha), and Amtipani Chirodih (130.01 ha) Bauxite mines.

S.No	Description	Budget (in Rupees) FY 2024-25 (From Oct'24 to Mar'25)	Actual (in Rupees) FY 2024-25 (From Oct'24 to Mar'25)
1	Pollution Control and Environmental Monitoring	61,35,000.00	42,08,879.10
2	Reclamation/ Back filing & Rehabilitation**	5,62,80,000.00	5,32,33,879.71
3	Green belt, Plantation & Water sprinkling arrangement	73,42,000.00	43,51,560.28
4	Rural Development	2,75,00,000.00	3,13,06,810.81

^{**}Part of OB removed cost

Basudev Gangopadhyay

AVP (Planning, Environment & Compliance)